Edwin B. Forsythe National Wildlife Refuge Pole Removal Project

Environmental Assessment

U. S. Fish and Wildlife Service

01/08/2016

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LIST OF ACRONYMS

Amec	Amec Foster Wheeler, Environment & Infrastructure, Inc.
APE	Area of Potential Effects
AT&T	American Telephone & Telegraph
BGEPA	Bald and Golden Eagle Protection Act
BNA	Base, neutral, and acid
CCA	Copper chromium arsenate
CFR	Code of Federal Regulations
CO	Carbon monoxide
EA	Environmental Assessment
EFH	Essential Fish Habitat
EFHA	Essential Fish Habitat Area
ESA	Endangered Species Act
FONSI	Findings of No Significant Impact
GPS	Global Positioning System
HAPC	Habitat Areas of Particular Concern
IPaC	Information, Planning, and Conservation
MBTA	Migratory Bird Treaty Act
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MOA	Memorandum of Agreement
MWMA	Manahawkin Wildlife Management Area
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NJAAQS	New Jersey Ambient Air Quality Standards
N.J.A.C.	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
N.J.S.A.	New Jersey Statutes Annotated
NJSM	New Jersey State Museum
NMFS	National Marine Fisheries Service
NOx	Nitrogen oxides
NWI	National Wetlands Inventory
OMWM	Open Marsh Water Management
PAH	Polycyclic Aromatic Hydrocarbon
SHPO	State Historic Preservation Office
SILs	Significant Impact Levels
SOx	Sulfur oxides
SVOC	Semi-volatile organic compound
TCLP	Toxicity character leaching procedure

LIST OF ACRONYMS (Continued)

U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
VOC	Volatile organic compound
WMA	Watershed Management Area

Chapter 1 Purpose and Need

1.1 Introduction and Background

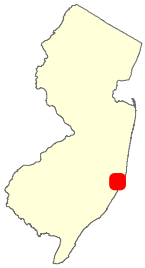
The National Environmental Policy Act [42 United States Code (U.S.C.) 4321 *et seq*.; NEPA] and the Council on Environmental Quality's NEPA regulations [40 Code of Federal Regulations (CFR), Parts 1500 to 1508] require that the potential environmental impacts of a Proposed Action be considered before a final decision to carry through with the Proposed Action is made. In compliance with these regulations, this Environmental Assessment (EA) examines the need for the Proposed Action, the potential environmental impacts of the Proposed Action and the No Action Alternative, and identifies the unavoidable adverse environmental impacts identified as a result of the Proposed Action, if it were to be implemented.

The Proposed Action is the removal of abandoned poles[1], metal antennas, and associated support structures (guy wires, above-ground pieces of foundation, and other debris) (Project) within the U.S. Fish and Wildlife Service (the Service) Edwin B. Forsythe National Wildlife Refuge (the refuge). This Project would be conducted as the first phase of the Service's Marsh Enhancement and Telephone Pole Array Removal Project (Contract # P11PC00121). This phase of the Project would take place at two former American Telephone & Telegraph (AT&T) facilities. The first Project area for this phase (also known as the Manahawkin Project Area) is located in Stafford Township, Ocean County and is identified by the township as a portion of Block 296, Lot 63 and all of Lot 108. It is located at the end of Beach Avenue (**Figure 1.1**). The second Project area for this phase (also known as the Good Luck Point Project Area) is located within Berkeley Township, Ocean County and is identified by the township as Block 1207, Lots 2.01 and 2.02 and Block 1206, Lots 1 and 1.01. It is located along Bayview Avenue (County Route 617) (**Figure 1.2**).

The Manahawkin Project Area is approximately 390 acres in size and generally situated between Marshelder Pond to the east, Standing Pond and Log Creek Pond to the south, additional salt marsh to the north, and Cedar Creek to the west. The Project Area is located in the Coastal Plain physiographic section of the State, within the Barnegat Bay Watershed Management Area (WMA 13) (**Figure 1.3**). Based on recent field reconnaissance, there are approximately 113 poles, several large metal antennas, metal pipe anchors, associated guy wires, ceramic insulators, and several concrete footings that have been identified for removal at the Manahawkin Project Area.

The Good Luck Point Project Area is approximately 222 acres in size and generally situated between Barnegat Bay to the east, East Atlantic Avenue to the south, Toms River to the north, and residential properties to the west. This Project Area is also located within the Coastal Plain physiographic section of the State and the Barnegat Bay Watershed Management Area (WMA 13) (**Figure 1.4**) and is approximately 15.5 miles north of the Manahawkin Project Area. Based on recent field reconnaissance, there are approximately 340 poles, several large metal antennas and associated guy wires, metal pipe anchors, ceramic insulators, and several concrete footings that have been identified for removal at Good Luck Point.

[1] Most of the poles proposed to be removed for this Project are antenna poles associated with the shortwave transmission/reception antenna fields. Previous documents, however, labeled them all as "telephone poles." For accuracy, this document will refer to both the telephone poles and the antenna poles as "poles", unless otherwise noted.



LEGEND

PROJECT AREA

0 1,000 2,000
Feet

Image Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, 2015

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Figure 1.1

Street Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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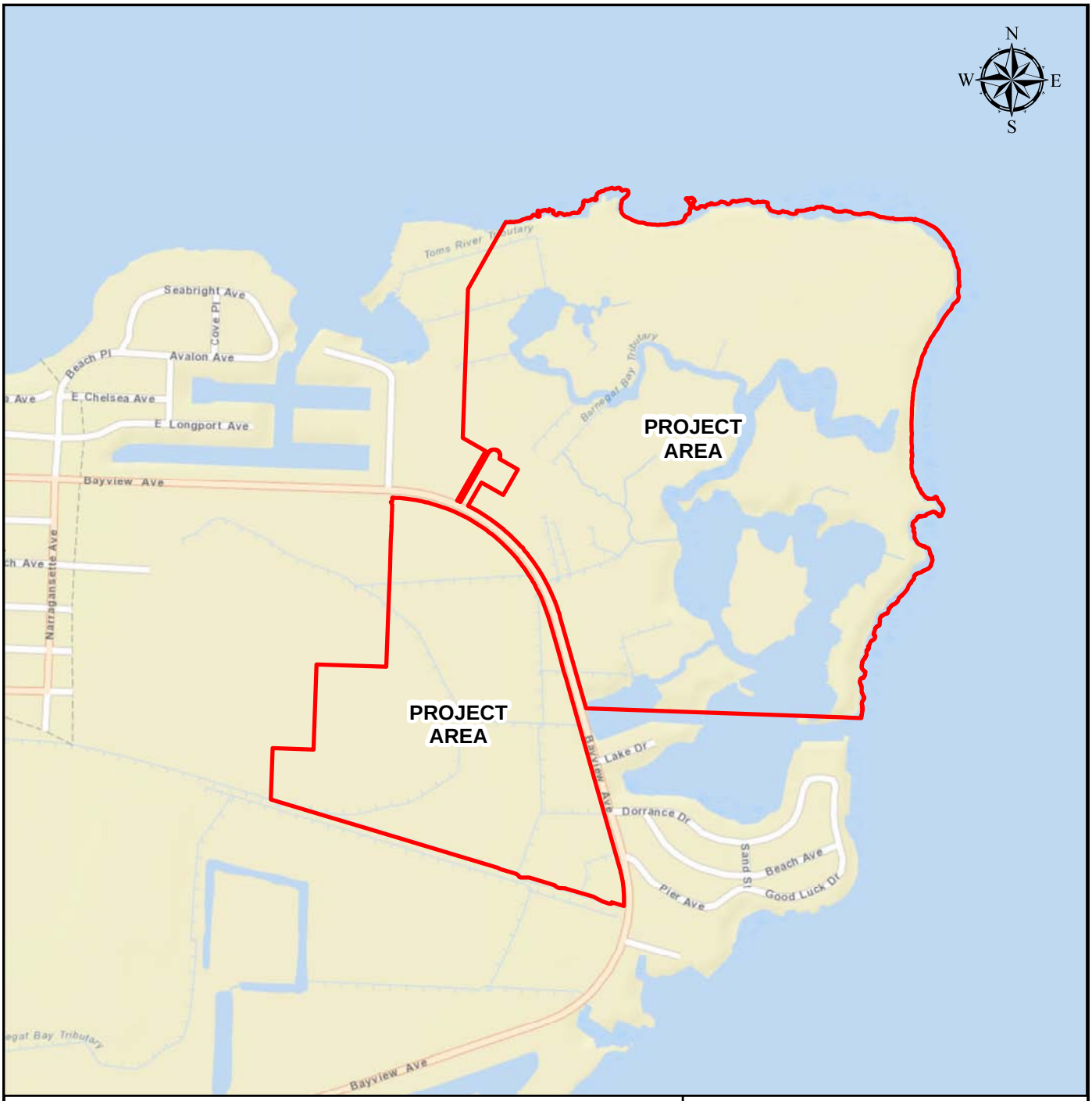

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PROJECT AREA

0 500 1,000 Feet

Image Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, 2015

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Figure 1.2

Street Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

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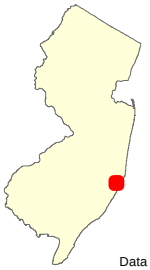

LEGEND

PROJECT AREA

Watershed Management Area

Barnegat Bay

0 1,000 2,000 Feet

Data Source: NJDEP Watershed Management Areas in New Jersey (Version 200901); New Jersey Department of Environmental Protection (NJDEP), Division of Watershed Management (DWM), 2009.

Image Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, 2015

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Figure 1.3

Watershed Management Area Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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LEGEND

PROJECT AREA

Watershed Management Area

Barnegat Bay

0 1,000 2,000 Feet

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

Data Source: NJDEP Watershed Management Areas in New Jersey (Version 200901); New Jersey Department of Environmental Protection (NJDEP), Division of Watershed Management (DWM), 2009.

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Figure 1.4

Watershed Management Area Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

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The Proposed Action is the safe removal of the abandoned poles and associated material found at the Manahawkin and Good Luck Point Project Areas. The poles and other ancillary structures would be cut as close to the ground as possible, transported to central staging areas at each Project Area, and managed for disposal purposes. Cables, wiring, and other metal debris would be collected and managed for recycling purposes.

Additionally, there are a limited number of metal antennas on concrete foundations at each of the locations. These would be dismantled and removed, with the resulting metal debris managed for recycling purposes.

Figure 1.5 depicts a map of the Manahawkin Project Area and **Figure 1.6** depicts the Good Luck Point Project Area. **Appendix A** presents photographs of the various Project areas.

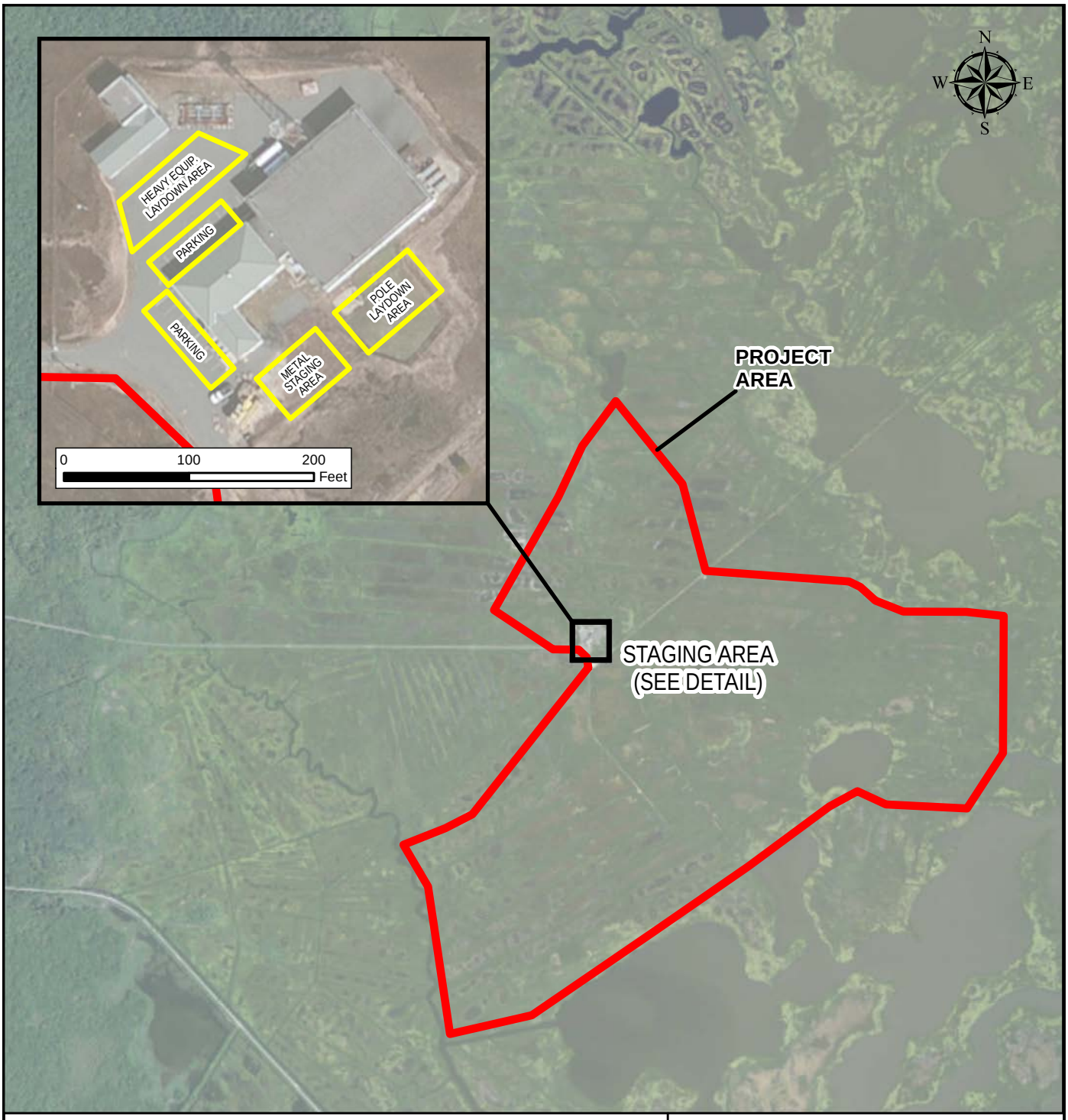
Future marsh enhancement work at the Good Luck Point Project Area, and other areas located throughout the refuge, will be addressed in a subsequent EA that will be drafted once the details for that phase of the Marsh Enhancement and Telephone Pole Array Removal Project (Contract # P11PC00121) have been finalized.

1.2 Purpose and Need for the Proposed Action

The Edwin B. Forsythe Refuge is managed as part of the National Wildlife Refuge System, whose mission is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Improvement Act of 1997, Public Law 105-57). The refuge was established for the following purposes (USFWS 2013):

- For lands acquired under the Migratory Bird Conservation Act (16 U.S.C. §715-715r), as amended, "…for use as an inviolate sanctuary, or for any other management purpose, for migratory birds…" (16 U.S.C. §715d).
- For "…the development, advancement, management, conservation, and protection of fish and wildlife resources…" (16 U.S.C. §742f(a)(4), Fish and Wildlife Act of 1956).
- For "…the conservation of wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations (regarding migratory birds)…" (16 U.S.C. §3901(b), 100 Stat. 3583 Emergency Wetlands Resources Act of 1986).
- To "…secure for the American people of present and future generations the benefits of an enduring resource of wilderness." (78 Stat. 890:16 U.S.C. 1211 (note), 1131-1136, Wilderness Act of 1964).

The overarching goal of this Proposed Action, and future marsh restoration activities, is the enhancement of coastal marsh habitats by increasing marsh resiliency from impacts of sea level rise, large storm events, and other ecosystem stressors. The Project area is located in one of the most active flight paths of the Atlantic flyway, so these abandoned poles and associated structures pose a flight hazard risk to millions of migratory birds. Furthermore, the poles are not consistent with the natural landscape of a National Wildlife Refuge. Removal of these abandoned poles and



LEGEND

PROJECT AREA

0 1,000 2,000 Feet

Image Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

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Figure 1.5

Project Site Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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LEGEND

PROJECT AREA

0 1,000 2,000 Feet

Image Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

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Figure 1.6

Project Site Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

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associated structures would reduce risks to Federal trust species, including migratory birds, and would return the habitat to a more natural setting.

In addition, wooden poles were historically treated with chemical wood preservatives to resist damage from fungus, insects, or other living organisms. The three most commonly used chemicals were pentachlorophenol, creosote, and arsenicals (copper chromium arsenate, or CCA) (Hernandez 2012). Laboratory analysis was conducted on samples of the wooden poles and anchor pipe insulation from both Project areas (**Appendix B**). The results (summarized in section 3.3) indicate that these structures were likely chemically treated with creosote (based on the analytical results of the wood chips collected from the poles) prior to their installation at Manahawkin and Good Luck Point in the 1920s and 1930s. As these poles and anchor pipes are highly weathered, these chemicals may have leached into the environment after installation. Because the poles have been in the ground for so long, the majority of the readily leachable chemicals may have already migrated out of the poles. Despite this, the cutting of the poles to ground level would reduce potential contamination of the surrounding environment and help protect fish and wildlife habitat. Therefore, the Proposed Action is needed to satisfy the Service's mission for conservation and protection of fish and wildlife resources as well as the conservation of wetlands.

1.3 Scope of Analysis

This EA describes existing environmental resources in the Manahawkin and Good Luck Point Project Areas, describes the Proposed Action at each Project Area, and assesses the potential impact to those resources from implementation of the Proposed Action. Alternatives to the Proposed Action are presented and the potential impacts to the existing environmental resources are also assessed. This assessment was performed using existing information about the Project areas, supplemented with literature review, Project area surveys, and data gathering efforts.

The Proposed Action (alternative A described in section 3.1) would leave all below-ground sections of the poles, concrete footings, metal antennas, and ancillary structures undisturbed, as the damage incurred to the marsh as a result of the removal of these structures from below ground level would far exceed any disruption to the marsh caused by leaving them in place. While no additional Federal or State permits are anticipated for this project to proceed, we will continue to coordinate with appropriate agencies to ensure compliance with all regulations.

Alternative B (described in section 3.2), however, would require both Federal and State permits to proceed due to the damage and repair that would be required to perform removal of the poles, concrete footings, and metal antennas from below ground level.

1.4 Public Participation and Coordination

NEPA requirements help ensure that environmental information is made available to the public during the decision-making process and prior to implementing an action. The premise of NEPA is that the quality of decisions will be enhanced if proponents provide information to the public and involve the public in the planning process. The Service has conducted public outreach for this Project through website updates and press releases. The Service has been, and will continue to be,

in coordination with other Federal and New Jersey State agencies throughout this Project. Federal laws relevant to this Project are as follows:

- Federal level:
    - The Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531-1544).
    - The National Historic Preservation Act (NHPA; 16 U.S.C. 470).

Chapter 2 Affected Environments and their Existing Conditions

2.1 Introduction

This section describes the existing environmental resources in each of the Project areas, including physical resources (topography, geology, etc.), biological resources (vegetation, wildlife, etc.), and other categories such as cultural resources, socioeconomic and environmental justice, and transportation.

2.2 Manahawkin Project Area

2.2.1 Topography

The topography of the Manahawkin Project Area is relatively flat and is situated between 0 and 5 feet above mean sea level (**Figure 2.1**). Net local surface water drainage from the marsh drains into the adjacent creeks and ponds.

2.2.2 Geology and Soils

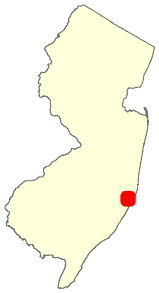
The Manahawkin Project Area is located within the outer Coastal Plain Physiographic section of New Jersey (NJDEP 2014). The unconsolidated deposits of this province range in age from the Cretaceous to the Miocene (135 to 5.3 million years old) and gently dip to the southeast, towards the coast and extend beneath the Atlantic Ocean to the edge of the Continental Shelf (NJDEP 1999; Dalton 2003). The topography of the Coastal Plain is relatively flat to very gently undulating.

The sediments consist of alternately deposited layers of sand, silt, and clay which outcrop in irregular bands that trend northeast to southwest within deltaic and marine environments occurring at sea level (NJDEP 1999).

The bedrock geology of the Project area is made up of the Wildwood Member of the Kirkwood Formation. The Wildwood Member is described as late early and early middle Miocene Era aged clay rock with secondary silt, massive to finely bedded, dark gray to olive gray, locally interbedded with thin beds of light-colored sand and containing small shell fragments, primarily at the base (USGS 2015).

The surficial geology of the Project area is listed as Salt Marsh and Estuarine Deposits (NJDEP 2014). These soils are described as dark in color, ranging from brown, dark brown, gray, or black, and composed of silt, sand, peat, and clay with minor pebble gravel. They are deposited in salt marshes, estuaries, and tidal channels and can be as thick as 300 feet in some areas. They were deposited during the Holocene Era and contain abundant organic matter (NJDEP 2014).

The majority of this project area is mapped to occur on Appoquinimink-Transquaking-Mispillion complex, very frequently flooded soils with 0 to 1 percent slopes. This complex is described as mucky silt loam, silt loam and mucky peat associated with tidal marshes (Maser 2012). A small portion is mapped as containing Atsion Sand and tidally flooded soils with 0 to 2 percent slopes



LEGEND

PROJECT AREA

0 1,000 2,000 Feet

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Figure 2.1

USGS Topographic Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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(**Figure 2.2**). This soil is described as sand to loamy sand and is associated with frequent flooding and ponding within tidal marshes (Maser 2012).

2.2.3 Air Quality

The United States Environmental Protection Agency (USEPA) has set National Ambient Air Quality Standards (NAAQS) for six commonly found air pollutants as part of the Federal Clean Air Act requirements. These pollutants (also known as criteria pollutants) include particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide (CO), sulfur oxides (SO_x), nitrogen oxides (NO_x), and lead. These pollutants are known to harm human health and the environment and also cause property damage. The USEPA regulates pollutants by developing human health-based and environmentally-based criteria (science-based guidelines) for setting permissible levels (NJDEP 2015). New Jersey is located in the Ozone Transport Region, an area that covers 13 northeastern ozone nonattainment states from Maine to Virginia (Trinity Consultants 2014). Ocean County, along with the rest of New Jersey, is designated as a marginal nonattainment area for the 8-hour ozone standard, but it is in attainment of all other standards (NJDEP 2015).

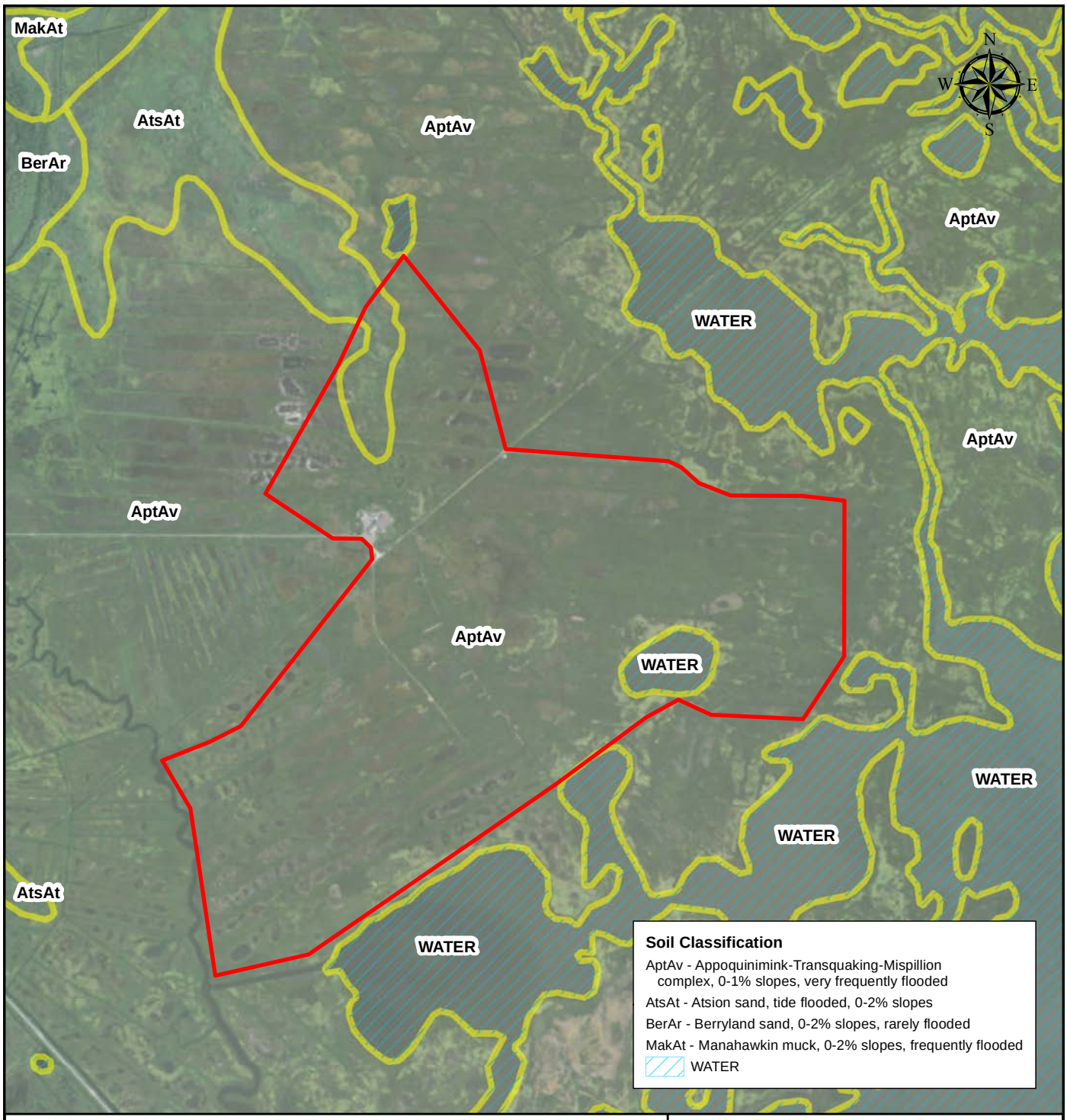
Investigations at the refuge include monitoring for ozone, sulfur dioxide, fine particulates, light attenuation, visibility, and mercury. Results indicate that the low-altitude ozone levels are high at the refuge with resulting damage to vegetation, including stippling and chlorosis (the yellowing of leaf tissue due to a lack of chlorophyll) (Davis 1995).

The USEPA and New Jersey Department of Environmental Protection (NJDEP) regulations require proposed projects to demonstrate that predicted impacts will not cause or significantly contribute to a violation of the NAAQS or the New Jersey Ambient Air Quality Standards (NJAAQS). Toward that end, the USEPA and NJDEP have established Significant Impact Levels (SILs), which are a small fraction of the NAAQS/NJAAQS. Predicted impacts less than SILs are deemed insignificant, and, therefore, will not cause or contribute to an air quality standard violation.

2.2.4 Water Quality

According to the NJDEP (2008), "The Surface Water Quality Standards are developed and administered in conformance with requirements of the Federal Water Pollution Control Act 33 U.S.C. §1251 (also called the Clean Water Act) and the Federal regulatory program established by the USEPA at 40 C.F.R. Part 131. The Surface Water Quality Standards are also developed pursuant to the New Jersey Water Quality Planning Act, New Jersey Statutes Annotated (N.J.S.A.) 58:11A et. seq. and the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A et. seq. Surface Water Quality Standards establish designated uses, classify streams based on uses, designate anti-degradation categories, and develop water quality criteria to protect those uses. In addition, the standards specify general, technical, and interstate policies, and policies pertaining to establishment of water quality-based effluent limitations."

All waters within the Project areas are classified as a SE1(C1) waters according to New Jersey Surface Water Quality Standards (NJDEP 2011). This classification is for category one (C1) saline



LEGEND

PROJECT AREA

0 1,000 2,000 Feet

Image Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

Data Source: Soil Survey Geographic (SSURGO) database; Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed [10/01/2015]

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Figure 2.2

Soil Survey Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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estuarine (SE) waters with shellfish harvesting as a designated use. According to the NJDEP (2011), “Category one waters" means those waters designated in the tables in New Jersey Administrative Code (N.J.A.C.) 7:9B-1.15(c) through (i), for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B- 1.5(d), for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality and biological functions).”

2.2.5 Wetlands and Streams

The Clean Water Act (40 CFR 230.3) defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Using that definition, wetlands are defined based on certain characteristics of vegetation, soils, and hydrology. For vegetation, the majority of the plant species must be categorized as hydrophytic or adapted to living in saturated areas. Soils are considered hydric (permanently or seasonally saturated by water) if they meet the criteria defined by the National Technical Committee for Hydric Soils (USDA 2015a). Hydrology is determined based on having a sufficient amount of water, whether saltwater, brackish, or fresh, that the soil is saturated during long periods of the vegetative growing season (FIC 1989).

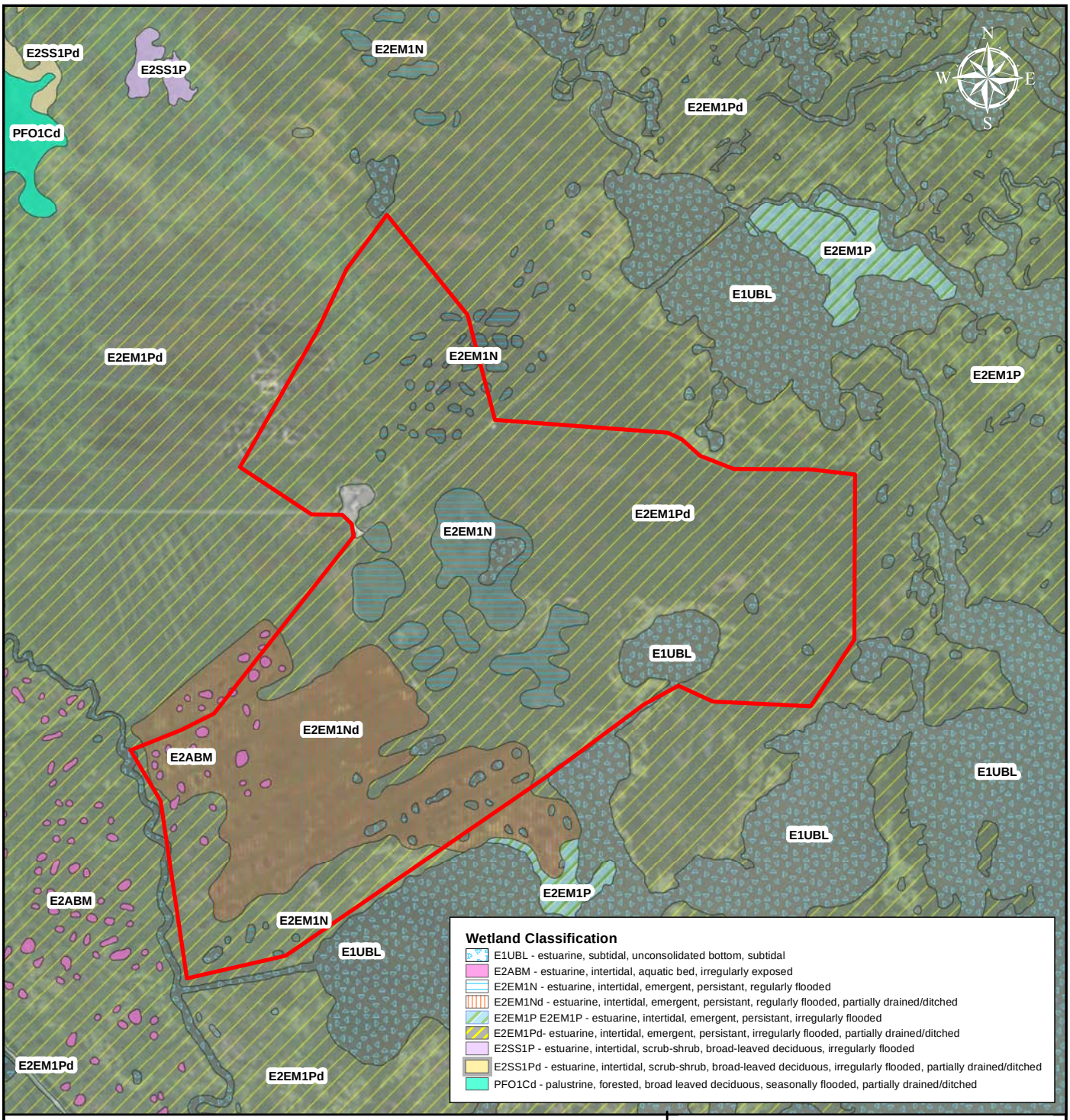
The most common method of characterizing wetlands is under the system developed by the Service. As described in the *Classification of Wetlands and Deepwater Habitats of the United States*, wetland types can be broken down into five basic categories. These categories include marine, estuarine, riverine, lacustrine and palustrine wetlands. The major categories or systems are based mostly on the hydrologic base for the wetlands. Each of these systems can be further broken down into subsystems, classes, subclasses and dominance types based on the type of vegetation present and/or the bottom substrate for the wetlands (Cowardin et al. 1979).

The Service’s National Wetlands Inventory (NWI) indicates that the water bodies surrounding the Manahawkin Project Area to the east, south and west (including Marshelder Pond, Standing Pond, Log Creek Pond and Cedar Creek) are classified as follows (**Figure 2.3**):

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UB L).

The NWI indicates that the wetlands within the Manahawkin Project boundaries are classified as follows:

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UB L).
- Estuarine, intertidal, emergent, persistent, regularly flooded, partially drained/ditched (E2EM1Nd).



LEGEND

PROJECT AREA

0 1,000 2,000 Feet

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

Data Source: U.S. Fish and Wildlife Service; National Wetlands Inventory - Wetlands Classification of Wetlands and Deepwater Habitats of the United States; U.S. Department of the Interior, Fish and Wildlife Service; Washington, DC. FWS/OBS-79/31; http://www.fws.gov/wetlands/

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Figure 2.3

National Wetlands Inventory Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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- Estuarine, intertidal, emergent, persistent, irregularly flooded, partially drained/ditched (E2EM1Pd).
- Estuarine, intertidal, emergent, persistent, regularly flooded (E2EM1N).
- Estuarine, intertidal, aquatic bed, irregularly exposed wetlands (E2ABM).

The NJDEP indicates that the wetlands within the Manahawkin Project boundaries are classified as saline marsh (high marsh and low marsh) with very small pockets of *Phragmites* dominant coastal wetlands and open water classified as tidal rivers, inland bays and other tidal waters (**Figure 2.4**).

A large portion of the refuge salt marsh habitat was anthropogenically altered during the early 20th century. Mosquito control ditches and Open Marsh Water Management (OMWM) pools were used as methods to control mosquito populations (USFWS 2004).

2.2.6 Vegetation

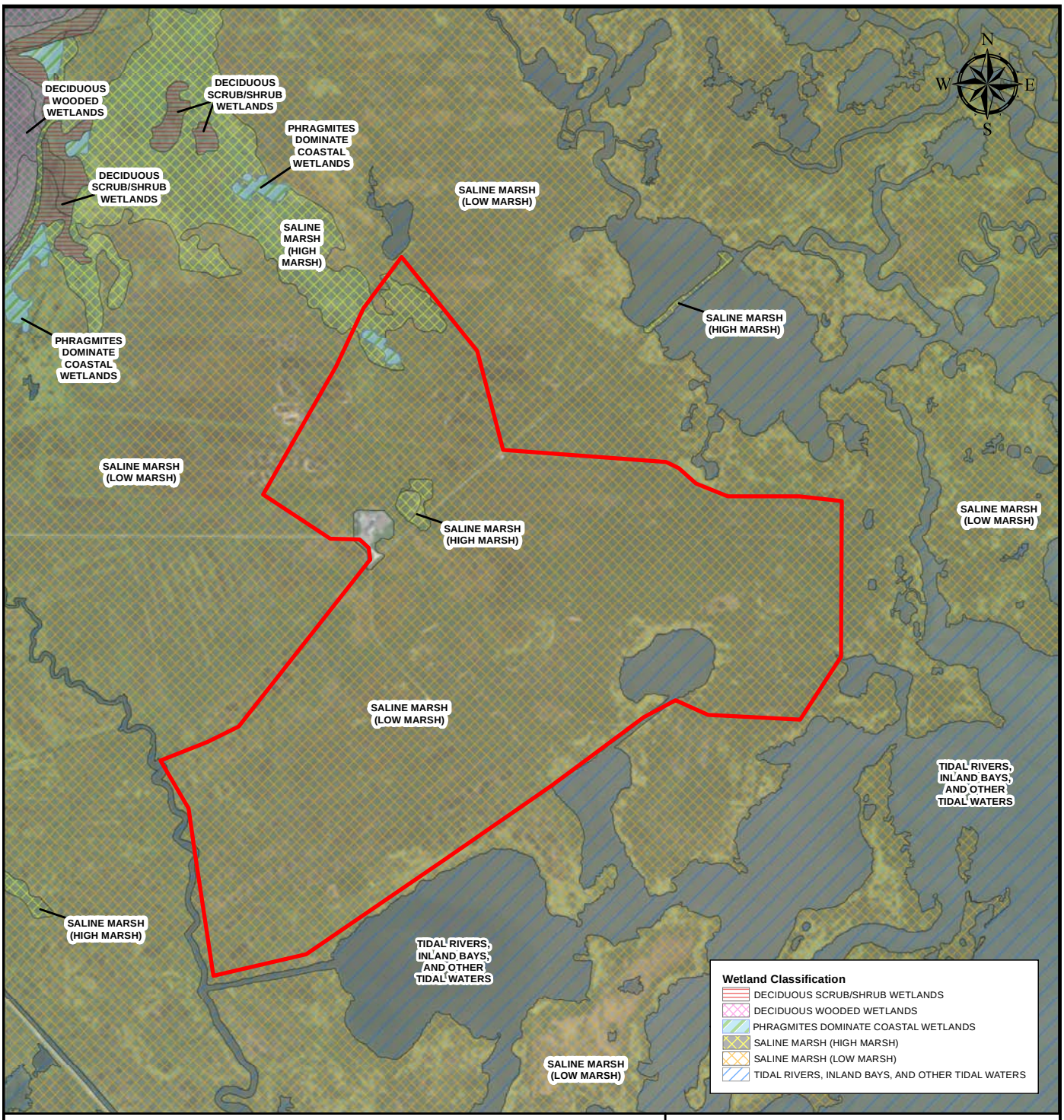
Wetlands are the dominant community type on the refuge, with salt marsh making up the largest component. Forested areas compose a relatively smaller portion of the refuge, including both forested wetlands and forested uplands (USFWS 2004). A vegetation community characterization was performed by Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec) for the Manahawkin Project Area on September 15, 2015. The following resources were consulted as part of this characterization: *Classification of Wetlands and Deepwater Habitats of the United States* (USFWS 1979); *Classification of Vegetation Communities of New Jersey: Second Iteration* (Breden et al. 2001), and *Plant Communities of New Jersey* (Collins and Anderson, 1994). As part of the biological characterization, Amec developed a vegetation community map of the Project area (**Figure 2.5**).

At the Manahawkin Project Area, a near monotypic community of smooth cordgrass (*Spartina alterniflora*) salt marsh is present, bisected by tidal ditches or interspersed with pools of open water. Slightly higher topographic elevations within this community exhibit short specimens of bigleaf marsh-elder (*Iva frutescens*), whereas slightly lower topographic elevations exhibits dwarf saltwort (*Salicornia bigelovii*). Saltmeadow cordgrass (*Spartina patens*) is relatively sparse at the Project area and is primarily limited to the edges of sand roads and around the bases of some poles. A disturbed land community, dominated by common reed (*Phragmites australis*), surrounds most of the paved area where the facility buildings are located; however, the relatively lower elevations to the southwest of the paved area exhibit a mosaic of mudflat and smooth cordgrass marsh.

When comparing the observed vegetation community at the Manahawkin Project Area to the *Classification of Vegetation Communities of New Jersey* (Breden et al. 2001), the smooth cordgrass-dominated marsh is classified as a Saltmarsh Cordgrass Tidal Herbaceous Alliance. **Appendix C** presents a list of all plant species observed at the Manahawkin Project Area.

2.2.7 Fish and Wildlife

Fish: The refuge lands are bordered by, and are hydrologically connected to, estuarine habitats made up of salt marshes, streams, ponds, bays, and rivers (USFWS 2013). Specifically, the



SALINE MARSH (LOW MARSH)

LEGEND

PROJECT AREA

0 1,000 2,000 Feet

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

Data Source: Data Source: Land Use/Land Cover 2012 Update, Edition 20150217 Subbasin 02040301 - Mullica-Toms (Land_lu_2012_hu02040301), New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information Systems (BGIS), Pub. Date: 02/17/2015.

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Figure 2.4

NJDEP Wetlands Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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LEGEND

- Project Area
- open water
- Phragmites
- Spartina marsh

0 1,000 2,000 Feet

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

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Figure 2.5

Vegetation Community Map
Manahawkin Project Area
Pole Removal Project
Stafford Township, New Jersey

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Manahawkin Project Area is located within the Barnegat Bay estuary system. In general, the refuge is home to a rich variety of fish, shellfish, and crabs. These species are of significant importance to the sport and commercial fisheries and are a food base for many birds and mammals (USFWS 2004; USFWS 2013).

The salt marshes contain abundant mummichog (*Fundulus heteroclitus*) and sheepshead minnow (*Cyprinodon variegatus*), which are frequently found in shallow water environments such as marsh ponds and small intertidal creeks. Important recreational and commercial species, including summer flounder (*Paralichthys dentatus*), striped bass (*Morone saxatilis*), white perch (*Morone americana*), and northern weakfish (*Cynoscion regalis*) use the estuarine habitats as important nursery areas (USFWS 2013).

The Barnegat Bay estuary is estimated to be used by approximately 110 fish species. The ten most commonly reported species are bay anchovy (*Anchoa mitchilli*), Atlantic silverside (*Menidia menidia*), fourspine stickleback (*Apeltes quadracus*), spot (*Leiostomus xanthurus*), winter flounder (*Pseudopleuronectes americanus*), inland silverside (*Menidia beryllina*), northern pipefish (*Syngnathus fuscus*), mummichog, bluefish (*Pomatomus saltatrix*), and oyster toadfish (*Opsanus tau*) (TPL 2008).

The Essential Fish Habitat (EFH) mapper (NOAA 2015) was used as consultation with the National Marine Fisheries Services (NMFS) to determine which fish species habitat may be located on or near the Manahawkin Project Area with the potential of being affected by the Proposed Action. The results are listed in **Table 2.1** below:

Table 2.1

NMFS Findings for Potential EFH Near the Manahawkin Project Area

Common Name	Scientific Name	Life Stage
Clearnose skate	*Raja eglanteria*	Adult
Sandbar shark	*Carcharhinus plumbeus*	Neonate Juvenile Adult
Sand tiger shark	*Carcharias taurus*	Neonate Juvenile
Winter skate	*Leucoraja ocellata*	Adult
Little skate	*Leucoraja erinacea*	Adult
Window pane flounder	*Scopthalmus aquosus*	Eggs Larvae Juvenile Adult
Winter flounder	*Pseudopleuronectes americanus*	Larvae Eggs Juvenile Adult

Table 2.1 NMFS Findings for Potential EFH Near the Manahawkin Project Area		
Common Name	**Scientific Name**	**Life Stage**
Bluefin tuna	*Thunnus thynnus*	Juvenile
Dusky shark	*Carcharhinus obscurus*	Neonate
Smooth dogfish	*Mustelus canis*	ALL
Scalloped hammerhead shark	*Sphyrna lewini*	Juvenile
Tiger shark	*Galeocerdo cuvier*	Juvenile
Summer flounder	*Paralichthys dentatus*	Adult Juvenile Larvae
Black sea bass	*Centropristis striata*	Juvenile Adult
Scup	*Stenotomus chrysops*	Juvenile
Longfin inshore squid	*Doryteuthis pealeii*	Eggs
Atlantic mackerel	*Scomber scombrus*	Eggs
Bluefish	*Pomatomus saltatrix*	Adult Juvenile
Atlantic butterfish	*Peprilus triacanthus*	Adult Juvenile

There are no Habitat Areas of Particular Concern (HAPC) or EFH Areas (EFHA) Protected from Fishing documented on or near the Manahawkin Project Area (NOAA 2015).

Birds: The primary focus of the refuge establishment has been to protect tidal wetland and shallow bay habitat for migratory water birds. The refuge's location in one of the most active flight paths of the Atlantic flyway adds to the taxonomic richness and ecological importance of this area. Tens of thousands of migrating ducks, geese, shorebirds, and wading birds stop at the refuge each spring and fall to feed and rest. Some of these species, such as the American black duck (*Anas rubripes*), clapper rail (*Rallus crepitans*), and willet (*Tringa semipalmata*) breed at the refuge. The refuge is known for holding the largest concentrations of American black duck and Atlantic brant (*Branta bernicla*) on the Atlantic coast. Bald eagle (*Haliaeetus leucocephalus*) often forage over the open water areas, and osprey (*Pandion haliaetus*) and peregrine falcon (*Falco peregrinus*) nest on man-made platforms. Large numbers of songbirds also use the upland habitats on the refuge to breed, rest, and feed (USFWS 2012; USFWS 2014a; USFWS 2014b).

Some of the more abundant or common waterbirds and shorebirds found at the refuge include snow goose (*Chen caerulescens*), Canada goose (*Branta canadensis*), Atlantic brant, mallard

(*Anas platyrhynchos*), American black duck, northern shoveler (*Anas clypeata*), bufflehead (*Bucephala albeola*), double-crested cormorant (*Phalacrocorax auritus*), great egret (*Ardea alba*), glossy ibis (*Plegadis falcinellus*), clapper rail, greater yellowlegs (*Tringa melanoleuca*), semipalmated sandpiper (*Calidris pusilla*), least sandpiper (*Calidris minutilla*), short-billed dowitcher (*Limnodromus griseus*), laughing gull (*Leucophaeus atricilla*), ring-billed gull (*Larus delawarensis*), herring gull (*Larus argentatus*), great black-backed gull (*Larus marinus*), Forster's tern (*Sterna forsteri*), and black skimmer (*Rynchops niger*) (USFWS 2012; USFWS 2014a; USFWS 2014b).

Some of the above species are abundant or common throughout the year, whereas others, such as the snow goose are only present in very large numbers in the fall and winter. Canada goose, mallard, American black duck, great egret, glossy ibis, clapper rail, laughing gull, herring gull, great black-backed gull, Forster's tern, and black skimmer have been documented to breed at the refuge (USFWS 2012; USFWS 2014a; USFWS 2014b).

Other abundant or common birds on the refuge include osprey, mourning dove (*Zenaida macroura*), red-bellied woodpecker (*Melanerpes carolinus*), blue jay (*Cyanocitta cristata*), fish crow (*Corvus ossifragus*), tree swallow (*Tachycineta bicolor*), barn swallow (*Hirundo rustica*), Carolina chickadee (*Poecile carolinensis*), tufted titmouse (*Baeolophus bicolor*), Carolina wren (*Thryothorus ludovicianus*), American robin (*Turdus migratorius*), gray catbird (*Dumetella carolinensis*), northern mockingbird (*Mimus polyglottos*), common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), northern cardinal (*Cardinalis cardinalis*), red-winged blackbird (*Agelaius phoeniceus*), common grackle (*Quiscalus quiscula*), and American goldfinch (*Carduelis tristis*). All of these species have been documented breeding at the refuge (USFWS 2012; USFWS 2014a; USFWS 2014b).

Approximately half a mile to the west of the Manahawkin Project Area lies the Manahawkin Wildlife Management Area (MWMA). Consistent breeders in the MWMA include the salt marsh sharp-tailed sparrow (*Ammodramus caudacutus*), seaside sparrow (*Ammodramus maritimus*), marsh wren (*Cistothorus palustris*), and Virginia rail (*Rallus limicola*). During winter months, rough-legged hawks (*Buteo lagopus*) frequent the MWMA (NJA 2015).

Mammals: There are over 30 species of mammals that occur on the refuge, characteristic of assemblages within Mid-Atlantic coastal communities. The following mammals are associated with wetlands, such as those found at the Manahawkin Project Area: mink (*Mustela vison*), river otter (*Lutra canadensis*), muskrat (*Ondatra zibethicus*), meadow vole (*Microtus pennsylvanicus*), southern bog lemming (*Synaptomys cooperi*), and least shrew (*Cryptotis parva*) (USFWS 2004).

Reptiles and Amphibians: The 19 species of reptiles and amphibians that have been documented on the refuge fall into two major assemblages; Pine Barrens environment and coastal estuarine environment. The Manahawkin Project Area hosts the coastal estuarine community type assemblage, which includes coastal marshes, estuaries, coves, tidal flats, and inner edges of barrier beaches. These habitats are used by important species such as the northern diamondback terrapin (*Malaclemys t. terrapin*) (USFWS 2004; USFWS 2013).

Salamanders, including the red-backed salamander (*Plethodon cinereus*), slimy salamander (*Plethodon glutinosus*), and marbled salamander (*Ambystoma opacum*) are also found in freshwater wetland habitats throughout the refuge (USFWS 2013).

Others reptiles that have been observed throughout the refuge include (NJA 2015; USFWS 2013):

- Five-lined skink (*Plestiodon fasciatus*)
- Black racer (*Coluber constrictor constrictor*)
- Black rat snake (*Pantherophis obsoletus*)
- Northern water snake (*Nerodia sipedon sipedon*)
- Eastern hognose snake (*Heterodon platirhinos*)
- Rough green snake (*Opheodrys aestivus*)
- Eastern ribbon snake (*Thamnophis sauritus sauritus*)
- Common snapping turtle (*Chelydra serpentina*)
- Eastern painted turtle (*Chrysemys picta picta*)
- Eastern mud turtle (*Kinosternon subrubrum subrubrum*)
- Redbelly turtle (*Pseudemys rubriventris*)

In addition, visitors to the various refuge properties have documented the following amphibians (NJA 2015):

- Green frog (*Rana clamitans melanota*)
- New Jersey chorus frog (*Pseudacris feriarum kalmi*)
- Northern cricket frog (*Acris crepitans crepitans*)
- Gray treefrog (*Hyela sp.*)
- Southern leopard frog (*Lithobates sphenocephalus sphenocephalus*)
- Northern red salamander (*Pseudotriton ruber ruber*)
- Four-toed salamander (*Hemidactylium scutatum*)

2.2.7.1 Threatened and Endangered Species

The unique habitats of the Barnegat Bay estuary (including barrier islands, salt marsh, tidal marshes, shallow water, and swamps) attract threatened and endangered species (TPL 2008). The tidal waters and marshes of the nearby MWMA area have been documented as supporting a long list of imperiled bird species during the breeding season. In addition to some of the more frequent visitors documented at the refuge, the MWMA has the State-endangered pied-billed grebe (*Podilymbus podiceps*) and black rail (*Laterallus jamaicensis*) as well as the State-threatened black-crowned night-heron (*Nycticorax nycticorax*). During winter months, the State-endangered northern harrier (*Circus cyaneus*) frequents the MWMA (NJA 2015) and is also likely found at this site.

The Service completed an intra-service biological evaluation pursuant to the ESA section 7 (**Appendix D**). The Service's online Information, Planning, and Conservation (IPaC) system indicated the presence of the following federally listed threatened and endangered species on or near the Manahawkin Project Area:

Table 2.2 Service's IPaC Findings for Potential Federally Listed Threatened and Endangered Species On or Near the Manahawkin Project Area		
Common Name	**Scientific Name**	**Federal Status**
Red knot	*Calidris canutus rufa*	Threatened
Knieskern's beaked-rush	*Rhynchospora knieskernii*	Threatened
Swamp pink	*Helonias bullata*	Threatened
Northern long-eared bat	*Myotis septentrionalis*	Threatened

There were no critical habitats documented within the Manahawkin Project Area. However, the Service's IPaC system indicated the presence of 28 migratory birds protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) that could potentially move through the Manahawkin Project Area, including the following:

Table 2.3 Service's IPaC Findings for Potential Migratory Bird Species On or Near the Manahawkin Project Area	
Common Name	**Scientific Name**
American oystercatcher	*Haematopus palliatus*
American bittern	*Botaurus lentiginosus*
Bald eagle	*Haliaeetus leucocephalus*
Black skimmer	*Rynchops niger*
Black-billed cuckoo	*Coccyzus erythropthalmus*
Blue-winged warbler	*Vermivora pinus*
Fox sparrow	*Passerella liaca*
Gull-billed tern	*Gelochelidon nilotica*
Hudsonian godwit	*Limosa haemastica*
Least bittern	*Ixobrychus exilis*
Least tern	*Sterna antillarum*
Lesser yellowlegs	*Tringa flavipes*
Peregrine falcon	*Falco peregrinus*
Pied-billed grebe	*Podilymbus podiceps*
Prairie warbler	*Dendroica discolor*
Prothonotary warbler	*Protonotaria citrea*
Purple sandpiper	*Calidris maritima*
Red knot	*Calidris canutus rufa*
Rusty blackbird	*Euphagus carolinus*
Seaside sparrow	*Ammodramus maritimus*
Short-eared owl	*Asio flammeus*
Snowy egret	*Egretta thula*
Upland sandpiper	*Bartramia longicauda*

Table 2.3 Service's IPaC Findings for Potential Migratory Bird Species On or Near the Manahawkin Project Area	
Common Name	**Scientific Name**
Wood thrush	*Hylocichla mustelina*
Worm eating warbler	*Helmitheros vermivorum*

The NJDEP NJ-GeoWeb website (NJDEP 2014) Landscape Project indicated the presence of the following State-listed threatened and endangered species on or near the Manahawkin Project Area:

Table 2.4

NJDEP Landscape Project Findings for Potential State-Listed Threatened and Endangered Species On or Near the Manahawkin Project Area

Common Name	Scientific Name	Federal Status	State Status
Roseate tern	*Sterna dougallii dougallii*	Endangered	Endangered
Northern harrier	*Circus cyaneus*	Not Listed	Endangered
Common tern	*Sterna hirundo*	Not listed	Special concern
Tricolored heron	*Egretta tricolor*	Not listed	Special concern
Little Blue heron	*Egretta caerula*	Not listed	Special concern
Yellow-crowned night-heron	*Nyctanassa violacea*	Not listed	Threatened
Glossy ibis	*Plegadis falcinellus*	Not listed	Special concern
Peregrine falcon	*Falco peregrinus*	Not listed	Endangered
Osprey	*Pandion haliaetus*	Not listed	Threatened
Caspian tern	*Hydroprogne caspia*	Not listed	Special concern
Snowy egret	*Egretta thula*	Not listed	Special concern
Bald eagle	*Haliaeetus leucocephalus*	Not listed	Threatened
Black-crowned night-heron	*Nycticorax nycticorax*	Not listed	Threatened
Black skimmer	*Rynchops niger*	Not listed	Endangered
Atlantic loggerhead turtle	*Caretta caretta*	Threatened	Endangered

Since the NJDEP GeoWeb is a preliminary screening tool, a formal written request was submitted to the NJDEP Natural Heritage Program to confirm the possible presence of these species. The September 11, 2015 findings of the Natural Heritage Program are presented in **Appendix D**.

These results indicated the following additional species have the potential to occur near the Manahawkin Project Area:

Table 2.5 NJDEP Natural Heritage Program Additional Findings for Potential State-Listed Threatened and Endangered Species On or Near the Manahawkin Project Area			
Common Name	**Scientific Name**	**Federal Status**	**State Status**
Bottlenose dolphin	*Tursiops truncatus*	Not listed	Not listed-recommended special concern

The results also indicated that the Seaside goldenrod stem borer moth (*Papaipema duovata*), which is tracked by the Endangered and Nongame Species Program, also has the potential to be on or near the Manahawkin Project Area.

There are a total of two documented osprey nests located at the Manahawkin Project Area. One is located approximately 1,300 feet east of the staging area (ID ATT001) and the other is located approximately 1,300 feet southwest of the staging area (ID ATT002). These nests are both located on poles.

2.2.8 Cultural Resources

To achieve compliance with the NHPA (section 106), reviews of cultural resource files were performed at the offices of the NJDEP State Historic Preservation Office (SHPO) and the New Jersey State Museum (NJSM). The objective of the file reviews was to assess the potential for the Proposed Action to impact historic properties (listed or eligible for listing on the National Register of Historic Places). Historic properties include archaeological sites, as well as historic structures and districts. The file searches indicated that there are no previously inventoried historic properties within the Area of Potential Effects (APE) of the Project at Manahawkin. However, the Manahawkin shortwave receiving station and antenna field has recently been identified as a historic property. Its eligibility for listing on the National Register had to be evaluated before the impacts of the Proposed Action could be assessed. **Appendix E** presents selected relevant information from the SHPO files concerning the historical background of the Manahawkin APE, and previous cultural resource studies that have been conducted in the vicinity.

The former AT&T radio facility located within the Manahawkin Project Area became the main receiver facility for Station WOO Ocean Gate Radio, and in addition to its usage for the reception of radio transmission from Europe and Atlantic shipping, it was the American terminal for the undersea cable from Bermuda. In the mid-1950s, the large array of curtain antennas were removed and replaced with a series of 29 rhombic antennas. When additional undersea cables were subsequently laid between Europe and North America and when satellite communication became available, this former AT&T facility was no longer needed and was closed in 1999 (Amec 2015[2]).

[2] In previous draft versions of this EA, the Pole Removal Plan was included as Appendix G to the EA. The Pole Removal Plan has been removed as part of the design process and the reader is referred to the Supplemental Pole Removal Plan as a stand-alone document should more background information on the Project Areas or more details on the actual removal of the poles be required.

When AT&T decommissioned the facility, many of the wires linking the poles were removed. Since then, several poles have fallen down into the marsh as a result of weathering decades of tidal surges and storms, and the overall Project area is in a state of disrepair. A review of historical aerial photographs indicates that the Manahawkin Project Area historically contained salt marsh typical of the surrounding estuarine environment.

A Phase 1A Cultural Resources Assessment Report (**Appendix F**) was developed to assess the archaeological sensitivity of the Manahawkin APE, and to determine the historical integrity, significance, and National Register eligibility of the Manahawkin shortwave receiving station and antenna field. The Phase 1A investigation concluded that the historic property is eligible for listing in the National Register of Historic Places. The shortwave antenna poles and metal antennas were constructed in this Project area beginning in 1938 (Borthwick 1939). They are contributing elements in the shortwave transmission/reception antenna field that linked America's telephone network to ships at sea and to overseas locations. Therefore, removal of these structures would cause an adverse effect per the NHPA (section 106). The adverse effect would be resolved through mitigation, following the section 106 process. Measures to mitigate the adverse effect will be detailed in a two-party Memorandum of Agreement (MOA) between the Service and the SHPO. Implementation of these mitigation measures would reduce the Project's adverse effect below the threshold of significance per NEPA.

The archaeological sensitivity of the Manahawkin APE was assessed. Inventoried archaeological site grid EK229 is located just outside the southwest portion of the Manahawkin Project Area. This grid area suggests an identified archaeological site is located within that grid. However, the cultural resources file review at the SHPO and NJSM did not reveal the presence of any archaeological artifacts inventoried within that grid or within the APE at Manahawkin. However, any intact upland areas within the APE may have moderate to high sensitivity for unrecorded archaeological sites. The Project design would use existing roads for vehicle access and previously disturbed areas (such as parking lots) for staging, so no new ground alteration in archaeologically sensitive zones is anticipated. Consequently, there is no potential for effect on archaeological resources.

2.2.9 Socioeconomic Resources and Environmental Justice

Ocean County began as a rural, agricultural and fishing center. It was not until the latter part of the 1800s and through the 1900s, when the resort industry of the New Jersey Shore was developed, that commercial activities associated with seasonal resorts became the county's economic mainstay. With year-round population increases, Ocean County's economic base has become increasingly diverse and a variety of new industries now supplement the traditional tourist-related businesses. The health care industry is now the top employer in the county and is the fastest growing employment sector. Ocean County is projected to continue leading employment growth in the State through the next decade (OCDP 2014).

The commercial fishing industry in southern New Jersey is also substantial. Important species for this industry include: finned fish (including bait fish), eel, clams, mussels, and crabs (including horseshoe crabs). There has also been an increase in shellfish aquaculture, especially oysters (USFWS 2004).

2.2.10 Recreation

The refuge receives over 250,000 visitors per year who use the land for various recreational purposes such as hunting, fishing, environmental education, and wildlife observation. The New Jersey shore has long been a major tourist destination, so the wildlife-dependent public use at the refuge is consistent with the tourism industry for the region (USFWS 2004).

Public use of the Manahawkin Project Area is not encouraged, as the Service does not maintain recreational trails or a visitor center. However, incidental use of this area by birders and the walking public may occur throughout the year.

2.2.11 Transportation

The regional and State roads that convey traffic directly into and from Manahawkin are as follows:

- The Garden State Parkway is a major arterial toll road running in a northeast to southwest direction.
- U.S. Highway 9 also runs in a general northeast to southwest direction, and is the principal arterial road that runs the length of New Jersey from Bergen County to Cape May County.

Average daily traffic volume for the section of the Garden State Parkway nearest the Manahawkin Project Area (between exits 67 and 63, northwest of the Project area) was estimated to be between 35,565 and 38,626 cars per day for 2015 during the fall season (October). These values represent approximately 97 percent of the maximum daily load on this stretch of roadway that occurs during summer months (T&M 2000).

Traffic volumes on a stretch of U.S. Highway 9, just west of the Proposed Action in Manahawkin, indicate that roadway's average annual daily traffic volume at 17,683 cars per day in October 2010 (NJDOT 2015).

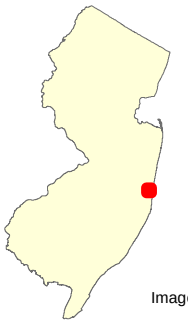
2.3 Good Luck Point Project Area

2.3.1 Topography

The topography of the Good Luck Point Project Area is relatively flat and is situated between 0 and 5 feet above mean sea level (**Figure 2.6**). Net local surface water drainage from the marsh ultimately drains into the adjacent Toms River to the north or Barnegat Bay to the east.

2.3.2 Geology and Soils

This Project area is similar to the Manahawkin Project Area and is located within the outer Coastal Plain Physiographic section of New Jersey, and the bedrock geology is classified as the Wildwood Member of the Kirkwood Formation.



LEGEND

PROJECT AREA

0 1,000 2,000 Feet

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Figure 2.6

USGS Topographic Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

Rev. By: CB	Project No.: 3617157355.81.01	November 2015

The surficial geology of the eastern half of the Good Luck Point Project Area is listed as Salt Marsh and Estuarine Deposits. These soils are described as dark in color, ranging from brown, dark brown, gray, or black, and composed of silt, sand, peat, and clay with minor pebble gravel. They contain abundant organic matter and were deposited during the Holocene Era in salt marshes, estuaries, and tidal channels and can be as thick as 300 feet in some areas (NJDEP 2014).

The surficial geology of the western half of this Project area is listed as Cape May Formation, Unit 2. These soils are described as lighter in color, ranging from very pale brown, yellow, reddish yellow, white, olive yellow or gray, and composed of sand, pebble gravel, minor silt, clay, peat, and cobble gravel. They were deposited during the late Pleistocene Era as marine terraces and can be as thick as 200 feet in some areas (NJDEP 2014).

The majority of this Project area is similar to the Manahawkin Project Area and occurs on Appoquinimink-Transquaking-Mispillion complex, very frequently flooded, soils with 0 to 1 percent slopes. However, a small portion is mapped as containing Berryland Sand rarely flooded soils with 0 to 2 percent slopes. This soil is described as very poorly drained, sandy, eolian deposits and/or fluviomarine sediments creating broad, nearly level areas adjacent to swamps and in bottoms of closed depressions at levels just above the tidal mark (USDA 2015b). Other smaller portions of the Project boundaries occur over Psammaquents, sulfidic substratum, frequently flooded soils with 0 to 3 percent slopes and Mullica sandy loam with 0 to 2 percent slopes (**Figure 2.7**).

2.3.3 Air Quality

The Good Luck Point Project Area is also situated within Ocean County. Therefore, it is designated as a marginal nonattainment area for the 8-hour ozone standard, but it is in the attainment of all other standards. The part of the refuge in which the Project Area is within the refuge in which investigations for ozone, sulfur dioxide, fine particulates, light attenuation, visibility, and mercury have been made. Results at the refuge indicate that the low-altitude ozone levels are high with resulting damage to vegetation, including stippling and chlorosis (Davis 1995).

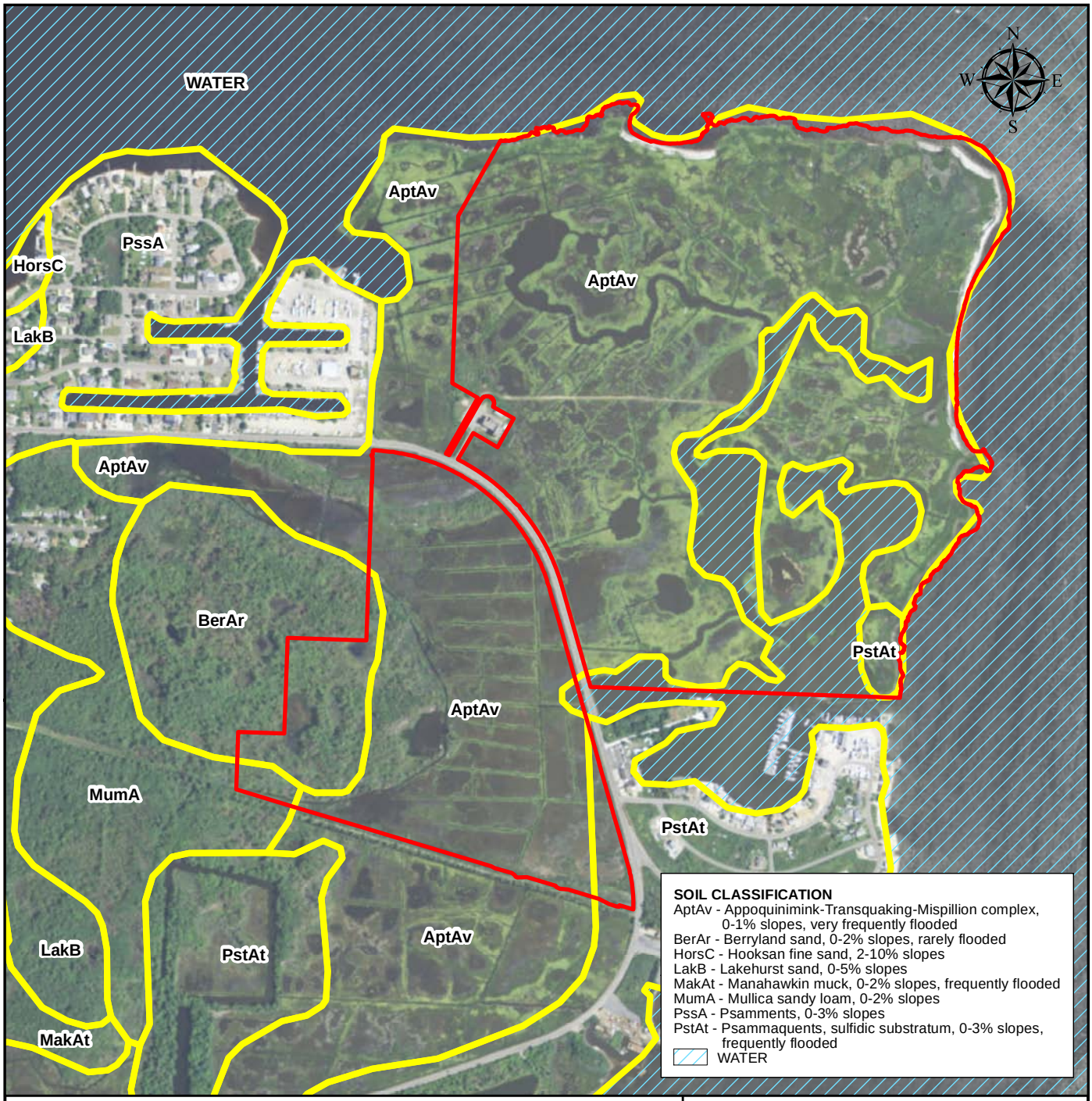
2.3.4 Water Quality

All waters within the Good Luck Point Project Area are classified as a SE1 (C1) waters according to New Jersey Surface Water Quality Standards (NJDEP 2011).

2.3.5 Wetlands and Streams

The Service's NWI indicates that the water bodies surrounding the Good Luck Point Project Area to the north and east (including Toms River and Barnegat Bay) are classified as follows (**Figure 2.8**):

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UB L).



LEGEND

PROJECT AREA

0 500 1,000 Feet

Image Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

Data Source: Soil Survey Geographic (SSURGO) database; Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed [10/01/2015]

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Figure 2.7

Soil Survey Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

Rev. By: CB	Project No.: 3617157355.81.01	November 2015

LEGEND

PROJECT AREA

0 500 1,000 Feet

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

Data Source: U.S. Fish and Wildlife Service; National Wetlands Inventory - Wetlands Classification of Wetlands and Deepwater Habitats of the United States; U.S. Department of the Interior, Fish and Wildlife Service; Washington, DC. FWS/OBS-79/31; http://www.fws.gov/wetlands/

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Figure 2.8

National Wetlands Inventory Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

Rev. By: CB	Project No.: 3617157355.81.01	November 2015

The NWI indicates that the wetlands within the Good Luck Point Project boundaries are classified as follows:

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UB L).
- Estuarine, intertidal, emergent, persistent, regularly flooded, partially drained/ditched (E2EM1Nd).
- Estuarine, intertidal, emergent, persistent, irregularly flooded, partially drained/ditched (E2EM1Pd).
- Estuarine, intertidal, emergent, persistent, irregularly flooded (E2EM1P).
- Palustrine, scrub-shrub, needle-leaved evergreen, seasonally flooded (PSS4C).
- Palustrine, emergent, persistent, seasonally flooded (PEM1C).
- Palustrine, forested, broad-leaved deciduous/palustrine, forested, needle-leaved evergreen, saturated (PFO1/4B).
- Palustrine, forested, needle-leaved evergreen/palustrine, forested, broad-leaved deciduous, saturated (PFO4/1B) wetlands.
- Palustrine, unconsolidated bottom, permanently flooded freshwater ponds (PUBH).

The NJDEP indicates that the water bodies surrounding the Good Luck Point Project Area to the north and east (including Toms River and Barnegat Bay), and within the northeastern portion of the Project area, are classified as tidal rivers, inland bays, and other tidal waters. The other wetlands within the Good Luck Point Project boundaries are classified as follows (**Figure 2.9**):

- Saline marsh (low marsh).
- Saline marsh (high marsh).
- Natural lakes.
- Mixed scrub-shrub wetlands (coniferous dominant).
- Mixed wooded wetlands (coniferous dominant).
- Mixed wooded wetlands (deciduous dominant).
- Deciduous scrub-shrub wetlands.

Much of the refuge salt marsh habitat was anthropogenically altered during the early 20th century. Mosquito control ditches and OMWM pools were used as methods to control mosquito populations (USFWS 2004).

2.3.6 Vegetation

Wetlands are the dominant community type on the refuge, with salt marsh as the largest component. Forested areas compose a relatively smaller portion of the refuge, including both forested wetlands and forested uplands (USFWS 2004). A vegetation community characterization was performed by Amec for the Good Luck Point Project Area on September 16, 2015. The following resources were consulted as part of this characterization: *Classification of Wetlands and Deepwater Habitats of the United States* (USFWS 1979); *Classification of Vegetation Communities of New Jersey: Second Iteration* (Breden et al. 2001), and *Plant Communities of New*

LEGEND

PROJECT AREA

0 500 1,000 Feet

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

Data Source: Data Source: Land Use/Land Cover 2012 Update, Edition 20150217 Subbasin 02040301 - Mullica-Toms (Land_lu_2012_hu02040301), New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information Systems (BGIS), Pub. Date: 02/17/2015.

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Figure 2.9

NJDEP Wetlands Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

Rev. By: CB	Project No.: 3617157355.81.01	November 2015

Jersey (Collins and Anderson, 1994). As part of the biological characterization, Amec developed a vegetation community map of the Project area (**Figure 2.10**).

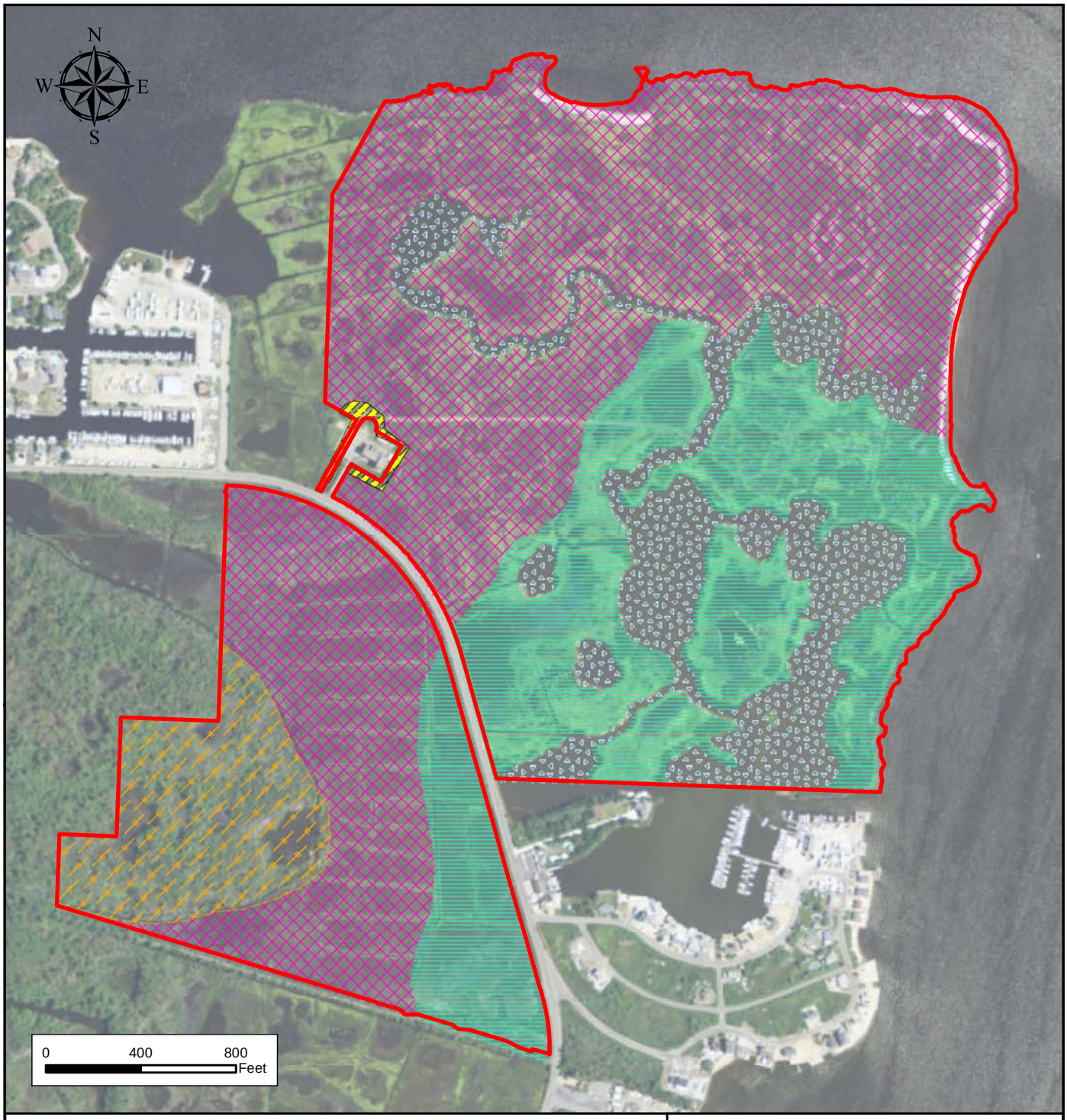
At the Good Luck Point Project Area, salt marsh composes the majority of the Project area, bisected by tidal ditches or interspersed with open water, either as pools or as tidal creeks. Unlike the Manahawkin Project Area, however, the eastern portion of the salt marsh contains a greater proportion of saltmeadow cordgrass, with some areas entirely dominated by this species. Portions of the salt marsh closer to the paved area/facility building exhibit a greater proportion of smooth cordgrass with significant areas of open water. There is more micro-topographic variation at the Good Luck Point Project Area than at the Manahawkin Project Area, and subsequently, there are small pockets of bigleaf marsh-elder and common reed interspersed through the salt marsh. A mix of ruderal vegetation (plants that grow in waste places, along roadsides, or in rubbish) such as mugwort (*Artemisia vulgaris*), Queen Anne's lace (*Daucus carota*), black locust (*Robinia pseudo-acacia*), and common mullein (*Verbascum thapsus*) surrounds the paved areas. A maritime evergreen woodland is located in the westernmost portion of the Project area, across Bayview Avenue. The portion of the woodland within the Project area is dominated by eastern red cedar (*Juniperus virginiana*) with swamp rose-mallow (*Hibiscus moscheutos*) along the woods edge. This community is connected to a large contiguous forest that extends westward towards U.S. Highway 9.

When comparing the observed vegetation community at the Good Luck Point Project Area to the *Classification of Vegetation Communities of New Jersey* (Breden et al. 2001), the smooth cordgrass-dominated marsh is classified as a Saltmarsh Cordgrass Tidal Herbaceous Alliance, and the saltmeadow cordgrass-dominated community is classified as a Saltmeadow Cordgrass-Saltgrass) Tidal Herbaceous Alliance. The maritime woodland community is similar to that described as an Eastern Red Cedar/Northern Bayberry Woodland. **Appendix C** presents a list of all plant species observed at the Good Luck Point Project Area.

2.3.7 Fish and Wildlife

Fish: The Good Luck Point Project Area, much like the refuge, in general, is bordered by, and hydrologically connected to, estuarine habitats made up of salt marshes, streams, ponds, bays, and rivers. Therefore, this area is also home to a rich variety of fish, shellfish, and crab species of significant importance to the sport and commercial fisheries, as well as food base for many birds and mammals (USFWS 2004; USFWS 2013).

The EFH mapper (NOAA 2015) was used as consultation with the NMFS to determine which fish species habitat may be located on or near the Good Luck Point Project Area with the potential of being affected by the Proposed Action. The results are listed in **Table 2.6** below:



LEGEND

- Project Area
- Maritime woodland
- Spartina alterniflora salt marsh
- Ruderal vegetation
- Spartina alterniflora salt marsh with greater proportion of Spartina patens
- open water

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, 2015

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Figure 2.10

Vegetation Community Map
Good Luck Point Project Area
Pole Removal Project
Berkeley Township, New Jersey

Rev. By: CB	Project No.: 3617157355.81.01	November 2015

Table 2.6 NMFS Findings for Potential EFH Near the Good Luck Point Project Area		
Common Name	**Scientific Name**	**Life Stage**
Clearnose skate	*Raja eglanteria*	Adult Juvenile
Sandbar shark	*Carcharhinus plumbeus*	Neonate Juvenile Adult
Sand tiger shark	*Carcharias taurus*	Neonate
Ocean pout	*Macrozoarces americanus*	Adult Eggs Larvae
Window pane flounder	*Scopthalmus aquosus*	Eggs Larvae Juvenile Adult
Winter skate	*Leucoraja ocellata*	Juvenile
Yellowtail flounder	*Limanda ferruginea*	Larvae Eggs
Winter flounder	*Pseudopleuronectes americanus*	Larvae Eggs Juvenile Adult
Red hake	*Urophycis chuss*	Larvae Juvenile Eggs
Skipjack tuna	*Katsuwonus pelamis*	Juvenile Adult
Silver hake	*Merluccius bilinearis*	Larvae Juvenile Eggs Adult
Bluefin tuna	*Thunnus thynnus*	Juvenile
Dusky shark	*Carcharhinus obscurus*	Neonate
Monkfish	*Lophius americanus*	Eggs Larvae
Smooth dogfish	*Mustelus canis*	ALL
Tiger shark	*Galeocerdo cuvier*	Juvenile
Little skate	*Leucoraja erinacea*	Adult

Table 2.6 NMFS Findings for Potential EFH Near the Good Luck Point Project Area		
Common Name	**Scientific Name**	**Life Stage**
Summer flounder	*Paralichthys dentatus*	Adult Juvenile Larvae
Black sea bass	*Centropristis striata*	Juvenile Adult
Scup	*Stenotomus chrysops*	Juvenile
Longfin inshore squid	*Doryteuthis pealeii*	Juvenile Adult Eggs
Bluefish	*Pomatomus saltatrix*	Adult Juvenile
Atlantic butterfish	*Peprilus triacanthus*	Adult Juvenile
Atlantic cod	*Gadus morhua*	Adult
Atlantic herring	*Clupea harengus*	Adult Juvenile

There are no HAPCs documented on or near the Good Luck Point Project Area (NOAA 2015). Portions of Toms River and Barnegat Bay adjacent to the Project area are part of the Southern Fishery Management Trawl Roller Gear Restriction EFHA.

Birds: Good Luck Point provides a forested island for resting and feeding along the Atlantic flyway and is considered an important bird migration and wintering spot for many neotropical birds (TPL 2015; TPL 2005). Herons, peregrine falcons, American bitterns *(Botaurus lentiginosus*), bald eagles and osprey often frequent the area due to the abundant food in the Bay and tidal salt marsh (TPL 2003; TPL 2005).

Mammals: The Good Luck Point Project Area includes both forested wetlands as well as tidal salt marsh habitat. Therefore, according to the Service's Comprehensive Conservation Plan for the refuge (2004), in addition to the typical mammals found in wetland areas described for the Manahawkin Project Area, forested species may also reside here. Forested species found throughout the refuge include red foxes (*Vulpes vulpes*), grey foxes (*Urocyon cinereoargenteus*), coyotes (*Canis latrans*), raccoons (*Procyon lotor*), long-tailed weasels (*Mustela frenata*), short-tailed weasels (*Mustela erminea*), striped skunks (*Mephitis mephitis*), opossums (*Didelphis virginiana*), white-tailed deer (*Odocoileus virginianus*), grey squirrels (*Sciurus carolinensis*), red squirrels (*Tamiasciurus hudsonicus*), chipmunks (*Tamias striatus*), white-footed mice (*Peromyscus leucopus*), redbacked voles (*Clethrionomys gapperi*), pine voles (*Microtus pinetorum*), masked shrews (*Sorex cinereus*), short-tailed shrews (*Blarina brevicauda*), eastern moles (*Scalopus aquaticus*), and a variety of bat species.

Reptiles and Amphibians: The Good Luck Point Project Area also falls into the coastal estuarine community type assemblage that may include habitat for the northern diamondback terrapin (USFWS 2004).

The forested wetlands of the Good Luck Point Project Area may be used by the wetland amphibian and reptilian species documented throughout the refuge, and/or they may potentially be used by upland herpetofauna. In general, the upland amphibians documented within the refuge include the commonly observed Fowler's toad (*Anaxyrus fowlerii*) or the less frequently observed eastern spadefoot toad (*Scaphiopus holbrookii*) or wood frog (*Lithobates sylvatica*). Upland reptilian species that are found throughout the refuge include the northern fence lizard (*Sceloporus undulatus*), northern pine snake (*Pituophis melanoleucus*), and eastern box turtle (*Terrapene carolina*) (USFWS 2013).

2.3.7.1 Threatened and Endangered Species

The Service completed an intra-service biological evaluation pursuant to the ESA section 7 (**Appendix D**). The online IPaC system indicated the presence of the following federally listed threatened and endangered species on or near the Good Luck Point Project Area:

Table 2.7

Service's IPaC Findings for Potential Federally Listed Threatened and Endangered Species On or Near the Good Luck Point Project Area

Common Name	Scientific Name	Federal Status
Red knot	*Calidris canutus rufa*	Threatened
Knieskern's beaked-rush	*Rhynchospora knieskernii*	Threatened
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Swamp pink	*Helonias bullata*	Threatened
Northern long-eared bat	*Myotis septentrionalis*	Threatened

There were no critical habitats documented within the Good Luck Point Project Area. However, the Service's IPaC system indicated the presence of 24 migratory birds protected under the MBTA and the BGEPA that could potentially be moving through the Good Luck Point Project area, including the following:

Table 2.8

Service's IPaC Findings for Potential Migratory Bird Species On or Near the Good Luck Point Project Area

Common Name	Scientific Name
American oystercatcher	*Haematopus palliatus*
American bittern	*Botaurus lentiginosus*
Black skimmer	*Rynchops niger*
Black-billed cuckoo	*Coccyzus erythropthalmus*

Table 2.8 Service's IPaC Findings for Potential Migratory Bird Species On or Near the Good Luck Point Project Area	
Common Name	**Scientific Name**
Blue-winged warbler	*Vermivora pinus*
Fox sparrow	*Passerella liaca*
Great shearwater	*Puffinus gravis*
Gull-billed tern	*Gelochelidon nilotica*
Horned grebe	*Podiceps auritus*
Hudsonian godwit	*Limosa haemastica*
Least bittern	*Ixobrychus exilis*
Least tern	*Sterna antillarum*
Peregrine falcon	*Falco peregrinus*
Pied-billed grebe	*Podilymbus podiceps*
Prairie warbler	*Dendroica discolor*
Purple sandpiper	*Calidris maritima*
Red knot	*Calidris canutus rufa*
Rusty blackbird	*Euphagus carolinus*
Saltmarsh sparrow	*Ammodramus caudacutus*
Seaside sparrow	*Ammodramus maritimus*
Short-eared owl	*Asio flammeus*
Snowy egret	*Egretta thula*
Upland sandpiper	*Bartramia longicauda*
Wood thrush	*Hylocichla mustelina*
Worm eating warbler	*Helmitheros vermivorum*

The NJDEP NJ-GeoWeb website (NJDEP 2014) Landscape Project indicated the presence of the following State-listed threatened and endangered species on or near the Good Luck Point Project Area:

Table 2.9 NJDEP Landscape Project Findings for Potential State-Listed Threatened and Endangered Species On or Near the Good Luck Point Project Area			
Common Name	**Scientific Name**	**Federal Status**	**State Status**
Common tern	*Sterna hirundo*	Not listed	Special concern
Tricolored heron	*Egretta tricolor*	Not listed	Special concern
Little blue heron	*Egretta caerula*	Not listed	Special concern
Glossy ibis	*Plegadis falcinellus*	Not listed	Special concern
Least tern	*Sterna antillarum*	Not listed	Endangered
Peregrine falcon	*Falco peregrinus*	Not listed	Endangered
Osprey	*Pandion haliaetus*	Not listed	Threatened

Table 2.9 NJDEP Landscape Project Findings for Potential State-Listed Threatened and Endangered Species On or Near the Good Luck Point Project Area			
Common Name	**Scientific Name**	**Federal Status**	**State Status**
Caspian tern	*Hydroprogne caspia*	Not listed	Special concern
Snowy egret	*Egretta thula*	Not listed	Special concern
Black-crowned night-heron	*Nycticorax nycticorax*	Not listed	Threatened

Since the NJDEP GeoWeb is a preliminary screening tool, a formal written request was submitted to the NJDEP Natural Heritage Program to confirm the possible presence of these species. September 11, 2015 findings of the Natural Heritage Program are presented in **Appendix D**. These results indicated the following additional animal species that have the potential to occur on or near the Good Luck Point Project Area:

Table 2.10 NJDEP Natural Heritage Program Additional Findings for Potential State-Listed Threatened and Endangered Species On or Near the Good Luck Point Project Area			
Common Name	**Scientific Name**	**Federal Status**	**State Status**
Brown thrasher	*Toxostoma rufum*	Not listed	Special concern
Mudbank crown grass	*Paspalum dissectum*	Not listed	S2–Imperiled in New Jersey

The results also indicated that the Good Luck Point Project Area might contain potential vernal pool habitat within forested areas to the west.

There are a total of 11 documented osprey nests and one peregrine falcon nest located at the Good Luck Point Project Area. Two osprey nests (IDs 111-B-002 and GLP001) and the peregrine nest (ID 111-B-004) are located generally northeast of the staging area, six osprey nests (IDs GLP007, GLP006, GLP005, GLP003, GLP004, and 111-B-005) are located generally east of the staging area, and three osprey nests (IDs GLPws001, GLPws002, and GLPws003jpl) are located generally south of the staging are, across Bayview Avenue. Two of the osprey nests (IDs 111-B-005 and 111-B-002) are platform type nests, specifically installed for osprey nesting, while the rest are located on poles. The peregrine falcon nest is also located on a platform.

2.3.8 Cultural Resources

Reviews of cultural resource files were performed at the SHPO and the NJSM to assess the potential for the Proposed Action to impact historic properties (listed or eligible for listing on the National Register of Historic Places) within the Good Luck Point Project Area. Historic properties include archaeological sites, as well as historic structures and districts. The search indicated that the Project area contains a historic property (AT&T Transmitter Building and Antenna Field) that

was previously determined eligible for listing on the National Register of Historic Places. The file searches indicated there are no other previously inventoried historic properties (or archaeological sites) within the APE of the Project at Good Luck Point. **Appendix E** presents selected relevant information from the SHPO files concerning the historical background of the Good Luck Point APE, and previous cultural resource studies that have been conducted in the vicinity.

Construction of the former AT&T facility at the Good Luck Point Project Area made Toms River a central player in a radio and ship-to-shore telephone system that eventually linked Bell System telephones with the principal ocean liners plying the Atlantic Ocean. The former AT&T facility was subsequently closed in 1999 due to the development of undersea cables to Europe and the invention of satellite communication (Amec 2015).

In 2007, the SHPO determined that the AT&T Transmitter Building and Antenna Field is eligible for listing in the National Register because of its "association with the early implementation and expansion of ship-to-shore telephony" and because it is a "representative, substantially intact example of an early shortwave transmitter building with its associated antenna field." Because the historic property is eligible, and the shortwave antenna poles and metal antennas are contributing elements to the expansion of ship-to-shore telephony, removal of these structures would cause an adverse effect per the NHPA (section 106). The adverse effect would be resolved through mitigation, following the section 106 process. Measures to mitigate the adverse effect would be detailed in a two-party MOA between the Service and the SHPO. Implementation of these mitigation measures would reduce the Project's adverse effect below the threshold of significance per NEPA.

A Phase 1A Cultural Resources Assessment Report (**Appendix F**) was developed to assess the archaeological sensitivity of the Good Luck Point APE. The closest known archaeological sites are recorded northwest of the APE, to the north of Toms River. The assessment found that any intact upland areas within the APE may have moderate to high sensitivity for unrecorded archaeological sites. However, the Project design would use existing roads for vehicle access and previously disturbed areas (such as parking lots) for staging, so no new ground alteration in archaeologically sensitive zones is anticipated. Consequently, there is no potential for effect on archaeological resources.

2.3.9 Socioeconomic Resources and Environmental Justice

The socioeconomic structure of the Good Luck Point Project Area is similar to that of the Manahawkin Project Area (detailed in section 2.2.9), as they are both located within Ocean County. Commercial activities associated with the Jersey Shore resort industry, the health care industry, and the commercial fishing industry are the economic drivers in the community surrounding this Project area.

2.3.10 Recreation

The refuge is used by thousands of visitors each year for various recreational purposes such as hunting, fishing, environmental education, and wildlife observation. The forested wetlands and uplands neighboring the Good Luck Point Project Area are owned by the Ocean County Natural

Lands Trust and are used for hiking, boating and birding by tourists during the peak summer tourism months. It is an important bird migration and wintering spot along the Atlantic flyway, which includes woodlands with hiking trails, tidal marsh habitat, and scenic views across the Barnegat Bay (TPL 2015). Public use of the Good Luck Point Project Area is not encouraged, as the Service does not maintain recreational trails or a visitor center.

2.3.11 Transportation

The Garden State Parkway and U.S. Highway 9 are also the regional and State roads that convey traffic directly into and from Good Luck Point.

The average daily traffic volume for the section of the Garden State Parkway nearest the Good Luck Point Project Area (between exits 80 and 74, west/southwest of the Project area) was estimated to be between 53,354 and 57,938 cars per day for 2015 during the fall season (October). These values represent approximately 96 percent of the maximum daily load on this stretch of roadway, which occurs during summer months (T&M 2000).

Traffic volumes on a stretch of U.S. Highway 9, just west of the Proposed Action at Good Luck Point, indicate that roadway's average annual daily traffic volume at 31,858 cars per day in December 2012 (NJDOT 2015).

Chapter 3 Alternatives Including the Proposed Action

Three alternatives were assessed during the development of this EA. The Proposed Action, alternative A, includes the removal of the above-ground portions of abandoned poles, antennas, and associated support structures. This alternative is considered to be the most direct and effective way of meeting the Project objectives. The Proposed Action, alternative B, which includes the additional removal of all below-ground portions of the abandoned poles, antennas, and associated support structures, and the No Action Alternative are discussed in the following sections. Additional alternatives, such as removal of the poles via alternate means, including standard construction equipment or helicopters, were not developed and are not discussed in this EA.

3.1 Alternative A–Proposed Action

3.1.1 Manahawkin Project Area

The Manahawkin Project Area contains approximately 113 standing poles, 7 metal antennas, and other ancillary structures that would be removed. The poles have been subjected to decades of storm events and tidal surges and are in a state of deterioration. The objective of the Proposed Action at the Manahawkin Project Area is the safe removal of the abandoned poles and associated material to protect the marsh and native wildlife from the detrimental effects of the decaying poles. As these poles and associated structures are positioned in a heavily used migratory bird flyway, they pose safety risks to these protected species. In addition, analytical results suggest that chemical preservatives were used on the poles to prevent insect/animal infestation (**Appendix B**). These chemicals could be leaching into surrounding sediment and surface water within a highly sensitive salt marsh environment.

The Service would oversee all Project activities at the Manahawkin Project Area. Amec team activities would begin with the mobilization of 13 field personnel, including a working Site Supervisor, a working Site Health & Safety/Transportation & Disposal Coordinator, one equipment operator, five laborers, and five air boat operators. Mobilization would also include approximately four field vehicles, a tracked skid steer, and a tracked mini-excavator for use in the staging area for pole/concrete/guy wire/anchor retrieval operations. Five air boats would also be used (two with cranes and three for handling material). Each of the two crane airboats (**Figure 3.1**) would be manned with three field personnel including an air boat operator and two field laborers and would be used for pole removal activities. Each of the three material air boats (**Figure 3.2**) would be manned with a single operator who would transport removed poles/metal antennas/guy wires to the central or temporary staging areas.

The Amec team would then coordinate with the Service to prepare the approximately one acre area to be utilized as an equipment/material and subsequent pole/concrete/guy wire staging area. The staging area would contain a field office trailer and designated areas for Health & Safety Training and field crew warming spot, vehicle parking, equipment staging, and pole lay down and disposal. The staging area would be made up of three separate sections; one section for wooden poles, another section for metal antennas, anchor pipes, and guy wires, and a third section for other associated debris including the ceramic guy wire stabilizers. The staging area would be located in a previously modified upland area that was used for parking areas surrounding the existing former

Figure 3.1–Crane air boat in use during a pole installation in a marsh area.

Figure 3.2–Material handling air boat in use in a marsh area.

AT&T transmission building (**Figure 1.5**). In addition, the existing gravel roadway near the staging area would be used as a temporary staging area for sections of poles, metal wire, anchor pipe, and metal antennas transported from the marsh each day. It is anticipated that the air boats would bring material from the marsh areas at a much faster pace than the field crew can prepare the material for recycling/disposal. Therefore, once material is processed in the staging area and subsequently transported offsite for recycling/disposal, the material staged in the roadways would be transported to the staging areas for processing.

Working at each select pole or antenna location, the Amec team field personnel would initially use a global position system (GPS) to mark the location of each structure for future mapping for historic preservation purposes. The field team would assign a unique number to each of the structures that are removed and would note the type of structure, the condition of the structure, and any unique observations. Each pole and antenna would be photographed prior to being cut down. The specific procedures and work products for the recording of pole data are to be prescribed in a two-party mitigation MOA that will be executed by USFWS and SHPO prior to the construction phase for the project.

The proposed approach is to use the air boats equipped with cranes to take down the poles and antennas and use the material handling air boats to transport them back to the access roads/staging areas. The poles will be taken down in such a manner as to minimize impact to the surrounding marsh environment. Amec crews will first maneuver the airboat to the base of the pole or antenna. Crews will then loosen the least taut guy wires and use the crane on the crane airboat to guide the pole away from the airboat. Then the last guy wire will be released and the pole or antennas will be cut approximately five to six feet above the ground surface by an Amec subcontract member on the boat. The Amec team will employ measures to ensure that the decent of the cut pole is controlled to the extent possible under the circumstances of working in an open marsh with soft footing. That will possibly include using the man-lift in the airboats to help lower the poles or to possibly attach a collar connected to a block and tackle that would be attached to one of the existing anchors to which the guy wires are attached. Using the block and tackle system (or something of similar function), the Amec crew will control the descent of the pole. Additionally, it is believed that the crane on the larger airboats will be able to control the descent of the cut pole for those poles that do not have metal rung ladders. Many of the poles at Good Luck Point fall into this category. Amec will evaluate procedures over the course of the progress of the work to evaluate how the procedures work in controlling the pole decent and will adjust procedures accordingly.

Once the pole is down, crews would cut the poles into manageable sections (approximately 6½ feet long). The sections would be picked up by hand, or with a crane, and loaded into material handling air boats which would bring the material to the access roads. Then the guy wires, pipe anchors and any other miscellaneous debris would be removed and also transported to the access roads. Once the material is brought to the access roads, it would be either moved by a tracked mini-excavator or tracked skid steer to the designated staging areas. At the staging areas, Amec crews would remove all metal items from the poles/wood cross members/antennas (spike steps, bolts, screws, etc.) and place them in the appropriate 30-cubic yard roll-off for recycling/disposal. The metal sections of antennas would be cut into manageable sections (15 to 30 feet) and also placed into 30 cubic yard roll-offs for disposal. The guy wires would be either rolled up or cut into

manageable sections, (3 to 6 feet) and placed into 30-cubic yard roll-offs. Other materials to be encountered include insulated pipe anchors and the concrete footings.

The removal of the concrete footings would be performed by Amec crews after all the poles and antennas are removed. Using a material handling air boat, Amec crews would use a pneumatic jack hammer attached to a compressor with an air hose. The compressor would be positioned on the air boat. Where feasible, a plastic tarp would be placed around the concrete footing. As the concrete is broken up, large pieces would be placed in the air boat and smaller pieces of concrete that land on the tarp would be captured by the tarp and retrieved and brought back to the staging area. The concrete would to broken down to ground surface.

It is anticipated that pole removal activities for the Manahawkin Project Area would begin on January 18, 2016 and would require 40 working days to complete. However, the schedule is subject to change and field conditions may cause the number of working days to be altered. Based on the anticipated 113 pole locations for Manahawkin, approximately 7 metal antenna locations, and associated metal spike steps, metal pipe anchors, guy wires, and concrete footings, disposal would require (**Appendix G**):

- 28 to 31, 30-cubic yard roll-offs for poles, approximately eight to ten poles per roll-off.
- 18 to 28, 30-cubic yard roll-offs for recycling of the metal guy wires and metal antennas.
- Two to three, 30-cubic yard roll-offs for ceramic.
- Two to three, 20-cubic yard roll-offs for concrete.
- Six to nine, 30-cubic yard roll-offs for miscellaneous debris (steel spike steps and metal pipe anchors).

In an effort to minimize any impacts to the marsh environment over the course of the pole removal, Project activities would occur during the winter months when it is anticipated that the ground would be frozen. It is understood that the ground may be frozen for only a portion of the time, or perhaps not at all, during these activities. However, the use of air boats over the marsh would ensure that any impacts to the marsh environment would be minimized, regardless of whether or not the ground freezes.

The completion of this Project would satisfy the objective of the Service, which is to enhance coastal marsh habitats and protect migratory birds. Under the preferred alternative, approximately 113 abandoned poles, 7 metal antennas, and other ancillary structures would be removed from important salt marsh estuarine habitat and essential bird migratory pathways at the Manahawkin Project Area.

3.1.2 Good Luck Point Project Area

The Good Luck Point Project Area was also a former receiver facility for Station WOO Ocean Gate Radio. It is 222 acres in size and contains approximately 340 standing poles in addition to 12 metal antennas, and other ancillary structures that would be removed.

Similar to the Manahawkin Project Area, these poles have also been subjected to decades of storm events and tidal surges. The objective of the Proposed Action at the Good Luck Point Project Area

is the same as that of the Manahawkin Project Area; the safe removal of the abandoned poles metal antennas, and associated guy wires, metal anchors, and concrete footings in an effort to protect migratory birds from flyway hazards and the native flora and fauna of the marsh from the detrimental effects of the decaying poles. The same methods and techniques used to accomplish the goals of the Proposed Action at the Manahawkin Project Area would be employed at the Good Luck Point Project Area (detailed in section 3.1.1).

The Service would also oversee all Project activities at the Good Luck Point Project Area. It is anticipated that pole removal activities for the Good Luck Point Project Area would begin on January 18, 2016 and would require 70 working days to complete. However, the schedule is subject to change and field conditions may cause the number of working days to be altered. Based on the anticipated 340 pole locations for Good Luck Point, approximately 12 metal antenna locations, and associated metal spike steps, metal pipe anchors, guy wires, and concrete footings, disposal would require (**Appendix G**):

- 28 to 32, 30-cubic yard roll-offs for poles, approximately eight to ten poles per roll-off.
- 19 to 31, 30-cubic yard roll-offs for recycling of the metal guy wires and metal antennas.
- Two to four, 30-cubic yard roll-offs for ceramic.
- Two to three, 30-cubic yard roll-offs for concrete.
- Nine to 14, 30-cubic yard roll-offs for miscellaneous debris (steel spike steps, wood cross members, and metal pipe anchors).

The completion of this Project at the Good Luck Point Project Area would satisfy the objective of the Service, which is to enhance coastal marsh habitats. Under the preferred alternative, approximately 340 abandoned poles, 12 metal antennas, and other ancillary structures would be removed from important salt marsh estuarine and forested wetland habitat, as well as from essential bird migratory pathways.

3.2 Alternative B–Removal of Structures from Below Ground Level

A second alternative explored for this Project was the removal of the below-ground limits of the poles, concrete footings, metal antennas, and metal pipe anchors in both locations, in addition to above-ground removal of these structures as outlined in alternative A. This action is not preferred, as the removal of the below-ground limits of all structures would cause extensive damage to the local environment. While restoration measures could be implemented, such as the use of dredge spoils or clean fill to fill the holes left in the marsh after the removal of below-ground material, the work would degrade the marsh surface structure, could alter the hydrology of the Project area, and would likely lead to a series of dimples across the landscape that would fill with additional water as the fill material compacts. The damage that would result from the removal of the below-ground limits of these structures would greatly outweigh any of the benefits garnered from their removal and is greater than any minimal damage caused by retaining the below-ground limits of these structures in place.

3.3 Alternative C–No Action

Another alternative explored for this Project was the No Action Alternative, which would result in no removal of any of the abandoned poles or associated structures from either location. The No Action Alternative is not preferred as it does not reduce risks to native flora, fauna, and habitats. The location of the poles within the heavily used Atlantic flyway could contribute to elevated risks for migratory bird species that are protected under the MBTA. During low visibility conditions, including at night or in foggy conditions, migrating birds risk striking poles, towers, and wires. Additionally, wave action on marshes surrounding the Project areas, combined with future sea level rise, would exacerbate the natural deterioration of the poles and associated structures.

Chemical analysis of the wooden poles and anchor pipe insulation has revealed the presence of chemical constituents, most notably, semi-volatile organic compounds (SVOCs). Results of the pole analysis indicate that the levels of detected SVOC concentrations were highest for the constituents phenanthrene (between 1,180 and 4,160 milligrams per kilogram (mg/kg)), fluoranthene (between 1,038 and 2,760 mg/kg), and pyrene (between 667 and 1,795 mg/kg). These three compounds are polycyclic aromatic hydrocarbons (PAHs). PAHs are one of the six major classes of compounds that are found within creosote mixtures. This suggests that creosote was most likely the treatment used on the poles to resist damage from fungus, insects, or other living organisms. Results from the pipe insulation analysis indicated that detected SVOC concentrations were also high for phenanthrene, fluoranthene and pyrene, but were highest for the constituent bis(2-ethylhexyl)phthalate (between 2,706 and 37,082 mg/kg) (**Appendix B**).

Previous studies have shown leaching of creosote compounds from wooden creosoted structures during water immersion does occur, although leachability was higher in fresh water than in seawater and the rate of leaching decreased with the age of the pilings (Melber et al. 2004). Some of these poles have deteriorated to the point where they have fallen into the marsh. Despite the fact that the marsh contains salt water and the poles have been around since as early as 1929, this could lead to these constituents leaching into the surrounding surface water and sediment. There is no available data on the levels of PAHs in the environment, though the length of time that the poles have been in place suggests that whatever contaminant leaching that occurred from the installation of these poles in the marsh may have occurred many years ago. There is also no overt information suggesting that the wooden poles have adversely impacted the ecology of either Project area.

Toxicity character leaching procedure (TCLP) analysis was also performed on the pole samples for volatile organic compounds (VOCs) and bases, neutrals, and acids (BNAs). These results were all non-detect (**Appendix B**). Although the Supplemental Work Plan called for TCLP analysis on metals to be conducted as well, a sampling issue prevented the analysis from being run. Freehold Cartage identified that they did not need the analysis; however, if it is determined to be required prior to final disposal, it will be collected and analyzed. Based on the Notification of Intent for Material Acceptance letter shown in **Appendix H**, it is anticipated that the metal recyclable materials and any non-hazardous waste will be acceptable for recycling/disposal at the Freehold Cartage Inc. facility in Freehold, New Jersey, and the wood poles and ancillary wood cross members will be acceptable at the Evergreen Community Power Plant in Reading, Pennsylvania.

Chapter 4 Environmental Consequences and Cumulative Impacts

4.1 Manahawkin Project Area

4.1.1 Topography

The Proposed Action involves the removal of the poles, metal antennas, and associated material down to near the ground surface. Therefore, their removal would not impact the local topography at the Manahawkin Project Area.

Alternative B would impact local topography by creating micro-topographical depressions at each pole and antenna foundation location. While restoration measures could be implemented, such as the use of dredge spoils or clean fill to fill the holes left in the marsh after the removal of below-ground material, the work would degrade the marsh surface structure and could alter the hydrology of the Project area, leading to more defined topographical changes.

The No Action Alternative would not result in impacts to local topography as no poles or antennas would be removed from the ground.

4.1.2 Geology and Soils

Although there may be some minor movement of soils from the use of field vehicles, a tracked skid steer, and a tracked mini-excavator around the staging area during the Proposed Action activities at Manahawkin, the existing soils near the staging area were originally disturbed when the transmitter building was first constructed. In addition, existing roads and paved areas would be utilized in this area. The use of air boats would cause negligible disruption of marsh sediments. In addition, none of the Project activities involve changing soil composition, nor would Project activities extend down to surficial geological layers. Therefore, the Proposed Action would not have adverse impacts to the local or regional geology and soils.

Alternative B would also result in local movement of soils from the use of field vehicles, a tracked skid steer, and a tracked mini-excavator around the staging area as well as from the removal of poles, antennas, and associated structures from below the ground surface. However, existing roads and paved areas would be utilized in the staging area and the use of air boats on the marsh for alternative B would not increase the disruption of soils or sediments. It is not anticipated that the poles and associated footings extend down to surficial geological layers. Therefore, since Project activities do not involve the changing of soil composition or disruption of surficial geological layers, alternative B would not have adverse impacts to the local or regional geology and soils.

The No Action Alternative would not result in impacts to the local or regional geology and soils as there would be no activities performed that would involve changing soil composition or extend down to surficial geological layers.

4.1.3 Air Quality

The Proposed Action at the Manahawkin Project Area is not expected to have a significant environmental impact to air quality. Some temporary impacts are expected as the Proposed Action would involve the use of emission-producing vehicles and machinery. However, those emissions are expected to be below SILs for all pollutants and averaging times for which a NAAQS or NJAAQS have been established. All on-road and non-road vehicles and machinery would be up-to-date in their registration and emission inspections (for those that require emissions testing), and thus compliant with current USEPA emission standards.

Alternative B would also result in temporary impacts from the use of emission-producing vehicles and machinery.

The No Action Alternative would not result in the use of any construction equipment; therefore, there would be no impacts to air quality.

4.1.4 Water Quality

The use of air boats moving over the marsh would result in negligible movement of bottom sediments. Therefore, the Proposed Action would not result in direct impacts to water quality at the Manahawkin Project Area.

Alternative B proposes the removal of poles, antennas, and concrete footings from below the ground surface. Therefore, temporary impacts on water quality from sediment suspension in the area immediately surrounding this alternative's activities would occur. However, subsequent deposition of the suspended sediment would allow the marsh to reestablish and maintain the ecosystem it supports.

The No Action Alternative would not result in direct impacts to water quality at the Manahawkin Project Area as no poles, antennas, or footings would be removed from the ground. However, failure to proceed with the Proposed Action could lead to increased deterioration of the poles and subsequent leaching of SVOCs into the surface water, potentially impacting water quality.

4.1.5 Wetlands and Streams

The Proposed Action would result in minor physical disturbances to wetlands due to use of air boats and field crew navigating within the wetland communities. These disturbances would be temporary in nature and are necessary to complete the pole removal process. However, pole removal activities would be conducted during the winter when the ground is expected to be frozen, or near frozen, to minimize disturbance and compaction impacts to the marsh created from the boats and crew.

Alternative B would also result in minor physical disturbances to wetlands due to use of air boats and field crew within the wetlands, as well as result in a series of dimples across the landscape from where the concrete footings were extracted from below the ground. Efforts to restore the

holes created by extracting the below-ground structures could degrade the marsh surface structure and alter the hydrology of the Project area.

The No Action Alternative would not result in immediate physical impacts to wetlands as no boats or crew would be navigating through the marsh. However, failure to proceed with the Proposed Action could lead to increased deterioration of the poles and subsequent leaching of SVOCs into the surface water, potentially impacting the wetland.

4.1.6 Vegetation

The Proposed Action would have unavoidable, but temporary impacts to vegetation at the Manahawkin Project Area. Vegetation would be directly impacted by compaction from air boats and from foot traffic by laborers used to perform the pole removal. Although the poles and metal antennas would be brought to the ground in a controlled manner, the weight of each pole and antenna falling down would leave an initial impression, thereby resulting in additional direct impacts to vegetation.

The direct impacts to vegetation would be minimized by performing the Proposed Action during the winter months when the marsh plants would be dormant, and there would be the least likelihood of soil compaction. Air boats that ride above the surface of the marsh would be used to perform the pole removal to further minimize soil and plant compaction. It is estimated that the revegetation would naturally occur in the disturbed areas. Tidal flushing is also expected to renew sediment and nutrients that would enhance new plant growth.

The impacts to vegetation from implementation of alternative B would be identical to that of the Proposed Action, with additional disturbances to the ground surface and surrounding vegetation from the excavation of the below-ground structures. These additional direct impacts are expected to occur within the disturbance envelope (the location within which all clearing, excavation and development shall be located) surrounding each excavation site, which would result in the loss of some additional vegetation in a band extending at least 3 feet out from around the excavation. Indirect impacts to vegetation may also occur as the marsh surface subsides into the excavation, possibly precluding the revegetation of the excavation site due to a resulting drop in elevation and subsequent tidal inundation.

The No Action Alternative would not result in activities occurring within the marsh; therefore, there would be no impacts to vegetation.

4.1.7 Fish and Wildlife

The Proposed Action would not have significant long-term environmental impacts to fish, migratory birds, or other wildlife species or their habitats. In fact, the Proposed Action at the Manahawkin Project Area would result in the overall enhancement of the local environment and migratory bird habitat.

Sediment disruption of fish and/or shellfish habitat should be negligible due to use of air boats over the marsh and the scheduling of the activities to occur in the winter, when the ground is

expected to be frozen and when fish are not yet spawning. The removal of only the above-ground sections of the abandoned structures would also reduce impacts to fish and wildlife habitat to a negligible level. There may, however, be some avoidance of the area by wildlife as a result of increased noise and human activity during construction; however, these impacts are not considered significant and would be temporary in nature.

Alternative B would have potential long-term environmental impacts to fish, migratory birds, or other wildlife species or their habitats. Removal of the poles and associated footings from below the marsh surface would result in sediment disruption of fish and/or shellfish habitat. However, these impacts are not considered significant and would be temporary in nature. In addition, Project activities would not be conducted during fish spawning season in an effort to protect marine life from the effects of sediment suspension. The removal of the below-ground structures, however, would have an adverse direct impact to the local fish and benthic invertebrate habitat surrounding the poles. While restoration measures could be implemented and the holes left in the marsh after the removal of these materials could be filled, the work would degrade the marsh surface structure, could alter the hydrology of the Project area, and would likely lead to a series of dimples across the landscape that would fill with water as the fill material compacts. These impacts could directly affect fish and benthic invertebrate communities in the Project area.

The No Action Alternative would not result in any direct impacts to fish, wildlife, or their habitats as no poles or antennas would be removed from the ground. However, the poles are located within the Atlantic flyway route used by migratory bird species. These tall structures could increase bird strike mortality rates as well as alter migration patterns, and ultimately energy expenditure, of protected migrating species if not removed.

4.1.7.1 Threatened and Endangered Species

The Project area does not provide habitat for any of the federally listed threatened plant species reported to have the potential to occur on or near the Project area. Of the animal species currently listed as federally threatened and endangered that have the potential to occur on or near the Project area (e.g., red knot, roseate tern, northern long-eared bat, and Atlantic loggerhead turtle), only the federally threatened red knot would have the potential to be located within the Project area during the winter, when construction activities would occur. Red knot migrate through coastal wetlands in the spring and fall and spend winters along coastal waters in Central and South America. In the spring, they are generally concentrated on Delaware Bay beaches, feeding on horseshoe crab (*Limulus polyphemus*) eggs. Impacts on red knot are anticipated to be minimal as this work will primarily occur in winter (January- April) when red knot will either have migrated south or are concentrated on Delaware Bay beaches. Any birds passing through the area surrounding the Project area would be expected to avoid the Project area due to the presence of the work crew. This indirect impact would be temporary, as the Project is only expected to take 40 working days to complete. In addition, the ecological uplift resulting from the removal of the poles within their home range would have an indirect, long-term, and beneficial impact to this species, as well as the other federally listed threatened and endangered species that could occur on or near the Project area throughout the year.

The federally endangered roseate tern migrates south for the winter while the federally threatened northern long-eared bat hibernates in caves during the winter months so neither species are likely to be present at this Project area while the work is underway. The federally threatened Atlantic loggerhead turtle may be found in the bay adjacent to the Project area in the winter, but it is not expected to migrate into the brackish inlets within the Project boundaries.

Of the additional State-listed threatened and endangered species or species of special concern that have the potential to be on or near the Project area (e.g., 13 bird species), 11 of these species would be absent during the winter when the pole removal would occur, including the State-threatened osprey that occupy the two recorded nests that are located on poles within the Manahawkin Project Area. These two nests would not be disturbed and the poles that they are on would remain at full height. These nests would be marked by traffic cones and colored flagging which would be checked on a periodic basis to ensure that the markers have not been moved. Construction activities during the pole removal process would maintain an appropriate distance (i.e., minimum 50 feet) from these sensitive ecological features. The bottlenose dolphin, a species recommended for listing as a special concern species in the State, may be found in the bay adjacent to the Project area in the winter, but it is not expected to migrate into the brackish inlets within the Project boundaries.

The remaining two State-listed endangered bird species, the northern harrier and peregrine falcon, may use the Project area during the winter, although they would be expected to avoid the Project area due to the presence of the work crew. This indirect impact would be temporary, as the Project is only expected to take 40 working days to complete. In addition, the ecological uplift resulting from the removal of the poles within their home range would have an indirect, long-term, and beneficial impact to these birds, as well as other State-listed threatened and endangered species who live on or near the Manahawkin Project Area throughout the year, including osprey.

The implementation of alternative B would have the same minimal, indirect impacts to federally and state-listed species indicated for the Proposed Action. The excavation of below-ground structures is not expected to have additional indirect impacts to these protected species.

The No Action Alternative would not have any direct impacts to threatened and endangered species, as no activities would occur in the marsh. However, leaving the poles in place throughout the marsh would perpetuate a disturbed land condition, and possibly result in indirect adverse impacts. These tall structures, if left in place, could increase bird strike mortality rates as well as impact migration patterns, and ultimately energy expenditure, of both Federal and State-listed threatened and endangered species.

4.1.8 Cultural Resources

The Proposed Action at the Manahawkin Project Area would cause an adverse effect per NHPA (section 106) to a historic property that is considered eligible for listing in the National Register of Historic Places. The adverse effect would be resolved through mitigation, following the section 106 process. Measures to mitigate the adverse effect will be detailed in a two-party MOA between the Service and the SHPO. Implementation of these mitigation measures would reduce the Project's adverse effect below the threshold of significance per NEPA.

If any historic or prehistoric artifacts are discovered during the completion of this Project, work would be stopped immediately and the refuge management would be contacted to determine how to proceed.

Alternative B would have the same adverse effect to a historic property eligible for the National Register, but would also have an increased risk of causing adverse impacts to previously un-inventoried prehistoric archaeological artifacts, if present, in areas of high to moderate archaeological potential, due to the increase in ground disturbance required for this alternative.

The No Action Alternative would not have any impacts to cultural resources, as no historically relevant structures would be removed and no below-ground work would be performed in the Project area.

4.1.9 Socioeconomic Resources and Environmental Justice

The Proposed Action is not expected to have any impact, adverse or beneficial, on race, gender, age class, or the area schools. It would also not affect the county's leading employment industries, including resorts and commercial outfits related to tourism, health care, or commercial fishing. It does not include long-term construction of any facility that would increase the number of permanent jobs in Stafford Township or Ocean County, nor would it have any effect on State or local tax revenue. Only minor, temporary, economic benefits may occur locally through Project area personnel increasing spending at nearby restaurants, hardware supply stores, etc. during the winter months when revenue from the tourism industry is at its lowest.

Alternative B would also not have an impact, adverse or beneficial, on race, gender, age class, or the area schools, the county's leading employment industries, or the number of permanent jobs in Stafford Township or Ocean County. It would not have any effect on State or local tax revenue, but may result in minor, temporary, local economic benefits.

The No Action Alternative would not have any impacts on county or local socioeconomic resources, as no workforce would be required in the Project area.

4.1.10 Recreation

While the refuge as a whole receives over 250,000 visitors each year, the Manahawkin Project Area is not used regularly by visitors for recreational activities, as it is closed to the public. In addition, the Project activities are proposed to occur in winter when tourism rates for the area are typically at their lowest. Therefore, there would be no short-term impacts to recreation. In addition, Project activities would not cause any impacts on hunters (waterfowl) hunting in the adjacent tidal estuary. The long-term benefits would include restoration of migratory bird routes to a more natural condition, which may indirectly improve recreation opportunities to other parts of the refuge.

Alternative B would have similar impacts to alternative A. There would be no short-term impacts to recreation, but may be limited indirect long-term benefits to recreation at other parts of the refuge.

The No Action Alternative would not have any impacts on recreation, as no work would be performed in the Project area.

4.1.11 Transportation

The Project does not involve the building, removal, or repair of any major transportation infrastructure. In addition, the Project's scale is small, with minimal personnel required to complete the tasks (approximately 13 workers at one time). Personnel and vehicles would be required to travel along local roads leading to the refuge, such as Beach Avenue and Hillard Boulevard. The use of these local roads by the Project crew would also be only very minor and temporary. Therefore, the resulting increase in traffic on local infrastructure, capable of handling 17,683 cars per day, would not be significant. Furthermore, the Manahawkin Project Area is anticipated to only require 40 working days to complete.

Alternative B would also only result in very minor and temporary increases to traffic on local infrastructure.

The No Action Alternative would not have any impacts on infrastructure, as no workforce would be required to travel to and from the Project area.

4.1.12 Cumulative Impacts

A cumulative impact analysis must consider the potential impact on the environment that may result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7). The methodology for performing such analyses is set forth in *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ 1997), and includes the following:

1. Identification of the geographic area in which effects of the project may be felt.
2. Assessment of the impacts that are expected in that area from the project.
3. Identification of other actions (past, present, and reasonably foreseeable) that have had or are expected to have impacts in the same geographic area.
4. Assessment of the impacts or expected impacts from these other actions.
5. Assessment of the overall impact that can be expected if the individual impacts are allowed to accumulate.

The geographic area for the assessment of cumulative impacts from the Proposed Action at the Manahawkin Project Area was largely identified as the Waretown Creek/Barnegat Bay South and the Manahawkin/Upper Little Egg Harbor tributaries watersheds. These watersheds include the municipalities of Stafford Township, Eagleswood Township, Little Egg Harbor Township, Bass River Township, Long Beach Township, Ship Bottom Borough, Surf City Borough, Harvey Cedars Borough, Barnegat Township, Barnegat Light Borough, and Ocean Township. All of these municipalities are located in Ocean County. However, Stafford Township was the only municipality included in the geographic area of this cumulative impacts assessment as the Manahawkin Project Area's drainage occurs only within this municipality.

Significant changes were made to the aquatic environment by the construction of the former AT&T receiver station and associated structures at the Manahawkin Project Area. Additionally, other land use changes to the watershed have increased impervious surface area resulting in an increase in stormwater quantity and a subsequent decrease in stormwater quality. The Proposed Action is intended to provide long-term improvement to the environment through the enhancement of coastal marsh habitat. The Proposed Action would not induce development, land use change, or other external pressure to the Project area.

Noise generated from the implementation of this Project would include engine noise from five air boats, four trucks, a tracked skid steer, and a tracked mini-excavator. Chain saws and a pneumatic jack hammer attached to a compressor would also contribute to noise levels at the Manahawkin Project Area. However, the noise generated from this Project would be temporary in nature (approximately 40 working days), and wildlife that are still living within the Project area during construction are expected to temporarily translocate due to the disruption. In addition, there are no humans living within the Project area and public use of the Manahawkin Project Area is not encouraged. Therefore, there is no reason to believe that any Project-related noise would jeopardize the health or welfare of the American public or to wildlife in the area.

A review of the Stafford Township 2007 Master Plan (SDI 2007) revealed that there are no known present or future projects that are anticipated to impact or be impacted by the Proposed Action. One of the goals listed in Stafford Township's Master Plan is "to promote a desirable visual environment through conservation and preservation of valuable natural features." The Proposed Action would be consistent with this goal.

A review of the *Ocean County Planning Board Comprehensive Master Plan* (OCPB 2011) did not reveal any potential conflicts between the Proposed Action and future planned activities for the county. While the Master Plan presents a number of improvements, past and planned, to the Garden State Parkway, U.S. Route 9, and other major roadways and transportation infrastructure, none are anticipated to adversely affect or be affected by the Proposed Action.

In summary, there would not be any significant cumulative adverse environmental impacts from the Pole Removal Project at the Manahawkin Project Area when considered together with other past, present, and reasonably foreseeable future projects in the area. A Draft Findings of No Significant Impact (FONSI) has been included as **Appendix I** to this EA.

4.2 Good Luck Point Project Area

4.2.1 Topography

The Proposed Action involves the removal of the poles, metal antennas, and associated material down to near the ground surface. Therefore, their removal would not impact the local topography at the Good Luck Point Project Area.

Alternative B would impact local topography by creating micro-topographical depressions at each pole and antenna foundation location. While restoration measures could be implemented, such as

the use of dredge spoils or clean fill to fill the holes left in the marsh after the removal of below-ground material, the work would degrade the marsh surface structure and could alter the hydrology of the Project area, leading to more defined topographical changes.

The No Action Alternative would not result in impacts to local topography as no poles or antennas would be removed from the ground.

4.2.2 Geology and Soils

Although there may be some minor movement of soils from the use of field vehicles, a tracked skid steer, and a tracked mini-excavator around the staging area during the Proposed Action activities at Good Luck Point, the existing soils near the staging area were originally disturbed when the transmitter building was first constructed. In addition, existing roads and paved areas would be utilized in this area. The use of air boats would have negligible disruption of marsh sediments. In addition, none of the Project activities involve changing soil composition, nor would Project activities extend down to surficial geological layers. Therefore, the Proposed Action would not have adverse impacts to the local or regional geology and soils.

Alternative B would also result in local movement of soils from the use of field vehicles, a tracked skid steer, and a tracked mini-excavator around the staging area, as well as from the removal of poles, antennas, and associated structures from below the ground surface. However, existing roads and paved areas would be utilized in the staging area and the use of air boats on the marsh for alternative B would not increase the disruption of soils or sediments. It is not anticipated that the poles and associated footings extend down to surficial geological layers. Therefore, since Project activities do not involve the changing of soil composition or disruption of surficial geological layers, alternative B would not have adverse impacts to the local or regional geology and soils.

The No Action Alternative would not result in impacts to the local or regional geology and soils as there would be no activities performed that would involve changing soil composition or extend down to surficial geological layers.

4.2.3 Air Quality

The Proposed Action at the Good Luck Point Project Area is not expected to have a significant environmental impact to air quality. Some temporary impacts are expected, as the Proposed Action would involve the use of emission-producing vehicles and machinery. However, those emissions are expected to be below SILs for all pollutants and averaging times for which a NAAQS or NJAAQS have been established. All on-road and non-road vehicles and machinery would be up-to-date in their registration and emission inspections (for those that require emissions testing), and thus compliant with current USEPA emission standards.

Alternative B would also result in temporary impacts from the use of emission-producing vehicles and machinery.

The No Action Alternative would not result in the use of any construction equipment; therefore, there would be no impacts to air quality.

4.2.4 Water Quality

The use of air boats moving over the marsh would result in negligible movement of bottom sediments. Therefore, the Proposed Action would not result in direct impacts to water quality at the Good Luck Point Project Area.

Alternative B proposes the removal of poles, antennas, and concrete footings from below the ground surface. Therefore, temporary impacts on water quality from sediment suspension in the area immediately surrounding this alternative's activities would occur. However, subsequent deposition of the suspended sediment would allow the marsh to reestablish and maintain the ecosystem it supports.

The No Action Alternative would not result in direct impacts to water quality at the Good Luck Point Project Area as no poles, antennas, or footings would be removed from the ground. However, failure to proceed with the Proposed Action could lead to increased deterioration of the poles and subsequent leaching of SVOCs into the surface water, potentially impacting water quality.

4.2.5 Wetlands and Streams

The Proposed Action would result in minor physical disturbances to wetlands due to use of air boats and field crew navigating within the wetland communities. These disturbances would be temporary in nature and are necessary to complete the pole removal process. However, pole removal activities would be conducted during the winter when the ground is expected to be frozen, or near frozen, to minimize disturbance and compaction impacts to the marsh created from the boats and crew.

Alternative B would also result in minor physical disturbances to wetlands due to use of air boats and field crew within the wetlands, as well as result in a series of dimples across the landscape from where the concrete footings were extracted from below the ground. Efforts to restore the holes created by extracting the below-ground structures could degrade the marsh surface structure and alter the hydrology of the Project area.

The No Action Alternative would not result in immediate physical impacts to wetlands as no boats or crew would be navigating through the marsh. However, failure to proceed with the Proposed Action could lead to increased deterioration of the poles and subsequent leaching of SVOCs into the surface water, potentially impacting the wetland.

4.2.6 Vegetation

The Proposed Action would have unavoidable, but temporary impacts to vegetation at the Good Luck Point Project Area. Vegetation would be directly impacted by compaction from air boats and from foot traffic by laborers used to perform the pole removal. Although the poles and metal antennas would be brought to the ground in a controlled manner, the weight of each pole and antenna falling down would leave an initial impression, thereby resulting in additional direct impacts to vegetation.

The direct impacts to vegetation would be minimized by performing the Proposed Action during the winter months when the marsh plants would be dormant, and there would be the least likelihood of soil compaction. Air boats that ride above the surface of the marsh would be used to perform the pole removal to further minimize soil and plant compaction. It is estimated that the Project area would naturally revegetate disturbed areas. Tidal flushing is also expected to renew sediment and nutrients that would enhance new plant growth.

No action is proposed near the maritime woodland in the western portion of the Project area, thus there would be no direct impacts to this vegetation. The removal of poles and structures in the salt marsh around the woodland is not expected to result in any indirect impacts to this woodland.

The impacts to vegetation from implementation of alternative B would be identical to that of the Proposed Action, with additional disturbances to the ground surface and surrounding vegetation from the excavation of the below-ground structures. These additional direct impacts are expected to result in the loss of some additional vegetation in a band extending at least 3 feet out from around the excavation. Indirect impacts to vegetation may also occur as the marsh surface subsides into the excavation, possibly precluding the revegetation of the excavation site due to a resulting drop in elevation and subsequent tidal inundation.

The No Action Alternative would not result in activities occurring within the marsh; therefore, there would be no impacts to vegetation.

4.2.7 Fish and Wildlife

The Proposed Action would not have significant detrimental long-term environmental impacts to fish, migratory birds, or other wildlife species or their habitats. In fact, the Proposed Action at the Good Luck Point Project Area would result in the overall enhancement of the local environment and migratory bird habitat.

Sediment disruption of fish and/or shellfish habitat should be negligible due to use of air boats over the marsh and scheduling the activities to occur in the winter, when the ground is expected to be frozen and when fish are not yet spawning. The removal of only the above-ground sections of the abandoned structures would also reduce impacts to fish and wildlife habitat to a negligible level. There may, however, be some avoidance of the area by wildlife as a result of increased noise and human activity during construction; however, these impacts are not considered significant and would be temporary in nature.

Alternative B would have potential long-term environmental impacts to fish, migratory birds, or other wildlife species or their habitats. Removal of the poles and associated footings from below the marsh surface would result in sediment disruption of fish and/or shellfish habitat. However, these impacts are not considered significant and would be temporary in nature. In addition, Project activities would not be conducted during fish spawning season in an effort to protect marine life from the effects of sediment suspension. The removal of the below-ground structures, however, would have an adverse direct impact to the local fish and benthic invertebrate habitat surrounding the poles. While restoration measures could be implemented and the holes left in the marsh after the removal of these materials could be filled, the work would degrade the marsh surface structure,

could alter the hydrology of the Project area, and would likely lead to a series of dimples across the landscape that would fill with water as the fill material compacts. These impacts could directly affect fish and benthic invertebrate communities in the Project area.

The No Action Alternative would not result in any direct impacts to fish, wildlife, or their habitats as no poles or antennas would be removed from the ground. However, the poles are located within the Atlantic flyway route used by migratory bird species. These tall structures could increase bird strike mortality rates as well as alter migration patterns, and ultimately energy expenditure, of protected migrating species if not removed.

4.2.7.1 Threatened and Endangered Species

The Project area does not provide habitat for any of the federally listed threatened plant species reported to have the potential to occur on or near the Project area. Of the animal species currently listed as federally threatened that have the potential to occur on or near the Project area (e.g., red knot and northern long-eared bat), only the red knot would have the potential to be located within the Project area during the winter when construction activities would occur, as the northern long-eared bat hibernates in caves during the winter months. Red knot migrate through coastal wetlands in the spring and fall and spend winters along coastal waters in Central and South America. In the spring, they are generally concentrated on Delaware Bay beaches, feeding on horseshoe crab eggs. Impacts on red knot are anticipated to be minimal as this work will primarily occur in winter (January- April) when red knot will either have migrated south or are concentrated on Delaware Bay beaches. Any birds passing through the area surrounding the Project area would be expected to avoid the Project area due to the presence of the work crew. This indirect impact would be temporary, as the Project is only expected to take 70 working days to complete. In addition, the ecological uplift resulting from the removal of the poles within their home range would have an indirect, long-term, and beneficial impact to this species, as well as the other federally listed threatened and endangered species that could occur on or near the Project area throughout the year.

Of the State-listed threatened and endangered animal species or species of special concern that have the potential to be on or near the Project area (e.g. 11 bird species), 10 of these species would be absent during the winter when the pole removal would occur, including the State-threatened osprey that occupy 11 of the 12 recorded nests that are located within the Good Luck Point Project Area. Nine of the osprey nests are located on poles. These poles would remain at full height and would not be disturbed. These nests, in addition to those located on platforms, would be marked by traffic cones and colored flagging which would be checked on a periodic basis to ensure that the markers have not been moved. Construction activities during the pole removal process would maintain an appropriate distance (i.e., minimum 50 feet) from these sensitive ecological features. The Project area does not provide habitat for the State-listed imperiled plant species (mudbank crown grass) reported to have the potential to occur on or near the Project area.

The remaining State-listed endangered bird species, the peregrine falcon, may use the Project area during the winter, although they would be expected to avoid the Project area due to the presence of the work crew. This indirect impact would be temporary, as the Project is only expected to take 70 working days to complete. In addition, the ecological uplift resulting from the removal of the poles within their home range would have an indirect, long-term, and beneficial impact to these

birds, as well as other State-listed threatened and endangered species who live on or near the Manahawkin Project Area throughout the year, including the osprey.

The implementation of Alternative B would have the same minimal, indirect impacts to the one federally threatened and one State-endangered species (red knot and peregrine falcon) indicated for the Proposed Action. The excavation of below-ground structures is not expected to have additional indirect impacts to these protected species.

The No Action Alternative would not have any direct impacts to threatened and endangered species, as no activities would occur in the marsh. However, leaving the poles in place throughout the marsh would perpetuate a disturbed land condition, and possibly result in indirect adverse impacts. These tall structures, if left in place, could increase bird strike mortality rates as well as impact migration patterns, and ultimately energy expenditure, of both Federal and State-listed threatened and endangered species.

4.2.8 Cultural Resources

The Proposed Action at the Good Luck Point Project Area would cause an adverse effect per the NHPA (section 106) to a historic property that is eligible for listing in the National Register of Historic Places. The adverse effect would be resolved through mitigation, following the section 106 process. Measures to mitigate the adverse effect would be detailed in a two-party MOA between the Service and the SHPO. Implementation of these mitigation measures would reduce the Project's adverse effect below the threshold of significance per NEPA.

If any historic or prehistoric artifacts are discovered during the completion of this Project, work would be stopped immediately and the refuge management would be contacted to determine how to proceed.

Alternative B would have the same adverse effect to a historic property eligible for the National Register, but would also have an increased risk of causing adverse impacts to previously un-inventoried prehistoric archaeological artifacts, if present, in areas of high to moderate archaeological potential, due to the increase in ground disturbance required for this alternative.

The No Action Alternative would not have any impacts to cultural resources, as no historically relevant structures would be removed and no below-ground work would be performed in the Project area.

4.2.9 Socioeconomic Resources and Environmental Justice

The Proposed Action is not expected to have any impact, adverse or beneficial, on race, gender, age class, or the area schools. It would also not affect the county's leading employment industries, including resorts and commercial outfits related to tourism, health care, or commercial fishing. It does not include long-term construction of any facility that would increase the number of permanent jobs in Berkeley Township or Ocean County, nor would it have any effect on State or local tax revenue. Only minor, temporary, economic benefits may occur locally through Project

area personnel increasing spending at nearby restaurants, hardware supply stores, etc. during the winter months when revenue from the tourism industry is at its lowest.

Alternative B would also not have an impact, adverse or beneficial, on race, gender, age class, or the area schools, the county's leading employment industries, or the number of permanent jobs in Berkeley Township or Ocean County. It would not have any effect on State or local tax revenue, but may result in minor, temporary, local economic benefits.

The No Action Alternative would not have any impacts on county or local socioeconomic resources, as no workforce would be required in the Project area.

4.2.10 Recreation

While the refuge as a whole receives over 250,000 visitors each year, the Good Luck Point Project Area is not used regularly by visitors for recreational activities, as it is closed to the public. In addition, the Project activities are proposed to occur in winter when tourism rates for the area are typically at their lowest. Therefore, there would be no short-term impacts to recreation. In addition, Project activities would not cause any impacts on hunters (deer and waterfowl) hunting in the adjacent uplands or tidal estuary. The long-term benefits would include restoration of migratory bird routes to a more natural condition, which may indirectly improve recreation opportunities to other parts of the refuge.

Alternative B would have similar impacts to alternative A. There would be no short-term impacts to recreation, but may be limited indirect long-term benefits to recreation at other parts of the refuge.

The No Action Alternative would not have any impacts on recreation, as no work would be performed in the Project area. However, if the Good Luck Point Project Area was ever opened to the public for use of small boats or kayaks, the structures, if left remaining, would inhibit navigation throughout the Project area.

4.2.11 Transportation

The Project does not involve the building, removal, or repair of any major transportation infrastructure. In addition, the Project's scale is small, with minimal personnel required to complete the tasks (approximately 13 workers at one time). Personnel and vehicles would be required to travel along local roads leading to the refuge, such as Bayview Avenue. The use of these local roads by Project crew would also be only very minor and temporary. Therefore, the resulting increase in traffic on local infrastructure, capable of handling 31,858 cars per day, would not be significant. Furthermore, the Good Luck Point Project Area is anticipated to only require 70 working days to complete.

Alternative B would also only result in very minor and temporary increases to traffic on local infrastructure.

The No Action Alternative would not have any impacts on infrastructure, as no workforce would be required to travel to and from the Project area.

4.2.12 Cumulative Impacts

The geographic area for the assessment of cumulative impacts from the Proposed Action at the Good Luck Point Project Area was largely identified as the Barnegat Bay Central and tributaries and the Toms River (below Oak Ridge Parkway) watersheds. These watersheds include the municipalities of Berkeley Township, Ocean Gate Borough, Pine Beach Borough, Beachwood Borough, South Toms River Borough, Lacey Township, Manchester Township, Toms River Township, Island Heights Borough, Seaside Park Borough, Seaside Heights Borough, and Ocean Township. All of these municipalities are located in Ocean County. However, Berkeley Township was the only municipality included in the geographic area of this cumulative impacts assessment as the Good Luck Point Project Area's drainage occurs only within this municipality.

Significant changes were made to the aquatic environment by the construction of the former AT&T receiver station and associated structures at the Good Luck Point Project Area. Additionally, other land use changes to the watershed have increased impervious surface area resulting in an increase in stormwater quantity and a subsequent decrease in stormwater quality. The Proposed Action is intended to provide long-term improvement to the environment through the enhancement of coastal marsh habitat. The Proposed Action would not induce development, land use change, or other external pressure to the Project area.

Noise generated from the implementation of this Project would include engine noise from five air boats, four trucks, a tracked skid steer, and a tracked mini-excavator. Chain saws and a pneumatic jack hammer attached to a compressor would also contribute to noise levels at the Good Luck Point Project Area. However, the noise generated from this Project would be temporary in nature (approximately 70 working days), and wildlife that are still living within the Project area during construction are expected to temporarily translocate due to the disruption. In addition, there are no humans living within the Project area and public use of the Good Luck Point Project Area is not encouraged. Therefore, there is no reason to believe that any Project-related noise would jeopardize the health or welfare of the American public or to wildlife in the area.

A review of the readily available *Berkeley Township Comprehensive Master Plan* (SDI 1997) revealed that there are no known present or future projects that are anticipated to impact or be impacted by the Proposed Action. In fact, Good Luck Point was listed as containing visually weak elements, such as overhead wires and vertical obstructions, in a visual analysis of the township. This analysis was conducted to evaluate the current visual resources and evaluate the need for mitigation and preservation measures (SDI 1997). Removal of the poles at this Project area would increase the visual aesthetics of the waterfront and would be consistent with the Berkeley Township Master Plan for reduction of these elements.

A review of the *Ocean County Planning Board Comprehensive Master Plan* (OCPB 2011) did not reveal any potential conflicts between the Proposed Action and future planned activities for the county. While the Master Plan presents a number of improvements, past and planned, to the Garden

State Parkway, U.S. Route 9, and other major roadways and transportation infrastructure, none are anticipated to adversely affect or be affected by the Proposed Action.

The Service's Marsh Enhancement and Telephone Pole Array Removal Project (Contract # P11PC00121) includes an additional marsh restoration phase for the Good Luck Point Project Area in addition to the pole removal phase. These marsh restoration activities may include sediment enrichment to raise marsh surface elevation (including the filling of plant die-back areas and isolated interior marsh ditches), first order channel and small channel (runnel) excavation to reduce/eliminate plant die-back, and the installation of a new culvert to improve tidal flow. The marsh restoration activities, in combination with the pole removal phase, would bolster the enhancement of the local environment and would further serve to perpetuate the Service's mission for conservation and protection of fish and wildlife resources.

In summary, there would not be any significant cumulative adverse environmental impact from the Pole Removal Project at the Good Luck Point Project Area when considered together with other past, present, and reasonably foreseeable future projects in the area. A Draft FONSI has been included as **Appendix J** to this EA.

Chapter 5 References

Amec (Amec Foster Wheeler Environment & Infrastructure, Inc.). 2015. Edwin B. Forsythe National Wildlife Refuge Supplemental Pole Removal Plan. Manahawkin Project Area and Good Luck Point Project Area. Design/Build for Marsh Enhancement Throughout the E.B. Forsythe National Wildlife Refuge Oceanville, New Jersey. Resiliency Project #37c. November 2015.

Breden, T.F., Y.R. Alger, K.S. Walz, and A.G. Windisch. 2001. Classification of Vegetation Communities of New Jersey: Second Iteration. Association for Biodiversity Information and New Jersey Natural Heritage Program, Office of Natural Lands Management, Division of Parks and Forestry, NJ Dept. of Environmental Protection. Trenton, NJ.

Borthwick, C.S. 1939. Manahawkin Antennas. Long Lines Magazine. June 1939.

CEQ (Council for Environmental Quality). 1997. Considering Cumulative Effects Under the National Environmental Policy Act. Council on Environmental Quality. Executive Office of the President. January 1997.

Collins, B.R. and K.H. Anderson. 1994. Plant Communities of New Jersey. A Study in Landscape Diversity. New Brunswick, NJ: Rutgers University Press, 1994.

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service. FWS/OBS-79/31. Washington, DC.

Dalton, R. 2003. Physiographic Provinces of New Jersey. New Jersey Geological Survey Information Circular. <http://www.nj.gov/dep/njgs/enviroed/infocirc/provinces.pdf>. Accessed 11 June 2015.

Davis. D. 1995. Evaluation of ambient ozone injury on the foliage of vegetation in the Edwin B. Forsythe National Wildlife Refuge Brigantine, NJ. College of Agricultural Sciences, Penn State Univ.

FIC (Federal Interagency Committee for Wetland Delineation). 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service. And U.S.D.A Soil Conservation Service, Washington D.C. Cooperative technical publication. 76 pp. plus appendices.

Hernandez, M. 2012. Patch. Your Health, the Environment, and Wooden Telephone Poles. <http://patch.com/new-york/ossining/bp--your-health-the-environment-and-wooden-telephone-poles>. Posted 13 December 2012. Accessed 21 September 2015.

Maser (Maser Consulting P.A.). 2012. Environmental Resource Inventory. Township of Berkeley. Ocean County, New Jersey. January 2012.

Melber, C., J. Kielhorn, and I. Mangelsdorf. 2004. Concise International Chemical Assessment Document 62. Coal Tar Creosote. Published under the joint sponsorship of the United Nations Environment Programme, the International Labour Organization, and the World Health Organization, and produced within the framework of the Inter-Organization Programme for the Sound Management of Chemicals. Geneva 2004. <http://www.inchem.org/documents/cicads/cicads/cicad62.htm>. Accessed 29 October 2015.

NJA (New Jersey Audubon). 2015. Manahawkin Wildlife Management Area. Important Bir and Birding Areas. <http://www.njaudubon.org/sectionibba/ibbasiteguide.aspx?sk=3166>. Accessed 23 September 2015.

NJDEP (New Jersey Department of Environmental Protection). 1999. The Geology of New Jersey. Division of Science, Research and Technology. Geological Survey.

NJDEP (New Jersey Department of Environmental Protection). 2008. New Jersey Surface Water Quality Standards Fact Sheet. <http://www.state.nj.us/dep/wms/bwqsa/factsheet1.pdf>. Accessed 08 September 2015.

NJDEP (New Jersey Department of Environmental Protection). 2009. NJDEP Ecological Screening Criteria. < http://www.state.nj.us/dep/srp/guidance/ecoscreening/>. Accessed 29 October 2015.

NJDEP (New Jersey Department of Environmental Protection). 2011. New Jersey Surface Water Quality Standards. <http://www.nj.gov/dep/rules/rules/njac7_9b.pdf>. Accessed 08 September 2015.

NJDEP (New Jersey Department of Environmental Protection). 2014. NJ-GeoWeb website <http://www.state.nj.us/dep/gis/newmapping.htm>. Accessed 01 September 2015.

NJDEP (New Jersey Department of Environmental Protection). 2015. Bureau of Air Quality Planning. Attainment Area Status <http://www.nj.gov/dep/baqp/aas.html>. Accessed 10 August 2015.

NJDOT (New Jersey Department of Transportation). 2015. Roadway Information and Traffic Monitoring System Program. Interactive Traffic Count Reports. <http://www.state.nj.us/transportation/refdata/roadway/traffic_counts/>. Accessed 10 September 2015.

NOAA (National Oceanic and Atmospheric Administration). 2015. Habitat Conservation National Marine Fisheries Service. Essential Fish Habitat Mapper v3.0. <http://www.habitat.noaa.gov/protection/efh/habitatmapper.html>. Accessed 10 August 2015.

NPS (National Park Service). 2015. National Register Bulletin. How to Complete the National Register Registration Form. <http://www.nps.gov/nr/publications/bulletins/nrb16a/nrb16a_II.htm>. Accessed on 16 September 2015.

OCDP (Ocean County Department of Planning). 2014. About Ocean County. <http://www.planning.co.ocean.nj.us/about.htm>. Accessed 08 September 2015.

OCPB (Ocean County Planning Board). 2011. Ocean County Planning Board Comprehensive Master Plan. <http://www.planning.co.ocean.nj.us/master_plan_2011.htm>. Accessed 10 September 2015.

SDI (Schoor Depalma, Inc.). 1997. Berkeley Township Comprehensive Master Plan. Adopted December 4, 1997.

SDI (Schoor Depalma, Inc). 2007. Township of Stafford 2007 Master Plan.

T&M Associates. 2000. Technical Memorandum No. 7 Traffic Report. Widening of the Garden State Parkway Interchange 30 to Interchange 80. <http://www.state.nj.us/turnpike/documents/GSP-MP30-MP80-Widening-Project-Technical-Memorandum-no-7-Traffic%20Report-Oct-31-2006-%20Revised-J.pdf>. Accessed 10 September 2015.

TPL (The Trust for Public Land). 2003. Good Luck Point Land Donated to Refuge (NJ). Posted 27 March 2003. <https://www.tpl.org/media-room/good-luck-point-land-donated-refuge-nj>. Accessed 23 September 2015.

TPL (The Trust for Public Land). 2005. Final 209 Acres on Good Luck Pt. Preserved (NJ). Posted 28 February 2005. < https://www.tpl.org/media-room/final-209-acres-good-luck-pt-preserved-nj>. Accessed 23 September 2015.

TPL (The Trust for Public Land). 2008. A Vision for the Future of Conservation. Barnegat Bay 2020. July 2008.

TPL (The Trust for Public Land). 2015. Good Luck Point. <https://www.tpl.org/our-work/land-and-water/good-luck-point>. Accessed 10 September 2015.

Trinity Consultants. 2014. RACT Update in the Ozone Transport Region. 25 November 2014. <http://www.trinityconsultants.com/Templates/TrinityConsultants/News/Article.aspx?id=6604>. Accessed on 23 October 2015.

USDA (United States Department of Agriculture). 2015a. Hydric Soils Definitions. < http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/pr/soils/?cid=nrcs141p2_037283>. Accessed 23 October 2015.

USDA (United States Department of Agriculture). 2015b. Official Soil Series Description for Berryland Series. <https://soilseries.sc.egov.usda.gov/OSD_Docs/B/BERRYLAND.html>. Accessed 02 September 2015.

USFWS (United States Fish & Wildlife Service). 1979. Classification of Wetlands and Deepwater Habitats of the United States. United States Department of the Interior–Fish and Wildlife Service. FWS/OBS-79/31. December 1979.

USFWS (United States Fish & Wildlife Service). 1993. Knieskern's Beaked-Rush (*Rhynchospora knieskernii*) Recovery Plan. United States Fish and Wildlife Service, Hadley, Massachusetts.

USFWS (United States Fish & Wildlife Service). 1997. Knieskern's Beaked-Rush (*Rhynchospora knieskernii*): Region 5 Species Account. <http://www.fws.gov/northeast/njfieldoffice/Endangered/Knieskern's_beaked-rush.htm>. Accessed 16 September 2015.

USFWS (United States Fish & Wildlife Service). 2004. Edwin B. Forsythe National Wildlife Refuge Comprehensive Conservation Plan. June 2004.

USFWS (United States Fish & Wildlife Service). 2012. Edwin B. Forsythe National Wildlife Refuge Pamphlet. December 2012.

USFWS (United States Fish & Wildlife Service). 2013. Edwin B. Forsythe National Wildlife Refuge Draft Habitat Management Plan. December 2013.

USFWS (United States Fish & Wildlife Service). 2014a. Edwin B. Forsythe National Wildlife Refuge Birds Pamphlet. August 2014.

USFWS (United States Fish & Wildlife Service). 2014b. Edwin B. Forsythe National Wildlife Refuge Wildlife Drive Self-Guided Tour Pamphlet. September 2014.

USFWS (United States Fish & Wildlife Service). 2014c. Knieskern's Beaked-rush (*Rhynchospora knieskernii*) [threatened]. New Jersey Field Office, Northeast Region. <http://www.fws.gov/northeast/njfieldoffice/endangered/knieskerns.html>. Accessed 16 September 2015.

USFWS (United States Fish & Wildlife Service). 2014d. Swamp Pink (*Helonias bullata*) [threatened]. New Jersey Field Office, Northeast Region. <http://www.fws.gov/northeast/njfieldoffice/endangered/swamppink.html>. Accessed 16 September 2015.

USGS (United States Geological Society). 2015. Mineral Resources On-Line Spatial Data. Wildwood Member of the Kirkwood Formation. <http://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=NJTkw%3B1>. Accessed on 01 September 2015.

Chapter 6 List of Preparers

This Environmental Assessment was prepared by Amec and reviewed by the Service (lead agency), Edwin B. Forsythe National Wildlife Refuge, Oceanville, New Jersey.

APPENDIX A

PHOTOGRAPHS

Photo 1

<u>Manahawkin Site:</u>
General view of the site.

Photo 2

<u>Manahawkin Site:</u>
Additional general view of the site.

Photo 3

<u>Manahawkin Site:</u>
Beach Avenue entrance to the site, facing west. The former AT&T buildings are behind the camera.

Photo 4

<u>Manahawkin Site:</u>
General view of the paved portion of the site.

Photo 5

<u>Manahawkin Site:</u>
Example of one of the access roads into the site.

Photo 6

<u>Manahawkin Site:</u>
Example of another access road (although discontinuous) into the site.

Photo 7

<u>Manahawkin Site:</u>
Close-up of wooden pole at ground level.

Photo 8

<u>Manahawkin Site:</u>
Anchors used for the guy wires.

Photo 9

<u>Manahawkin Site:</u>
Anchors and guy wires in relation to tidal marsh ditch.

Photo 10

<u>Manahawkin Site:</u>
Example of one of the relatively wide tidal ditches.

Photo 11

<u>Manahawkin Site:</u>
Zoomed-out view of rhombic antenna.

Photo 12

<u>Manahawkin Site:</u>
Concrete footer for rhombic antenna.

Photo 13

<u>Manahawkin Site:</u>
Additional view of rhombic antenna.

Photo 14

<u>Manahawkin Site:</u>
Additional view of concrete footer for rhombic antenna.

Photo 15

<u>Manahawkin Site:</u>
Example of other structures to be removed.

Photo 16

<u>Manahawkin Site:</u>
Example of downed wooden pole.

Photo 17

<u>Good Luck Point Site:</u>
General view of the Former AT&T facility building.

Photo 18

<u>Good Luck Point Site:</u>
General view of the site.

Photo 19

<u>Good Luck Point Site:</u>
Additional general view of the site.

Photo 20

<u>Good Luck Point Site:</u>
Downed metal antenna on the southwest side of Bayview Avenue (across the street from the building).

Photo 21

<u>Good Luck Point Site:</u>
Zoomed-in view of the base of a wooden pole.

Photo 22

<u>Good Luck Point Site:</u>
Access road into the site.

Photo 23

<u>Good Luck Point Site:</u>
Example of poles located across wide tidal creeks.

Photo 24

<u>Good Luck Point Site:</u>
Additional view of poles located across wide tidal creeks.

Photo 25

<u>Good Luck Point Site:</u>
Example of other structures to be removed from the site.

Photo 26

<u>Good Luck Point Site:</u>
Structures adjacent to building, viewed from Bayview Avenue facing northeast.

APPENDIX B

ANALYTICAL RESULTS

CHEMTECH 284 Sheffield Street, Mountainside, New Jersey 07092 Phone : 908 789 8900 Fax : 908 789 8922

DATA PACKAGE

SUB DATA

PROJECT NAME : U.S. FISH AND WILDLIFE

SEA COAST ENVIRONMENTAL SERVICES, INC.

37 Londonberry Drive

Holmdel, NJ - 07733-3100

Phone No: 732-275-1616

ORDER ID : G4050

ATTENTION : Gene Streiter

ACCREDITED IN ACCORDANCE WITH nelac

DoD ELAP

CHEMTECH

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- LABORATORY CERTIFICATE 10

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Cover Page

Order ID : G4050

Project ID : U.S. Fish and Wildlife

Client : Sea Coast Environmental Services, Inc.

Lab Sample Number	Client Sample Number
G4050-01	GOODLUCKINSULATION
G4050-02	MANAHAWKENINSULATION

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : Mildred V Reyes

APPROVED

Date: 10/27/2015

By Mildred V Reyes, QAQC Supervisor at 10:22 am, Oct 28, 2015

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: G4050

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✔
Check chain-of-custody for proper relinquish/return of samples	✔
Is the chain of custody signed and complete	✔
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✔
Collect information for each project id from server. Were all requirements followed	✔
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✔
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✔
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✔
Do requested analyses on Chain of Custody agree with the log-in page	✔
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✔
Were the samples received within hold time	✔
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✔
ANALYTICAL:	
Was method requirement followed?	✔
Was client requirement followed?	✔
Does the case narrative summarize all QC failure?	✔
All runlogs and manual integration are reviewed for requirements	✔
All manual calculations and /or hand notations verified	✔

1st Level QA Review Signature: SHIVANGI PANCHAL **Date:** 10/27/2015

2nd Level QA Review Signature: Mildred V Reyes **Date:**

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:22 am, Oct 28, 2015

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

U Indicates the analyte was analyzed for, but not detected.

ND Indicates the analyte was analyzed for, but not detected

E Indicates the reported value is estimated because of the presence of interference

M Indicates Duplicate injection precision not met.

N Indicates the spiked sample recovery is not within control limits.

S Indicates the reported value was determined by the Method of Standard Addition (MSA).

***** Indicates that the duplicate analysis is not within control limits.

+ Indicates the correlation coefficient for the MSA is less than 0.995.

D Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

M Method qualifiers
"P" for ICP instrument
"PM" for ICP when Microwave Digestion is used
"CV" for Manual Cold Vapor AA
"AV" for automated Cold Vapor AA
"CA" for MIDI-Distillation Spectrophotometric
"AS" for Semi –Automated Spectrophotometric
"C" for Manual Spectrophotometric
"T" for Titrimetric
"NR" for analyte not required to be analyzed

OR Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.

Q Indicates the LCS did not meet the control limits requirements

H Sample Analysis Out Of Hold Time

QA Control # A3040961

SAMPLE DATA

Atlas Environmental Lab, Corp.
255 West 36th Street, Suite# 1503
New York, NY 10018
Phone:(212) 563-0400 Fax:(212) 563-0401
www.atlasenvironmentallab.com

Bulk Asbestos Report by PLM-TEM

Client: ChemTech; 284 Sheffield Street, Mountainside, NJ 07092
Project ID: G4050
Order ID: G4050
Collected By: Client
Work Area:

AEL ID# BK1015379
Date Received: 10/16/2015
PLM Date Analyzed: 10/17/2015
TEM Date Analyzed: 10/20/2015
Report Date: 10/26/2015

Client ID#	Lab ID#	Location/ Description	Analyst Description	ORG%	AII%	ASI%	PLM			TEM
							Fibrous%	Non Fibrous%	Asbestos% &Type	Asbestos% &Type
01	BK1015379-1	GOODLUCKINSULATION	Black, Homogeneous, Non-Fibrous	56.5	5.1	38.4	0%	100%	**NAD** Inconclusive	**NAD**
02	BK1015379-2	MANAHAWKENISULATION	Black, Homogeneous, Non-Fibrous	68.3	23.7	8.0	0%	100%	**NAD** Inconclusive	**NAD**

Quantitative Analysis (Semi/Full):Bulk Asbestos Analysis-PLM by EPA 600/M4-82-020 per 40 CFR or ELAP198.1 (friable) and 198.6 (NOB) samples for New York.

NAD=no asbestos detected, NA/PS=Not Analyzed/Positive Stop, Trace=<1%,FBGL=Fiberglass, CELL=Cellulose,CHRY=Chrysotile,Amo=Amosite,CRO=Crocidolite,ANTH=Anthophylite, TRE=Tremolite, ACT=Actinolite, NA=not applicable.

PLM is not consistently reliable in detecting Asbestos in floor coverings and similar non friable organically bound materials. NAD or Trace results by PLM are inconclusive.

TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos containing in NY State.

All samples were prepared and analyzed in accordance with the EPA "TEM Method for Identifying and Quantifying Asbestos in Non-Fibrous Organically Bound Bulk Samples" ELAP 198.4".

ORG%=Ashed Organic%, AII= Acid Insoluble Inorganic%, ASI= Acid Soluble Inorganic%

This "Summary of Analytical Results "shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, ELAP or any agency of the U.S Government. The results relate only to the items tested. This report may not be reproduced, except in full, without the written approval of AEL .Atlas Environmental lab did not collect the analyzed samples and thus accepts no liability with regard to their collection and/or maintenance . AEL relies on client's data. The liability of Atlas Environmental Lab corp with respect to the services charged, shall in no event exceed the amount of the invoice.

NYSDOH ELAP#11999, NVLAP Lab Code: 500092-0 PLM Analyst: DK TEM Analyst: VR Approved by:

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO.
QUOTE NO.
COC Number 036046

CLIENT INFORMATION (REPORT TO BE SENT TO:)

COMPANY: SEACOAST ENV. SVCS, INC
ADDRESS: 37 LONDONBERRY DR
CITY: HOLMDEL STATE: NJ ZIP: 07733
ATTENTION: E.R. STREITER
PHONE: 732-275-1616 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: U.S. FISH & WILDLIFE
PROJECT NO.: LOCATION: BERKLEY TWP
PROJECT MANAGER: MANAHAWKEN, NJ
e-mail: STREITERSEACOAST@gmail.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: SEACOAST PO#:
ADDRESS: SAME
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: STD* DAYS *
HARD COPY: DAYS *
EDD: DAYS *
PREAPPROVED TAT: ☐ YES ☐ NO
* STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☐ LEVEL 1: Results only ☐ Others
☐ LEVEL 2: Results + QC
☐ LEVEL 3: Results (plus results raw data) + QC
☐ LEVEL 4: Results + QC (all raw data)
☐ EDD Format:

ANALYSIS

1 VOCMS GROUP1
2 MERCURY ICP-METALS, PCB
3 HERBS, PESTS, SVOC, PCB
4 ASBESTOS
5 PCB
6 SVOC'S (CREOSOTE)
7
8
9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
								E	E	E	E	E	E				← Specify Preservatives A–HCl B–HNO_3 C–H_2SO_4 D–NaOH E–ICE F–Other
1.	GOOD LUCK 9OZ	S	✓		10/14/15	11:30	3	✓	✓	✓							
2.	GOOD LUCK 5B	S	✓		10/14/15	12:10	3	✓	✓	✓							
3.	GOOD LUCK INSULATION	S	✓		10/14/15	12:30	3				✓	✓	✓				
4.	MANAHAWKEN 112	S	✓		10/14/15	1:20	3	✓	✓	✓							
5.	MANAHAWKEN INSULATION	S	✓		10/14/15	1:45	3				✓	✓	✓				
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. ER Streiter	10/14/15 5:05	1.
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME:	RECEIVED FOR LAB BY: 3.

Conditions of bottles or coolers at receipt: ☑ Compliant ☐ Non Compliant
MeOH extraction requires an additional 4 oz jar for percent solid.
Comments:

Cooler Temp. 5°C
Ice in Cooler?: Yes

Page 1 of 1

SHIPPED VIA: CLIENT: ☑ HAND DELIVERED ☐ OVERNIGHT
CHEMTECH: ☐ PICKED UP ☐ OVERNIGHT

Shipment Complete: ☑ YES ☐ NO

Revision 8/2007

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 284 Sheffield Street Mountainside NJ 07092 Tel. 908-7898900

Laboratory Certification

State	License No.
New Jersey	20012
New York	11376
Connecticut	PH-0649
Florida	E87935
Louisiana	5035
Maryland	296
Massachusetts	M-NJ503
Pennsylvania	68-548
Rhode Island	LAO00259
Virginia	460220
Texas	T10470448-10-1

Other :

DOD ELAP Certified (L-A-B Accredited), ISO/IEC 17025	L2219
Soil Permit	P330-11-00012
CLP Inorganic Contract	EPW09038
CLP Organic Contract	EPW11030

QA Control Code: A2070148

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

DATA PACKAGE

VOLATILE ORGANICS
METALS
GC SEMI-VOLATILES
SEMI-VOLATILE ORGANICS

PROJECT NAME : U.S. FISH AND WILDLIFE

SEA COAST ENVIRONMENTAL SERVICES, INC.

37 Londonberry Drive

Holmdel, NJ - 07733-3100

Phone No: 732-275-1616

ORDER ID : G4046

ATTENTION : Gene Streiter

ACCREDITED IN ACCORDANCE WITH nelac

DoD ELAP

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2.4) Pesticide-TCL- Case Narrative 10

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8) Pesticide-TCL Data 827

9) PCB Data 953

10) Herbicide Data 1039

11) Metals-AES Data 1125

12) Shipping Document 1183

12.1) CHAIN OF CUSTODY 1184

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12.3) Internal COC 1186

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Cover Page

Order ID : G4046

Project ID : U.S. Fish and Wildlife

Client : Sea Coast Environmental Services, Inc.

Lab Sample Number	Client Sample Number
G4046-01	GOODLUCK902
G4046-02	GOODLUCK58
G4046-03	GOODLUCKINSULATION
G4046-04	MANAHAWKEN112
G4046-05	MANAHAWKENINSULATION

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : Mildred V Reyes

APPROVED

By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

Date: 10/28/2015

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4046
Test Name: VOC-TCLVOA-10

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Herbicide, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, Pesticide-TCL, SVOC-TCL BNA -20, SVOCMS Group1 and VOC-TCLVOA-10. This data package contains results for VOC-TCLVOA-10.

C. Analytical Techniques:
The analysis performed on instrument MSVOA_F were done using GC column RTX-VMS, which is 20 meters, 0.18 mm id, 1.0 um df, Restek Cat. #49914. The Trap was supplied by Supelco, VOCARB 3000, Tekmar 2000 Concentrator.The analysis of VOC-TCLVOA-10 was based on method 8260C.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for GOODLUCK902 [1,2-Dichloroethane-d4 - 134%, Dibromofluoromethane - 136%], GOODLUCK902RE [4-Bromofluorobenzene - 32%, Toluene-d8 - 66%], GOODLUCK58RE [4-Bromofluorobenzene - 31%], MANAHAWKEN112 [4-Bromofluorobenzene - 32%, Toluene-d8 - 65%] and MANAHAWKEN112RE [4-Bromofluorobenzene - 28%].
The Internal Standards Areas met the acceptable requirements except for GOODLUCK902, GOODLUCK902RE, GOODLUCK58, GOODLUCK58RE, MANAHAWKEN112 and MANAHAWKEN112RE.
The Retention Times were acceptable for all samples.
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate for {VF1022SBSD01} with File ID: VF045721.D met requirements for all samples except for 1,1,2-Trichloroethane[129%], 1,1-Dichloroethane[130%], 1,2-Dibromoethane[124%], 1,2-Dichloroethane[131%], 1,2-Dichloropropane[131%], 1,3-Dichlorobenzene[124%], 1,4-Dichlorobenzene[125%], Benzene[140%], Bromodichloromethane[131%], Carbon Tetrachloride[137%], cis-1,3-Dichloropropene[129%], Dibromochloromethane[122%], Isopropylbenzene[126%] and t-1,3-Dichloropropene[128%] .
The Blank analysis indicated presence of Methylene Chloride[2.1 ug/Kg] FileID:VF045719.D{VF1022SBL01} due to possible lab contamination.

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The Initial Calibration met the requirements .
The Continuous Calibration File ID VF045718.D met the requirements except for Methyl Acetate,Bromochloromethane,4-Methyl-2-Pentanone and 2-Hexanone .
The Tuning criteria met requirements.

E. Additional Comments:
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature__ Mildred V Reyes ____

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

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CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4046
Test Name: SVOCMS Group1

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Herbicide, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, Pesticide-TCL, SVOC-TCL BNA -20, SVOCMS Group1 and VOC-TCLVOA-10. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_F using GC Column RTX-5 which is 20 meters, 0.18 mm ID, 0.36 um dfThe analysis of SVOCMS Group1 was based on method 8270D and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for GOODLUCKINSULATION [Terphenyl-d14 - 137%], GOODLUCKINSULATIONDL [2,4,6-Tribromophenol - 0%, 2-Fluorophenol - 0%, Nitrobenzene-d5 - 0%, Phenol-d6 - 0%], GOODLUCKINSULATIONDL2 [2,4,6-Tribromophenol - 0%, 2-Fluorophenol - 0%, Nitrobenzene-d5 - 0%, Phenol-d6 - 0%], MANAHAWKENINSULATIONDL [2,4,6-Tribromophenol - 0%, 2-Fluorophenol - 0%, Nitrobenzene-d5 - 0% and Phenol-d6 - 0%].
The Internal Standards Areas met the acceptable requirements except for GOODLUCKINSULATION, GOODLUCKINSULATIONDL, GOODLUCKINSULATIONDL2, MANAHAWKENINSULATION and MANAHAWKENINSULATIONDL.
The Retention Times were acceptable for all samples.
The MS {G4051-02MS} with File ID: BF082328.D recoveries met the requirements for all compounds except for 2,4-Dinitrophenol[0%], Anthracene[137%], Benzo(a)anthracene[153%], Benzo(a)pyrene[147%], Benzo(b)fluoranthene[153%], Benzo(g,h,i)perylene[147%], Benzo(k)fluoranthene[163%], bis(2-Ethylhexyl)phthalate[137%], Chrysene[162%], Fluoranthene[311%], Phenanthrene[242%] and Pyrene[247%] .
The MSD {G4051-03MSD} with File ID: BF082329.D recoveries met the acceptable requirements except for 2,4-Dinitrophenol[0%], Anthracene[147%], Benzo(a)anthracene[184%], Benzo(a)pyrene[158%], Benzo(b)fluoranthene[158%],

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Benzo(g,h,i)perylene[137%], Benzo(k)fluoranthene[174%], bis(2-Ethylhexyl)phthalate[147%], Chrysene[152%], Fluoranthene[332%], Indeno(1,2,3-cd)pyrene[142%], Phenanthrene[263%] and Pyrene[268%] .
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The %RSD is greater than 15% in the Initial Calibration (Method 8270-BF101015.M) for Hexachlorocyclopentadiene, 2,4-Dinitrophenol these compounds are passing on Linearregression while 4-Nitrophenol this compound is passing on Quadratic regression .
The Continuous Calibration File ID BF082320.D met the requirements except for Benzaldehyde and Hexachlorocyclopentadiene .The Continuous Calibration File ID BF082374.D met the requirements except for Benzo(k)fluoranthene .
The Tuning criteria met requirements.
Samples GOODLUCKINSULATION, MANAHAWKENINSULATION was diluted due to bad matrix.
Samples GOODLUCKINSULATION, GOODLUCKINSULATIONDL and MANAHAWKENINSULATION were diluted due to high concentrations.

E. Additional Comments:
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature___ Mildred V Reyes ___

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

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CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4046
Test Name: SVOC-TCL BNA -20

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Herbicide, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, Pesticide-TCL, SVOC-TCL BNA -20, SVOCMS Group1 and VOC-TCLVOA-10. This data package contains results for SVOC-TCL BNA -20.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_F using GC Column RTX-5 which is 20 meters, 0.18 mm ID, 0.36 um dfThe analysis of SVOC-TCL BNA -20 was based on method 8270D and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for GOODLUCK902DL2 [2,4,6-Tribromophenol - 22%, 2-Fluorophenol - 0%, Nitrobenzene-d5 - 0%, Phenol-d6 - 13%], GOODLUCK58DL2 [2,4,6-Tribromophenol - 0%, 2-Fluorophenol - 0%, Nitrobenzene-d5 - 0%, Phenol-d6 - 7%], MANAHAWKEN112DL2 [2,4,6-Tribromophenol - 0%, 2-Fluorophenol - 0%, Nitrobenzene-d5 - 0% and Phenol-d6 - 0%].
The Internal Standards Areas met the acceptable requirements except for GOODLUCK902, GOODLUCK902DL2, GOODLUCK58, GOODLUCK58DL2, MANAHAWKEN112, MANAHAWKEN112DL, MANAHAWKEN112DL2 and TK1-1-20151015MSD.
The Retention Times were acceptable for all samples.
The MS {G4051-02MS} with File ID: BF082328.D recoveries met the requirements for all compounds except for 2,4-Dinitrophenol[0%], Anthracene[137%], Benzo(a)anthracene[153%], Benzo(a)pyrene[147%], Benzo(b)fluoranthene[153%], Benzo(g,h,i)perylene[147%], Benzo(k)fluoranthene[163%], bis(2-Ethylhexyl)phthalate[137%], Chrysene[162%], Fluoranthene[311%], Phenanthrene[242%] and Pyrene[247%] .
The MSD {G4051-03MSD} with File ID: BF082329.D recoveries met the acceptable requirements except for 2,4-Dinitrophenol[0%], Anthracene[147%], Benzo(a)anthracene[184%], Benzo(a)pyrene[158%], Benzo(b)fluoranthene[158%], Benzo(g,h,i)perylene[137%], Benzo(k)fluoranthene[174%], bis(2-

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Ethylhexyl)phthalate[147%], Chrysene[152%], Fluoranthene[332%], Indeno(1,2,3-cd)pyrene[142%], Phenanthrene[263%] and Pyrene[268%] .
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The %RSD is greater than 15% in the Initial Calibration (Method 8270-BF101015.M) for Hexachlorocyclopentadiene, 2,4-Dinitrophenol these compounds are passing on Linearregression while 4-Nitrophenol this compound is passing on Quadratic regression.
The Continuous Calibration File ID BF082320.D met the requirements except for Benzaldehyde and Hexachlorocyclopentadiene .The Continuous Calibration File ID BF082374.D met the requirements except for Benzo(k)fluoranthene .
The Tuning criteria met requirements.
Samples GOODLUCK902, GOODLUCK58 and MANAHAWKEN112 were diluted due to bad matrices.
Samples GOODLUCK902, GOODLUCK902DL, GOODLUCK58, GOODLUCK58DL, MANAHAWKEN112 and MANAHAWKEN112DL were diluted due to high concentrations.

E. Additional Comments:
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:
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Signature___ Mildred V Reyes ___

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

CHEMTECH
284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4046
Test Name: Pesticide-TCL

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Herbicide, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, Pesticide-TCL, SVOC-TCL BNA -20, SVOCMS Group1 and VOC-TCLVOA-10. This data package contains results for Pesticide-TCL.

C. Analytical Techniques:
The analysis was performed on instrument ECD_L. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0. 5 um df,: Catalog # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11.The analysis of Pesticide-TCLs was based on method 8081B and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for GOODLUCK902 [Decachlorobiphenyl(1) - 385%], GOODLUCK58 [Decachlorobiphenyl(1) - 439%] and MANAHAWKEN112 [Decachlorobiphenyl(1) - 350%].
The Retention Times were acceptable for all samples.
The MS {G4034-01MS} with File ID: PL014736.D recoveries met the requirements for all compounds except for beta-BHC[417%] .
The MSD recoveries met the acceptable requirements .
The RPD for {G4034-01MSD} with File ID: PL014737.D recoveries met criteria except for beta-BHC[115%], Heptachlor[24%] .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature___ Mildred V Reyes ___

APPROVED

By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

CHEMTECH
284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4046
Test Name: PCB

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Herbicide, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, Pesticide-TCL, SVOC-TCL BNA -20, SVOCMS Group1 and VOC-TCLVOA-10. This data package contains results for PCB.

C. Analytical Techniques:
The analyses were performed on instrument GCECD_P. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0. 5 um df,: Catalog # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11.The analysis of PCBs was based on method 8082A and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for GOODLUCKINSULATION [Decachlorobiphenyl(2) - 58%], MANAHAWKEN112 [Decachlorobiphenyl(1) - 55%].
The Retention Times were acceptable for all samples.
The MS {G4034-01MS} with File ID: PP012047.D recoveries met the requirements for all compounds except for AR1016[163%], AR1260[138%] .
The MSD {G4034-01MSD} with File ID: PP012048.D recoveries met the acceptable requirements except for AR1016[163%], AR1260[138%] .
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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Signature___ Mildred V Reyes ___

APPROVED

By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

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CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4046
Test Name: Herbicide

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Herbicide, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, Pesticide-TCL, SVOC-TCL BNA -20, SVOCMS Group1 and VOC-TCLVOA-10. This data package contains results for Herbicide.

C. Analytical Techniques:
The analyses were performed on instrument GCECD_P. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0. 5 um df,: Catalog # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11.The analysis of Herbicides was based on method 8151A and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for GOODLUCK58 [2,4-DCAA(2) - 11%], GOODLUCK58RE [2 and4-DCAA(2) - 10%].
The Retention Times were acceptable for all samples.
The MS {G4085-01MS} with File ID: PP012103.D recoveries met the requirements for all compounds except for 2,4,5-T[9%], 2,4,5-TP(Silvex)[8%], 2,4-DB[0%], DICAMBA[16%] and Dinoseb[0%] .
The MSD {G4085-01MSD} with File ID: PP012104.D recoveries met the acceptable requirements except for 2,4,5-T[10%], 2,4,5-TP(Silvex)[8%], 2,4-DB[0%], DICAMBA[16%] and Dinoseb[0%] .
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:

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F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature___ Mildred V Reyes ___

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

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CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4046
Test Name: Metals ICP-RCRA,Mercury

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 10/14/2015.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Herbicide, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, Pesticide-TCL, SVOC-TCL BNA -20, SVOCMS Group1 and VOC-TCLVOA-10. This data package contains results for Metals ICP-RCRA,Mercury.

C. Analytical Techniques:
The analysis of Metals ICP-RCRA was based on method 6010B, digestion based on method 3050 (soils). The analysis of Mercury was based on method 7471A and digestion was based on method 7471B (soils).

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike(TK1-1-20151015MS)analysis met criteria for all samples except for Mercury.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution (TK1-1-20151015L)met criteria for all samples except for Barium, Chromium and Mercury.

E. Additional Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature___ Mildred V Reyes __

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

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DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

U Indicates the analyte was analyzed for, but not detected.

ND Indicates the analyte was analyzed for, but not detected

E Indicates the reported value is estimated because of the presence of interference

M Indicates Duplicate injection precision not met.

N Indicates the spiked sample recovery is not within control limits.

S Indicates the reported value was determined by the Method of Standard Addition (MSA).

***** Indicates that the duplicate analysis is not within control limits.

+ Indicates the correlation coefficient for the MSA is less than 0.995.

D Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

M Method qualifiers
"P" for ICP instrument
"PM" for ICP when Microwave Digestion is used
"CV" for Manual Cold Vapor AA
"AV" for automated Cold Vapor AA
"CA" for MIDI-Distillation Spectrophotometric
"AS" for Semi –Automated Spectrophotometric
"C" for Manual Spectrophotometric
"T" for Titrimetric
"NR" for analyte not required to be analyzed

OR Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.

Q Indicates the LCS did not meet the control limits requirements

H Sample Analysis Out Of Hold Time

QA Control # A3040961

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DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value**.** This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

QA Control # A3040960

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: G4046

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: DIXITA SHARMA **Date:** 10/28/2015

2nd Level QA Review Signature: Mildred V Reyes **Date:**

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:15 am, Oct 28, 2015

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
Client ID:	**GOODLUCK902**									
G4046-01	GOODLUCK902	SOIL	Acetone		62.30	J	12.5	12.5	130	ug/Kg
G4046-01	GOODLUCK902	SOIL	Methyl Acetate		27.90		5	5	25	ug/Kg
G4046-01	GOODLUCK902	SOIL	Methylene Chloride		18.90	J	2.5	2.5	25	ug/Kg
			Total Voc :		109.1					
G4046-01	GOODLUCK902	SOIL	Dibenzofuran	*	35.60	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Propanoic acid, 2-methyl-, tert-	*	27.10	J	0		0	ug/Kg
			Total Tics :		62.7					
			Total Concentration:		171.8					
Client ID:	**GOODLUCK902RE**									
G4046-01RE	GOODLUCK902RE	SOIL	Acetone		88.30	J	12.5	12.5	130	ug/Kg
G4046-01RE	GOODLUCK902RE	SOIL	Methyl Acetate		26.50		5	5	25	ug/Kg
G4046-01RE	GOODLUCK902RE	SOIL	Methylene Chloride		20.40	JB	2.5	2.5	25	ug/Kg
			Total Voc :		135.2					
			Total Concentration:		135.2					
Client ID:	**GOODLUCK58**									
G4046-02	GOODLUCK58	SOIL	Acetone		160.00		12.5	12.5	130	ug/Kg
G4046-02	GOODLUCK58	SOIL	Methyl Acetate		59.60		5	5	25	ug/Kg
G4046-02	GOODLUCK58	SOIL	Methylene Chloride		12.80	J	2.5	2.5	25	ug/Kg
G4046-02	GOODLUCK58	SOIL	4-Methyl-2-Pentanone		15.20	J	12.5	12.5	130	ug/Kg
			Total Voc :		247.6					
G4046-02	GOODLUCK58	SOIL	Biphenyl	*	580.00	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	2-Benzothiophene #	*	130.00	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Naphthalene, 2,6-dimethyl-	*	720.00	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	1H-Indene, 2,3-dihydro-5-meth	*	78.20	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzo[b]thiophene, 5-methyl-	*	70.40	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzo[b]thiophene, 6-methyl-	*	86.60	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	p-Isopropyltoluene	*	6.30	J	1.5		25	ug/Kg
G4046-02	GOODLUCK58	SOIL	Naphthalene	*	2,500.00	J	2.3		25	ug/Kg
			Total Tics :		4171.5					
			Total Concentration:		4419.1					
Client ID:	**GOODLUCK58RE**									
G4046-02RE	GOODLUCK58RE	SOIL	Acetone		120.00	J	12.5	12.5	130	ug/Kg
G4046-02RE	GOODLUCK58RE	SOIL	Methyl Acetate		40.80		5	5	25	ug/Kg
G4046-02RE	GOODLUCK58RE	SOIL	Methylene Chloride		14.90	JB	2.5	2.5	25	ug/Kg
			Total Voc :		175.7					
			Total Concentration:		175.7					
Client ID:	**MANAHAWKEN112**									
G4046-04	MANAHAWKEN112	SOIL	Acetone		65.40	J	12.5	12.5	130	ug/Kg

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
G4046-04	MANAHAWKEN112	SOIL	Methyl Acetate		13.90	J	5	5	25	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Methylene Chloride		35.80		2.5	2.5	25	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	4-Methyl-2-Pentanone		37.90	J	12.5	12.5	130	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Toluene		6.40	J	2.5	2.5	25	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	1,2-Dichlorobenzene		6.70	J	2.5	2.5	25	ug/Kg
			Total Voc :		166.1					
G4046-04	MANAHAWKEN112	SOIL	Biphenyl	*	320.00	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzo[b]thiophene	*	220.00	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	L-Fenchone	*	140.00	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Naphthalene, 2,6-dimethyl-	*	610.00	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	1H-Indene, 2,3-dihydro-4-meth	*	190.00	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzo[b]thiophene, 5-methyl-	*	88.70	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzene, 1-(chloromethyl)-3-et	*	89.60	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	1,2,4-Trimethylbenzene	*	10.20	J	2.5		25	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	p-Isopropyltoluene	*	16.10	J	1.5		25	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Naphthalene	*	5,300.00	J	2.3		25	ug/Kg
			Total Tics :		6984.6					
			Total Concentration:		7150.7					
Client ID:	**MANAHAWKEN112RE**									
G4046-04RE	MANAHAWKEN112RE	SOIL	Acetone		130.00		12.5	12.5	130	ug/Kg
G4046-04RE	MANAHAWKEN112RE	SOIL	Methyl Acetate		32.50		5	5	25	ug/Kg
G4046-04RE	MANAHAWKEN112RE	SOIL	Methylene Chloride		40.20	B	2.5	2.5	25	ug/Kg
G4046-04RE	MANAHAWKEN112RE	SOIL	4-Methyl-2-Pentanone		27.40	J	12.5	12.5	130	ug/Kg
G4046-04RE	MANAHAWKEN112RE	SOIL	Toluene		7.20	J	2.5	2.5	25	ug/Kg
G4046-04RE	MANAHAWKEN112RE	SOIL	Styrene		5.50	J	2.3	2.5	25	ug/Kg
G4046-04RE	MANAHAWKEN112RE	SOIL	1,2-Dichlorobenzene		7.30	J	2.5	2.5	25	ug/Kg
			Total Voc :		250.1					
			Total Concentration:		250.1					

SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045704.D	1		10/20/15 01:47	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	2.5	U	2.5	2.5	25	ug/Kg
74-87-3	Chloromethane	2.5	U	2.5	2.5	25	ug/Kg
75-01-4	Vinyl Chloride	2.5	U	2.5	2.5	25	ug/Kg
74-83-9	Bromomethane	5	U	5	5	25	ug/Kg
75-00-3	Chloroethane	2.5	U	2.5	2.5	25	ug/Kg
75-69-4	Trichlorofluoromethane	2.5	U	2.5	2.5	25	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5	U	2.5	2.5	25	ug/Kg
75-35-4	1,1-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
67-64-1	Acetone	62.3	J	12.5	12.5	130	ug/Kg
75-15-0	Carbon Disulfide	2.5	U	2.5	2.5	25	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.5	U	2.5	2.5	25	ug/Kg
79-20-9	Methyl Acetate	27.9		5	5	25	ug/Kg
75-09-2	Methylene Chloride	18.9	J	2.5	2.5	25	ug/Kg
156-60-5	trans-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
75-34-3	1,1-Dichloroethane	2.5	U	2.5	2.5	25	ug/Kg
110-82-7	Cyclohexane	2.5	U	2.5	2.5	25	ug/Kg
78-93-3	2-Butanone	37.5	U	15.6	37.5	130	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	U	2.5	2.5	25	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
74-97-5	Bromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
67-66-3	Chloroform	2.5	U	2.5	2.5	25	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.5	U	2.5	2.5	25	ug/Kg
108-87-2	Methylcyclohexane	2.5	U	2.5	2.5	25	ug/Kg
71-43-2	Benzene	2.5	U	1.9	2.5	25	ug/Kg
107-06-2	1,2-Dichloroethane	2.5	U	2.5	2.5	25	ug/Kg
79-01-6	Trichloroethene	2.5	U	2.5	2.5	25	ug/Kg
78-87-5	1,2-Dichloropropane	2.5	U	1.3	2.5	25	ug/Kg
75-27-4	Bromodichloromethane	2.5	U	2.5	2.5	25	ug/Kg
108-10-1	4-Methyl-2-Pentanone	12.5	U	12.5	12.5	130	ug/Kg
108-88-3	Toluene	2.5	U	2.5	2.5	25	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.5	U	2.5	2.5	25	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.5	U	2.5	2.5	25	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045704.D	1		10/20/15 01:47	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	5	U	4.5	5	25	ug/Kg
591-78-6	2-Hexanone	12.5	U	12.5	12.5	130	ug/Kg
124-48-1	Dibromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
106-93-4	1,2-Dibromoethane	2.5	U	2.5	2.5	25	ug/Kg
127-18-4	Tetrachloroethene	2.5	U	2.5	2.5	25	ug/Kg
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
100-41-4	Ethyl Benzene	2.5	U	2.5	2.5	25	ug/Kg
179601-23-1	m/p-Xylenes	5	U	3.6	5	50	ug/Kg
95-47-6	o-Xylene	2.5	U	2.5	2.5	25	ug/Kg
100-42-5	Styrene	2.5	U	2.3	2.5	25	ug/Kg
75-25-2	Bromoform	7.5	U	3.7	7.5	25	ug/Kg
98-82-8	Isopropylbenzene	2.5	U	2.4	2.5	25	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U	2.3	2.5	25	ug/Kg
541-73-1	1,3-Dichlorobenzene	2.5	U	1.9	2.5	25	ug/Kg
106-46-7	1,4-Dichlorobenzene	2.5	U	2.1	2.5	25	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	4.4	25	25	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	5	U	2.5	5	25	ug/Kg
123-91-1	1,4-Dioxane	500	U	500	500	500	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	66.8	*	56 - 120		134%	SPK: 50
1868-53-7	Dibromofluoromethane	67.8	*	57 - 135		136%	SPK: 50
2037-26-5	Toluene-d8	54.9		67 - 123		110%	SPK: 50
460-00-4	4-Bromofluorobenzene	34.8		33 - 141		70%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	329173	4.84				
540-36-3	1,4-Difluorobenzene	585218	5.57				
3114-55-4	Chlorobenzene-d5	438147	9.73				
3855-82-1	1,4-Dichlorobenzene-d4	463854	12.51				
TENTATIVE IDENTIFIED COMPOUNDS							
111864-21-2	Propanoic acid, 2-methyl-, tert-bu	27.1	J			3.95	ug/Kg
000132-64-9	Dibenzofuran	35.6	J			13.79	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045704.D	1		10/20/15 01:47	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902RE	SDG No.:	G4046
Lab Sample ID:	G4046-01RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045724.D	1		10/21/15 16:59	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	2.5	U	2.5	2.5	25	ug/Kg
74-87-3	Chloromethane	2.5	U	2.5	2.5	25	ug/Kg
75-01-4	Vinyl Chloride	2.5	U	2.5	2.5	25	ug/Kg
74-83-9	Bromomethane	5	U	5	5	25	ug/Kg
75-00-3	Chloroethane	2.5	U	2.5	2.5	25	ug/Kg
75-69-4	Trichlorofluoromethane	2.5	U	2.5	2.5	25	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5	U	2.5	2.5	25	ug/Kg
75-35-4	1,1-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
67-64-1	Acetone	88.3	J	12.5	12.5	130	ug/Kg
75-15-0	Carbon Disulfide	2.5	U	2.5	2.5	25	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.5	U	2.5	2.5	25	ug/Kg
79-20-9	Methyl Acetate	26.5		5	5	25	ug/Kg
75-09-2	Methylene Chloride	20.4	JB	2.5	2.5	25	ug/Kg
156-60-5	trans-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
75-34-3	1,1-Dichloroethane	2.5	UQ	2.5	2.5	25	ug/Kg
110-82-7	Cyclohexane	2.5	U	2.5	2.5	25	ug/Kg
78-93-3	2-Butanone	37.5	U	15.6	37.5	130	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	UQ	2.5	2.5	25	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
74-97-5	Bromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
67-66-3	Chloroform	2.5	U	2.5	2.5	25	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.5	U	2.5	2.5	25	ug/Kg
108-87-2	Methylcyclohexane	2.5	U	2.5	2.5	25	ug/Kg
71-43-2	Benzene	2.5	UQ	1.9	2.5	25	ug/Kg
107-06-2	1,2-Dichloroethane	2.5	UQ	2.5	2.5	25	ug/Kg
79-01-6	Trichloroethene	2.5	U	2.5	2.5	25	ug/Kg
78-87-5	1,2-Dichloropropane	2.5	UQ	1.3	2.5	25	ug/Kg
75-27-4	Bromodichloromethane	2.5	UQ	2.5	2.5	25	ug/Kg
108-10-1	4-Methyl-2-Pentanone	12.5	U	12.5	12.5	130	ug/Kg
108-88-3	Toluene	2.5	U	2.5	2.5	25	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.5	UQ	2.5	2.5	25	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.5	UQ	2.5	2.5	25	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902RE	SDG No.:	G4046
Lab Sample ID:	G4046-01RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045724.D	1		10/21/15 16:59	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	5	UQ	4.5	5	25	ug/Kg
591-78-6	2-Hexanone	12.5	U	12.5	12.5	130	ug/Kg
124-48-1	Dibromochloromethane	2.5	UQ	2.5	2.5	25	ug/Kg
106-93-4	1,2-Dibromoethane	2.5	UQ	2.5	2.5	25	ug/Kg
127-18-4	Tetrachloroethene	2.5	U	2.5	2.5	25	ug/Kg
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
100-41-4	Ethyl Benzene	2.5	U	2.5	2.5	25	ug/Kg
179601-23-1	m/p-Xylenes	5	U	3.6	5	50	ug/Kg
95-47-6	o-Xylene	2.5	U	2.5	2.5	25	ug/Kg
100-42-5	Styrene	2.5	U	2.3	2.5	25	ug/Kg
75-25-2	Bromoform	7.5	U	3.7	7.5	25	ug/Kg
98-82-8	Isopropylbenzene	2.5	UQ	2.4	2.5	25	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U	2.3	2.5	25	ug/Kg
541-73-1	1,3-Dichlorobenzene	2.5	UQ	1.9	2.5	25	ug/Kg
106-46-7	1,4-Dichlorobenzene	2.5	UQ	2.1	2.5	25	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	4.4	25	25	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	5	U	2.5	5	25	ug/Kg
123-91-1	1,4-Dioxane	500	U	500	500	500	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.9		56 - 120		96%	SPK: 50
1868-53-7	Dibromofluoromethane	46.8		57 - 135		94%	SPK: 50
2037-26-5	Toluene-d8	33.2	*	67 - 123		66%	SPK: 50
460-00-4	4-Bromofluorobenzene	16.2	*	33 - 141		32%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	278770	4.82				
540-36-3	1,4-Difluorobenzene	523793	5.55				
3114-55-4	Chlorobenzene-d5	287110	9.72				
3855-82-1	1,4-Dichlorobenzene-d4	74800	12.5				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902RE	SDG No.:	G4046
Lab Sample ID:	G4046-01RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045724.D	1		10/21/15 16:59	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
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D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045705.D	1		10/20/15 02:15	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	2.5	U	2.5	2.5	25	ug/Kg
74-87-3	Chloromethane	2.5	U	2.5	2.5	25	ug/Kg
75-01-4	Vinyl Chloride	2.5	U	2.5	2.5	25	ug/Kg
74-83-9	Bromomethane	5	U	5	5	25	ug/Kg
75-00-3	Chloroethane	2.5	U	2.5	2.5	25	ug/Kg
75-69-4	Trichlorofluoromethane	2.5	U	2.5	2.5	25	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5	U	2.5	2.5	25	ug/Kg
75-35-4	1,1-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
67-64-1	Acetone	160		12.5	12.5	130	ug/Kg
75-15-0	Carbon Disulfide	2.5	U	2.5	2.5	25	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.5	U	2.5	2.5	25	ug/Kg
79-20-9	Methyl Acetate	59.6		5	5	25	ug/Kg
75-09-2	Methylene Chloride	12.8	J	2.5	2.5	25	ug/Kg
156-60-5	trans-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
75-34-3	1,1-Dichloroethane	2.5	U	2.5	2.5	25	ug/Kg
110-82-7	Cyclohexane	2.5	U	2.5	2.5	25	ug/Kg
78-93-3	2-Butanone	37.5	U	15.6	37.5	130	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	U	2.5	2.5	25	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
74-97-5	Bromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
67-66-3	Chloroform	2.5	U	2.5	2.5	25	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.5	U	2.5	2.5	25	ug/Kg
108-87-2	Methylcyclohexane	2.5	U	2.5	2.5	25	ug/Kg
71-43-2	Benzene	2.5	U	1.9	2.5	25	ug/Kg
107-06-2	1,2-Dichloroethane	2.5	U	2.5	2.5	25	ug/Kg
79-01-6	Trichloroethene	2.5	U	2.5	2.5	25	ug/Kg
78-87-5	1,2-Dichloropropane	2.5	U	1.3	2.5	25	ug/Kg
75-27-4	Bromodichloromethane	2.5	U	2.5	2.5	25	ug/Kg
108-10-1	4-Methyl-2-Pentanone	15.2	J	12.5	12.5	130	ug/Kg
108-88-3	Toluene	2.5	U	2.5	2.5	25	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.5	U	2.5	2.5	25	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.5	U	2.5	2.5	25	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045705.D	1		10/20/15 02:15	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	5	U	4.5	5	25	ug/Kg
591-78-6	2-Hexanone	12.5	U	12.5	12.5	130	ug/Kg
124-48-1	Dibromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
106-93-4	1,2-Dibromoethane	2.5	U	2.5	2.5	25	ug/Kg
127-18-4	Tetrachloroethene	2.5	U	2.5	2.5	25	ug/Kg
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
100-41-4	Ethyl Benzene	2.5	U	2.5	2.5	25	ug/Kg
179601-23-1	m/p-Xylenes	5	U	3.6	5	50	ug/Kg
95-47-6	o-Xylene	2.5	U	2.5	2.5	25	ug/Kg
100-42-5	Styrene	2.5	U	2.3	2.5	25	ug/Kg
75-25-2	Bromoform	7.5	U	3.7	7.5	25	ug/Kg
98-82-8	Isopropylbenzene	2.5	U	2.4	2.5	25	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U	2.3	2.5	25	ug/Kg
541-73-1	1,3-Dichlorobenzene	2.5	U	1.9	2.5	25	ug/Kg
106-46-7	1,4-Dichlorobenzene	2.5	U	2.1	2.5	25	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	4.4	25	25	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	5	U	2.5	5	25	ug/Kg
123-91-1	1,4-Dioxane	500	U	500	500	500	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	53.9		56 - 120		108%	SPK: 50
1868-53-7	Dibromofluoromethane	50.2		57 - 135		100%	SPK: 50
2037-26-5	Toluene-d8	33.9		67 - 123		68%	SPK: 50
460-00-4	4-Bromofluorobenzene	18.1		33 - 141		36%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	335834	4.83				
540-36-3	1,4-Difluorobenzene	599757	5.56				
3114-55-4	Chlorobenzene-d5	375255	9.73				
3855-82-1	1,4-Dichlorobenzene-d4	150457	12.51				
TENTATIVE IDENTIFIED COMPOUNDS							
99-87-6	p-Isopropyltoluene	6.3	J			12.42	ug/Kg
000874-35-1	1H-Indene, 2,3-dihydro-5-methyl-	78.2	J			13.8	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045705.D	1		10/20/15 02:15	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
91-20-3	Naphthalene	2500	J			14.39	ug/Kg
000270-82-6	2-Benzothiophene #	130	J			14.47	ug/Kg
014315-14-1	Benzo[b]thiophene, 5-methyl-	70.4	J			15.14	ug/Kg
016587-47-6	Benzo[b]thiophene, 6-methyl-	86.6	J			15.28	ug/Kg
000092-52-4	Biphenyl	580	J			15.7	ug/Kg
000581-42-0	Naphthalene, 2,6-dimethyl-	720	J			16.02	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58RE	SDG No.:	G4046
Lab Sample ID:	G4046-02RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045725.D	1		10/21/15 17:28	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	2.5	U	2.5	2.5	25	ug/Kg
74-87-3	Chloromethane	2.5	U	2.5	2.5	25	ug/Kg
75-01-4	Vinyl Chloride	2.5	U	2.5	2.5	25	ug/Kg
74-83-9	Bromomethane	5	U	5	5	25	ug/Kg
75-00-3	Chloroethane	2.5	U	2.5	2.5	25	ug/Kg
75-69-4	Trichlorofluoromethane	2.5	U	2.5	2.5	25	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5	U	2.5	2.5	25	ug/Kg
75-35-4	1,1-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
67-64-1	Acetone	120	J	12.5	12.5	130	ug/Kg
75-15-0	Carbon Disulfide	2.5	U	2.5	2.5	25	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.5	U	2.5	2.5	25	ug/Kg
79-20-9	Methyl Acetate	40.8		5	5	25	ug/Kg
75-09-2	Methylene Chloride	14.9	JB	2.5	2.5	25	ug/Kg
156-60-5	trans-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
75-34-3	1,1-Dichloroethane	2.5	UQ	2.5	2.5	25	ug/Kg
110-82-7	Cyclohexane	2.5	U	2.5	2.5	25	ug/Kg
78-93-3	2-Butanone	37.5	U	15.6	37.5	130	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	UQ	2.5	2.5	25	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
74-97-5	Bromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
67-66-3	Chloroform	2.5	U	2.5	2.5	25	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.5	U	2.5	2.5	25	ug/Kg
108-87-2	Methylcyclohexane	2.5	U	2.5	2.5	25	ug/Kg
71-43-2	Benzene	2.5	UQ	1.9	2.5	25	ug/Kg
107-06-2	1,2-Dichloroethane	2.5	UQ	2.5	2.5	25	ug/Kg
79-01-6	Trichloroethene	2.5	U	2.5	2.5	25	ug/Kg
78-87-5	1,2-Dichloropropane	2.5	UQ	1.3	2.5	25	ug/Kg
75-27-4	Bromodichloromethane	2.5	UQ	2.5	2.5	25	ug/Kg
108-10-1	4-Methyl-2-Pentanone	12.5	U	12.5	12.5	130	ug/Kg
108-88-3	Toluene	2.5	U	2.5	2.5	25	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.5	UQ	2.5	2.5	25	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.5	UQ	2.5	2.5	25	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58RE	SDG No.:	G4046
Lab Sample ID:	G4046-02RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045725.D	1		10/21/15 17:28	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	5	UQ	4.5	5	25	ug/Kg
591-78-6	2-Hexanone	12.5	U	12.5	12.5	130	ug/Kg
124-48-1	Dibromochloromethane	2.5	UQ	2.5	2.5	25	ug/Kg
106-93-4	1,2-Dibromoethane	2.5	UQ	2.5	2.5	25	ug/Kg
127-18-4	Tetrachloroethene	2.5	U	2.5	2.5	25	ug/Kg
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
100-41-4	Ethyl Benzene	2.5	U	2.5	2.5	25	ug/Kg
179601-23-1	m/p-Xylenes	5	U	3.6	5	50	ug/Kg
95-47-6	o-Xylene	2.5	U	2.5	2.5	25	ug/Kg
100-42-5	Styrene	2.5	U	2.3	2.5	25	ug/Kg
75-25-2	Bromoform	7.5	U	3.7	7.5	25	ug/Kg
98-82-8	Isopropylbenzene	2.5	UQ	2.4	2.5	25	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U	2.3	2.5	25	ug/Kg
541-73-1	1,3-Dichlorobenzene	2.5	UQ	1.9	2.5	25	ug/Kg
106-46-7	1,4-Dichlorobenzene	2.5	UQ	2.1	2.5	25	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	4.4	25	25	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	5	U	2.5	5	25	ug/Kg
123-91-1	1,4-Dioxane	500	U	500	500	500	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.9		56 - 120		96%	SPK: 50
1868-53-7	Dibromofluoromethane	50.5		57 - 135		101%	SPK: 50
2037-26-5	Toluene-d8	34.5		67 - 123		69%	SPK: 50
460-00-4	4-Bromofluorobenzene	15.3	*	33 - 141		31%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	278749	4.82				
540-36-3	1,4-Difluorobenzene	480943	5.55				
3114-55-4	Chlorobenzene-d5	247927	9.72				
3855-82-1	1,4-Dichlorobenzene-d4	67866	12.5				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58RE	SDG No.:	G4046
Lab Sample ID:	G4046-02RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045725.D	1		10/21/15 17:28	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045703.D	1		10/20/15 01:19	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	2.5	U	2.5	2.5	25	ug/Kg
74-87-3	Chloromethane	2.5	U	2.5	2.5	25	ug/Kg
75-01-4	Vinyl Chloride	2.5	U	2.5	2.5	25	ug/Kg
74-83-9	Bromomethane	5	U	5	5	25	ug/Kg
75-00-3	Chloroethane	2.5	U	2.5	2.5	25	ug/Kg
75-69-4	Trichlorofluoromethane	2.5	U	2.5	2.5	25	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5	U	2.5	2.5	25	ug/Kg
75-35-4	1,1-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
67-64-1	Acetone	65.4	J	12.5	12.5	130	ug/Kg
75-15-0	Carbon Disulfide	2.5	U	2.5	2.5	25	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.5	U	2.5	2.5	25	ug/Kg
79-20-9	Methyl Acetate	13.9	J	5	5	25	ug/Kg
75-09-2	Methylene Chloride	35.8		2.5	2.5	25	ug/Kg
156-60-5	trans-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
75-34-3	1,1-Dichloroethane	2.5	U	2.5	2.5	25	ug/Kg
110-82-7	Cyclohexane	2.5	U	2.5	2.5	25	ug/Kg
78-93-3	2-Butanone	37.5	U	15.6	37.5	130	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	U	2.5	2.5	25	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
74-97-5	Bromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
67-66-3	Chloroform	2.5	U	2.5	2.5	25	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.5	U	2.5	2.5	25	ug/Kg
108-87-2	Methylcyclohexane	2.5	U	2.5	2.5	25	ug/Kg
71-43-2	Benzene	2.5	U	1.9	2.5	25	ug/Kg
107-06-2	1,2-Dichloroethane	2.5	U	2.5	2.5	25	ug/Kg
79-01-6	Trichloroethene	2.5	U	2.5	2.5	25	ug/Kg
78-87-5	1,2-Dichloropropane	2.5	U	1.3	2.5	25	ug/Kg
75-27-4	Bromodichloromethane	2.5	U	2.5	2.5	25	ug/Kg
108-10-1	4-Methyl-2-Pentanone	37.9	J	12.5	12.5	130	ug/Kg
108-88-3	Toluene	6.4	J	2.5	2.5	25	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.5	U	2.5	2.5	25	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.5	U	2.5	2.5	25	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045703.D	1		10/20/15 01:19	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	5	U	4.5	5	25	ug/Kg
591-78-6	2-Hexanone	12.5	U	12.5	12.5	130	ug/Kg
124-48-1	Dibromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
106-93-4	1,2-Dibromoethane	2.5	U	2.5	2.5	25	ug/Kg
127-18-4	Tetrachloroethene	2.5	U	2.5	2.5	25	ug/Kg
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
100-41-4	Ethyl Benzene	2.5	U	2.5	2.5	25	ug/Kg
179601-23-1	m/p-Xylenes	5	U	3.6	5	50	ug/Kg
95-47-6	o-Xylene	2.5	U	2.5	2.5	25	ug/Kg
100-42-5	Styrene	2.5	U	2.3	2.5	25	ug/Kg
75-25-2	Bromoform	7.5	U	3.7	7.5	25	ug/Kg
98-82-8	Isopropylbenzene	2.5	U	2.4	2.5	25	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U	2.3	2.5	25	ug/Kg
541-73-1	1,3-Dichlorobenzene	2.5	U	1.9	2.5	25	ug/Kg
106-46-7	1,4-Dichlorobenzene	2.5	U	2.1	2.5	25	ug/Kg
95-50-1	1,2-Dichlorobenzene	6.7	J	2.5	2.5	25	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	4.4	25	25	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	5	U	2.5	5	25	ug/Kg
123-91-1	1,4-Dioxane	500	U	500	500	500	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	45.4		56 - 120		91%	SPK: 50
1868-53-7	Dibromofluoromethane	45.8		57 - 135		92%	SPK: 50
2037-26-5	Toluene-d8	32.6	*	67 - 123		65%	SPK: 50
460-00-4	4-Bromofluorobenzene	16	*	33 - 141		32%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	360019	4.83				
540-36-3	1,4-Difluorobenzene	651826	5.56				
3114-55-4	Chlorobenzene-d5	385259	9.72				
3855-82-1	1,4-Dichlorobenzene-d4	100317	12.51				
TENTATIVE IDENTIFIED COMPOUNDS							
95-63-6	1,2,4-Trimethylbenzene	10.2	J			12.16	ug/Kg
99-87-6	p-Isopropyltoluene	16.1	J			12.42	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045703.D	1		10/20/15 01:19	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
039833-65-3	Benzene, 1-(chloromethyl)-3-etheny	89.6	J			13.66	ug/Kg
000126-21-6	L-Fenchone	140	J			13.73	ug/Kg
000824-22-6	1H-Indene, 2,3-dihydro-4-methyl-	190	J			13.8	ug/Kg
91-20-3	Naphthalene	5300	J			14.39	ug/Kg
000095-15-8	Benzo[b]thiophene	220	J			14.47	ug/Kg
014315-14-1	Benzo[b]thiophene, 5-methyl-	88.7	J			15.14	ug/Kg
000092-52-4	Biphenyl	320	J			15.7	ug/Kg
000581-42-0	Naphthalene, 2,6-dimethyl-	610	J			16.03	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112RE	SDG No.:	G4046
Lab Sample ID:	G4046-04RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045726.D	1		10/21/15 17:57	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	2.5	U	2.5	2.5	25	ug/Kg
74-87-3	Chloromethane	2.5	U	2.5	2.5	25	ug/Kg
75-01-4	Vinyl Chloride	2.5	U	2.5	2.5	25	ug/Kg
74-83-9	Bromomethane	5	U	5	5	25	ug/Kg
75-00-3	Chloroethane	2.5	U	2.5	2.5	25	ug/Kg
75-69-4	Trichlorofluoromethane	2.5	U	2.5	2.5	25	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5	U	2.5	2.5	25	ug/Kg
75-35-4	1,1-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
67-64-1	Acetone	130		12.5	12.5	130	ug/Kg
75-15-0	Carbon Disulfide	2.5	U	2.5	2.5	25	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.5	U	2.5	2.5	25	ug/Kg
79-20-9	Methyl Acetate	32.5		5	5	25	ug/Kg
75-09-2	Methylene Chloride	40.2	B	2.5	2.5	25	ug/Kg
156-60-5	trans-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
75-34-3	1,1-Dichloroethane	2.5	UQ	2.5	2.5	25	ug/Kg
110-82-7	Cyclohexane	2.5	U	2.5	2.5	25	ug/Kg
78-93-3	2-Butanone	37.5	U	15.6	37.5	130	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	UQ	2.5	2.5	25	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.5	U	2.5	2.5	25	ug/Kg
74-97-5	Bromochloromethane	2.5	U	2.5	2.5	25	ug/Kg
67-66-3	Chloroform	2.5	U	2.5	2.5	25	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.5	U	2.5	2.5	25	ug/Kg
108-87-2	Methylcyclohexane	2.5	U	2.5	2.5	25	ug/Kg
71-43-2	Benzene	2.5	UQ	1.9	2.5	25	ug/Kg
107-06-2	1,2-Dichloroethane	2.5	UQ	2.5	2.5	25	ug/Kg
79-01-6	Trichloroethene	2.5	U	2.5	2.5	25	ug/Kg
78-87-5	1,2-Dichloropropane	2.5	UQ	1.3	2.5	25	ug/Kg
75-27-4	Bromodichloromethane	2.5	UQ	2.5	2.5	25	ug/Kg
108-10-1	4-Methyl-2-Pentanone	27.4	J	12.5	12.5	130	ug/Kg
108-88-3	Toluene	7.2	J	2.5	2.5	25	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.5	UQ	2.5	2.5	25	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.5	UQ	2.5	2.5	25	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112RE	SDG No.:	G4046
Lab Sample ID:	G4046-04RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045726.D	1		10/21/15 17:57	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	5	UQ	4.5	5	25	ug/Kg
591-78-6	2-Hexanone	12.5	U	12.5	12.5	130	ug/Kg
124-48-1	Dibromochloromethane	2.5	UQ	2.5	2.5	25	ug/Kg
106-93-4	1,2-Dibromoethane	2.5	UQ	2.5	2.5	25	ug/Kg
127-18-4	Tetrachloroethene	2.5	U	2.5	2.5	25	ug/Kg
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
100-41-4	Ethyl Benzene	2.5	U	2.5	2.5	25	ug/Kg
179601-23-1	m/p-Xylenes	5	U	3.6	5	50	ug/Kg
95-47-6	o-Xylene	2.5	U	2.5	2.5	25	ug/Kg
100-42-5	Styrene	5.5	J	2.3	2.5	25	ug/Kg
75-25-2	Bromoform	7.5	U	3.7	7.5	25	ug/Kg
98-82-8	Isopropylbenzene	2.5	UQ	2.4	2.5	25	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U	2.3	2.5	25	ug/Kg
541-73-1	1,3-Dichlorobenzene	2.5	UQ	1.9	2.5	25	ug/Kg
106-46-7	1,4-Dichlorobenzene	2.5	UQ	2.1	2.5	25	ug/Kg
95-50-1	1,2-Dichlorobenzene	7.3	J	2.5	2.5	25	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	4.4	25	25	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	25	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	5	U	2.5	5	25	ug/Kg
123-91-1	1,4-Dioxane	500	U	500	500	500	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	52.7		56 - 120		105%	SPK: 50
1868-53-7	Dibromofluoromethane	54.1		57 - 135		108%	SPK: 50
2037-26-5	Toluene-d8	34.7		67 - 123		69%	SPK: 50
460-00-4	4-Bromofluorobenzene	14.2	*	33 - 141		28%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	293636	4.82				
540-36-3	1,4-Difluorobenzene	531629	5.55				
3114-55-4	Chlorobenzene-d5	264790	9.72				
3855-82-1	1,4-Dichlorobenzene-d4	66314	12.5				

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112RE	SDG No.:	G4046
Lab Sample ID:	G4046-04RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	1 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045726.D	1		10/21/15 17:57	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

QC SUMMARY

Surrogate Summary

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8260C

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
G4046-01	GOODLUCK902	1,2-Dichloroethane-d4	50	66.78	134	*	56	120
		Dibromofluoromethane	50	67.81	136	*	57	135
		Toluene-d8	50	54.86	110		67	123
		4-Bromofluorobenzene	50	34.77	70		33	141
G4046-01RE	GOODLUCK902RE	1,2-Dichloroethane-d4	50	47.9	96		56	120
		Dibromofluoromethane	50	46.8	94		57	135
		Toluene-d8	50	33.16	66	*	67	123
		4-Bromofluorobenzene	50	16.19	32	*	33	141
G4046-02	GOODLUCK58	1,2-Dichloroethane-d4	50	53.89	108		56	120
		Dibromofluoromethane	50	50.18	100		57	135
		Toluene-d8	50	33.88	68		67	123
		4-Bromofluorobenzene	50	18.14	36		33	141
G4046-02RE	GOODLUCK58RE	1,2-Dichloroethane-d4	50	47.94	96		56	120
		Dibromofluoromethane	50	50.52	101		57	135
		Toluene-d8	50	34.5	69		67	123
		4-Bromofluorobenzene	50	15.27	31	*	33	141
G4046-04	MANAHAWKEN112	1,2-Dichloroethane-d4	50	45.39	91		56	120
		Dibromofluoromethane	50	45.82	92		57	135
		Toluene-d8	50	32.6	65	*	67	123
		4-Bromofluorobenzene	50	16.04	32	*	33	141
G4046-04RE	MANAHAWKEN112RE	1,2-Dichloroethane-d4	50	52.67	105		56	120
		Dibromofluoromethane	50	54.07	108		57	135
		Toluene-d8	50	34.66	69		67	123
		4-Bromofluorobenzene	50	14.19	28	*	33	141
VF1019SBL01	VF1019SBL01	1,2-Dichloroethane-d4	50	36.05	72		56	120
		Dibromofluoromethane	50	37.54	75		57	135
		Toluene-d8	50	36.24	72		67	123
		4-Bromofluorobenzene	50	33.09	66		33	141
VF1019SBS02	VF1019SBS02	1,2-Dichloroethane-d4	50	40.76	82		56	120
		Dibromofluoromethane	50	42.66	85		57	135
		Toluene-d8	50	41.73	83		67	123
		4-Bromofluorobenzene	50	40.44	81		33	141
VF1022SBL01	VF1022SBL01	1,2-Dichloroethane-d4	50	41.22	82		56	120
		Dibromofluoromethane	50	41.49	83		57	135
		Toluene-d8	50	38.37	77		67	123
		4-Bromofluorobenzene	50	37.72	75		33	141
VF1022SBS01	VF1022SBS01	1,2-Dichloroethane-d4	50	41.3	83		56	120
		Dibromofluoromethane	50	44.27	89		57	135
		Toluene-d8	50	41.7	83		67	123
		4-Bromofluorobenzene	50	42.42	85		33	141
VF1022SBSD01	VF1022SBSD01	1,2-Dichloroethane-d4	50	55.05	110		56	120
		Dibromofluoromethane	50	59.15	118		57	135
		Toluene-d8	50	53.88	108		67	123
		4-Bromofluorobenzene	50	54.1	108		33	141

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8260C **Datafile :** VF045698.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VF1019SBS02	Dichlorodifluoromethane	20	20	ug/Kg	100			50	142	
	Chloromethane	20	19.6	ug/Kg	98			65	131	
	Vinyl chloride	20	21.2	ug/Kg	106			67	130	
	Bromomethane	20	20	ug/Kg	100			64	136	
	Chloroethane	20	19.5	ug/Kg	98			66	146	
	Trichlorofluoromethane	20	20.2	ug/Kg	101			72	134	
	1,1,2-Trichlorotrifluoroethane	20	20.2	ug/Kg	101			73	133	
	1,1-Dichloroethene	20	20.7	ug/Kg	104			74	130	
	Acetone	100	79.8	ug/Kg	80			57	135	
	Carbon disulfide	20	21.3	ug/Kg	106			71	130	
	Methyl tert-butyl Ether	20	19.1	ug/Kg	96			76	123	
	Methyl Acetate	20	17.7	ug/Kg	89			62	146	
	Methylene Chloride	20	19.9	ug/Kg	100			73	134	
	trans-1,2-Dichloroethene	20	20.1	ug/Kg	101			76	125	
	1,1-Dichloroethane	20	21	ug/Kg	105			78	124	
	Cyclohexane	20	22.1	ug/Kg	111			72	130	
	2-Butanone	100	87.5	ug/Kg	88			68	132	
	Carbon Tetrachloride	20	20.7	ug/Kg	104			76	127	
	cis-1,2-Dichloroethene	20	20.5	ug/Kg	103			78	122	
	Bromochloromethane	20	20.7	ug/Kg	104			66	133	
	Chloroform	20	20.7	ug/Kg	104			79	122	
	1,1,1-Trichloroethane	20	20.9	ug/Kg	104			76	126	
	Methylcyclohexane	20	20.8	ug/Kg	104			75	127	
	Benzene	20	20.3	ug/Kg	102			79	124	
	1,2-Dichloroethane	20	18.8	ug/Kg	94			78	124	
	Trichloroethene	20	20.5	ug/Kg	103			78	124	
	1,2-Dichloropropane	20	20.5	ug/Kg	103			76	124	
	Bromodichloromethane	20	19.4	ug/Kg	97			78	122	
	4-Methyl-2-Pentanone	100	93.5	ug/Kg	94			73	135	
	Toluene	20	20.7	ug/Kg	104			78	124	
	t-1,3-Dichloropropene	20	20.1	ug/Kg	101			77	123	
	cis-1,3-Dichloropropene	20	18.9	ug/Kg	95			79	120	
	1,1,2-Trichloroethane	20	18.8	ug/Kg	94			78	123	
	2-Hexanone	100	92.8	ug/Kg	93			71	134	
	Dibromochloromethane	20	19.3	ug/Kg	97			77	121	
	1,2-Dibromoethane	20	19.3	ug/Kg	97			78	123	
	Tetrachloroethene	20	21.6	ug/Kg	108			67	134	
	Chlorobenzene	20	20.9	ug/Kg	104			80	121	
	Ethyl Benzene	20	21.8	ug/Kg	109			80	123	
	m/p-Xylenes	40	43.1	ug/Kg	108			79	126	
	o-Xylene	20	21.3	ug/Kg	106			80	122	
	Styrene	20	20.7	ug/Kg	104			81	121	
	Bromoform	20	18.3	ug/Kg	92			73	124	
	Isopropylbenzene	20	22.4	ug/Kg	112			79	123	
	1,1,2,2-Tetrachloroethane	20	19.1	ug/Kg	96			79	124	
	1,3-Dichlorobenzene	20	22	ug/Kg	110			82	120	
	1,4-Dichlorobenzene	20	20.9	ug/Kg	104			81	120	
	1,2-Dichlorobenzene	20	21.1	ug/Kg	106			82	118	
	1,2-Dibromo-3-Chloropropane	20	17.3	ug/Kg	86			72	127	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8260C **Datafile :** VF045698.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VF1019SBS02	1,2,4-Trichlorobenzene	20	20.7	ug/Kg	104			75	125	
	1,2,3-Trichlorobenzene	20	20.3	ug/Kg	102			79	123	
	1,4-Dioxane	400	380	ug/Kg	95			50	150	

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8260C **Datafile :** VF045720.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VF1022SBS01	Dichlorodifluoromethane	20	20.6	ug/Kg	103			50	142	
	Chloromethane	20	21.7	ug/Kg	109			65	131	
	Vinyl chloride	20	21.5	ug/Kg	108			67	130	
	Bromomethane	20	21.6	ug/Kg	108			64	136	
	Chloroethane	20	20	ug/Kg	100			66	146	
	Trichlorofluoromethane	20	21.3	ug/Kg	106			72	134	
	1,1,2-Trichlorotrifluoroethane	20	21	ug/Kg	105			73	133	
	1,1-Dichloroethene	20	21.4	ug/Kg	107			74	130	
	Acetone	100	120	ug/Kg	120			57	135	
	Carbon disulfide	20	22.5	ug/Kg	113			71	130	
	Methyl tert-butyl Ether	20	20.7	ug/Kg	104			76	123	
	Methyl Acetate	20	21.7	ug/Kg	109			62	146	
	Methylene Chloride	20	20.4	ug/Kg	102			73	134	
	trans-1,2-Dichloroethene	20	22	ug/Kg	110			76	125	
	1,1-Dichloroethane	20	22.1	ug/Kg	111			78	124	
	Cyclohexane	20	21.4	ug/Kg	107			72	130	
	2-Butanone	100	120	ug/Kg	120			68	132	
	Carbon Tetrachloride	20	23	ug/Kg	115			76	127	
	cis-1,2-Dichloroethene	20	20.6	ug/Kg	103			78	122	
	Bromochloromethane	20	23.5	ug/Kg	117			66	133	
	Chloroform	20	22.6	ug/Kg	113			79	122	
	1,1,1-Trichloroethane	20	22.9	ug/Kg	115			76	126	
	Methylcyclohexane	20	20.7	ug/Kg	104			75	127	
	Benzene	20	24.1	ug/Kg	121			79	124	
	1,2-Dichloroethane	20	23.1	ug/Kg	116			78	124	
	Trichloroethene	20	21.4	ug/Kg	107			78	124	
	1,2-Dichloropropane	20	22.7	ug/Kg	114			76	124	
	Bromodichloromethane	20	24.2	ug/Kg	121			78	122	
	4-Methyl-2-Pentanone	100	120	ug/Kg	120			73	135	
	Toluene	20	22.8	ug/Kg	114			78	124	
	t-1,3-Dichloropropene	20	23.6	ug/Kg	118			77	123	
	cis-1,3-Dichloropropene	20	23	ug/Kg	115			79	120	
	1,1,2-Trichloroethane	20	23.3	ug/Kg	117			78	123	
	2-Hexanone	100	130	ug/Kg	130			71	134	
	Dibromochloromethane	20	22.3	ug/Kg	112			77	121	
	1,2-Dibromoethane	20	22.7	ug/Kg	114			78	123	
	Tetrachloroethene	20	19.6	ug/Kg	98			67	134	
	Chlorobenzene	20	22.1	ug/Kg	111			80	121	
	Ethyl Benzene	20	22.4	ug/Kg	112			80	123	
	m/p-Xylenes	40	45	ug/Kg	113			79	126	
	o-Xylene	20	21.3	ug/Kg	106			80	122	
	Styrene	20	22.3	ug/Kg	112			81	121	
	Bromoform	20	21.3	ug/Kg	106			73	124	
	Isopropylbenzene	20	21.8	ug/Kg	109			79	123	
	1,1,2,2-Tetrachloroethane	20	21.6	ug/Kg	108			79	124	
	1,3-Dichlorobenzene	20	21	ug/Kg	105			82	120	
	1,4-Dichlorobenzene	20	21.6	ug/Kg	108			81	120	
	1,2-Dichlorobenzene	20	21.4	ug/Kg	107			82	118	
	1,2-Dibromo-3-Chloropropane	20	21.6	ug/Kg	108			72	127	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8260C **Datafile :** VF045720.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VF1022SBS01	1,2,4-Trichlorobenzene	20	21	ug/Kg	105			75	125	
	1,2,3-Trichlorobenzene	20	20.6	ug/Kg	103			79	123	
	1,4-Dioxane	400	470	ug/Kg	117			50	150	

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8260C **Datafile :** VF045721.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VF1022SBSD01	Dichlorodifluoromethane	20	23.3	ug/Kg	117	13		50	142	20
	Chloromethane	20	23.9	ug/Kg	119	9		65	131	20
	Vinyl chloride	20	24.7	ug/Kg	124	14		67	130	20
	Bromomethane	20	24.5	ug/Kg	123	13		64	136	20
	Chloroethane	20	23.2	ug/Kg	116	15		66	146	20
	Trichlorofluoromethane	20	23.3	ug/Kg	117	10		72	134	20
	1,1,2-Trichlorotrifluoroethane	20	23	ug/Kg	115	9		73	133	20
	1,1-Dichloroethene	20	24.7	ug/Kg	124	15		74	130	20
	Acetone	100	130	ug/Kg	130	8		57	135	20
	Carbon disulfide	20	24.5	ug/Kg	123	8		71	130	20
	Methyl tert-butyl Ether	20	22.4	ug/Kg	112	7		76	123	20
	Methyl Acetate	20	22.4	ug/Kg	112	3		62	146	20
	Methylene Chloride	20	17.6	ug/Kg	88	15		73	134	20
	trans-1,2-Dichloroethene	20	24.5	ug/Kg	123	11		76	125	20
	1,1-Dichloroethane	20	25.9	ug/Kg	130	16	*	78	124	20
	Cyclohexane	20	23.6	ug/Kg	118	10		72	130	20
	2-Butanone	100	120	ug/Kg	120	0		68	132	20
	Carbon Tetrachloride	20	27.4	ug/Kg	137	17	*	76	127	20
	cis-1,2-Dichloroethene	20	22.9	ug/Kg	115	11		78	122	20
	Bromochloromethane	20	23.2	ug/Kg	116	1		66	133	20
	Chloroform	20	23.8	ug/Kg	119	5		79	122	20
	1,1,1-Trichloroethane	20	24.9	ug/Kg	125	8		76	126	20
	Methylcyclohexane	20	25.1	ug/Kg	126	19		75	127	20
	Benzene	20	28	ug/Kg	140	15	*	79	124	20
	1,2-Dichloroethane	20	26.2	ug/Kg	131	12	*	78	124	20
	Trichloroethene	20	24.1	ug/Kg	121	12		78	124	20
	1,2-Dichloropropane	20	26.1	ug/Kg	131	14	*	76	124	20
	Bromodichloromethane	20	26.1	ug/Kg	131	8	*	78	122	20
	4-Methyl-2-Pentanone	100	130	ug/Kg	130	8		73	135	20
	Toluene	20	24.7	ug/Kg	124	8		78	124	20
	t-1,3-Dichloropropene	20	25.5	ug/Kg	128	8	*	77	123	20
	cis-1,3-Dichloropropene	20	25.7	ug/Kg	129	11	*	79	120	20
	1,1,2-Trichloroethane	20	25.8	ug/Kg	129	10	*	78	123	20
	2-Hexanone	100	130	ug/Kg	130	0		71	134	20
	Dibromochloromethane	20	24.4	ug/Kg	122	9	*	77	121	20
	1,2-Dibromoethane	20	24.8	ug/Kg	124	8	*	78	123	20
	Tetrachloroethene	20	21.8	ug/Kg	109	11		67	134	20
	Chlorobenzene	20	24.3	ug/Kg	121	9		80	121	20
	Ethyl Benzene	20	24.2	ug/Kg	121	8		80	123	20
	m/p-Xylenes	40	49.1	ug/Kg	123	8		79	126	20
	o-Xylene	20	23	ug/Kg	115	8		80	122	20
	Styrene	20	24.2	ug/Kg	121	8		81	121	20
	Bromoform	20	22.7	ug/Kg	114	7		73	124	20
	Isopropylbenzene	20	25.1	ug/Kg	126	14	*	79	123	20
	1,1,2,2-Tetrachloroethane	20	24.6	ug/Kg	123	13		79	124	20
	1,3-Dichlorobenzene	20	24.7	ug/Kg	124	17	*	82	120	20
	1,4-Dichlorobenzene	20	25	ug/Kg	125	15	*	81	120	20
	1,2-Dichlorobenzene	20	23.6	ug/Kg	118	10		82	118	20
	1,2-Dibromo-3-Chloropropane	20	22.6	ug/Kg	113	5		72	127	20

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8260C **Datafile :** VF045721.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VF1022SBSD01	1,2,4-Trichlorobenzene	20	22.6	ug/Kg	113	7		75	125	20
	1,2,3-Trichlorobenzene	20	21.7	ug/Kg	109	6		79	123	20
	1,4-Dioxane	400	520	ug/Kg	130	11		50	150	20

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VF1019SBL01

Lab Name: CHEMTECH

Contract: SEAC01

Lab Code: CHEM

Case No.: G4046

SAS No.: G4046

SDG NO.: G4046

Lab File ID: VF045696.D

Lab Sample ID: VF1019SBL01

Date Analyzed: 10/19/2015

Time Analyzed: 22:01

GC Column: RTX-VMS

ID: 0.18 (mm)

Heated Purge: (Y/N) Y

Instrument ID: MSVOA_F

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VF1019SBS02	VF1019SBS02	VF045698.D	10/19/2015
MANAHAWKEN112	G4046-04	VF045703.D	10/20/2015
GOODLUCK902	G4046-01	VF045704.D	10/20/2015
GOODLUCK58	G4046-02	VF045705.D	10/20/2015

COMMENTS:

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VF1022SBL01

Lab Name: CHEMTECH

Contract: SEAC01

Lab Code: CHEM

Case No.: G4046

SAS No.: G4046

SDG NO.: G4046

Lab File ID: VF045719.D

Lab Sample ID: VF1022SBL01

Date Analyzed: 10/21/2015

Time Analyzed: 12:13

GC Column: RTX-VMS

ID: 0.18 (mm)

Heated Purge: (Y/N) Y

Instrument ID: MSVOA_F

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VF1022SBS01	VF1022SBS01	VF045720.D	10/21/2015
VF1022SBSD01	VF1022SBSD01	VF045721.D	10/21/2015
GOODLUCK902RE	G4046-01RE	VF045724.D	10/21/2015
GOODLUCK58RE	G4046-02RE	VF045725.D	10/21/2015
MANAHAWKEN112RE	G4046-04RE	VF045726.D	10/21/2015

COMMENTS:

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: VF045688.D BFB Injection Date: 10/19/2015

Instrument ID: MSVOA_F BFB Injection Time: 17:46

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.1
75	30.0 - 60.0% of mass 95	42.8
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.1 (0.1) 1
174	50.0 - 100.0% of mass 95	69.3
175	5.0 - 9.0% of mass 174	4.9 (7.1) 1
176	95.0 - 101.0% of mass 174	67.1 (96.8) 1
177	5.0 - 9.0% of mass 176	4.6 (6.9) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC005	VSTDICC005	VF045689.D	10/19/2015	18:39
VSTDICC010	VSTDICC010	VF045690.D	10/19/2015	19:08
VSTDICC020	VSTDICC020	VF045691.D	10/19/2015	19:37
VSTDICCC050	VSTDICCC050	VF045692.D	10/19/2015	20:05
VSTDICC075	VSTDICC075	VF045693.D	10/19/2015	20:34
VSTDICC100	VSTDICC100	VF045694.D	10/19/2015	21:03
VF1019SBL01	VF1019SBL01	VF045696.D	10/19/2015	22:01
VF1019SBS02	VF1019SBS02	VF045698.D	10/19/2015	22:57
MANAHAWKEN112	G4046-04	VF045703.D	10/20/2015	01:19
GOODLUCK902	G4046-01	VF045704.D	10/20/2015	01:47
GOODLUCK58	G4046-02	VF045705.D	10/20/2015	02:15

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: VF045709.D BFB Injection Date: 10/20/2015

Instrument ID: MSVOA_F BFB Injection Time: 14:55

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.5
75	30.0 - 60.0% of mass 95	41.7
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.3 (0.4) 1
174	50.0 - 100.0% of mass 95	70.5
175	5.0 - 9.0% of mass 174	4.9 (6.9) 1
176	95.0 - 101.0% of mass 174	69.4 (98.5) 1
177	5.0 - 9.0% of mass 176	4.7 (6.7) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC005	VSTDICC005	VF045710.D	10/20/2015	15:37
VSTDICC010	VSTDICC010	VF045711.D	10/20/2015	16:06
VSTDICC020	VSTDICC020	VF045712.D	10/20/2015	16:35
VSTDICCC050	VSTDICCC050	VF045713.D	10/20/2015	17:04
VSTDICC075	VSTDICC075	VF045714.D	10/20/2015	17:33
VSTDICC100	VSTDICC100	VF045715.D	10/20/2015	18:01

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: VF045717.D BFB Injection Date: 10/21/2015

Instrument ID: MSVOA_F BFB Injection Time: 10:05

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.8
75	30.0 - 60.0% of mass 95	39.5
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.2 (0.3) 1
174	50.0 - 100.0% of mass 95	69.4
175	5.0 - 9.0% of mass 174	5.4 (7.8) 1
176	95.0 - 101.0% of mass 174	67.6 (97.4) 1
177	5.0 - 9.0% of mass 176	4.5 (6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VF045718.D	10/21/2015	10:43
VF1022SBL01	VF1022SBL01	VF045719.D	10/21/2015	12:13
VF1022SBS01	VF1022SBS01	VF045720.D	10/21/2015	12:52
VF1022SBSD01	VF1022SBSD01	VF045721.D	10/21/2015	15:19
GOODLUCK902RE	G4046-01RE	VF045724.D	10/21/2015	16:59
GOODLUCK58RE	G4046-02RE	VF045725.D	10/21/2015	17:28
MANAHAWKEN112RE	G4046-04RE	VF045726.D	10/21/2015	17:57

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: VF045692.D Date Analyzed: 10/19/2015

Instrument ID: MSVOA_F Time Analyzed: 20:05

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	588773	4.83	1136930	5.55	1145830	9.72
UPPER LIMIT	1177550	5.33	2273870	6.05	2291650	10.22
LOWER LIMIT	294387	4.33	568467	5.05	572913	9.22
EPA SAMPLE NO.						
GOODLUCK902	329173	4.84	585218	5.57	438147 *	9.73
GOODLUCK58	335834	4.83	599757	5.56	375255 *	9.73
MANAHAWKEN112	360019	4.83	651826	5.56	385259 *	9.72
VF1019SBL01	662027	4.83	1259946	5.56	1204106	9.72
VF1019SBS02	607400	4.83	1142064	5.56	1109342	9.72

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: VF045692.D Date Analyzed: 10/19/2015

Instrument ID: MSVOA_F Time Analyzed: 20:05

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #	RT #				
12 HOUR STD	577896	12.5				
UPPER LIMIT	1155790	13				
LOWER LIMIT	288948	12				
EPA SAMPLE NO.						
GOODLUCK902	463854	12.51				
GOODLUCK58	150457 *	12.51				
MANAHAWKEN112	100317 *	12.51				
VF1019SBL01	559354	12.50				
VF1019SBS02	537813	12.50				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: VF045718.D Date Analyzed: 10/21/2015

Instrument ID: MSVOA_F Time Analyzed: 10:43

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	577430	4.82	1071670	5.55	999029	9.71
UPPER LIMIT	1154860	5.32	2143330	6.05	1998060	10.21
LOWER LIMIT	288715	4.32	535834	5.05	499515	9.21
EPA SAMPLE NO.						
GOODLUCK902RE	278770 *	4.82	523793 *	5.55	287110 *	9.72
GOODLUCK58RE	278749 *	4.82	480943 *	5.55	247927 *	9.72
MANAHAWKEN112RE	293636	4.82	531629 *	5.55	264790 *	9.72
VF1022SBL01	609348	4.82	1119805	5.54	1041427	9.71
VF1022SBS01	581859	4.82	1018919	5.55	1004923	9.71
VF1022SBSD01	513410	4.83	872898	5.56	884412	9.72

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: VF045718.D Date Analyzed: 10/21/2015

Instrument ID: MSVOA_F Time Analyzed: 10:43

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #	RT #				
12 HOUR STD	520328	12.49				
UPPER LIMIT	1040660	12.99				
LOWER LIMIT	260164	11.99				
EPA SAMPLE NO.						
GOODLUCK902RE	74800 *	12.50				
GOODLUCK58RE	67866 *	12.50				
MANAHAWKEN112RE	66314 *	12.50				
VF1022SBL01	565556	12.49				
VF1022SBS01	539563	12.49				
VF1022SBSD01	444308	12.50				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1019SBL01	SDG No.:	G4046
Lab Sample ID:	VF1019SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045696.D	1		10/19/15 22:01	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	0.5	U	0.5	0.5	5	ug/Kg
74-87-3	Chloromethane	0.5	U	0.5	0.5	5	ug/Kg
75-01-4	Vinyl Chloride	0.5	U	0.5	0.5	5	ug/Kg
74-83-9	Bromomethane	1	U	1	1	5	ug/Kg
75-00-3	Chloroethane	0.5	U	0.5	0.5	5	ug/Kg
75-69-4	Trichlorofluoromethane	0.5	U	0.5	0.5	5	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	0.5	0.5	5	ug/Kg
75-35-4	1,1-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
67-64-1	Acetone	2.5	U	2.5	2.5	25	ug/Kg
75-15-0	Carbon Disulfide	0.5	U	0.5	0.5	5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.5	U	0.5	0.5	5	ug/Kg
79-20-9	Methyl Acetate	1	U	1	1	5	ug/Kg
75-09-2	Methylene Chloride	0.5	U	0.5	0.5	5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
75-34-3	1,1-Dichloroethane	0.5	U	0.5	0.5	5	ug/Kg
110-82-7	Cyclohexane	0.5	U	0.5	0.5	5	ug/Kg
78-93-3	2-Butanone	7.5	U	3.1	7.5	25	ug/Kg
56-23-5	Carbon Tetrachloride	0.5	U	0.5	0.5	5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
74-97-5	Bromochloromethane	0.5	U	0.5	0.5	5	ug/Kg
67-66-3	Chloroform	0.5	U	0.5	0.5	5	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.5	U	0.5	0.5	5	ug/Kg
108-87-2	Methylcyclohexane	0.5	U	0.5	0.5	5	ug/Kg
71-43-2	Benzene	0.5	U	0.38	0.5	5	ug/Kg
107-06-2	1,2-Dichloroethane	0.5	U	0.5	0.5	5	ug/Kg
79-01-6	Trichloroethene	0.5	U	0.5	0.5	5	ug/Kg
78-87-5	1,2-Dichloropropane	0.5	U	0.26	0.5	5	ug/Kg
75-27-4	Bromodichloromethane	0.5	U	0.5	0.5	5	ug/Kg
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	2.5	25	ug/Kg
108-88-3	Toluene	0.5	U	0.5	0.5	5	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.5	U	0.5	0.5	5	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.5	0.5	5	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1019SBL01	SDG No.:	G4046
Lab Sample ID:	VF1019SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045696.D	1		10/19/15 22:01	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1	U	0.9	1	5	ug/Kg
591-78-6	2-Hexanone	2.5	U	2.5	2.5	25	ug/Kg
124-48-1	Dibromochloromethane	0.5	U	0.5	0.5	5	ug/Kg
106-93-4	1,2-Dibromoethane	0.5	U	0.5	0.5	5	ug/Kg
127-18-4	Tetrachloroethene	0.5	U	0.5	0.5	5	ug/Kg
108-90-7	Chlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
100-41-4	Ethyl Benzene	0.5	U	0.5	0.5	5	ug/Kg
179601-23-1	m/p-Xylenes	1	U	0.72	1	10	ug/Kg
95-47-6	o-Xylene	0.5	U	0.5	0.5	5	ug/Kg
100-42-5	Styrene	0.5	U	0.45	0.5	5	ug/Kg
75-25-2	Bromoform	1.5	U	0.74	1.5	5	ug/Kg
98-82-8	Isopropylbenzene	0.5	U	0.48	0.5	5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	0.46	0.5	5	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.5	U	0.37	0.5	5	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.5	U	0.41	0.5	5	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	0.87	5	5	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1	U	0.5	1	5	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	36.1		56 - 120		72%	SPK: 50
1868-53-7	Dibromofluoromethane	37.5		57 - 135		75%	SPK: 50
2037-26-5	Toluene-d8	36.2		67 - 123		72%	SPK: 50
460-00-4	4-Bromofluorobenzene	33.1		33 - 141		66%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	662027	4.83				
540-36-3	1,4-Difluorobenzene	1259950	5.56				
3114-55-4	Chlorobenzene-d5	1204110	9.72				
3855-82-1	1,4-Dichlorobenzene-d4	559354	12.5				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1019SBL01	SDG No.:	G4046
Lab Sample ID:	VF1019SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045696.D	1		10/19/15 22:01	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBL01	SDG No.:	G4046
Lab Sample ID:	VF1022SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045719.D	1		10/21/15 12:13	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	0.5	U	0.5	0.5	5	ug/Kg
74-87-3	Chloromethane	0.5	U	0.5	0.5	5	ug/Kg
75-01-4	Vinyl Chloride	0.5	U	0.5	0.5	5	ug/Kg
74-83-9	Bromomethane	1	U	1	1	5	ug/Kg
75-00-3	Chloroethane	0.5	U	0.5	0.5	5	ug/Kg
75-69-4	Trichlorofluoromethane	0.5	U	0.5	0.5	5	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	0.5	0.5	5	ug/Kg
75-35-4	1,1-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
67-64-1	Acetone	2.5	U	2.5	2.5	25	ug/Kg
75-15-0	Carbon Disulfide	0.5	U	0.5	0.5	5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.5	U	0.5	0.5	5	ug/Kg
79-20-9	Methyl Acetate	1	U	1	1	5	ug/Kg
75-09-2	Methylene Chloride	2.1	J	0.5	0.5	5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
75-34-3	1,1-Dichloroethane	0.5	U	0.5	0.5	5	ug/Kg
110-82-7	Cyclohexane	0.5	U	0.5	0.5	5	ug/Kg
78-93-3	2-Butanone	7.5	U	3.1	7.5	25	ug/Kg
56-23-5	Carbon Tetrachloride	0.5	U	0.5	0.5	5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
74-97-5	Bromochloromethane	0.5	U	0.5	0.5	5	ug/Kg
67-66-3	Chloroform	0.5	U	0.5	0.5	5	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.5	U	0.5	0.5	5	ug/Kg
108-87-2	Methylcyclohexane	0.5	U	0.5	0.5	5	ug/Kg
71-43-2	Benzene	0.5	U	0.38	0.5	5	ug/Kg
107-06-2	1,2-Dichloroethane	0.5	U	0.5	0.5	5	ug/Kg
79-01-6	Trichloroethene	0.5	U	0.5	0.5	5	ug/Kg
78-87-5	1,2-Dichloropropane	0.5	U	0.26	0.5	5	ug/Kg
75-27-4	Bromodichloromethane	0.5	U	0.5	0.5	5	ug/Kg
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	2.5	25	ug/Kg
108-88-3	Toluene	0.5	U	0.5	0.5	5	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.5	U	0.5	0.5	5	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.5	0.5	5	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBL01	SDG No.:	G4046
Lab Sample ID:	VF1022SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045719.D	1		10/21/15 12:13	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1	U	0.9	1	5	ug/Kg
591-78-6	2-Hexanone	2.5	U	2.5	2.5	25	ug/Kg
124-48-1	Dibromochloromethane	0.5	U	0.5	0.5	5	ug/Kg
106-93-4	1,2-Dibromoethane	0.5	U	0.5	0.5	5	ug/Kg
127-18-4	Tetrachloroethene	0.5	U	0.5	0.5	5	ug/Kg
108-90-7	Chlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
100-41-4	Ethyl Benzene	0.5	U	0.5	0.5	5	ug/Kg
179601-23-1	m/p-Xylenes	1	U	0.72	1	10	ug/Kg
95-47-6	o-Xylene	0.5	U	0.5	0.5	5	ug/Kg
100-42-5	Styrene	0.5	U	0.45	0.5	5	ug/Kg
75-25-2	Bromoform	1.5	U	0.74	1.5	5	ug/Kg
98-82-8	Isopropylbenzene	0.5	U	0.48	0.5	5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	0.46	0.5	5	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.5	U	0.37	0.5	5	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.5	U	0.41	0.5	5	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	0.87	5	5	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1	U	0.5	1	5	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	41.2		56 - 120		82%	SPK: 50
1868-53-7	Dibromofluoromethane	41.5		57 - 135		83%	SPK: 50
2037-26-5	Toluene-d8	38.4		67 - 123		77%	SPK: 50
460-00-4	4-Bromofluorobenzene	37.7		33 - 141		75%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	609348	4.82				
540-36-3	1,4-Difluorobenzene	1119810	5.54				
3114-55-4	Chlorobenzene-d5	1041430	9.71				
3855-82-1	1,4-Dichlorobenzene-d4	565556	12.49				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBL01	SDG No.:	G4046
Lab Sample ID:	VF1022SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045719.D	1		10/21/15 12:13	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1019SBS02	SDG No.:	G4046
Lab Sample ID:	VF1019SBS02	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045698.D	1		10/19/15 22:57	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	20		0.5	0.5	5	ug/Kg
74-87-3	Chloromethane	19.6		0.5	0.5	5	ug/Kg
75-01-4	Vinyl Chloride	21.2		0.5	0.5	5	ug/Kg
74-83-9	Bromomethane	20		1	1	5	ug/Kg
75-00-3	Chloroethane	19.5		0.5	0.5	5	ug/Kg
75-69-4	Trichlorofluoromethane	20.2		0.5	0.5	5	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	20.2		0.5	0.5	5	ug/Kg
75-35-4	1,1-Dichloroethene	20.7		0.5	0.5	5	ug/Kg
67-64-1	Acetone	79.8		2.5	2.5	25	ug/Kg
75-15-0	Carbon Disulfide	21.3		0.5	0.5	5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	19.1		0.5	0.5	5	ug/Kg
79-20-9	Methyl Acetate	17.7		1	1	5	ug/Kg
75-09-2	Methylene Chloride	19.9		0.5	0.5	5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	20.1		0.5	0.5	5	ug/Kg
75-34-3	1,1-Dichloroethane	21		0.5	0.5	5	ug/Kg
110-82-7	Cyclohexane	22.1		0.5	0.5	5	ug/Kg
78-93-3	2-Butanone	87.5		3.1	7.5	25	ug/Kg
56-23-5	Carbon Tetrachloride	20.7		0.5	0.5	5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	20.5		0.5	0.5	5	ug/Kg
74-97-5	Bromochloromethane	20.7		0.5	0.5	5	ug/Kg
67-66-3	Chloroform	20.7		0.5	0.5	5	ug/Kg
71-55-6	1,1,1-Trichloroethane	20.9		0.5	0.5	5	ug/Kg
108-87-2	Methylcyclohexane	20.8		0.5	0.5	5	ug/Kg
71-43-2	Benzene	20.3		0.38	0.5	5	ug/Kg
107-06-2	1,2-Dichloroethane	18.8		0.5	0.5	5	ug/Kg
79-01-6	Trichloroethene	20.5		0.5	0.5	5	ug/Kg
78-87-5	1,2-Dichloropropane	20.5		0.26	0.5	5	ug/Kg
75-27-4	Bromodichloromethane	19.4		0.5	0.5	5	ug/Kg
108-10-1	4-Methyl-2-Pentanone	93.5		2.5	2.5	25	ug/Kg
108-88-3	Toluene	20.7		0.5	0.5	5	ug/Kg
10061-02-6	t-1,3-Dichloropropene	20.1		0.5	0.5	5	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	18.9		0.5	0.5	5	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1019SBS02	SDG No.:	G4046
Lab Sample ID:	VF1019SBS02	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045698.D	1		10/19/15 22:57	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	18.8		0.9	1	5	ug/Kg
591-78-6	2-Hexanone	92.8		2.5	2.5	25	ug/Kg
124-48-1	Dibromochloromethane	19.3		0.5	0.5	5	ug/Kg
106-93-4	1,2-Dibromoethane	19.3		0.5	0.5	5	ug/Kg
127-18-4	Tetrachloroethene	21.6		0.5	0.5	5	ug/Kg
108-90-7	Chlorobenzene	20.9		0.5	0.5	5	ug/Kg
100-41-4	Ethyl Benzene	21.8		0.5	0.5	5	ug/Kg
179601-23-1	m/p-Xylenes	43.1		0.72	1	10	ug/Kg
95-47-6	o-Xylene	21.3		0.5	0.5	5	ug/Kg
100-42-5	Styrene	20.7		0.45	0.5	5	ug/Kg
75-25-2	Bromoform	18.3		0.74	1.5	5	ug/Kg
98-82-8	Isopropylbenzene	22.4		0.48	0.5	5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	19.1		0.46	0.5	5	ug/Kg
541-73-1	1,3-Dichlorobenzene	22		0.37	0.5	5	ug/Kg
106-46-7	1,4-Dichlorobenzene	20.9		0.41	0.5	5	ug/Kg
95-50-1	1,2-Dichlorobenzene	21.1		0.5	0.5	5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	17.3		0.87	5	5	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	20.7		0.5	0.5	5	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	20.3		0.5	1	5	ug/Kg
123-91-1	1,4-Dioxane	380		100	100	100	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	40.8		56 - 120		82%	SPK: 50
1868-53-7	Dibromofluoromethane	42.7		57 - 135		85%	SPK: 50
2037-26-5	Toluene-d8	41.7		67 - 123		83%	SPK: 50
460-00-4	4-Bromofluorobenzene	40.4		33 - 141		81%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	607400	4.83				
540-36-3	1,4-Difluorobenzene	1142060	5.56				
3114-55-4	Chlorobenzene-d5	1109340	9.72				
3855-82-1	1,4-Dichlorobenzene-d4	537813	12.5				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1019SBS02	SDG No.:	G4046
Lab Sample ID:	VF1019SBS02	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045698.D	1		10/19/15 22:57	VF102015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBS01	SDG No.:	G4046
Lab Sample ID:	VF1022SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045720.D	1		10/21/15 12:52	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	20.6		0.5	0.5	5	ug/Kg
74-87-3	Chloromethane	21.7		0.5	0.5	5	ug/Kg
75-01-4	Vinyl Chloride	21.5		0.5	0.5	5	ug/Kg
74-83-9	Bromomethane	21.6		1	1	5	ug/Kg
75-00-3	Chloroethane	20		0.5	0.5	5	ug/Kg
75-69-4	Trichlorofluoromethane	21.3		0.5	0.5	5	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	21		0.5	0.5	5	ug/Kg
75-35-4	1,1-Dichloroethene	21.4		0.5	0.5	5	ug/Kg
67-64-1	Acetone	120		2.5	2.5	25	ug/Kg
75-15-0	Carbon Disulfide	22.5		0.5	0.5	5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	20.7		0.5	0.5	5	ug/Kg
79-20-9	Methyl Acetate	21.7		1	1	5	ug/Kg
75-09-2	Methylene Chloride	20.4		0.5	0.5	5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	22		0.5	0.5	5	ug/Kg
75-34-3	1,1-Dichloroethane	22.1		0.5	0.5	5	ug/Kg
110-82-7	Cyclohexane	21.4		0.5	0.5	5	ug/Kg
78-93-3	2-Butanone	120		3.1	7.5	25	ug/Kg
56-23-5	Carbon Tetrachloride	23		0.5	0.5	5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	20.6		0.5	0.5	5	ug/Kg
74-97-5	Bromochloromethane	23.5		0.5	0.5	5	ug/Kg
67-66-3	Chloroform	22.6		0.5	0.5	5	ug/Kg
71-55-6	1,1,1-Trichloroethane	22.9		0.5	0.5	5	ug/Kg
108-87-2	Methylcyclohexane	20.7		0.5	0.5	5	ug/Kg
71-43-2	Benzene	24.1		0.38	0.5	5	ug/Kg
107-06-2	1,2-Dichloroethane	23.1		0.5	0.5	5	ug/Kg
79-01-6	Trichloroethene	21.4		0.5	0.5	5	ug/Kg
78-87-5	1,2-Dichloropropane	22.7		0.26	0.5	5	ug/Kg
75-27-4	Bromodichloromethane	24.2		0.5	0.5	5	ug/Kg
108-10-1	4-Methyl-2-Pentanone	120		2.5	2.5	25	ug/Kg
108-88-3	Toluene	22.8		0.5	0.5	5	ug/Kg
10061-02-6	t-1,3-Dichloropropene	23.6		0.5	0.5	5	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	23		0.5	0.5	5	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBS01	SDG No.:	G4046
Lab Sample ID:	VF1022SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045720.D	1		10/21/15 12:52	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	23.3		0.9	1	5	ug/Kg
591-78-6	2-Hexanone	130		2.5	2.5	25	ug/Kg
124-48-1	Dibromochloromethane	22.3		0.5	0.5	5	ug/Kg
106-93-4	1,2-Dibromoethane	22.7		0.5	0.5	5	ug/Kg
127-18-4	Tetrachloroethene	19.6		0.5	0.5	5	ug/Kg
108-90-7	Chlorobenzene	22.1		0.5	0.5	5	ug/Kg
100-41-4	Ethyl Benzene	22.4		0.5	0.5	5	ug/Kg
179601-23-1	m/p-Xylenes	45		0.72	1	10	ug/Kg
95-47-6	o-Xylene	21.3		0.5	0.5	5	ug/Kg
100-42-5	Styrene	22.3		0.45	0.5	5	ug/Kg
75-25-2	Bromoform	21.3		0.74	1.5	5	ug/Kg
98-82-8	Isopropylbenzene	21.8		0.48	0.5	5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	21.6		0.46	0.5	5	ug/Kg
541-73-1	1,3-Dichlorobenzene	21		0.37	0.5	5	ug/Kg
106-46-7	1,4-Dichlorobenzene	21.6		0.41	0.5	5	ug/Kg
95-50-1	1,2-Dichlorobenzene	21.4		0.5	0.5	5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	21.6		0.87	5	5	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	21		0.5	0.5	5	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	20.6		0.5	1	5	ug/Kg
123-91-1	1,4-Dioxane	470		100	100	100	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	41.3		56 - 120		83%	SPK: 50
1868-53-7	Dibromofluoromethane	44.3		57 - 135		89%	SPK: 50
2037-26-5	Toluene-d8	41.7		67 - 123		83%	SPK: 50
460-00-4	4-Bromofluorobenzene	42.4		33 - 141		85%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	581859	4.82				
540-36-3	1,4-Difluorobenzene	1018920	5.55				
3114-55-4	Chlorobenzene-d5	1004920	9.71				
3855-82-1	1,4-Dichlorobenzene-d4	539563	12.49				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBS01	SDG No.:	G4046
Lab Sample ID:	VF1022SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045720.D	1		10/21/15 12:52	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBSD01	SDG No.:	G4046
Lab Sample ID:	VF1022SBSD01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045721.D	1		10/21/15 15:19	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	23.3		0.5	0.5	5	ug/Kg
74-87-3	Chloromethane	23.9		0.5	0.5	5	ug/Kg
75-01-4	Vinyl Chloride	24.7		0.5	0.5	5	ug/Kg
74-83-9	Bromomethane	24.5		1	1	5	ug/Kg
75-00-3	Chloroethane	23.2		0.5	0.5	5	ug/Kg
75-69-4	Trichlorofluoromethane	23.3		0.5	0.5	5	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	23		0.5	0.5	5	ug/Kg
75-35-4	1,1-Dichloroethene	24.7		0.5	0.5	5	ug/Kg
67-64-1	Acetone	130		2.5	2.5	25	ug/Kg
75-15-0	Carbon Disulfide	24.5		0.5	0.5	5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	22.4		0.5	0.5	5	ug/Kg
79-20-9	Methyl Acetate	22.4		1	1	5	ug/Kg
75-09-2	Methylene Chloride	17.6		0.5	0.5	5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	24.5		0.5	0.5	5	ug/Kg
75-34-3	1,1-Dichloroethane	25.9		0.5	0.5	5	ug/Kg
110-82-7	Cyclohexane	23.6		0.5	0.5	5	ug/Kg
78-93-3	2-Butanone	120		3.1	7.5	25	ug/Kg
56-23-5	Carbon Tetrachloride	27.4		0.5	0.5	5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	22.9		0.5	0.5	5	ug/Kg
74-97-5	Bromochloromethane	23.2		0.5	0.5	5	ug/Kg
67-66-3	Chloroform	23.8		0.5	0.5	5	ug/Kg
71-55-6	1,1,1-Trichloroethane	24.9		0.5	0.5	5	ug/Kg
108-87-2	Methylcyclohexane	25.1		0.5	0.5	5	ug/Kg
71-43-2	Benzene	28		0.38	0.5	5	ug/Kg
107-06-2	1,2-Dichloroethane	26.2		0.5	0.5	5	ug/Kg
79-01-6	Trichloroethene	24.1		0.5	0.5	5	ug/Kg
78-87-5	1,2-Dichloropropane	26.1		0.26	0.5	5	ug/Kg
75-27-4	Bromodichloromethane	26.1		0.5	0.5	5	ug/Kg
108-10-1	4-Methyl-2-Pentanone	130		2.5	2.5	25	ug/Kg
108-88-3	Toluene	24.7		0.5	0.5	5	ug/Kg
10061-02-6	t-1,3-Dichloropropene	25.5		0.5	0.5	5	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	25.7		0.5	0.5	5	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBSD01	SDG No.:	G4046
Lab Sample ID:	VF1022SBSD01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045721.D	1		10/21/15 15:19	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	25.8		0.9	1	5	ug/Kg
591-78-6	2-Hexanone	130		2.5	2.5	25	ug/Kg
124-48-1	Dibromochloromethane	24.4		0.5	0.5	5	ug/Kg
106-93-4	1,2-Dibromoethane	24.8		0.5	0.5	5	ug/Kg
127-18-4	Tetrachloroethene	21.8		0.5	0.5	5	ug/Kg
108-90-7	Chlorobenzene	24.3		0.5	0.5	5	ug/Kg
100-41-4	Ethyl Benzene	24.2		0.5	0.5	5	ug/Kg
179601-23-1	m/p-Xylenes	49.1		0.72	1	10	ug/Kg
95-47-6	o-Xylene	23		0.5	0.5	5	ug/Kg
100-42-5	Styrene	24.2		0.45	0.5	5	ug/Kg
75-25-2	Bromoform	22.7		0.74	1.5	5	ug/Kg
98-82-8	Isopropylbenzene	25.1		0.48	0.5	5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	24.6		0.46	0.5	5	ug/Kg
541-73-1	1,3-Dichlorobenzene	24.7		0.37	0.5	5	ug/Kg
106-46-7	1,4-Dichlorobenzene	25		0.41	0.5	5	ug/Kg
95-50-1	1,2-Dichlorobenzene	23.6		0.5	0.5	5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	22.6		0.87	5	5	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	22.6		0.5	0.5	5	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	21.7		0.5	1	5	ug/Kg
123-91-1	1,4-Dioxane	520		100	100	100	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	55.1		56 - 120		110%	SPK: 50
1868-53-7	Dibromofluoromethane	59.2		57 - 135		118%	SPK: 50
2037-26-5	Toluene-d8	53.9		67 - 123		108%	SPK: 50
460-00-4	4-Bromofluorobenzene	54.1		33 - 141		108%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	513410	4.83				
540-36-3	1,4-Difluorobenzene	872898	5.56				
3114-55-4	Chlorobenzene-d5	884412	9.72				
3855-82-1	1,4-Dichlorobenzene-d4	444308	12.5				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	VF1022SBSD01	SDG No.:	G4046
Lab Sample ID:	VF1022SBSD01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF045721.D	1		10/21/15 15:19	VF102215

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: MSVOA_F Calibration Date(s): 10/19/2015 10/19/2015

Heated Purge: (Y/N) Y Calibration Time(s): 18:39 21:03

GC Column: RTX-VMS ID: 0.18 (mm)

LAB FILE ID: RRF005 = VF045689.D RRF010 = VF045690.D RRF020 = VF045691.D
RRF050 = VF045692.D RRF075 = VF045693.D RRF100 = VF045694.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF075	RRF100	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.506	0.427	0.456	0.331	0.327	0.362	0.401	18.2
Chloromethane	0.485	0.445	0.458	0.370	0.341	0.377	0.413	14
Vinyl Chloride	0.351	0.350	0.387	0.291	0.287	0.325	0.332	11.6
Bromomethane	0.208	0.202	0.182	0.175	0.144	0.171	0.181	12.8
Chloroethane	0.142	0.144	0.125	0.122	0.108	0.119	0.126	11
Trichlorofluoromethane	0.567	0.593	0.600	0.522	0.520	0.573	0.562	6.1
1,1,2-Trichlorotrifluoroethane	0.453	0.428	0.451	0.353	0.348	0.368	0.400	12.3
1,1-Dichloroethene	0.369	0.335	0.387	0.290	0.293	0.310	0.331	12.2
Acetone	0.206	0.244	0.238	0.180	0.165	0.154	0.198	19.1
Carbon Disulfide	1.117	0.894	0.970	0.743	0.740	0.786	0.875	17.1
Methyl tert-butyl Ether	0.801	0.918	1.043	0.830	0.830	0.877	0.883	10
Methyl Acetate	0.774	1.080	1.010	0.817	0.798	0.731	0.868	16.3
Methylene Chloride	0.448	0.461	0.451	0.361	0.364	0.374	0.410	11.8
trans-1,2-Dichloroethene	0.408	0.399	0.438	0.343	0.327	0.348	0.377	11.6
1,1-Dichloroethane	0.819	0.840	0.864	0.714	0.720	0.785	0.790	7.9
Cyclohexane	0.774	0.766	0.866	0.633	0.624	0.685	0.725	13
2-Butanone	0.383	0.443	0.410	0.338	0.318	0.301	0.365	15.2
Carbon Tetrachloride	0.419	0.465	0.536	0.402	0.415	0.456	0.449	10.9
cis-1,2-Dichloroethene	0.652	0.746	0.803	0.623	0.623	0.674	0.687	10.6
Bromochloromethane	0.472	0.532	0.503	0.368	0.386	0.403	0.444	15.2
Chloroform	1.187	1.278	1.451	1.121	1.157	1.213	1.235	9.6
1,1,1-Trichloroethane	0.900	0.978	1.053	0.884	0.843	0.931	0.931	8.1
Methylcyclohexane	0.502	0.492	0.531	0.374	0.413	0.429	0.457	13.3
Benzene	1.213	1.287	1.415	1.000	1.116	1.085	1.186	12.7
1,2-Dichloroethane	0.442	0.518	0.541	0.395	0.442	0.431	0.461	12.1
Trichloroethene	0.376	0.446	0.430	0.308	0.343	0.352	0.376	14.2
1,2-Dichloropropane	0.368	0.384	0.390	0.310	0.337	0.344	0.355	8.6
Bromodichloromethane	0.535	0.630	0.653	0.503	0.552	0.562	0.572	10
4-Methyl-2-Pentanone	0.355	0.484	0.459	0.351	0.359	0.306	0.385	18.1
Toluene	0.968	1.020	1.047	0.758	0.816	0.850	0.910	13
t-1,3-Dichloropropene	0.568	0.655	0.689	0.512	0.559	0.542	0.587	11.8
cis-1,3-Dichloropropene	0.648	0.720	0.762	0.586	0.645	0.643	0.667	9.4
1,1,2-Trichloroethane	0.336	0.412	0.422	0.322	0.351	0.335	0.363	11.9

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH
Contract: SEAC01
Lab Code: CHEM
Case No.: G4046
SAS No.: G4046
SDG No.: G4046
Instrument ID: MSVOA_F
Calibration Date(s): 10/19/2015 10/19/2015
Heated Purge: (Y/N) Y
Calibration Time(s): 18:39 21:03
GC Column: RTX-VMS
ID: 0.18 (mm)

LAB FILE ID: RRF005 = VF045689.D RRF010 = VF045690.D RRF020 = VF045691.D
RRF050 = VF045692.D RRF075 = VF045693.D RRF100 = VF045694.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF075	RRF100	$\overline{RRF}$	% RSD
2-Hexanone	0.276	0.407	0.381	0.288	0.295	0.263	0.318	18.9
Dibromochloromethane	0.435	0.518	0.572	0.435	0.480	0.469	0.485	10.9
1,2-Dibromoethane	0.374	0.457	0.482	0.357	0.382	0.374	0.404	12.8
Tetrachloroethene	0.338	0.339	0.384	0.278	0.293	0.313	0.324	11.7
Chlorobenzene	1.078	1.136	1.294	0.925	1.007	1.078	1.086	11.5
Ethyl Benzene	1.876	1.988	2.131	1.520	1.656	1.689	1.810	12.6
m/p-Xylenes	0.681	0.702	0.769	0.536	0.583	0.633	0.651	13
o-Xylene	0.726	0.718	0.863	0.572	0.659	0.684	0.704	13.6
Styrene	1.161	1.198	1.386	0.971	1.079	1.123	1.153	12
Bromoform	0.286	0.329	0.367	0.284	0.317	0.313	0.316	9.7
Isopropylbenzene	3.825	3.951	4.469	3.203	3.203	3.548	3.700	13.2
1,1,2,2-Tetrachloroethane	1.029	1.281	1.284	1.030	1.060	1.075	1.126	10.8
1,3-Dichlorobenzene	1.770	1.815	1.964	1.541	1.525	1.650	1.711	10
1,4-Dichlorobenzene	1.797	1.827	1.972	1.478	1.566	1.652	1.715	10.7
1,2-Dichlorobenzene	1.693	1.721	1.905	1.474	1.495	1.653	1.657	9.6
1,2-Dibromo-3-Chloropropane	0.161	0.193	0.198	0.168	0.180	0.176	0.179	7.8
1,2,4-Trichlorobenzene	0.751	0.832	0.967	0.791	0.812	0.914	0.845	9.6
1,2,3-Trichlorobenzene	0.578	0.714	0.827	0.660	0.704	0.785	0.711	12.4
1,2-Dichloroethane-d4	0.689	0.870	0.781	0.654	0.566	0.649	0.701	15.4
Dibromofluoromethane	0.397	0.510	0.439	0.363	0.339	0.380	0.404	15.2
Toluene-d8	1.338	1.561	1.436	1.101	1.033	1.092	1.260	17.1
4-Bromofluorobenzene	0.728	0.782	0.694	0.552	0.502	0.535	0.632	18.5
1,4-Dioxane	2.769	3.818	4.270	2.913	3.449	3.094	3.386	17

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: MSVOA_F Calibration Date(s): 10/20/2015 10/20/2015

Heated Purge: (Y/N) Y Calibration Time(s): 15:37 18:01

GC Column: RTX-VMS ID: 0.18 (mm)

LAB FILE ID: RRF005 = VF045710.D RRF010 = VF045711.D RRF020 = VF045712.D
RRF050 = VF045713.D RRF075 = VF045714.D RRF100 = VF045715.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF075	RRF100	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.492	0.408	0.457	0.357	0.368	0.407	0.415	12.4
Chloromethane	0.476	0.436	0.477	0.371	0.386	0.395	0.423	10.9
Vinyl Chloride	0.362	0.342	0.374	0.293	0.313	0.348	0.339	9
Bromomethane	0.185	0.190	0.197	0.174	0.182	0.186	0.186	4.1
Chloroethane	0.148	0.126	0.133	0.131	0.122	0.133	0.132	6.8
Trichlorofluoromethane	0.536	0.531	0.630	0.563	0.569	0.636	0.578	7.9
1,1,2-Trichlorotrifluoroethane	0.446	0.399	0.474	0.388	0.385	0.433	0.421	8.5
1,1-Dichloroethene	0.342	0.319	0.373	0.314	0.318	0.344	0.335	6.8
Acetone	0.230	0.243	0.233	0.158	0.186	0.162	0.202	18.9
Carbon Disulfide	0.945	0.781	0.934	0.729	0.744	0.801	0.822	11.5
Methyl tert-butyl Ether	0.914	0.941	1.090	0.866	0.980	0.948	0.957	7.9
Methyl Acetate	1.023	1.071	1.013	0.778	0.909	0.775	0.928	13.9
Methylene Chloride	0.573	0.457	0.487	0.391	0.386	0.419	0.452	15.7
trans-1,2-Dichloroethene	0.387	0.377	0.461	0.372	0.380	0.430	0.401	9
1,1-Dichloroethane	0.778	0.747	0.890	0.769	0.770	0.873	0.805	7.6
Cyclohexane	0.849	0.801	0.894	0.754	0.731	0.838	0.811	7.6
2-Butanone	0.446	0.455	0.439	0.321	0.381	0.332	0.396	15
Carbon Tetrachloride	0.451	0.403	0.522	0.433	0.490	0.534	0.472	10.9
cis-1,2-Dichloroethene	0.706	0.707	0.824	0.690	0.718	0.810	0.742	7.9
Bromochloromethane	0.472	0.590	0.513	0.415	0.413	0.419	0.470	15.1
Chloroform	1.176	1.253	1.503	1.285	1.287	1.482	1.331	9.9
1,1,1-Trichloroethane	0.913	0.787	1.133	0.967	1.009	1.110	0.986	13
Methylcyclohexane	0.543	0.483	0.612	0.459	0.449	0.521	0.511	11.9
Benzene	1.303	1.191	1.487	1.168	1.119	1.254	1.254	10.5
1,2-Dichloroethane	0.504	0.454	0.539	0.443	0.470	0.511	0.487	7.6
Trichloroethene	0.398	0.381	0.479	0.385	0.359	0.429	0.405	10.6
1,2-Dichloropropane	0.356	0.343	0.421	0.347	0.370	0.414	0.375	9.1
Bromodichloromethane	0.553	0.533	0.685	0.559	0.580	0.651	0.594	10.2
4-Methyl-2-Pentanone	0.451	0.465	0.424	0.343	0.402	0.348	0.406	12.6
Toluene	0.981	0.897	1.044	0.888	0.879	0.974	0.944	7
t-1,3-Dichloropropene	0.613	0.584	0.657	0.561	0.583	0.641	0.606	6.2
cis-1,3-Dichloropropene	0.660	0.606	0.753	0.615	0.679	0.720	0.672	8.5
1,1,2-Trichloroethane	0.375	0.352	0.422	0.303	0.378	0.391	0.370	10.8

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH
Contract: SEAC01
Lab Code: CHEM Case No.: G4046
SAS No.: G4046 SDG No.: G4046
Instrument ID: MSVOA_F
Calibration Date(s): 10/20/2015 10/20/2015
Heated Purge: (Y/N) Y
Calibration Time(s): 15:37 18:01
GC Column: RTX-VMS ID: 0.18 (mm)

LAB FILE ID: RRF005 = VF045710.D RRF010 = VF045711.D RRF020 = VF045712.D
RRF050 = VF045713.D RRF075 = VF045714.D RRF100 = VF045715.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF075	RRF100	$\overline{RRF}$	% RSD
2-Hexanone	0.373	0.394	0.385	0.274	0.326	0.290	0.340	15
Dibromochloromethane	0.501	0.468	0.586	0.480	0.529	0.563	0.521	9
1,2-Dibromoethane	0.413	0.427	0.494	0.378	0.421	0.435	0.428	8.8
Tetrachloroethene	0.357	0.351	0.545	0.369	0.334	0.400	0.393	19.9
Chlorobenzene	1.129	1.133	1.399	1.099	1.138	1.248	1.191	9.6
Ethyl Benzene	1.975	1.958	2.458	1.866	1.796	2.095	2.025	11.6
m/p-Xylenes	0.734	0.686	0.867	0.672	0.633	0.765	0.726	11.5
o-Xylene	0.749	0.748	0.945	0.742	0.747	0.867	0.800	10.8
Styrene	1.210	1.217	1.533	1.188	1.221	1.373	1.290	10.5
Bromoform	0.298	0.323	0.402	0.321	0.365	0.377	0.348	11.5
Isopropylbenzene	3.712	3.796	4.900	3.931	3.695	4.096	4.022	11.3
1,1,2,2-Tetrachloroethane	1.133	1.174	1.411	1.087	1.221	1.172	1.200	9.4
1,3-Dichlorobenzene	1.937	1.878	2.260	1.761	1.676	1.965	1.913	10.6
1,4-Dichlorobenzene	1.909	1.835	2.235	1.760	1.771	1.957	1.911	9.2
1,2-Dichlorobenzene	1.785	1.797	2.164	1.706	1.667	1.897	1.836	9.8
1,2-Dibromo-3-Chloropropane	0.175	0.208	0.227	0.170	0.205	0.194	0.197	10.9
1,2,4-Trichlorobenzene	0.922	0.906	1.223	0.983	0.976	1.114	1.021	12.1
1,2,3-Trichlorobenzene	0.803	0.840	1.070	0.849	0.894	0.951	0.901	10.8
1,2-Dichloroethane-d4	0.817	0.732	0.783	0.791	0.714	0.749	0.764	5.1
Dibromofluoromethane	0.479	0.441	0.470	0.494	0.431	0.484	0.466	5.4
Toluene-d8	1.385	1.341	1.455	1.411	1.197	1.334	1.354	6.6
4-Bromofluorobenzene	0.734	0.664	0.739	0.696	0.618	0.685	0.689	6.6
1,4-Dioxane	3.756	4.254	4.018	3.114	3.606	3.553	3.717	10.6

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: MSVOA_F Calibration Date/Time: 10/21/2015 10:43

Lab File ID: VF045718.D Init. Calib. Date(s): 10/20/2015 10/20/2015

Heated Purge: (Y/N) Y Init. Calib. Time(s): 15:37 18:01

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.415	0.364		-12.1	20
Chloromethane	0.423	0.378	0.1	-10.77	20
Vinyl Chloride	0.339	0.319		-5.9	20
Bromomethane	0.186	0.172		-7.43	20
Chloroethane	0.132	0.140		6.2	20
Trichlorofluoromethane	0.578	0.631		9.31	20
1,1,2-Trichlorotrifluoroethane	0.421	0.412		-2.23	20
1,1-Dichloroethene	0.335	0.343		2.39	20
Acetone	0.202	0.186		-7.83	20
Carbon Disulfide	0.822	0.832		1.14	20
Methyl tert-butyl Ether	0.957	0.777		-18.72	20
Methyl Acetate	0.928	0.739		-20.41	20
Methylene Chloride	0.452	0.397		-12.1	20
trans-1,2-Dichloroethene	0.401	0.371		-7.6	20
1,1-Dichloroethane	0.805	0.827	0.1	2.8	20
Cyclohexane	0.811	0.746		-8.02	20
2-Butanone	0.396	0.338		-14.51	20
Carbon Tetrachloride	0.472	0.474		0.25	20
cis-1,2-Dichloroethene	0.742	0.726		-2.25	20
Bromochloromethane	0.470	0.374		-20.45	20
Chloroform	1.331	1.325		-0.47	20
1,1,1-Trichloroethane	0.986	1.027		4.11	20
Methylcyclohexane	0.511	0.458		-10.48	20
Benzene	1.254	1.252		-0.15	20
1,2-Dichloroethane	0.487	0.458		-5.82	20
Trichloroethene	0.405	0.384		-5.13	20
1,2-Dichloropropane	0.375	0.349		-6.98	20
Bromodichloromethane	0.594	0.588		-0.88	20
4-Methyl-2-Pentanone	0.406	0.320		-20.98	20
Toluene	0.944	0.888		-5.84	20
t-1,3-Dichloropropene	0.606	0.545		-10.04	20
cis-1,3-Dichloropropene	0.672	0.628		-6.62	20
1,1,2-Trichloroethane	0.370	0.345		-6.97	20
2-Hexanone	0.340	0.272		-20.21	20
Dibromochloromethane	0.521	0.476		-8.71	20
1,2-Dibromoethane	0.428	0.364		-14.86	20
Tetrachloroethene	0.393	0.314		-20.03	20
Chlorobenzene	1.191	1.141	0.3	-4.18	20
Ethyl Benzene	2.025	1.884		-6.95	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: MSVOA_F Calibration Date/Time: 10/21/2015 10:43

Lab File ID: VF045718.D Init. Calib. Date(s): 10/20/2015 10/20/2015

Heated Purge: (Y/N) Y Init. Calib. Time(s): 15:37 18:01

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.726	0.676		-6.86	20
o-Xylene	0.800	0.708		-11.48	20
Styrene	1.290	1.207		-6.44	20
Bromoform	0.348	0.318	0.1	-8.65	20
Isopropylbenzene	4.022	3.829		-4.78	20
1,1,2,2-Tetrachloroethane	1.200	1.064	0.3	-11.32	20
1,3-Dichlorobenzene	1.913	1.738		-9.14	20
1,4-Dichlorobenzene	1.911	1.779		-6.9	20
1,2-Dichlorobenzene	1.836	1.675		-8.77	20
1,2-Dibromo-3-Chloropropane	0.197	0.165		-16.07	20
1,2,4-Trichlorobenzene	1.021	0.939		-8.05	20
1,2,3-Trichlorobenzene	0.901	0.787		-12.64	20
1,2-Dichloroethane-d4	0.764	0.714		-6.59	20
Dibromofluoromethane	0.466	0.461		-1.22	20
Toluene-d8	1.354	1.301		-3.91	20
4-Bromofluorobenzene	0.689	0.632		-8.24	20
1,4-Dioxane	3.717	3.151	0.05	-15.23	50

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

SAMPLE RAW DATA

Quantitation Report (QT/LSC Reviewed)

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045704.D
Acq On : 20 Oct 2015 1:47
Operator : FY/SY
Sample : G4046-01
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Oct 20 10:07:31 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

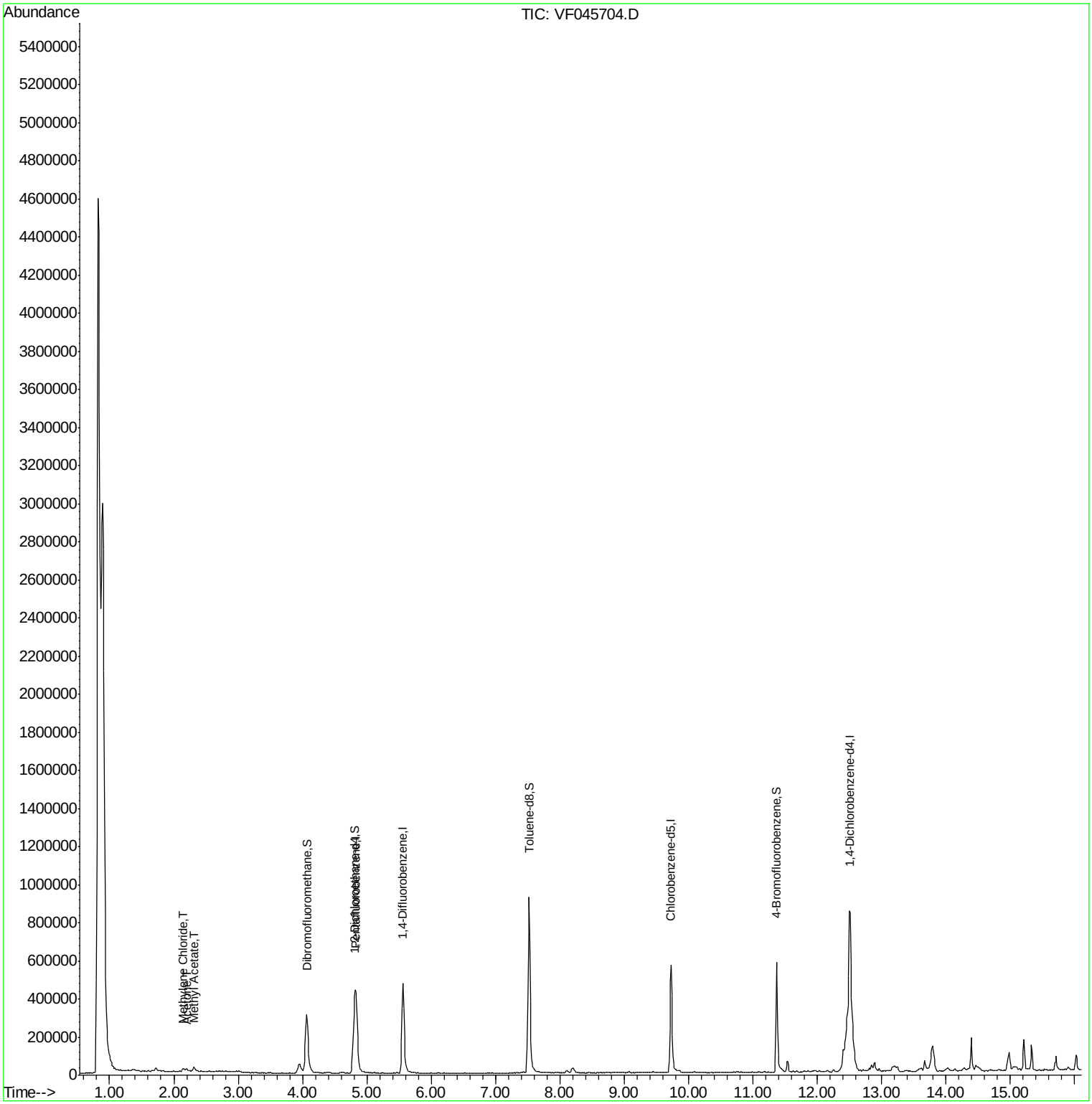
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.84	168	329173	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.57	114	585218	50.00	ug/l	0.02
62) Chlorobenzene-d5	9.73	117	438147	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.51	152	463854	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.80	65	308340	66.78	ug/l	0.00
Spiked Amount 50.000			Recovery	=	133.56%	
34) Dibromofluoromethane	4.07	113	321009	67.81	ug/l	0.02
Spiked Amount 50.000			Recovery	=	135.62%	
49) Toluene-d8	7.52	98	809152	54.86	ug/l	0.00
Spiked Amount 50.000			Recovery	=	109.72%	
61) 4-Bromofluorobenzene	11.36	95	257246	34.77	ug/l	0.00
Spiked Amount 50.000			Recovery	=	69.54%	
Target Compounds						Qvalue
16) Acetone	2.19	43	16227	12.46	ug/l #	90
18) Methyl Acetate	2.31	43	31866	5.57	ug/l #	91
20) Methylene Chloride	2.14	84	10192	3.78	ug/l	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

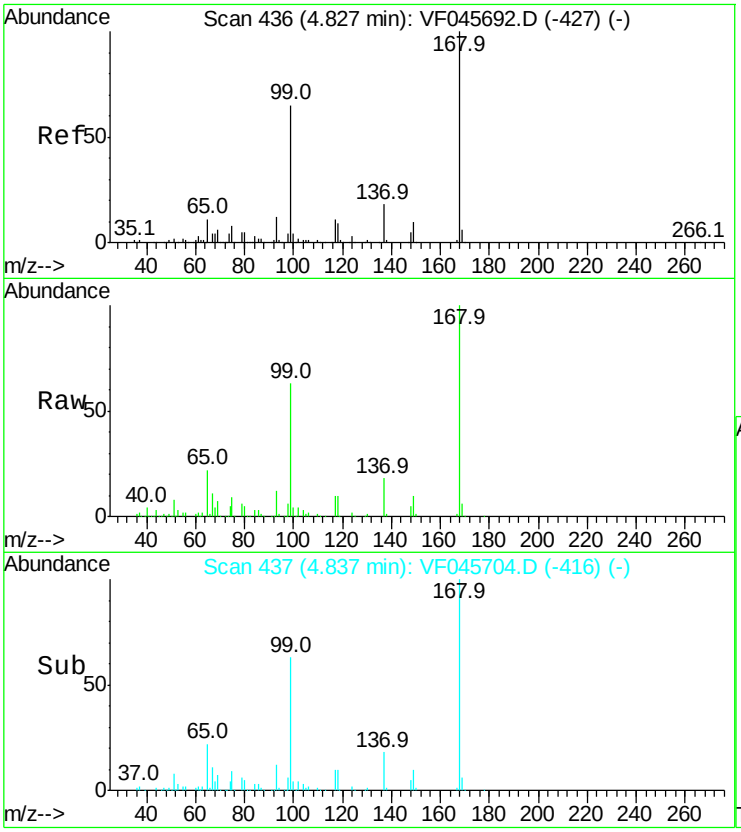
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045704.D
Acq On : 20 Oct 2015 1:47
Operator : FY/SY
Sample : G4046-01
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 22 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

Quant Time: Oct 20 10:07:31 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration



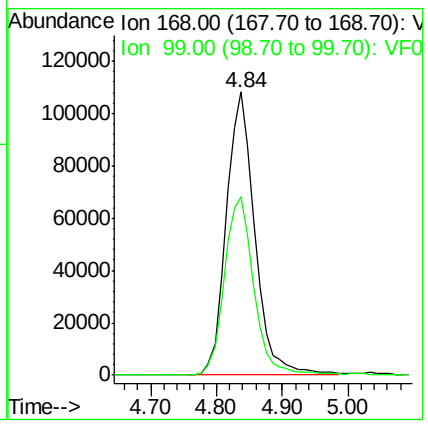
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

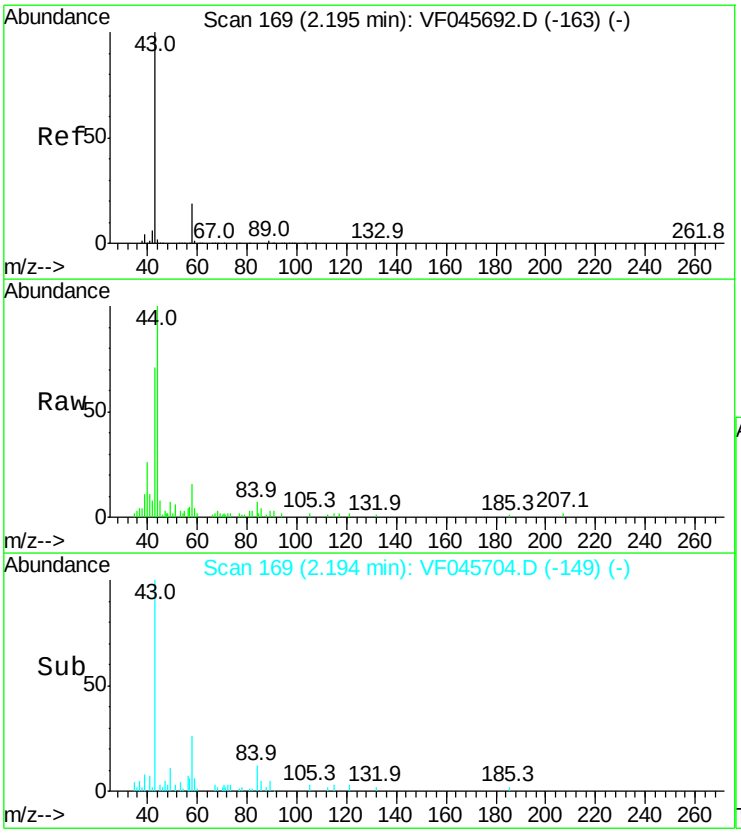


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.84 min Scan# 437
Delta R.T. 0.01 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion:168 Resp: 329173

Ion	Ratio	Lower	Upper
168	100		
99	63.0	52.3	78.5

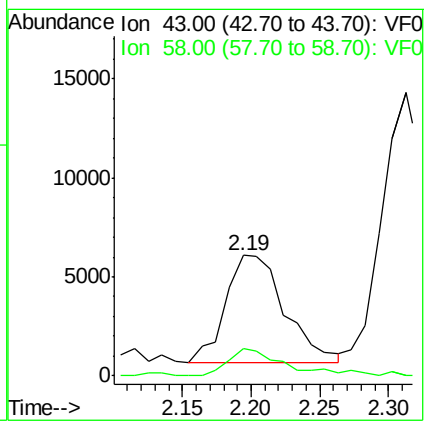




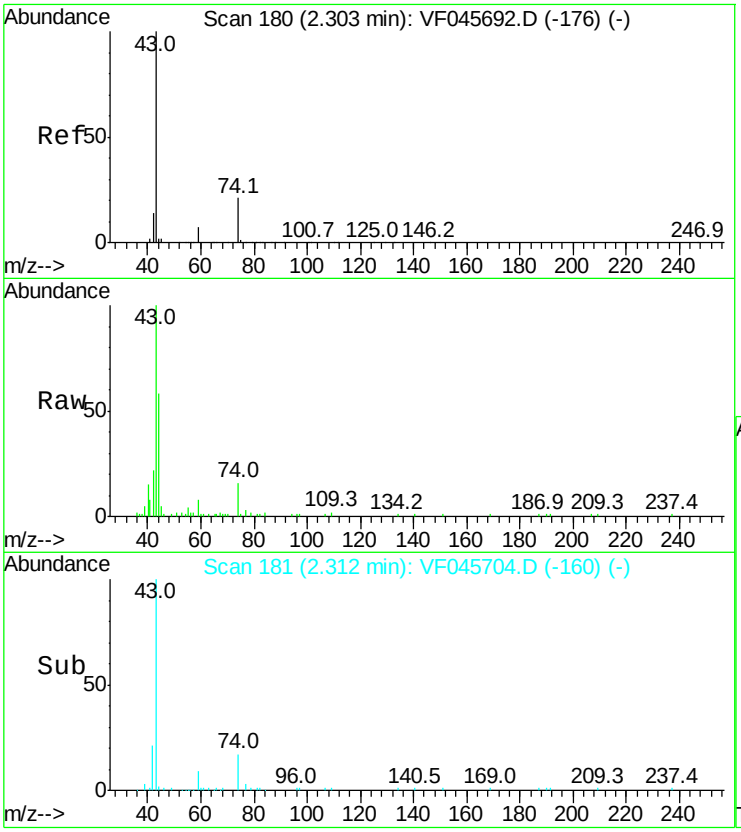
#16
Acetone
Concen: 12.46 ug/l
RT: 2.19 min Scan# 169
Delta R.T. 0.00 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion: 43 Resp: 16227

Ion	Ratio	Lower	Upper
43	100		
58	22.9	14.9	22.3#



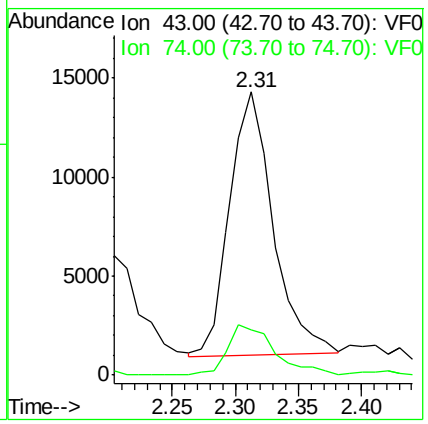
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

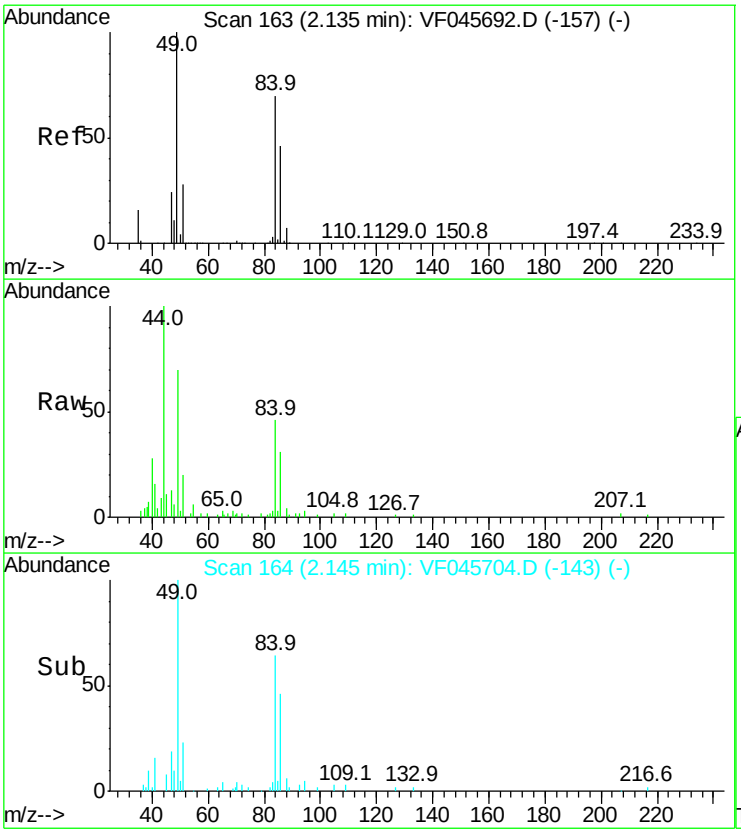


#18
Methyl Acetate
Concen: 5.57 ug/l
RT: 2.31 min Scan# 181
Delta R.T. 0.01 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion: 43 Resp: 31866

Ion	Ratio	Lower	Upper
43	100		
74	15.8	16.0	24.0#

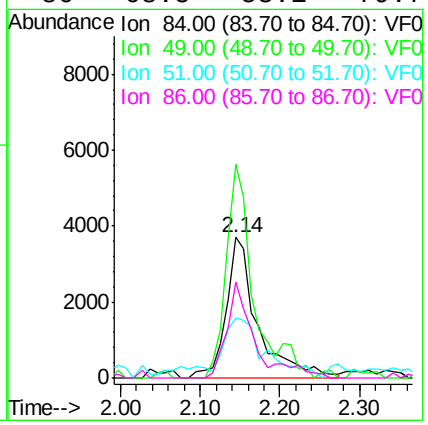




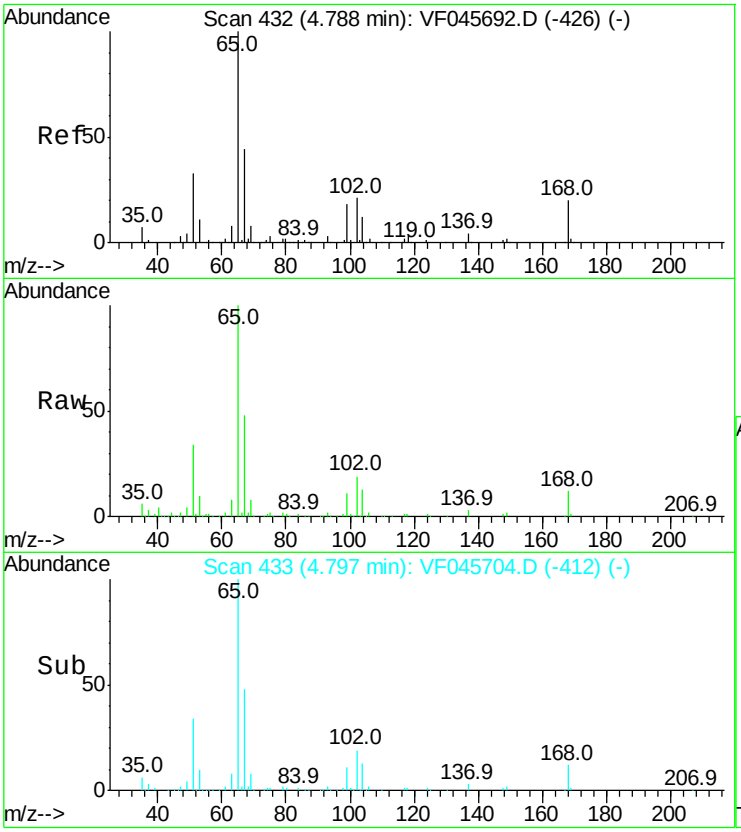
#20
Methylene Chloride
Concen: 3.78 ug/l
RT: 2.14 min Scan# 164
Delta R.T. 0.01 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion: 84 Resp: 10192

Ion	Ratio	Lower	Upper
84	100		
49	152.3	117.4	176.2
51	43.1	33.8	50.6
86	68.5	53.1	79.7



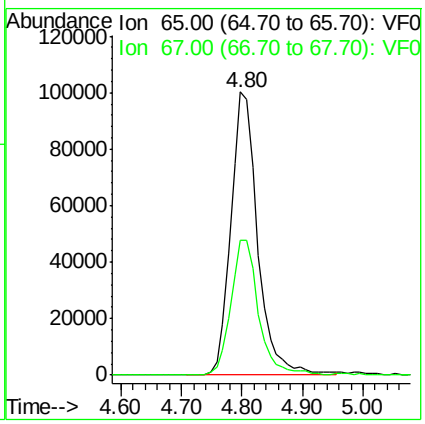
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

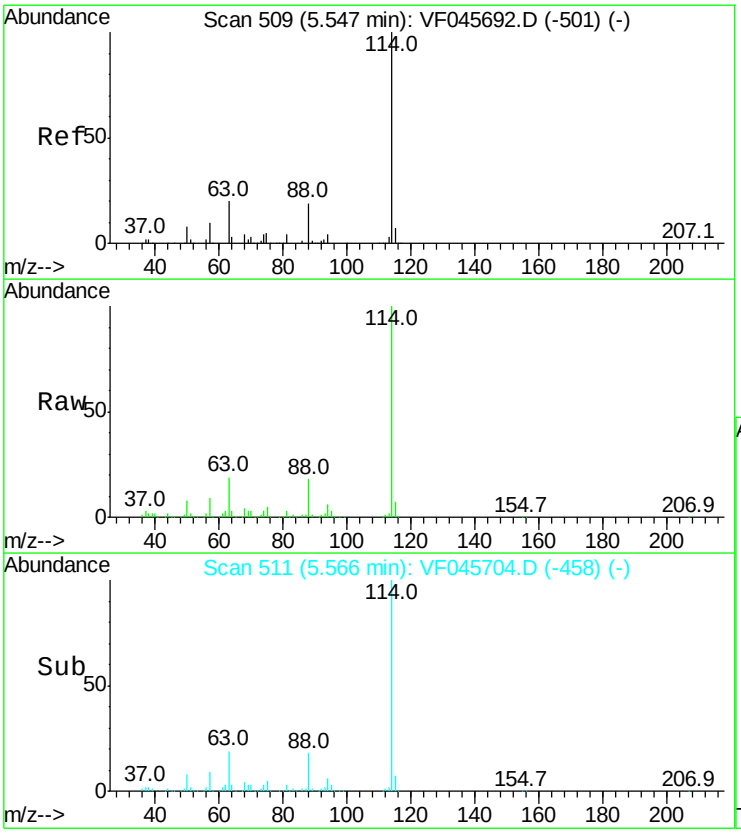


#32
1,2-Dichloroethane-d4
Concen: 66.78 ug/l
RT: 4.80 min Scan# 433
Delta R.T. 0.01 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion: 65 Resp: 308340

Ion	Ratio	Lower	Upper
65	100		
67	47.5	0.0	99.6

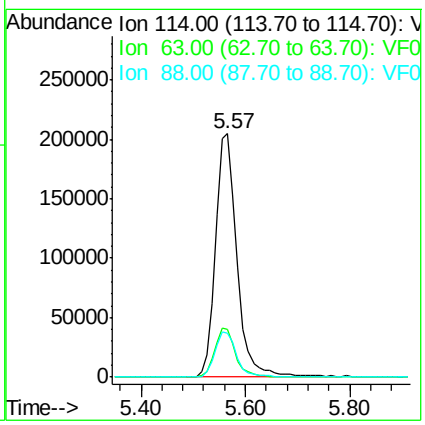




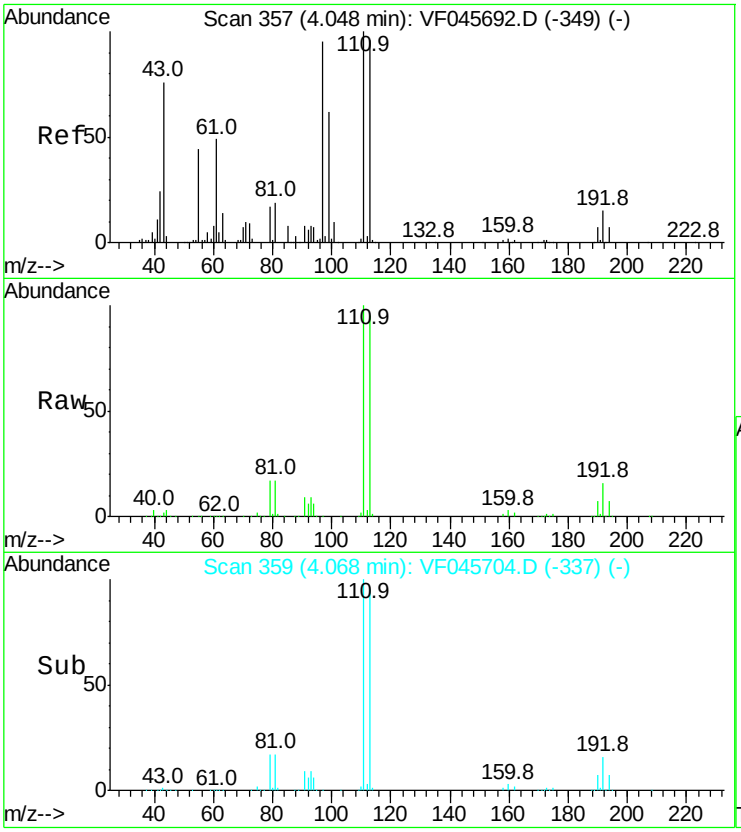
#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.57 min Scan# 511
Delta R.T. 0.02 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion:114 Resp: 585218

Ion	Ratio	Lower	Upper
114	100		
63	19.4	0.0	40.8
88	18.3	0.0	38.2



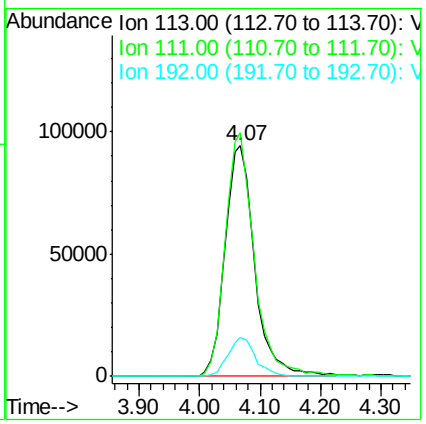
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

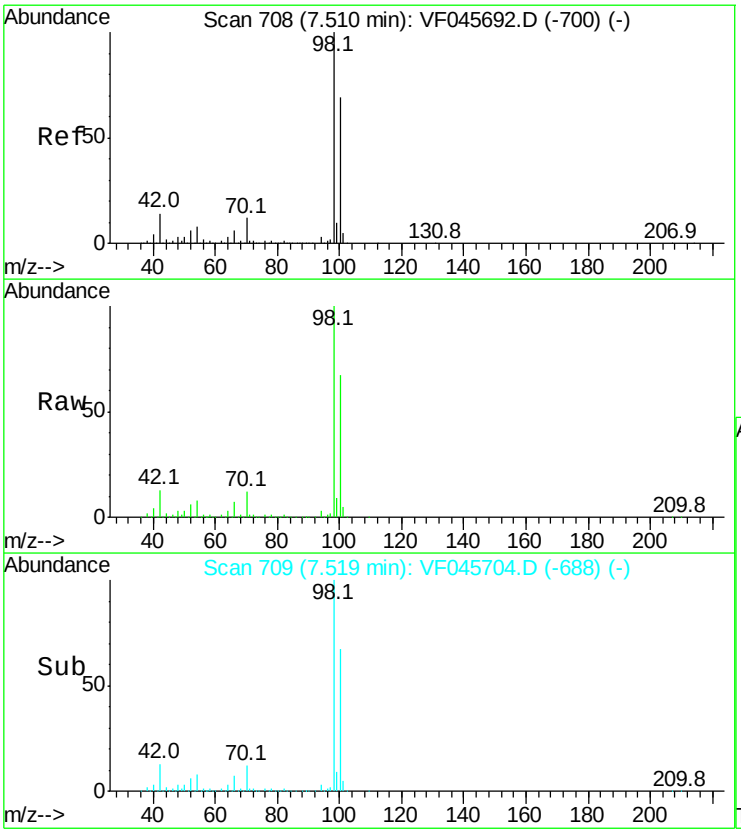


#34
Dibromofluoromethane
Concen: 67.81 ug/l
RT: 4.07 min Scan# 359
Delta R.T. 0.02 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion:113 Resp: 321009

Ion	Ratio	Lower	Upper
113	100		
111	105.7	83.2	124.8
192	16.9	12.8	19.2

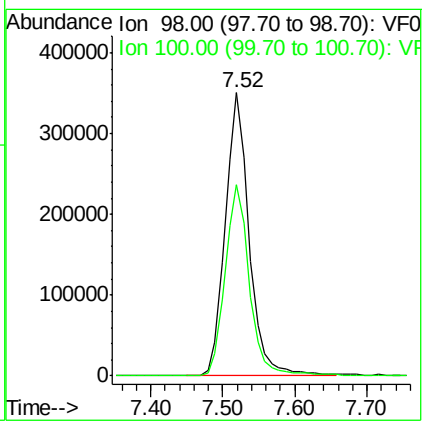




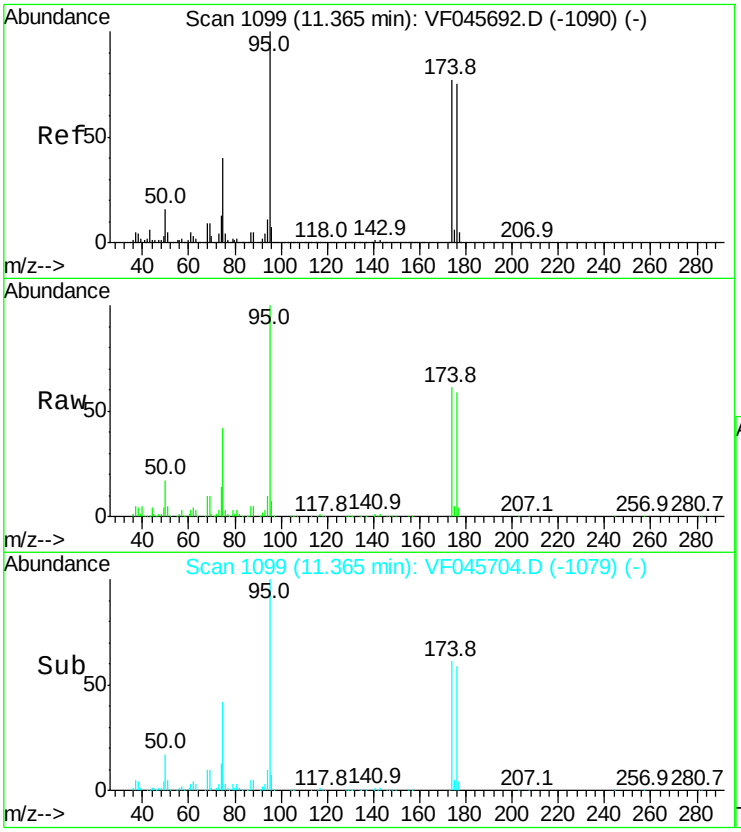
#49
Toluene-d8
Concen: 54.86 ug/l
RT: 7.52 min Scan# 709
Delta R.T. 0.01 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion: 98 Resp: 809152

Ion	Ratio	Lower	Upper
98	100		
100	67.4	55.3	82.9



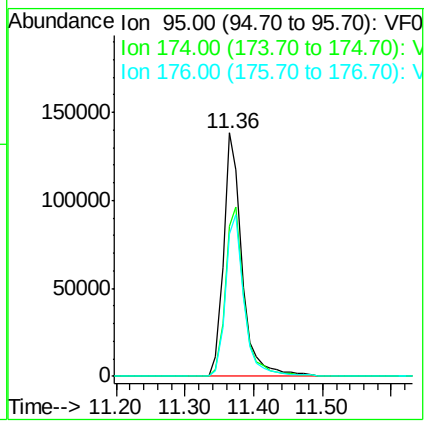
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

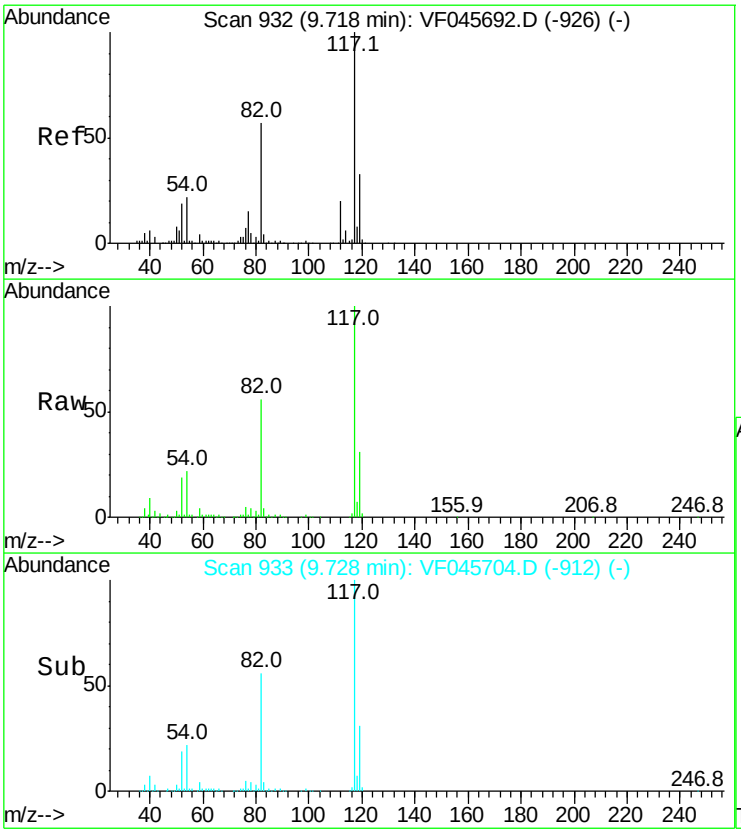


#61
4-Bromofluorobenzene
Concen: 34.77 ug/l
RT: 11.36 min Scan# 1099
Delta R.T. -0.00 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion: 95 Resp: 257246

Ion	Ratio	Lower	Upper
95	100		
174	61.5	0.0	153.8
176	58.5	0.0	149.8

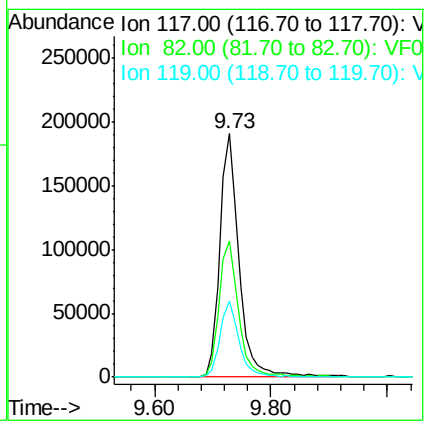


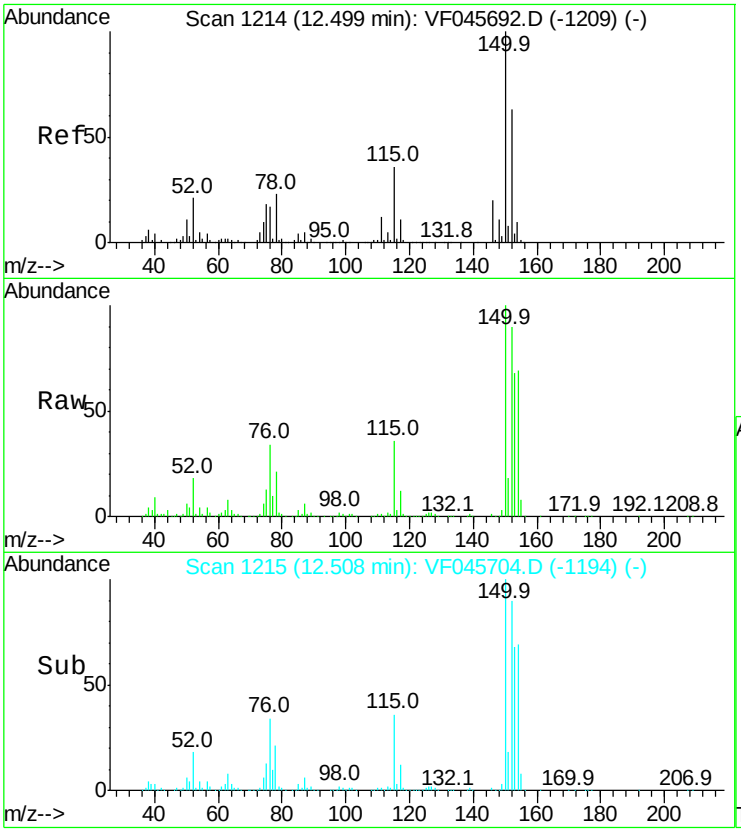


#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.73 min Scan# 933
Delta R.T. 0.01 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion:117 Resp: 438147

Ion	Ratio	Lower	Upper
117	100		
82	55.9	45.8	68.8
119	31.1	26.5	39.7

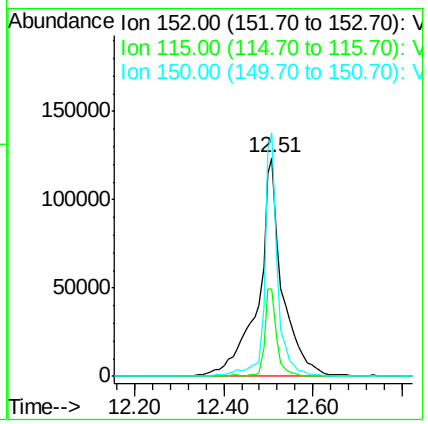




#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.51 min Scan# 1215
Delta R.T. 0.01 min
Lab File: VF045704.D
Acq: 20 Oct 2015 1:47

Tgt Ion:152 Resp: 463854

Ion	Ratio	Lower	Upper
152	100		
115	40.3	29.1	87.3
150	111.5	0.0	320.6



Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045704.D
Acq On : 20 Oct 2015 1:47
Operator : FY/SY
Sample : G4046-01
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 22 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Title : SW846 8260

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.721	115	121	128	rBV3	15570	38240	1.11%	0.246%
2	2.145	161	164	167	rBV4	14789	35597	1.03%	0.229%
3	2.312	177	181	185	rBV2	19046	44583	1.29%	0.287%
4	3.949	339	347	353	rBV2	50525	200796	5.83%	1.292%
5	4.068	353	359	370	rVB	304783	1011282	29.37%	6.507%
6	4.817	426	435	451	rBV2	438485	1855166	53.88%	11.937%
7	5.557	503	510	524	rBV	471977	1352964	39.30%	8.706%
8	7.519	703	709	720	rVV	919573	2150293	62.45%	13.836%
9	8.111	764	769	773	rBV5	12958	34640	1.01%	0.223%
10	8.199	773	778	784	rVB3	24297	82158	2.39%	0.529%
11	9.728	927	933	951	rBV	563482	1333740	38.74%	8.582%
12	11.365	1095	1099	1112	rBV	575905	1120528	32.54%	7.210%
13	11.532	1112	1116	1123	rVV2	59820	129068	3.75%	0.830%
14	12.400	1196	1204	1205	rBV	118744	256023	7.44%	1.647%
15	12.499	1205	1214	1229	rVV	839666	3443029	100.00%	22.154%
16	12.834	1246	1248	1251	rVV2	34608	73086	2.12%	0.470%
17	12.893	1251	1254	1259	rVV3	49433	108044	3.14%	0.695%
18	13.189	1279	1284	1288	rBV6	22904	92480	2.69%	0.595%
19	13.248	1288	1290	1293	rVB2	23998	38200	1.11%	0.246%
20	13.613	1318	1327	1330	rBV8	19381	76403	2.22%	0.492%
21	13.662	1330	1332	1337	rVV2	57522	129869	3.77%	0.836%
22	13.790	1339	1345	1353	rVB	133323	489898	14.23%	3.152%
23	14.017	1364	1368	1374	rVB8	15454	48340	1.40%	0.311%
24	14.283	1389	1395	1398	rBV5	17507	45124	1.31%	0.290%
25	14.392	1403	1406	1411	rVV	176639	279452	8.12%	1.798%
26	14.461	1411	1413	1424	rVB7	28548	114550	3.33%	0.737%
27	14.983	1459	1466	1470	rBV2	92561	245118	7.12%	1.577%
28	15.210	1484	1489	1494	rVV	160935	244593	7.10%	1.574%
29	15.329	1498	1501	1506	rVB	130639	204828	5.95%	1.318%
30	15.713	1535	1540	1548	rVB2	72234	127979	3.72%	0.823%
31	16.019	1567	1571	1576	rVV	79428	135217	3.93%	0.870%

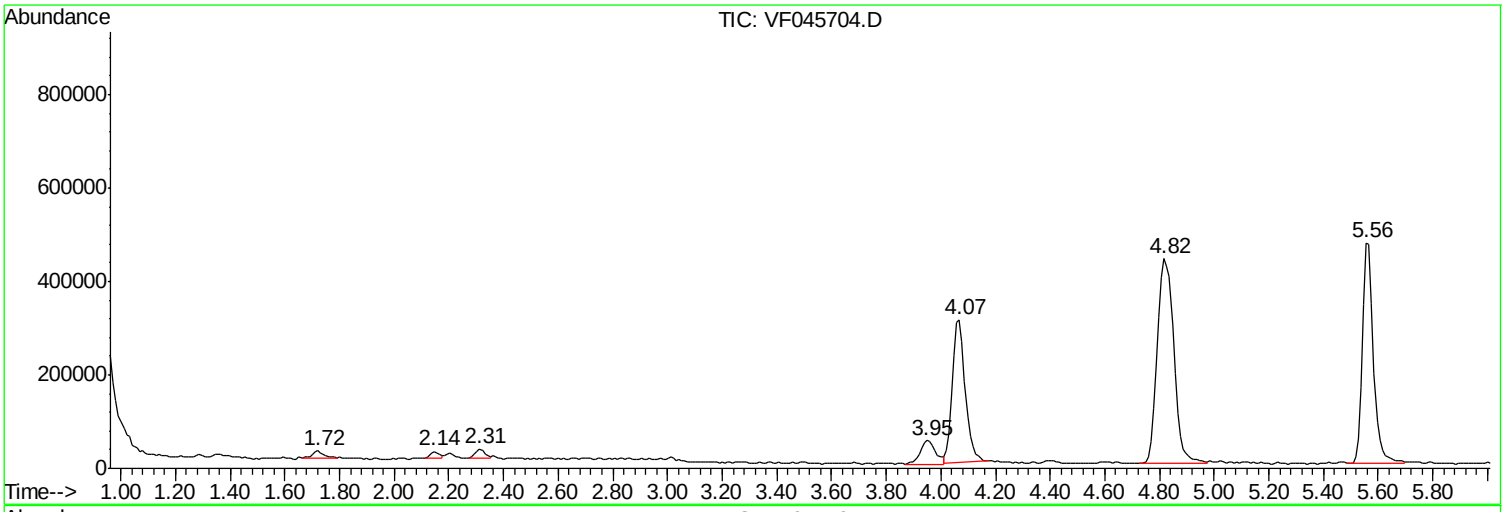
Sum of corrected areas: 15541288

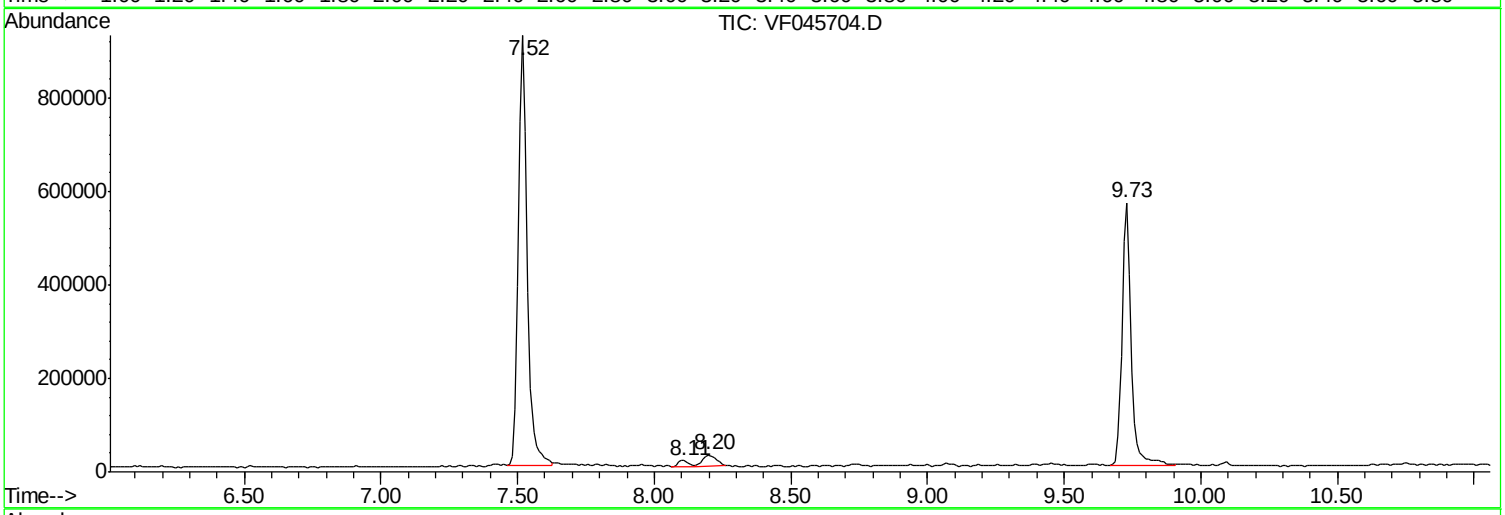
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045704.D
Acq On : 20 Oct 2015 1:47
Operator : FY/SY
Sample : G4046-01
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 22 Sample Multiplier: 1

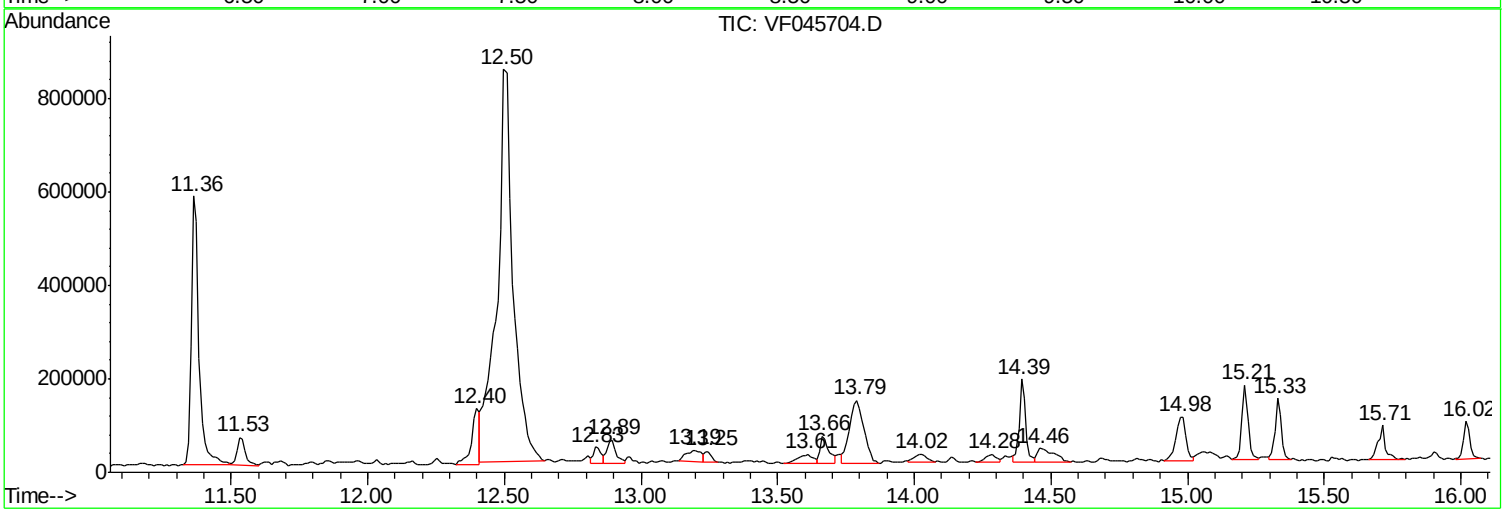
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P







Library Search Compound Report

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

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Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045704.D
Acq On    : 20 Oct 2015   1:47
Operator  : FY/SY
Sample    : G4046-01
Misc      : 1.00g/5mL/MSVOA F/SOIL
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title  : SW846 8260

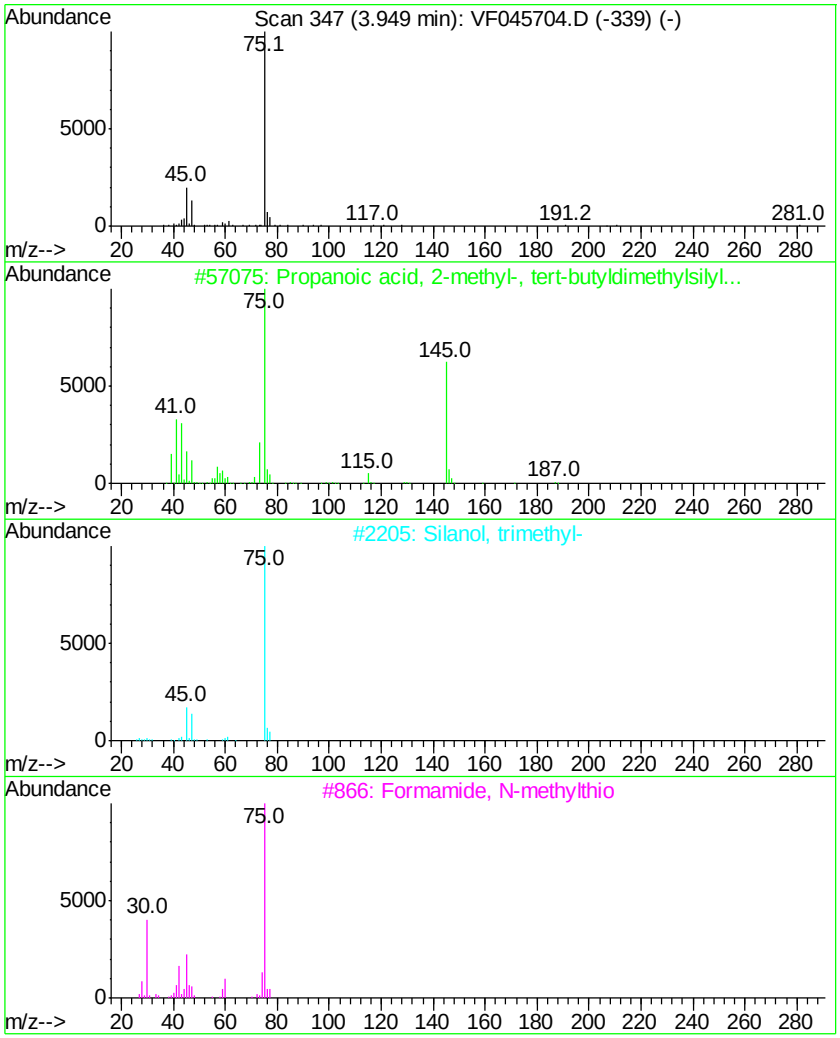
TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
```

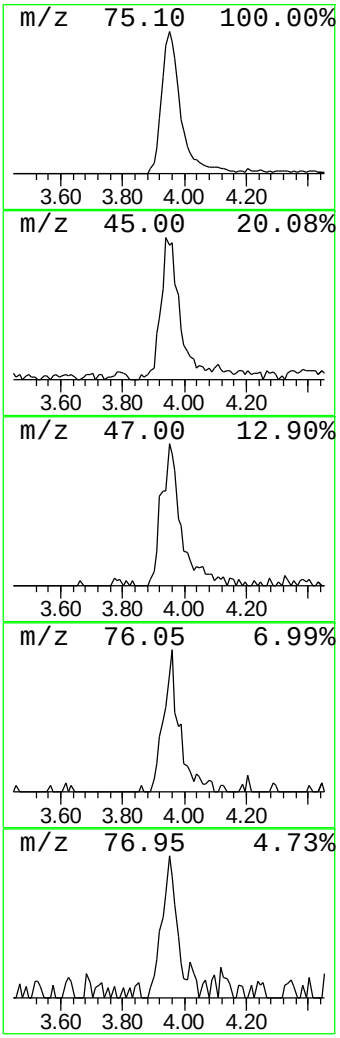
****

Peak Number 1 Propanoic acid, 2-methyl-, ... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.95	5.41 ug/l	200796	Pentafluorobenzene	4.84

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Propanoic acid, 2-methyl-, tert-...	202	C10H22O2Si	111864-21-2	83
2	Silanol, trimethyl-	90	C3H10OSi	001066-40-6	83
3	Formamide, N-methylthio	75	C2H5NS	018952-41-5	72
4	Silanol, trimethyl-, propanoate	146	C6H14O2Si	016844-98-7	64
5	Propanoic acid, 2-mercapto-2-met...	120	C4H8O2S	004695-31-2	43





Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902


```
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045704.D
Acq On    : 20 Oct 2015   1:47
Operator  : FY/SY
Sample    : G4046-01
Misc      : 1.00g/5mL/MSVOA F/SOIL
ALS Vial  : 22   Sample Multiplier: 1

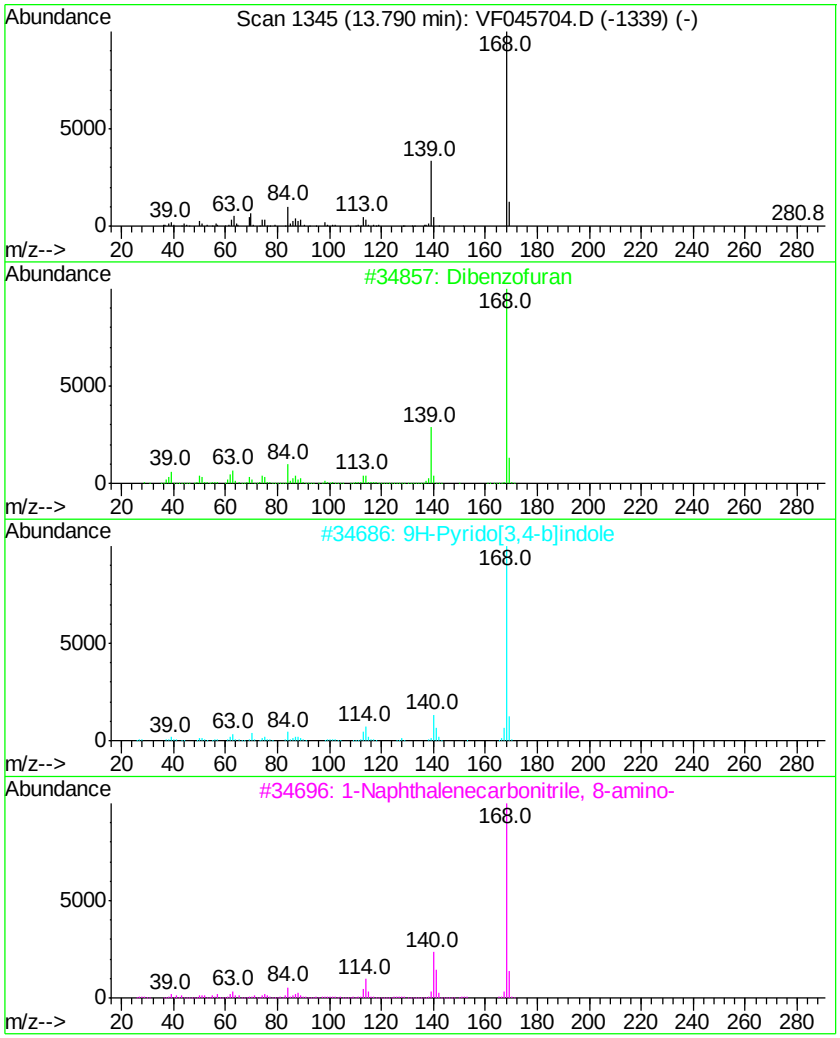
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title  : SW846 8260

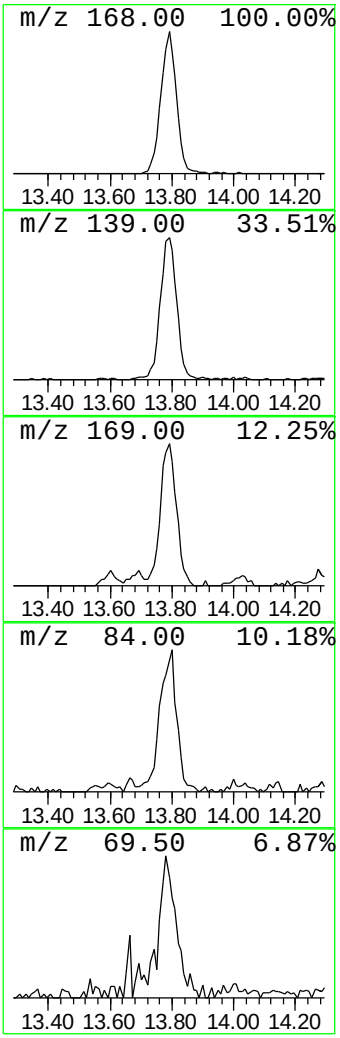
TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

**********************************************************************
Peak Number  2  Dibenzofuran                    Concentration Rank  1
```

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.79	7.11 ug/l	489898	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dibenzofuran	168	C12H8O	000132-64-9	90
2	9H-Pyrido[3,4-b]indole	168	C11H8N2	000244-63-3	59
3	1-Naphthalenecarbonitrile, 8-amino-	168	C11H8N2	038515-13-8	53
4	1H-Pyrido[2,3-b]indole	168	C11H8N2	000244-76-8	53
5	Tioxolone	168	C7H4O3S	004991-65-5	53





Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_F\DATA\VF102015\
Data File : VF045704.D
Acq On : 20 Oct 2015 1:47
Operator : FY/SY
Sample : G4046-01
Misc : 1.00g/5mL/MSVOA_F/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Propanoic acid, 2...	3.95	5.4	ug/l	200796	1	4.84	1855170	50.0
Dibenzofuran	13.79	7.1	ug/l	489898	4	12.51	3443030	50.0

Quantitation Report (LSC Reviewed)

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902RE

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045724.D
Acq On : 21 Oct 2015 16:59
Operator : FY/SY
Sample : G4046-01RE
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 22 12:42:08 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

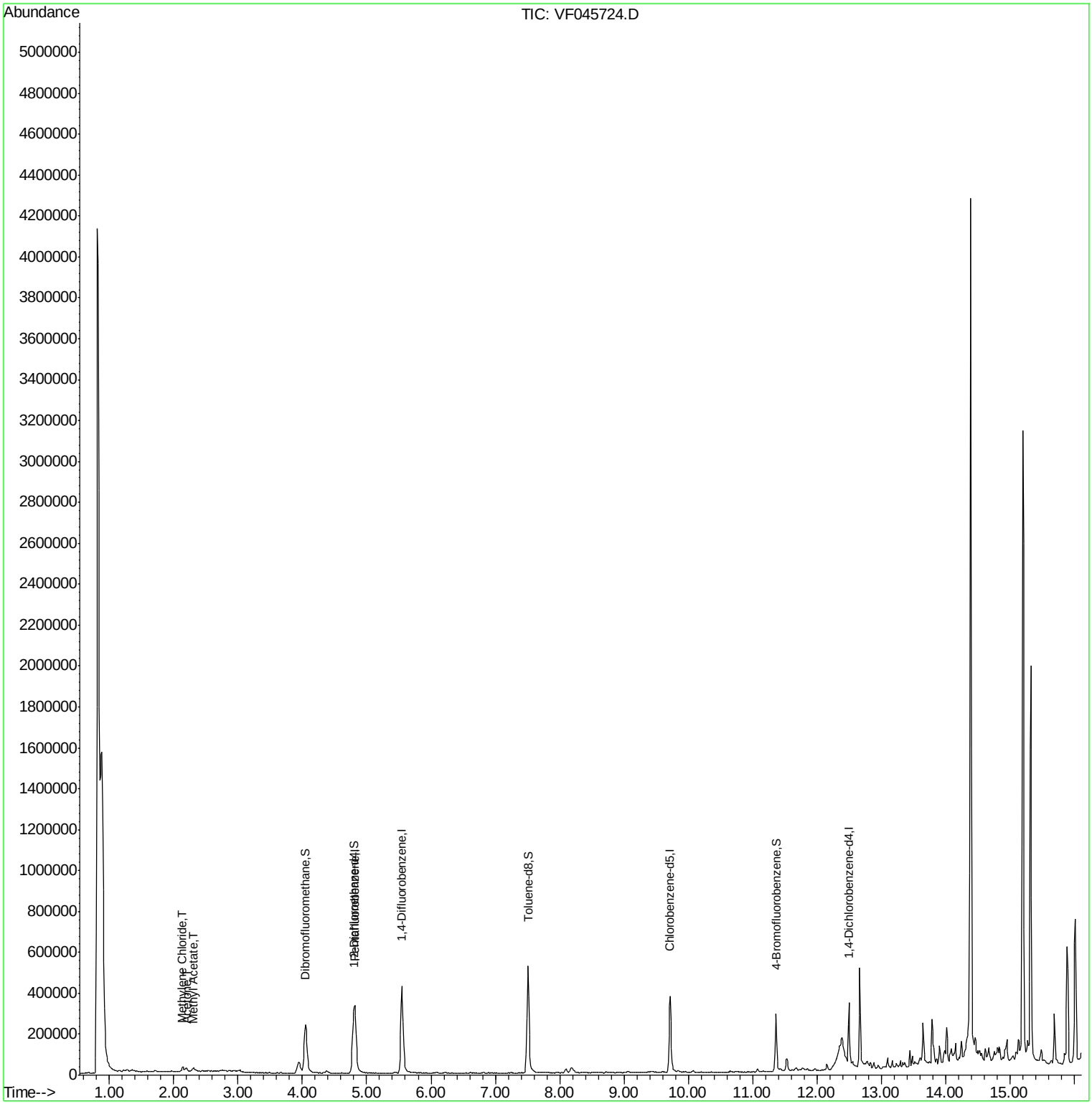
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.82	168	278770	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.55	114	523793	50.00	ug/l	0.00
62) Chlorobenzene-d5	9.72	117	287110	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.50	152	74800	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.79	65	204120	47.90	ug/l	0.00
Spiked Amount 50.000			Recovery	=	95.80%	
34) Dibromofluoromethane	4.05	113	228635	46.80	ug/l	0.00
Spiked Amount 50.000			Recovery	=	93.60%	
49) Toluene-d8	7.51	98	470353	33.16	ug/l	0.00
Spiked Amount 50.000			Recovery	=	66.32%	
61) 4-Bromofluorobenzene	11.36	95	116864	16.19	ug/l	0.00
Spiked Amount 50.000			Recovery	=	32.38%	
Target Compounds						Qvalue
16) Acetone	2.19	43	19872	17.66	ug/l	98
18) Methyl Acetate	2.30	43	27362	5.29	ug/l	98
20) Methylene Chloride	2.14	84	10286	4.08	ug/l #	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

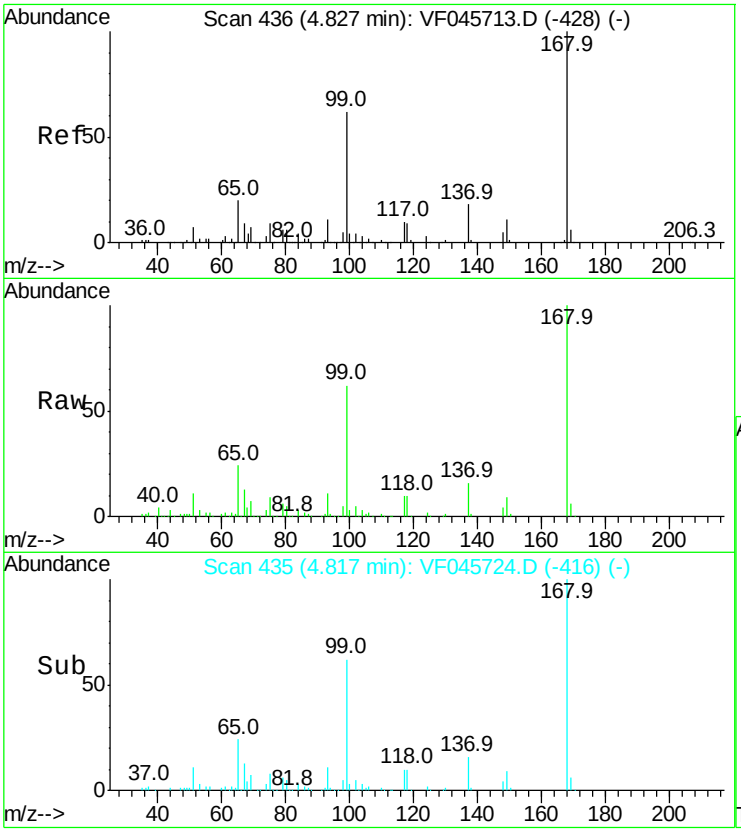
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045724.D
Acq On : 21 Oct 2015 16:59
Operator : FY/SY
Sample : G4046-01RE
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902RE

Quant Time: Oct 22 12:42:08 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration



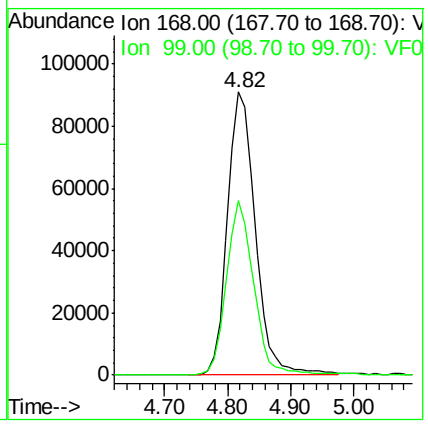
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902RE

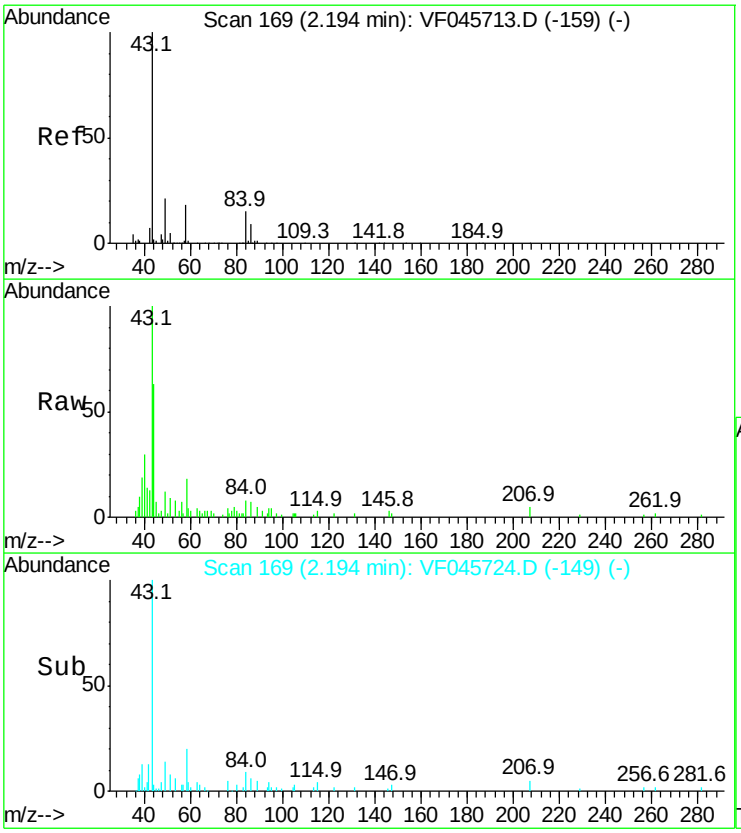


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.82 min Scan# 435
Delta R.T. -0.01 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion:168 Resp: 278770

Ion	Ratio	Lower	Upper
168	100		
99	61.6	49.7	74.5

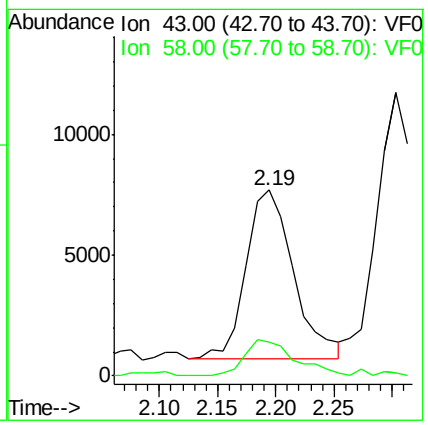




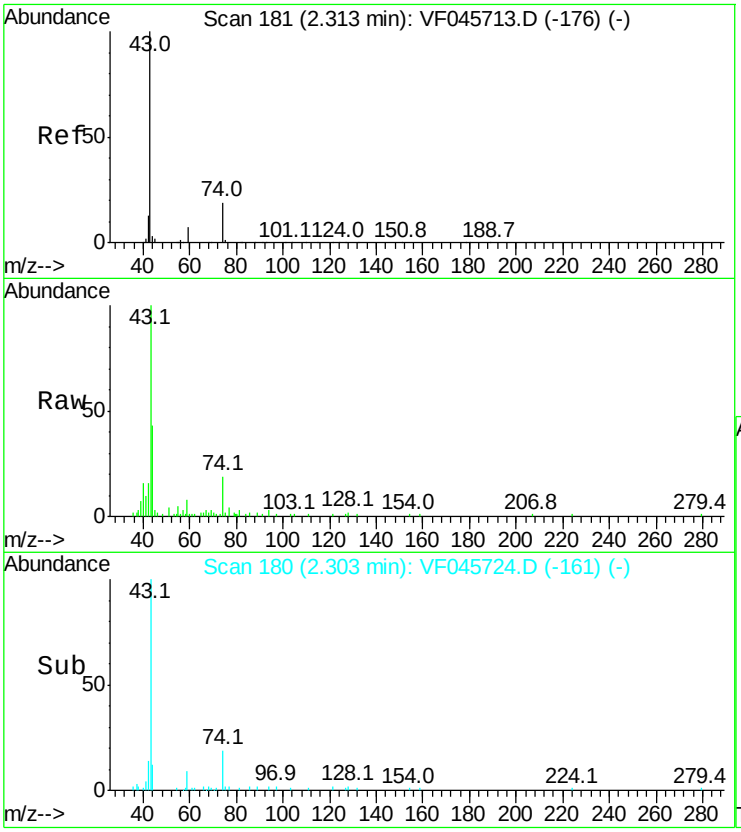
#16
Acetone
Concen: 17.66 ug/l
RT: 2.19 min Scan# 169
Delta R.T. -0.00 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion: 43 Resp: 19872

Ion	Ratio	Lower	Upper
43	100		
58	18.4	14.0	21.0



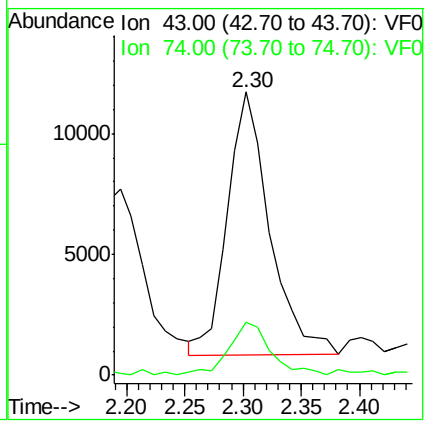
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902RE

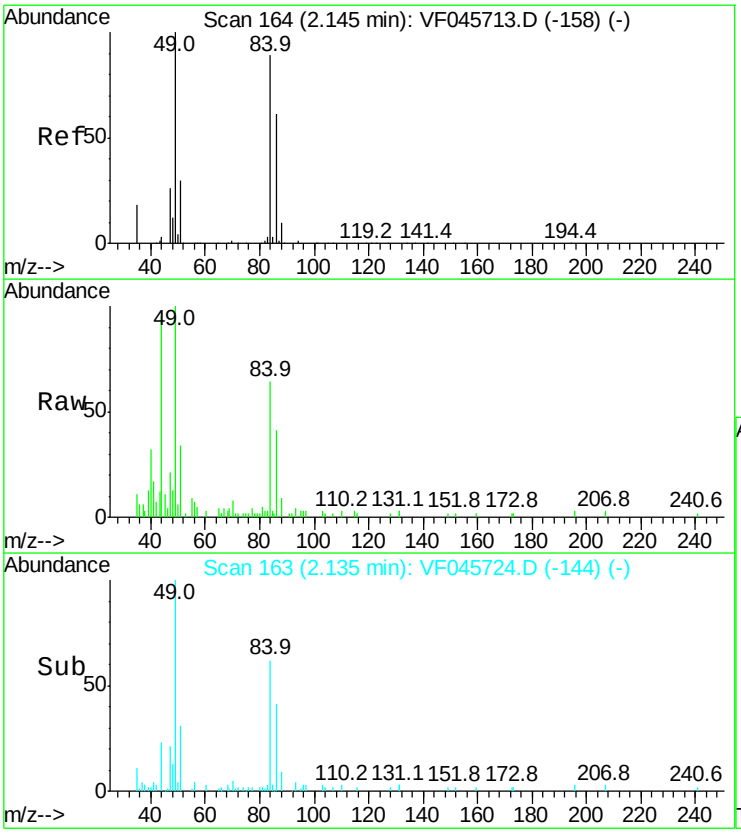


#18
Methyl Acetate
Concen: 5.29 ug/l
RT: 2.30 min Scan# 180
Delta R.T. -0.01 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion: 43 Resp: 27362

Ion	Ratio	Lower	Upper
43	100		
74	18.9	14.3	21.5

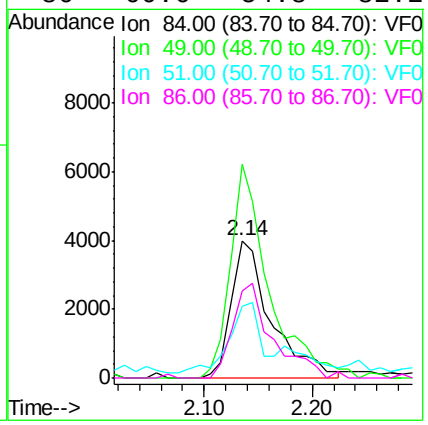


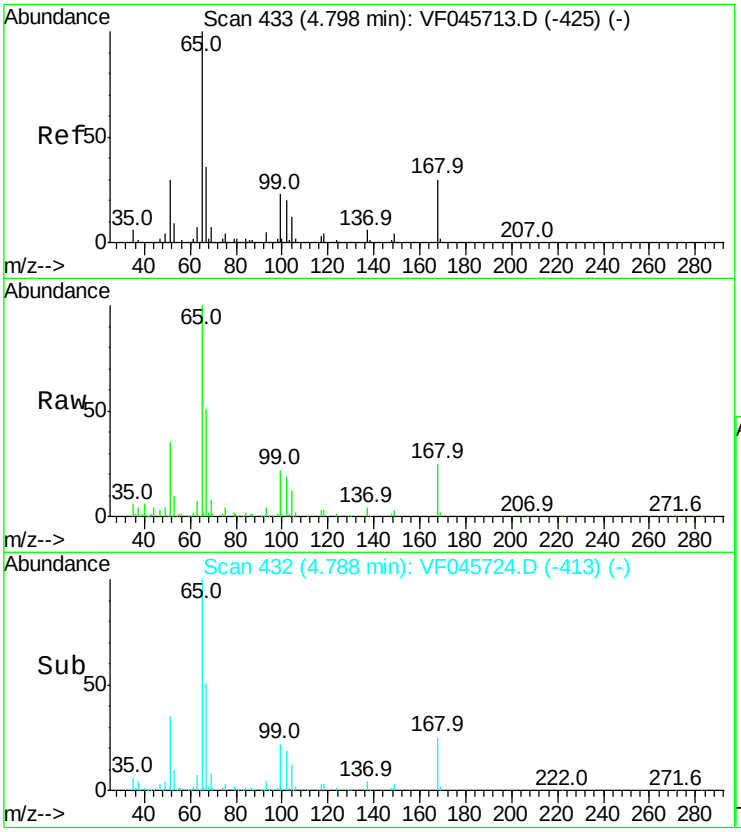


#20
Methylene Chloride
Concen: 4.08 ug/l
RT: 2.14 min Scan# 163
Delta R.T. -0.01 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion: 84 Resp: 10286

Ion	Ratio	Lower	Upper
84	100		
49	148.8	93.0	139.4#
51	50.4	28.3	42.5#
86	60.6	54.8	82.2

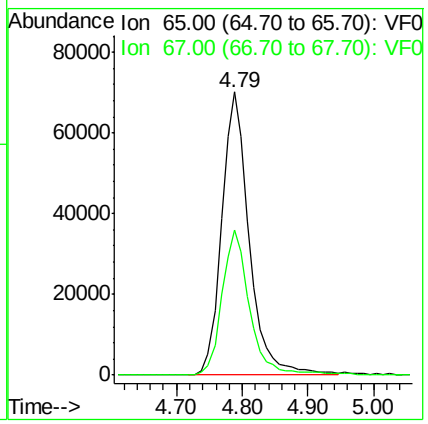


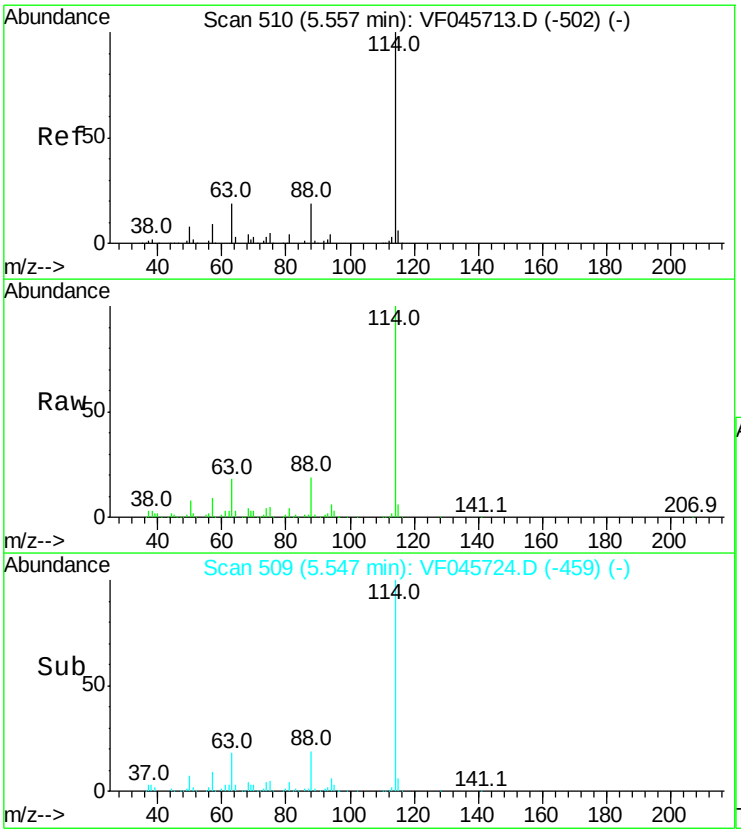


#32
1,2-Dichloroethane-d4
Concen: 47.90 ug/l
RT: 4.79 min Scan# 432
Delta R.T. -0.01 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion: 65 Resp: 204120

Ion	Ratio	Lower	Upper
65	100		
67	51.1	0.0	98.2

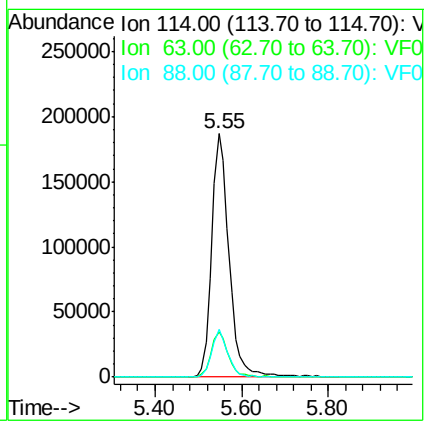




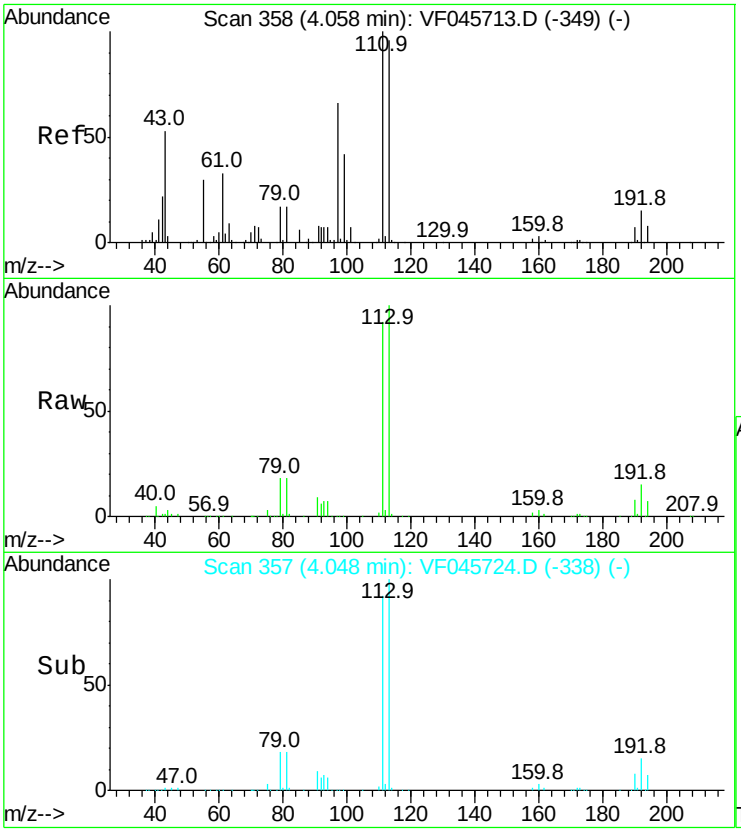
#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.55 min Scan# 509
Delta R.T. -0.01 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion:114 Resp: 523793

Ion	Ratio	Lower	Upper
114	100		
63	18.5	0.0	37.4
88	19.5	0.0	38.2



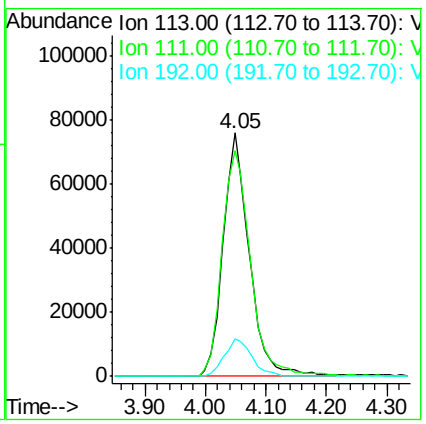
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902RE

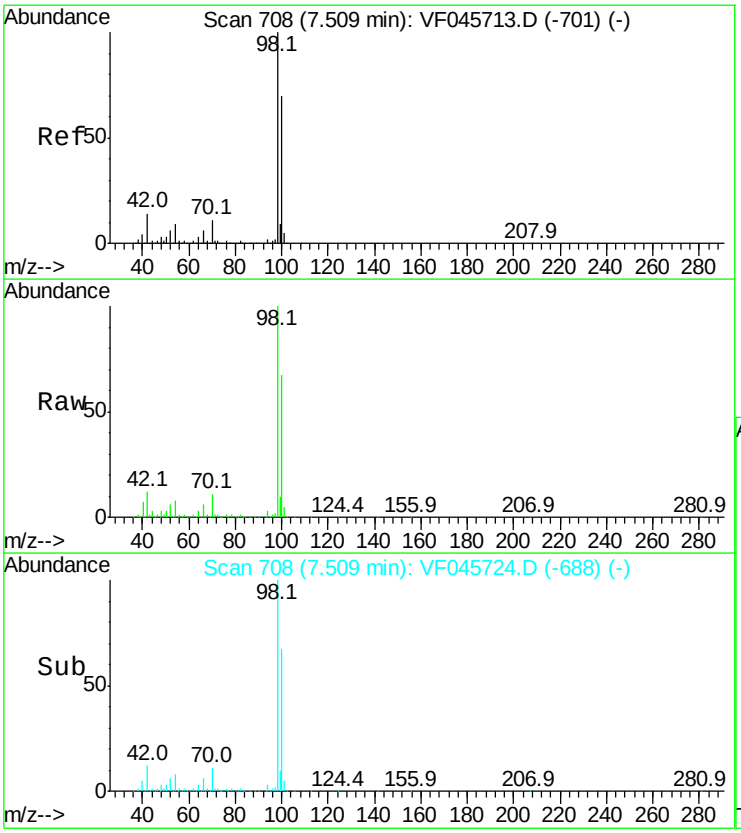


#34
Dibromofluoromethane
Concen: 46.80 ug/l
RT: 4.05 min Scan# 357
Delta R.T. -0.01 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion:113 Resp: 228635

Ion	Ratio	Lower	Upper
113	100		
111	92.5	83.4	125.2
192	15.5	12.7	19.1

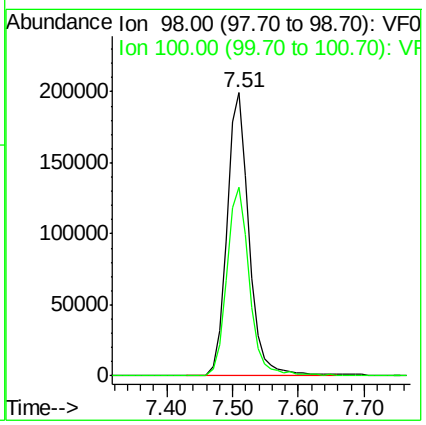




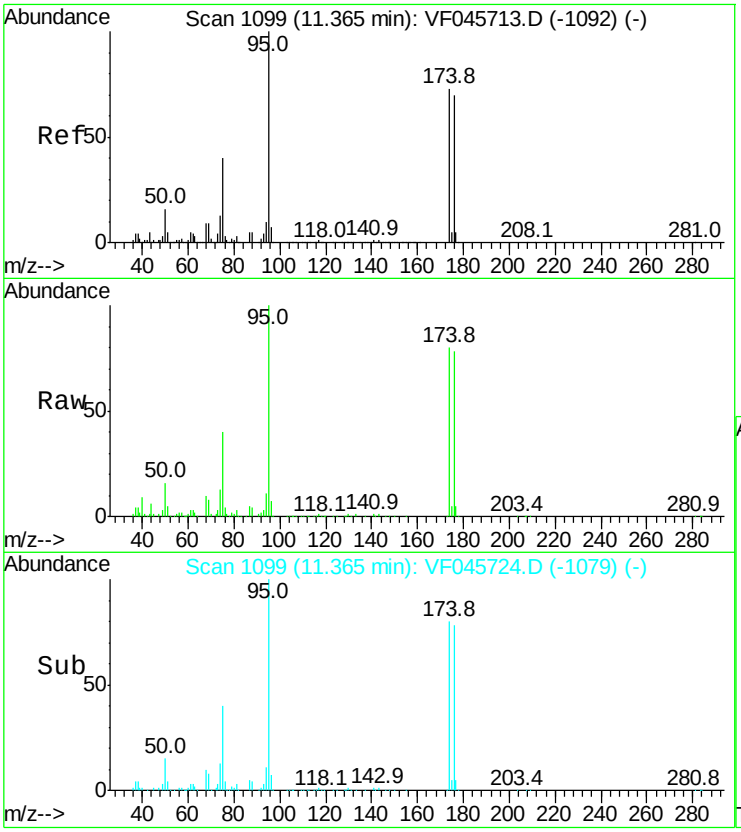
#49
Toluene-d8
Concen: 33.16 ug/l
RT: 7.51 min Scan# 708
Delta R.T. -0.00 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion: 98 Resp: 470353

Ion	Ratio	Lower	Upper
98	100		
100	66.8	55.7	83.5



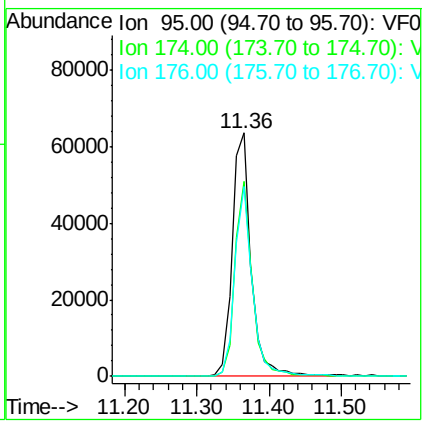
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902RE

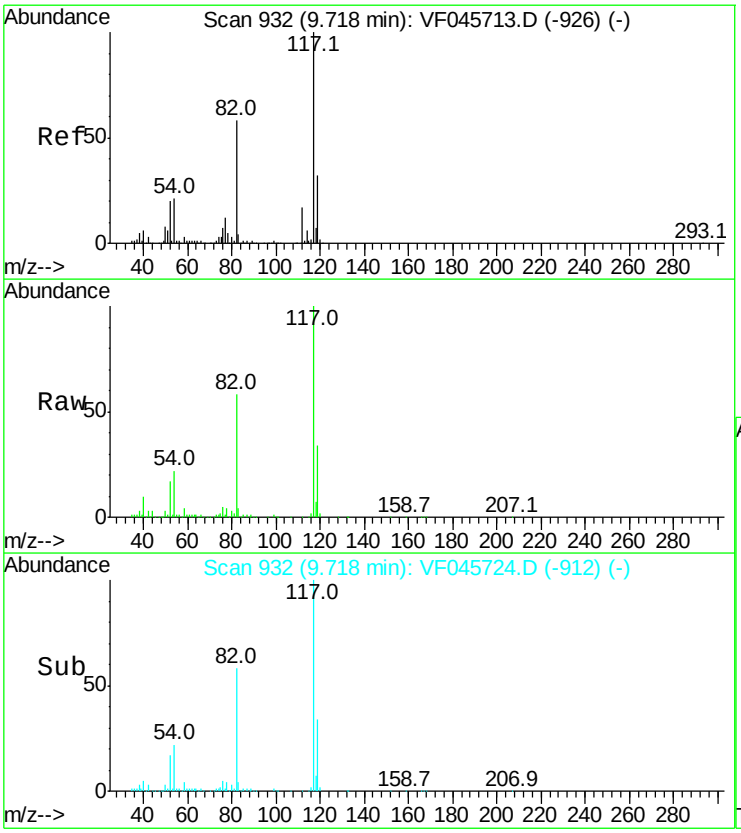


#61
4-Bromofluorobenzene
Concen: 16.19 ug/l
RT: 11.36 min Scan# 1099
Delta R.T. -0.00 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion: 95 Resp: 116864

Ion	Ratio	Lower	Upper
95	100		
174	80.0	0.0	145.4
176	78.2	0.0	141.0

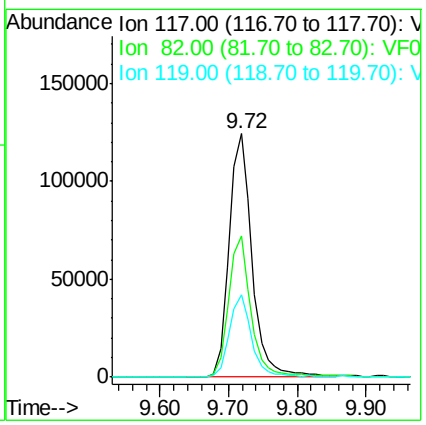


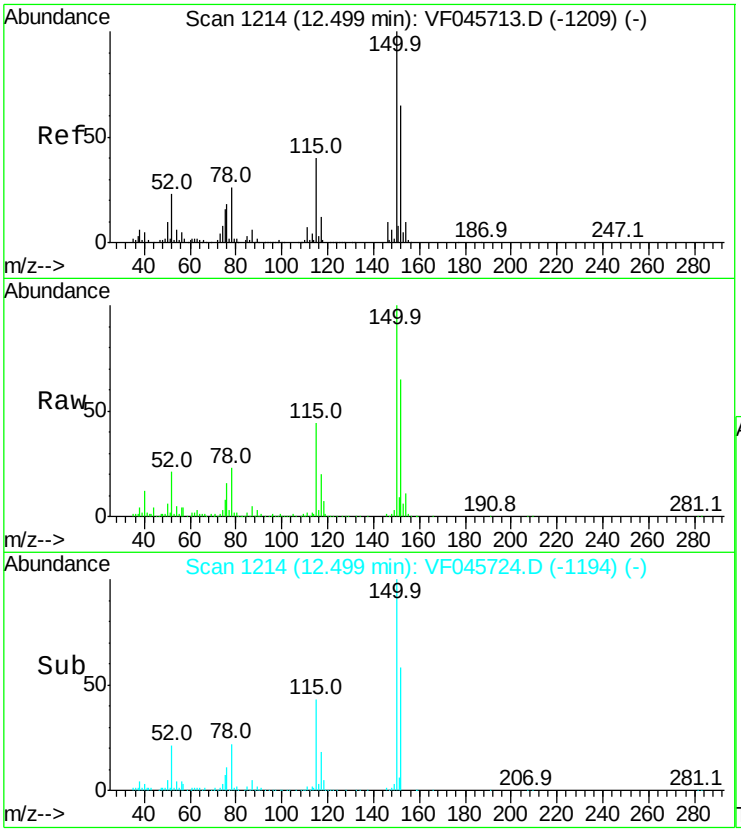


#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.72 min Scan# 932
Delta R.T. -0.00 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion:117 Resp: 287110

Ion	Ratio	Lower	Upper
117	100		
82	58.1	46.1	69.1
119	34.0	25.4	38.0

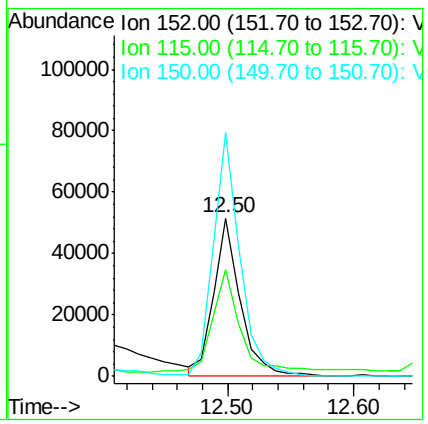




#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.50 min Scan# 1214
Delta R.T. -0.00 min
Lab File: VF045724.D
Acq: 21 Oct 2015 16:59

Tgt Ion:152 Resp: 74800

Ion	Ratio	Lower	Upper
152	100		
115	67.0	31.1	93.3
150	153.9	0.0	311.2



Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK902RE

Quantitation Report (QT/LSC Reviewed)

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Oct 20 10:07:59 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.83	168	335834	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.56	114	599757	50.00	ug/l	0.00
62) Chlorobenzene-d5	9.73	117	375255	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.51	152	150457	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.80	65	253873	53.89	ug/l	0.00
Spiked Amount 50.000			Recovery	=	107.78%	
34) Dibromofluoromethane	4.06	113	243454	50.18	ug/l	0.00
Spiked Amount 50.000			Recovery	=	100.36%	
49) Toluene-d8	7.52	98	512182	33.88	ug/l	0.00
Spiked Amount 50.000			Recovery	=	67.76%	
61) 4-Bromofluorobenzene	11.37	95	137542	18.14	ug/l	0.00
Spiked Amount 50.000			Recovery	=	36.28%	
Target Compounds						Qvalue
16) Acetone	2.19	43	42403	31.92	ug/l #	87
18) Methyl Acetate	2.30	43	69483	11.91	ug/l	95
20) Methylene Chloride	2.15	84	7040	2.56	ug/l	92
50) 4-Methyl-2-Pentanone	8.22	43	14036	3.04	ug/l	90
85) p-Isopropyltoluene	12.42	119	11814	1.25	ug/l	95
94) Naphthalene	14.39	128	3323383	506.27	ug/l	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sample Results: **VF045705.D**

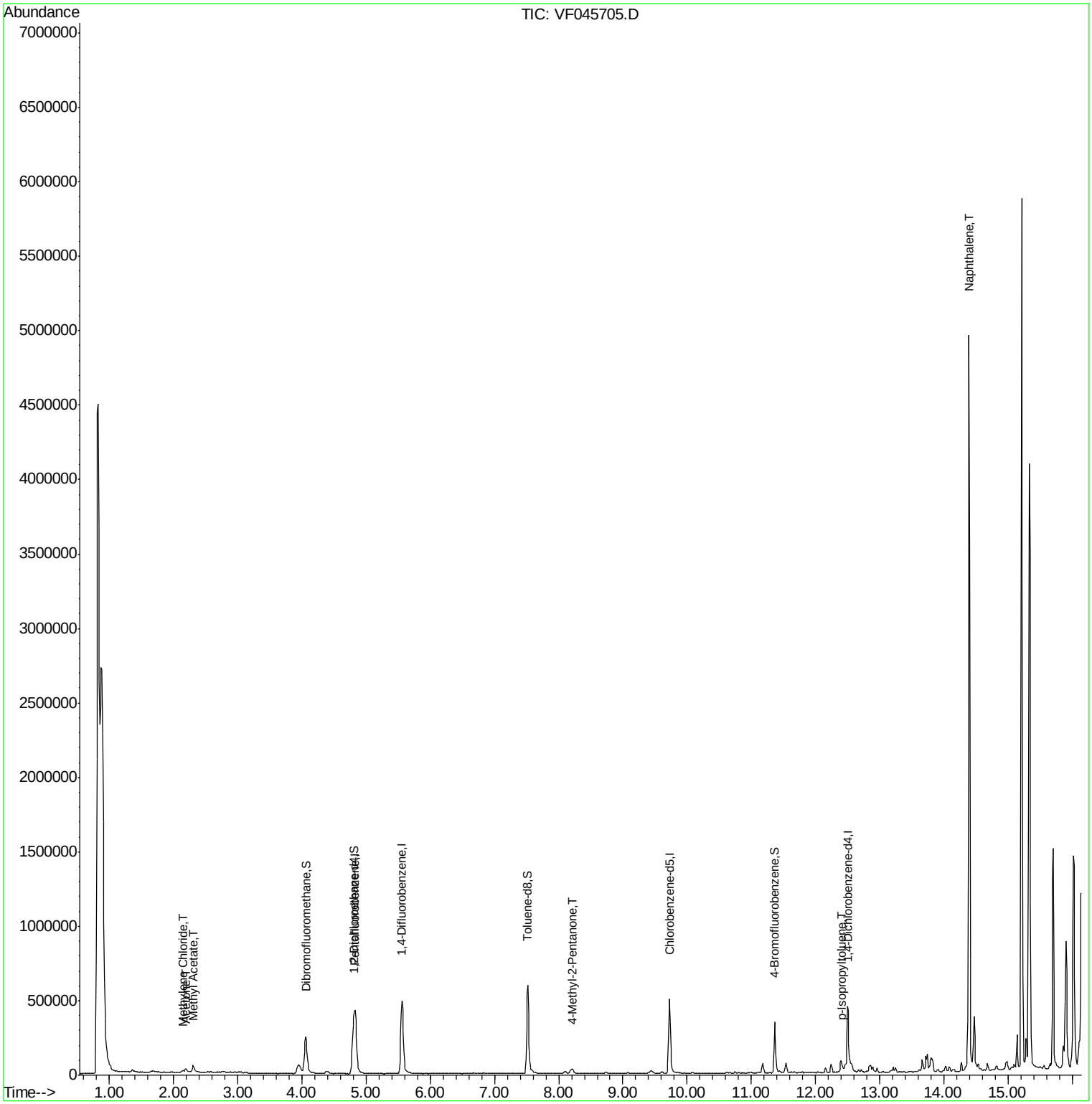
5

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

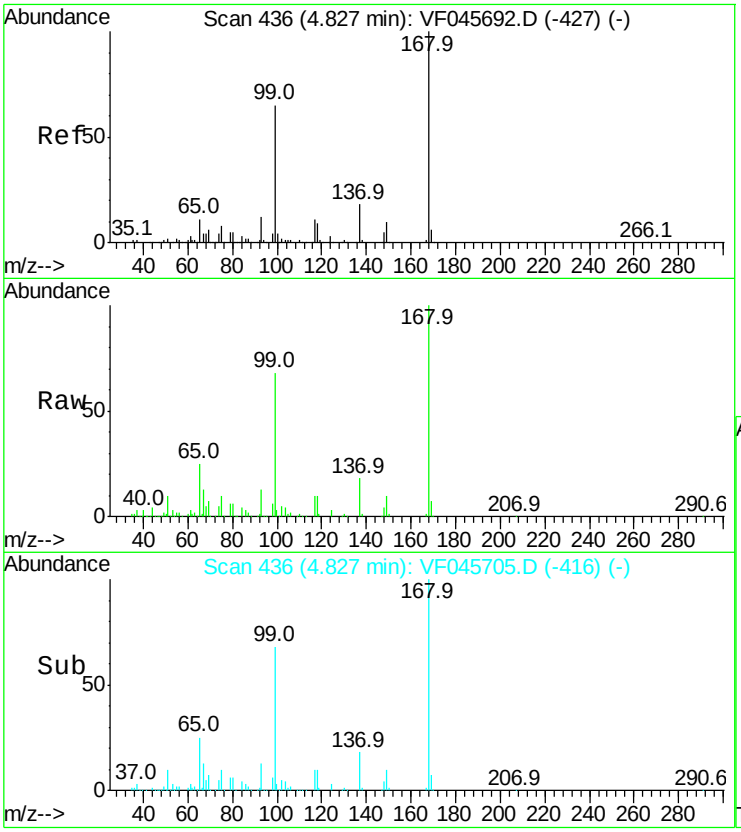
A B C D E F G H I J

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Oct 20 10:07:59 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration



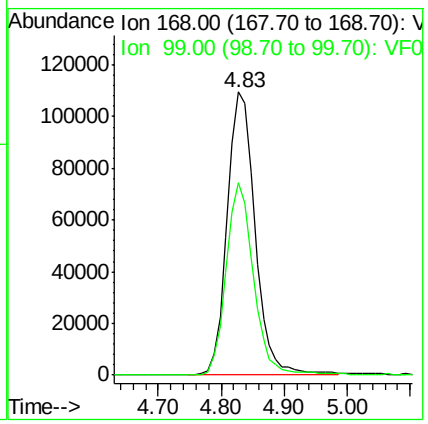
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

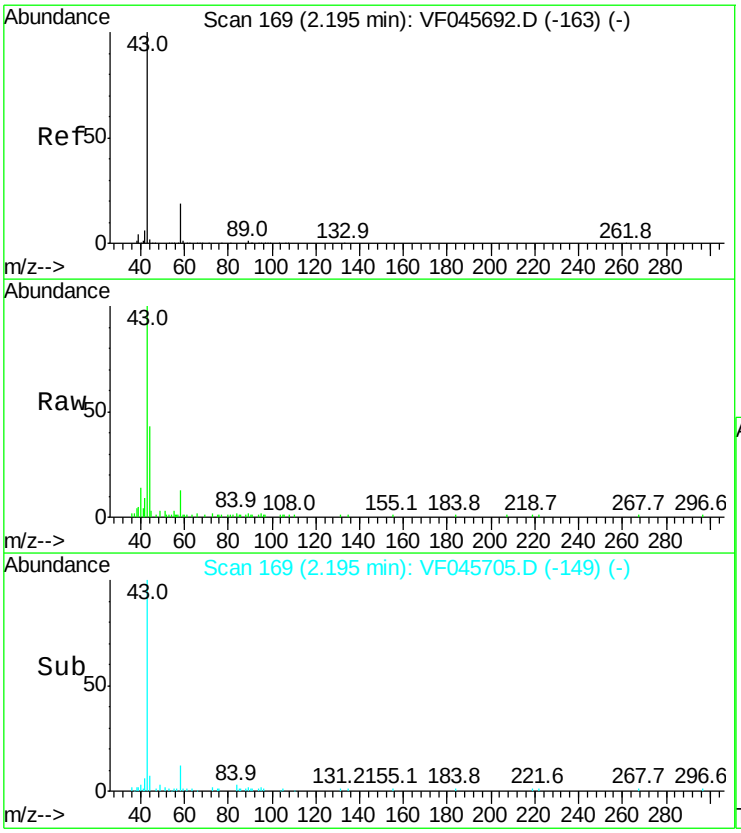


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.83 min Scan# 436
Delta R.T. 0.00 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion:168 Resp: 335834

Ion	Ratio	Lower	Upper
168	100		
99	68.0	52.3	78.5

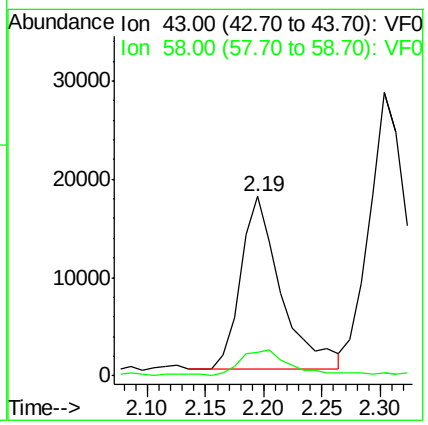




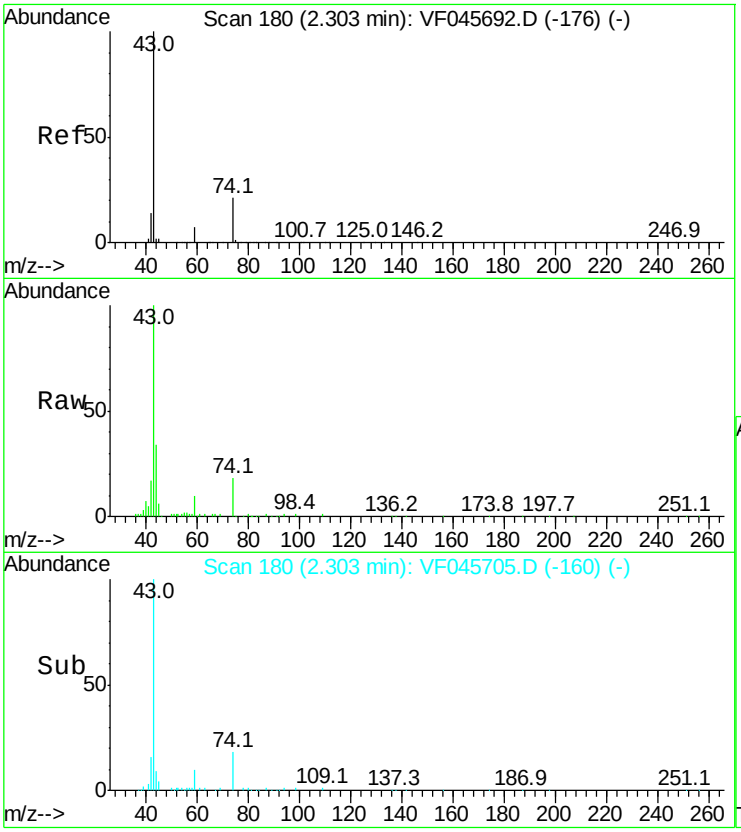
#16
Acetone
Concen: 31.92 ug/l
RT: 2.19 min Scan# 169
Delta R.T. 0.00 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion: 43 Resp: 42403

Ion	Ratio	Lower	Upper
43	100		
58	12.9	14.9	22.3#



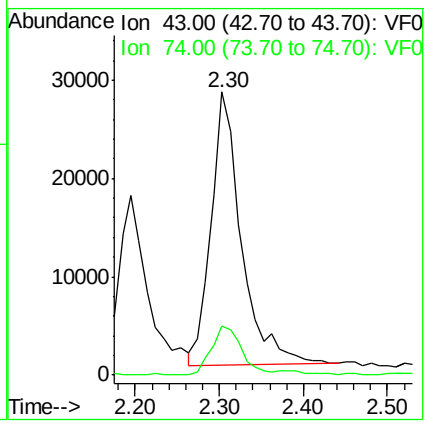
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

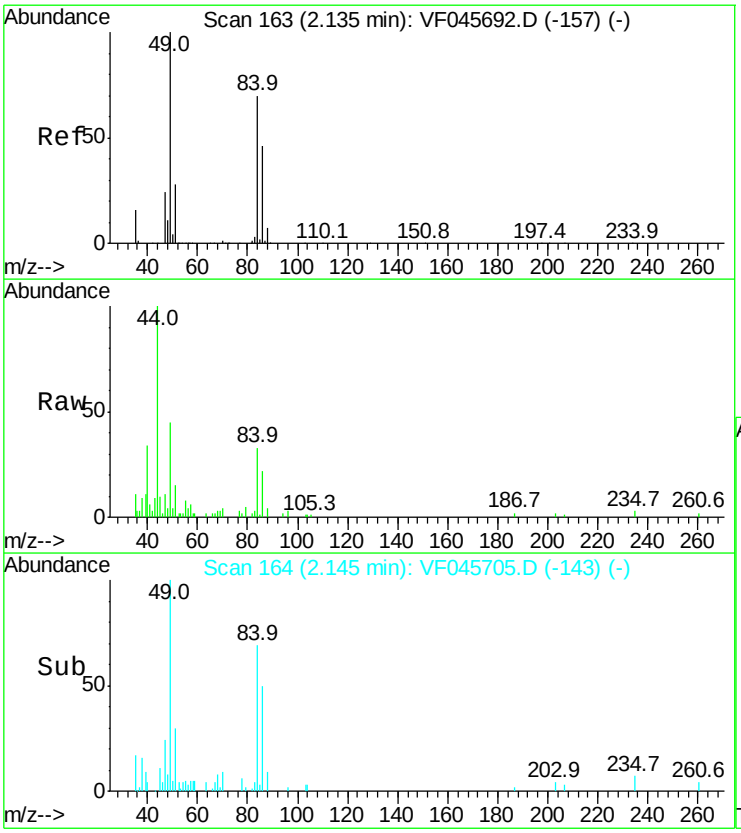


#18
Methyl Acetate
Concen: 11.91 ug/l
RT: 2.30 min Scan# 180
Delta R.T. 0.00 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion: 43 Resp: 69483

Ion	Ratio	Lower	Upper
43	100		
74	17.5	16.0	24.0

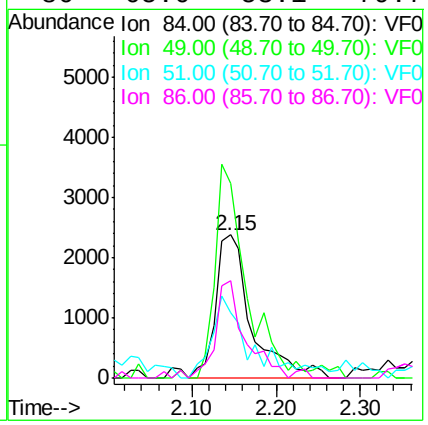




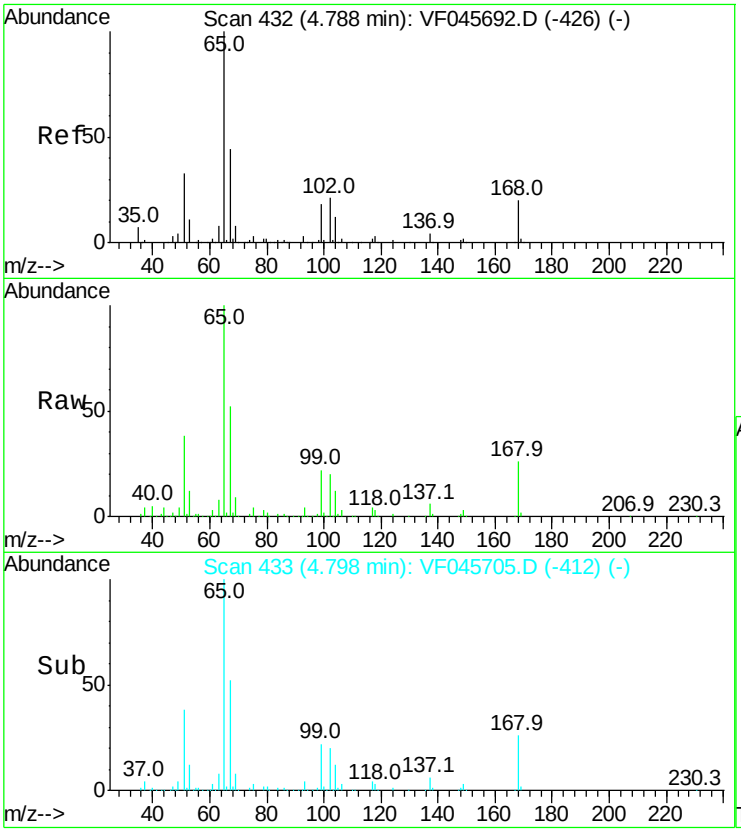
#20
Methylene Chloride
Concen: 2.56 ug/l
RT: 2.15 min Scan# 164
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion: 84 Resp: 7040

Ion	Ratio	Lower	Upper
84	100		
49	130.4	117.4	176.2
51	44.2	33.8	50.6
86	65.0	53.1	79.7



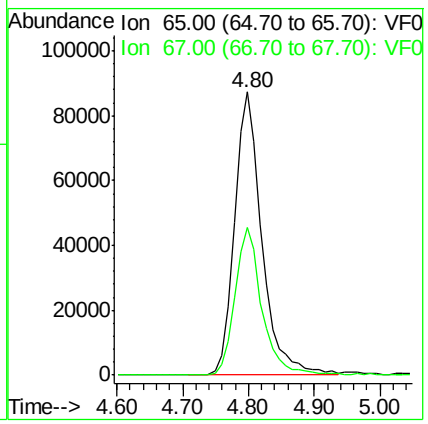
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

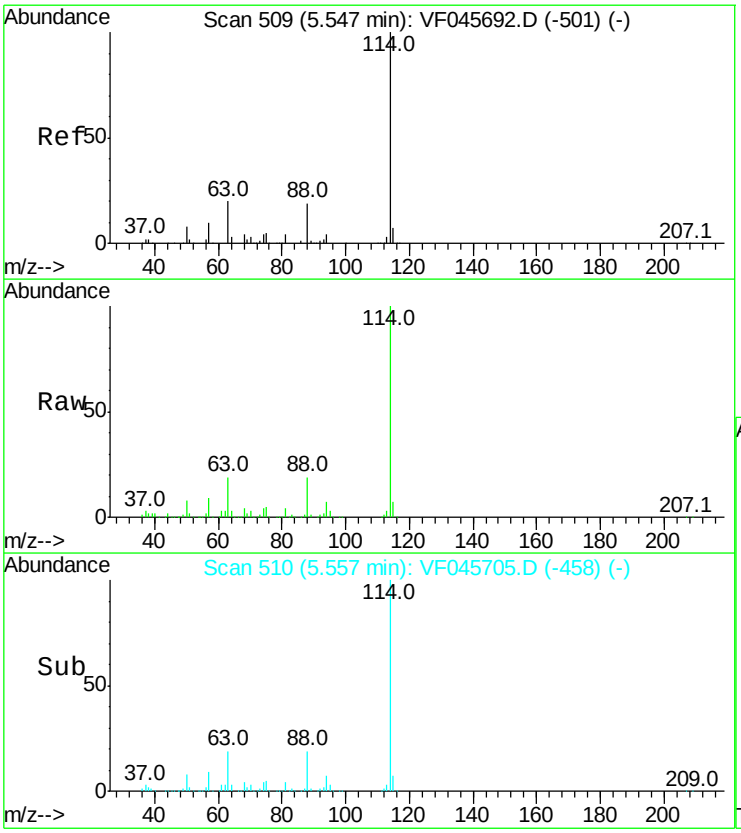


#32
1,2-Dichloroethane-d4
Concen: 53.89 ug/l
RT: 4.80 min Scan# 433
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion: 65 Resp: 253873

Ion	Ratio	Lower	Upper
65	100		
67	52.0	0.0	99.6

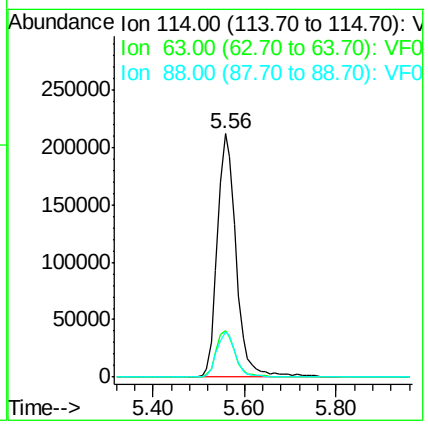




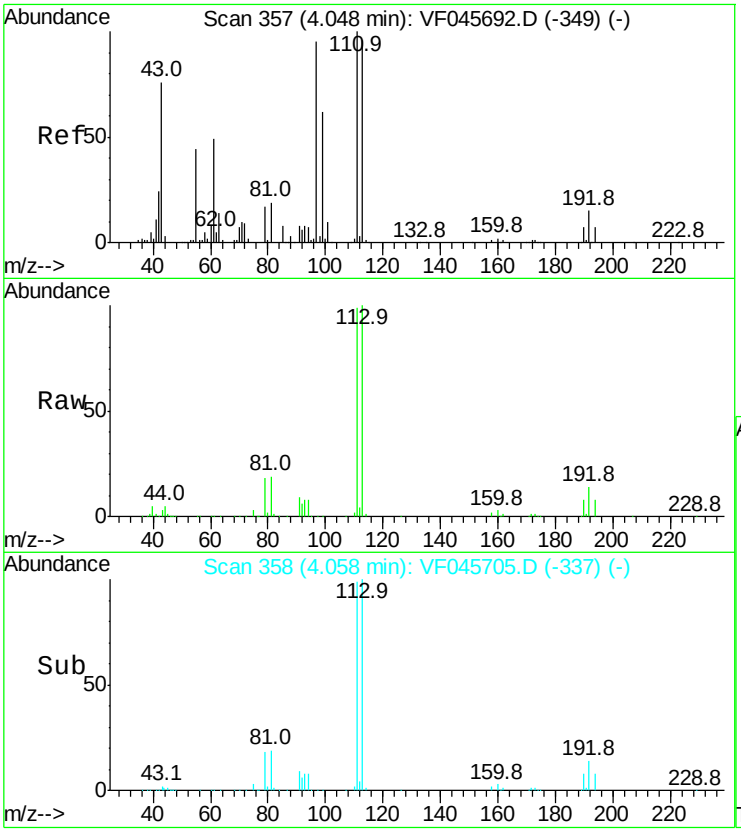
#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.56 min Scan# 510
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion:114 Resp: 599757

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	40.8
88	18.8	0.0	38.2



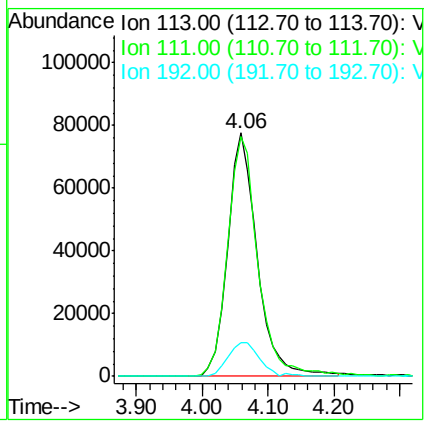
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

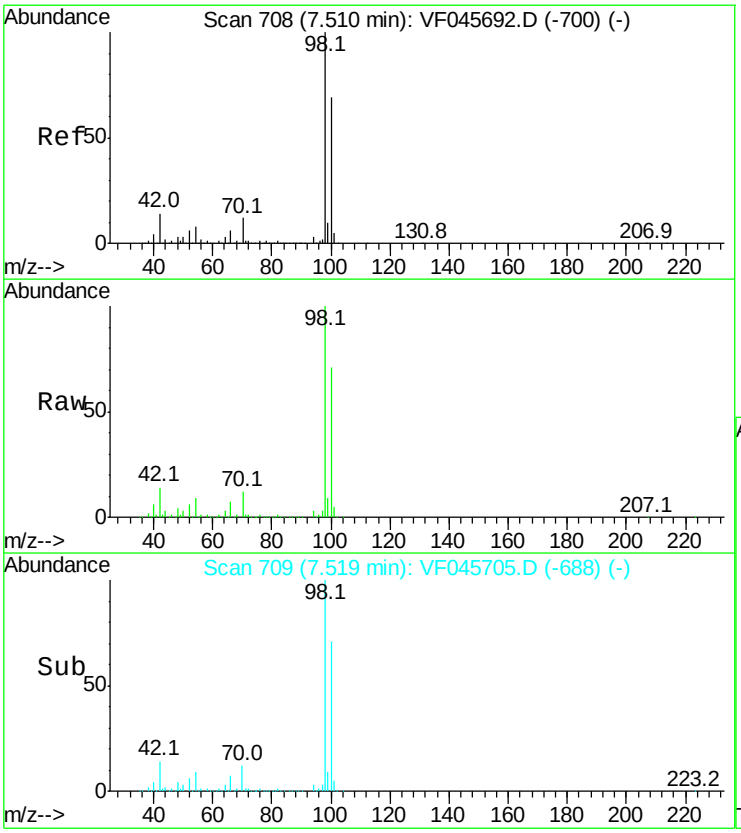


#34
Dibromofluoromethane
Concen: 50.18 ug/l
RT: 4.06 min Scan# 358
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion:113 Resp: 243454

Ion	Ratio	Lower	Upper
113	100		
111	98.7	83.2	124.8
192	14.1	12.8	19.2

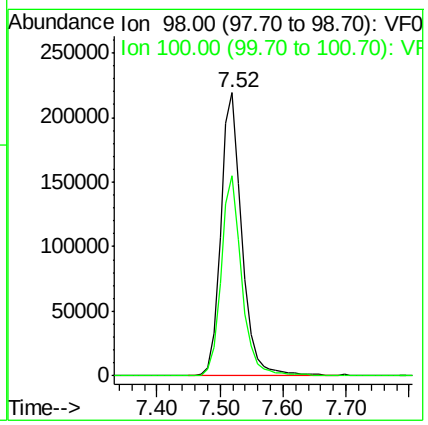




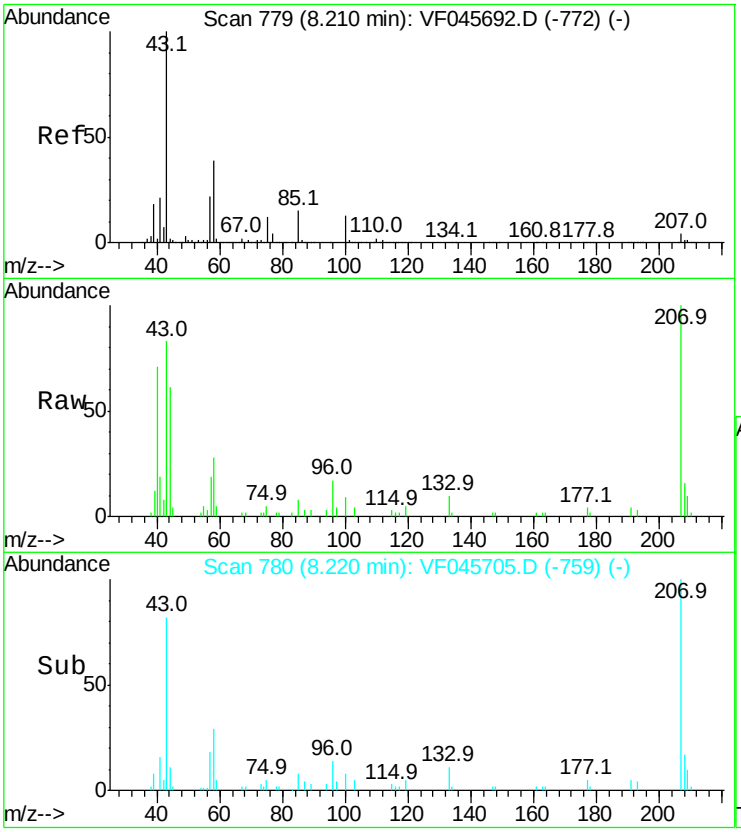
#49
Toluene-d8
Concen: 33.88 ug/l
RT: 7.52 min Scan# 709
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion: 98 Resp: 512182

Ion	Ratio	Lower	Upper
98	100		
100	70.8	55.3	82.9



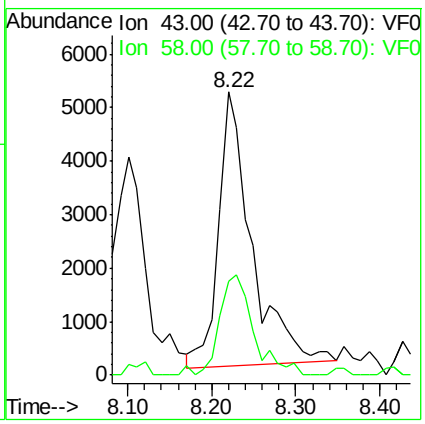
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

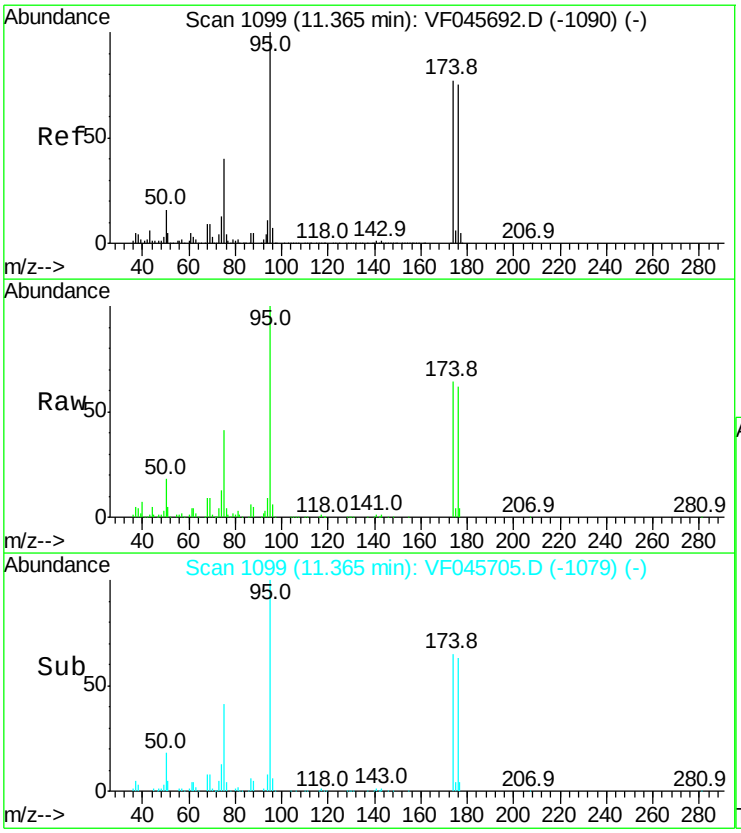


#50
4-Methyl-2-Pentanone
Concen: 3.04 ug/l
RT: 8.22 min Scan# 780
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion: 43 Resp: 14036

Ion	Ratio	Lower	Upper
43	100		
58	33.1	31.3	46.9

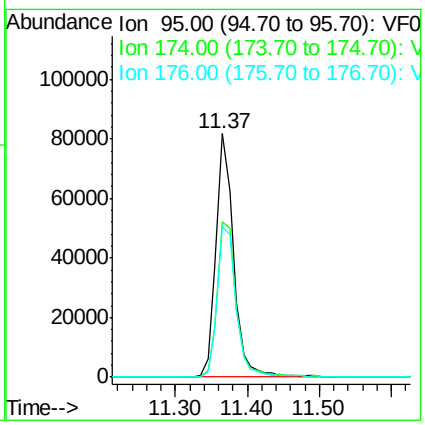




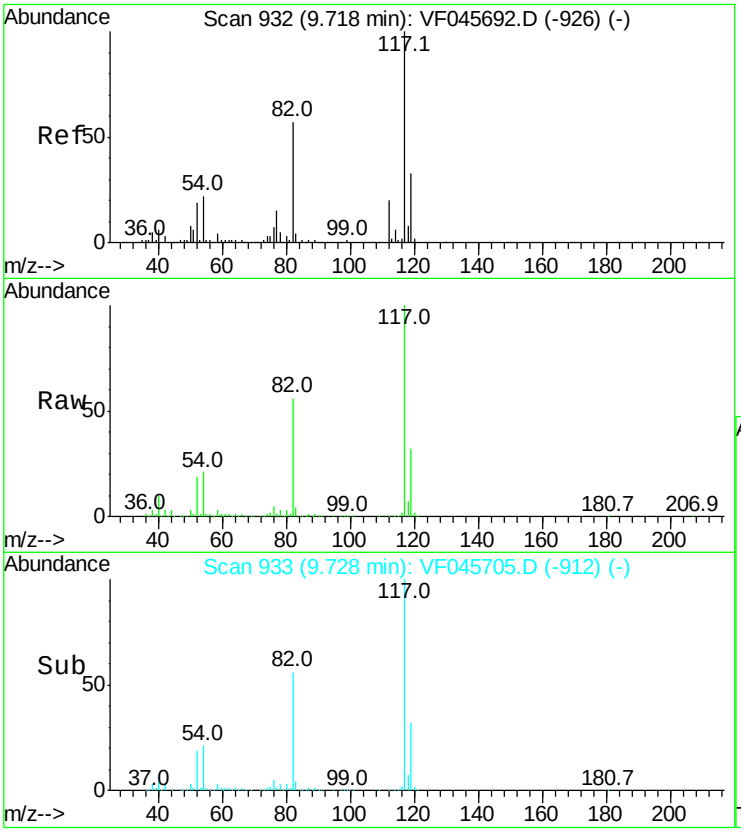
#61
4-Bromofluorobenzene
Concen: 18.14 ug/l
RT: 11.37 min Scan# 1099
Delta R.T. 0.00 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion: 95 Resp: 137542

Ion	Ratio	Lower	Upper
95	100		
174	63.7	0.0	153.8
176	61.8	0.0	149.8



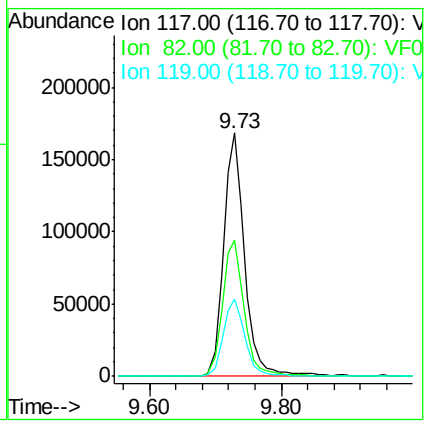
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

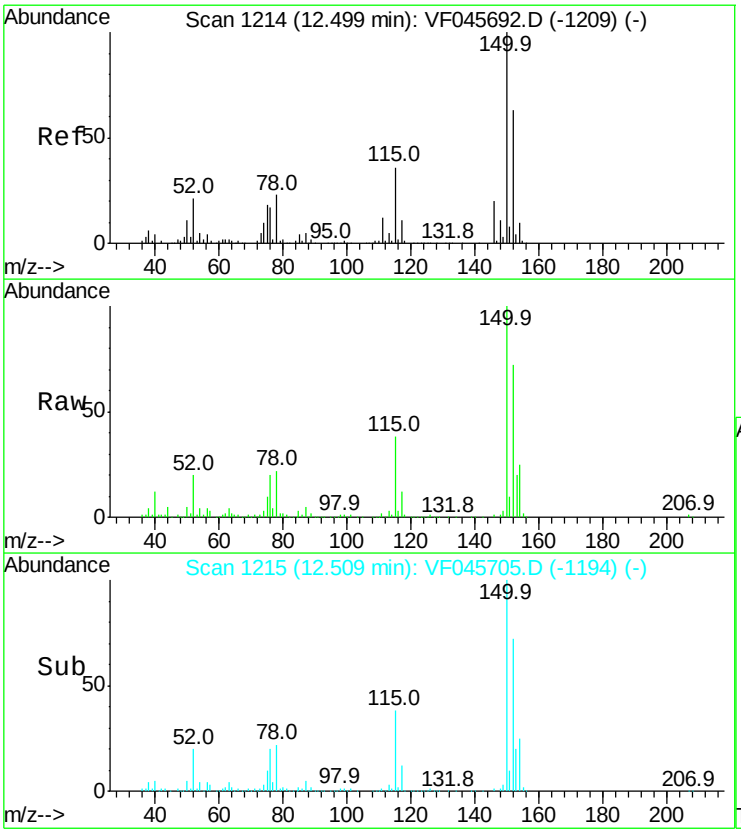


#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.73 min Scan# 933
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion:117 Resp: 375255

Ion	Ratio	Lower	Upper
117	100		
82	55.6	45.8	68.8
119	32.0	26.5	39.7

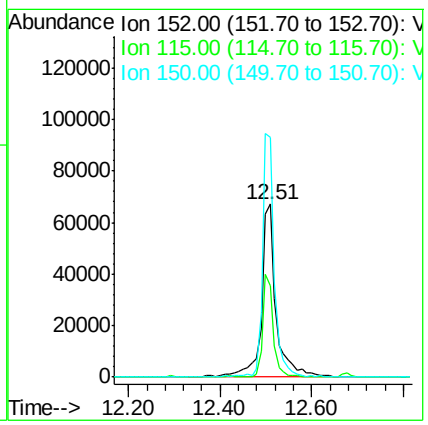




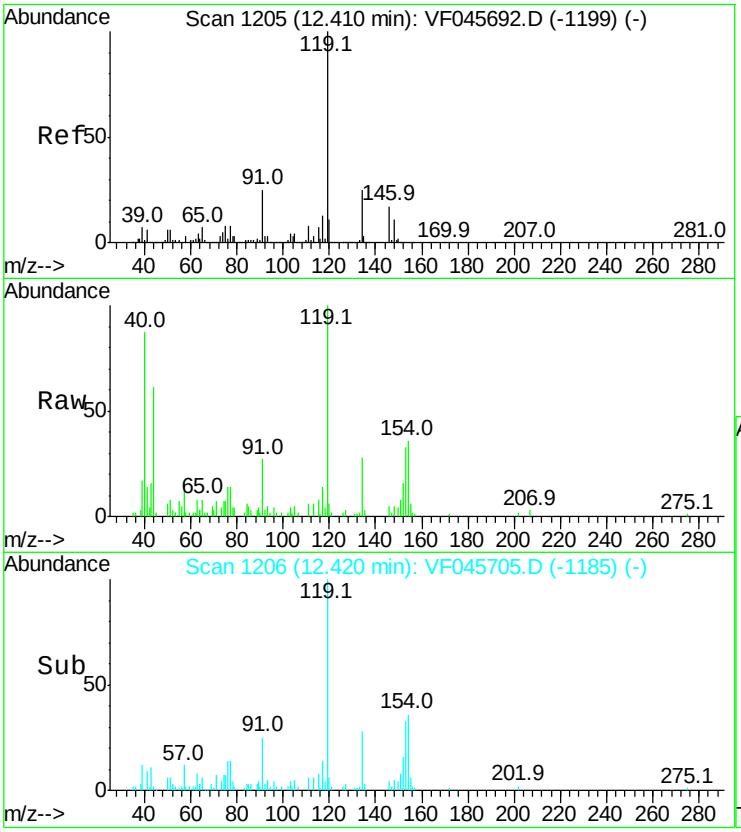
#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.51 min Scan# 1215
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion:152 Resp: 150457

Ion	Ratio	Lower	Upper
152	100		
115	52.9	29.1	87.3
150	138.4	0.0	320.6



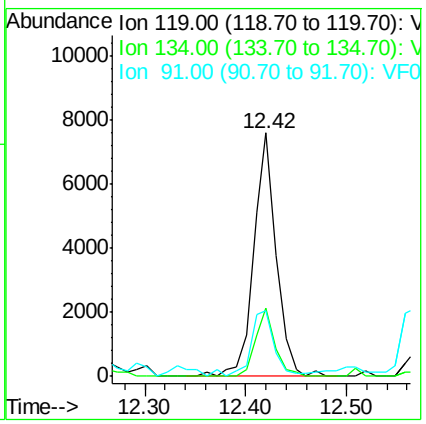
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

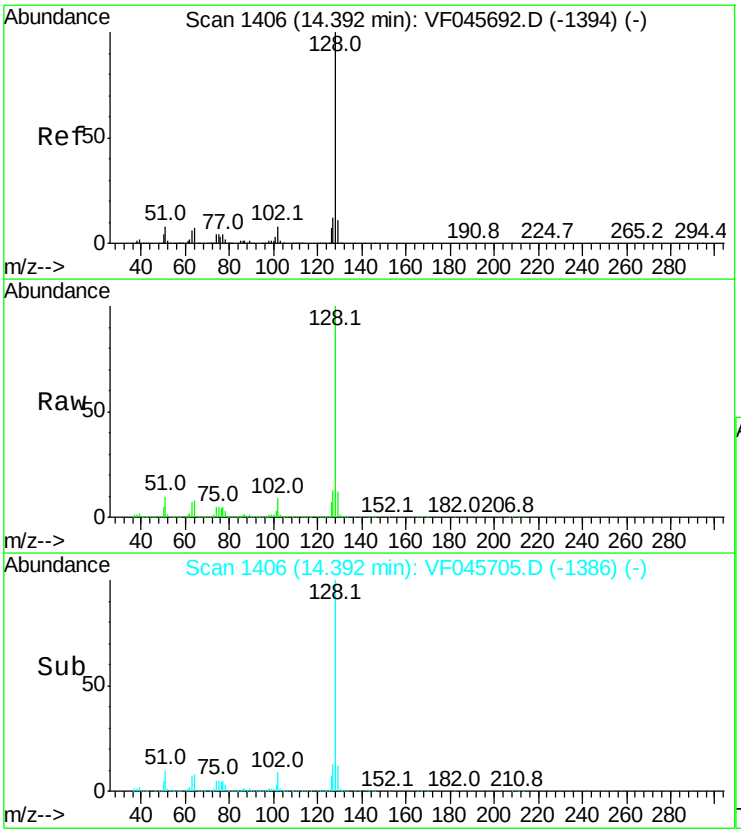


#85
p-Isopropyltoluene
Concen: 1.25 ug/l
RT: 12.42 min Scan# 1206
Delta R.T. 0.01 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion:119 Resp: 11814

Ion	Ratio	Lower	Upper
119	100		
134	28.2	12.6	37.6
91	26.9	12.6	37.6

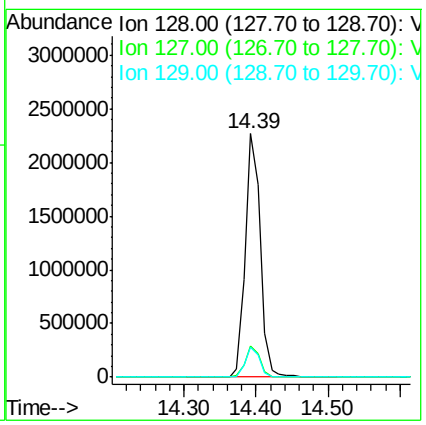




#94
Naphthalene
Concen: 506.27 ug/l
RT: 14.39 min Scan# 1406
Delta R.T. 0.00 min
Lab File: VF045705.D
Acq: 20 Oct 2015 2:15

Tgt Ion:128 Resp: 3323383

Ion	Ratio	Lower	Upper
128	100		
127	12.8	9.9	14.9
129	12.5	8.8	13.2



Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Title : SW846 8260

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.303	177	180	188	rVB	41728	95677	1.20%	0.246%
2	3.950	340	347	352	rBV3	59161	227727	2.85%	0.585%
3	4.058	352	358	368	rVB	246973	774589	9.68%	1.989%
4	4.827	426	436	450	rBV2	427874	1743444	21.79%	4.477%
5	5.557	504	510	525	rBV	491003	1366825	17.09%	3.510%
6	7.519	703	709	723	rBV	593132	1395108	17.44%	3.583%
7	8.210	773	779	785	rBV3	28518	93189	1.16%	0.239%
8	9.728	927	933	942	rBV	497794	1126816	14.09%	2.894%
9	11.178	1076	1080	1084	rVB2	66581	123101	1.54%	0.316%
10	11.365	1093	1099	1105	rBV	342016	603096	7.54%	1.549%
11	11.533	1113	1116	1123	rVB	66120	127773	1.60%	0.328%
12	12.243	1185	1188	1192	rBV2	59597	87800	1.10%	0.225%
13	12.401	1201	1204	1208	rBV2	73911	163609	2.05%	0.420%
14	12.499	1211	1214	1225	rVB	434272	934287	11.68%	2.399%
15	12.854	1246	1250	1252	rBV2	42657	86548	1.08%	0.222%
16	13.663	1329	1332	1335	rBV2	77150	124621	1.56%	0.320%
17	13.742	1335	1340	1342	rVV2	115230	230021	2.88%	0.591%
18	13.801	1342	1346	1354	rVB3	91795	292041	3.65%	0.750%
19	14.274	1391	1394	1397	rBV	61115	83594	1.04%	0.215%
20	14.392	1397	1406	1410	rBV	4937302	7204203	90.05%	18.502%
21	14.471	1411	1414	1419	rVB	341488	496378	6.20%	1.275%
22	14.984	1462	1466	1470	rVB2	54831	139393	1.74%	0.358%
23	15.142	1479	1482	1485	rVB	221056	262876	3.29%	0.675%
24	15.211	1485	1489	1493	rBV	5836540	8000086	100.00%	20.546%
25	15.280	1493	1496	1498	rVV	192645	323512	4.04%	0.831%
26	15.329	1498	1501	1509	rVB	4050269	6305640	78.82%	16.194%
27	15.704	1535	1539	1542	rVV	1461069	2185375	27.32%	5.612%
28	15.862	1551	1555	1556	rBV	146959	215790	2.70%	0.554%
29	15.901	1556	1559	1566	rVB	847373	1419693	17.75%	3.646%
30	16.019	1566	1571	1576	rBV	1416616	2705453	33.82%	6.948%

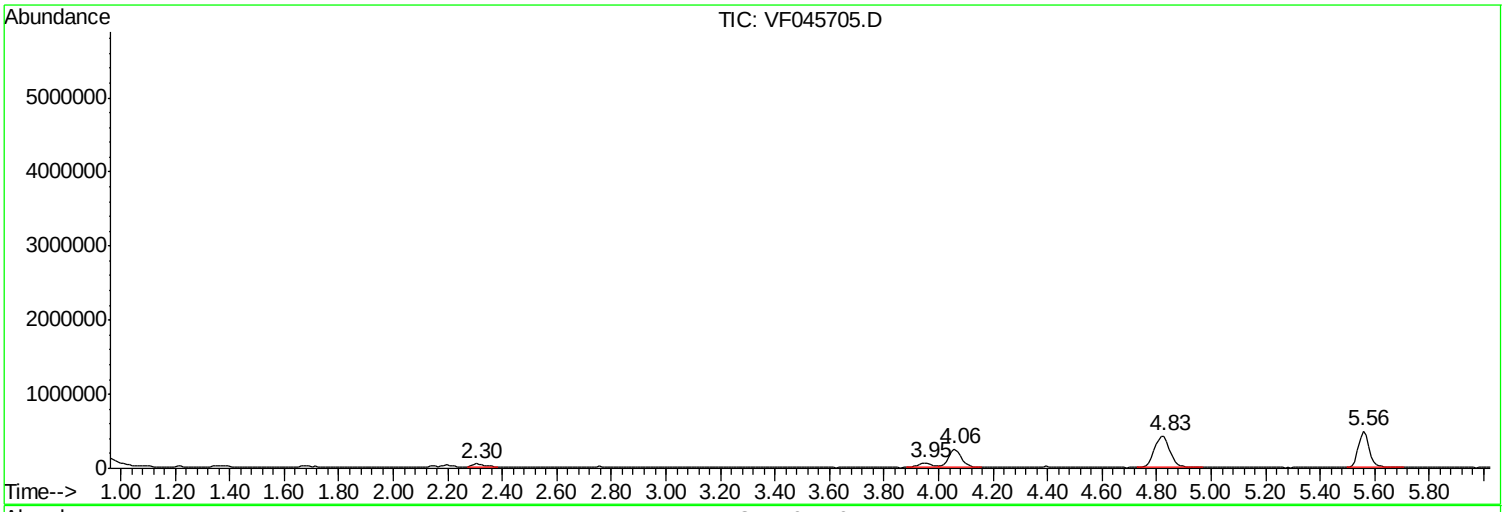
Sum of corrected areas: 38938265

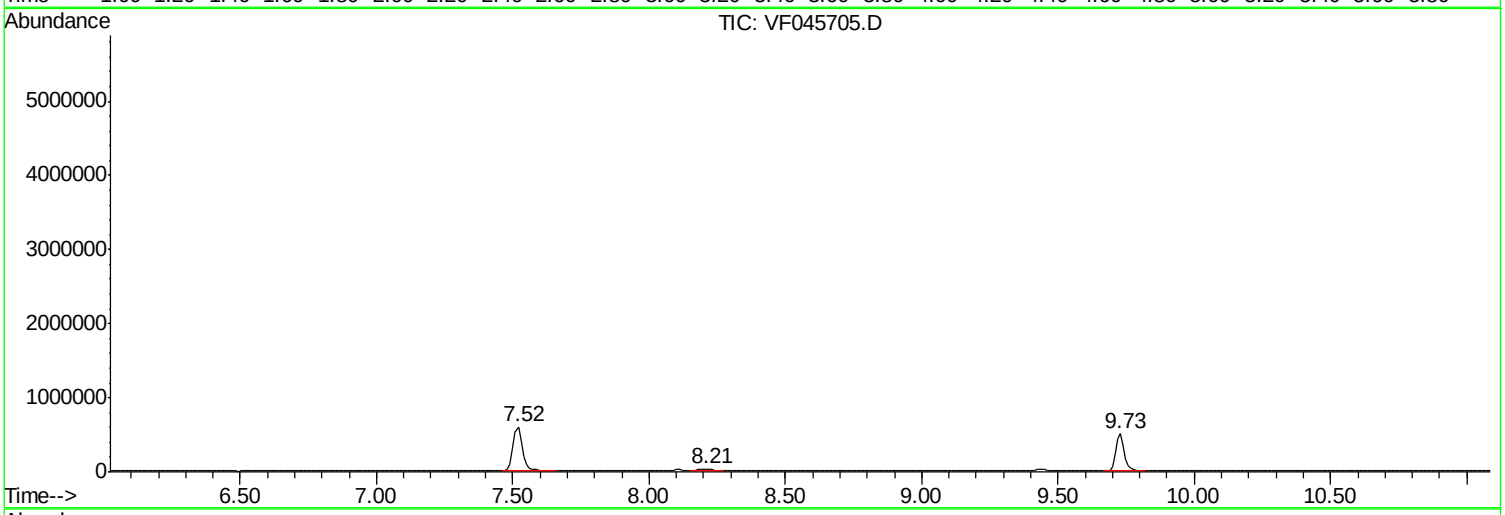
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

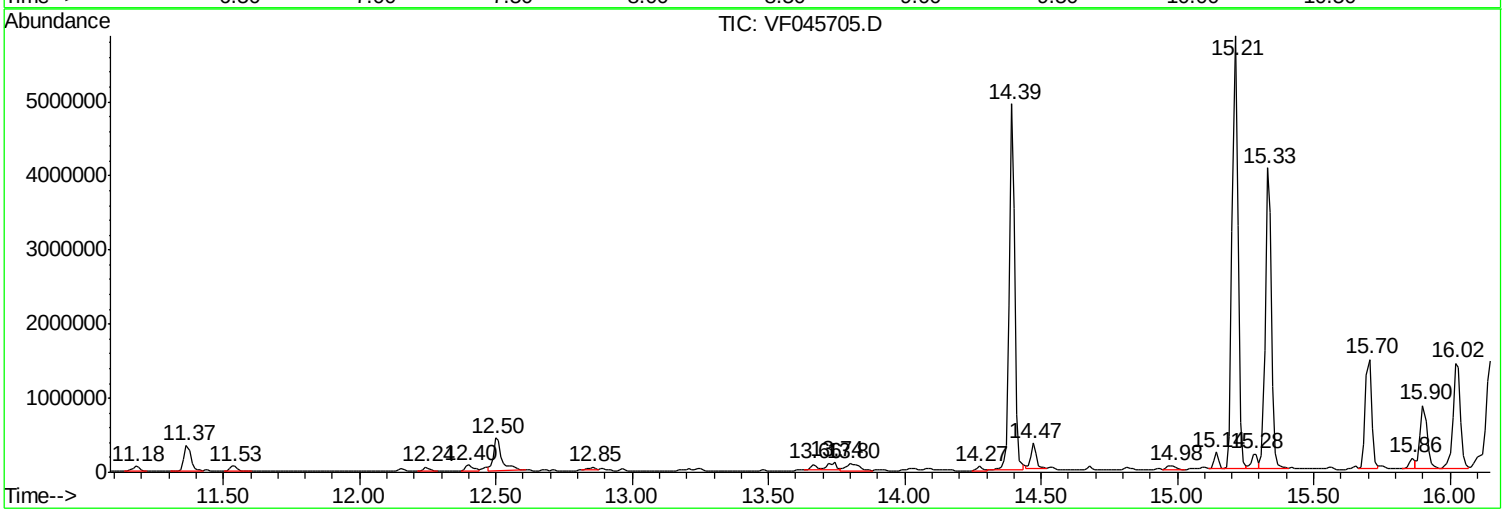
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58







Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

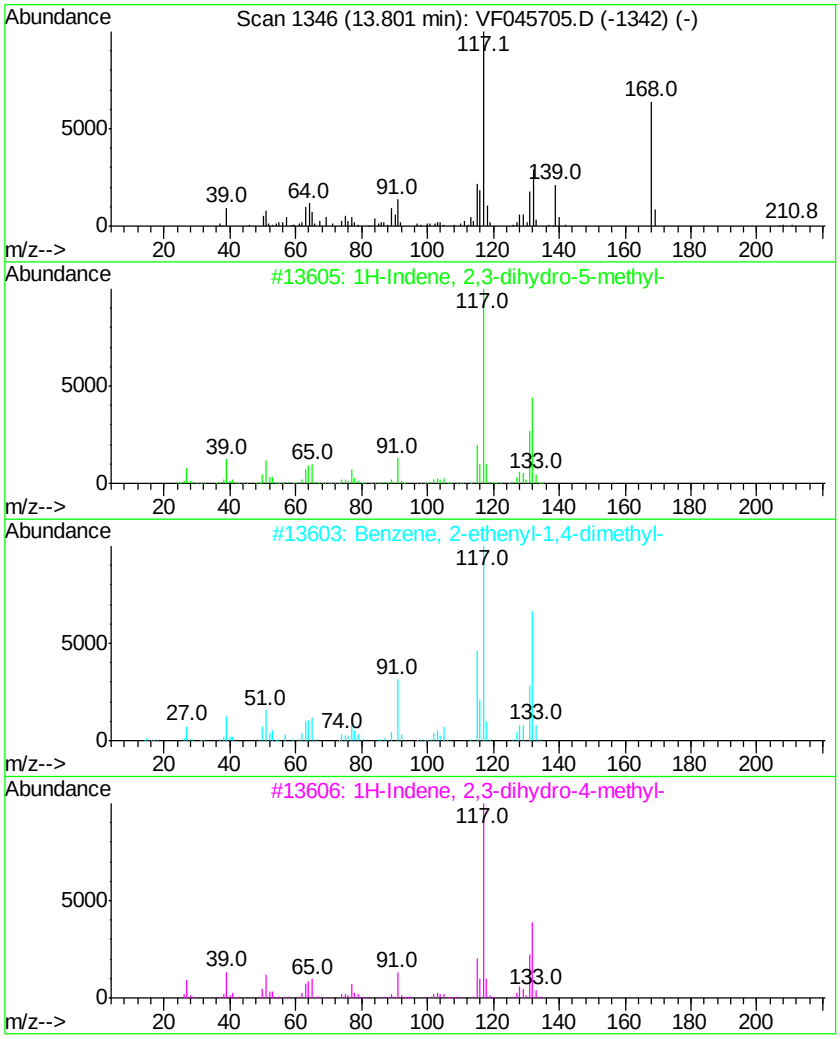
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

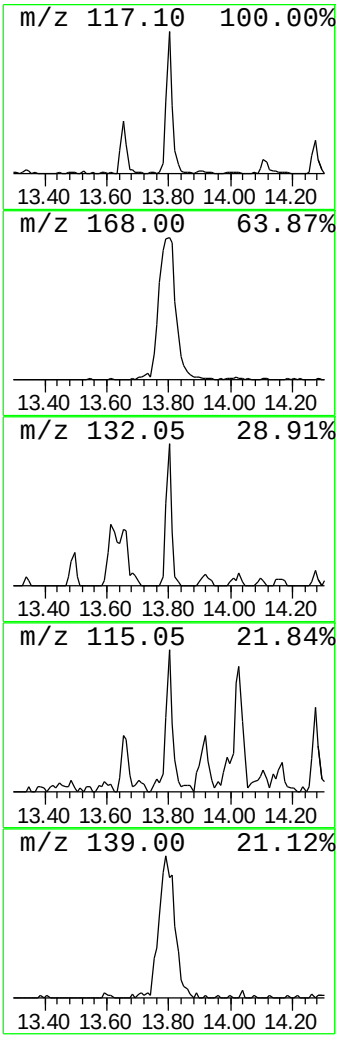
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

****
Peak Number 2 1H-Indene, 2,3-dihydro-5-me... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.80	15.63 ug/l	292041	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-5-methyl-	132	C10H12	000874-35-1	91
2	Benzene, 2-ethenyl-1,4-dimethyl-	132	C10H12	002039-89-6	64
3	1H-Indene, 2,3-dihydro-4-methyl-	132	C10H12	000824-22-6	64
4	Indan, 1-methyl-	132	C10H12	000767-58-8	60
5	1-Phenyl-1-butene	132	C10H12	000824-90-8	47





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Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On    : 20 Oct 2015   2:15
Operator  : FY/SY
Sample    : G4046-02
Misc      : 1.00g/5mL/MSVOA F/SOIL
ALS Vial  : 23   Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title  : SW846 8260

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

*********************************************************************
Peak Number  3  2-Benzothiophene  #            Concentration Rank  6

  R.T.   EstConc          Area       Relative to ISTD        R.T.
---------------------------------------------------------------------
 14.47   26.56 ug/l      496378    1,4-Dichlorobenzene-d4     12.51

 Hit# of  5    Tentative ID              MW  MolForm       CAS#       Qual
---------------------------------------------------------------------
 1 2-Benzothiophene  #                   134 C8H6S         000270-82-6 97
 2 Benzo[b]thiophene                     134 C8H6S         000095-15-8 97
 3 Cyclopenta[c]thiapyran                134 C8H6S         000270-63-3 94
 4 Thiazolidin-4-one, 5-benzylideno...   287 C13H9N3OS2    351062-07-2 50
 5 Cyclopenta[b]thiapyran                134 C8H6S         000271-17-0 47
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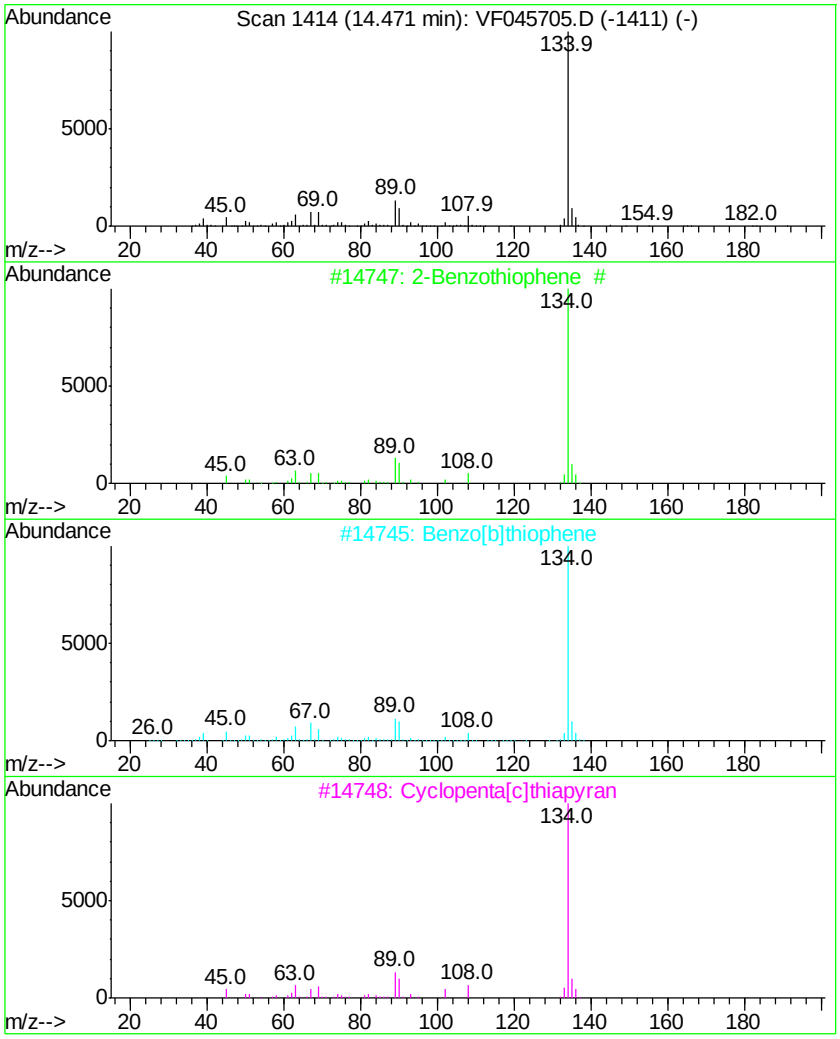
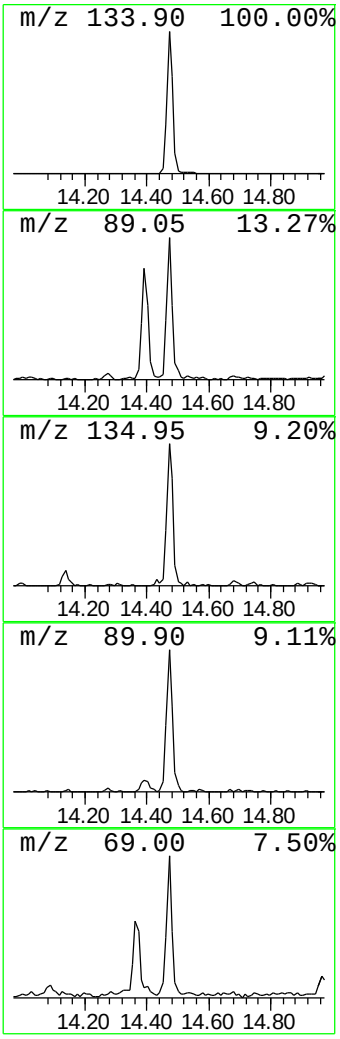




Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

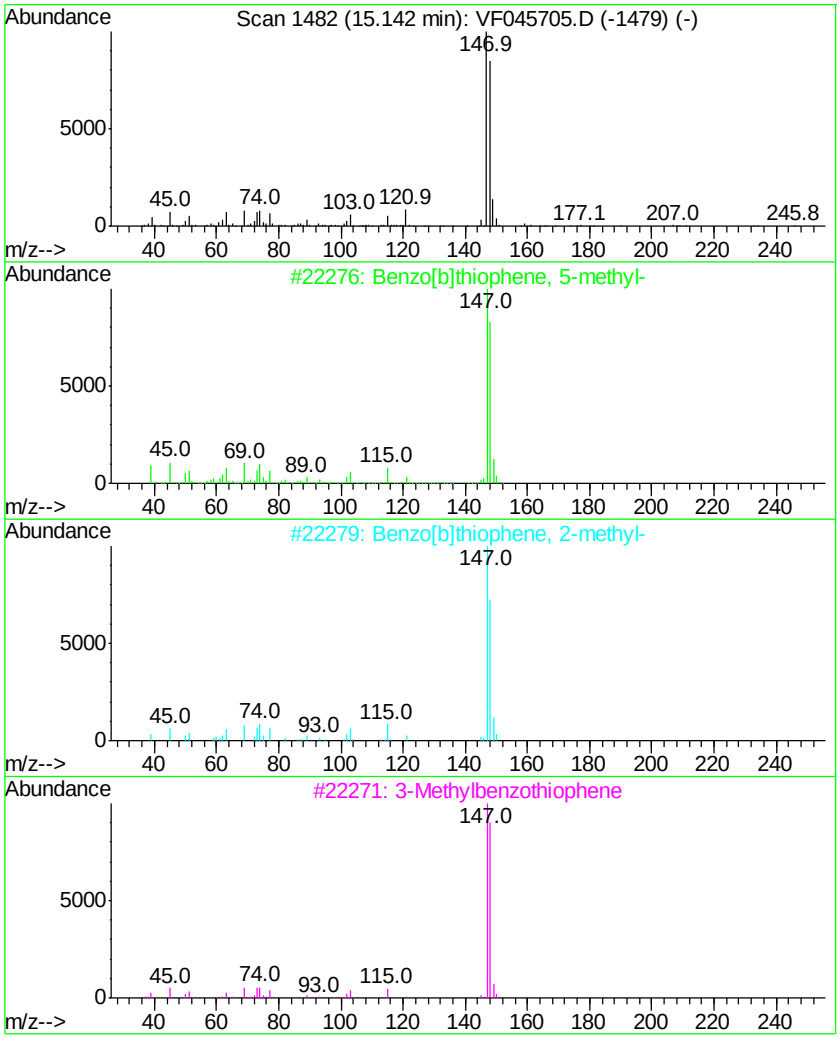
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

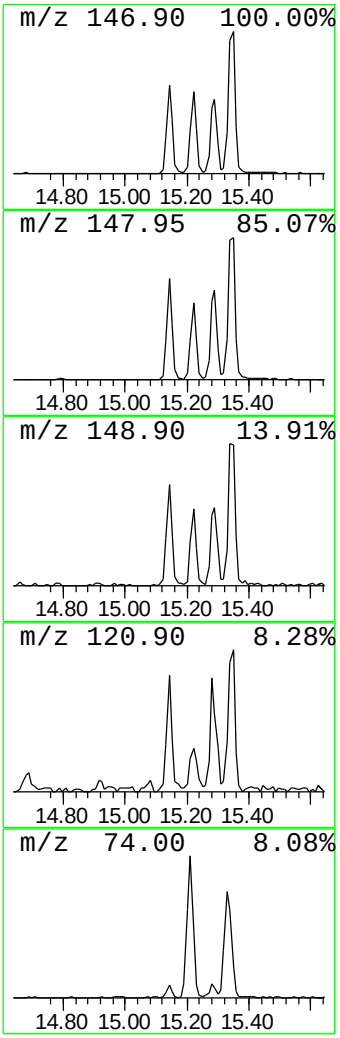
****

Peak Number 4 Benzo[b]thiophene, 5-methyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.14	14.07 ug/l	262876	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzo[b]thiophene, 5-methyl-	148	C9H8S	014315-14-1	91
2	Benzo[b]thiophene, 2-methyl-	148	C9H8S	001195-14-8	91
3	3-Methylbenzothiophene	148	C9H8S	001455-18-1	91
4	Benzo[b]thiophene, 4-methyl-	148	C9H8S	014315-11-8	91
5	Benzene, 1-ethynyl-2-(methylthio)-	148	C9H8S	078905-08-5	86





Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

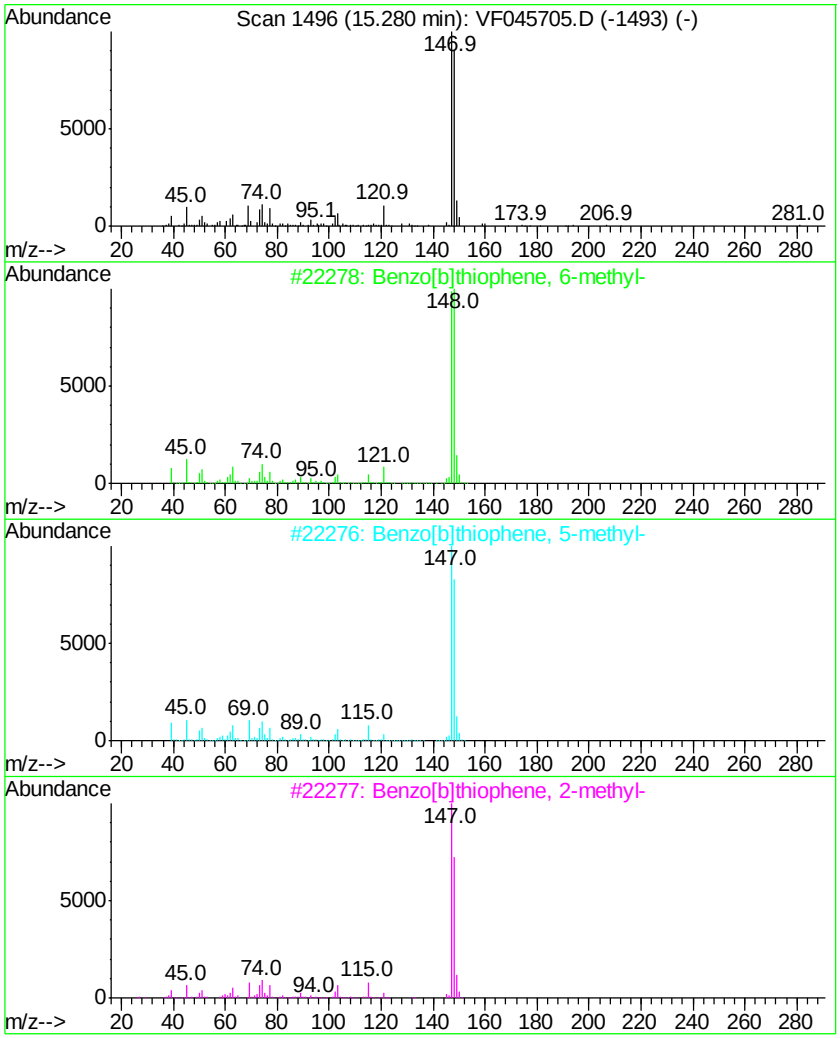
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

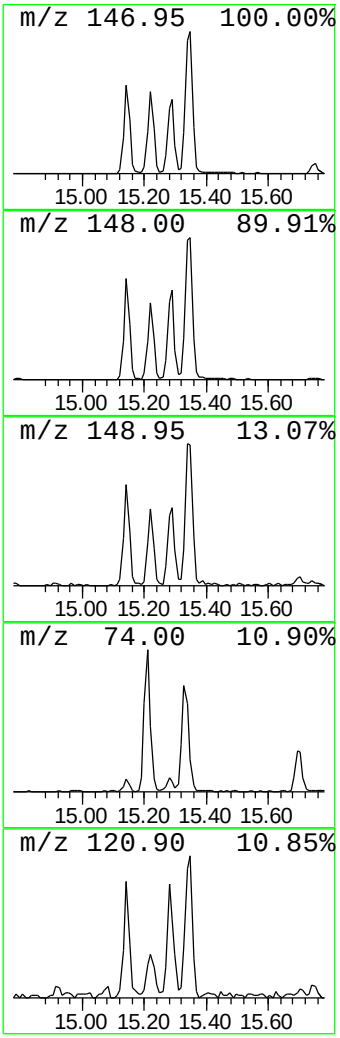
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

****
Peak Number 6 Benzo[b]thiophene, 6-methyl- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.28	17.31 ug/l	323512	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzo[b]thiophene, 6-methyl-	148	C9H8S	016587-47-6	94
2	Benzo[b]thiophene, 5-methyl-	148	C9H8S	014315-14-1	93
3	Benzo[b]thiophene, 2-methyl-	148	C9H8S	001195-14-8	91
4	3-Methylbenzothiophene	148	C9H8S	001455-18-1	91
5	Benzo[b]thiophene, 4-methyl-	148	C9H8S	014315-11-8	90





Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

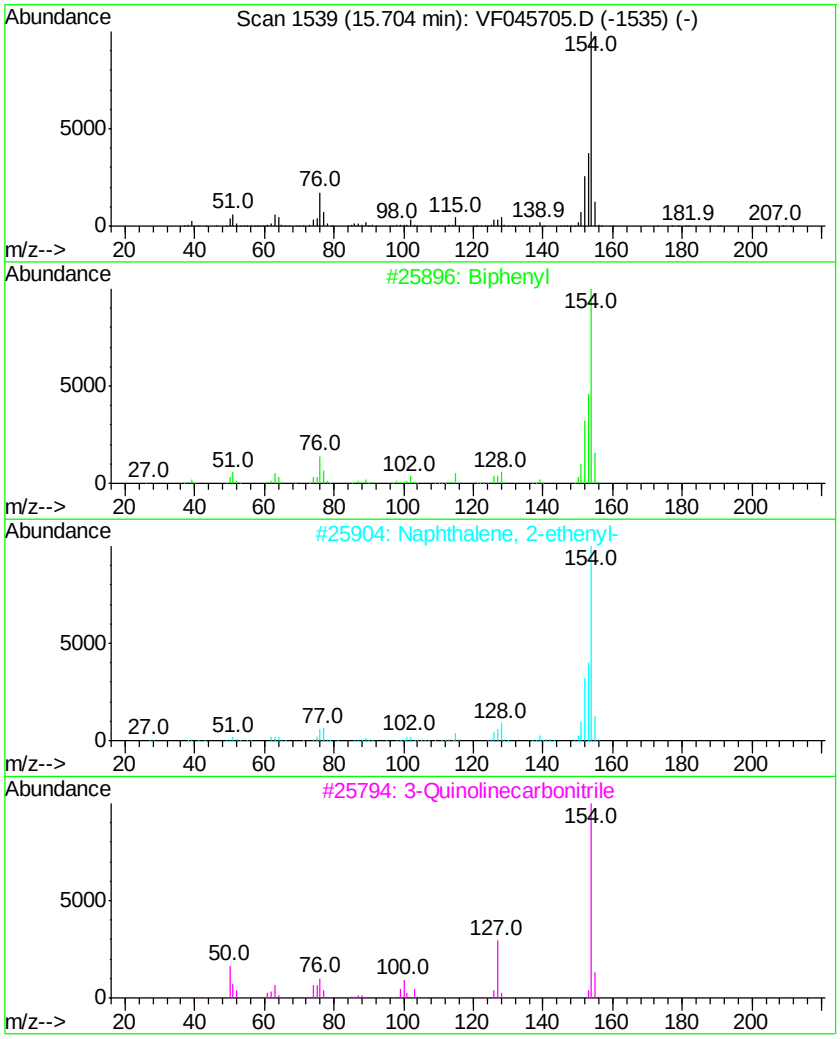
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

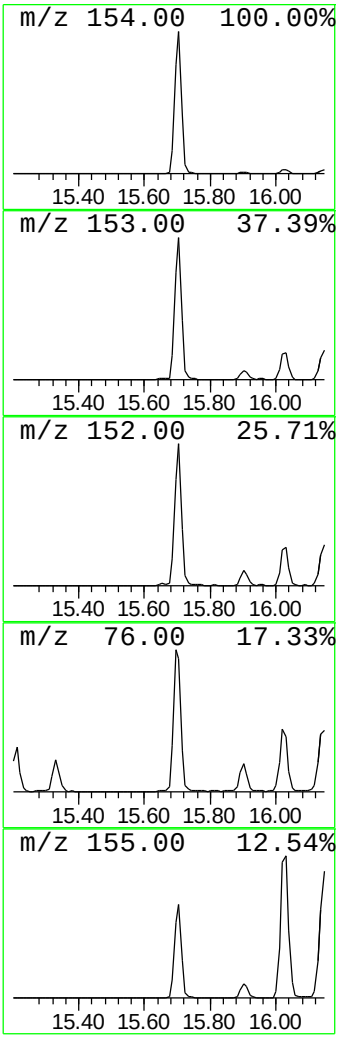
****

Peak Number 8 Biphenyl Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.70	116.95 ug/l	2185380	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Biphenyl	154	C12H10	000092-52-4	94
2	Naphthalene, 2-ethenyl-	154	C12H10	000827-54-3	64
3	3-Quinolinecarbonitrile	154	C10H6N2	034846-64-5	50
4	Acenaphthene	154	C12H10	000083-32-9	50
5	6-Cyanoquinoline	154	C10H6N2	023395-72-4	40





Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

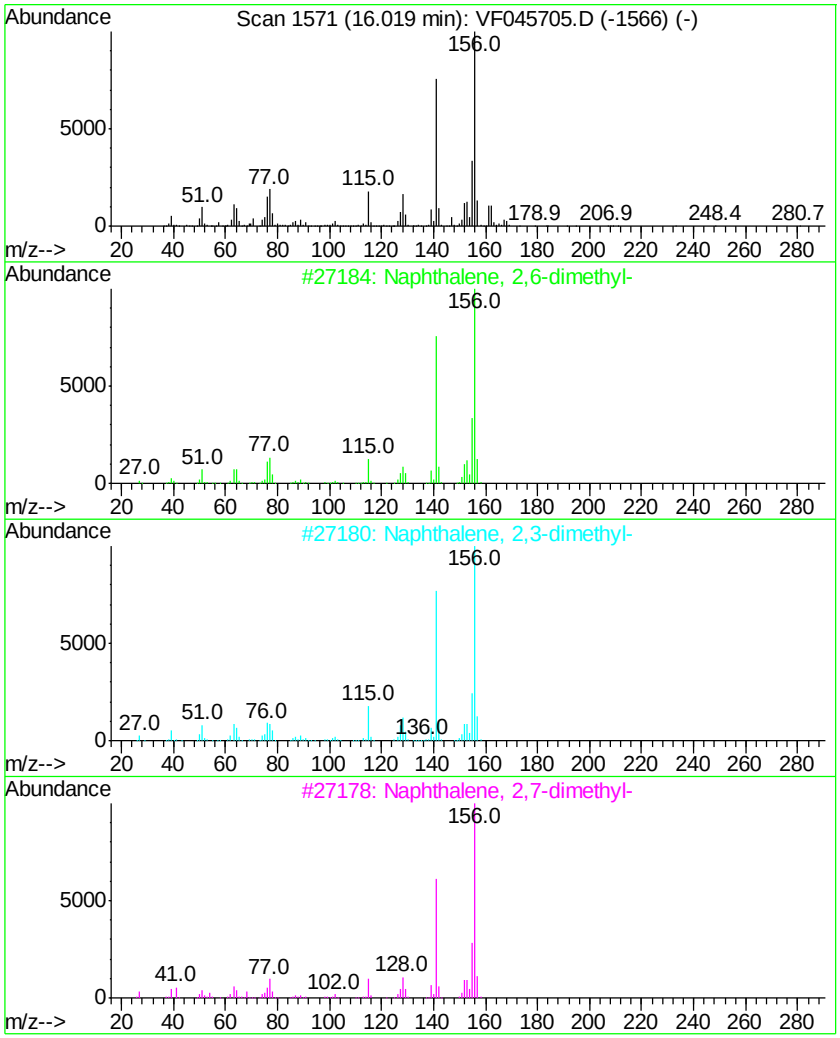
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

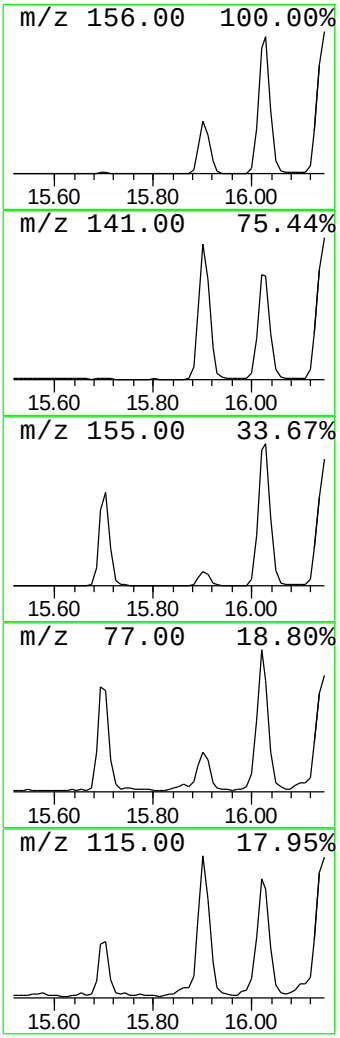
****

Peak Number 10 Naphthalene, 2,6-dimethyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.02	144.79 ug/l	2705450	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2,6-dimethyl-	156	C12H12	000581-42-0	98
2	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	97
3	Naphthalene, 2,7-dimethyl-	156	C12H12	000582-16-1	97
4	Naphthalene, 1,3-dimethyl-	156	C12H12	000575-41-7	96
5	Naphthalene, 1,5-dimethyl-	156	C12H12	000571-61-9	96





Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_F\DATA\VF102015\
Data File : VF045705.D
Acq On : 20 Oct 2015 2:15
Operator : FY/SY
Sample : G4046-02
Misc : 1.00g/5mL/MSVOA_F/SOIL
ALS Vial : 23 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
1H-Indene, 2,3-di...	13.80	15.6	ug/l	292041	4	12.51	934287	50.0
2-Benzothiophene #	14.47	26.6	ug/l	496378	4	12.51	934287	50.0
Benzo[b]thiophene...	15.14	14.1	ug/l	262876	4	12.51	934287	50.0
Benzo[b]thiophene...	15.28	17.3	ug/l	323512	4	12.51	934287	50.0
Biphenyl	15.70	117.0	ug/l	2185380	4	12.51	934287	50.0
Naphthalene, 2,6-...	16.02	144.8	ug/l	2705450	4	12.51	934287	50.0

Quantitation Report (LSC Reviewed)

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045725.D
Acq On : 21 Oct 2015 17:28
Operator : FY/SY
Sample : G4046-02RE
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 22 12:45:29 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.82	168	278749	50.00	ug/l	-0.01
33) 1,4-Difluorobenzene	5.55	114	480943	50.00	ug/l	-0.01
62) Chlorobenzene-d5	9.72	117	247927	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.50	152	67866	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.79	65	204247	47.94	ug/l	-0.01
Spiked Amount 50.000			Recovery	=	95.88%	
34) Dibromofluoromethane	4.05	113	226611	50.52	ug/l	-0.01
Spiked Amount 50.000			Recovery	=	101.04%	
49) Toluene-d8	7.51	98	449290	34.50	ug/l	0.00
Spiked Amount 50.000			Recovery	=	69.00%	
61) 4-Bromofluorobenzene	11.36	95	101214	15.27	ug/l	0.00
Spiked Amount 50.000			Recovery	=	30.54%	

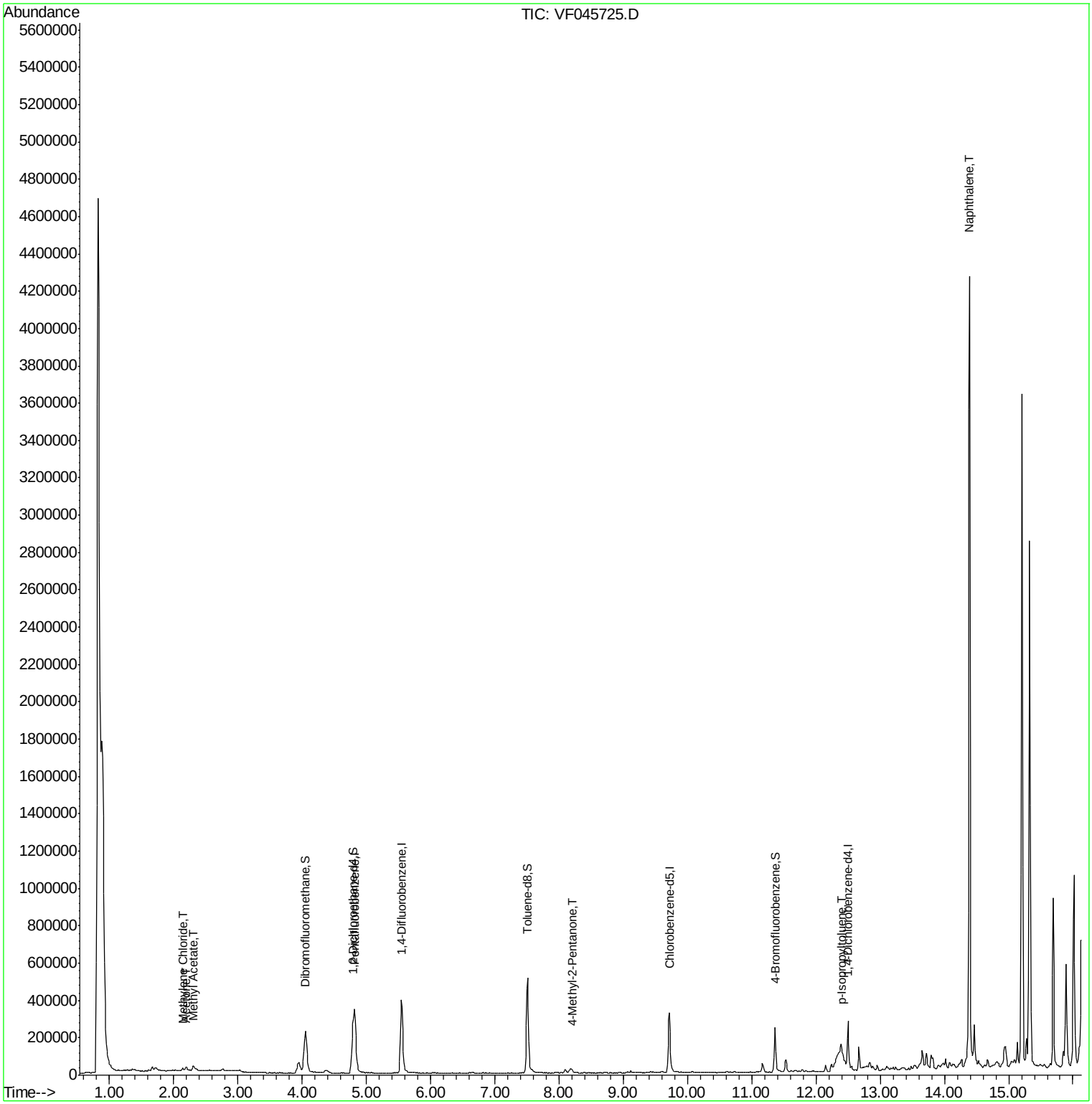
Target Compounds						Qvalue
16) Acetone	2.19	43	26845	23.86	ug/l	95
18) Methyl Acetate	2.30	43	42212	8.16	ug/l #	91
20) Methylene Chloride	2.13	84	7511	2.98	ug/l #	76
50) 4-Methyl-2-Pentanone	8.22	43	4986	1.28	ug/l	91
85) p-Isopropyltoluene	12.41	119	8474	1.77	ug/l	91
94) Naphthalene	14.39	128	3019705	854.09	ug/l	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

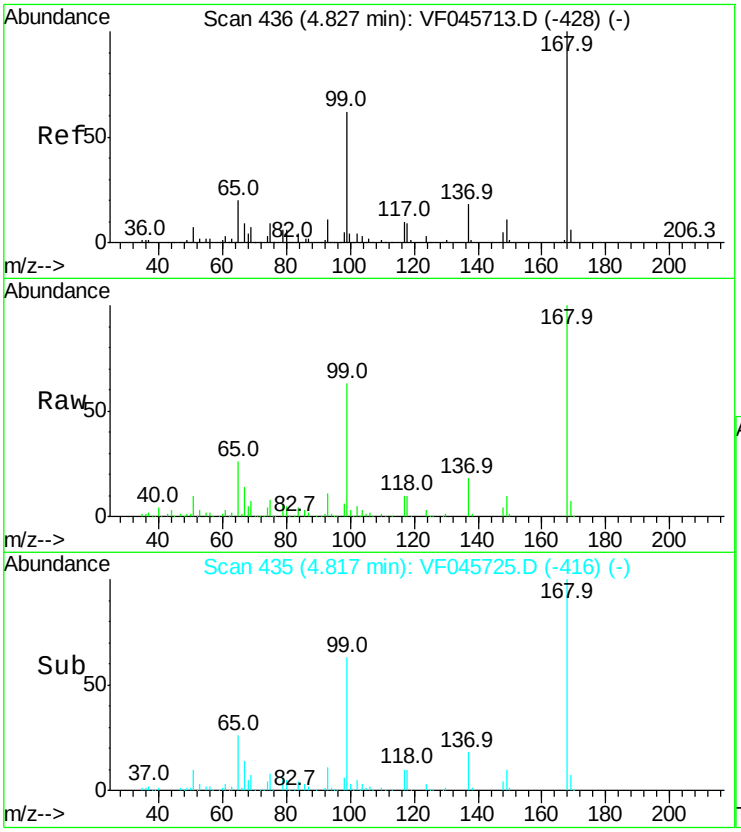
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045725.D
Acq On : 21 Oct 2015 17:28
Operator : FY/SY
Sample : G4046-02RE
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

Quant Time: Oct 22 12:45:29 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration



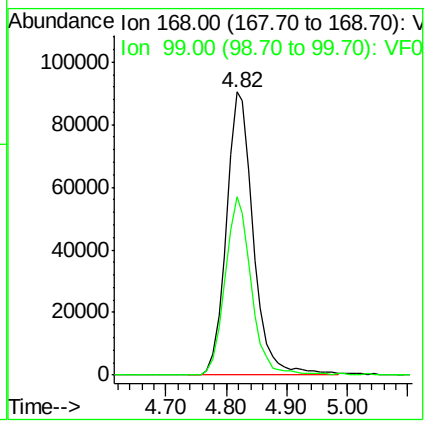
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

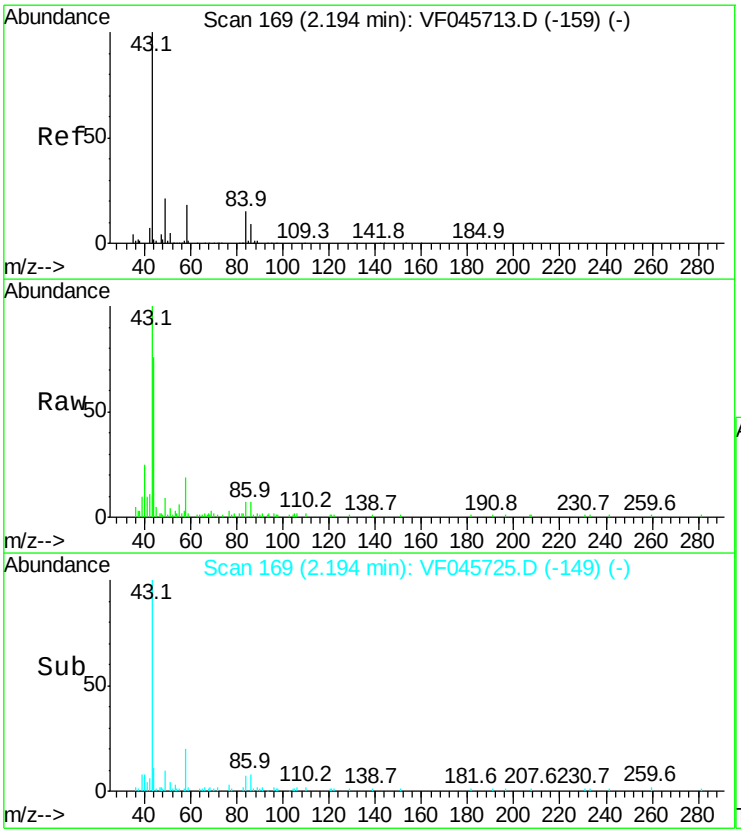


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.82 min Scan# 435
Delta R.T. -0.01 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion:168 Resp: 278749

Ion	Ratio	Lower	Upper
168	100		
99	63.1	49.7	74.5

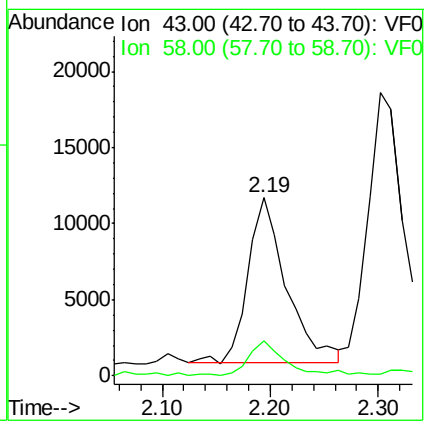




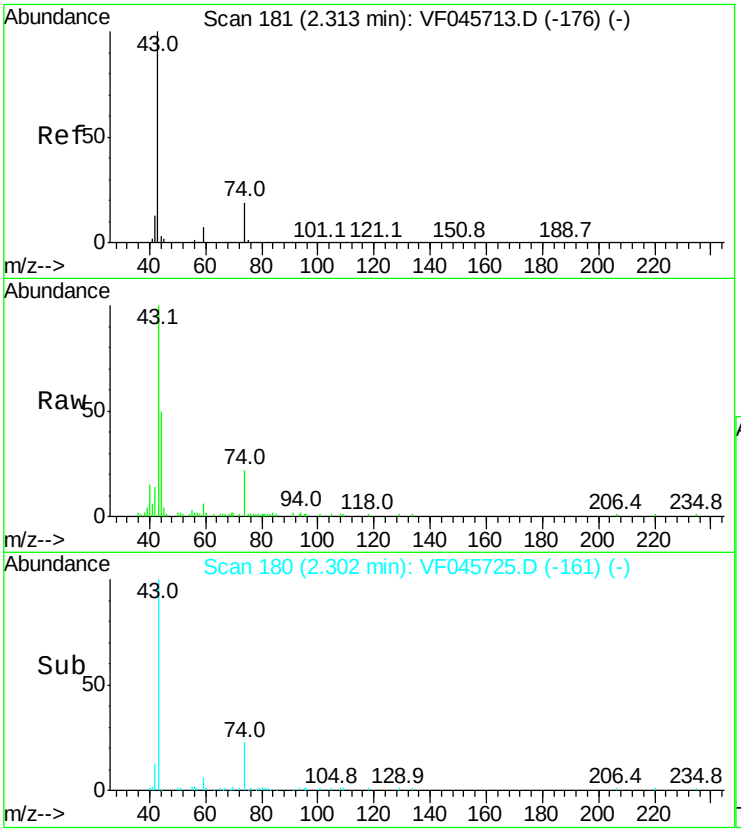
#16
Acetone
Concen: 23.86 ug/l
RT: 2.19 min Scan# 169
Delta R.T. -0.00 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion: 43 Resp: 26845

Ion	Ratio	Lower	Upper
43	100		
58	19.5	14.0	21.0



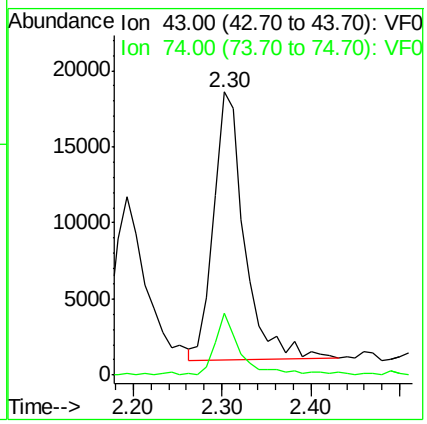
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

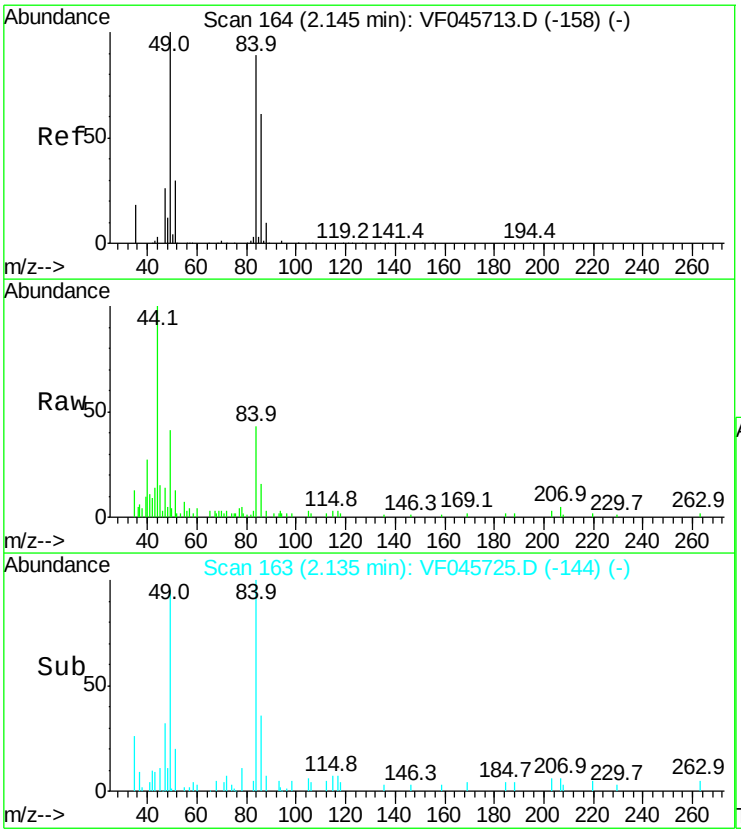


#18
Methyl Acetate
Concen: 8.16 ug/l
RT: 2.30 min Scan# 180
Delta R.T. -0.01 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion: 43 Resp: 42212

Ion	Ratio	Lower	Upper
43	100		
74	22.0	14.3	21.5#

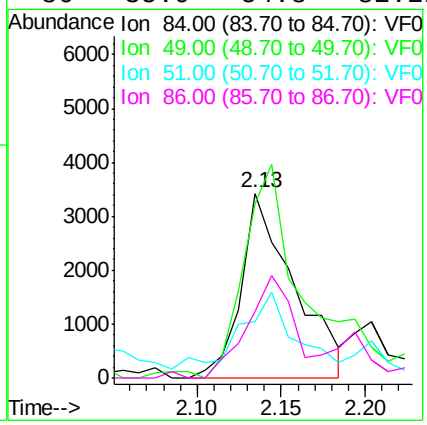




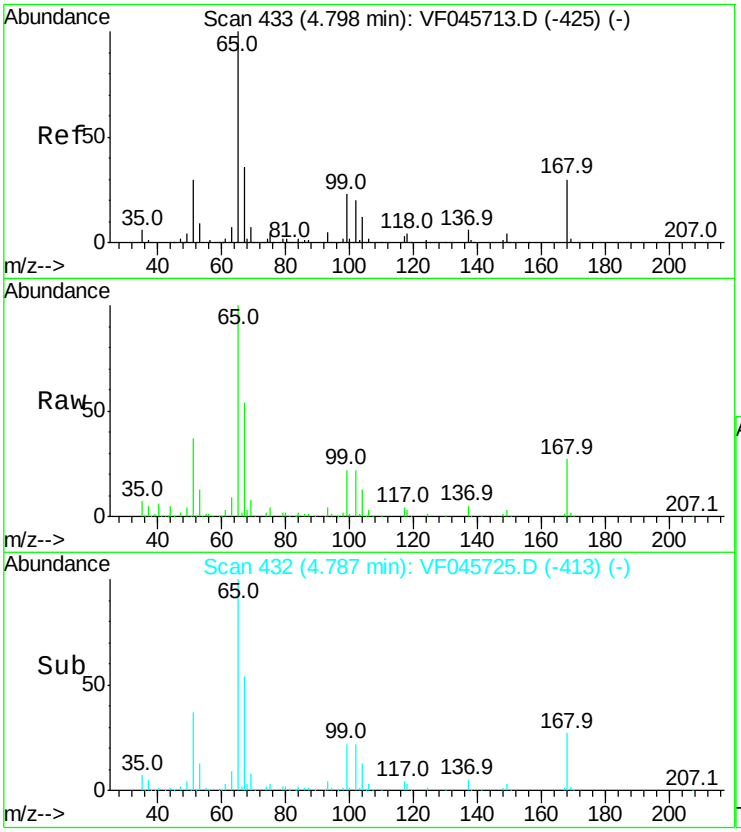
#20
Methylene Chloride
Concen: 2.98 ug/l
RT: 2.13 min Scan# 163
Delta R.T. -0.01 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion: 84 Resp: 7511

Ion	Ratio	Lower	Upper
84	100		
49	94.6	93.0	139.4
51	30.2	28.3	42.5
86	35.9	54.8	82.2#



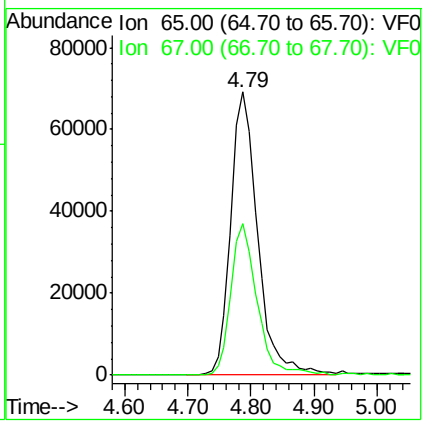
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

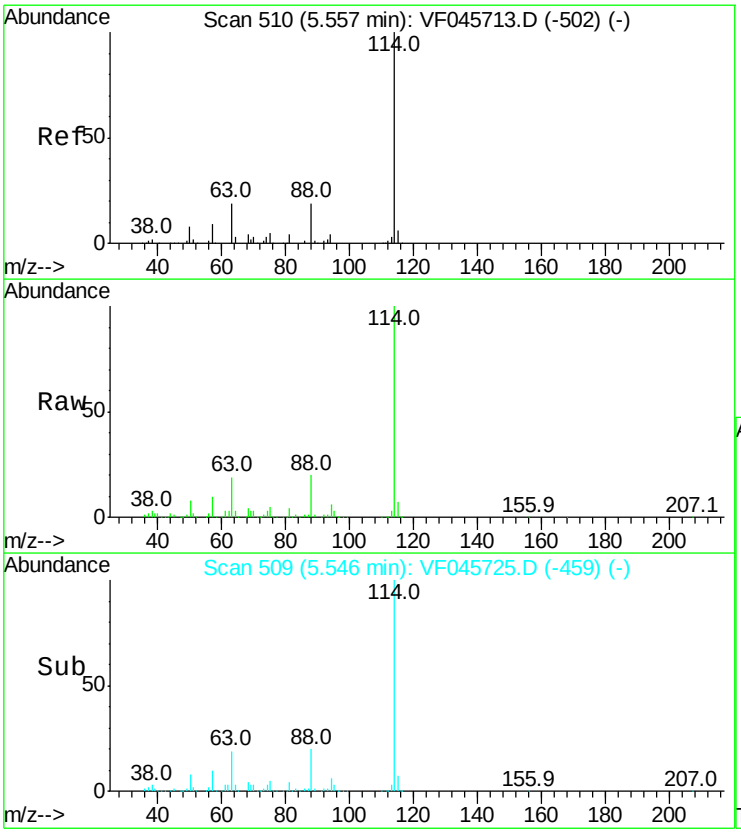


#32
1,2-Dichloroethane-d4
Concen: 47.94 ug/l
RT: 4.79 min Scan# 432
Delta R.T. -0.01 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion: 65 Resp: 204247

Ion	Ratio	Lower	Upper
65	100		
67	53.7	0.0	98.2

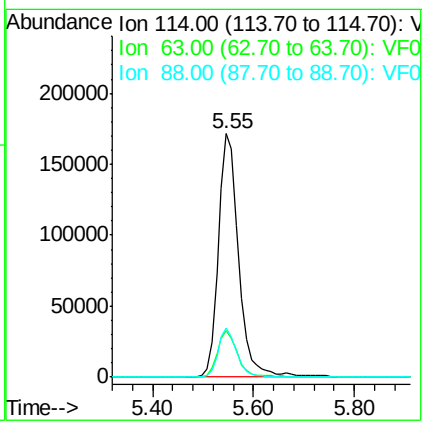




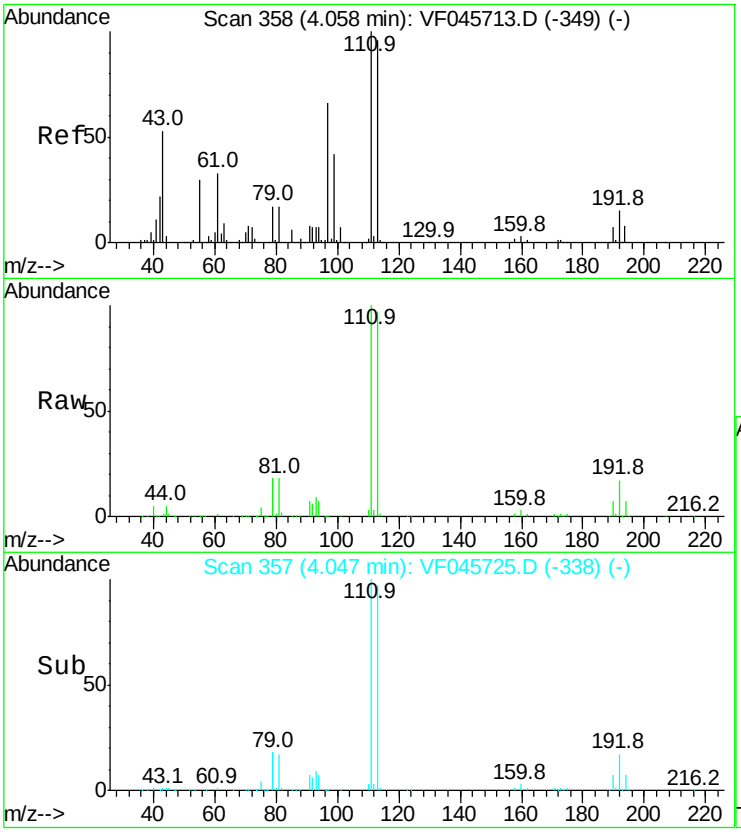
#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.55 min Scan# 509
Delta R.T. -0.01 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion:114 Resp: 480943

Ion	Ratio	Lower	Upper
114	100		
63	19.2	0.0	37.4
88	20.2	0.0	38.2



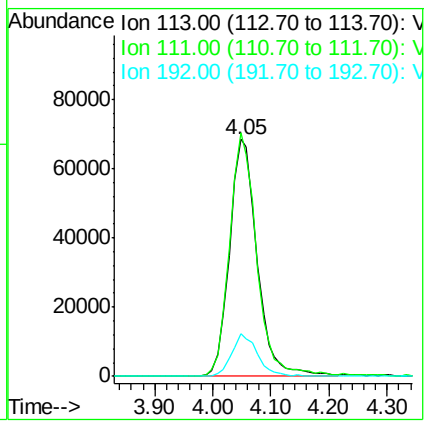
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

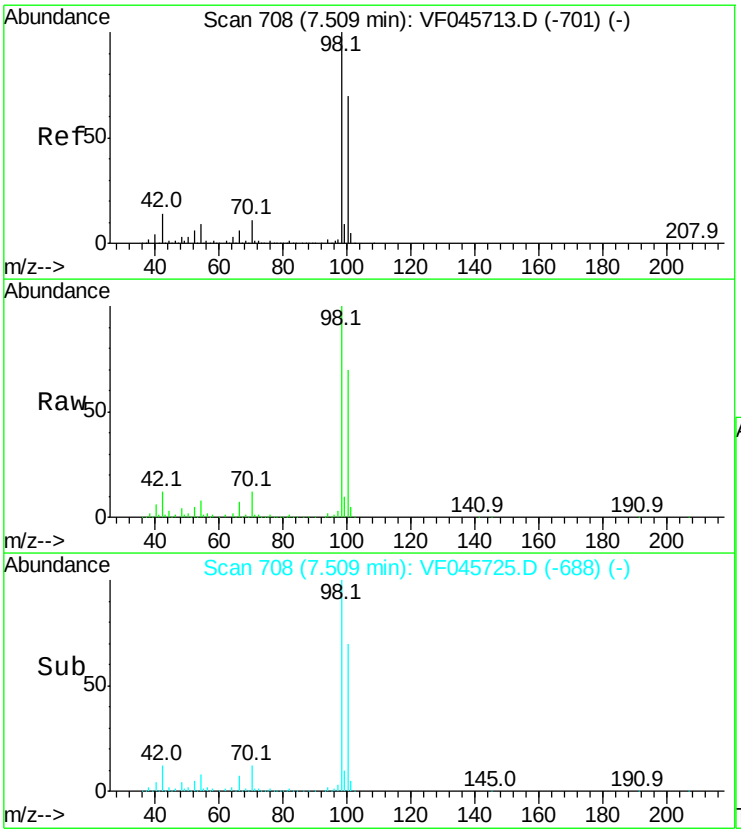


#34
Dibromofluoromethane
Concen: 50.52 ug/l
RT: 4.05 min Scan# 357
Delta R.T. -0.01 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion:113 Resp: 226611

Ion	Ratio	Lower	Upper
113	100		
111	102.8	83.4	125.2
192	17.8	12.7	19.1

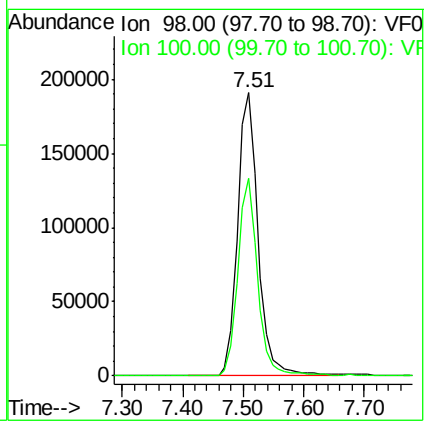




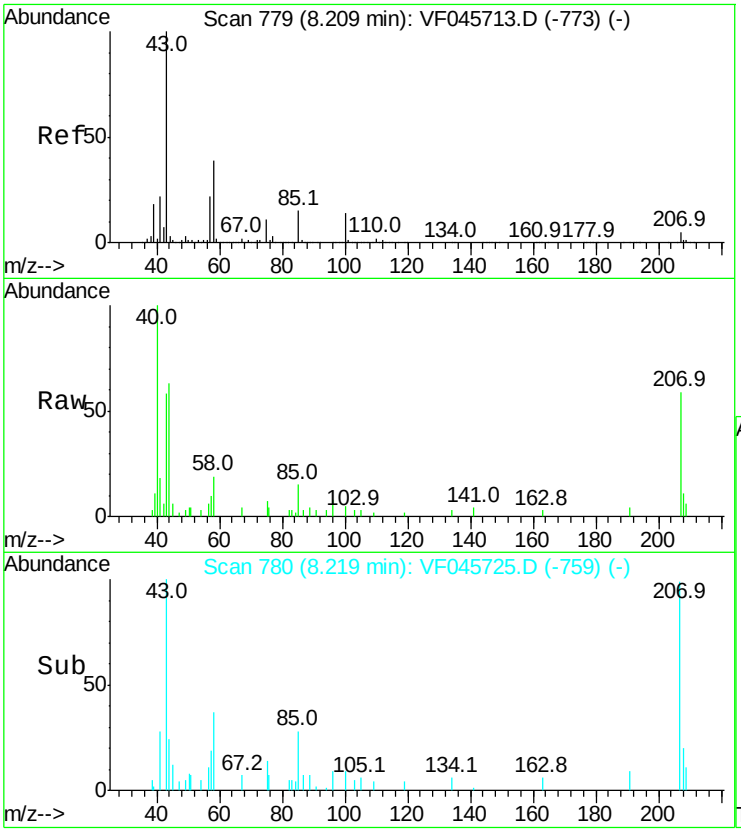
#49
Toluene-d8
Concen: 34.50 ug/l
RT: 7.51 min Scan# 708
Delta R.T. -0.00 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion: 98 Resp: 449290

Ion	Ratio	Lower	Upper
98	100		
100	69.9	55.7	83.5



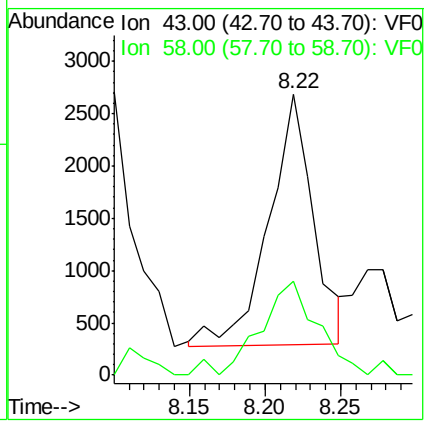
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

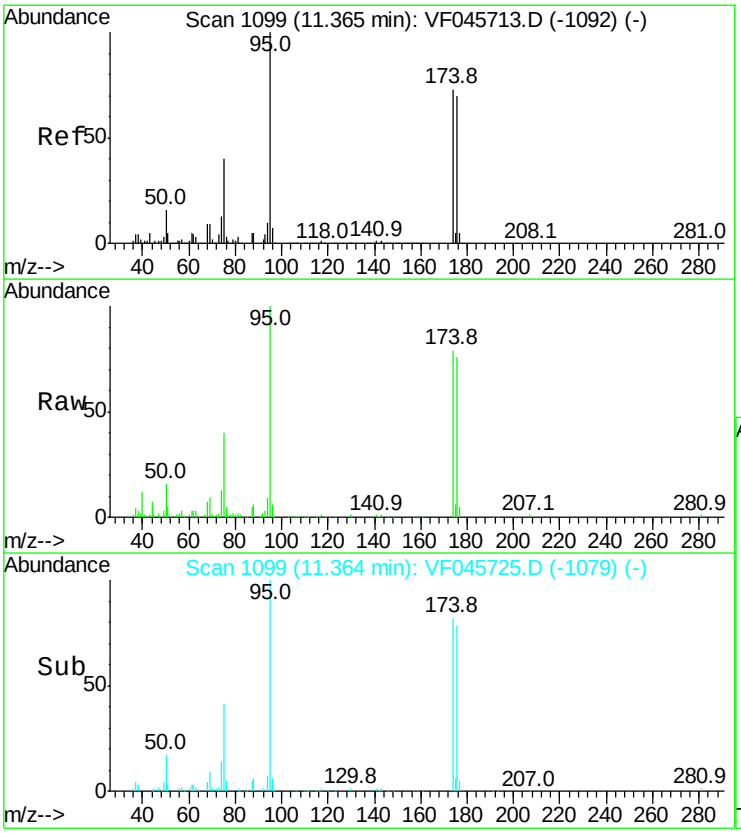


#50
4-Methyl-2-Pentanone
Concen: 1.28 ug/l
RT: 8.22 min Scan# 780
Delta R.T. 0.01 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion: 43 Resp: 4986

Ion	Ratio	Lower	Upper
43	100		
58	33.3	31.0	46.6

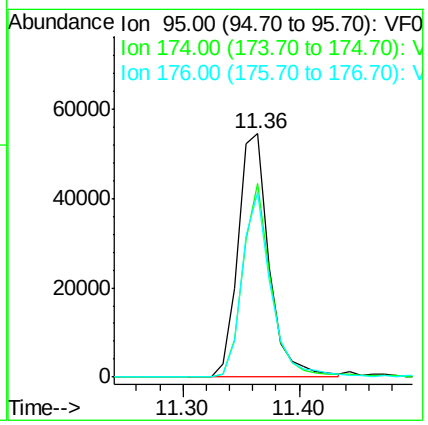




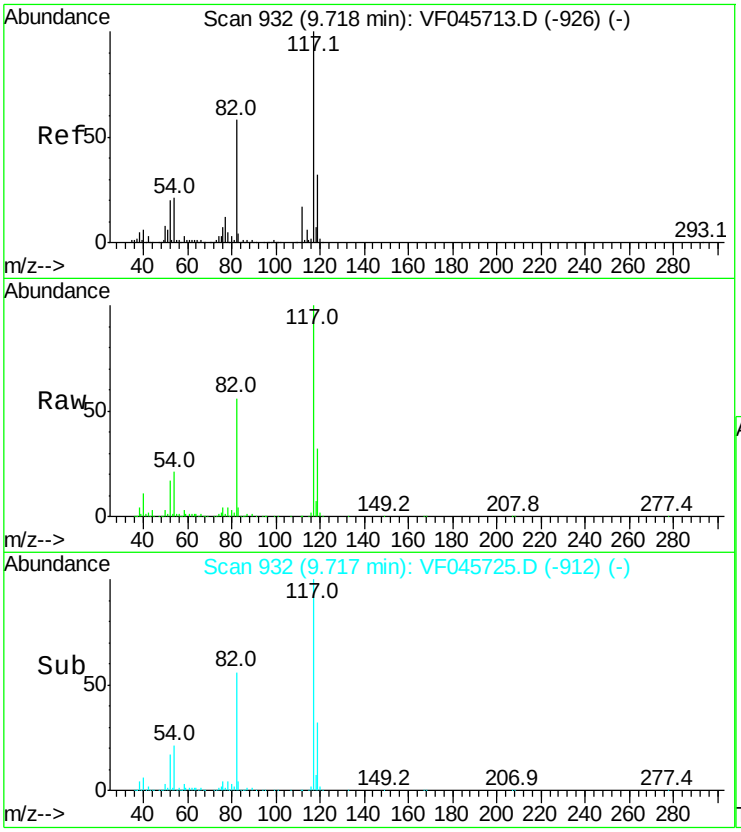
#61
4-Bromofluorobenzene
Concen: 15.27 ug/l
RT: 11.36 min Scan# 1099
Delta R.T. -0.00 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion: 95 Resp: 101214

Ion	Ratio	Lower	Upper
95	100		
174	79.4	0.0	145.4
176	75.8	0.0	141.0



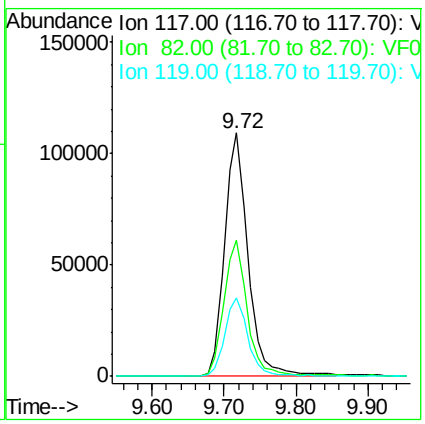
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

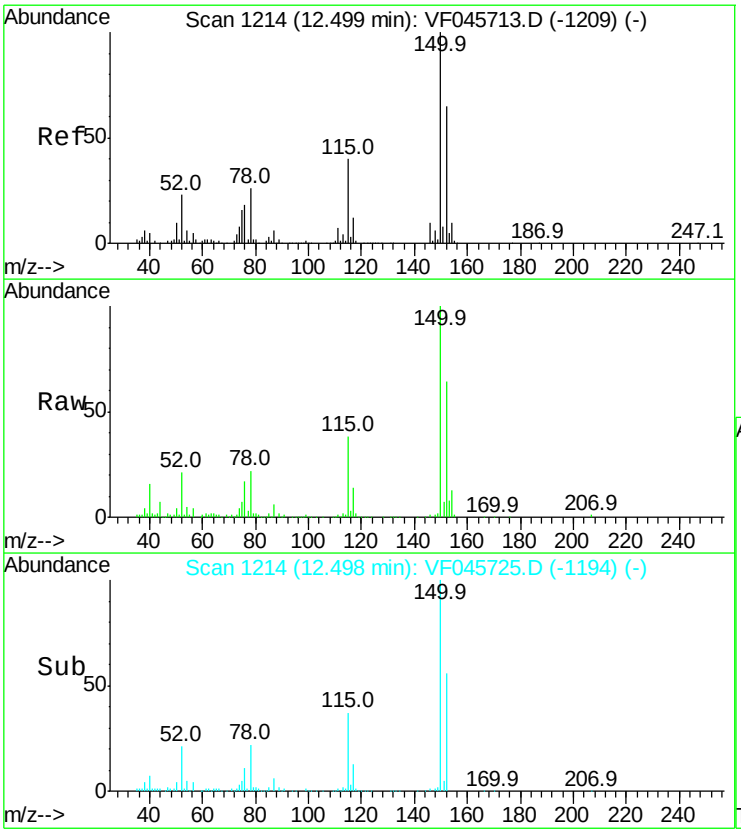


#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.72 min Scan# 932
Delta R.T. -0.00 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion:117 Resp: 247927

Ion	Ratio	Lower	Upper
117	100		
82	55.6	46.1	69.1
119	32.2	25.4	38.0

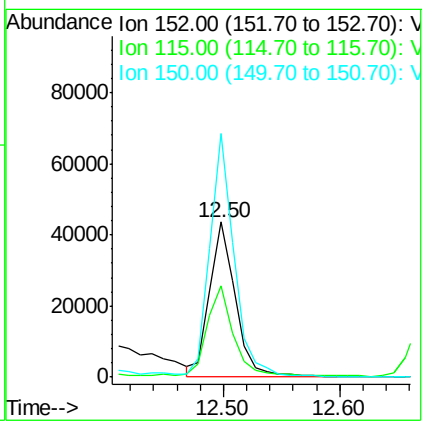




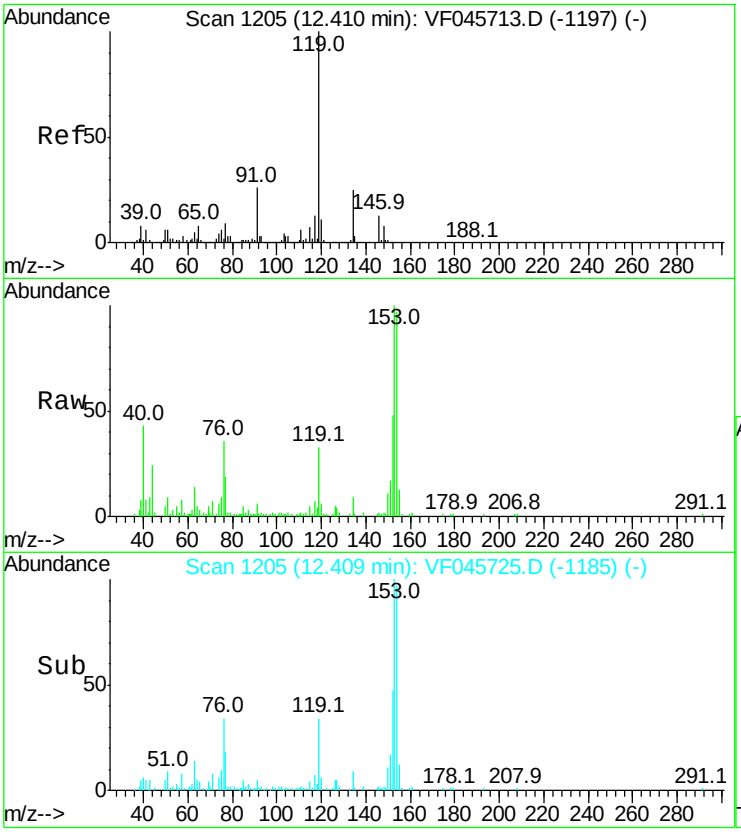
#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.50 min Scan# 1214
Delta R.T. -0.00 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion:152 Resp: 67866

Ion	Ratio	Lower	Upper
152	100		
115	59.0	31.1	93.3
150	157.2	0.0	311.2



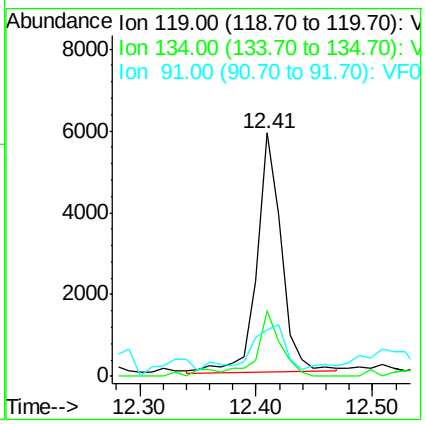
Instrument :
MSVOA_F
ClientSampleId :
GOODLUCK58RE

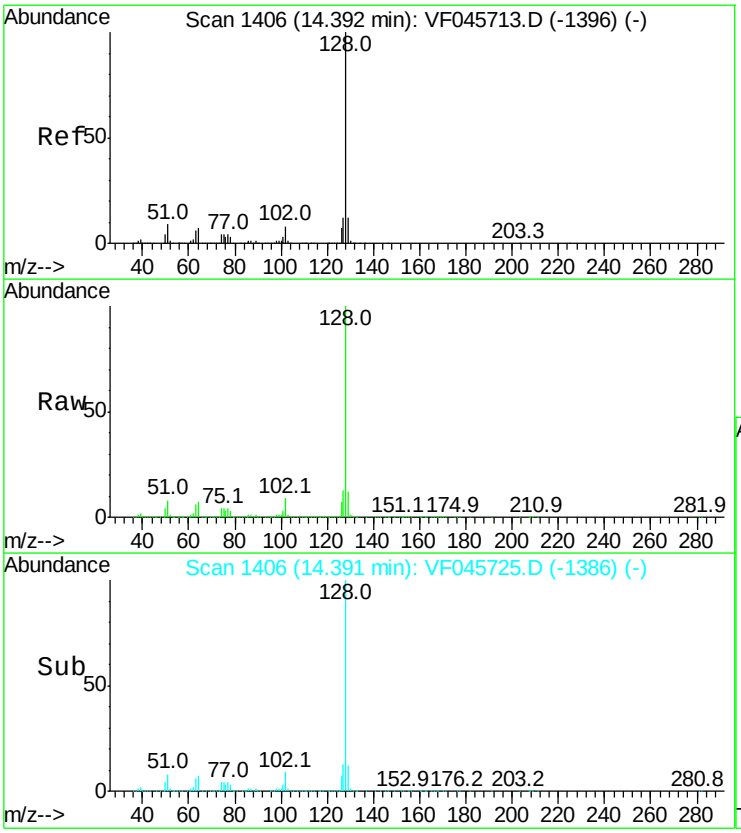


#85
p-Isopropyltoluene
Concen: 1.77 ug/l
RT: 12.41 min Scan# 1205
Delta R.T. -0.00 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion:119 Resp: 8474

Ion	Ratio	Lower	Upper
119	100		
134	27.1	12.4	37.4
91	18.9	12.9	38.7

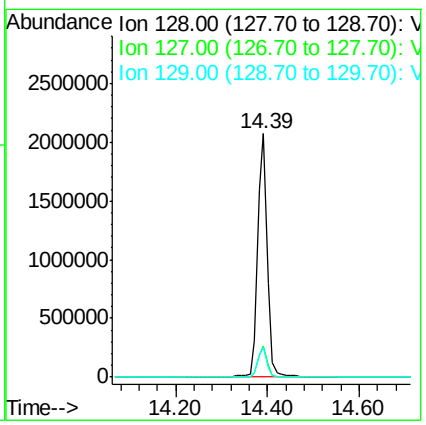




#94
Naphthalene
Concen: 854.09 ug/l
RT: 14.39 min Scan# 1406
Delta R.T. -0.00 min
Lab File: VF045725.D
Acq: 21 Oct 2015 17:28

Tgt Ion:128 Resp: 3019705

Ion	Ratio	Lower	Upper
128	100		
127	12.5	9.4	14.2
129	12.4	9.2	13.8



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

Quant Time: Oct 20 10:06:54 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.83	168	360019	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.56	114	651826	50.00	ug/l	0.02
62) Chlorobenzene-d5	9.72	117	385259	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.51	152	100317	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.79	65	229219	45.39	ug/l	0.00
Spiked Amount 50.000			Recovery	=	90.78%	
34) Dibromofluoromethane	4.06	113	241599	45.82	ug/l	0.02
Spiked Amount 50.000			Recovery	=	91.64%	
49) Toluene-d8	7.52	98	535657	32.60	ug/l	0.00
Spiked Amount 50.000			Recovery	=	65.20%	
61) 4-Bromofluorobenzene	11.37	95	132165	16.04	ug/l	0.00
Spiked Amount 50.000			Recovery	=	32.08%	

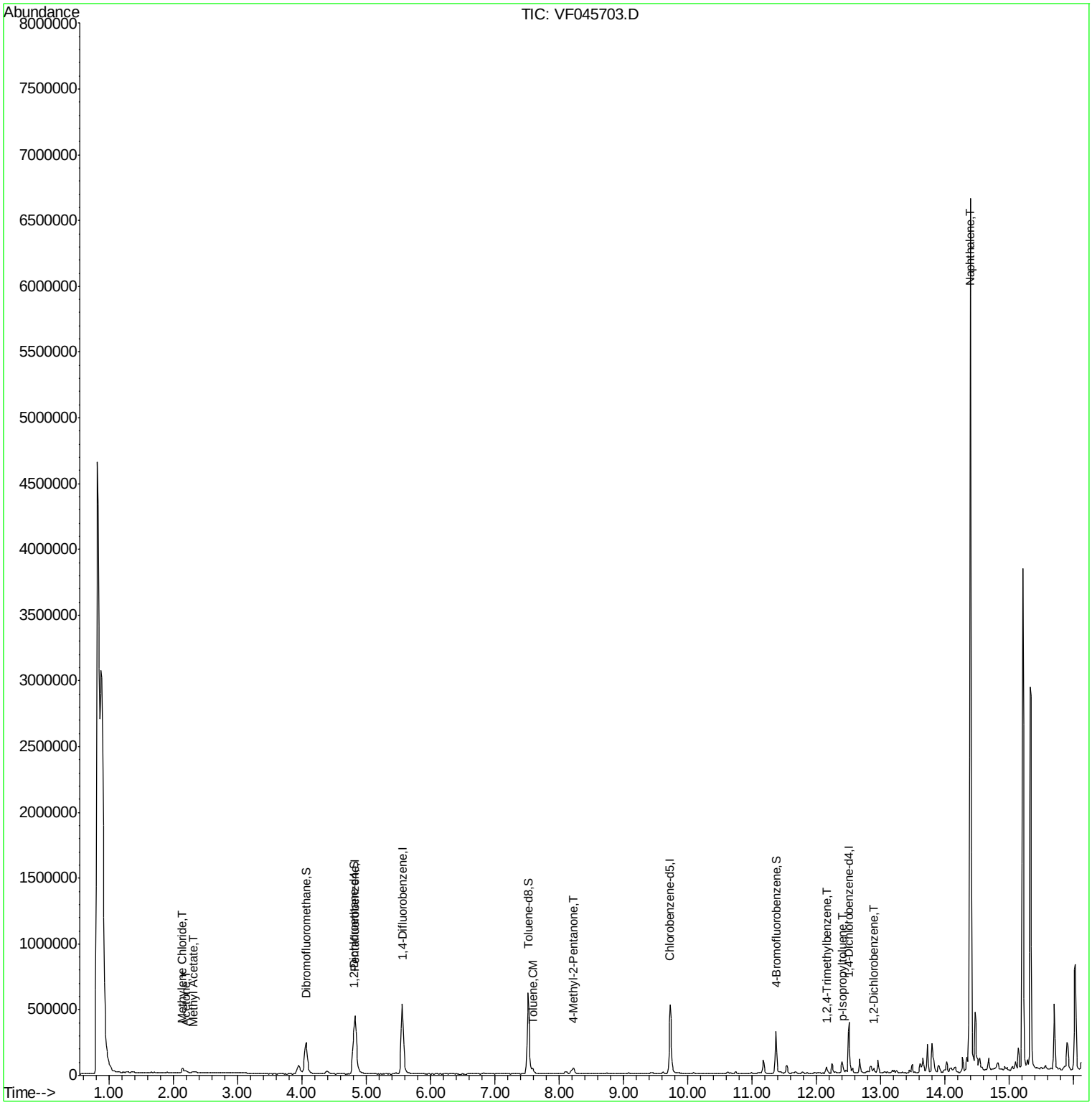
Target Compounds						Qvalue
16) Acetone	2.19	43	18610	13.07	ug/l #	91
18) Methyl Acetate	2.31	43	17408	2.78	ug/l	94
20) Methylene Chloride	2.14	84	21109	7.15	ug/l #	86
50) 4-Methyl-2-Pentanone	8.23	43	38030	7.57	ug/l	89
51) Toluene	7.58	92	15184	1.28	ug/l	79
83) 1,2,4-Trimethylbenzene	12.16	105	12378	2.04	ug/l	88
85) p-Isopropyltoluene	12.42	119	20222	3.22	ug/l	96
90) 1,2-Dichlorobenzene	12.89	146	4418	1.33	ug/l	88
94) Naphthalene	14.39	128	4664539	1065.73	ug/l #	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

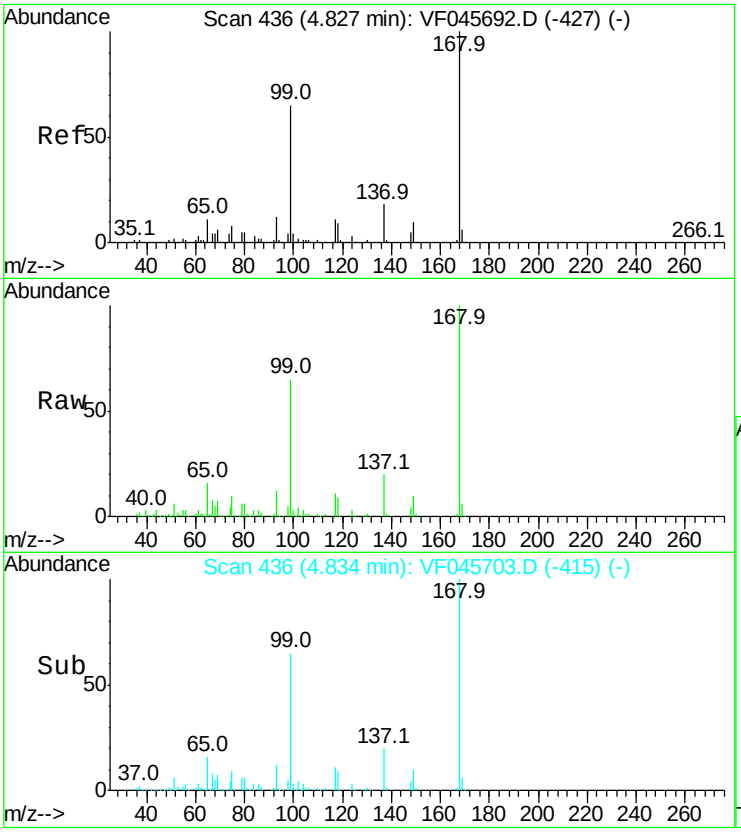
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

Quant Time: Oct 20 10:06:54 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration



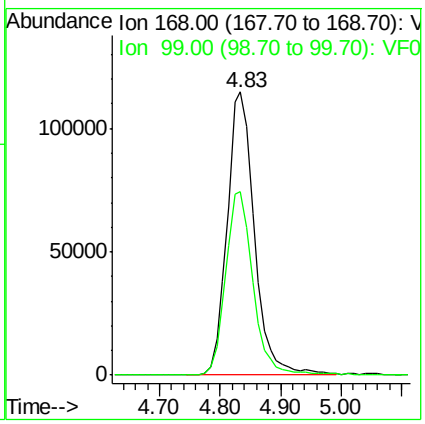
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

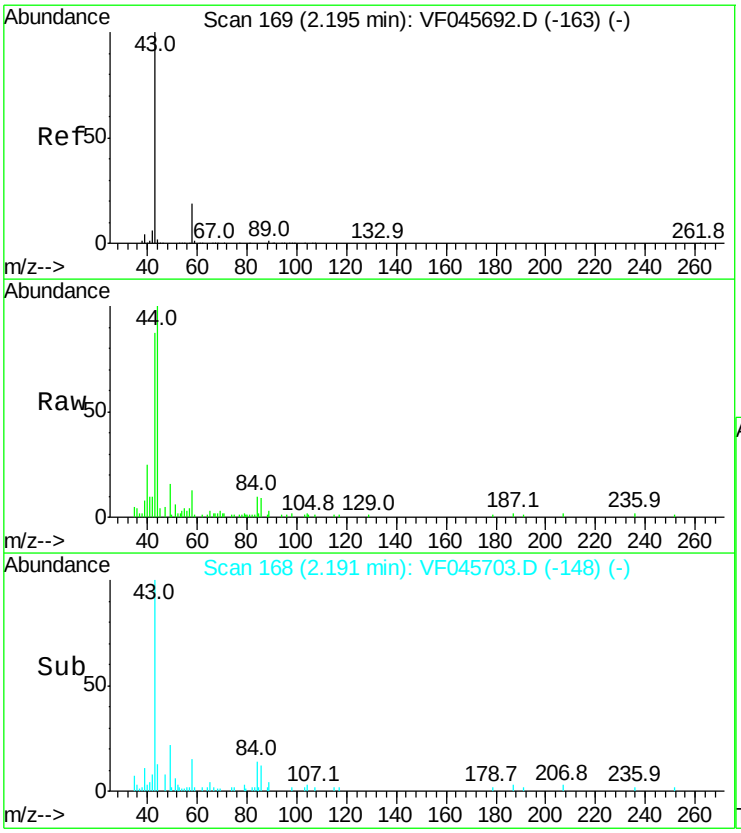


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.83 min Scan# 436
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:168 Resp: 360019

Ion	Ratio	Lower	Upper
168	100		
99	64.9	52.3	78.5

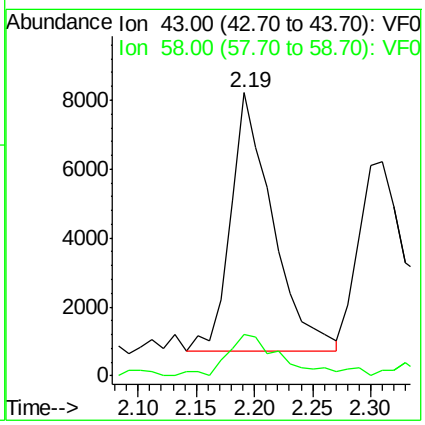


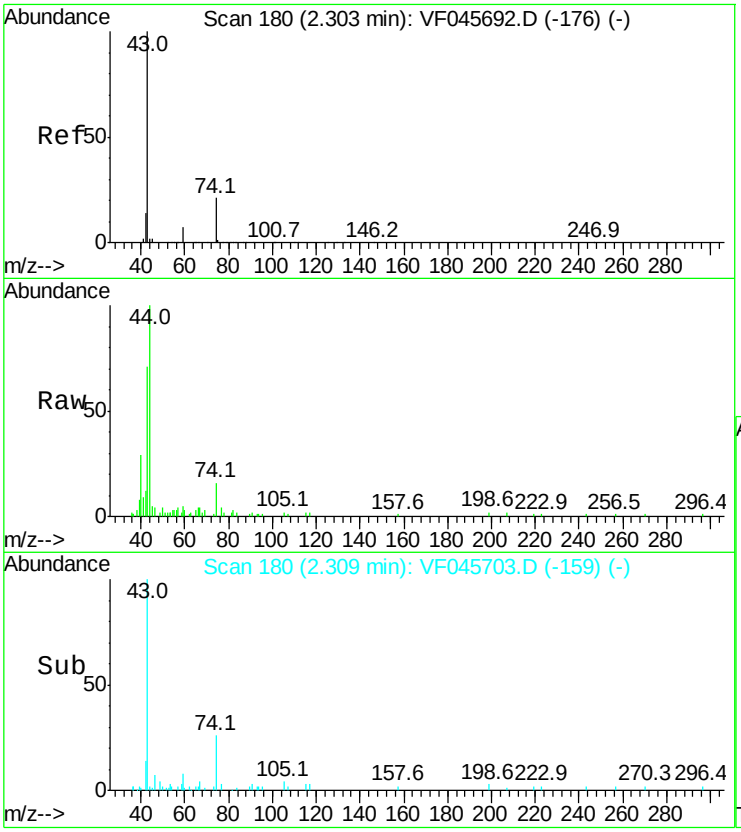


#16
Acetone
Concen: 13.07 ug/l
RT: 2.19 min Scan# 168
Delta R.T. -0.00 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 43 Resp: 18610

Ion	Ratio	Lower	Upper
43	100		
58	14.7	14.9	22.3#

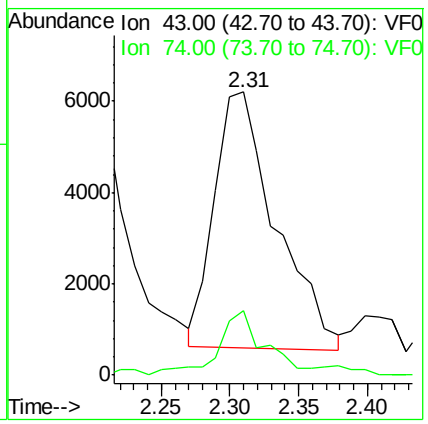


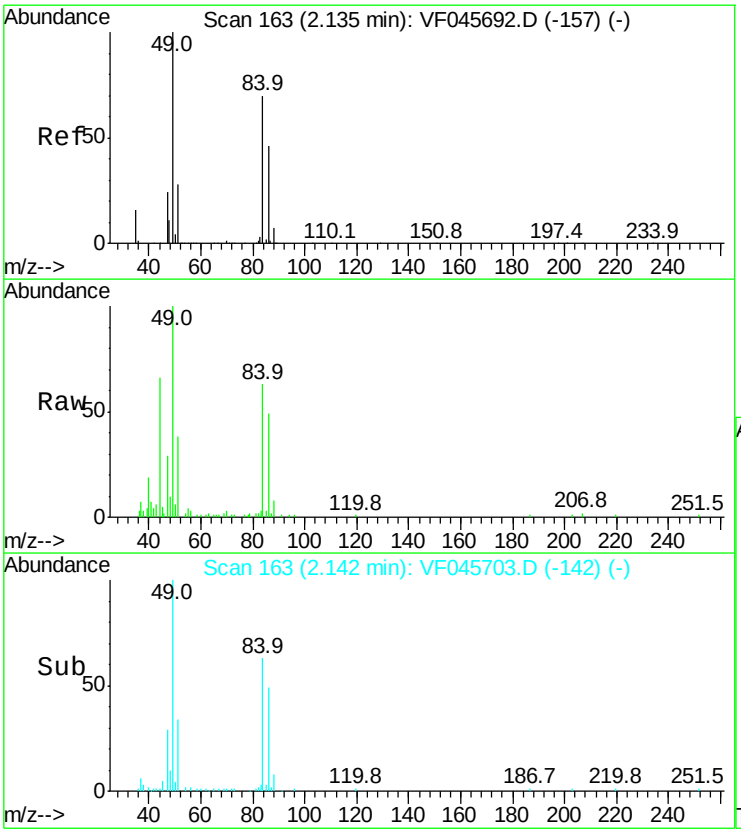


#18
Methyl Acetate
Concen: 2.78 ug/l
RT: 2.31 min Scan# 180
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 43 Resp: 17408

Ion	Ratio	Lower	Upper
43	100		
74	22.6	16.0	24.0

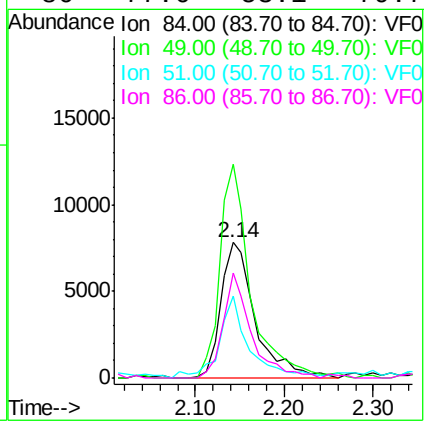




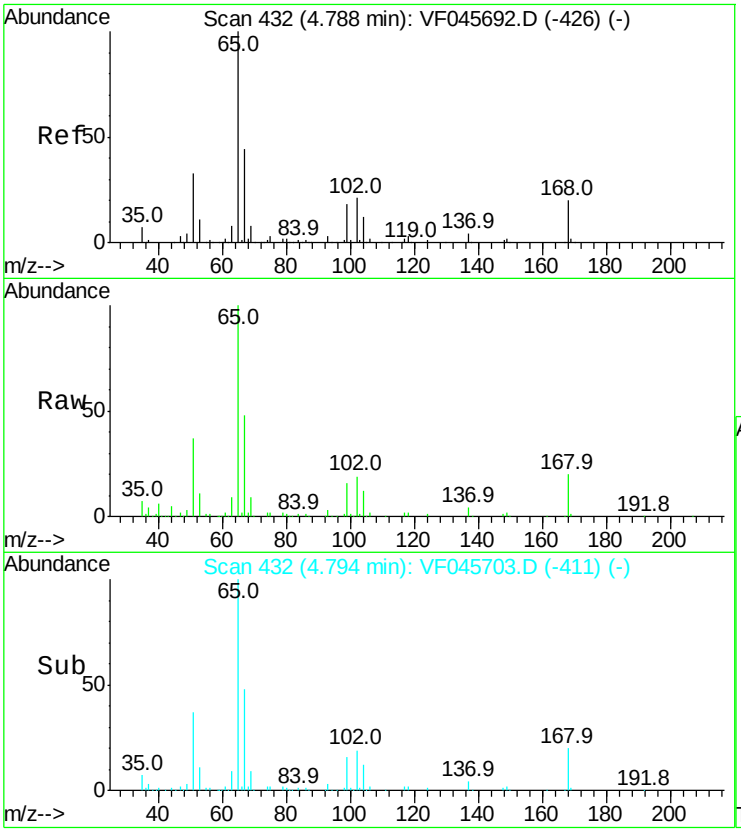
#20
Methylene Chloride
Concen: 7.15 ug/l
RT: 2.14 min Scan# 163
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 84 Resp: 21109

Ion	Ratio	Lower	Upper
84	100		
49	157.9	117.4	176.2
51	60.5	33.8	50.6#
86	77.6	53.1	79.7



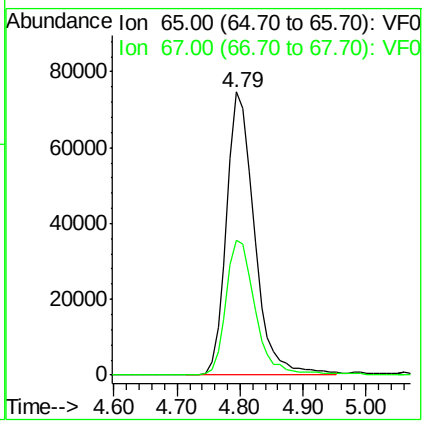
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

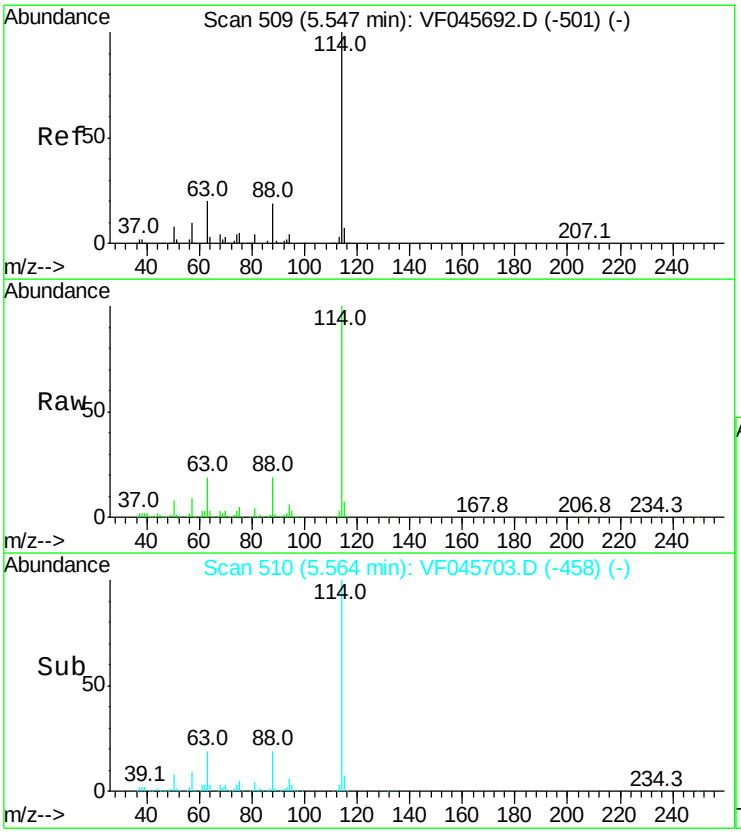


#32
1,2-Dichloroethane-d4
Concen: 45.39 ug/l
RT: 4.79 min Scan# 432
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 65 Resp: 229219

Ion	Ratio	Lower	Upper
65	100		
67	47.8	0.0	99.6

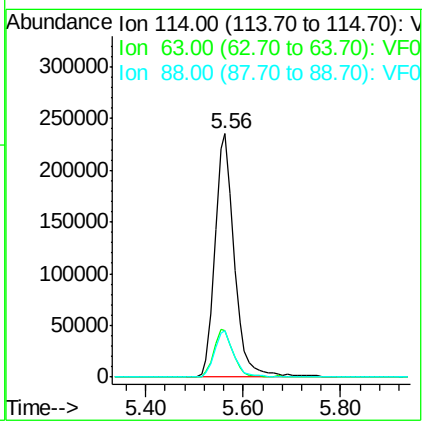




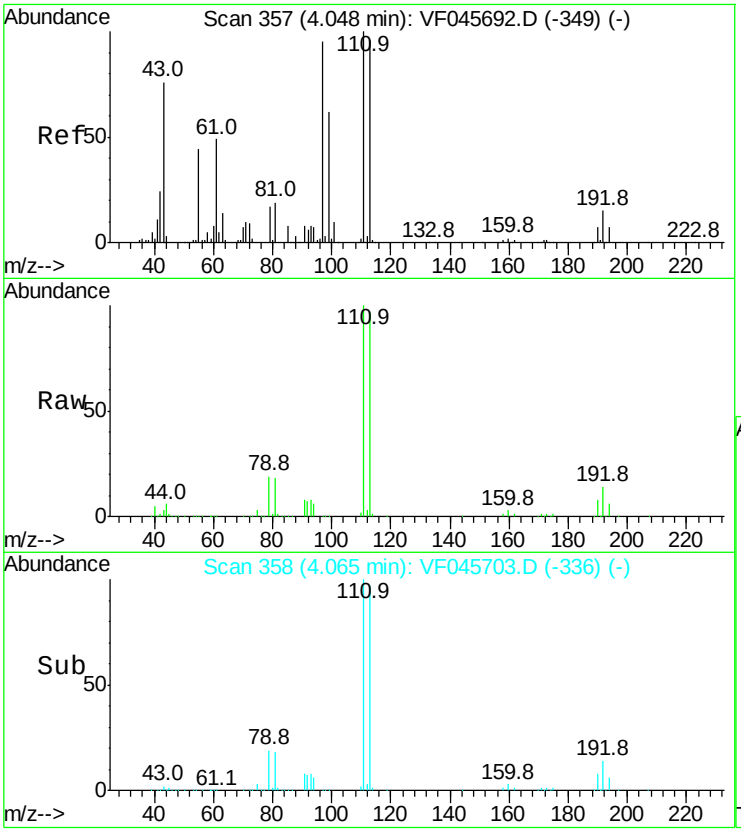
#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.56 min Scan# 510
Delta R.T. 0.02 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:114 Resp: 651826

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	40.8
88	18.9	0.0	38.2



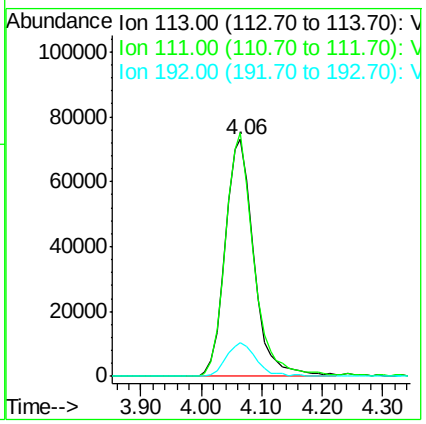
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

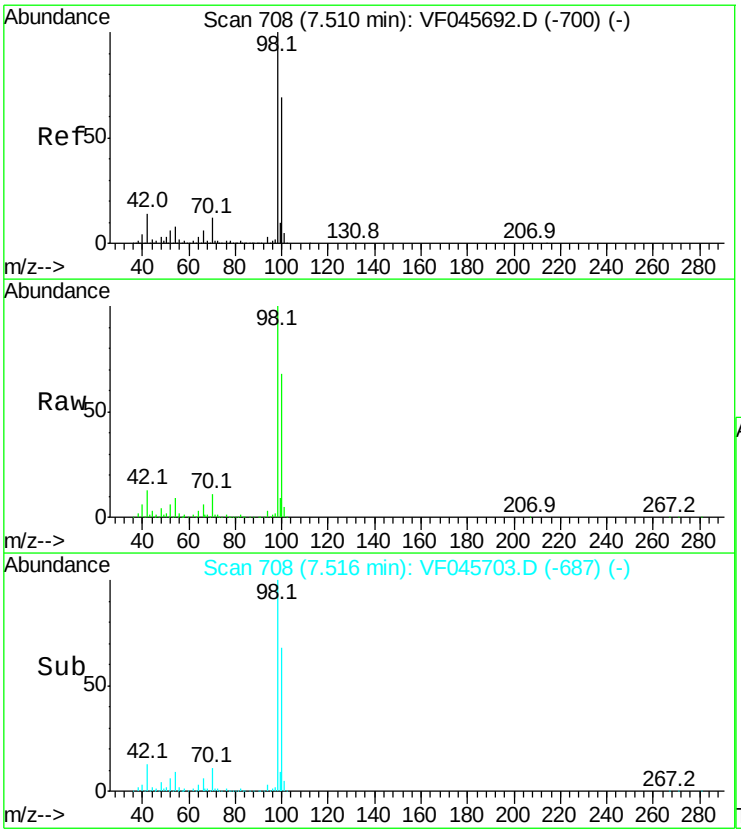


#34
Dibromofluoromethane
Concen: 45.82 ug/l
RT: 4.06 min Scan# 358
Delta R.T. 0.02 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:113 Resp: 241599

Ion	Ratio	Lower	Upper
113	100		
111	102.7	83.2	124.8
192	14.3	12.8	19.2

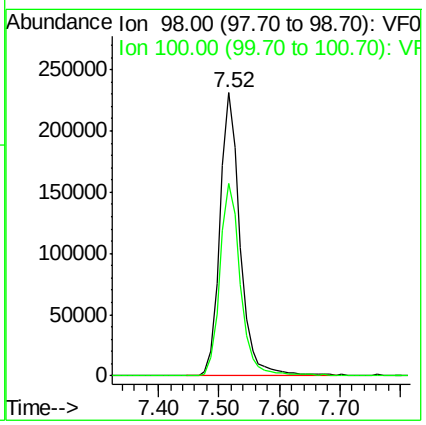




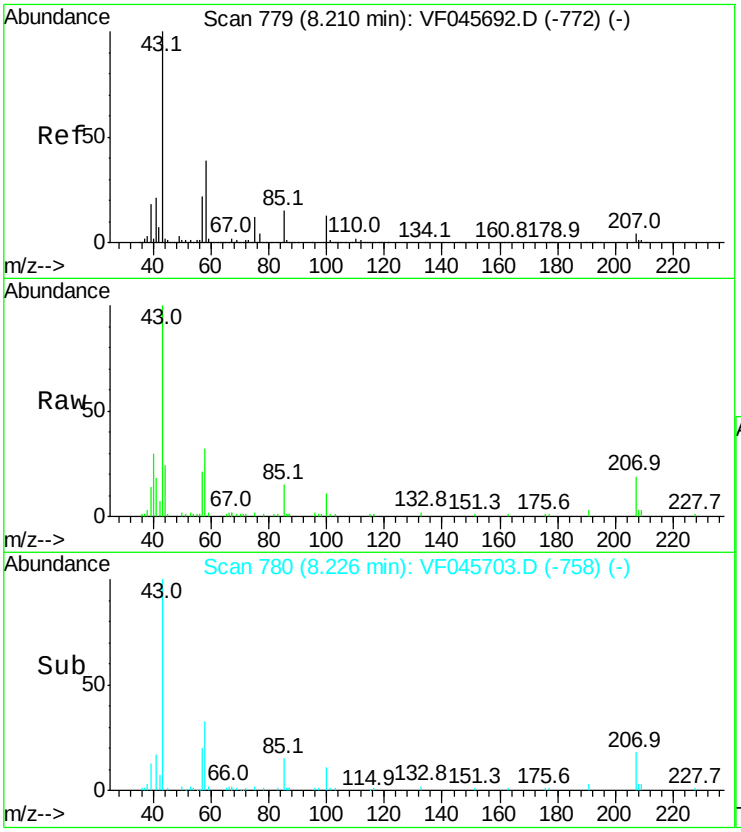
#49
Toluene-d8
Concen: 32.60 ug/l
RT: 7.52 min Scan# 708
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 98 Resp: 535657

Ion	Ratio	Lower	Upper
98	100		
100	68.1	55.3	82.9



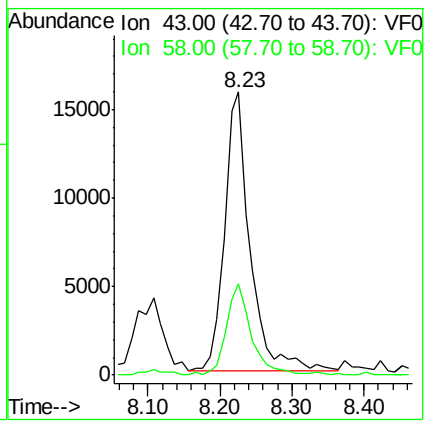
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

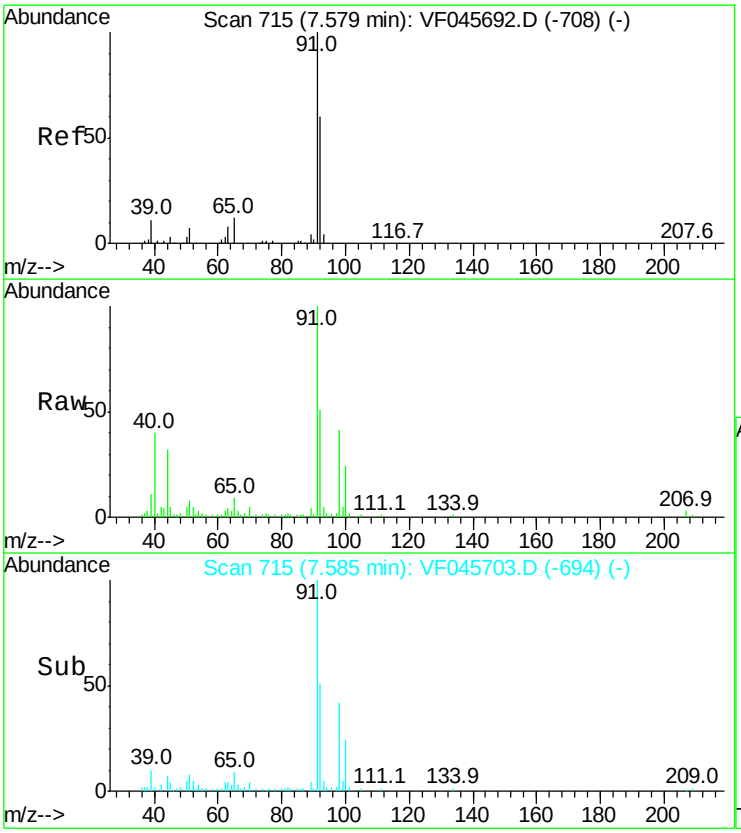


#50
4-Methyl-2-Pentanone
Concen: 7.57 ug/l
RT: 8.23 min Scan# 780
Delta R.T. 0.02 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 43 Resp: 38030

Ion	Ratio	Lower	Upper
43	100		
58	32.1	31.3	46.9

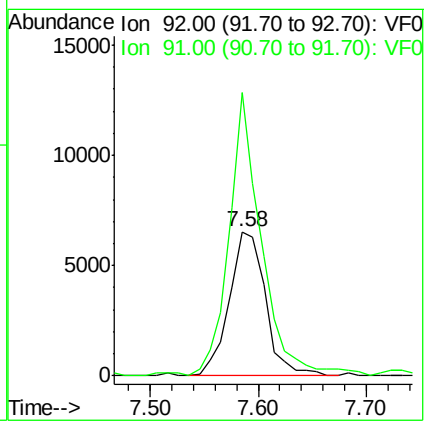




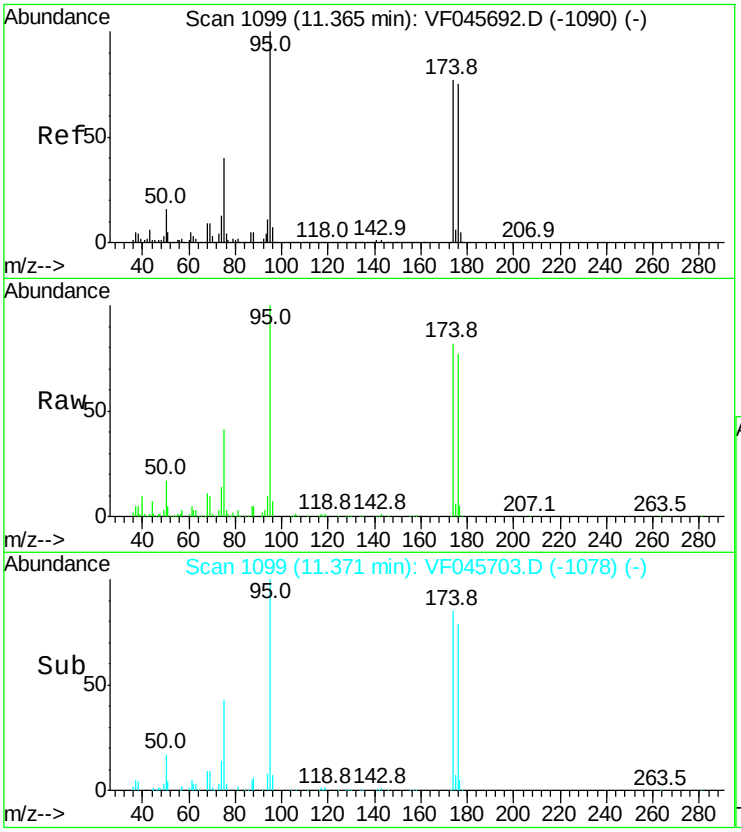
#51
Toluene
Concen: 1.28 ug/l
RT: 7.58 min Scan# 715
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 92 Resp: 15184

Ion	Ratio	Lower	Upper
92	100		
91	196.4	134.5	201.7



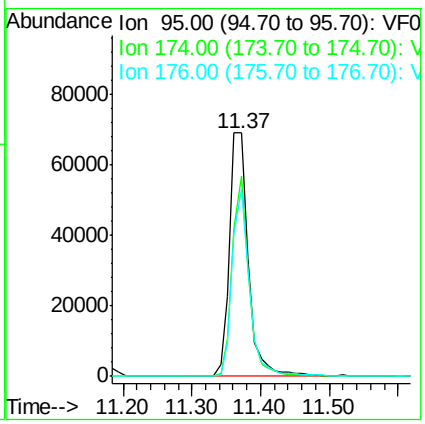
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

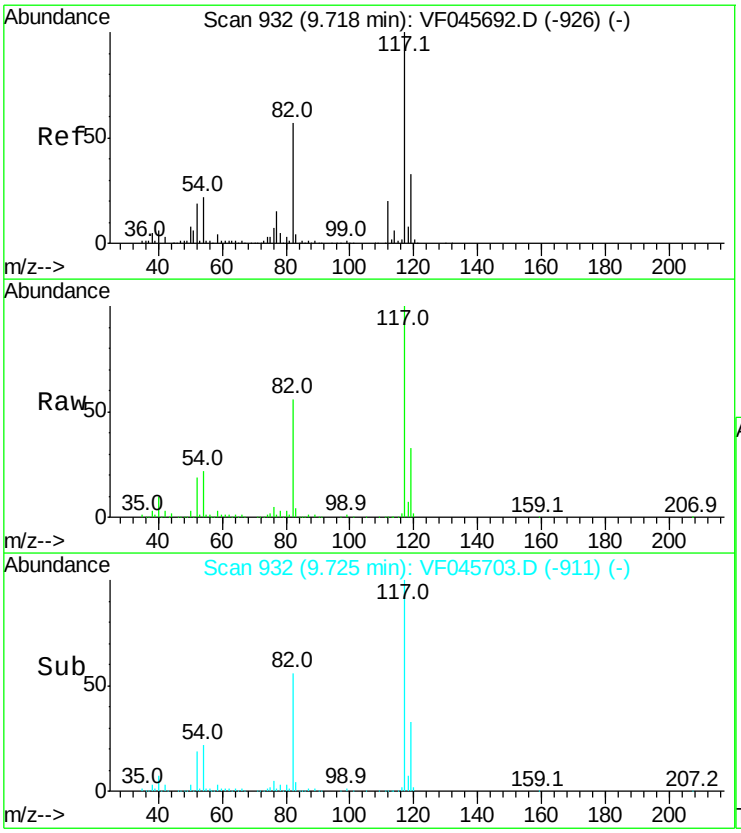


#61
4-Bromofluorobenzene
Concen: 16.04 ug/l
RT: 11.37 min Scan# 1099
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion: 95 Resp: 132165

Ion	Ratio	Lower	Upper
95	100		
174	82.0	0.0	153.8
176	77.0	0.0	149.8

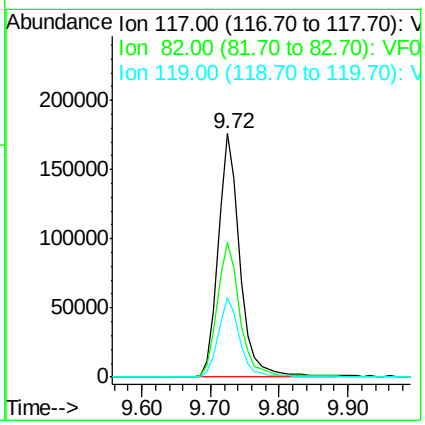




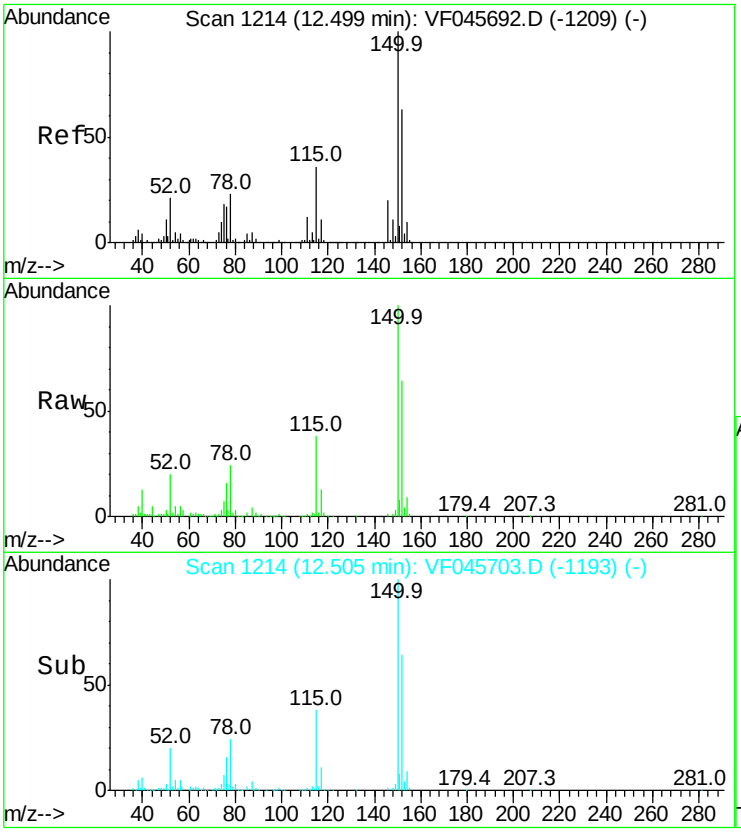
#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.72 min Scan# 932
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:117 Resp: 385259

Ion	Ratio	Lower	Upper
117	100		
82	55.6	45.8	68.8
119	32.9	26.5	39.7



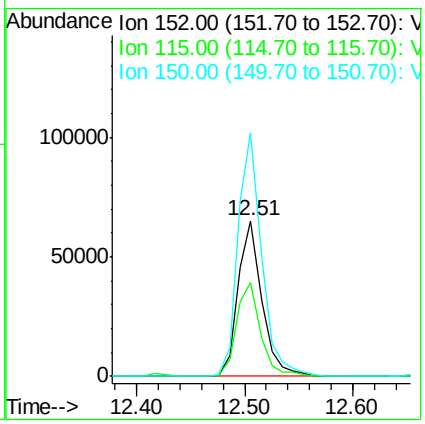
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

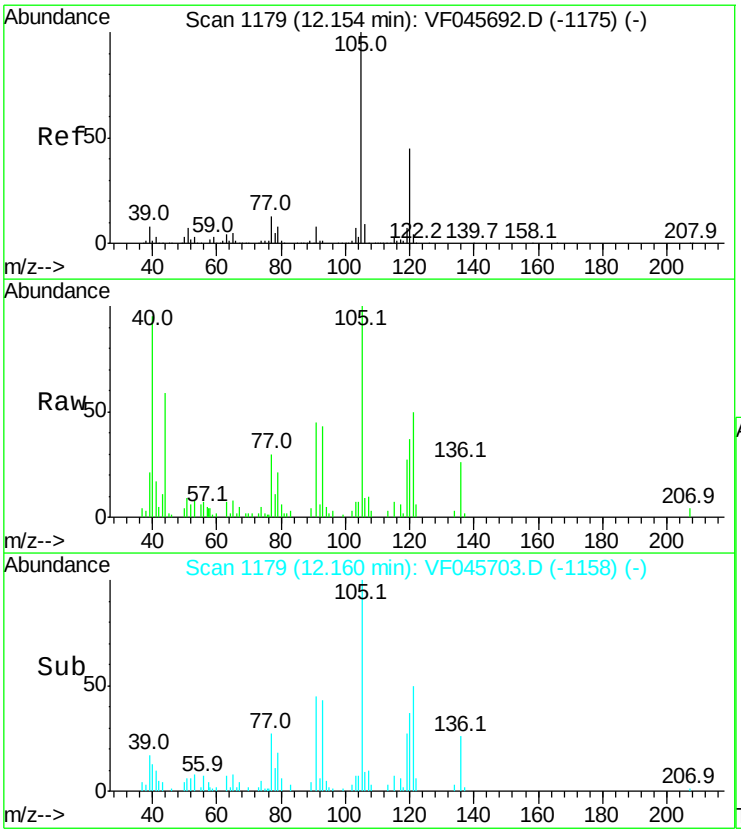


#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.51 min Scan# 1214
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:152 Resp: 100317

Ion	Ratio	Lower	Upper
152	100		
115	59.9	29.1	87.3
150	156.3	0.0	320.6

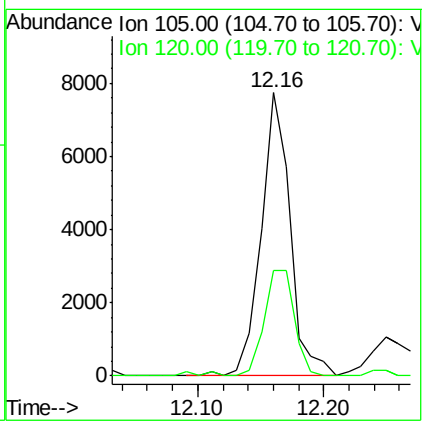




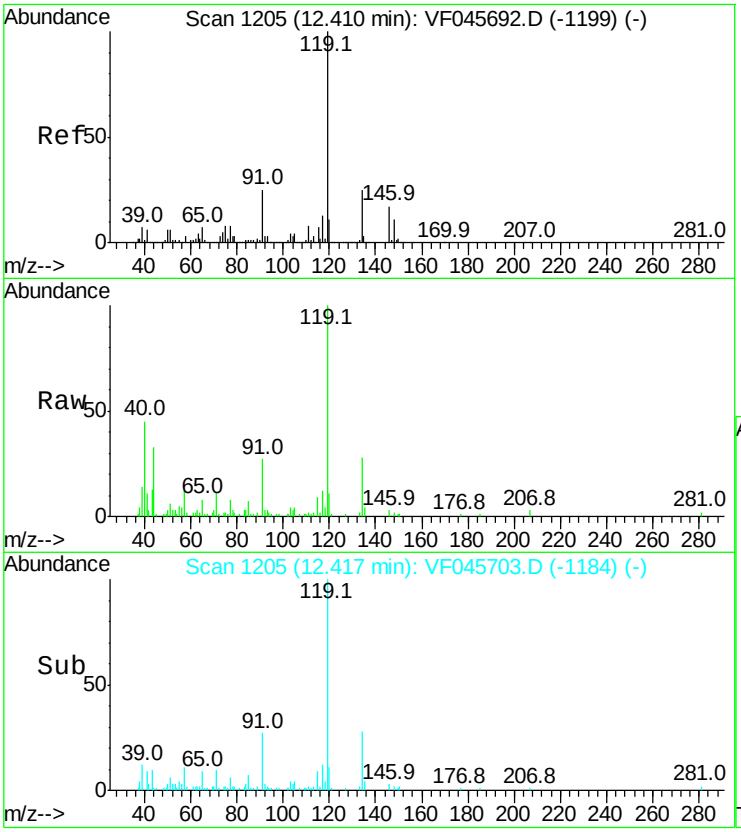
#83
1,2,4-Trimethylbenzene
Concen: 2.04 ug/l
RT: 12.16 min Scan# 1179
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:105 Resp: 12378

Ion	Ratio	Lower	Upper
105	100		
120	37.3	22.5	67.5



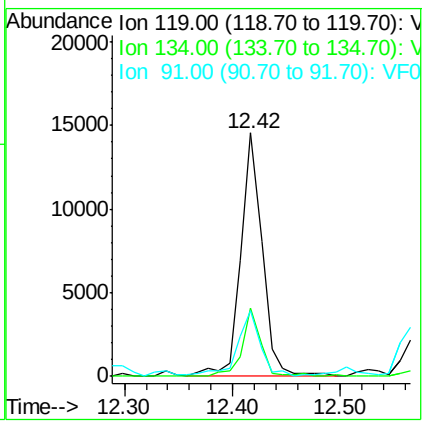
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

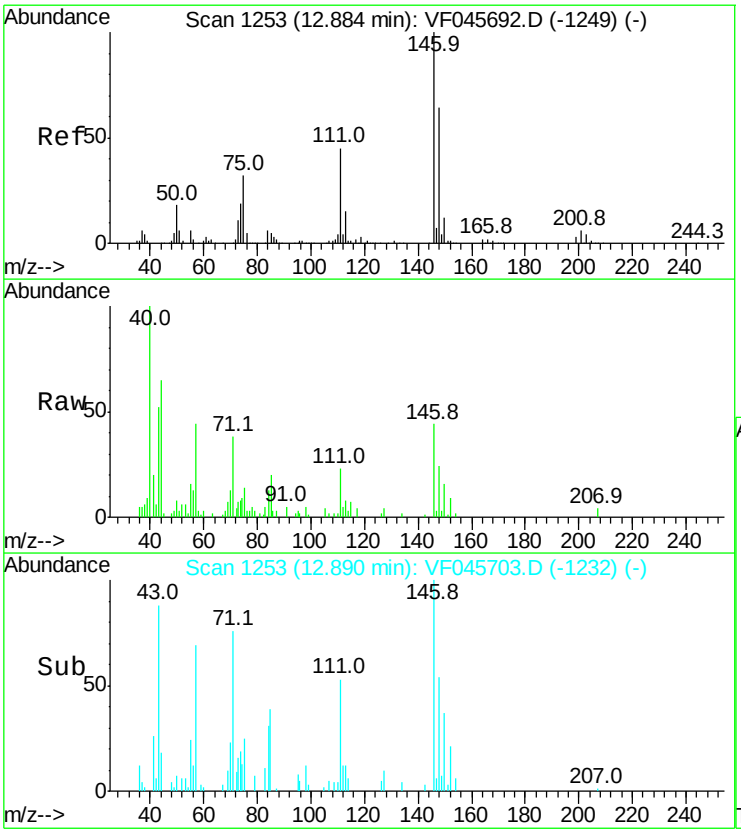


#85
p-Isopropyltoluene
Concen: 3.22 ug/l
RT: 12.42 min Scan# 1205
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:119 Resp: 20222

Ion	Ratio	Lower	Upper
119	100		
134	27.8	12.6	37.6
91	26.9	12.6	37.6

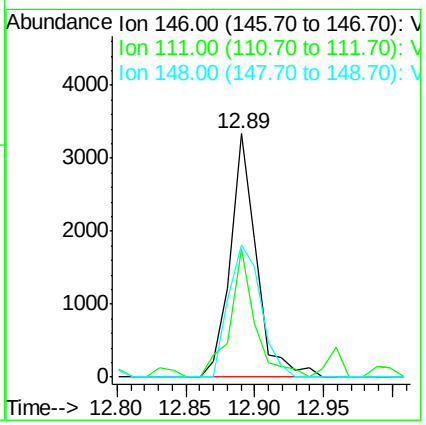




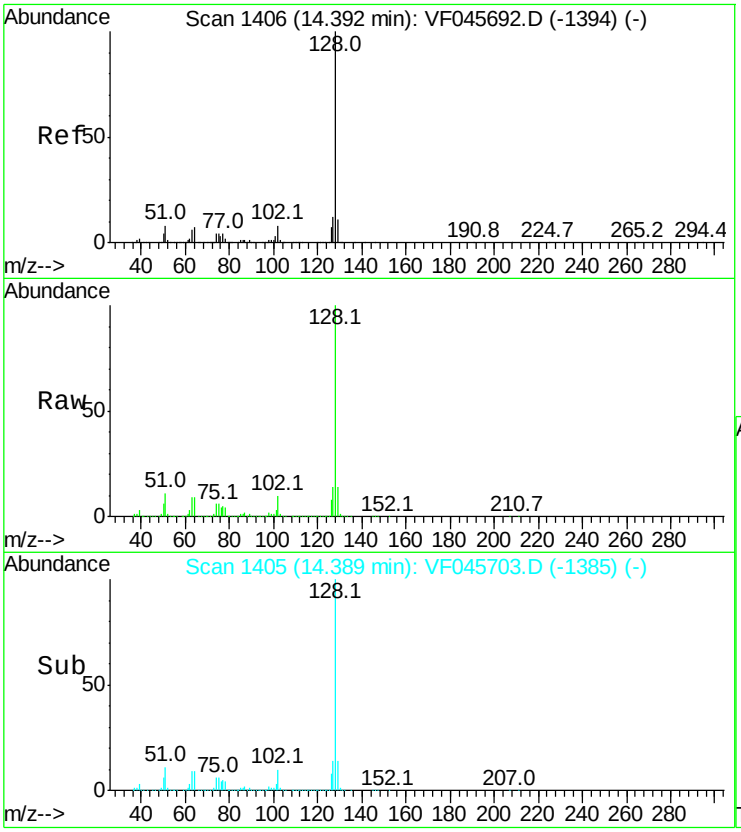
#90
1,2-Dichlorobenzene
Concen: 1.33 ug/l
RT: 12.89 min Scan# 1253
Delta R.T. 0.01 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:146 Resp: 4418

Ion	Ratio	Lower	Upper
146	100		
111	52.6	22.8	68.3
148	54.1	32.1	96.5



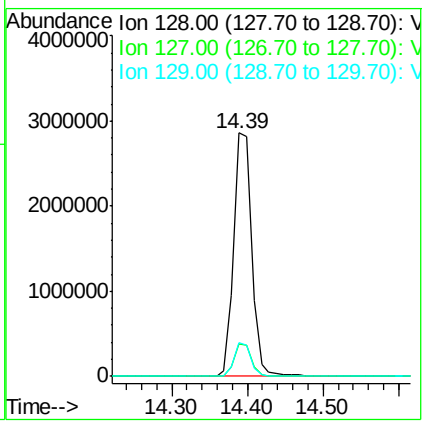
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112



#94
Naphthalene
Concen: 1065.73 ug/l
RT: 14.39 min Scan# 1405
Delta R.T. -0.00 min
Lab File: VF045703.D
Acq: 20 Oct 2015 1:19

Tgt Ion:128 Resp: 4664539

Ion	Ratio	Lower	Upper
128	100		
127	13.5	9.9	14.9
129	13.8	8.8	13.2#



Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Title : SW846 8260

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.946	337	346	352	rBV	64264	243769	2.48%	0.732%
2	4.065	352	358	371	rVB	237647	772018	7.86%	2.319%
3	4.824	426	435	446	rBV2	444941	1714722	17.46%	5.152%
4	5.564	503	510	525	rBV	529772	1469695	14.96%	4.415%
5	7.516	703	708	713	rBV	613964	1406197	14.32%	4.225%
6	8.216	772	779	786	rVB2	46103	153079	1.56%	0.460%
7	9.725	927	932	941	rBV	517924	1122445	11.43%	3.372%
8	11.174	1076	1079	1085	rVB2	99875	176694	1.80%	0.531%
9	11.371	1095	1099	1109	rBV	314040	584540	5.95%	1.756%
10	11.539	1111	1116	1122	rVB	59853	117391	1.20%	0.353%
11	12.239	1185	1187	1191	rBV2	71544	115425	1.18%	0.347%
12	12.397	1200	1203	1207	rBV2	84608	160592	1.64%	0.482%
13	12.505	1211	1214	1218	rBV	377433	586462	5.97%	1.762%
14	12.673	1228	1231	1234	rBV	104756	154177	1.57%	0.463%
15	12.959	1257	1260	1264	rVB	101502	142831	1.45%	0.429%
16	13.610	1322	1326	1328	rBV	69362	123054	1.25%	0.370%
17	13.659	1328	1331	1335	rVV2	109686	210016	2.14%	0.631%
18	13.728	1335	1338	1342	rVV	215443	323201	3.29%	0.971%
19	13.797	1342	1345	1352	rVV2	218086	439278	4.47%	1.320%
20	13.896	1352	1355	1360	rVB3	50300	114101	1.16%	0.343%
21	14.024	1366	1368	1371	rVB	78428	110068	1.12%	0.331%
22	14.271	1389	1393	1396	rBV	116104	165196	1.68%	0.496%
23	14.389	1402	1405	1409	rBV	6516513	9821122	100.00%	29.506%
24	14.468	1411	1413	1416	rBV	376879	518189	5.28%	1.557%
25	14.675	1431	1434	1438	rVB	94240	139012	1.42%	0.418%
26	15.138	1479	1481	1485	rBV	154676	207997	2.12%	0.625%
27	15.207	1485	1488	1492	rVV	3784722	5107777	52.01%	15.346%
28	15.326	1497	1500	1505	rVB	2878158	4526040	46.08%	13.598%
29	15.700	1534	1538	1544	rVB	500201	749613	7.63%	2.252%
30	15.898	1555	1558	1564	rVB	208320	380807	3.88%	1.144%
31	16.026	1566	1571	1577	rBV	802183	1429566	14.56%	4.295%

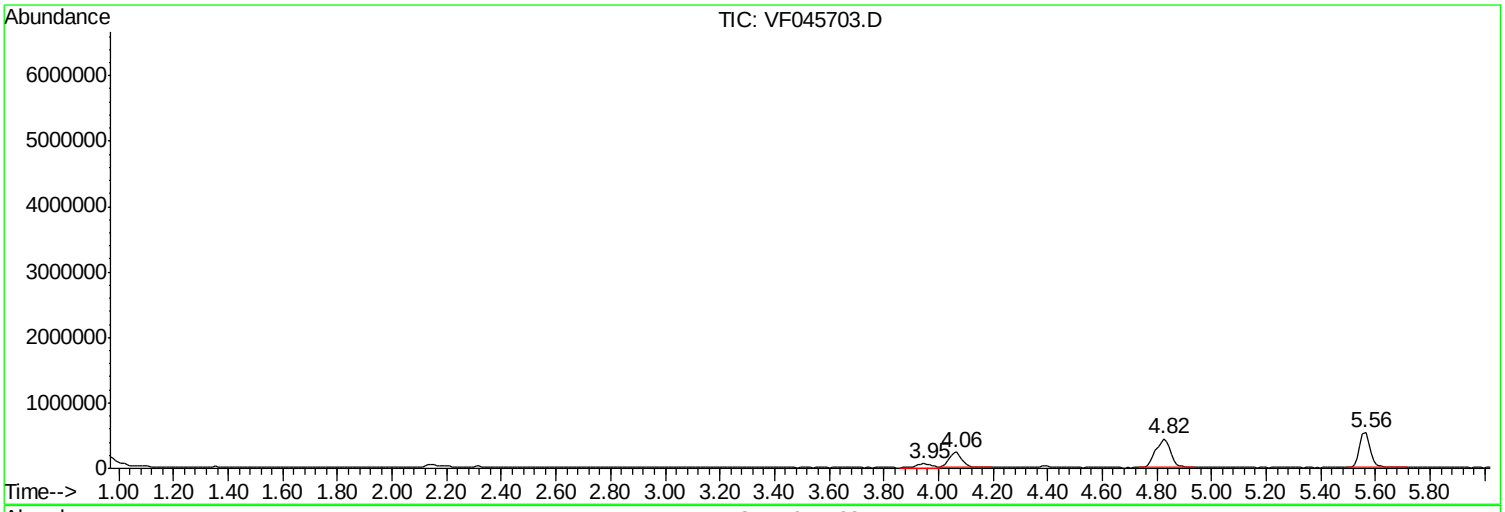
Sum of corrected areas: 33285074

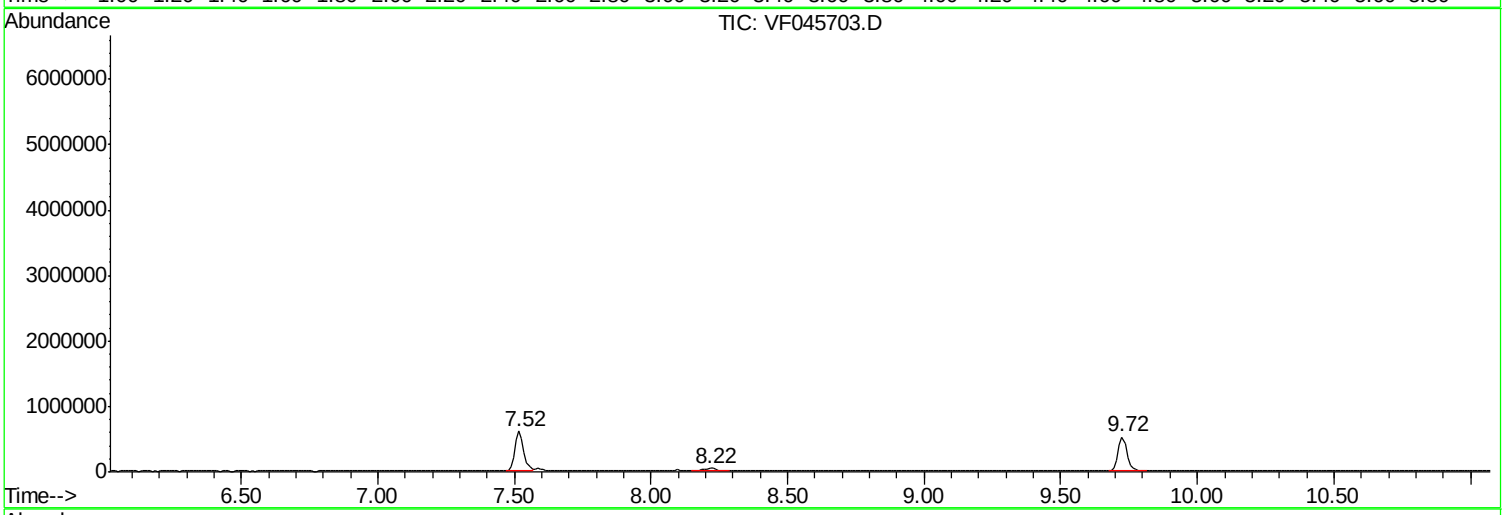
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

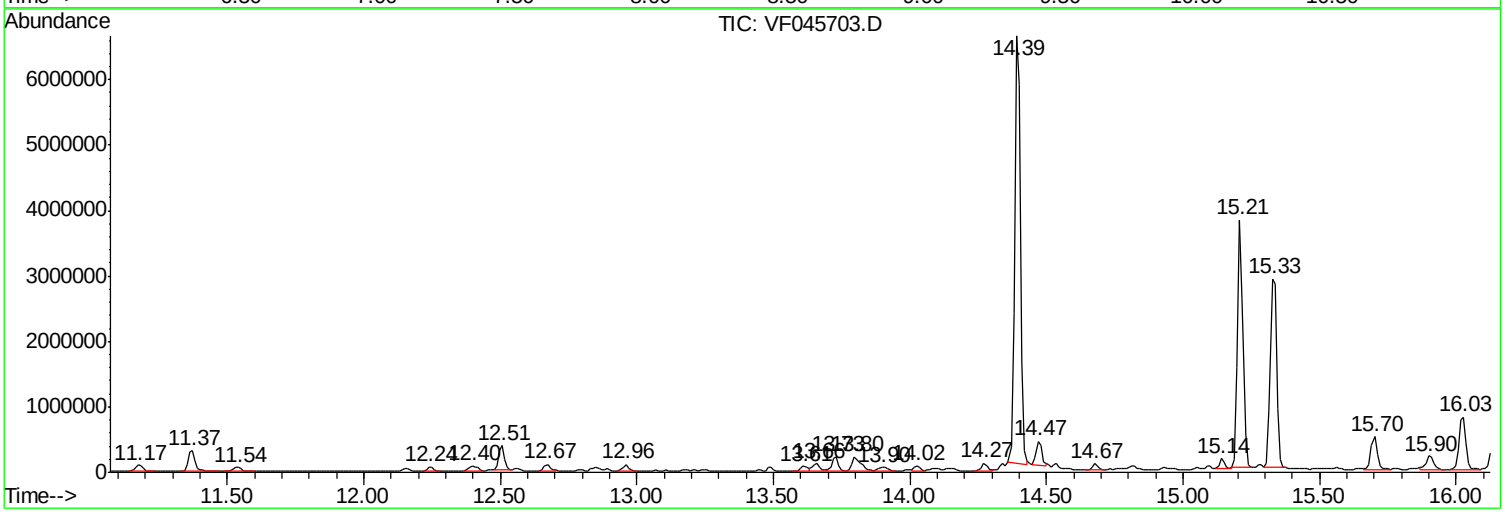
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112







Library Search Compound Report

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

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Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On    : 20 Oct 2015   1:19
Operator  : FY/SY
Sample    : G4046-04
Misc      : 1.00g/5mL/MSVOA F/SOIL
ALS Vial  : 21   Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title  : SW846 8260

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

**********************************************************************
Peak Number  1  Benzene, 1-(chloromethyl)-3...  Concentration Rank  9

  R.T.   EstConc           Area       Relative to ISTD         R.T.
----------------------------------------------------------------------
 13.66   17.91 ug/l       210016    1,4-Dichlorobenzene-d4     12.51

 Hit# of  5    Tentative ID              MW  MolForm       CAS#       Qual
----------------------------------------------------------------------
 1 Benzene, 1-(chloromethyl)-3-ethe... 152 C9H9Cl         039833-65-3 53
 2 1H-Indene, 1-ethyl-2,3-dihydro-     146 C11H14         004830-99-3 53
 3 Indan, 1-methyl-                    132 C10H12         000767-58-8 53
 4 Benzene, 1,1'-(1,5-hexadiene-1,6... 234 C18H18         004439-45-6 53
 5 5-Chloro-1-phenyl-1-pentene         180 C11H13Cl       016424-50-3 45
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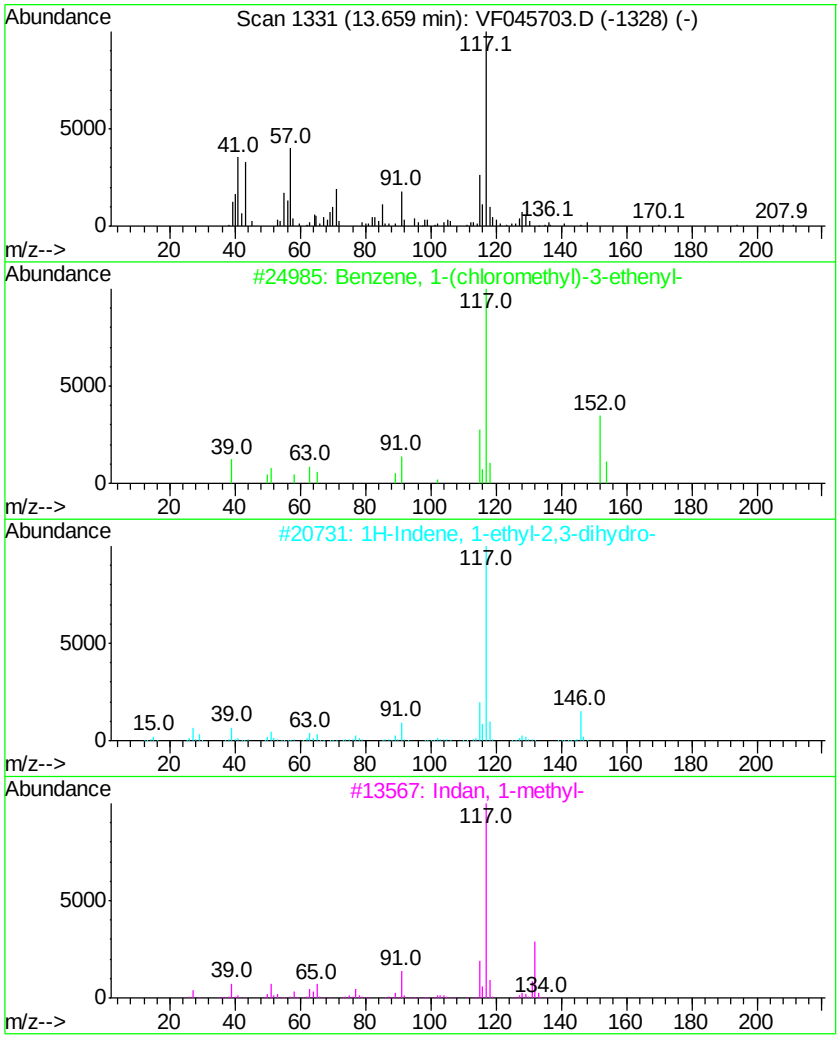
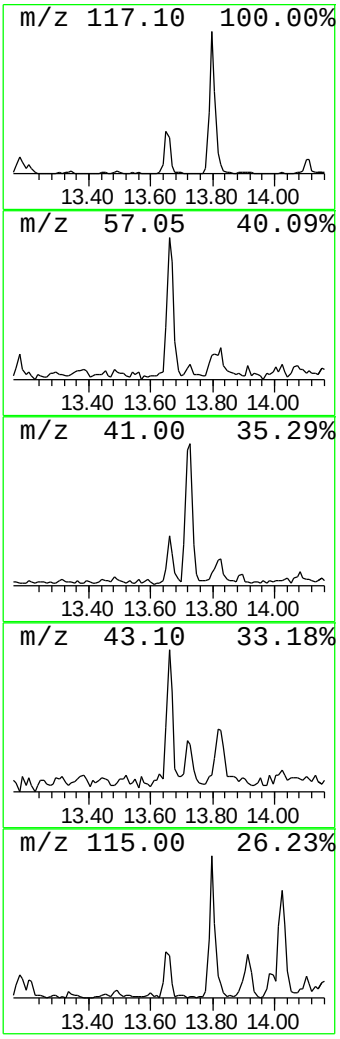




Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

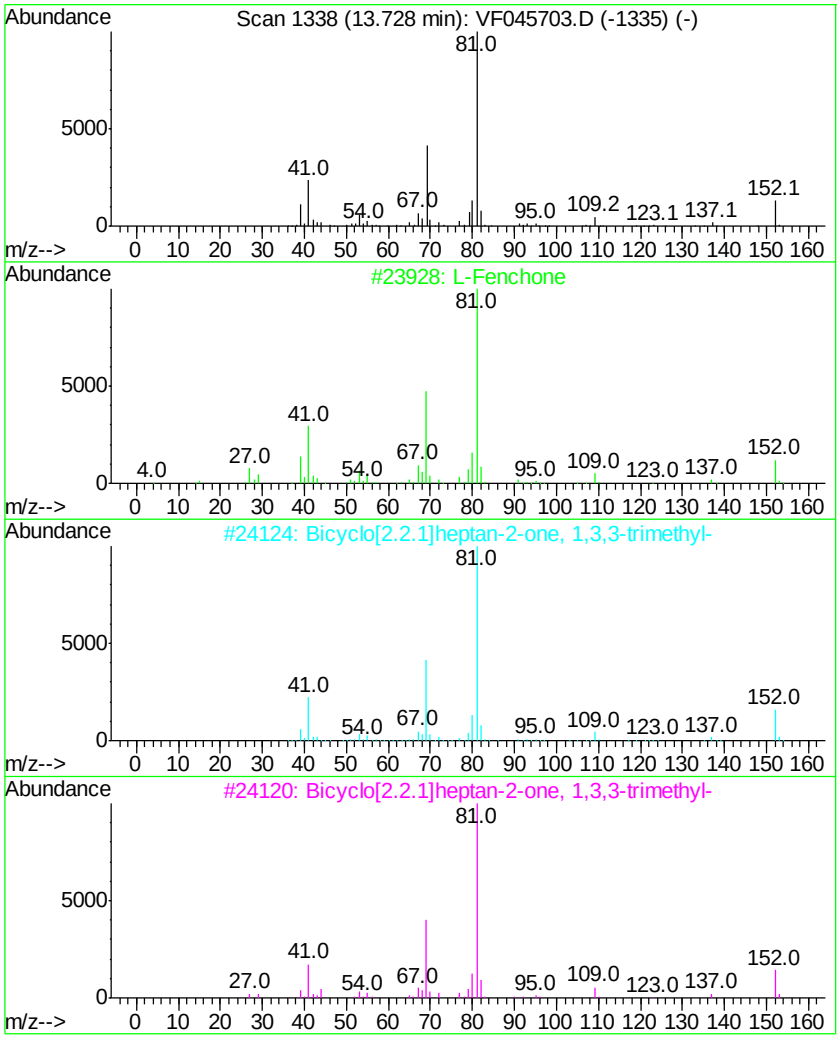
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

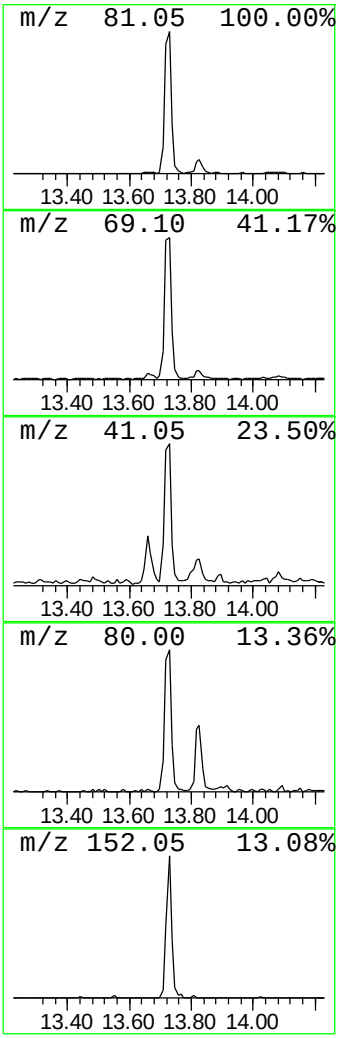
****

Peak Number 2 L-Fenchone Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.73	27.56 ug/l	323201	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	L-Fenchone	152	C10H16O	000126-21-6	95
2	Bicyclo[2.2.1]heptan-2-one, 1,3,...	152	C10H16O	004695-62-9	91
3	Bicyclo[2.2.1]heptan-2-one, 1,3,...	152	C10H16O	001195-79-5	91
4	Bicyclo[2.2.1]heptan-2-one, 1,3,...	152	C10H16O	007787-20-4	91
5	2,4-Decadienal, (E,E)-	152	C10H16O	025152-84-5	45





Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

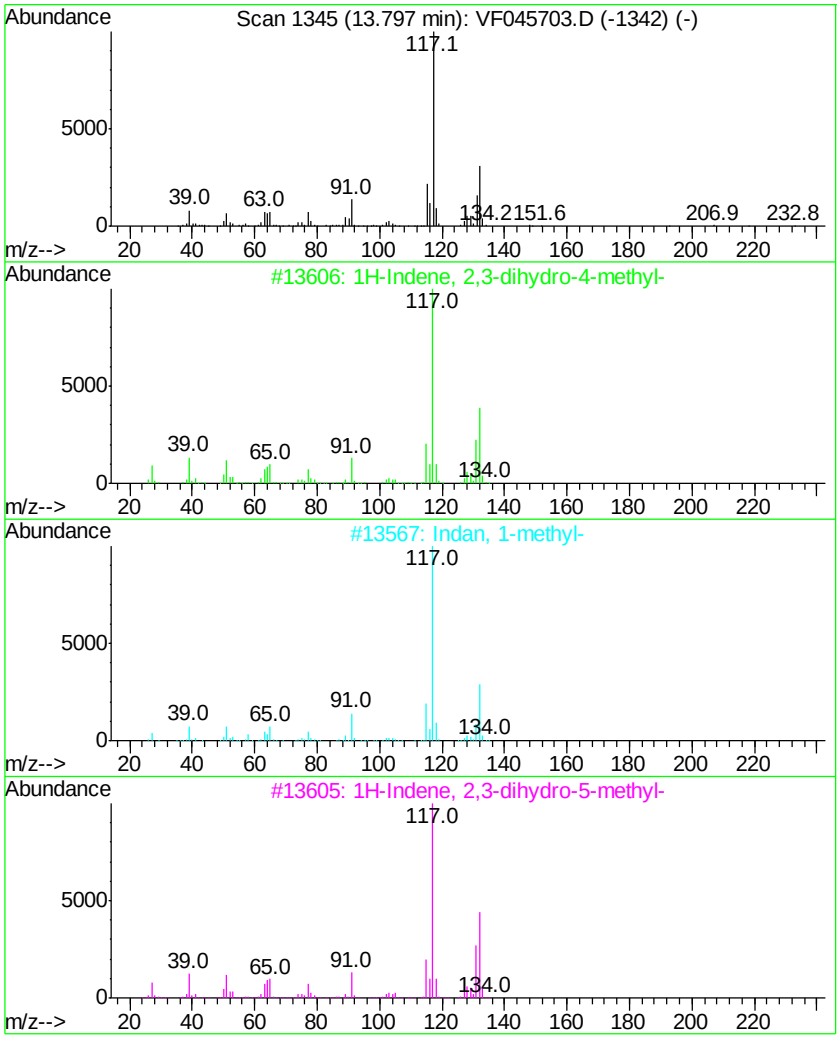
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

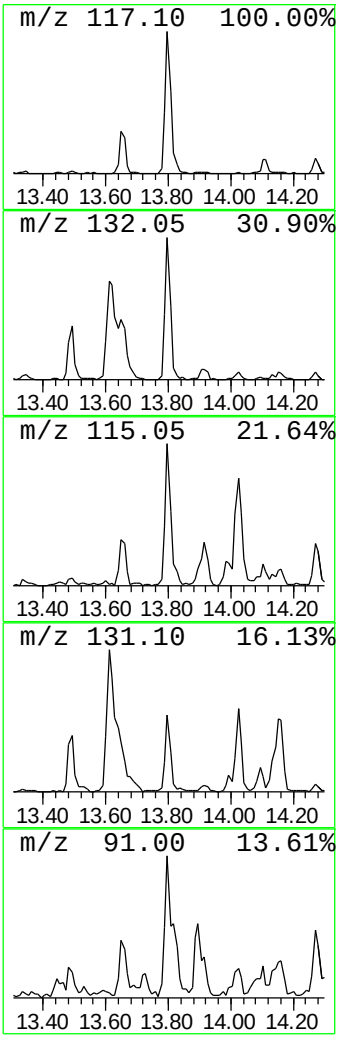
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

****
Peak Number 3 1H-Indene, 2,3-dihydro-4-me... Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.80	37.45 ug/l	439278	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-4-methyl-	132	C10H12	000824-22-6	95
2	Indan, 1-methyl-	132	C10H12	000767-58-8	94
3	1H-Indene, 2,3-dihydro-5-methyl-	132	C10H12	000874-35-1	91
4	Benzene, 2-ethenyl-1,4-dimethyl-	132	C10H12	002039-89-6	91
5	3a,6-Methano-3aH-indene, 2,3,6,7...	132	C10H12	098640-29-0	80





Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

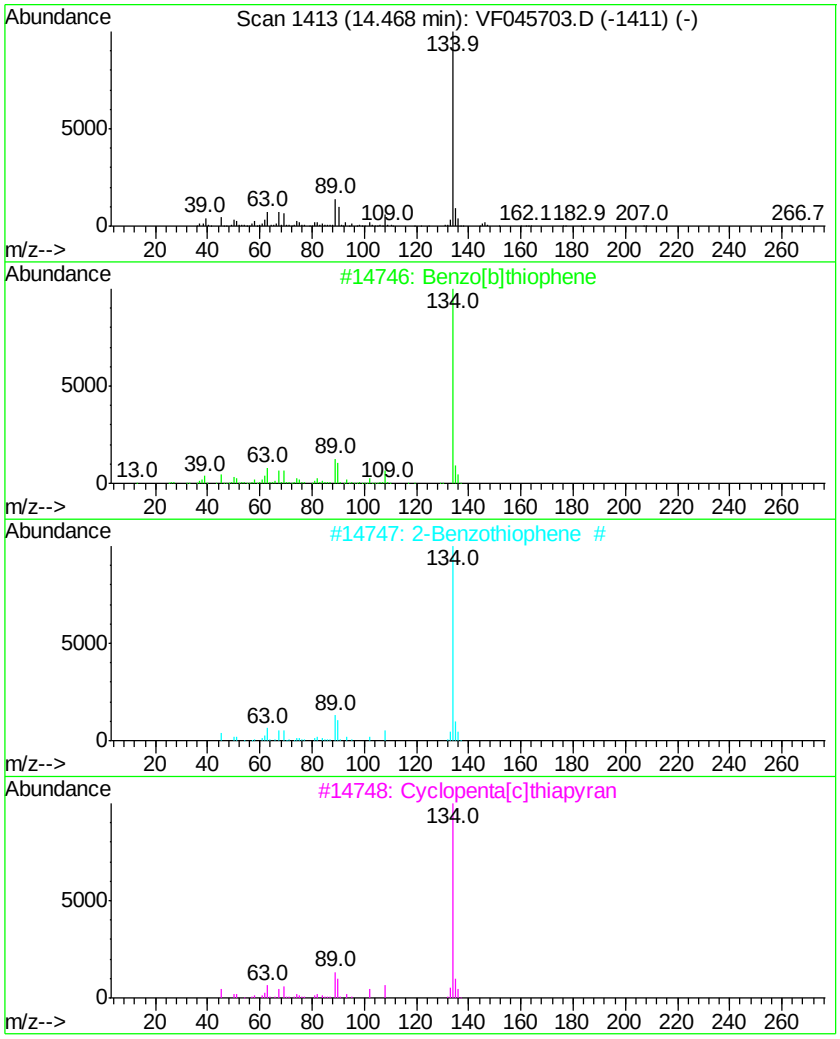
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

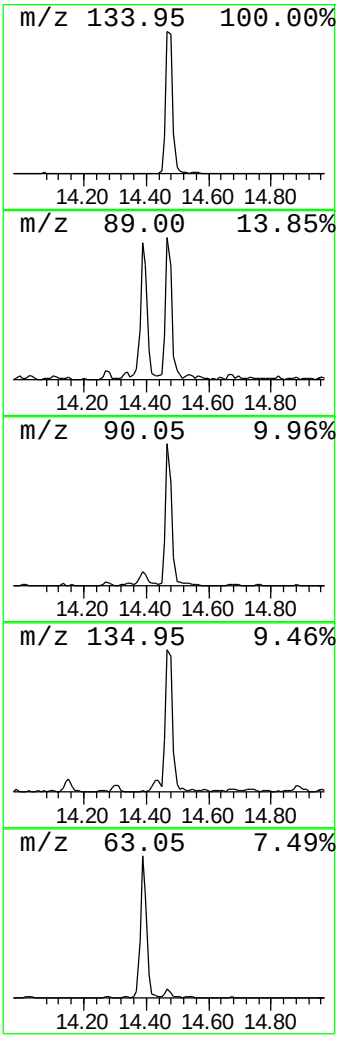
****

Peak Number 4 Benzo[b]thiophene Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.47	44.18 ug/l	518189	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzo[b]thiophene	134	C8H6S	000095-15-8	97
2	2-Benzothiophene #	134	C8H6S	000270-82-6	94
3	Cyclopenta[c]thiapyran	134	C8H6S	000270-63-3	90
4	Cyclopenta[b]thiapyran	134	C8H6S	000271-17-0	72
5	2H-Benzimidazol-2-one, 1,3-dihydro-	134	C7H6N2O	000615-16-7	42





Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112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Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On    : 20 Oct 2015   1:19
Operator  : FY/SY
Sample    : G4046-04
Misc      : 1.00g/5mL/MSVOA F/SOIL
ALS Vial  : 21   Sample Multiplier: 1

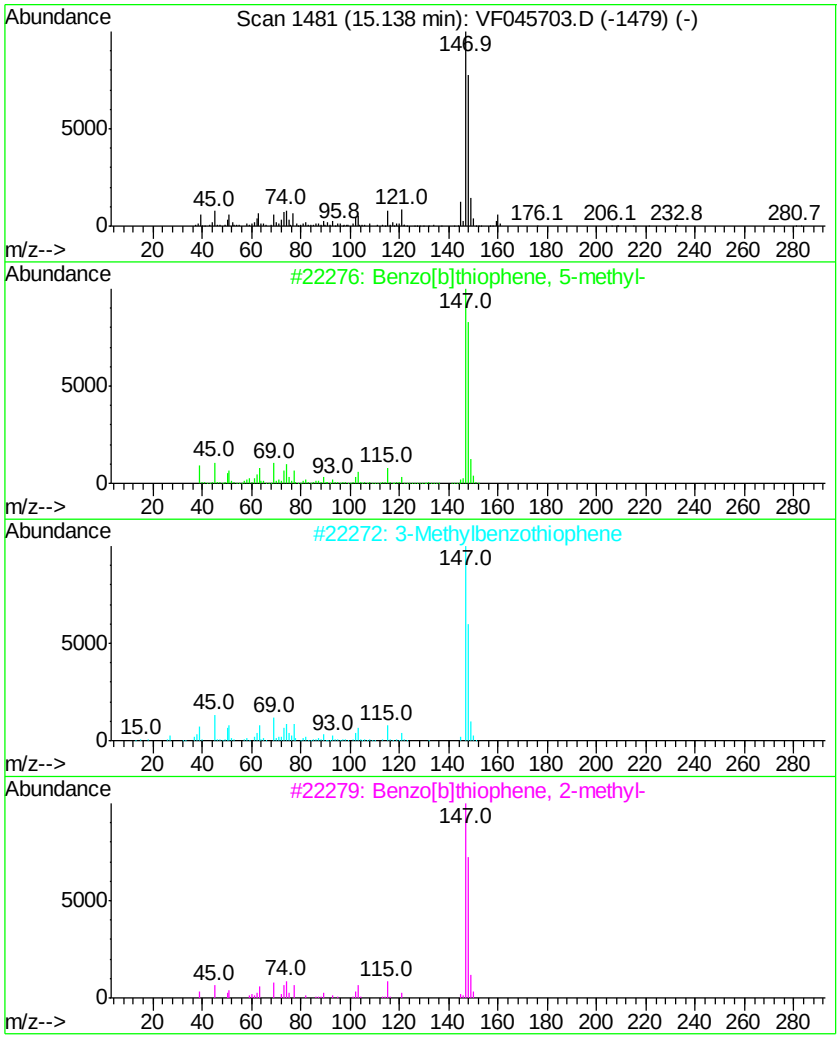
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title  : SW846 8260

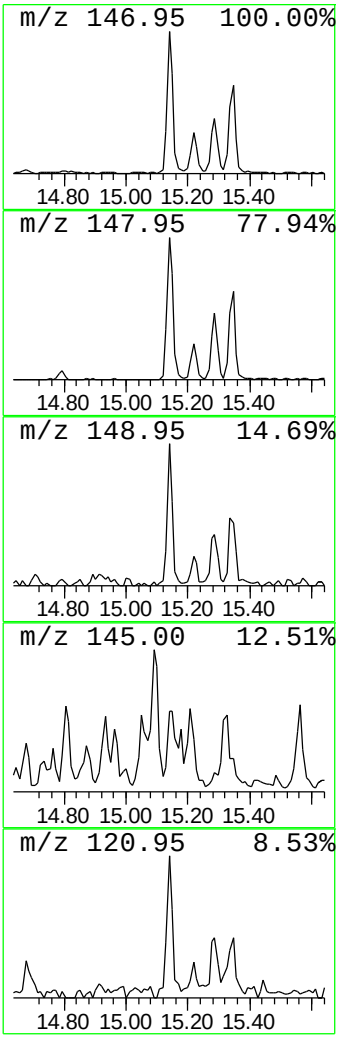
TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

*********************************************************************
Peak Number  5  Benzo[b]thiophene, 5-methyl-    Concentration Rank 10

  R.T.   EstConc           Area       Relative to ISTD         R.T.
---------------------------------------------------------------------
 15.14   17.73 ug/l       207997    1,4-Dichlorobenzene-d4     12.51

 Hit# of  5    Tentative ID              MW  MolForm       CAS#       Qual
---------------------------------------------------------------------
 1 Benzo[b]thiophene, 5-methyl-         148 C9H8S          014315-14-1 91
 2 3-Methylbenzothiophene               148 C9H8S          001455-18-1 91
 3 Benzo[b]thiophene, 2-methyl-         148 C9H8S          001195-14-8 90
 4 Benzo[b]thiophene, 4-methyl-         148 C9H8S          014315-11-8 90
 5 Benzo[b]thiophene, 6-methyl-         148 C9H8S          016587-47-6 76
```





Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

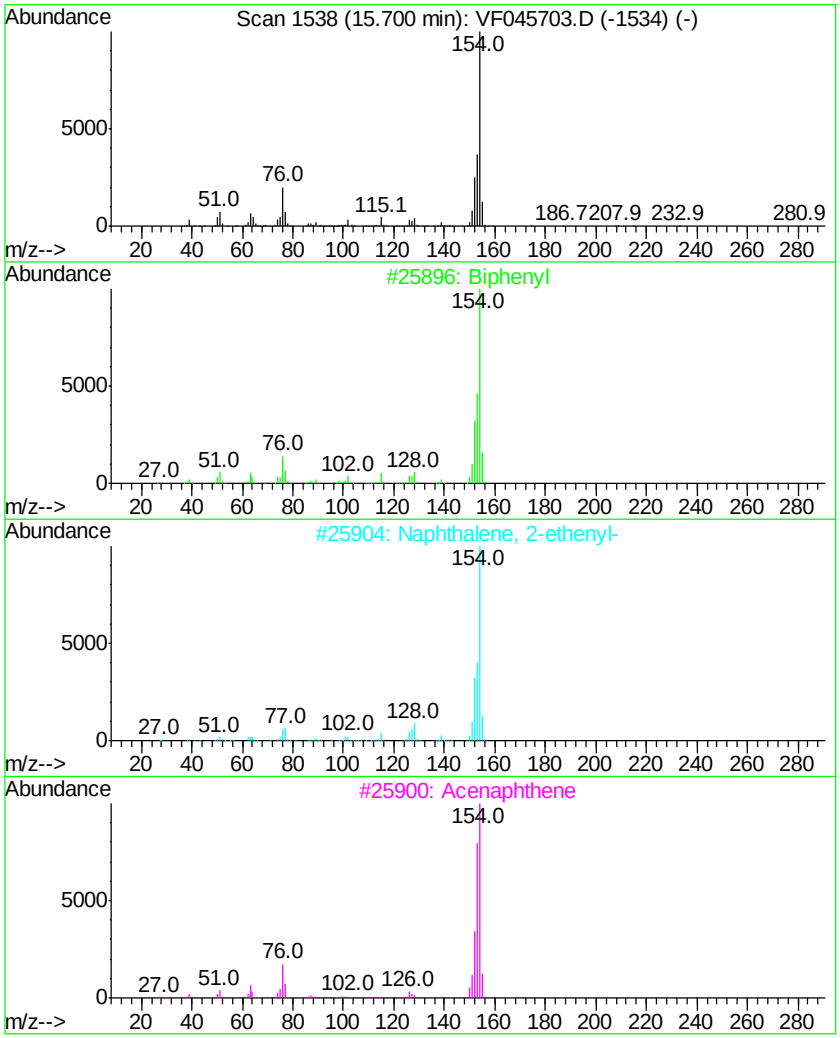
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

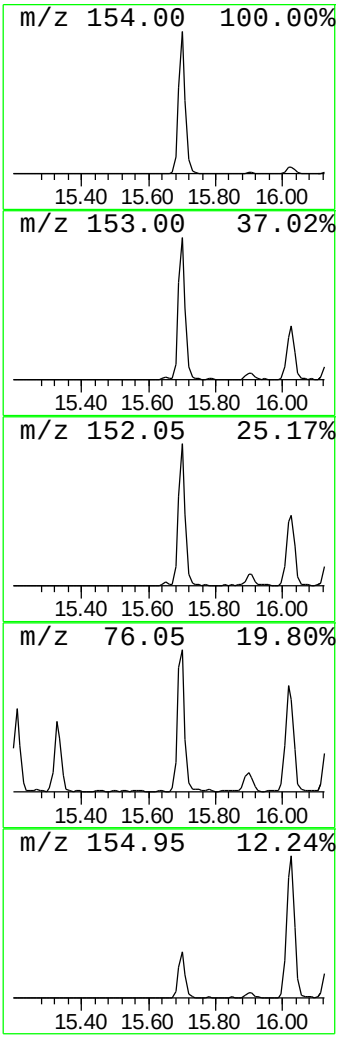
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 8 Biphenyl Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.70	63.91 ug/l	749613	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Biphenyl	154	C12H10	000092-52-4	94
2	Naphthalene, 2-ethenyl-	154	C12H10	000827-54-3	76
3	Acenaphthene	154	C12H10	000083-32-9	70
4	1,3-Cyclohexadien-5-ol, 1-phenyl-	172	C12H12O	1000159-61-9	50
5	Naphtho[1,2-c]thiophene, 1,3-dih...	202	C12H10OS	031739-49-8	39





Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

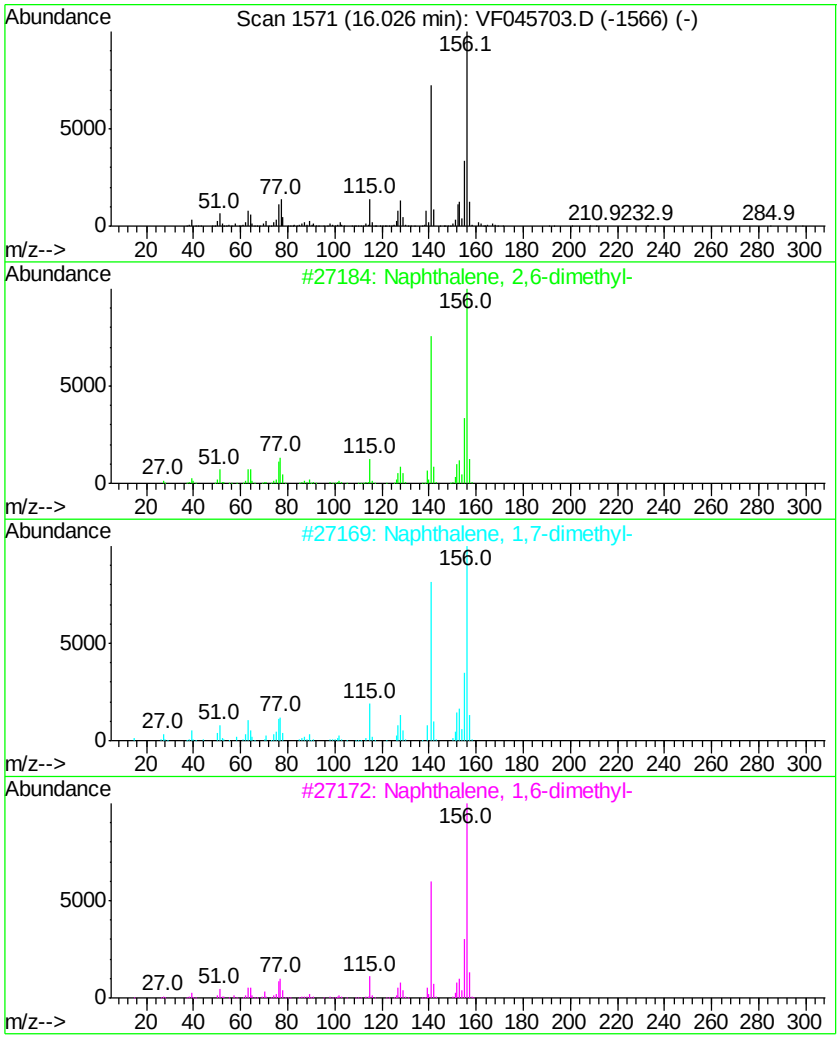
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

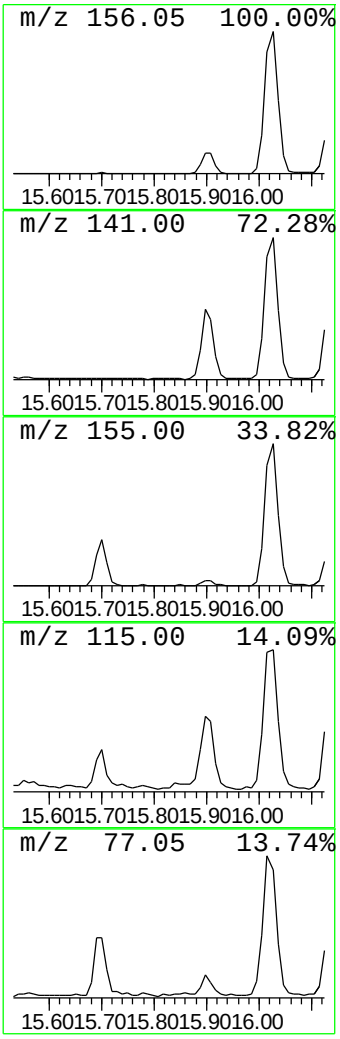
****

Peak Number 10 Naphthalene, 2,6-dimethyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.03	121.88 ug/l	1429570	1,4-Dichlorobenzene-d4	12.51

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2,6-dimethyl-	156	C12H12	000581-42-0	98
2	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	98
3	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	97
4	Naphthalene, 1,5-dimethyl-	156	C12H12	000571-61-9	97
5	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	97





Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_F\DATA\VF102015\
Data File : VF045703.D
Acq On : 20 Oct 2015 1:19
Operator : FY/SY
Sample : G4046-04
Misc : 1.00g/5mL/MSVOA_F/SOIL
ALS Vial : 21 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Benzene, 1-(chlor...	13.66	17.9	ug/l	210016	4	12.51	586462	50.0
L-Fenchone	13.73	27.6	ug/l	323201	4	12.51	586462	50.0
1H-Indene, 2,3-di...	13.80	37.5	ug/l	439278	4	12.51	586462	50.0
Benzo[b]thiophene	14.47	44.2	ug/l	518189	4	12.51	586462	50.0
Benzo[b]thiophene...	15.14	17.7	ug/l	207997	4	12.51	586462	50.0
Biphenyl	15.70	63.9	ug/l	749613	4	12.51	586462	50.0
Naphthalene, 2,6-...	16.03	121.9	ug/l	1429570	4	12.51	586462	50.0

Quantitation Report (QT/LSC Reviewed)

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045726.D
Acq On : 21 Oct 2015 17:57
Operator : FY/SY
Sample : G4046-04RE
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 22 12:48:38 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.82	168	293636	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.55	114	531629	50.00	ug/l	0.00
62) Chlorobenzene-d5	9.72	117	264790	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.50	152	66314	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.79	65	236418	52.67	ug/l	0.00
Spiked Amount 50.000			Recovery	=	105.34%	
34) Dibromofluoromethane	4.05	113	268105	54.07	ug/l	0.00
Spiked Amount 50.000			Recovery	=	108.14%	
49) Toluene-d8	7.50	98	498913	34.66	ug/l	0.00
Spiked Amount 50.000			Recovery	=	69.32%	
61) 4-Bromofluorobenzene	11.36	95	104017	14.19	ug/l	0.00
Spiked Amount 50.000			Recovery	=	28.38%	

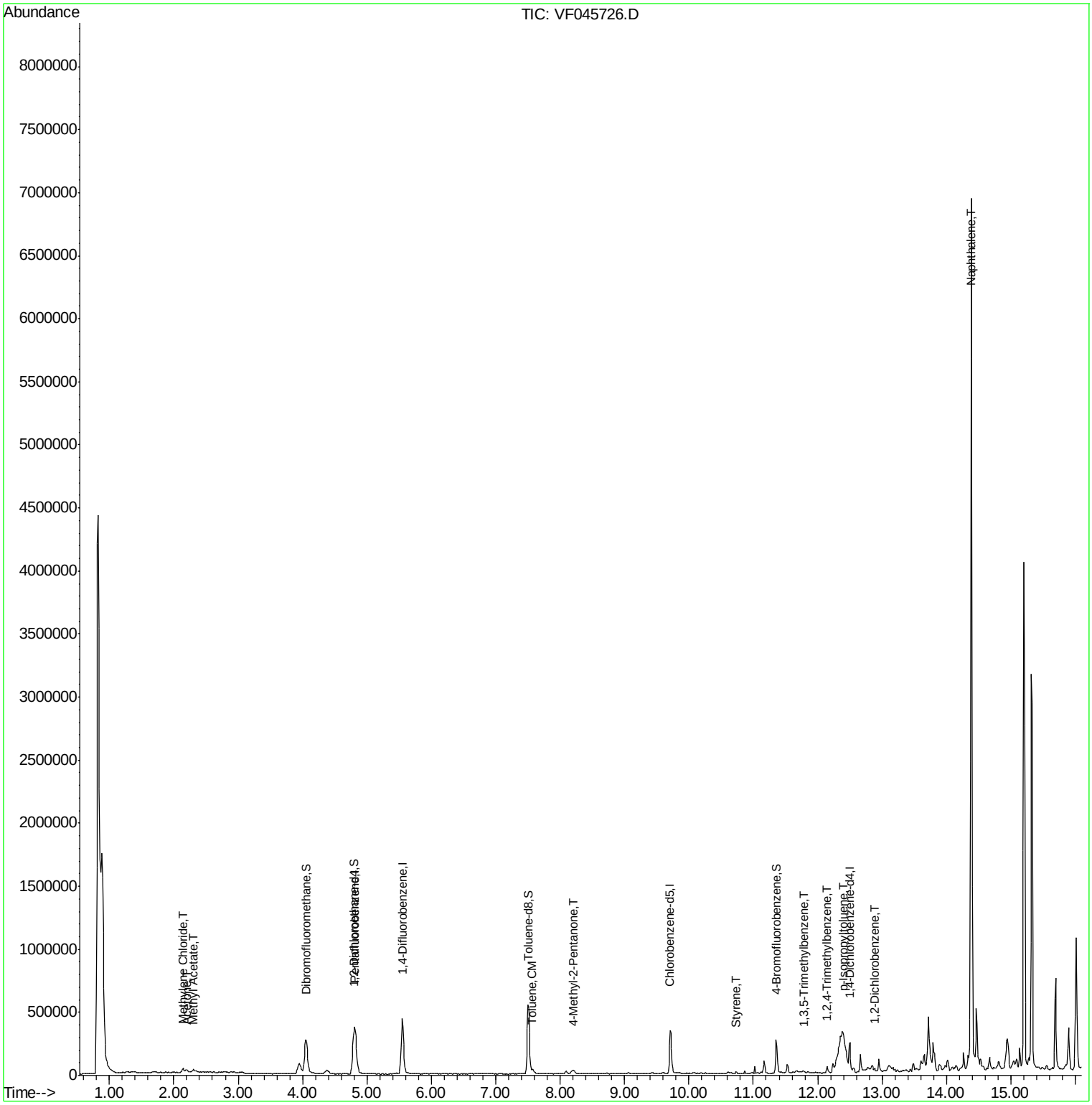
Target Compounds						Qvalue
16) Acetone	2.20	43	30025	25.33	ug/l	94
18) Methyl Acetate	2.30	43	35436	6.50	ug/l	100
20) Methylene Chloride	2.15	84	21358	8.04	ug/l #	78
50) 4-Methyl-2-Pentanone	8.22	43	23586	5.47	ug/l	93
51) Toluene	7.57	92	14360	1.43	ug/l	92
69) Styrene	10.74	104	7477	1.09	ug/l #	77
79) 1,3,5-Trimethylbenzene	11.78	105	4709	1.08	ug/l	85
83) 1,2,4-Trimethylbenzene	12.16	105	13731	3.02	ug/l	98
85) p-Isopropyltoluene	12.41	119	17978	3.85	ug/l	86
90) 1,2-Dichlorobenzene	12.89	146	3530	1.45	ug/l	77
94) Naphthalene	14.38	128	4648686	1345.60	ug/l #	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

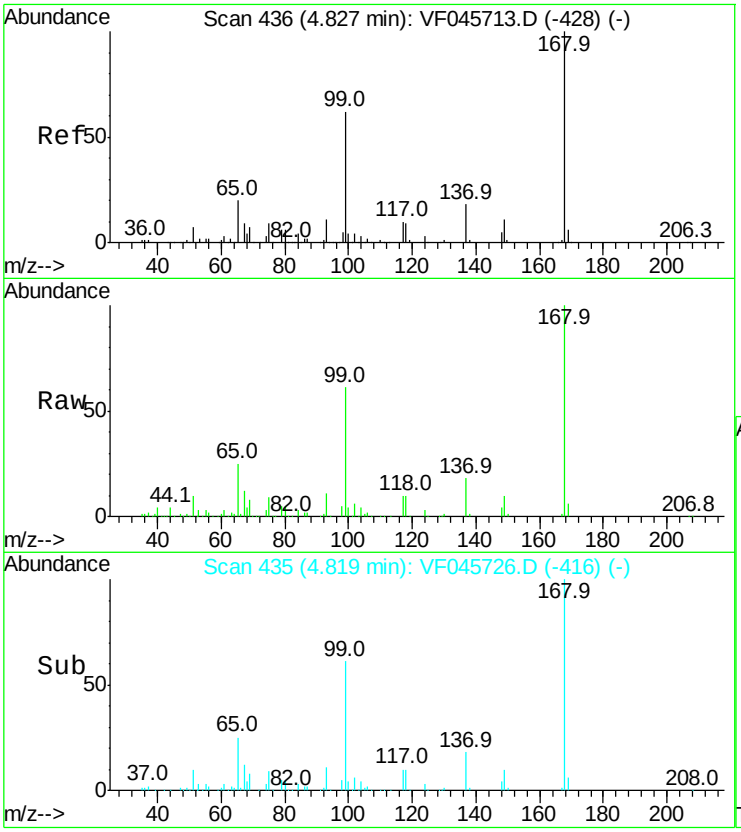
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045726.D
Acq On : 21 Oct 2015 17:57
Operator : FY/SY
Sample : G4046-04RE
Misc : 1.00g/5mL/MSVOA F/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 22 12:48:38 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE



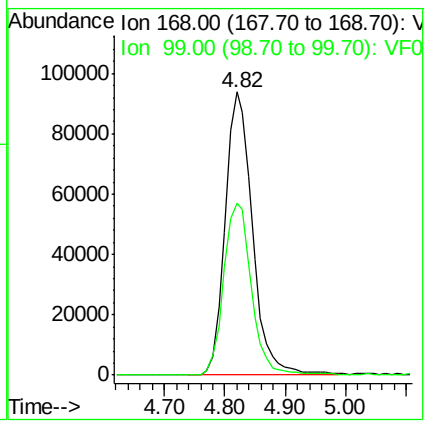
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE

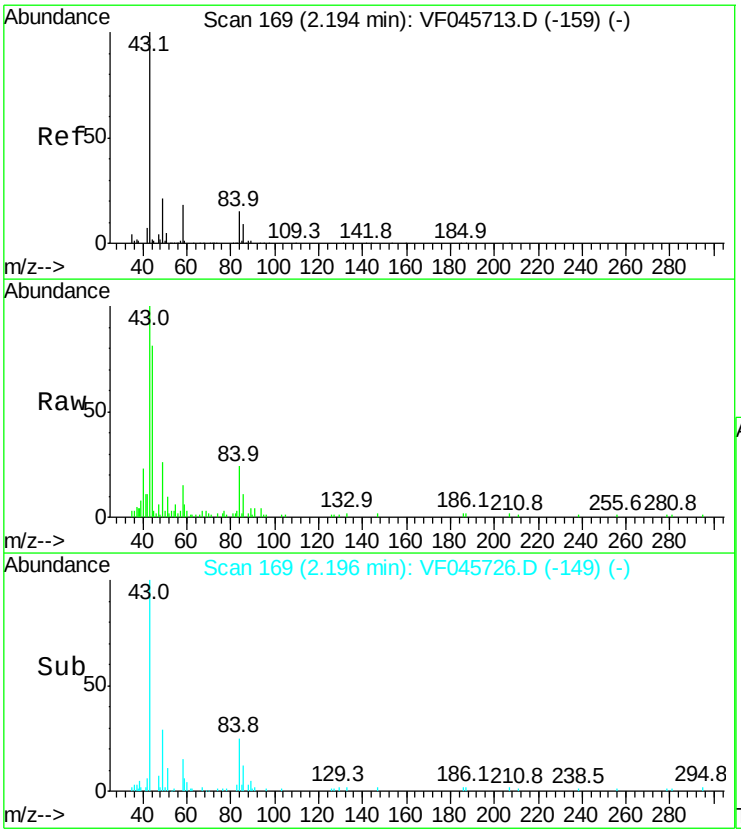


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.82 min Scan# 435
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:168 Resp: 293636

Ion	Ratio	Lower	Upper
168	100		
99	60.7	49.7	74.5

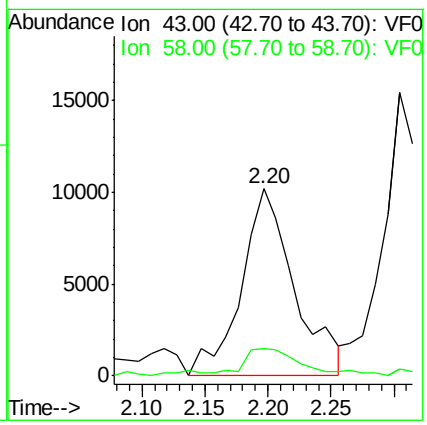




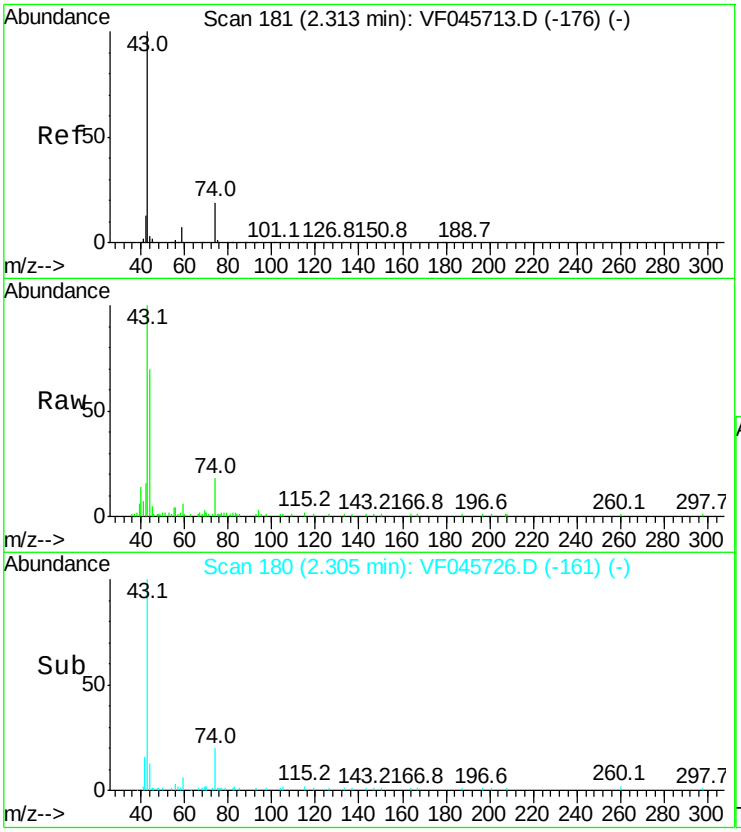
#16
Acetone
Concen: 25.33 ug/l
RT: 2.20 min Scan# 169
Delta R.T. 0.00 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 43 Resp: 30025

Ion	Ratio	Lower	Upper
43	100		
58	14.7	14.0	21.0



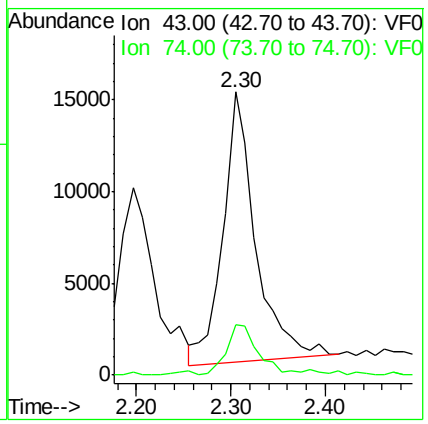
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE

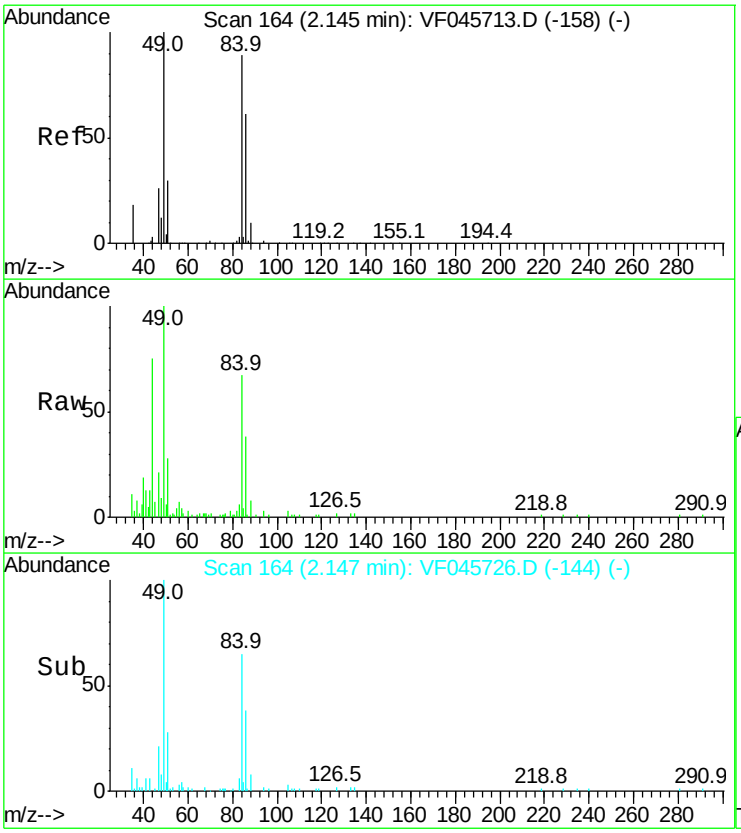


#18
Methyl Acetate
Concen: 6.50 ug/l
RT: 2.30 min Scan# 180
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 43 Resp: 35436

Ion	Ratio	Lower	Upper
43	100		
74	17.9	14.3	21.5

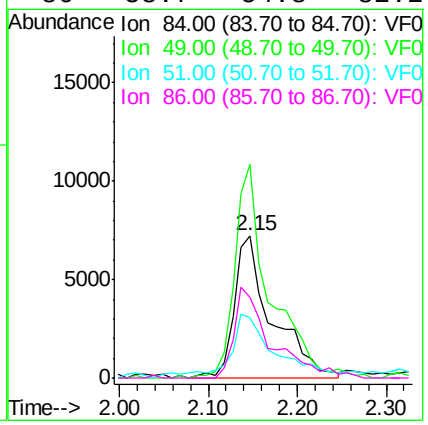


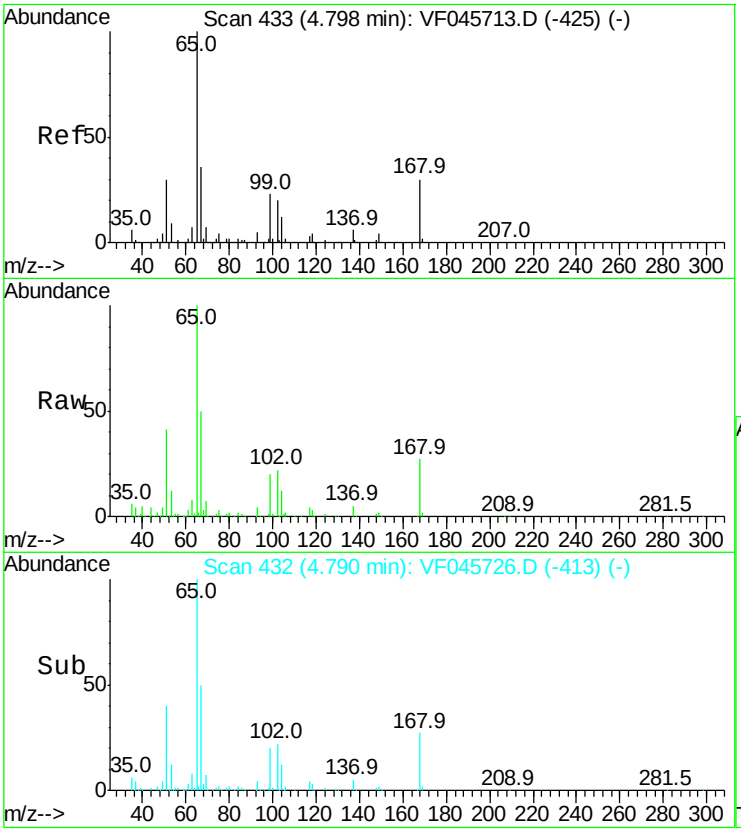


#20
Methylene Chloride
Concen: 8.04 ug/l
RT: 2.15 min Scan# 164
Delta R.T. 0.00 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 84 Resp: 21358

Ion	Ratio	Lower	Upper
84	100		
49	150.3	93.0	139.4#
51	42.5	28.3	42.5#
86	58.7	54.8	82.2

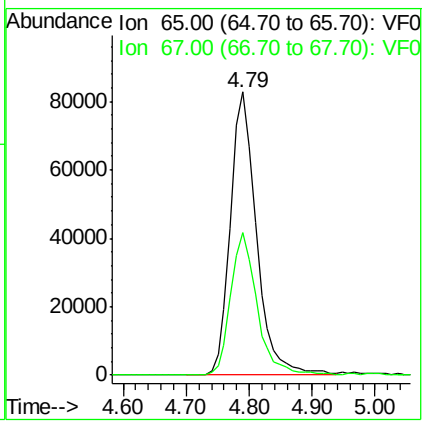


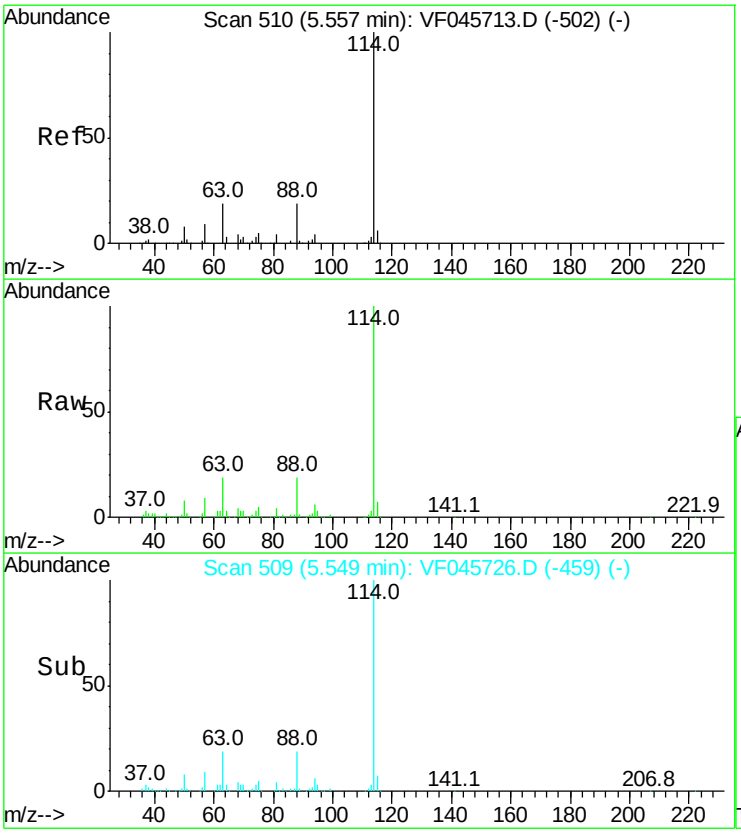


#32
1,2-Dichloroethane-d4
Concen: 52.67 ug/l
RT: 4.79 min Scan# 432
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 65 Resp: 236418

Ion	Ratio	Lower	Upper
65	100		
67	50.3	0.0	98.2

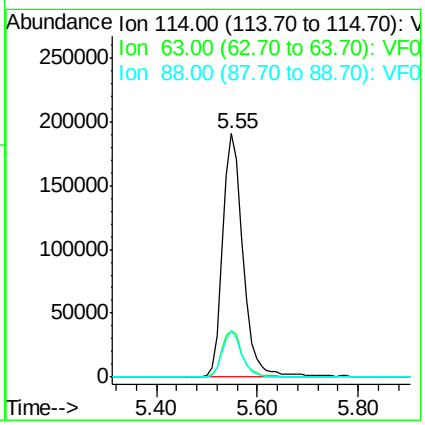


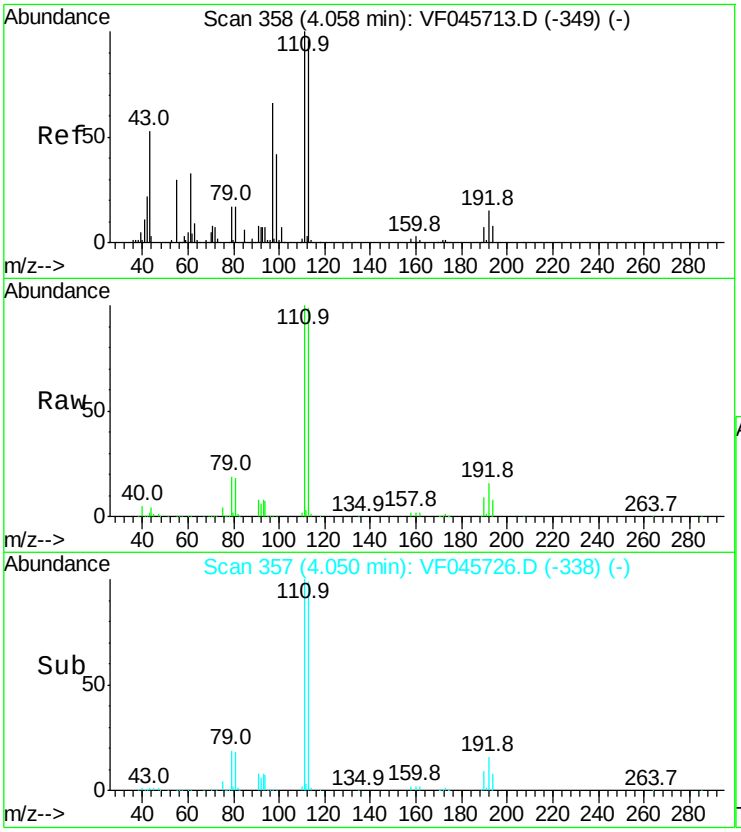


#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.55 min Scan# 509
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:114 Resp: 531629

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	37.4
88	19.1	0.0	38.2

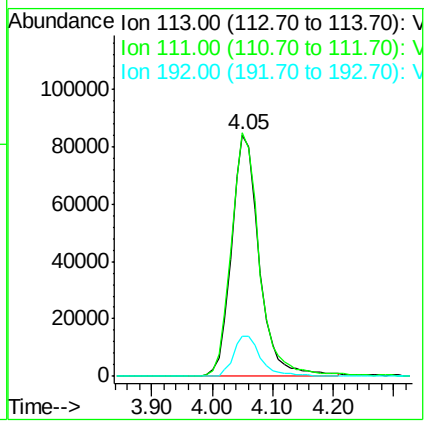


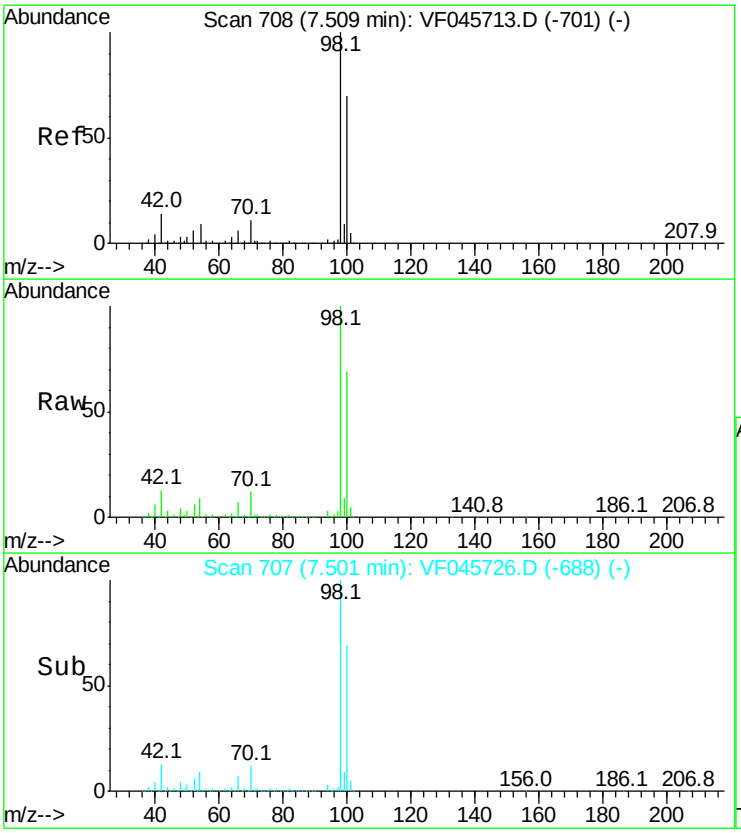


#34
Dibromofluoromethane
Concen: 54.07 ug/l
RT: 4.05 min Scan# 357
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:113 Resp: 268105

Ion	Ratio	Lower	Upper
113	100		
111	101.0	83.4	125.2
192	16.6	12.7	19.1

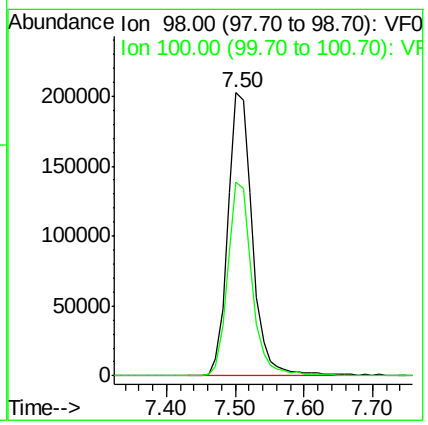


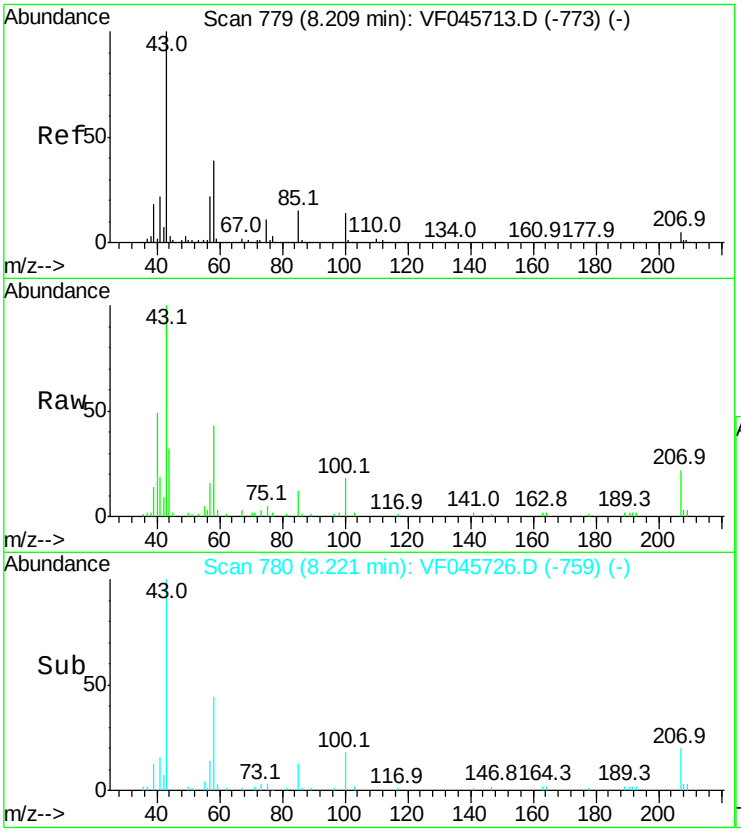


#49
Toluene-d8
Concen: 34.66 ug/l
RT: 7.50 min Scan# 707
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 98 Resp: 498913

Ion	Ratio	Lower	Upper
98	100		
100	68.6	55.7	83.5

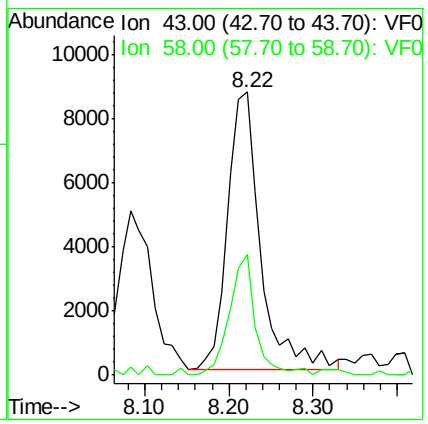


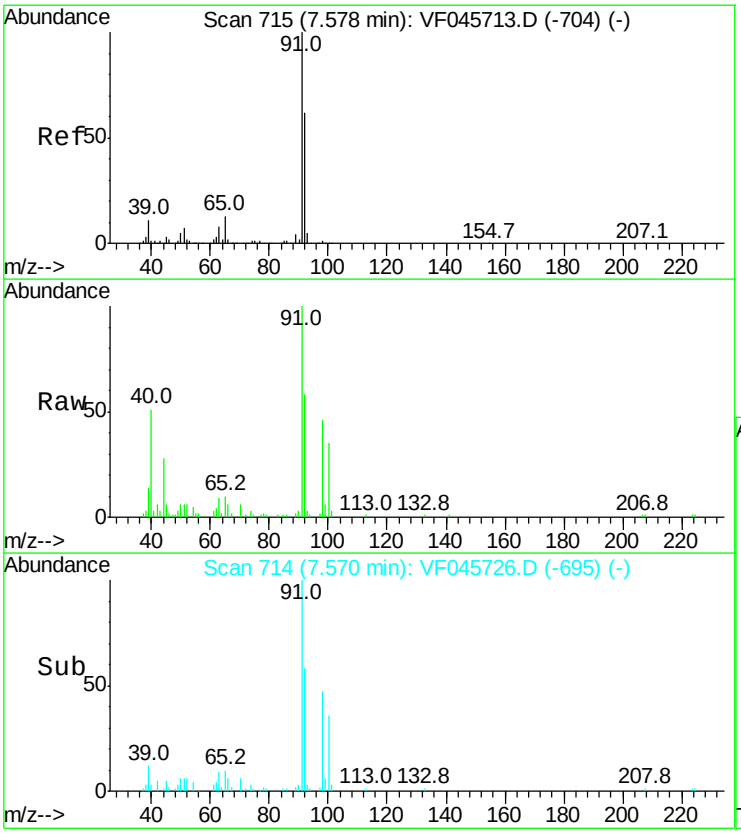


#50
4-Methyl-2-Pentanone
Concen: 5.47 ug/l
RT: 8.22 min Scan# 780
Delta R.T. 0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 43 Resp: 23586

Ion	Ratio	Lower	Upper
43	100		
58	42.9	31.0	46.6

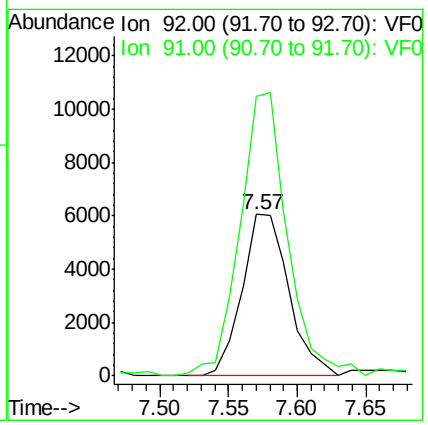




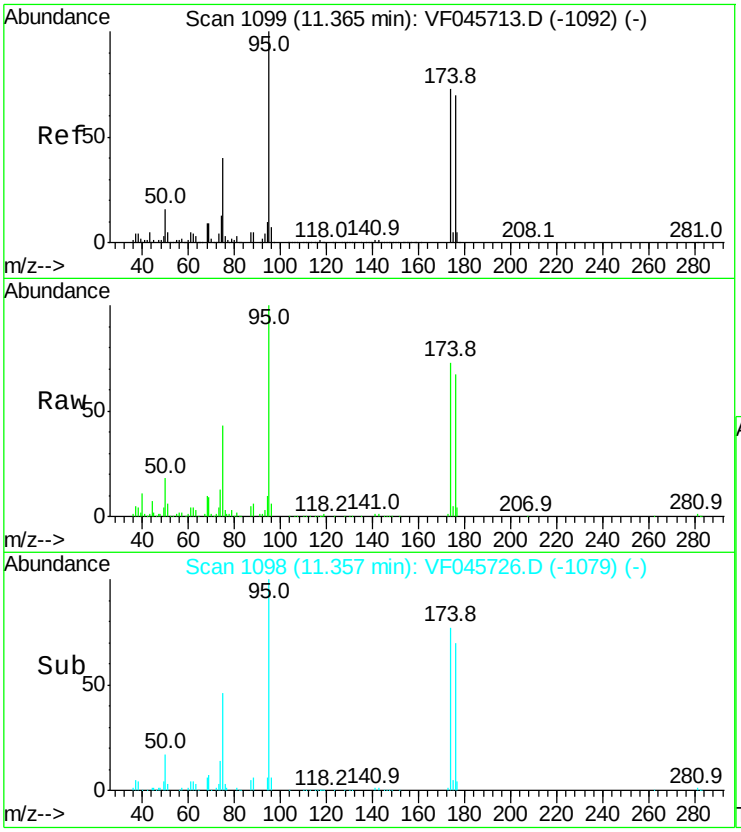
#51
Toluene
Concen: 1.43 ug/l
RT: 7.57 min Scan# 714
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 92 Resp: 14360

Ion	Ratio	Lower	Upper
92	100		
91	173.4	129.8	194.6



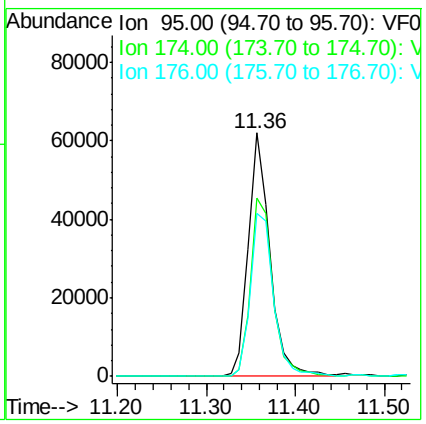
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE

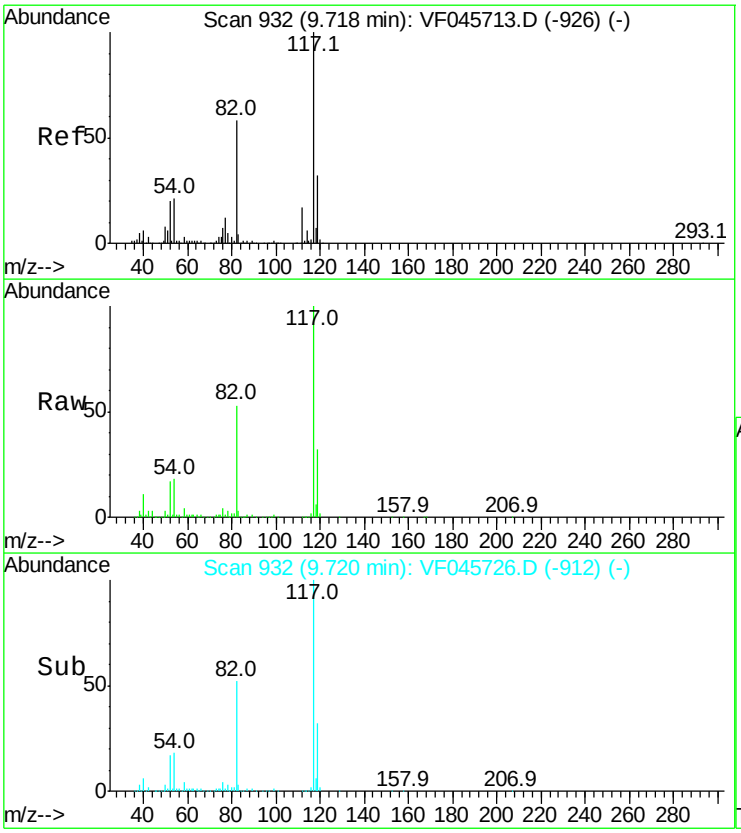


#61
4-Bromofluorobenzene
Concen: 14.19 ug/l
RT: 11.36 min Scan# 1098
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion: 95 Resp: 104017

Ion	Ratio	Lower	Upper
95	100		
174	73.4	0.0	145.4
176	66.7	0.0	141.0

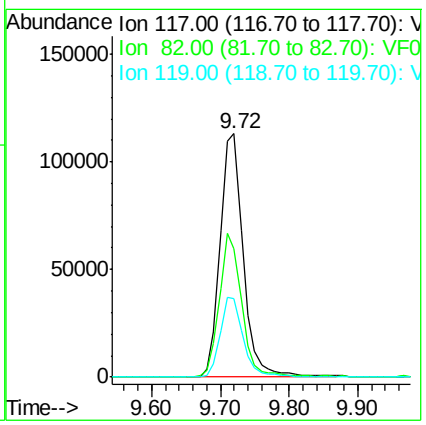




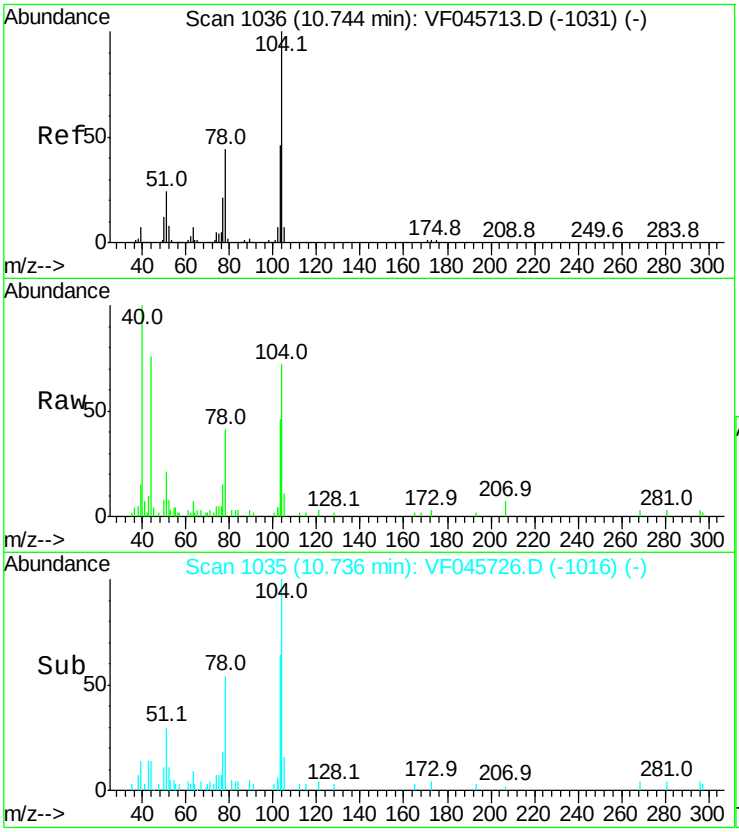
#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.72 min Scan# 932
Delta R.T. 0.00 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:117 Resp: 264790

Ion	Ratio	Lower	Upper
117	100		
82	52.6	46.1	69.1
119	32.3	25.4	38.0



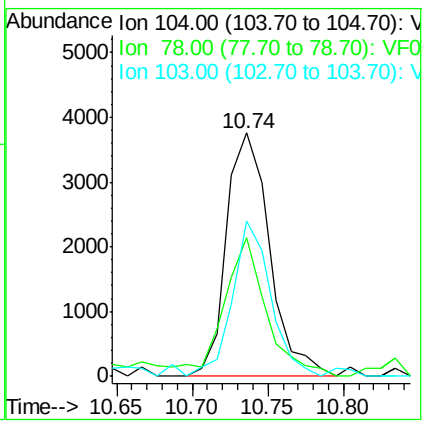
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE

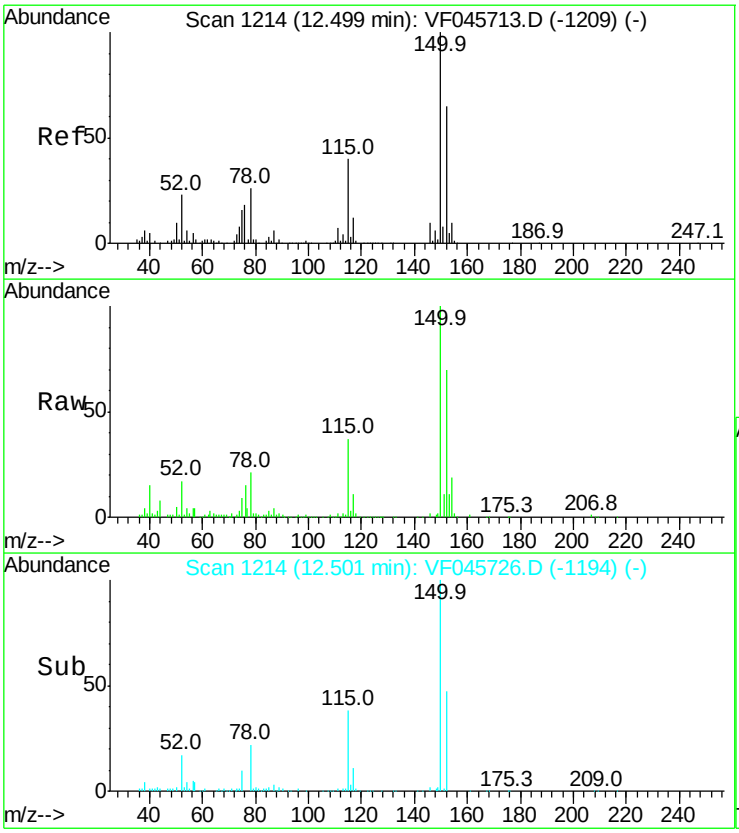


#69
Styrene
Concen: 1.09 ug/l
RT: 10.74 min Scan# 1035
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:104 Resp: 7477

Ion	Ratio	Lower	Upper
104	100		
78	56.9	35.6	53.4#
103	63.8	36.8	55.2#

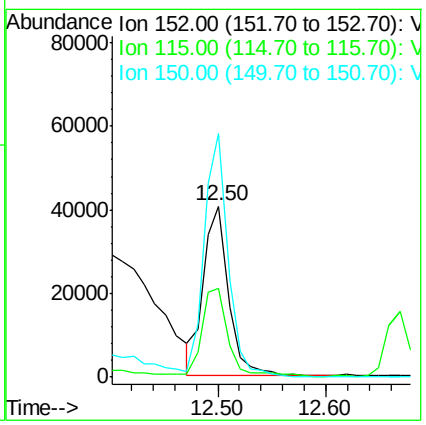




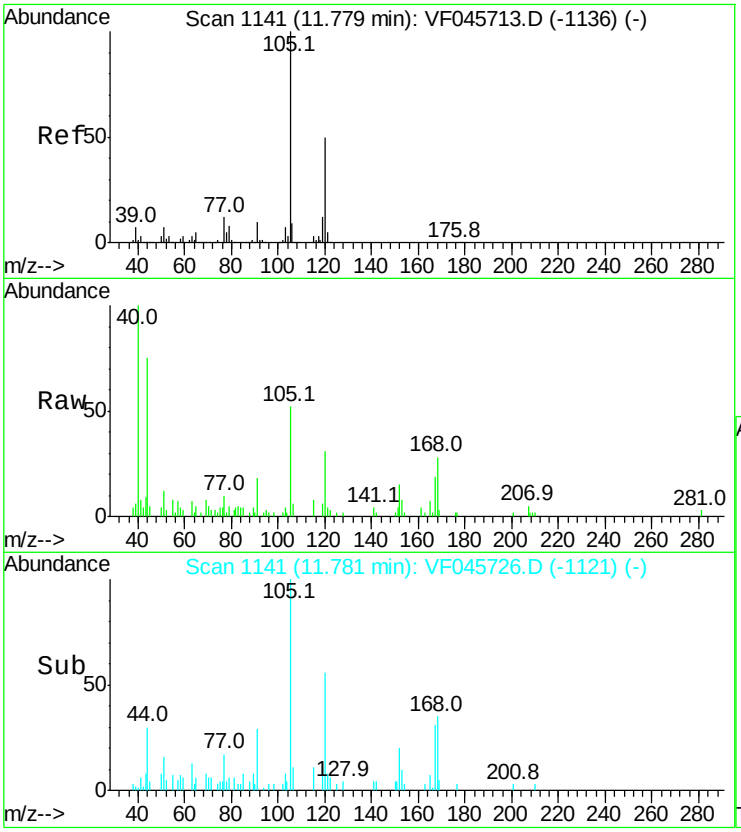
#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.50 min Scan# 1214
Delta R.T. 0.00 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:152 Resp: 66314

Ion	Ratio	Lower	Upper
152	100		
115	52.2	31.1	93.3
150	142.5	0.0	311.2



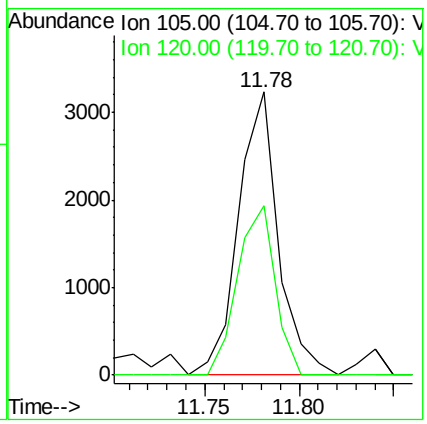
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE

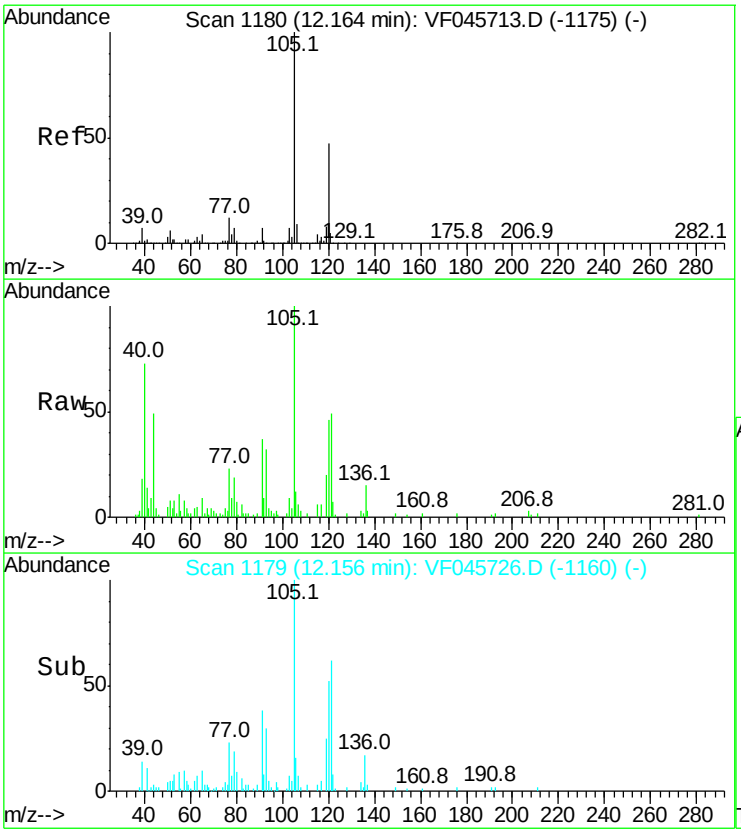


#79
1,3,5-Trimethylbenzene
Concen: 1.08 ug/l
RT: 11.78 min Scan# 1141
Delta R.T. 0.00 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:105 Resp: 4709

Ion	Ratio	Lower	Upper
105	100		
120	59.7	24.8	74.4

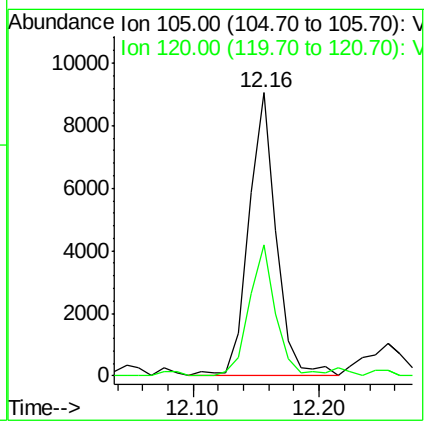




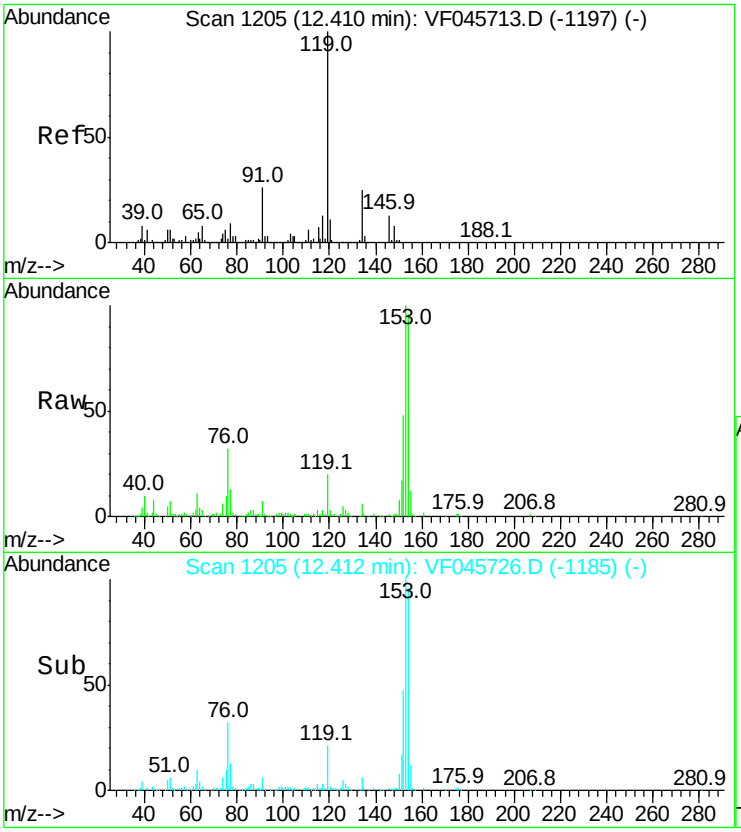
#83
1,2,4-Trimethylbenzene
Concen: 3.02 ug/l
RT: 12.16 min Scan# 1179
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:105 Resp: 13731

Ion	Ratio	Lower	Upper
105	100		
120	46.2	23.9	71.7



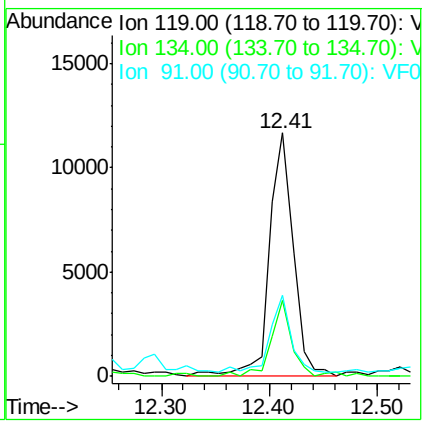
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE

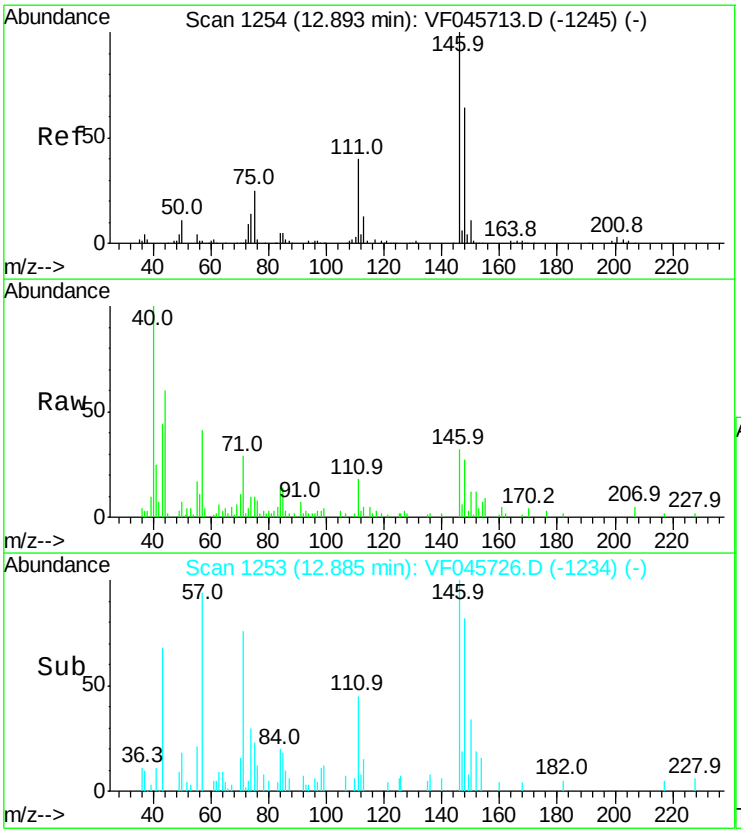


#85
p-Isopropyltoluene
Concen: 3.85 ug/l
RT: 12.41 min Scan# 1205
Delta R.T. 0.00 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:119 Resp: 17978

Ion	Ratio	Lower	Upper
119	100		
134	31.3	12.4	37.4
91	33.3	12.9	38.7

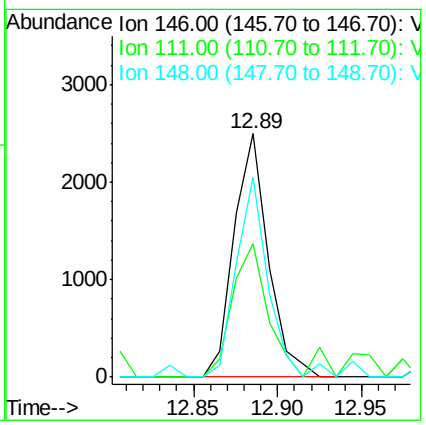




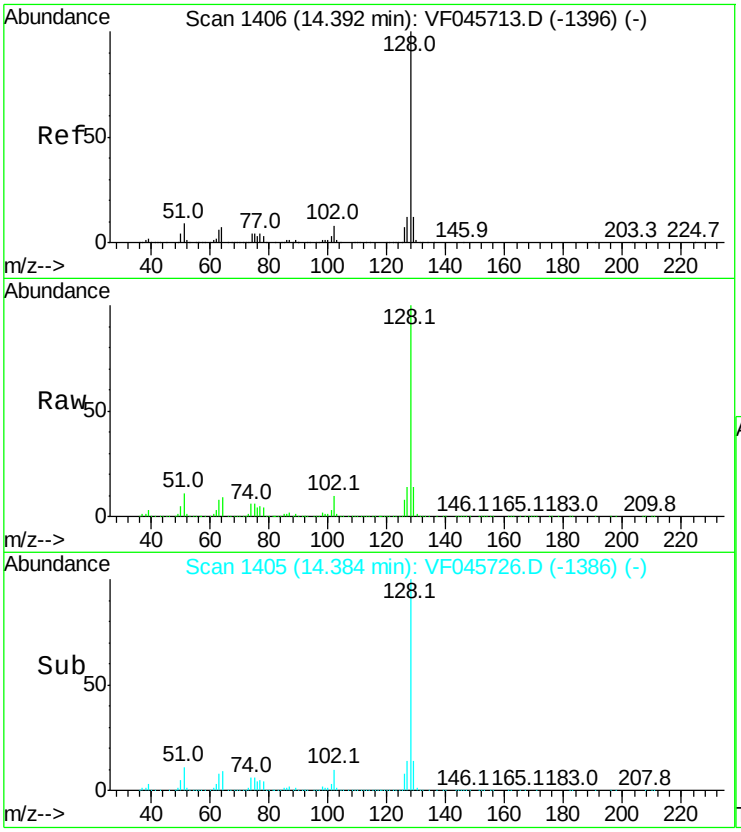
#90
1,2-Dichlorobenzene
Concen: 1.45 ug/l
RT: 12.89 min Scan# 1253
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:146 Resp: 3530

Ion	Ratio	Lower	Upper
146	100		
111	54.8	20.1	60.3
148	82.2	32.3	96.8



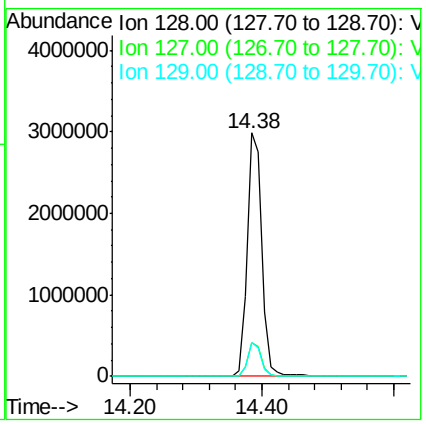
Instrument :
MSVOA_F
ClientSampleId :
MANAHAWKEN112RE



#94
Naphthalene
Concen: 1345.60 ug/l
RT: 14.38 min Scan# 1405
Delta R.T. -0.01 min
Lab File: VF045726.D
Acq: 21 Oct 2015 17:57

Tgt Ion:128 Resp: 4648686

Ion	Ratio	Lower	Upper
128	100		
127	13.8	9.4	14.2
129	13.9	9.2	13.8#



Quantitation Report (QT/LSC Reviewed)

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045696.D
Acq On : 19 Oct 2015 22:01
Operator : FY/SY
Sample : VF1019SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 20 10:01:59 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.83	168	662027	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.56	114	1259946	50.00	ug/l	0.01
62) Chlorobenzene-d5	9.72	117	1204106	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.50	152	559354	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.80	65	334724	36.05	ug/l	0.01
Spiked Amount 50.000			Recovery	=	72.10%	
34) Dibromofluoromethane	4.06	113	382651	37.54	ug/l	0.01
Spiked Amount 50.000			Recovery	=	75.08%	
49) Toluene-d8	7.51	98	1150851	36.24	ug/l	0.00
Spiked Amount 50.000			Recovery	=	72.48%	
61) 4-Bromofluorobenzene	11.37	95	527143	33.09	ug/l	0.00
Spiked Amount 50.000			Recovery	=	66.18%	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sample Results: **VF045696.D**

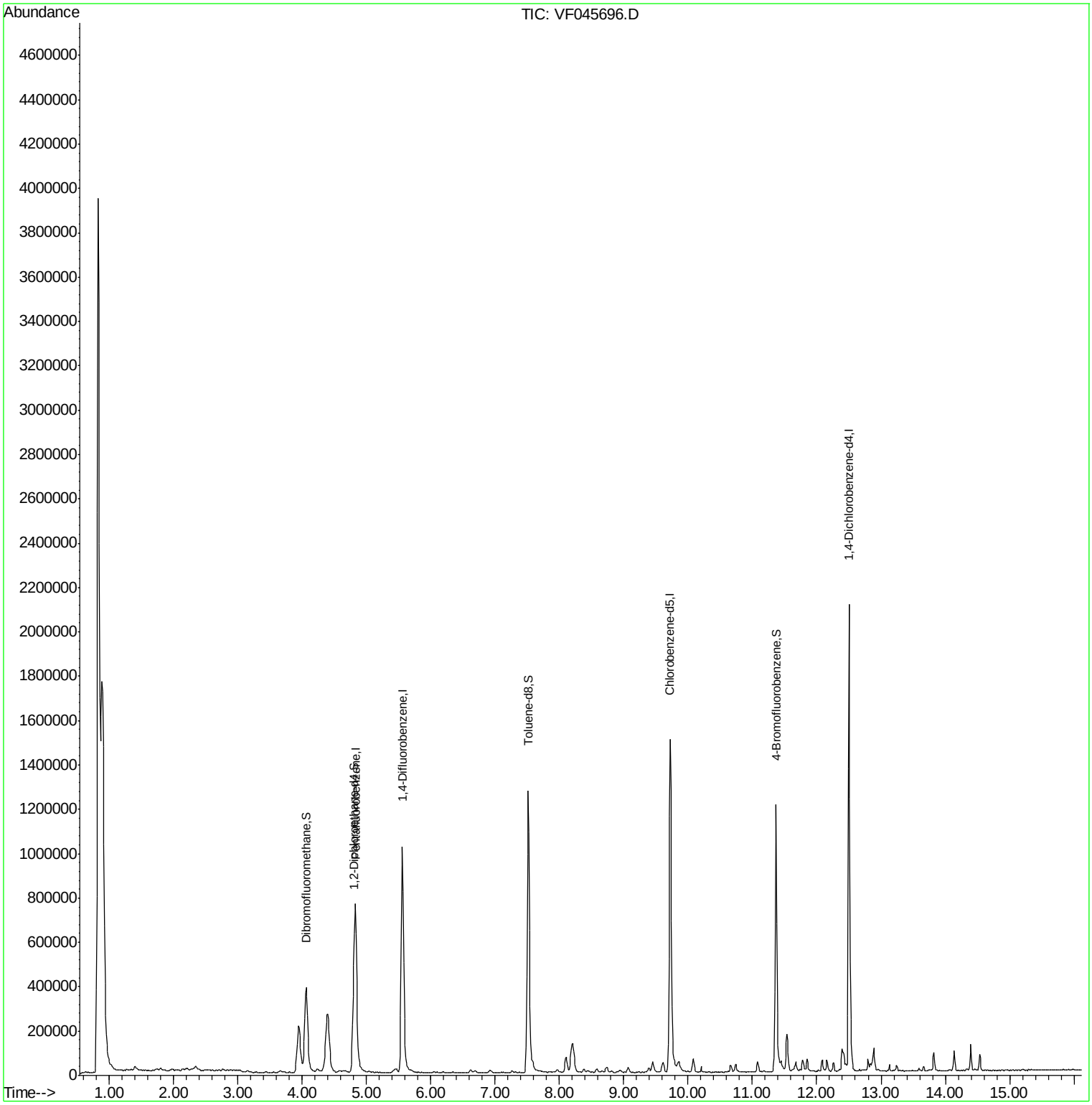
5

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

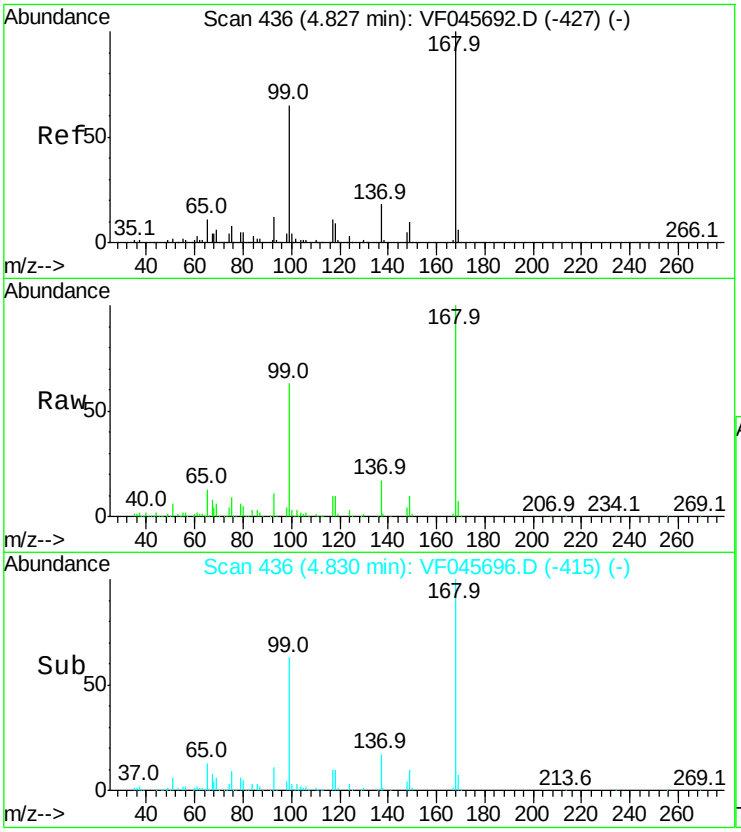
A B C D E F G H I J

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045696.D
Acq On : 19 Oct 2015 22:01
Operator : FY/SY
Sample : VF1019SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 20 10:01:59 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration



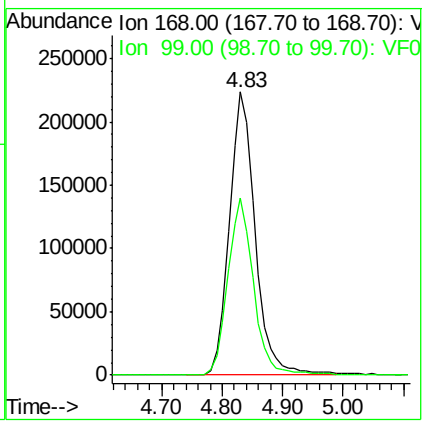
Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

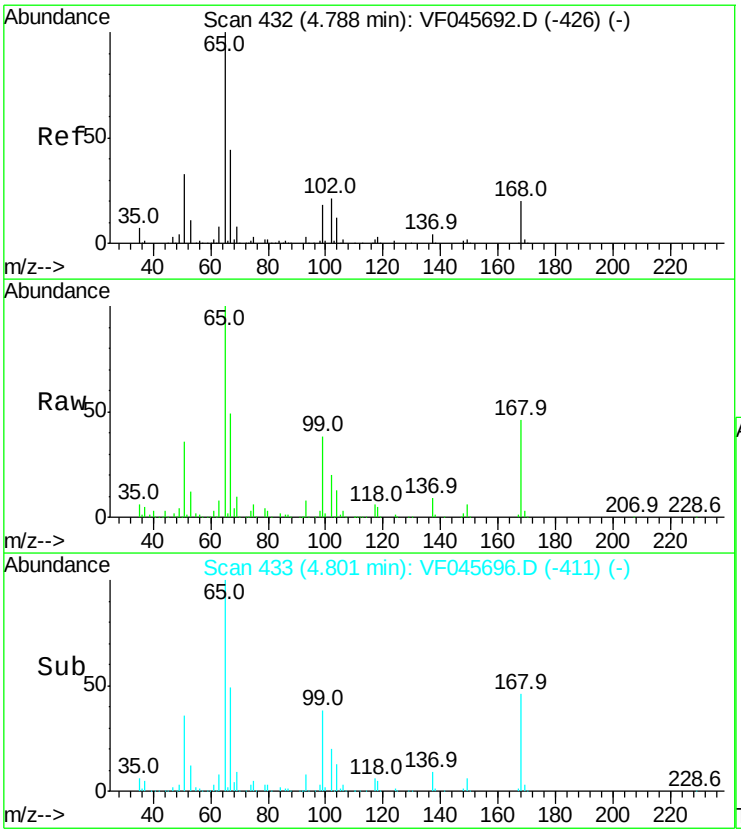


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.83 min Scan# 436
Delta R.T. 0.00 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion:168 Resp: 662027

Ion	Ratio	Lower	Upper
168	100		
99	62.6	52.3	78.5

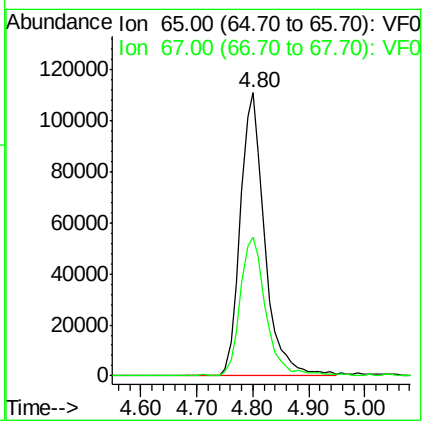


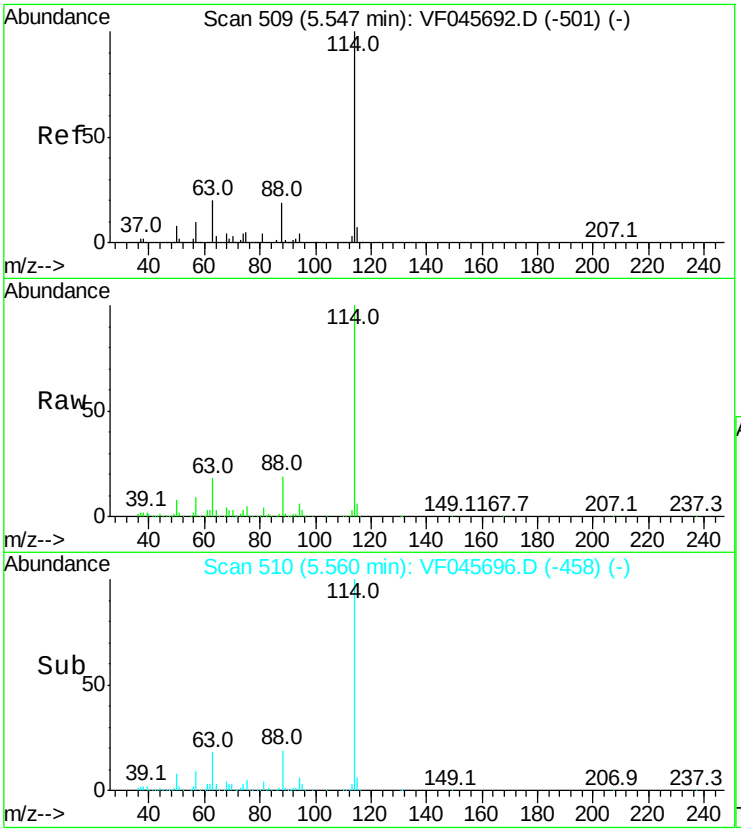


#32
1,2-Dichloroethane-d4
Concen: 36.05 ug/l
RT: 4.80 min Scan# 433
Delta R.T. 0.01 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion: 65 Resp: 334724

Ion	Ratio	Lower	Upper
65	100		
67	48.9	0.0	99.6

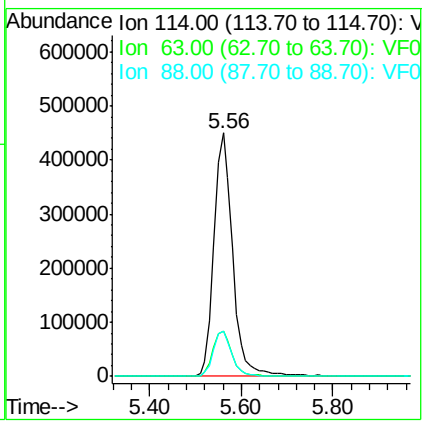


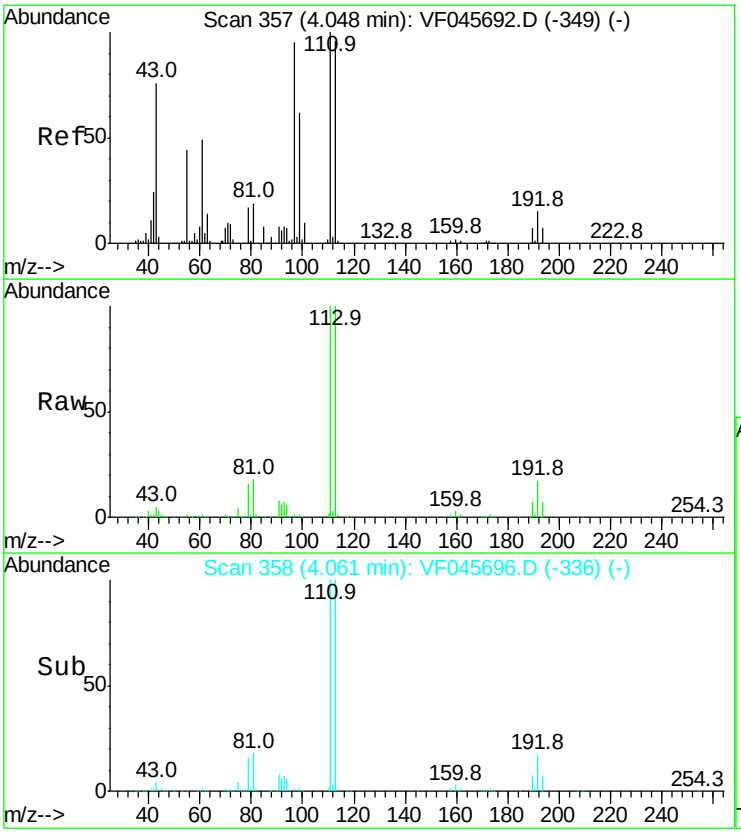


#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.56 min Scan# 510
Delta R.T. 0.01 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion:114 Resp: 1259946

Ion	Ratio	Lower	Upper
114	100		
63	18.4	0.0	40.8
88	18.7	0.0	38.2

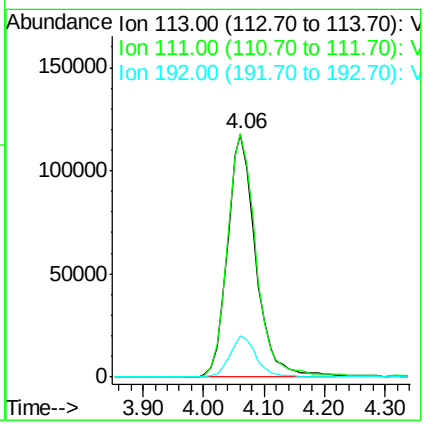




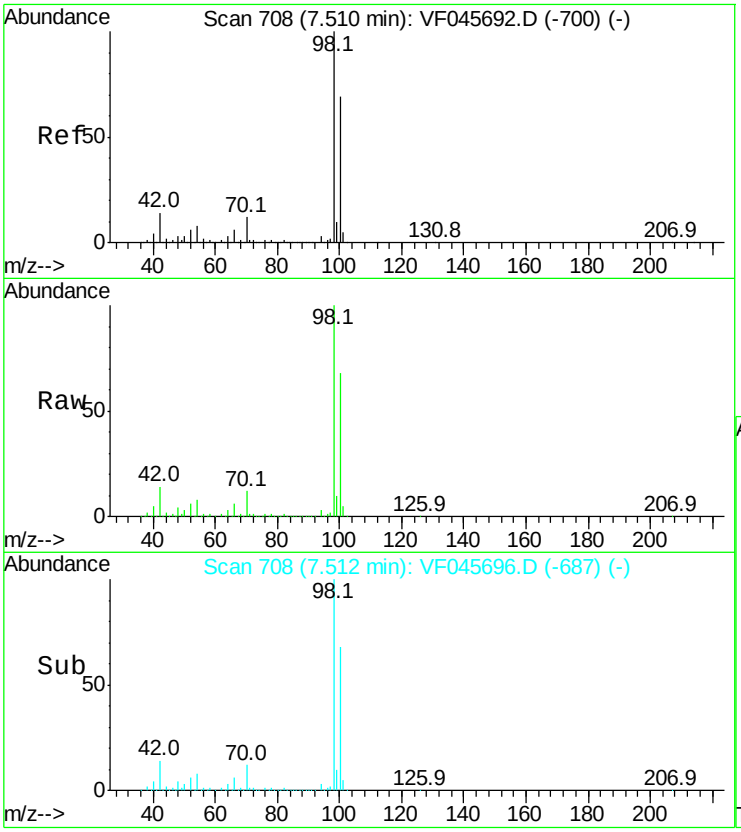
#34
Dibromofluoromethane
Concen: 37.54 ug/l
RT: 4.06 min Scan# 358
Delta R.T. 0.01 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion:113 Resp: 382651

Ion	Ratio	Lower	Upper
113	100		
111	100.2	83.2	124.8
192	17.2	12.8	19.2



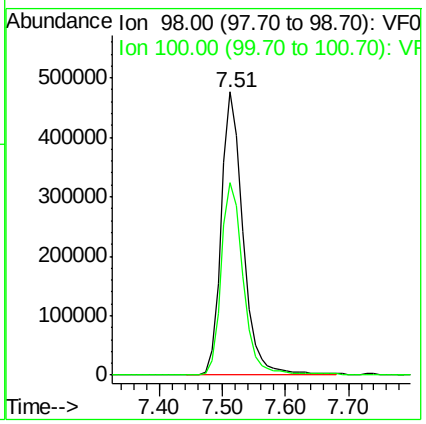
Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

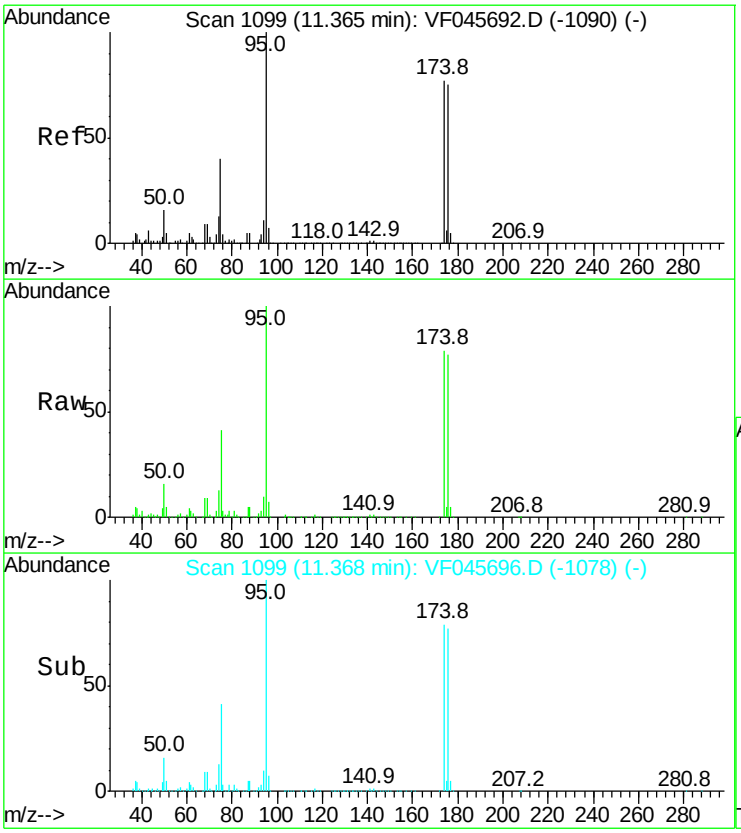


#49
Toluene-d8
Concen: 36.24 ug/l
RT: 7.51 min Scan# 708
Delta R.T. 0.00 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion: 98 Resp: 1150851

Ion	Ratio	Lower	Upper
98	100		
100	68.0	55.3	82.9

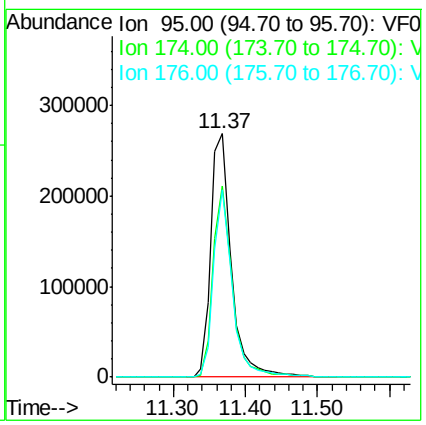




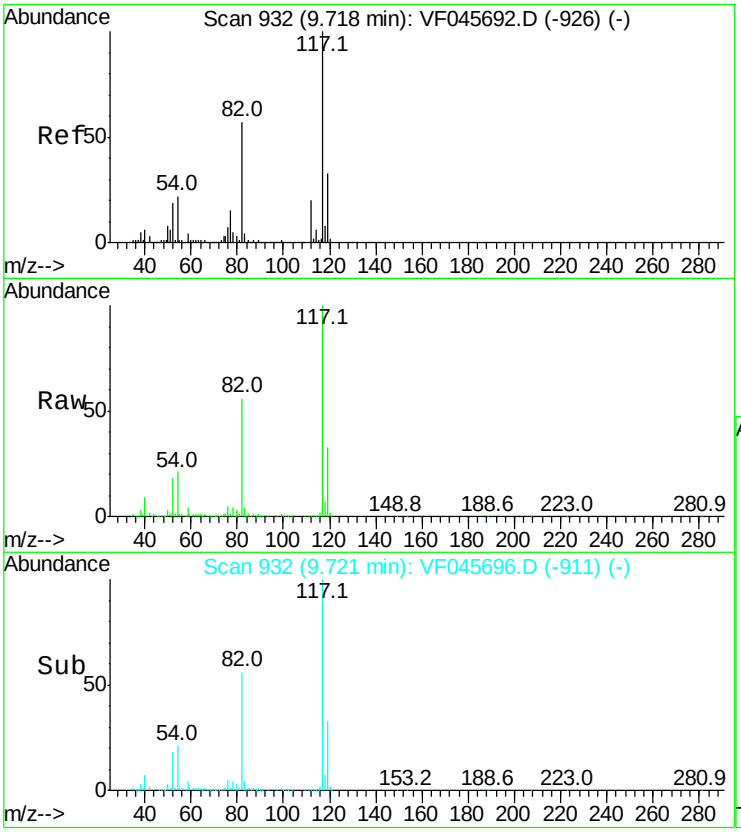
#61
4-Bromofluorobenzene
Concen: 33.09 ug/l
RT: 11.37 min Scan# 1099
Delta R.T. 0.00 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion: 95 Resp: 527143

Ion	Ratio	Lower	Upper
95	100		
174	78.6	0.0	153.8
176	77.2	0.0	149.8



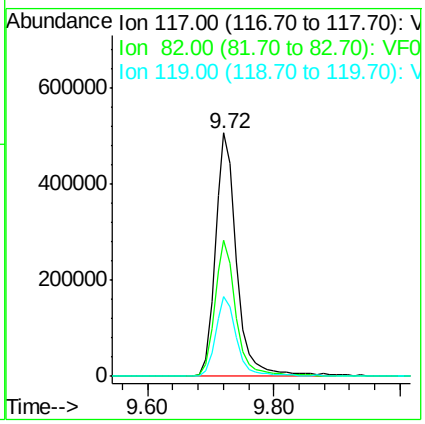
Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

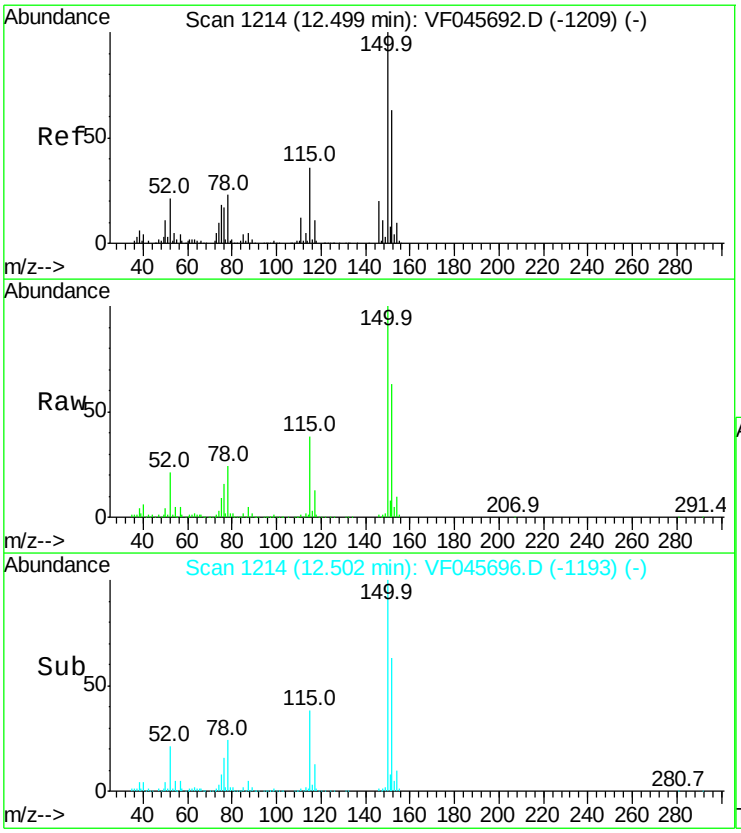


#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.72 min Scan# 932
Delta R.T. 0.00 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion:117 Resp: 1204106

Ion	Ratio	Lower	Upper
117	100		
82	55.8	45.8	68.8
119	32.6	26.5	39.7

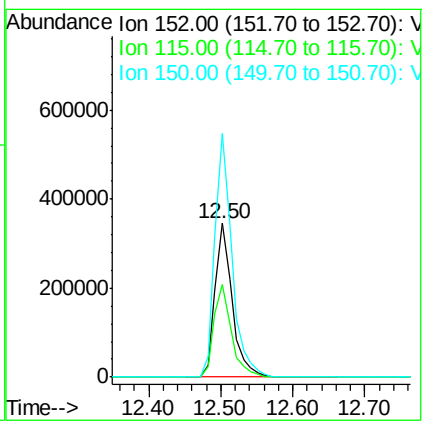




#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.50 min Scan# 1214
Delta R.T. 0.00 min
Lab File: VF045696.D
Acq: 19 Oct 2015 22:01

Tgt Ion:152 Resp: 559354

Ion	Ratio	Lower	Upper
152	100		
115	60.4	29.1	87.3
150	158.5	0.0	320.6



LSC Area Percent Report

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045696.D
Acq On : 19 Oct 2015 22:01
Operator : FY/SY
Sample : VF1019SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Title : SW846 8260

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.345	179	184	187	rBV5	14461	35458	1.01%	0.140%
2	3.943	338	346	352	rBV	210481	787312	22.33%	3.105%
3	4.061	352	358	372	rVV	385826	1342595	38.07%	5.294%
4	4.229	372	375	380	rVV4	14713	50544	1.43%	0.199%
5	4.396	383	392	405	rVB	262081	1164643	33.03%	4.592%
6	4.830	426	436	450	rBV2	761258	2916834	82.72%	11.502%
7	5.461	491	500	504	rBV7	19286	86808	2.46%	0.342%
8	5.560	504	510	527	rVB	1017935	2836198	80.43%	11.184%
9	6.625	611	618	622	rBV4	12595	40221	1.14%	0.159%
10	6.921	643	648	655	rBV3	11224	40004	1.13%	0.158%
11	7.512	701	708	724	rBV	1272358	3160307	89.62%	12.462%
12	8.104	761	768	772	rBV2	67767	190745	5.41%	0.752%
13	8.203	772	778	792	rVV2	130293	483716	13.72%	1.907%
14	8.587	812	817	819	rBV3	16017	37881	1.07%	0.149%
15	8.735	827	832	835	rBV3	22443	53548	1.52%	0.211%
16	9.070	862	866	872	rVV2	24765	50301	1.43%	0.198%
17	9.396	890	899	901	rBV2	21198	49966	1.42%	0.197%
18	9.445	901	904	910	rVV	46397	108782	3.08%	0.429%
19	9.613	914	921	926	rBV2	43317	114540	3.25%	0.452%
20	9.721	926	932	942	rBV	1499025	3526334	100.00%	13.905%
21	9.849	942	945	954	rVB2	44659	136916	3.88%	0.540%
22	10.086	964	969	974	rVB	59389	127553	3.62%	0.503%
23	10.668	1023	1028	1031	rBV	31478	62719	1.78%	0.247%
24	10.747	1031	1036	1043	rVB	32472	71262	2.02%	0.281%
25	11.082	1065	1070	1074	rBV	46101	83136	2.36%	0.328%
26	11.368	1093	1099	1105	rBV	1204850	2312181	65.57%	9.117%
27	11.447	1105	1107	1112	rVV2	46719	111308	3.16%	0.439%
28	11.536	1112	1116	1122	rVV2	166298	383937	10.89%	1.514%
29	11.674	1122	1130	1135	rVB2	41866	98361	2.79%	0.388%
30	11.782	1138	1141	1144	rVV	47075	78683	2.23%	0.310%
31	11.851	1145	1148	1151	rVB	51980	80714	2.29%	0.318%
32	12.088	1168	1172	1175	rBV	51160	87458	2.48%	0.345%
33	12.157	1176	1179	1185	rVB	50556	86331	2.45%	0.340%
34	12.265	1185	1190	1193	rBV	38885	70861	2.01%	0.279%

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

LSC Area Percent Report

```
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045696.D
Acq On    : 19 Oct 2015  22:01
Operator  : FY/SY
Sample    : VF1019SBL01
Misc      : 5.00g/5mL/MSVOA F/SOIL
ALS Vial  : 14   Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : ON                              Filtering: 5
Sampling  : 1                                Min Area: 3 % of largest Peak
Start Thrs: 0.2                             Max Peaks: 100
Stop Thrs : 0                          Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method    : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Title     : SW846 8260
```

35	12.393	1200	1203	1204	rBV	96910	133813	3.79%	0.528%
36	12.502	1210	1214	1223	rVB	2101097	3487298	98.89%	13.751%
37	12.798	1241	1244	1246	rBV	47614	63757	1.81%	0.251%
38	12.837	1246	1248	1249	rVV	30742	41657	1.18%	0.164%
39	12.886	1249	1253	1257	rVB3	98771	198739	5.64%	0.784%
40	13.241	1285	1289	1292	rVB3	24537	46089	1.31%	0.182%
41	13.823	1345	1348	1352	rVB	77779	108636	3.08%	0.428%
42	14.139	1376	1380	1384	rVB2	90037	145575	4.13%	0.574%
43	14.395	1402	1406	1409	rVB	115509	159079	4.51%	0.627%
44	14.533	1417	1420	1425	rVB	73598	107243	3.04%	0.423%

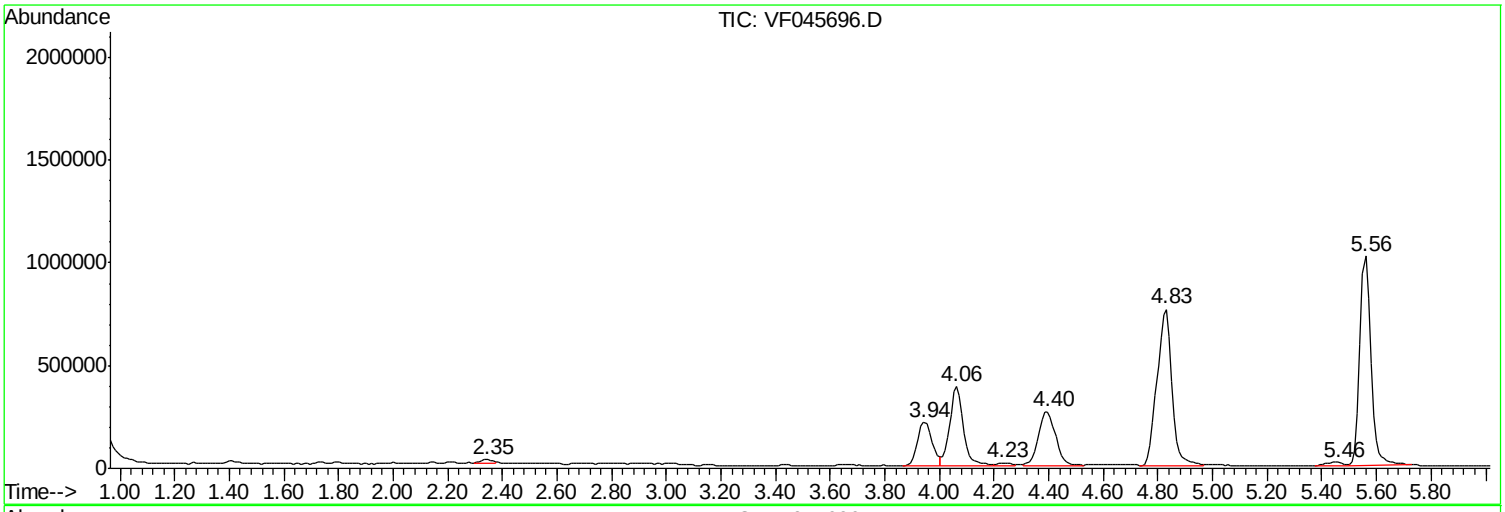
Sum of corrected areas: 25360043

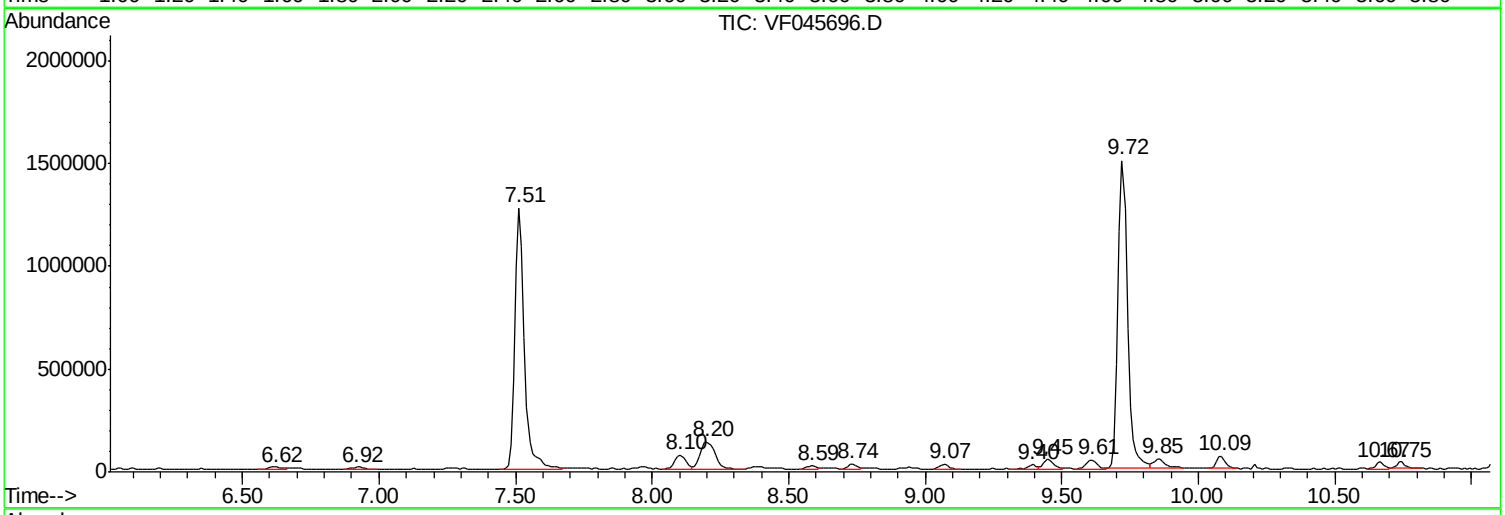
Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045696.D
Acq On : 19 Oct 2015 22:01
Operator : FY/SY
Sample : VF1019SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 14 Sample Multiplier: 1

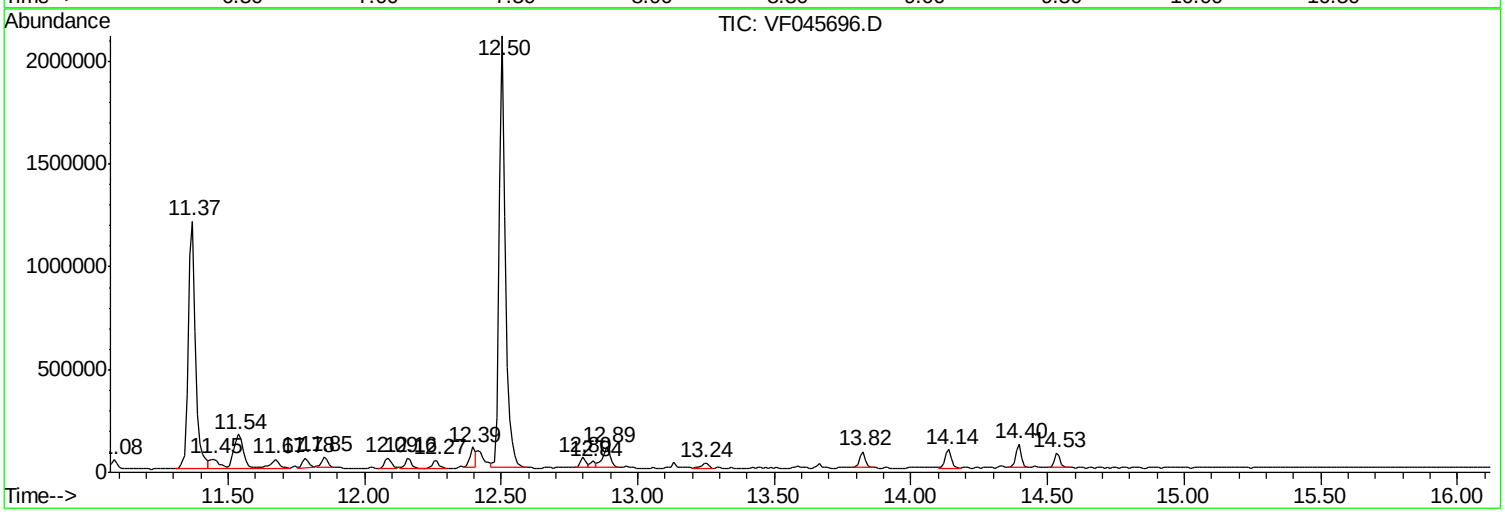
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01







Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_F\DATA\VF102015\
Data File : VF045696.D
Acq On : 19 Oct 2015 22:01
Operator : FY/SY
Sample : VF1019SBL01
Misc : 5.00g/5mL/MSVOA_F/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBL01

Tentatively Identified Compound (LSC) summary

```
  Data Path : W:\HPCHEM1\MSVOA_F\DATA\VF102015\
  Data File : VF045696.D
  Acq On    : 19 Oct 2015  22:01
  Operator  : FY/SY
  Sample    : VF1019SBL01
  Misc      : 5.00g/5mL/MSVOA_F/SOIL
  ALS Vial  : 14   Sample Multiplier: 1

  Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
  Quant Title  : SW846 8260

  TIC Library    : C:\DATABASE\NIST02.L
  TIC Integration Parameters: LSCINT.P

                                                    |--Internal Standard---|
  TIC Top Hit name      RT  EstConc Units Response |#    RT     Resp  Conc|
-------------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045719.D
Acq On : 21 Oct 2015 12:13
Operator : FY/SY
Sample : VF1021SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 3 Sample Multiplier: 1

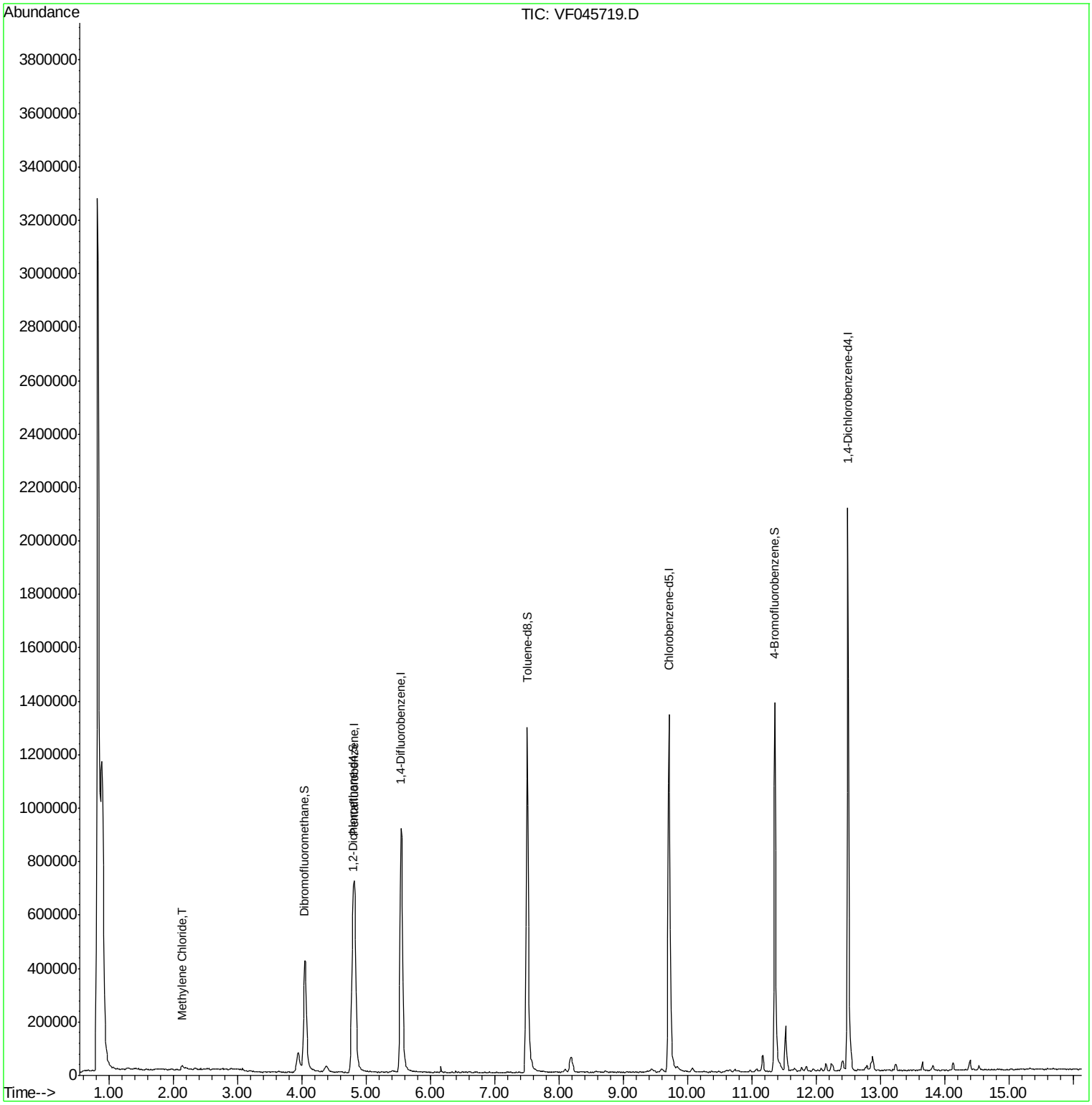
Quant Time: Oct 22 12:30:27 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

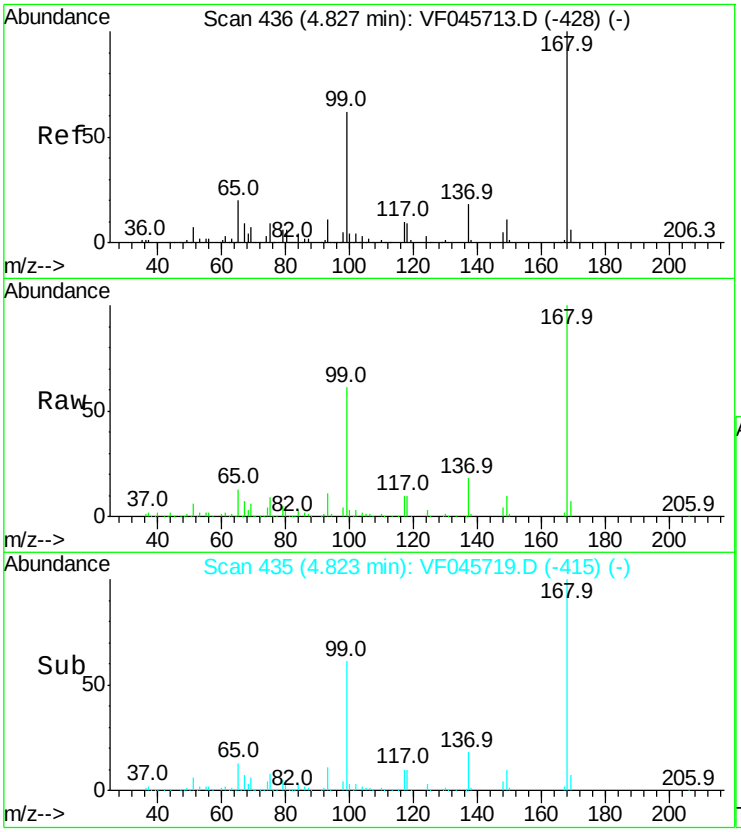
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	4.82	168	609348	50.00 ug/l	0.00
33) 1,4-Difluorobenzene	5.54	114	1119805	50.00 ug/l	-0.01
62) Chlorobenzene-d5	9.71	117	1041427	50.00 ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.49	152	565556	50.00 ug/l	0.00
System Monitoring Compounds					
32) 1,2-Dichloroethane-d4	4.78	65	383967	41.22 ug/l	-0.01
Spiked Amount 50.000			Recovery	= 82.44%	
34) Dibromofluoromethane	4.05	113	433324	41.49 ug/l	0.00
Spiked Amount 50.000			Recovery	= 82.98%	
49) Toluene-d8	7.51	98	1163428	38.37 ug/l	0.00
Spiked Amount 50.000			Recovery	= 76.74%	
61) 4-Bromofluorobenzene	11.36	95	582206	37.72 ug/l	0.00
Spiked Amount 50.000			Recovery	= 75.44%	
Target Compounds					Qvalue
20) Methylene Chloride	2.14	84	11494	2.09 ug/l #	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045719.D
Acq On : 21 Oct 2015 12:13
Operator : FY/SY
Sample : VF1021SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 22 12:30:27 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

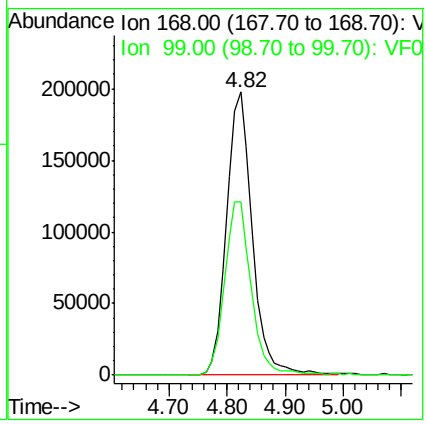


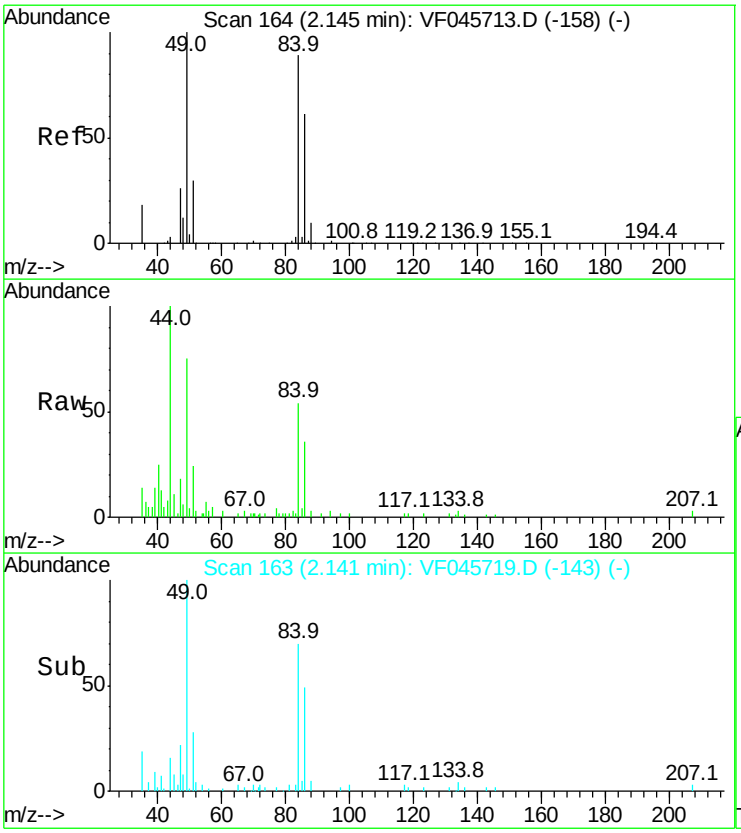


#1
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 4.82 min Scan# 435
Delta R.T. -0.00 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion:168 Resp: 609348

Ion	Ratio	Lower	Upper
168	100		
99	61.5	49.7	74.5

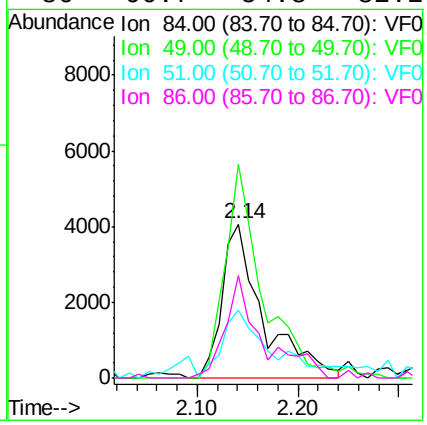


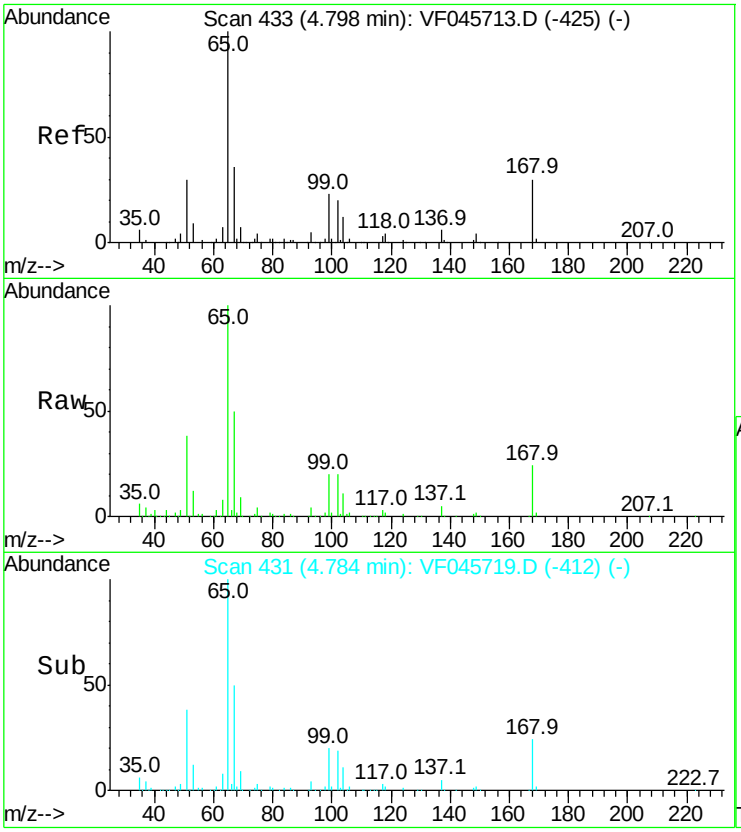


#20
Methylene Chloride
Concen: 2.09 ug/l
RT: 2.14 min Scan# 163
Delta R.T. -0.00 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion: 84 Resp: 11494

Ion	Ratio	Lower	Upper
84	100		
49	138.9	93.0	139.4
51	44.3	28.3	42.5#
86	66.7	54.8	82.2

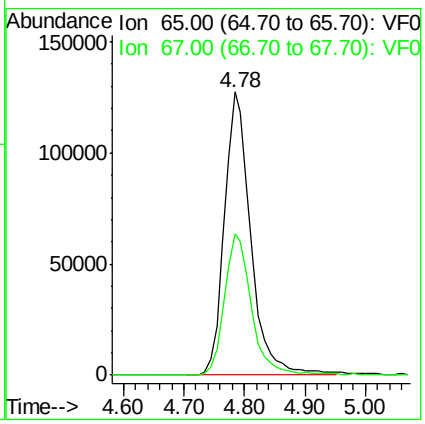


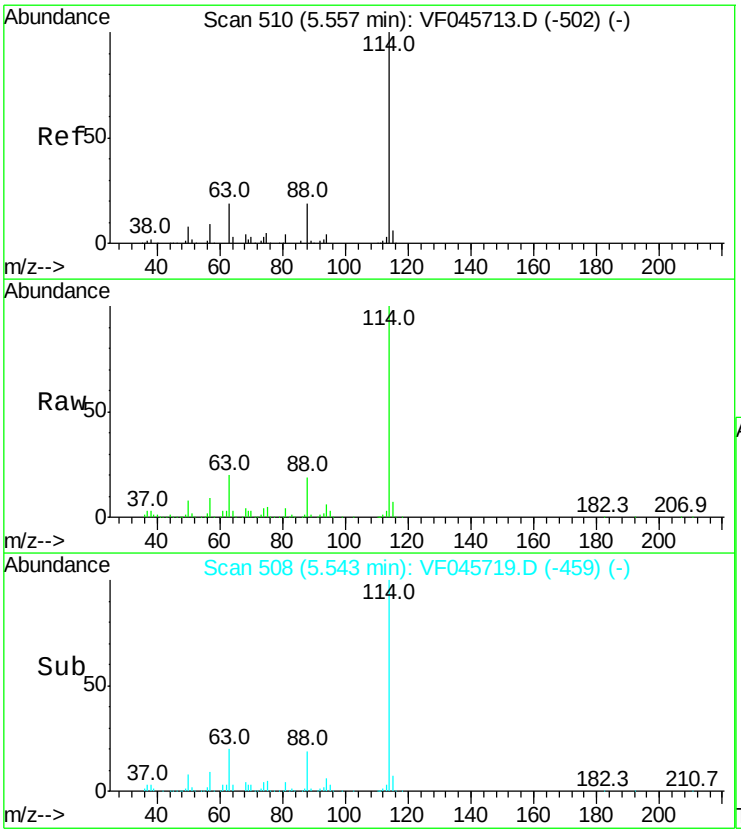


#32
1,2-Dichloroethane-d4
Concen: 41.22 ug/l
RT: 4.78 min Scan# 431
Delta R.T. -0.01 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion: 65 Resp: 383967

Ion	Ratio	Lower	Upper
65	100		
67	49.7	0.0	98.2

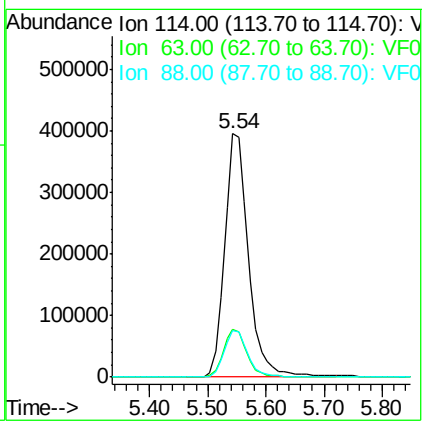


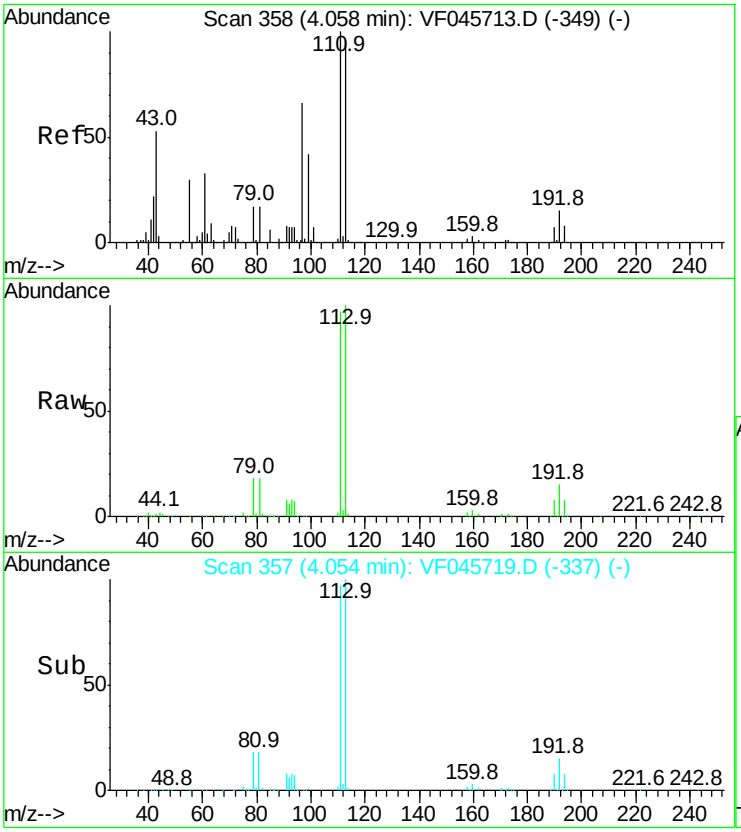


#33
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 5.54 min Scan# 508
Delta R.T. -0.01 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion:114 Resp: 1119805

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	37.4
88	19.1	0.0	38.2

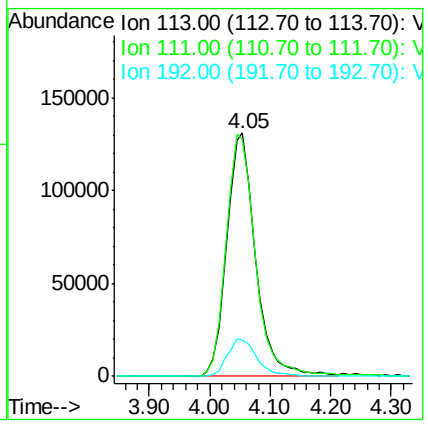


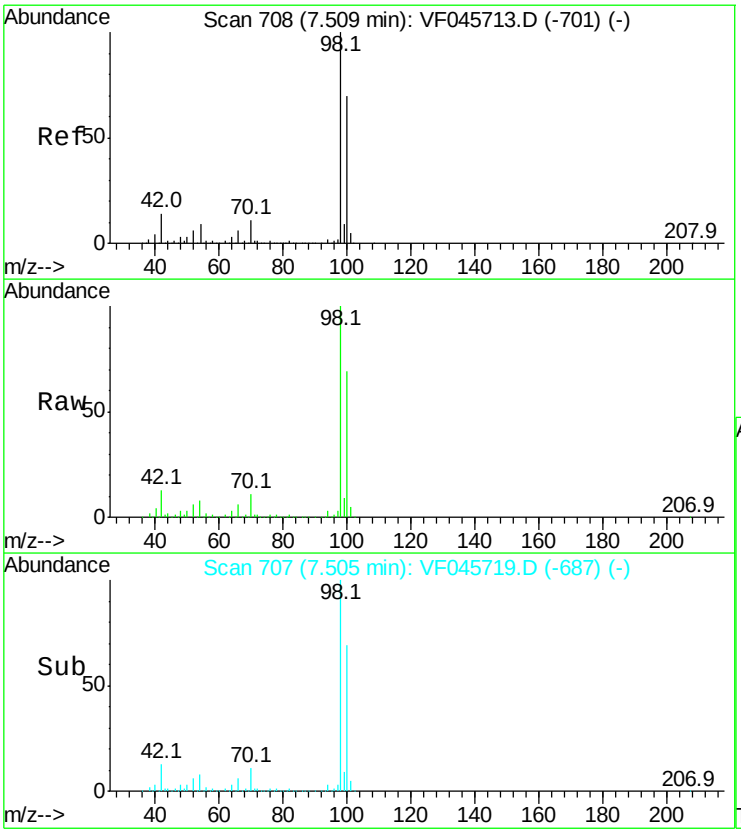


#34
Dibromofluoromethane
Concen: 41.49 ug/l
RT: 4.05 min Scan# 357
Delta R.T. -0.00 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion:113 Resp: 433324

Ion	Ratio	Lower	Upper
113	100		
111	97.5	83.4	125.2
192	14.9	12.7	19.1

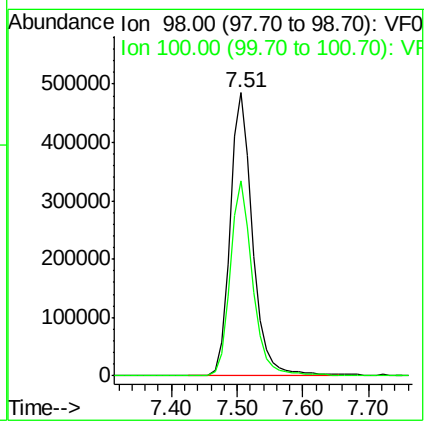


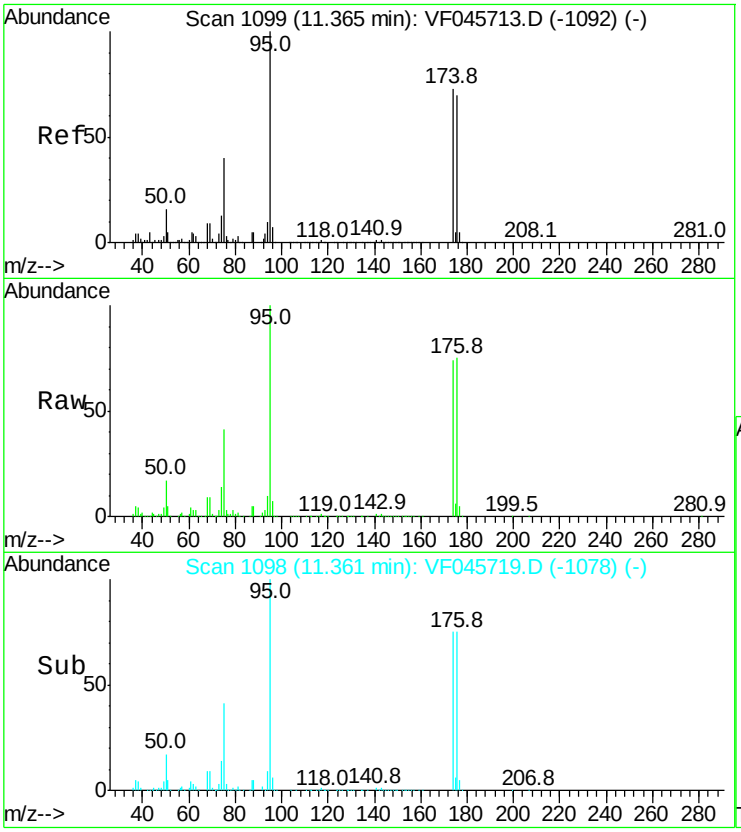


#49
Toluene-d8
Concen: 38.37 ug/l
RT: 7.51 min Scan# 707
Delta R.T. -0.00 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion: 98 Resp: 1163428

Ion	Ratio	Lower	Upper
98	100		
100	68.9	55.7	83.5

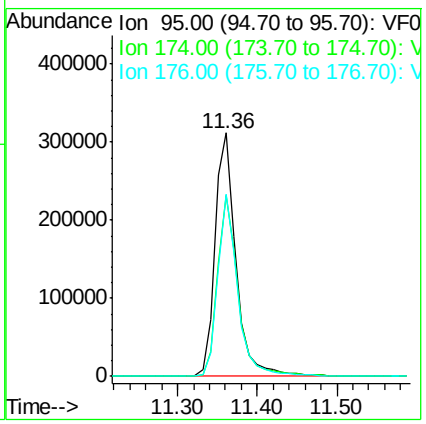


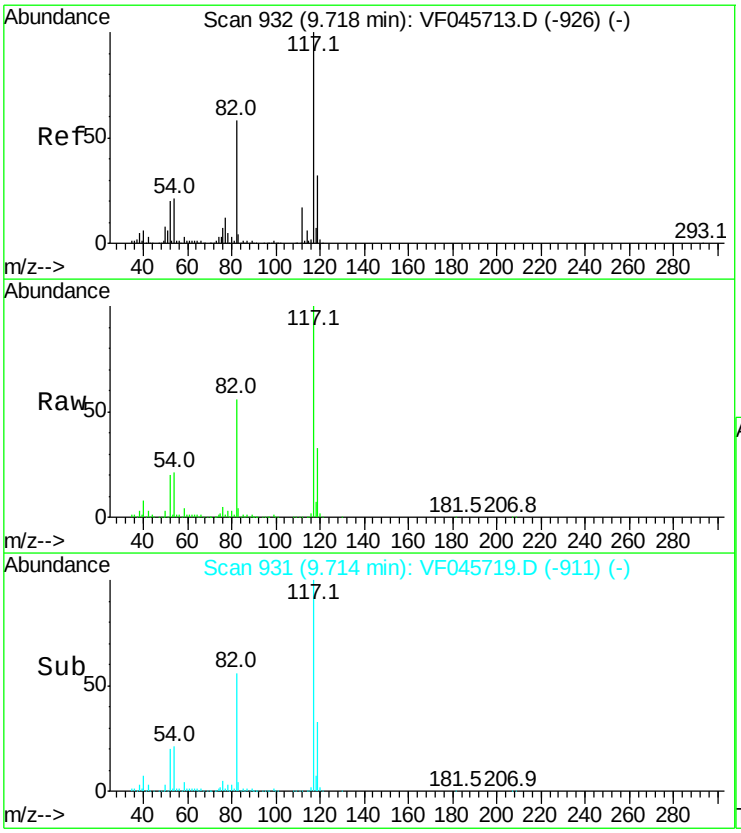


#61
4-Bromofluorobenzene
Concen: 37.72 ug/l
RT: 11.36 min Scan# 1098
Delta R.T. -0.00 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion: 95 Resp: 582206

Ion	Ratio	Lower	Upper
95	100		
174	74.5	0.0	145.4
176	74.6	0.0	141.0

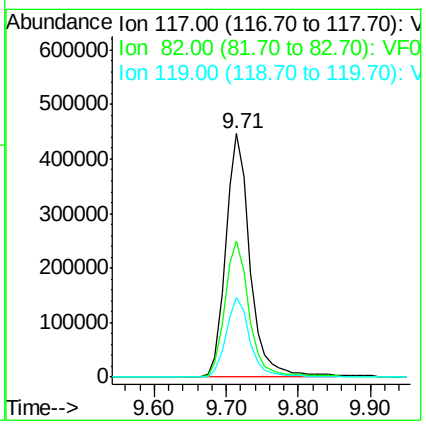


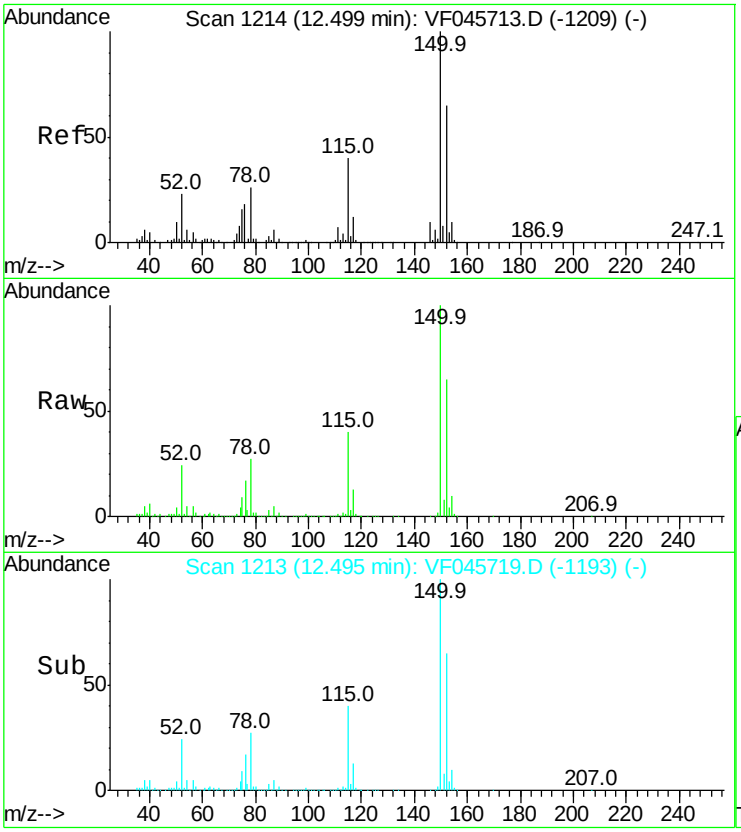


#62
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 9.71 min Scan# 931
Delta R.T. -0.00 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion:117 Resp: 1041427

Ion	Ratio	Lower	Upper
117	100		
82	56.1	46.1	69.1
119	33.0	25.4	38.0

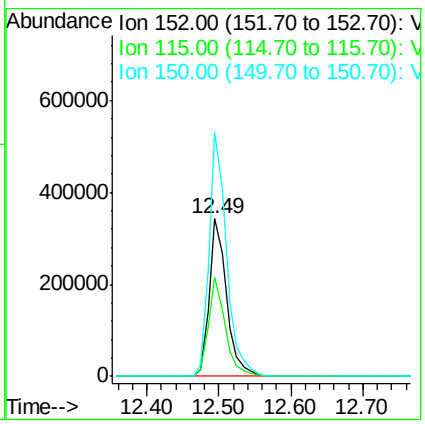




#71
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 12.49 min Scan# 1213
Delta R.T. -0.00 min
Lab File: VF045719.D
Acq: 21 Oct 2015 12:13

Tgt Ion:152 Resp: 565556

Ion	Ratio	Lower	Upper
152	100		
115	62.4	31.1	93.3
150	154.5	0.0	311.2



LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA F\Data\VF102215\
Data File : VF045719.D
Acq On : 21 Oct 2015 12:13
Operator : FY/SY
Sample : VF1021SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 3 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Title : SW846 8260

Signal : TIC

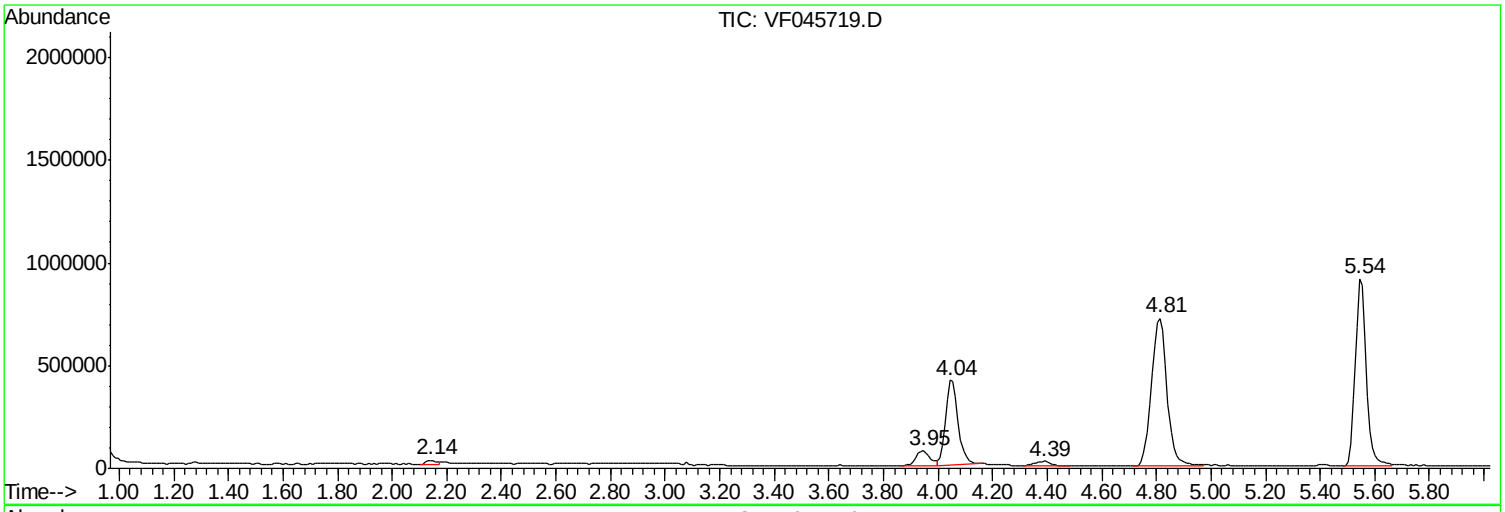
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.141	159	163	166	rBV3	18497	45286	1.31%	0.219%
2	3.945	338	346	351	rBV	74997	293051	8.46%	1.416%
3	4.044	351	356	368	rVB	410204	1341702	38.72%	6.485%
4	4.389	383	391	400	rVB3	22189	94020	2.71%	0.454%
5	4.813	424	434	450	rBV2	719104	2920194	84.27%	14.114%
6	5.543	502	508	520	rBV	910564	2521874	72.78%	12.189%
7	7.505	701	707	719	rBV	1292317	3148516	90.86%	15.217%
8	8.186	770	776	787	rVB4	57408	196985	5.68%	0.952%
9	9.714	925	931	941	rBV	1335242	3062668	88.38%	14.803%
10	9.842	942	944	953	rVB3	18704	48945	1.41%	0.237%
11	11.173	1075	1079	1084	rVB2	59373	119114	3.44%	0.576%
12	11.361	1094	1098	1111	rBV	1374740	2530404	73.02%	12.230%
13	11.528	1111	1115	1120	rVB2	165229	310626	8.96%	1.501%
14	12.150	1175	1178	1183	rVV3	29855	54541	1.57%	0.264%
15	12.238	1183	1187	1193	rVB5	29549	69916	2.02%	0.338%
16	12.416	1200	1205	1209	rBV5	39765	97579	2.82%	0.472%
17	12.495	1209	1213	1224	rVB	2107155	3465218	100.00%	16.748%
18	12.879	1246	1252	1258	rVB4	53497	137503	3.97%	0.665%
19	13.234	1286	1288	1292	rVB2	24925	43495	1.26%	0.210%
20	13.658	1328	1331	1333	rBV2	32727	40310	1.16%	0.195%
21	13.816	1343	1347	1354	rVB4	18657	37359	1.08%	0.181%
22	14.132	1376	1379	1385	rVB5	29364	48881	1.41%	0.236%
23	14.398	1402	1406	1409	rVB2	36980	61923	1.79%	0.299%

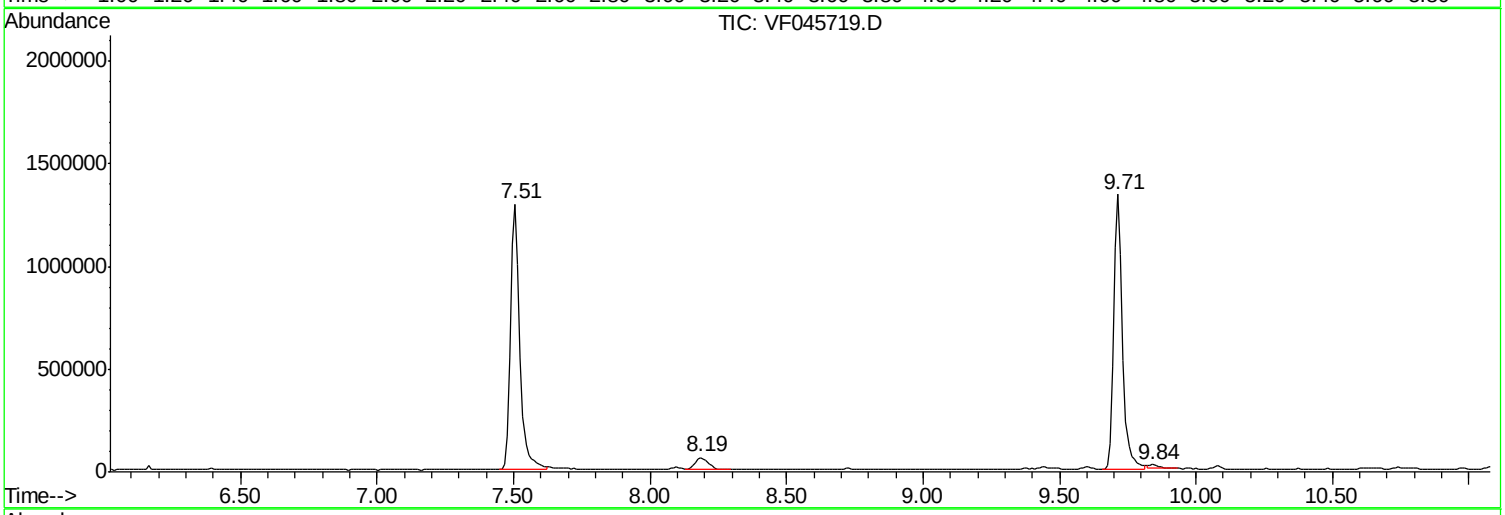
Sum of corrected areas: 20690110

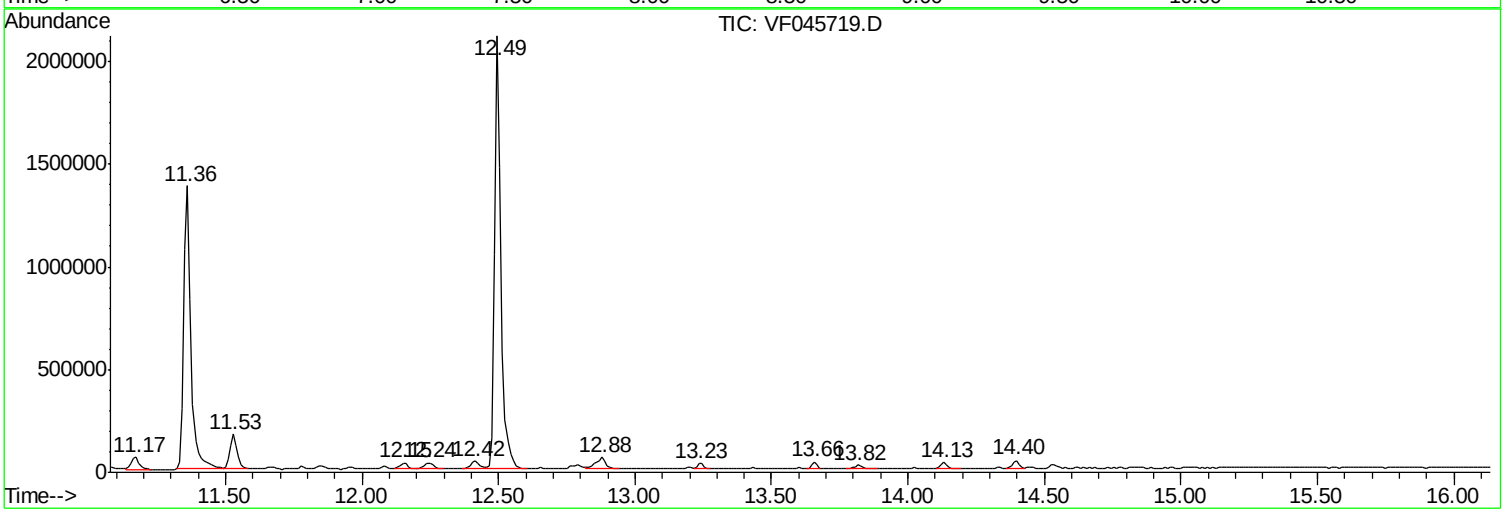
Data Path : W:\HPCHEM1\MSVOA F\Data\VF102215\
Data File : VF045719.D
Acq On : 21 Oct 2015 12:13
Operator : FY/SY
Sample : VF1021SBL01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P







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Data Path : W:\HPCHEM1\MSVOA_F\Data\VF102215\
Data File : VF045719.D
Acq On    : 21 Oct 2015  12:13
Operator  : FY/SY
Sample    : VF1021SBL01
Misc      : 5.00g/5mL/MSVOA_F/SOIL
ALS Vial  : 3   Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title  : SW846 8260

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected
```

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_F\Data\VF102215\
Data File : VF045719.D
Acq On : 21 Oct 2015 12:13
Operator : FY/SY
Sample : VF1021SBL01
Misc : 5.00g/5mL/MSVOA_F/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045698.D
Acq On : 19 Oct 2015 22:57
Operator : FY/SY
Sample : VF1019SBS02
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBS02

Manual Integrations APPROVED
mohammad
10/20/2015 10:10:07 AM

Quant Time: Oct 20 07:47:57 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.83	168	607400	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.56	114	1142064	50.00	ug/l	0.01
62) Chlorobenzene-d5	9.72	117	1109342	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.50	152	537813	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.79	65	347263	40.76	ug/l	0.00
Spiked Amount 50.000			Recovery	=	81.52%	
34) Dibromofluoromethane	4.06	113	394088	42.66	ug/l	0.01
Spiked Amount 50.000			Recovery	=	85.32%	
49) Toluene-d8	7.51	98	1201177	41.73	ug/l	0.00
Spiked Amount 50.000			Recovery	=	83.46%	
61) 4-Bromofluorobenzene	11.37	95	583900	40.44	ug/l	0.00
Spiked Amount 50.000			Recovery	=	80.88%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.94	85	97318	19.96	ug/l	98
3) Chloromethane	1.02	50	98356	19.63	ug/l	100
4) Vinyl Chloride	1.09	62	85562	21.22	ug/l	99
5) Bromomethane	1.26	94	43854	19.98	ug/l	93
6) Chloroethane	1.35	64	29877	19.46	ug/l	89
7) Trichlorofluoromethane	1.40	101	138220m	20.23	ug/l	
8) Diethyl Ether	1.60	74	42108	20.90	ug/l	81
9) 1,1,2-Trichlorotrifluoroet	1.79	101	97940	20.15	ug/l	99
10) Methyl Iodide	1.81	142	185869	20.66	ug/l	97
11) Tert butyl alcohol	2.52	59	36007	76.34	ug/l	98
12) 1,1-Dichloroethene	1.72	96	83091	20.67	ug/l	90
13) Acrolein	1.96	56	32628	110.52	ug/l	99
14) Allyl chloride	2.06	41	151513	20.81	ug/l	92
15) Acrylonitrile	2.89	53	118582	87.87	ug/l	99
16) Acetone	2.20	43	191636	79.76	ug/l	97
17) Carbon Disulfide	1.73	76	226140	21.28	ug/l	99
18) Methyl Acetate	2.30	43	186455	17.68	ug/l	96
19) Methyl tert-butyl Ether	2.39	73	205343	19.14	ug/l	94
20) Methylene Chloride	2.14	84	98987	19.88	ug/l	95
21) trans-1,2-Dichloroethene	2.27	96	92129	20.10	ug/l	93
22) Diisopropyl ether	2.76	45	361285	20.36	ug/l	94
23) Vinyl Acetate	3.14	43	607118	95.17	ug/l	100
24) 1,1-Dichloroethane	2.83	63	201101	20.95	ug/l	100
25) 2-Butanone	4.28	43	388146	87.46	ug/l	97
26) 2,2-Dichloropropane	3.55	77	166615	21.25	ug/l	91
27) cis-1,2-Dichloroethene	3.43	96	171245	20.52	ug/l	100
28) Bromochloromethane	3.66	49	111495	20.68	ug/l	100
29) Chloroform	3.80	83	310773	20.72	ug/l	99
30) Cyclohexane	3.65	56	194817	22.13	ug/l	95
31) 1,1,1-Trichloroethane	4.05	97	236799	20.93	ug/l	96
35) 1,1-Dichloropropene	4.24	75	204359	20.59	ug/l	97
36) Ethyl Acetate	4.06	43	167682	16.55	ug/l #	87
37) Carbon Tetrachloride	3.94	117	211968	20.68	ug/l	99
38) Methylcyclohexane	5.42	83	216966	20.79	ug/l	98

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045698.D
Acq On : 19 Oct 2015 22:57
Operator : FY/SY
Sample : VF1019SBS02
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBS02

Manual Integrations APPROVED
mohammad
10/20/2015 10:10:07 AM

Quant Time: Oct 20 07:47:57 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
39) Benzene	4.59	78	549820	20.30 ug/l	100
40) Methacrylonitrile	4.70	41	84839	18.05 ug/l	95
41) 1,2-Dichloroethane	4.90	62	197636	18.75 ug/l	100
42) Isopropyl Acetate	6.92	43	229704	18.10 ug/l #	98
43) Trichloroethene	5.46	130	175575	20.45 ug/l	100
44) 1,2-Dichloropropane	6.19	63	166335	20.49 ug/l	98
45) Dibromomethane	6.04	93	113054	18.29 ug/l	97
46) Bromodichloromethane	6.34	83	253404	19.38 ug/l	98
47) Methyl methacrylate	6.68	41	137581	19.14 ug/l	96
48) 1,4-Dioxane	6.66	88	29057	375.76 ug/l	94
50) 4-Methyl-2-Pentanone	8.21	43	823001	93.47 ug/l	96
51) Toluene	7.58	92	430904	20.74 ug/l	99
52) t-1,3-Dichloropropene	8.23	75	269882	20.12 ug/l	100
53) cis-1,3-Dichloropropene	7.25	75	288746	18.94 ug/l	97
54) 1,1,2-Trichloroethane	8.44	97	155710	18.78 ug/l	98
55) Ethyl methacrylate	8.58	69	216312	19.08 ug/l	96
56) 1,3-Dichloropropane	8.80	76	270187	19.32 ug/l	99
58) 2-Hexanone	9.44	43	674936	92.83 ug/l	96
59) Dibromochloromethane	8.66	129	214086	19.34 ug/l	99
60) 1,2-Dibromoethane	8.93	107	177922	19.27 ug/l	92
63) Tetrachloroethene	8.11	164	155448	21.62 ug/l	98
64) Chlorobenzene	9.75	112	504145	20.92 ug/l	99
65) 1,1,1,2-Tetrachloroethane	9.88	131	187530	20.14 ug/l	96
66) Ethyl Benzene	9.85	91	875252	21.79 ug/l	99
67) m/p-Xylenes	10.08	106	622611	43.13 ug/l	95
68) o-Xylene	10.67	106	331809	21.25 ug/l	100
69) Styrene	10.74	104	528695	20.67 ug/l	99
70) Bromoform	10.72	173	128277	18.28 ug/l	99
72) Isopropylbenzene	11.08	105	891660	22.41 ug/l	100
73) N-amyl acetate	11.34	43	347523	20.38 ug/l	99
74) 1,1,2,2-Tetrachloroethane	11.65	83	231135	19.08 ug/l	97
75) 1,2,3-Trichloropropane	11.74	75	161204	18.63 ug/l	99
76) Bromobenzene	11.44	156	225330	21.83 ug/l	92
77) n-propylbenzene	11.55	91	1123451	23.04 ug/l	96
78) 2-Chlorotoluene	11.67	91	623956	21.94 ug/l	98
79) 1,3,5-Trimethylbenzene	11.78	105	718076	22.69 ug/l	99
80) trans-1,4-Dichloro-2-buten	11.82	75	110230	19.70 ug/l	93
81) 4-Chlorotoluene	11.85	91	691184	22.19 ug/l	98
82) tert-Butylbenzene	12.09	119	711845	22.41 ug/l	98
83) 1,2,4-Trimethylbenzene	12.16	105	725419	22.27 ug/l	95
84) sec-Butylbenzene	12.26	105	949255	22.31 ug/l	97
85) p-Isopropyltoluene	12.41	119	759987	22.55 ug/l	99
86) 1,3-Dichlorobenzene	12.42	146	404358	21.97 ug/l	98
87) 1,4-Dichlorobenzene	12.52	146	385961	20.92 ug/l	97
88) n-Butylbenzene	12.80	91	775247	22.71 ug/l	95
89) Hexachloroethane	12.86	117	180128	21.86 ug/l	99
90) 1,2-Dichlorobenzene	12.89	146	376685	21.14 ug/l	95
91) 1,2-Dibromo-3-Chloropropan	13.58	75	33300	17.25 ug/l	87
92) 1,2,4-Trichlorobenzene	14.14	180	188305	20.73 ug/l	99
93) Hexachlorobutadiene	14.14	225	106039	20.76 ug/l	96

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045698.D
Acq On : 19 Oct 2015 22:57
Operator : FY/SY
Sample : VF1019SBS02
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 20 07:47:57 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBS02

Manual Integrations APPROVED
mohammad
10/20/2015 10:10:07 AM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
94) Naphthalene	14.39	128	448621	19.12 ug/l	98
95) 1,2,3-Trichlorobenzene	14.54	180	155219	20.29 ug/l	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

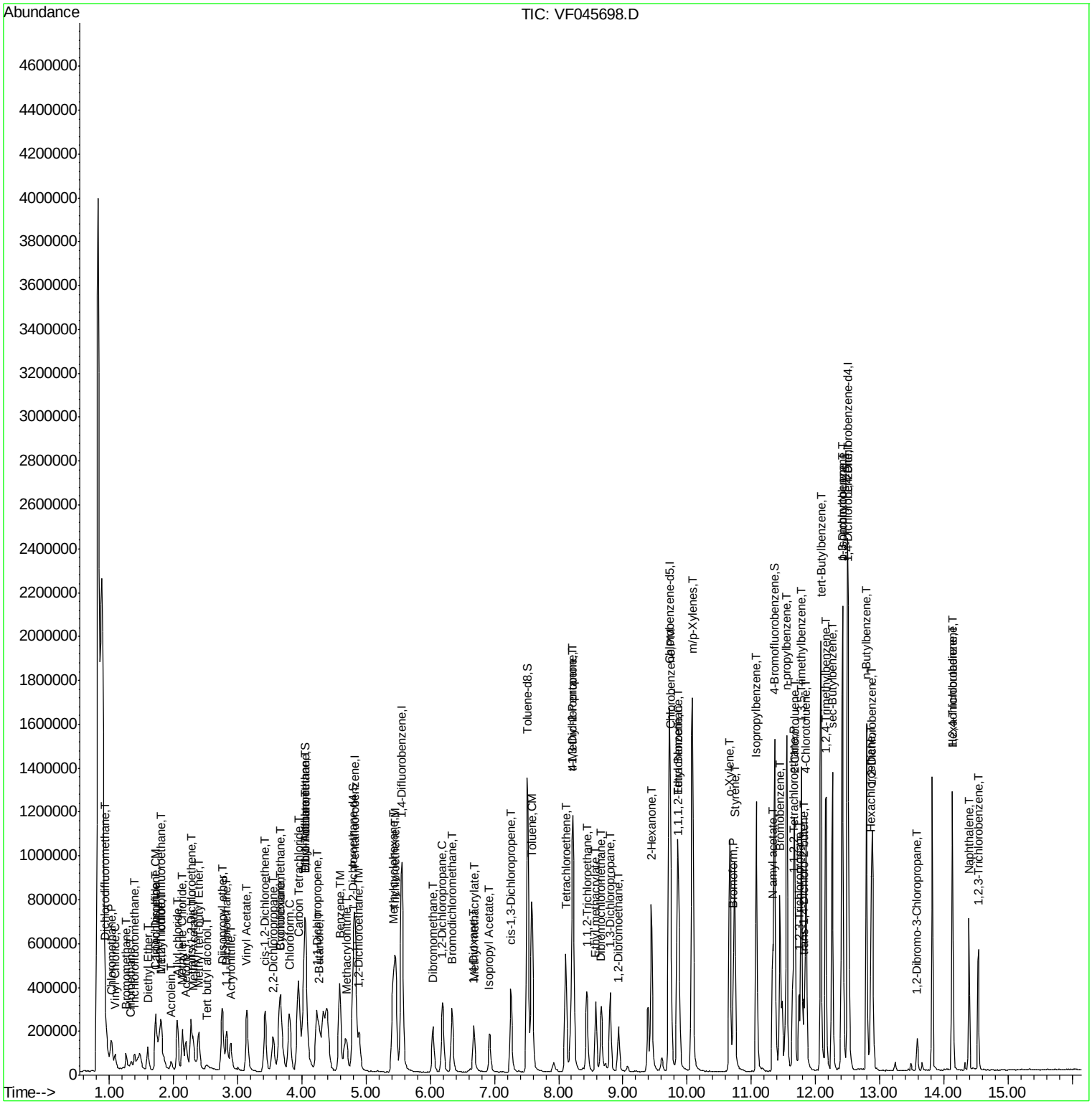
Sample Results: **VF045698.D**

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102015\
Data File : VF045698.D
Acq On : 19 Oct 2015 22:57
Operator : FY/SY
Sample : VF1019SBS02
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 20 07:47:57 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102015S.M
Quant Title : SW846 8260
QLast Update : Tue Oct 20 03:18:17 2015
Response via : Initial Calibration

Instrument :
MSVOA_F
ClientSampleId :
VF1019SBS02

Manual Integrations APPROVED
mohammad
10/20/2015 10:10:07 AM



Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045720.D
Acq On : 21 Oct 2015 14:38
Operator : FY/SY
Sample : VF1021SBS01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBS01

Quant Time: Oct 22 12:30:53 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.82	168	581859	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.55	114	1018919	50.00	ug/l	0.00
62) Chlorobenzene-d5	9.71	117	1004923	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.49	152	539563	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.79	65	367340	41.30	ug/l	0.00
Spiked Amount 50.000			Recovery	=	82.60%	
34) Dibromofluoromethane	4.05	113	420729	44.27	ug/l	0.00
Spiked Amount 50.000			Recovery	=	88.54%	
49) Toluene-d8	7.50	98	1150448	41.70	ug/l	0.00
Spiked Amount 50.000			Recovery	=	83.40%	
61) 4-Bromofluorobenzene	11.36	95	595852	42.42	ug/l	0.00
Spiked Amount 50.000			Recovery	=	84.84%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.94	85	99304	20.58	ug/l	97
3) Chloromethane	1.03	50	107114	21.74	ug/l	95
4) Vinyl Chloride	1.09	62	84874	21.53	ug/l	96
5) Bromomethane	1.26	94	46771	21.63	ug/l	99
6) Chloroethane	1.34	64	30819	20.03	ug/l	93
7) Trichlorofluoromethane	1.46	101	143314m	21.32	ug/l	
8) Diethyl Ether	1.61	74	41355	20.66	ug/l	95
9) 1,1,2-Trichlorotrifluoroet	1.79	101	102799	20.98	ug/l	98
10) Methyl Iodide	1.81	142	191181m	21.92	ug/l	
11) Tert butyl alcohol	2.52	59	53001	107.80	ug/l	95
12) 1,1-Dichloroethene	1.73	96	83540	21.43	ug/l	98
13) Acrolein	1.96	56	30832	146.84	ug/l	90
14) Allyl chloride	2.06	41	163047	22.26	ug/l	97
15) Acrylonitrile	2.89	53	153325	116.90	ug/l	98
16) Acetone	2.20	43	289145	123.12	ug/l	97
17) Carbon Disulfide	1.74	76	215066	22.47	ug/l	100
18) Methyl Acetate	2.31	43	234162	21.68	ug/l	99
19) Methyl tert-butyl Ether	2.40	73	229872	20.65	ug/l	99
20) Methylene Chloride	2.14	84	107214	20.38	ug/l #	82
21) trans-1,2-Dichloroethene	2.28	96	102592	21.98	ug/l	96
22) Diisopropyl ether	2.76	45	393053	22.54	ug/l	98
23) Vinyl Acetate	3.15	43	716345	106.48	ug/l	98
24) 1,1-Dichloroethane	2.83	63	206697	22.08	ug/l	98
25) 2-Butanone	4.28	43	545560	118.47	ug/l	97
26) 2,2-Dichloropropane	3.55	77	173666	23.44	ug/l	93
27) cis-1,2-Dichloroethene	3.42	96	178025	20.60	ug/l	95
28) Bromochloromethane	3.66	49	128875	23.54	ug/l	96
29) Chloroform	3.81	83	349624	22.57	ug/l	94
30) Cyclohexane	3.65	56	202201	21.42	ug/l	97
31) 1,1,1-Trichloroethane	4.04	97	262215	22.85	ug/l	96
35) 1,1-Dichloropropene	4.23	75	244813	25.19	ug/l	95
36) Ethyl Acetate	4.05	43	219939	21.76	ug/l	96
37) Carbon Tetrachloride	3.93	117	221602	23.02	ug/l	98
38) Methylcyclohexane	5.41	83	215702	20.70	ug/l	97

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045720.D
Acq On : 21 Oct 2015 14:38
Operator : FY/SY
Sample : VF1021SBS01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBS01

Quant Time: Oct 22 12:30:53 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) Benzene	4.59	78	616746	24.14	ug/l		99
40) Methacrylonitrile	4.69	41	98923	22.93	ug/l		93
41) 1,2-Dichloroethane	4.88	62	228548	23.05	ug/l		99
42) Isopropyl Acetate	6.91	43	283286	24.46	ug/l		100
43) Trichloroethene	5.46	130	176933	21.43	ug/l		91
44) 1,2-Dichloropropane	6.18	63	173759	22.73	ug/l		98
45) Dibromomethane	6.03	93	131251	22.39	ug/l		98
46) Bromodichloromethane	6.33	83	292240	24.16	ug/l		97
47) Methyl methacrylate	6.68	41	158306	23.48	ug/l		94
48) 1,4-Dioxane	6.66	88	35738	471.82	ug/l		97
50) 4-Methyl-2-Pentanone	8.20	43	1031301	124.78	ug/l		100
51) Toluene	7.57	92	438500	22.80	ug/l		99
52) t-1,3-Dichloropropene	8.22	75	291999	23.63	ug/l		98
53) cis-1,3-Dichloropropene	7.25	75	315558	23.04	ug/l		98
54) 1,1,2-Trichloroethane	8.43	97	175633	23.27	ug/l		96
55) Ethyl methacrylate	8.57	69	261109	23.41	ug/l		97
56) 1,3-Dichloropropane	8.80	76	298189	22.96	ug/l		98
58) 2-Hexanone	9.44	43	908944	131.05	ug/l		98
59) Dibromochloromethane	8.66	129	236692	22.29	ug/l		98
60) 1,2-Dibromoethane	8.92	107	198080	22.71	ug/l		97
63) Tetrachloroethene	8.11	164	154964	19.63	ug/l		97
64) Chlorobenzene	9.74	112	529459	22.12	ug/l		99
65) 1,1,1,2-Tetrachloroethane	9.87	131	200666	21.94	ug/l		97
66) Ethyl Benzene	9.84	91	913186	22.44	ug/l		98
67) m/p-Xylenes	10.08	106	656606	44.99	ug/l		93
68) o-Xylene	10.66	106	342043	21.28	ug/l		98
69) Styrene	10.74	104	577038	22.25	ug/l		99
70) Bromoform	10.71	173	148661	21.27	ug/l	#	98
72) Isopropylbenzene	11.07	105	946312	21.81	ug/l		97
73) N-amyl acetate	11.33	43	418893	22.30	ug/l		99
74) 1,1,2,2-Tetrachloroethane	11.65	83	278993	21.55	ug/l		100
75) 1,2,3-Trichloropropane	11.74	75	193560	20.80	ug/l		97
76) Bromobenzene	11.45	156	242942	21.23	ug/l		84
77) n-propylbenzene	11.55	91	1154480	21.21	ug/l		96
78) 2-Chlorotoluene	11.67	91	677923	21.49	ug/l		97
79) 1,3,5-Trimethylbenzene	11.77	105	764015	21.50	ug/l		97
80) trans-1,4-Dichloro-2-buten	11.81	75	130947	22.14	ug/l		97
81) 4-Chlorotoluene	11.85	91	766696	22.14	ug/l		94
82) tert-Butylbenzene	12.08	119	773368	21.89	ug/l		99
83) 1,2,4-Trimethylbenzene	12.16	105	794138	21.49	ug/l		100
84) sec-Butylbenzene	12.26	105	1041969	21.74	ug/l		96
85) p-Isopropyltoluene	12.41	119	834924	21.98	ug/l		95
86) 1,3-Dichlorobenzene	12.42	146	434333	21.04	ug/l		99
87) 1,4-Dichlorobenzene	12.51	146	444836	21.57	ug/l		98
88) n-Butylbenzene	12.79	91	865325	22.12	ug/l		97
89) Hexachloroethane	12.86	117	194424	21.47	ug/l		95
90) 1,2-Dichlorobenzene	12.89	146	424762	21.44	ug/l		100
91) 1,2-Dibromo-3-Chloropropan	13.58	75	45753	21.57	ug/l		91
92) 1,2,4-Trichlorobenzene	14.14	180	231566	21.02	ug/l		92
93) Hexachlorobutadiene	14.13	225	123616	20.58	ug/l		98

Quantitation Report (QT Reviewed)

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBS01

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045720.D
Acq On : 21 Oct 2015 14:38
Operator : FY/SY
Sample : VF1021SBS01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 22 12:30:53 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

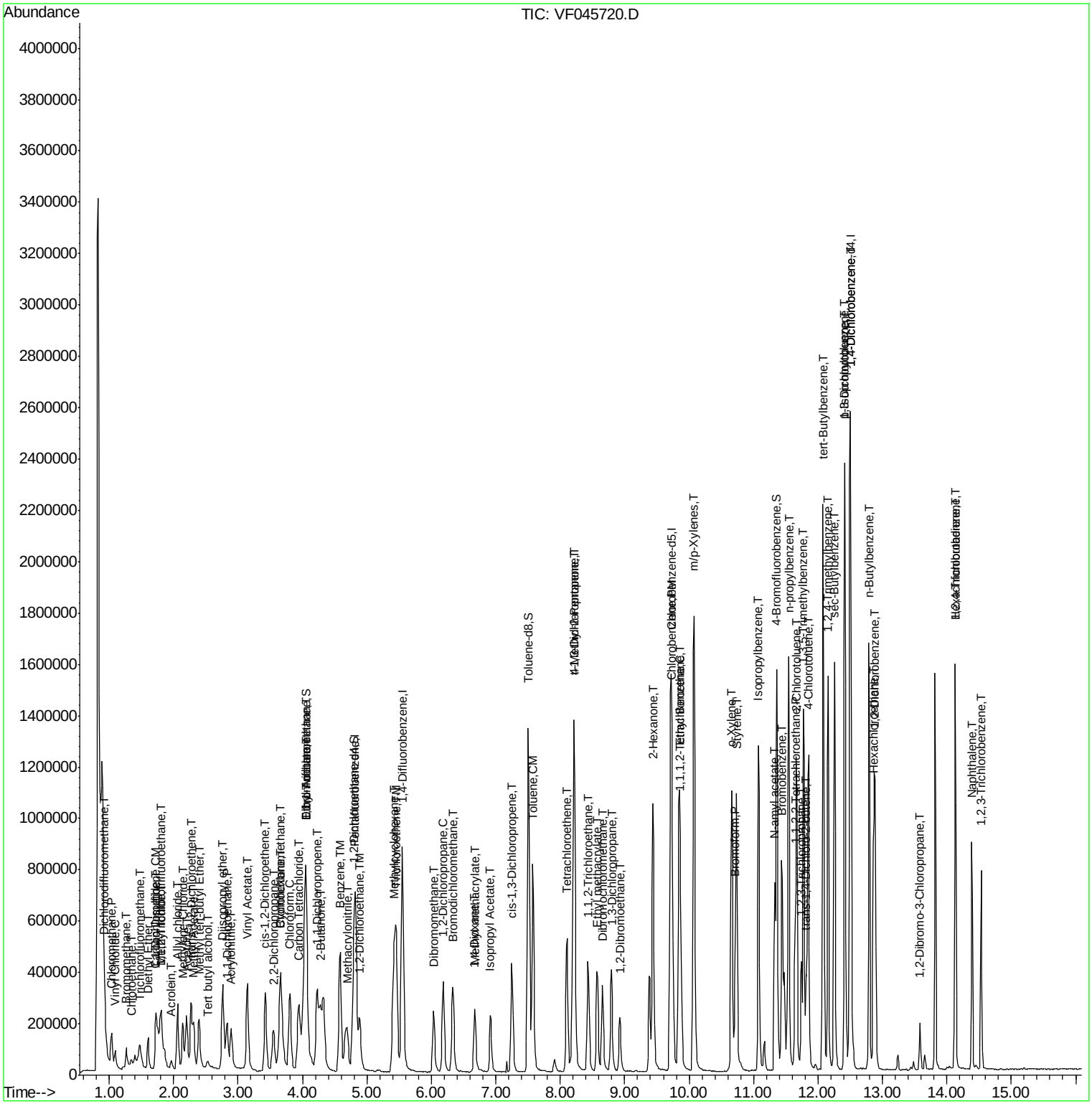
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
94) Naphthalene	14.39	128	594492	21.15 ug/l	99
95) 1,2,3-Trichlorobenzene	14.53	180	200554	20.62 ug/l	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045720.D
Acq On : 21 Oct 2015 14:38
Operator : FY/SY
Sample : VF1021SBS01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBS01

Quant Time: Oct 22 12:30:53 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration



Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045721.D
Acq On : 21 Oct 2015 15:19
Operator : FY/SY
Sample : VF1021SBSD01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBSD01

Quant Time: Oct 22 12:31:46 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	4.83	168	513410	50.00	ug/l	0.00
33) 1,4-Difluorobenzene	5.56	114	872898	50.00	ug/l	0.00
62) Chlorobenzene-d5	9.72	117	884412	50.00	ug/l	0.00
71) 1,4-Dichlorobenzene-d4	12.50	152	444308	50.00	ug/l	0.00
System Monitoring Compounds						
32) 1,2-Dichloroethane-d4	4.80	65	432020	55.05	ug/l	0.00
Spiked Amount 50.000			Recovery	=	110.10%	
34) Dibromofluoromethane	4.06	113	481615	59.15	ug/l	0.00
Spiked Amount 50.000			Recovery	=	118.30%	
49) Toluene-d8	7.51	98	1273624	53.88	ug/l	0.00
Spiked Amount 50.000			Recovery	=	107.76%	
61) 4-Bromofluorobenzene	11.36	95	650994	54.10	ug/l	0.00
Spiked Amount 50.000			Recovery	=	108.20%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.94	85	99076	23.27	ug/l	97
3) Chloromethane	1.03	50	103703	23.85	ug/l	96
4) Vinyl Chloride	1.09	62	85748	24.65	ug/l	90
5) Bromomethane	1.27	94	46651	24.46	ug/l	90
6) Chloroethane	1.35	64	31546	23.23	ug/l	89
7) Trichlorofluoromethane	1.46	101	138162m	23.29	ug/l	
8) Diethyl Ether	1.60	74	40259	22.79	ug/l	86
9) 1,1,2-Trichlorotrifluoroet	1.80	101	99269	22.96	ug/l	96
10) Methyl Iodide	1.81	142	181933m	23.64	ug/l	
11) Tert butyl alcohol	2.53	59	45933	105.88	ug/l #	91
12) 1,1-Dichloroethene	1.72	96	85004	24.71	ug/l	91
13) Acrolein	1.97	56	28056	152.91	ug/l #	78
14) Allyl chloride	2.07	41	162848	25.20	ug/l	97
15) Acrylonitrile	2.90	53	141125	121.94	ug/l	96
16) Acetone	2.20	43	259516	125.23	ug/l #	92
17) Carbon Disulfide	1.73	76	207115	24.52	ug/l	97
18) Methyl Acetate	2.31	43	213217	22.37	ug/l	98
19) Methyl tert-butyl Ether	2.39	73	219761	22.37	ug/l	95
20) Methylene Chloride	2.15	84	81484	17.55	ug/l	86
21) trans-1,2-Dichloroethene	2.27	96	100956	24.51	ug/l	95
22) Diisopropyl ether	2.77	45	387819	25.20	ug/l	99
23) Vinyl Acetate	3.14	43	513499	86.51	ug/l	97
24) 1,1-Dichloroethane	2.83	63	213740	25.87	ug/l	98
25) 2-Butanone	4.29	43	474488	116.77	ug/l	97
26) 2,2-Dichloropropane	3.56	77	169644	25.95	ug/l	93
27) cis-1,2-Dichloroethene	3.43	96	174632	22.91	ug/l	97
28) Bromochloromethane	3.67	49	112063	23.20	ug/l	95
29) Chloroform	3.81	83	325048	23.78	ug/l	99
30) Cyclohexane	3.66	56	196938	23.64	ug/l	99
31) 1,1,1-Trichloroethane	4.05	97	252275	24.91	ug/l	97
35) 1,1-Dichloropropene	4.24	75	227729	27.35	ug/l	97
36) Ethyl Acetate	4.07	43	189578	21.90	ug/l #	81
37) Carbon Tetrachloride	3.94	117	226331	27.44	ug/l	97
38) Methylcyclohexane	5.42	83	223642	25.06	ug/l	99

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045721.D
Acq On : 21 Oct 2015 15:19
Operator : FY/SY
Sample : VF1021SBSD01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBSD01

Quant Time: Oct 22 12:31:46 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
39) Benzene	4.58	78	612170	27.97 ug/l	98
40) Methacrylonitrile	4.70	41	99674	26.97 ug/l	93
41) 1,2-Dichloroethane	4.89	62	222676	26.21 ug/l	96
42) Isopropyl Acetate	6.92	43	251696	25.37 ug/l #	98
43) Trichloroethene	5.46	130	170421	24.09 ug/l	96
44) 1,2-Dichloropropane	6.19	63	170906	26.09 ug/l	95
45) Dibromomethane	6.04	93	127654	25.42 ug/l	97
46) Bromodichloromethane	6.34	83	270805	26.13 ug/l	98
47) Methyl methacrylate	6.68	41	146306	25.34 ug/l	95
48) 1,4-Dioxane	6.66	88	33489	516.08 ug/l	95
50) 4-Methyl-2-Pentanone	8.21	43	910452	128.58 ug/l	98
51) Toluene	7.58	92	407510	24.74 ug/l	93
52) t-1,3-Dichloropropene	8.23	75	269469	25.46 ug/l	98
53) cis-1,3-Dichloropropene	7.25	75	301788	25.72 ug/l	97
54) 1,1,2-Trichloroethane	8.44	97	166462	25.75 ug/l	97
55) Ethyl methacrylate	8.58	69	234326	24.52 ug/l	99
56) 1,3-Dichloropropane	8.80	76	281224	25.28 ug/l	96
58) 2-Hexanone	9.44	43	765606	128.85 ug/l	97
59) Dibromochloromethane	8.66	129	221877	24.39 ug/l	95
60) 1,2-Dibromoethane	8.93	107	185439	24.82 ug/l	94
63) Tetrachloroethene	8.10	164	151235	21.76 ug/l	96
64) Chlorobenzene	9.74	112	511696	24.29 ug/l	97
65) 1,1,1,2-Tetrachloroethane	9.87	131	195528	24.29 ug/l	98
66) Ethyl Benzene	9.85	91	867783	24.23 ug/l	99
67) m/p-Xylenes	10.07	106	630681	49.11 ug/l	95
68) o-Xylene	10.67	106	325898	23.04 ug/l	97
69) Styrene	10.74	104	551454	24.16 ug/l	98
70) Bromoform	10.72	173	139885	22.74 ug/l	98
72) Isopropylbenzene	11.08	105	897004	25.10 ug/l	99
73) N-amyl acetate	11.33	43	366975	23.72 ug/l	97
74) 1,1,2,2-Tetrachloroethane	11.64	83	261668	24.55 ug/l	98
75) 1,2,3-Trichloropropane	11.74	75	187105	24.42 ug/l	97
76) Bromobenzene	11.45	156	231820	24.60 ug/l	93
77) n-propylbenzene	11.54	91	1128900	25.19 ug/l	95
78) 2-Chlorotoluene	11.67	91	641809	24.71 ug/l	97
79) 1,3,5-Trimethylbenzene	11.78	105	741951	25.36 ug/l	99
80) trans-1,4-Dichloro-2-buten	11.82	75	118565	24.35 ug/l	95
81) 4-Chlorotoluene	11.85	91	708039	24.83 ug/l	100
82) tert-Butylbenzene	12.09	119	698538	24.01 ug/l	99
83) 1,2,4-Trimethylbenzene	12.16	105	740112	24.32 ug/l	98
84) sec-Butylbenzene	12.25	105	1000430	25.35 ug/l	96
85) p-Isopropyltoluene	12.41	119	793925	25.39 ug/l	98
86) 1,3-Dichlorobenzene	12.42	146	419170	24.66 ug/l	98
87) 1,4-Dichlorobenzene	12.51	146	424071	24.97 ug/l	98
88) n-Butylbenzene	12.80	91	824312	25.59 ug/l	99
89) Hexachloroethane	12.87	117	180954	24.27 ug/l	86
90) 1,2-Dichlorobenzene	12.88	146	385467	23.63 ug/l	97
91) 1,2-Dibromo-3-Chloropropan	13.59	75	39399	22.55 ug/l	95
92) 1,2,4-Trichlorobenzene	14.14	180	205321	22.64 ug/l	96
93) Hexachlorobutadiene	14.13	225	109229	22.08 ug/l	98

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBSD01

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045721.D
Acq On : 21 Oct 2015 15:19
Operator : FY/SY
Sample : VF1021SBSD01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 22 12:31:46 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration

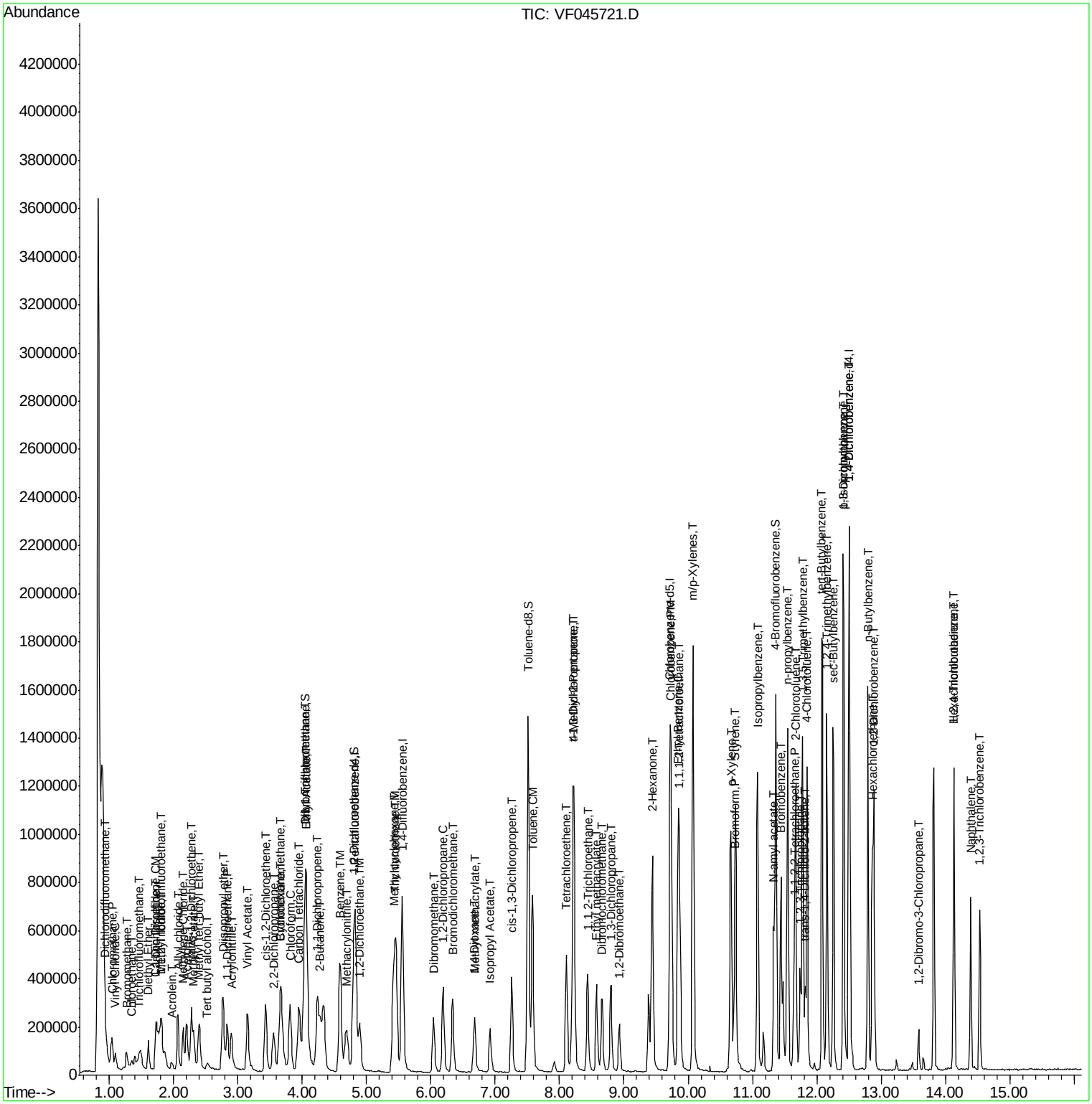
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
94) Naphthalene	14.39	128	498811	21.55 ug/l	99
95) 1,2,3-Trichlorobenzene	14.53	180	174007	21.73 ug/l	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA F\DATA\VF102215\
Data File : VF045721.D
Acq On : 21 Oct 2015 15:19
Operator : FY/SY
Sample : VF1021SBSD01
Misc : 5.00g/5mL/MSVOA F/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_F
ClientSampleId :
VF1022SBSD01

Quant Time: Oct 22 12:31:46 2015
Quant Method : W:\HPCHEM1\MSVOA_F\METHODS\82F102115S.M
Quant Title : SW846 8260
QLast Update : Wed Oct 21 02:13:49 2015
Response via : Initial Calibration



CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	VF102015	Instrument	MSVOA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDICC005	VF045689.D	Trichlorofluoromethane	apatel	10/20/2015 9:47:44 AM	mohammad	10/20/2015 10:09:29 AM	Peak Integrated by Software incorrectly
VSTDICC010	VF045690.D	Trichlorofluoromethane	apatel	10/20/2015 9:47:49 AM	mohammad	10/20/2015 10:09:32 AM	Peak Integrated by Software incorrectly
VSTDICC020	VF045691.D	Methyl Iodide	apatel	10/20/2015 9:47:53 AM	mohammad	10/20/2015 10:09:35 AM	Peak Integrated by Software incorrectly
VSTDICC020	VF045691.D	Trichlorofluoromethane	apatel	10/20/2015 9:47:53 AM	mohammad	10/20/2015 10:09:35 AM	Peak Integrated by Software incorrectly
VSTDICCC050	VF045692.D	Trichlorofluoromethane	apatel	10/20/2015 9:47:57 AM	mohammad	10/20/2015 10:09:38 AM	Peak Integrated by Software incorrectly
VSTDICC075	VF045693.D	Methyl Iodide	apatel	10/20/2015 9:48:01 AM	mohammad	10/20/2015 10:09:41 AM	Peak Integrated by Software incorrectly
VSTDICC075	VF045693.D	Trichlorofluoromethane	apatel	10/20/2015 9:48:01 AM	mohammad	10/20/2015 10:09:41 AM	Peak Integrated by Software incorrectly
VSTDICC100	VF045694.D	Carbon Tetrachloride	apatel	10/20/2015 9:48:05 AM	mohammad	10/20/2015 10:09:46 AM	Peak Integrated by Software incorrectly
VSTDICC100	VF045694.D	Trichlorofluoromethane	apatel	10/20/2015 9:48:05 AM	mohammad	10/20/2015 10:09:46 AM	Peak Integrated by Software incorrectly
VSTDICV050	VF045695.D	Trichlorofluoromethane	apatel	10/20/2015 9:48:08 AM	mohammad	10/20/2015 10:09:52 AM	Peak Integrated by Software incorrectly
VF1019SBS01	VF045697.D	Trichlorofluoromethane	apatel	10/20/2015 9:48:12 AM	mohammad	10/20/2015 10:10:05 AM	Peak Integrated by Software incorrectly
VF1019SBS02	VF045698.D	Trichlorofluoromethane	apatel	10/20/2015 9:48:16 AM	mohammad	10/20/2015 10:10:07 AM	Peak Integrated by Software incorrectly
G4009-02RE	VF045700.D	4-Methyl-2-Pentanone	apatel	10/20/2015 9:48:36 AM	mohammad	10/20/2015 10:10:10 AM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VF102015	Instrument	MSVOA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3976-02	VF045706.D	4-Bromofluorobenzene	apatel	10/20/2015 9:48:21 AM	mohammad	10/20/2015 10:10:12 AM	Peak Integrated by Software incorrectly
G3976-02	VF045706.D	Methylcyclohexane	apatel	10/20/2015 9:48:21 AM	mohammad	10/20/2015 10:10:12 AM	Peak Integrated by Software incorrectly
G3976-02	VF045706.D	p-Isopropyltoluene	apatel	10/20/2015 9:48:21 AM	mohammad	10/20/2015 10:10:12 AM	Peak Integrated by Software incorrectly
G3976-03	VF045707.D	p-Isopropyltoluene	apatel	10/20/2015 9:48:25 AM	mohammad	10/20/2015 10:10:16 AM	Peak Integrated by Software incorrectly
VSTDCCC050	VF045708.D	Trichlorofluoromethane	apatel	10/20/2015 9:48:28 AM	mohammad	10/20/2015 10:10:18 AM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VF102115	Instrument	MSVOA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDICC005	VF045710.D	Ethyl Acetate	apatel	10/21/2015 1:53:48 PM	MMdadoda	10/21/2015 2:03:36 PM	Peak Integrated by Software incorrectly
VSTDICC005	VF045710.D	Methyl Iodide	apatel	10/21/2015 1:53:48 PM	MMdadoda	10/21/2015 2:03:36 PM	Peak Integrated by Software incorrectly
VSTDICC005	VF045710.D	Trichlorofluoromethane	apatel	10/21/2015 1:53:48 PM	MMdadoda	10/21/2015 2:03:36 PM	Peak Integrated by Software incorrectly
VSTDICC010	VF045711.D	1,1-Dichloroethene	apatel	10/21/2015 1:53:52 PM	MMdadoda	10/21/2015 2:03:37 PM	Peak Integrated by Software incorrectly
VSTDICC010	VF045711.D	Carbon Disulfide	apatel	10/21/2015 1:53:52 PM	MMdadoda	10/21/2015 2:03:37 PM	Peak Integrated by Software incorrectly
VSTDICC010	VF045711.D	Methyl Iodide	apatel	10/21/2015 1:53:52 PM	MMdadoda	10/21/2015 2:03:37 PM	Peak Integrated by Software incorrectly
VSTDICC010	VF045711.D	Methylene Chloride	apatel	10/21/2015 1:53:52 PM	MMdadoda	10/21/2015 2:03:37 PM	Peak Integrated by Software incorrectly
VSTDICC010	VF045711.D	Trichlorofluoromethane	apatel	10/21/2015 1:53:52 PM	MMdadoda	10/21/2015 2:03:37 PM	Peak Integrated by Software incorrectly
VSTDICC020	VF045712.D	1,1-Dichloroethene	apatel	10/21/2015 1:53:56 PM	MMdadoda	10/21/2015 2:03:39 PM	Peak Integrated by Software incorrectly
VSTDICC020	VF045712.D	Methyl Iodide	apatel	10/21/2015 1:53:56 PM	MMdadoda	10/21/2015 2:03:39 PM	Peak Integrated by Software incorrectly
VSTDICC020	VF045712.D	Methylene Chloride	apatel	10/21/2015 1:53:56 PM	MMdadoda	10/21/2015 2:03:39 PM	Peak Integrated by Software incorrectly
VSTDICC020	VF045712.D	Trichlorofluoromethane	apatel	10/21/2015 1:53:56 PM	MMdadoda	10/21/2015 2:03:39 PM	Peak Integrated by Software incorrectly
VSTDICCC050	VF045713.D	Methyl Iodide	apatel	10/21/2015 1:54:00 PM	MMdadoda	10/21/2015 2:03:42 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VF102115	Instrument	MSVOA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDICCC050	VF045713.D	Trichlorofluoromethane	apatel	10/21/2015 1:54:00 PM	MMdadoda	10/21/2015 2:03:42 PM	Peak Integrated by Software incorrectly
VSTDICC075	VF045714.D	Carbon Tetrachloride	apatel	10/21/2015 1:54:04 PM	MMdadoda	10/21/2015 2:03:43 PM	Peak Integrated by Software incorrectly
VSTDICC075	VF045714.D	Methyl Iodide	apatel	10/21/2015 1:54:04 PM	MMdadoda	10/21/2015 2:03:43 PM	Peak Integrated by Software incorrectly
VSTDICC075	VF045714.D	Trichlorofluoromethane	apatel	10/21/2015 1:54:04 PM	MMdadoda	10/21/2015 2:03:43 PM	Peak Integrated by Software incorrectly
VSTDICC100	VF045715.D	1,1-Dichloroethene	apatel	10/21/2015 1:54:08 PM	MMdadoda	10/21/2015 2:03:45 PM	Peak Integrated by Software incorrectly
VSTDICC100	VF045715.D	Methyl Iodide	apatel	10/21/2015 1:54:08 PM	MMdadoda	10/21/2015 2:03:45 PM	Peak Integrated by Software incorrectly
VSTDICC100	VF045715.D	Methylene Chloride	apatel	10/21/2015 1:54:08 PM	MMdadoda	10/21/2015 2:03:45 PM	Peak Integrated by Software incorrectly
VSTDICC100	VF045715.D	Trichlorofluoromethane	apatel	10/21/2015 1:54:08 PM	MMdadoda	10/21/2015 2:03:45 PM	Peak Integrated by Software incorrectly
VSTDICV050	VF045716.D	Methyl Iodide	apatel	10/21/2015 1:54:12 PM	MMdadoda	10/21/2015 2:03:47 PM	Peak Integrated by Software incorrectly
VSTDICV050	VF045716.D	Trichlorofluoromethane	apatel	10/21/2015 1:54:12 PM	MMdadoda	10/21/2015 2:03:47 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VF102215	Instrument	MSVOA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC050	VF045718.D	Methyl Iodide	apatel	10/22/2015 4:29:04 PM	MMdadoda	10/22/2015 4:45:03 PM	Peak Integrated by Software incorrectly
VSTDCCC050	VF045718.D	Trichlorofluoromethane	apatel	10/22/2015 4:29:04 PM	MMdadoda	10/22/2015 4:45:03 PM	Peak Integrated by Software incorrectly
VF1022SBS01	VF045720.D	Methyl Iodide	apatel	10/22/2015 4:29:10 PM	MMdadoda	10/22/2015 4:45:05 PM	Peak Integrated by Software incorrectly
VF1022SBS01	VF045720.D	Trichlorofluoromethane	apatel	10/22/2015 4:29:10 PM	MMdadoda	10/22/2015 4:45:05 PM	Peak Integrated by Software incorrectly
VF1022SBSD01	VF045721.D	Methyl Iodide	apatel	10/22/2015 4:29:16 PM	MMdadoda	10/22/2015 4:45:06 PM	Peak Integrated by Software incorrectly
VF1022SBSD01	VF045721.D	Trichlorofluoromethane	apatel	10/22/2015 4:29:16 PM	MMdadoda	10/22/2015 4:45:06 PM	Peak Integrated by Software incorrectly
G3974-03	VF045722.D	p-Isopropyltoluene	apatel	10/22/2015 4:29:21 PM	MMdadoda	10/22/2015 4:45:07 PM	Peak Integrated by Software incorrectly
G3997-01RE	VF045723.D	p-Isopropyltoluene	apatel	10/22/2015 4:29:25 PM	MMdadoda	10/22/2015 4:45:08 PM	Peak Integrated by Software incorrectly
G4040-02RE	VF045728.D	Methylene Chloride	apatel	10/22/2015 4:29:29 PM	MMdadoda	10/22/2015 4:45:12 PM	Peak Integrated by Software incorrectly
G4040-03	VF045729.D	Methylene Chloride	apatel	10/22/2015 4:29:34 PM	MMdadoda	10/22/2015 4:45:16 PM	Peak Integrated by Software incorrectly
VF1022SBSD01	VF045734.D	1,1-Dichloroethene	apatel	10/22/2015 4:29:38 PM	MMdadoda	10/22/2015 4:45:11 PM	Peak Integrated by Software incorrectly
VF1022SBSD01	VF045734.D	Carbon Disulfide	apatel	10/22/2015 4:29:38 PM	MMdadoda	10/22/2015 4:45:11 PM	Peak Integrated by Software incorrectly
VF1022SBSD01	VF045734.D	Methyl Iodide	apatel	10/22/2015 4:29:38 PM	MMdadoda	10/22/2015 4:45:11 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VF102215	Instrument	MSVOA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VF1022SBSD01	VF045734.D	Methylene Chloride	apatel	10/22/2015 4:29:38 PM	MMdadoda	10/22/2015 4:45:11 PM	Peak Integrated by Software incorrectly
VF1022SBSD01	VF045734.D	Trichlorofluoromethane	apatel	10/22/2015 4:29:38 PM	MMdadoda	10/22/2015 4:45:11 PM	Peak Integrated by Software incorrectly

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Instrument ID: MSVOA_F

Daily Analysis Runlog For Sequence/QCBatch ID # VF102015

Review By	mohammad	Review On	10/20/2015 10:17:53 AM		
SubDirectory	VF102015	HP Acquire Method	MOONMOON	HP Processing Method	82F102015S.M

STD. NAME	STD REF.#
Tune/Reschk	VP47082,VP47083
Initial Calibration Stds	VP47090,VP47092,VP47094,VP47096,VP47098,VP47099
CCC	VP47088
Internal Standard/PEM	VP45770
ICV/I.BLK	VP47102

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VF045688.D	19 Oct 2015 17:46	FY/SY	Ok
2	VSTDICC005	VF045689.D	19 Oct 2015 18:39	FY/SY	Ok,M
3	VSTDICC010	VF045690.D	19 Oct 2015 19:08	FY/SY	Ok,M
4	VSTDICC020	VF045691.D	19 Oct 2015 19:37	FY/SY	Ok,M
5	VSTDICCC050	VF045692.D	19 Oct 2015 20:05	FY/SY	Ok,M
6	VSTDICC075	VF045693.D	19 Oct 2015 20:34	FY/SY	Ok,M
7	VSTDICC100	VF045694.D	19 Oct 2015 21:03	FY/SY	Ok,M
8	VSTDICV050	VF045695.D	19 Oct 2015 21:32	FY/SY	Ok,M
9	VF1019SBL01	VF045696.D	19 Oct 2015 22:01	FY/SY	Ok
10	VF1019SBS01	VF045697.D	19 Oct 2015 22:29	FY/SY	Not Ok
11	VF1019SBS02	VF045698.D	19 Oct 2015 22:57	FY/SY	Ok,M
12	G4002-07	VF045699.D	19 Oct 2015 23:26	FY/SY	Ok
13	G4009-02RE	VF045700.D	19 Oct 2015 23:54	FY/SY	Confirms
14	G4009-03	VF045701.D	20 Oct 2015 00:22	FY/SY	Ok
15	G4009-01RE	VF045702.D	20 Oct 2015 00:51	FY/SY	Confirms
16	G4046-04	VF045703.D	20 Oct 2015 1:19	FY/SY	ReRun
17	G4046-01	VF045704.D	20 Oct 2015 1:47	FY/SY	ReRun
18	G4046-02	VF045705.D	20 Oct 2015 2:15	FY/SY	ReRun
19	G3976-02	VF045706.D	20 Oct 2015 2:44	FY/SY	Dilution
20	G3976-03	VF045707.D	20 Oct 2015 3:12	FY/SY	Ok,M
21	VSTDCCC050	VF045708.D	20 Oct 2015 3:40	FY/SY	Ok,M

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Instrument ID: MSVOA_F

Daily Analysis Runlog For Sequence/QCBatch ID # VF102115

Review By	MMdadoda	Review On	10/21/2015 2:04:10 PM		
SubDirectory	VF102115	HP Acquire Method	MOONMOON	HP Processing Method	82F102115

STD. NAME	STD REF.#
Tune/Reschk	VP47140
Initial Calibration Stds	VP47142,VP47144,VP47146,VP47148,VP47154,VP47150
CCC	
Internal Standard/PEM	VP45770
ICV/I.BLK	VP47156

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VF045709.D	20 Oct 2015 14:55	FY/SY	Ok
2	VSTDICC005	VF045710.D	20 Oct 2015 15:37	FY/SY	Ok,M
3	VSTDICC010	VF045711.D	20 Oct 2015 16:06	FY/SY	Ok,M
4	VSTDICC020	VF045712.D	20 Oct 2015 16:35	FY/SY	Ok,M
5	VSTDICCC050	VF045713.D	20 Oct 2015 17:04	FY/SY	Ok,M
6	VSTDICC075	VF045714.D	20 Oct 2015 17:33	FY/SY	Ok,M
7	VSTDICC100	VF045715.D	20 Oct 2015 18:01	FY/SY	Ok,M
8	VSTDICV050	VF045716.D	20 Oct 2015 19:22	FY/SY	Ok,M

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Instrument ID: MSVOA_F

Daily Analysis Runlog For Sequence/QCBatch ID # VF102215

Review By	MMdadoda	Review On	10/22/2015 4:45:31 PM		
SubDirectory	VF102215	HP Acquire Method	MOONMOON	HP Processing Method	82F102115S.M

STD. NAME	STD REF.#
Tune/Reschk	VP47171
Initial Calibration Stds	VP47142,VP47144,VP47146,VP47148,VP47154,VP47150
CCC	VP47181,VP47202
Internal Standard/PEM	VP45770
ICV/I.BLK	VP47156

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VF045717.D	21 Oct 2015 10:05	FY/SY	Ok
2	VSTDCCC050	VF045718.D	21 Oct 2015 10:43	FY/SY	Ok,M
3	VF1022SBL01	VF045719.D	21 Oct 2015 12:13	FY/SY	Ok
4	VF1022SBS01	VF045720.D	21 Oct 2015 12:52	FY/SY	Ok,M
5	VF1022SBSD01	VF045721.D	21 Oct 2015 15:19	FY/SY	Ok,M
6	G3974-03	VF045722.D	21 Oct 2015 16:02	FY/SY	Ok,M
7	G3997-01RE	VF045723.D	21 Oct 2015 16:30	FY/SY	Confirms
8	G4046-01RE	VF045724.D	21 Oct 2015 16:59	FY/SY	Confirms
9	G4046-02RE	VF045725.D	21 Oct 2015 17:28	FY/SY	Confirms
10	G4046-04RE	VF045726.D	21 Oct 2015 17:57	FY/SY	Confirms
11	G4040-01	VF045727.D	21 Oct 2015 18:25	FY/SY	Ok
12	G4040-02RE	VF045728.D	21 Oct 2015 18:54	FY/SY	Confirms
13	G4040-03	VF045729.D	21 Oct 2015 19:22	FY/SY	Ok,M
14	G4040-04RE	VF045730.D	21 Oct 2015 19:51	FY/SY	Confirms
15	G4040-05	VF045731.D	21 Oct 2015 20:20	FY/SY	Ok
16	G4085-03	VF045732.D	21 Oct 2015 20:48	FY/SY	Ok
17	G4034-01	VF045733.D	21 Oct 2015 21:17	FY/SY	Ok
18	VF1022SBSD01	VF045734.D	21 Oct 2015 21:45	FY/SY	Not Ok
19	VSTDCCC050	VF045735.D	21 Oct 2015 22:13	FY/SY	Ok

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Instrument ID: MSVOA_F

Daily Analysis Runlog For Sequence/QCBatch ID # VF102015

Review By	mohammad	Review On	10/20/2015 10:17:53 AM		
SubDirectory	VF102015	HP Acquire Method	MOONMOON	HP Processing Method	82F102015S.M

STD. NAME	STD REF.#
Tune/Reschk	VP47082,VP47083
Initial Calibration Stds	VP47090,VP47092,VP47094,VP47096,VP47098,VP47099
CCC	VP47088
Internal Standard/PEM	VP45770
ICV/I.BLK	VP47102

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB	BFB	VF045688.D		Ok
2	VSTDICC005	VSTDICC005	VF045689.D		Ok,M
3	VSTDICC010	VSTDICC010	VF045690.D	Method use for NON DOD	Ok,M
4	VSTDICC020	VSTDICC020	VF045691.D	Method fail for compound # 13	Ok,M
5	VSTDICCC050	VSTDICCC050	VF045692.D		Ok,M
6	VSTDICC075	VSTDICC075	VF045693.D		Ok,M
7	VSTDICC100	VSTDICC100	VF045694.D		Ok,M
8	VSTDICV050	ICVVF102015	VF045695.D		Ok,M
9	VF1019SBL01	VF1019SBL01	VF045696.D		Ok
10	VF1019SBS01	VF1019SBS01	VF045697.D	spiking error	Not Ok
11	VF1019SBS02	VF1019SBS02	VF045698.D		Ok,M
12	G4002-07	VOC	VF045699.D	Vial B	Ok
13	G4009-02RE	KW-2RE	VF045700.D	Vial B,Internal standard fail	Confirms
14	G4009-03	KW-3	VF045701.D	Vial B	Ok
15	G4009-01RE	KW-1RE	VF045702.D	Vial B,Internal standard fail	Confirms
16	G4046-04	MANAHAWKEN112	VF045703.D	Vial A,Internal standard fail,Surrogate fail	ReRun
17	G4046-01	GOODLUCK902	VF045704.D	Vial A,Internal standard fail,Surrogate fail	ReRun
18	G4046-02	GOODLUCK58	VF045705.D	Vial A,Internal standard fail	ReRun
19	G3976-02	023-MW-3(8-8.8)	VF045706.D	Vial A,Need MEOH,Internal standard fail,Surrogate fail,	Dilution
20	G3976-03	024-MW-4(9)	VF045707.D	Vial A	Ok,M
21	VSTDCCC050	VSTDCCC050EC	VF045708.D		Ok,M

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Instrument ID: MSVOA_F

Daily Analysis Runlog For Sequence/QCBatch ID # VF102115

Review By	MMdadoda	Review On	10/21/2015 2:04:10 PM		
SubDirectory	VF102115	HP Acquire Method	MOONMOON	HP Processing Method	82F102115

STD. NAME	STD REF.#
Tune/Reschk	VP47140
Initial Calibration Stds	VP47142,VP47144,VP47146,VP47148,VP47154,VP47150
CCC	
Internal Standard/PEM	VP45770
ICV/I.BLK	VP47156

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB	BFB	VF045709.D		Ok
2	VSTDICC005	VSTDICC005	VF045710.D	Method used for NON DOD	Ok,M
3	VSTDICC010	VSTDICC010	VF045711.D	Quadretic regression used for compound # 13	Ok,M
4	VSTDICC020	VSTDICC020	VF045712.D		Ok,M
5	VSTDICCC050	VSTDICCC050	VF045713.D		Ok,M
6	VSTDICC075	VSTDICC075	VF045714.D		Ok,M
7	VSTDICC100	VSTDICC100	VF045715.D		Ok,M
8	VSTDICV050	ICVVF102115	VF045716.D		Ok,M

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Instrument ID: MSVOA_F

Daily Analysis Runlog For Sequence/QCBatch ID # VF102215

Review By	MMdadoda	Review On	10/22/2015 4:45:31 PM		
SubDirectory	VF102215	HP Acquire Method	MOONMOON	HP Processing Method	82F102115S.M

STD. NAME	STD REF.#
Tune/Reschk	VP47171
Initial Calibration Stds	VP47142,VP47144,VP47146,VP47148,VP47154,VP47150
CCC	VP47181,VP47202
Internal Standard/PEM	VP45770
ICV/I.BLK	VP47156

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB	BFB	VF045717.D		Ok
2	VSTDCCC050	VSTDCCC050	VF045718.D		Ok,M
3	VF1022SBL01	VF1022SBL01	VF045719.D		Ok
4	VF1022SBS01	VF1022SBS01	VF045720.D		Ok,M
5	VF1022SBSD01	VF1022SBSD01	VF045721.D		Ok,M
6	G3974-03	MGP222BR-35-37	VF045722.D	Vial B	Ok,M
7	G3997-01RE	MGP214BR-26-27RE	VF045723.D	Vial B,internal standard fail	Confirms
8	G4046-01RE	GOODLUCK902RE	VF045724.D	Vial B,surrogate fail,internal standard fail	Confirms
9	G4046-02RE	GOODLUCK58RE	VF045725.D	Vial B,surrogate fail,internal standard fail	Confirms
10	G4046-04RE	MANAHAWKEN112RE	VF045726.D	Vial B,surrogate fail,internal standard fail	Confirms
11	G4040-01	IM-MLA-2.5-03	VF045727.D	Vial A	Ok
12	G4040-02RE	IM-MLA-2.5-04RE	VF045728.D	Vial B,surrogate fail,	Confirms
13	G4040-03	IM-MLA-2.5-05	VF045729.D	Vial B	Ok,M
14	G4040-04RE	IM-MLA-1.5-05RE	VF045730.D	Vial B,surrogate fail,internal standard fail	Confirms
15	G4040-05	IM-MLA-DGA-03	VF045731.D	Vial B	Ok
16	G4085-03	SP-001-GRAB	VF045732.D	Vial A	Ok
17	G4034-01	CWC-1-20151014	VF045733.D	Vial A	Ok
18	VF1022SBSD01	VF1022SBSD01	VF045734.D	surrogate fail,	Not Ok
19	VSTDCCC050	VSTDCCC050EC	VF045735.D		Ok

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LAB CHRONICLE

OrderID:	G4046	**OrderDate:**	10/15/2015 11:06:06 AM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4046-01	**GOODLUCK902**	**SOIL**			**10/14/15**			**10/14/15**
			VOC-TCLVOA-10	8260C			10/20/15	
G4046-01RE	**GOODLUCK902RE**	**SOIL**			**10/14/15**			**10/14/15**
			VOC-TCLVOA-10	8260C			10/21/15	
G4046-02	**GOODLUCK58**	**SOIL**			**10/14/15**			**10/14/15**
			VOC-TCLVOA-10	8260C			10/20/15	
G4046-02RE	**GOODLUCK58RE**	**SOIL**			**10/14/15**			**10/14/15**
			VOC-TCLVOA-10	8260C			10/21/15	
G4046-04	**MANAHAWKEN112**	**SOIL**			**10/14/15**			**10/14/15**
			VOC-TCLVOA-10	8260C			10/20/15	
G4046-04RE	**MANAHAWKEN112RE**	**SOIL**			**10/14/15**			**10/14/15**
			VOC-TCLVOA-10	8260C			10/21/15	

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :	**GOODLUCKINSULATION**								
G4046-03	GOODLUCKINSULATI(	SOIL	Naphthalene	736,400.000		6600	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	2-Methylnaphthalene	281,900.000		4800	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	1,1-Biphenyl	54,500.000	J	7200	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Acenaphthene	1,196,200.000		5400	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Dibenzofuran	683,000.000		7400	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Fluorene	1,125,900.000		7200	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Phenanthrene	5,109,700.000	E	5100	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Anthracene	1,795,600.000	E	3900	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Carbazole	1,216,400.000		4200	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Fluoranthene	5,682,300.000	E	3800	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Pyrene	6,934,100.000	E	4600	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Benzo(a)anthracene	3,282,300.000	E	9100	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Chrysene	4,249,300.000	E	8600	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Bis(2-ethylhexyl)phthalate	17,166,900.000	E	6700	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Di-n-octyl phthalate	227,800.000		2200	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Benzo(b)fluoranthene	2,954,900.000	E	6200	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Benzo(k)fluoranthene	1,262,300.000		9000	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Benzo(a)pyrene	2,363,100.000	E	4100	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Indeno(1,2,3-cd)pyrene	2,213,500.000	E	6300	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Dibenzo(a,h)anthracene	444,200.000		5500	19000	188600	ug/Kg
G4046-03	GOODLUCKINSULATI(	SOIL	Benzo(g,h,i)perylene	1,339,200.000		7700	19000	188600	ug/Kg
			Total Svoc :	**60,319,500.00**					
			Total Concentration:	**60,319,500.00**					
Client ID :	**GOODLUCKINSULATIONDL**								
G4046-03DL	GOODLUCKINSULATI(	SOIL	Naphthalene	914,300.000	JD	131400	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Acenaphthene	1,725,700.000	JD	107400	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Dibenzofuran	815,200.000	JD	148600	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Fluorene	1,508,600.000	JD	144000	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Phenanthrene	9,215,200.000	D	102900	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Anthracene	2,575,200.000	JD	77700	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Carbazole	1,752,400.000	JD	83400	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Fluoranthene	9,481,900.000	D	76600	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Pyrene	8,845,700.000	D	91400	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Benzo(a)anthracene	4,960,000.000	D	181700	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Chrysene	3,828,600.000	D	172600	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Bis(2-ethylhexyl)phthalate	37,081,900.000	ED	134900	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Benzo(b)fluoranthene	4,704,800.000	D	124600	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Benzo(k)fluoranthene	2,053,300.000	JD	179400	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Benzo(a)pyrene	3,725,700.000	JD	82300	381000	3.7714e+	ug/Kg

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
G4046-03DL	GOODLUCKINSULATI(	SOIL	Indeno(1,2,3-cd)pyrene	2,262,900.000	JD	126900	381000	3.7714e+	ug/Kg
G4046-03DL	GOODLUCKINSULATI(	SOIL	Benzo(g,h,i)perylene	1,984,800.000	JD	154300	381000	3.7714e+	ug/Kg
			Total Svoc :	**97,436,200.00**					
			Total Concentration:	**97,436,200.00**					
Client ID :	**GOODLUCKINSULATIONDL2**								
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Phenanthrene	9,142,900.000	JD	257100	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Anthracene	2,400,000.000	JD	194300	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Fluoranthene	8,761,900.000	JD	191400	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Pyrene	7,857,100.000	JD	228600	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Benzo(a)anthracene	4,533,300.000	JD	454300	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Chrysene	3,828,600.000	JD	431400	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Bis(2-ethylhexyl)phthalate	35,304,800.000	D	337100	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Benzo(b)fluoranthene	4,057,100.000	JD	311400	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Benzo(k)fluoranthene	1,923,800.000	JD	448600	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Benzo(a)pyrene	3,381,000.000	JD	205700	952400	9.4286e+	ug/Kg
G4046-03DL2	GOODLUCKINSULATI(	SOIL	Indeno(1,2,3-cd)pyrene	2,066,700.000	JD	317100	952400	9.4286e+	ug/Kg
			Total Svoc :	**83,257,200.00**					
			Total Concentration:	**83,257,200.00**					
Client ID :	**MANAHAWKENINSULATION**								
G4046-05	MANAHAWKENINSUL	SOIL	Naphthalene	105,400.000	J	6700	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	2-Methylnaphthalene	47,200.000	J	4900	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Acenaphthene	431,700.000		5500	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Dibenzofuran	139,600.000	J	7600	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Fluorene	362,700.000		7300	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Phenanthrene	4,667,400.000	E	5200	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Anthracene	1,044,700.000		4000	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Carbazole	1,141,000.000		4300	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Fluoranthene	6,371,100.000	E	3900	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Pyrene	6,028,400.000	E	4700	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Benzo(a)anthracene	4,323,100.000	E	9300	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Chrysene	4,088,000.000	E	8800	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Bis(2-ethylhexyl)phthalate	2,706,200.000	E	6900	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Di-n-octyl phthalate	2,871,100.000	E	2200	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Benzo(b)fluoranthene	3,542,500.000	E	6300	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Benzo(k)fluoranthene	1,702,700.000	E	9100	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Benzo(a)pyrene	2,647,000.000	E	4200	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Indeno(1,2,3-cd)pyrene	2,290,700.000	E	6500	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Dibenzo(a,h)anthracene	479,800.000		5600	19400	192200	ug/Kg
G4046-05	MANAHAWKENINSUL	SOIL	Benzo(g,h,i)perylene	1,716,500.000	E	7900	19400	192200	ug/Kg
			Total Svoc :	**46,706,800.00**					
			Total Concentration:	**46,706,800.00**					

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :	**MANAHAWKENINSULATIONDL**								
G4046-05DL	MANAHAWKENINSUL	SOIL	Phenanthrene	7,937,900.000	D	104900	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Anthracene	1,607,800.000	JD	79200	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Carbazole	1,464,100.000	JD	85000	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Fluoranthene	14,003,900.000	D	78100	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Pyrene	12,605,800.000	D	93200	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Benzo(a)anthracene	6,656,300.000	D	185200	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Chrysene	5,844,700.000	D	175900	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Benzo(b)fluoranthene	5,883,500.000	D	127000	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Benzo(k)fluoranthene	3,363,100.000	JD	182900	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Benzo(a)pyrene	4,656,300.000	D	83900	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Indeno(1,2,3-cd)pyrene	3,029,100.000	JD	129300	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Dibenzo(a,h)anthracene	788,400.000	JD	111800	388300	3.8447e+	ug/Kg
G4046-05DL	MANAHAWKENINSUL	SOIL	Benzo(g,h,i)perylene	2,831,100.000	JD	157300	388300	3.8447e+	ug/Kg
			Total Svoc :	**70,672,000.00**					
			Total Concentration:	**70,672,000.00**					

SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-03	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082338.D	20	10/16/15 16:15	10/16/15 21:10	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	19000	U	9900	19000	188600	ug/Kg
108-95-2	Phenol	19000	U	4400	19000	188600	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	19000	U	9100	19000	188600	ug/Kg
95-57-8	2-Chlorophenol	19000	U	10100	19000	188600	ug/Kg
95-48-7	2-Methylphenol	19000	U	10300	19000	188600	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	19000	U	7900	19000	188600	ug/Kg
98-86-2	Acetophenone	19000	U	5800	19000	188600	ug/Kg
65794-96-9	3+4-Methylphenols	19000	U	9900	19000	188600	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	19000	U	9600	19000	188600	ug/Kg
67-72-1	Hexachloroethane	19000	U	8500	19000	188600	ug/Kg
98-95-3	Nitrobenzene	19000	U	7200	19000	188600	ug/Kg
78-59-1	Isophorone	19000	U	6300	19000	188600	ug/Kg
88-75-5	2-Nitrophenol	19000	U	9200	19000	188600	ug/Kg
105-67-9	2,4-Dimethylphenol	19000	U	10800	19000	188600	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	19000	U	11000	19000	188600	ug/Kg
120-83-2	2,4-Dichlorophenol	19000	U	7300	19000	188600	ug/Kg
91-20-3	Naphthalene	736400		6600	19000	188600	ug/Kg
106-47-8	4-Chloroaniline	19000	U	13400	19000	188600	ug/Kg
87-68-3	Hexachlorobutadiene	19000	U	6900	19000	188600	ug/Kg
105-60-2	Caprolactam	38100	U	8900	38100	188600	ug/Kg
59-50-7	4-Chloro-3-methylphenol	19000	U	8500	19000	188600	ug/Kg
91-57-6	2-Methylnaphthalene	281900		4800	19000	188600	ug/Kg
77-47-4	Hexachlorocyclopentadiene	19000	U	4600	19000	188600	ug/Kg
88-06-2	2,4,6-Trichlorophenol	19000	U	5800	19000	188600	ug/Kg
95-95-4	2,4,5-Trichlorophenol	19000	U	13400	19000	188600	ug/Kg
92-52-4	1,1-Biphenyl	54500	J	7200	19000	188600	ug/Kg
91-58-7	2-Chloronaphthalene	19000	U	4300	19000	188600	ug/Kg
88-74-4	2-Nitroaniline	19000	U	8500	19000	188600	ug/Kg
131-11-3	Dimethylphthalate	19000	U	5100	19000	188600	ug/Kg
208-96-8	Acenaphthylene	19000	U	4800	19000	188600	ug/Kg
606-20-2	2,6-Dinitrotoluene	19000	U	7800	19000	188600	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-03	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082338.D	20	10/16/15 16:15	10/16/15 21:10	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	38100	U	12200	38100	188600	ug/Kg
83-32-9	Acenaphthene	1196200		5400	19000	188600	ug/Kg
51-28-5	2,4-Dinitrophenol	152400	U	19400	152400	188600	ug/Kg
100-02-7	4-Nitrophenol	95200	U	35400	95200	188600	ug/Kg
132-64-9	Dibenzofuran	683000		7400	19000	188600	ug/Kg
121-14-2	2,4-Dinitrotoluene	19000	U	5700	19000	188600	ug/Kg
84-66-2	Diethylphthalate	19000	U	3000	19000	188600	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	19000	U	10300	19000	188600	ug/Kg
86-73-7	Fluorene	1125900		7200	19000	188600	ug/Kg
100-01-6	4-Nitroaniline	38100	U	24800	38100	188600	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	95200	U	10900	95200	188600	ug/Kg
86-30-6	n-Nitrosodiphenylamine	19000	U	4600	19000	188600	ug/Kg
101-55-3	4-Bromophenyl-phenylether	19000	U	3700	19000	188600	ug/Kg
118-74-1	Hexachlorobenzene	19000	U	7800	19000	188600	ug/Kg
1912-24-9	Atrazine	19000	U	10100	19000	188600	ug/Kg
87-86-5	Pentachlorophenol	19000	U	13000	19000	188600	ug/Kg
85-01-8	Phenanthrene	5109700	E	5100	19000	188600	ug/Kg
120-12-7	Anthracene	1795600	E	3900	19000	188600	ug/Kg
86-74-8	Carbazole	1216400		4200	19000	188600	ug/Kg
84-74-2	Di-n-butylphthalate	19000	U	15000	19000	188600	ug/Kg
206-44-0	Fluoranthene	5682300	E	3800	19000	188600	ug/Kg
129-00-0	Pyrene	6934100	E	4600	19000	188600	ug/Kg
85-68-7	Butylbenzylphthalate	19000	U	9100	19000	188600	ug/Kg
91-94-1	3,3-Dichlorobenzidine	19000	U	12200	19000	188600	ug/Kg
56-55-3	Benzo(a)anthracene	3282300	E	9100	19000	188600	ug/Kg
218-01-9	Chrysene	4249300	E	8600	19000	188600	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	17166900	E	6700	19000	188600	ug/Kg
117-84-0	Di-n-octyl phthalate	227800		2200	19000	188600	ug/Kg
205-99-2	Benzo(b)fluoranthene	2954900	E	6200	19000	188600	ug/Kg
207-08-9	Benzo(k)fluoranthene	1262300		9000	19000	188600	ug/Kg
50-32-8	Benzo(a)pyrene	2363100	E	4100	19000	188600	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	2213500	E	6300	19000	188600	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	444200		5500	19000	188600	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-03	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082338.D	20	10/16/15 16:15	10/16/15 21:10	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1339200		7700	19000	188600	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	19000	U	7500	19000	188600	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	19000	U	7500	19000	188600	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	95.8		28 - 127		64%	SPK: 150
13127-88-3	Phenol-d6	110		34 - 127		75%	SPK: 150
4165-60-0	Nitrobenzene-d5	55.2		31 - 132		55%	SPK: 100
321-60-8	2-Fluorobiphenyl	75.6		39 - 123		76%	SPK: 100
118-79-6	2,4,6-Tribromophenol	100		30 - 133		68%	SPK: 150
1718-51-0	Terphenyl-d14	140	*	37 - 115		137%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	51934	6.93				
1146-65-2	Naphthalene-d8	246864	8.21				
15067-26-2	Acenaphthene-d10	130092	9.95				
1517-22-2	Phenanthrene-d10	241981	11.45				
1719-03-5	Chrysene-d12	134970	14.17				
1520-96-3	Perylene-d12	210864	15.76				
TENTATIVE IDENTIFIED COMPOUNDS							
creosote	creosote	19000	U			0	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATIONDL	SDG No.:	G4046
Lab Sample ID:	G4046-03DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082390.D	400	10/16/15 16:15	10/20/15 08:51	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	381000	UD	198900	381000	3771400	ug/Kg
108-95-2	Phenol	381000	UD	88000	381000	3771400	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	381000	UD	182900	381000	3771400	ug/Kg
95-57-8	2-Chlorophenol	381000	UD	201100	381000	3771400	ug/Kg
95-48-7	2-Methylphenol	381000	UD	206900	381000	3771400	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	381000	UD	157700	381000	3771400	ug/Kg
98-86-2	Acetophenone	381000	UD	116600	381000	3771400	ug/Kg
65794-96-9	3+4-Methylphenols	381000	UD	197700	381000	3771400	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	381000	UD	192000	381000	3771400	ug/Kg
67-72-1	Hexachloroethane	381000	UD	170300	381000	3771400	ug/Kg
98-95-3	Nitrobenzene	381000	UD	144000	381000	3771400	ug/Kg
78-59-1	Isophorone	381000	UD	125700	381000	3771400	ug/Kg
88-75-5	2-Nitrophenol	381000	UD	184000	381000	3771400	ug/Kg
105-67-9	2,4-Dimethylphenol	381000	UD	216000	381000	3771400	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	381000	UD	219400	381000	3771400	ug/Kg
120-83-2	2,4-Dichlorophenol	381000	UD	145100	381000	3771400	ug/Kg
91-20-3	Naphthalene	914300	JD	131400	381000	3771400	ug/Kg
106-47-8	4-Chloroaniline	381000	UD	268600	381000	3771400	ug/Kg
87-68-3	Hexachlorobutadiene	381000	UD	138300	381000	3771400	ug/Kg
105-60-2	Caprolactam	761900	UD	177100	761900	3771400	ug/Kg
59-50-7	4-Chloro-3-methylphenol	381000	UD	169100	381000	3771400	ug/Kg
91-57-6	2-Methylnaphthalene	381000	UD	96000	381000	3771400	ug/Kg
77-47-4	Hexachlorocyclopentadiene	381000	UD	92600	381000	3771400	ug/Kg
88-06-2	2,4,6-Trichlorophenol	381000	UD	116600	381000	3771400	ug/Kg
95-95-4	2,4,5-Trichlorophenol	381000	UD	267400	381000	3771400	ug/Kg
92-52-4	1,1-Biphenyl	380900	UD	144000	380900	3771400	ug/Kg
91-58-7	2-Chloronaphthalene	381000	UD	86900	381000	3771400	ug/Kg
88-74-4	2-Nitroaniline	381000	UD	169100	381000	3771400	ug/Kg
131-11-3	Dimethylphthalate	381000	UD	102900	381000	3771400	ug/Kg
208-96-8	Acenaphthylene	381000	UD	96000	381000	3771400	ug/Kg
606-20-2	2,6-Dinitrotoluene	381000	UD	155400	381000	3771400	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATIONDL	SDG No.:	G4046
Lab Sample ID:	G4046-03DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082390.D	400	10/16/15 16:15	10/20/15 08:51	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	761900	UD	244600	761900	3771400	ug/Kg
83-32-9	Acenaphthene	1725700	JD	107400	381000	3771400	ug/Kg
51-28-5	2,4-Dinitrophenol	3047600	UD	387400	3047600	3771400	ug/Kg
100-02-7	4-Nitrophenol	1904800	UD	707400	1904800	3771400	ug/Kg
132-64-9	Dibenzofuran	815200	JD	148600	381000	3771400	ug/Kg
121-14-2	2,4-Dinitrotoluene	381000	UD	114300	381000	3771400	ug/Kg
84-66-2	Diethylphthalate	381000	UD	59400	381000	3771400	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	381000	UD	206900	381000	3771400	ug/Kg
86-73-7	Fluorene	1508600	JD	144000	381000	3771400	ug/Kg
100-01-6	4-Nitroaniline	761900	UD	496000	761900	3771400	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1904800	UD	218300	1904800	3771400	ug/Kg
86-30-6	n-Nitrosodiphenylamine	381000	UD	91400	381000	3771400	ug/Kg
101-55-3	4-Bromophenyl-phenylether	381000	UD	74300	381000	3771400	ug/Kg
118-74-1	Hexachlorobenzene	381000	UD	155400	381000	3771400	ug/Kg
1912-24-9	Atrazine	381000	UD	201100	381000	3771400	ug/Kg
87-86-5	Pentachlorophenol	381000	UD	260600	381000	3771400	ug/Kg
85-01-8	Phenanthrene	9215200	D	102900	381000	3771400	ug/Kg
120-12-7	Anthracene	2575200	JD	77700	381000	3771400	ug/Kg
86-74-8	Carbazole	1752400	JD	83400	381000	3771400	ug/Kg
84-74-2	Di-n-butylphthalate	381000	UD	299400	381000	3771400	ug/Kg
206-44-0	Fluoranthene	9481900	D	76600	381000	3771400	ug/Kg
129-00-0	Pyrene	8845700	D	91400	381000	3771400	ug/Kg
85-68-7	Butylbenzylphthalate	381000	UD	182900	381000	3771400	ug/Kg
91-94-1	3,3-Dichlorobenzidine	381000	UD	244600	381000	3771400	ug/Kg
56-55-3	Benzo(a)anthracene	4960000	D	181700	381000	3771400	ug/Kg
218-01-9	Chrysene	3828600	D	172600	381000	3771400	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	37081900	ED	134900	381000	3771400	ug/Kg
117-84-0	Di-n-octyl phthalate	381000	UD	43400	381000	3771400	ug/Kg
205-99-2	Benzo(b)fluoranthene	4704800	D	124600	381000	3771400	ug/Kg
207-08-9	Benzo(k)fluoranthene	2053300	JD	179400	381000	3771400	ug/Kg
50-32-8	Benzo(a)pyrene	3725700	JD	82300	381000	3771400	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	2262900	JD	126900	381000	3771400	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	381000	UD	109700	381000	3771400	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATIONDL	SDG No.:	G4046
Lab Sample ID:	G4046-03DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082390.D	400	10/16/15 16:15	10/20/15 08:51	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1984800	JD	154300	381000	3771400	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	381000	UD	149700	381000	3771400	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	381000	UD	149700	381000	3771400	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	0	*	28 - 127		0%	SPK: 150
13127-88-3	Phenol-d6	0	*	34 - 127		0%	SPK: 150
4165-60-0	Nitrobenzene-d5	0	*	31 - 132		0%	SPK: 100
321-60-8	2-Fluorobiphenyl	88		39 - 123		88%	SPK: 100
118-79-6	2,4,6-Tribromophenol	0	*	30 - 133		0%	SPK: 150
1718-51-0	Terphenyl-d14	100		37 - 115		104%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	82165	6.8				
1146-65-2	Naphthalene-d8	348539	8.09				
15067-26-2	Acenaphthene-d10	166465	9.85				
1517-22-2	Phenanthrene-d10	291278	11.34				
1719-03-5	Chrysene-d12	217145	14.02				
1520-96-3	Perylene-d12	211252	15.54				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATIONDL2	SDG No.:	G4046
Lab Sample ID:	G4046-03DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082391.D	1000	10/16/15 16:15	10/20/15 09:19	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	952400	UD	497100	952400	9428600	ug/Kg
108-95-2	Phenol	952400	UD	220000	952400	9428600	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	952400	UD	457100	952400	9428600	ug/Kg
95-57-8	2-Chlorophenol	952400	UD	502900	952400	9428600	ug/Kg
95-48-7	2-Methylphenol	952400	UD	517100	952400	9428600	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	952400	UD	394300	952400	9428600	ug/Kg
98-86-2	Acetophenone	952400	UD	291400	952400	9428600	ug/Kg
65794-96-9	3+4-Methylphenols	952400	UD	494300	952400	9428600	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	952400	UD	480000	952400	9428600	ug/Kg
67-72-1	Hexachloroethane	952400	UD	425700	952400	9428600	ug/Kg
98-95-3	Nitrobenzene	952400	UD	360000	952400	9428600	ug/Kg
78-59-1	Isophorone	952400	UD	314300	952400	9428600	ug/Kg
88-75-5	2-Nitrophenol	952400	UD	460000	952400	9428600	ug/Kg
105-67-9	2,4-Dimethylphenol	952400	UD	540000	952400	9428600	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	952400	UD	548600	952400	9428600	ug/Kg
120-83-2	2,4-Dichlorophenol	952400	UD	362900	952400	9428600	ug/Kg
91-20-3	Naphthalene	952400	UD	328600	952400	9428600	ug/Kg
106-47-8	4-Chloroaniline	952400	UD	671400	952400	9428600	ug/Kg
87-68-3	Hexachlorobutadiene	952400	UD	345700	952400	9428600	ug/Kg
105-60-2	Caprolactam	1904800	UD	442900	1904800	9428600	ug/Kg
59-50-7	4-Chloro-3-methylphenol	952400	UD	422900	952400	9428600	ug/Kg
91-57-6	2-Methylnaphthalene	952400	UD	240000	952400	9428600	ug/Kg
77-47-4	Hexachlorocyclopentadiene	952400	UD	231400	952400	9428600	ug/Kg
88-06-2	2,4,6-Trichlorophenol	952400	UD	291400	952400	9428600	ug/Kg
95-95-4	2,4,5-Trichlorophenol	952400	UD	668600	952400	9428600	ug/Kg
92-52-4	1,1-Biphenyl	952300	UD	360000	952300	9428600	ug/Kg
91-58-7	2-Chloronaphthalene	952400	UD	217100	952400	9428600	ug/Kg
88-74-4	2-Nitroaniline	952400	UD	422900	952400	9428600	ug/Kg
131-11-3	Dimethylphthalate	952400	UD	257100	952400	9428600	ug/Kg
208-96-8	Acenaphthylene	952400	UD	240000	952400	9428600	ug/Kg
606-20-2	2,6-Dinitrotoluene	952400	UD	388600	952400	9428600	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATIONDL2	SDG No.:	G4046
Lab Sample ID:	G4046-03DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082391.D	1000	10/16/15 16:15	10/20/15 09:19	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	1904800	UD	611400	1904800	9428600	ug/Kg
83-32-9	Acenaphthene	952400	UD	268600	952400	9428600	ug/Kg
51-28-5	2,4-Dinitrophenol	7619100	UD	968600	7619100	9428600	ug/Kg
100-02-7	4-Nitrophenol	4761900	UD	1768600	4761900	9428600	ug/Kg
132-64-9	Dibenzofuran	952400	UD	371400	952400	9428600	ug/Kg
121-14-2	2,4-Dinitrotoluene	952400	UD	285700	952400	9428600	ug/Kg
84-66-2	Diethylphthalate	952400	UD	148600	952400	9428600	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	952400	UD	517100	952400	9428600	ug/Kg
86-73-7	Fluorene	952400	UD	360000	952400	9428600	ug/Kg
100-01-6	4-Nitroaniline	1904800	UD	1240000	1904800	9428600	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	4761900	UD	545700	4761900	9428600	ug/Kg
86-30-6	n-Nitrosodiphenylamine	952400	UD	228600	952400	9428600	ug/Kg
101-55-3	4-Bromophenyl-phenylether	952400	UD	185700	952400	9428600	ug/Kg
118-74-1	Hexachlorobenzene	952400	UD	388600	952400	9428600	ug/Kg
1912-24-9	Atrazine	952400	UD	502900	952400	9428600	ug/Kg
87-86-5	Pentachlorophenol	952400	UD	651400	952400	9428600	ug/Kg
85-01-8	Phenanthrene	9142900	JD	257100	952400	9428600	ug/Kg
120-12-7	Anthracene	2400000	JD	194300	952400	9428600	ug/Kg
86-74-8	Carbazole	952400	UD	208600	952400	9428600	ug/Kg
84-74-2	Di-n-butylphthalate	952400	UD	748600	952400	9428600	ug/Kg
206-44-0	Fluoranthene	8761900	JD	191400	952400	9428600	ug/Kg
129-00-0	Pyrene	7857100	JD	228600	952400	9428600	ug/Kg
85-68-7	Butylbenzylphthalate	952400	UD	457100	952400	9428600	ug/Kg
91-94-1	3,3-Dichlorobenzidine	952400	UD	611400	952400	9428600	ug/Kg
56-55-3	Benzo(a)anthracene	4533300	JD	454300	952400	9428600	ug/Kg
218-01-9	Chrysene	3828600	JD	431400	952400	9428600	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	35304800	D	337100	952400	9428600	ug/Kg
117-84-0	Di-n-octyl phthalate	952400	UD	108600	952400	9428600	ug/Kg
205-99-2	Benzo(b)fluoranthene	4057100	JD	311400	952400	9428600	ug/Kg
207-08-9	Benzo(k)fluoranthene	1923800	JD	448600	952400	9428600	ug/Kg
50-32-8	Benzo(a)pyrene	3381000	JD	205700	952400	9428600	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	2066700	JD	317100	952400	9428600	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	952400	UD	274300	952400	9428600	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATIONDL2	SDG No.:	G4046
Lab Sample ID:	G4046-03DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082391.D	1000	10/16/15 16:15	10/20/15 09:19	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	952400	UD	385700	952400	9428600	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	952400	UD	374300	952400	9428600	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	952400	UD	374300	952400	9428600	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	0	*	28 - 127		0%	SPK: 150
13127-88-3	Phenol-d6	0	*	34 - 127		0%	SPK: 150
4165-60-0	Nitrobenzene-d5	0	*	31 - 132		0%	SPK: 100
321-60-8	2-Fluorobiphenyl	70		39 - 123		70%	SPK: 100
118-79-6	2,4,6-Tribromophenol	0	*	30 - 133		0%	SPK: 150
1718-51-0	Terphenyl-d14	90		37 - 115		90%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	81714	6.8				
1146-65-2	Naphthalene-d8	341420	8.09				
15067-26-2	Acenaphthene-d10	166948	9.85				
1517-22-2	Phenanthrene-d10	283191	11.34				
1719-03-5	Chrysene-d12	216902	14.02				
1520-96-3	Perylene-d12	212585	15.53				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKENINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082340.D	20	10/16/15 16:15	10/16/15 22:07	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	19400	U	10100	19400	192200	ug/Kg
108-95-2	Phenol	19400	U	4500	19400	192200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	19400	U	9300	19400	192200	ug/Kg
95-57-8	2-Chlorophenol	19400	U	10300	19400	192200	ug/Kg
95-48-7	2-Methylphenol	19400	U	10500	19400	192200	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	19400	U	8000	19400	192200	ug/Kg
98-86-2	Acetophenone	19400	U	5900	19400	192200	ug/Kg
65794-96-9	3+4-Methylphenols	19400	U	10100	19400	192200	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	19400	U	9800	19400	192200	ug/Kg
67-72-1	Hexachloroethane	19400	U	8700	19400	192200	ug/Kg
98-95-3	Nitrobenzene	19400	U	7300	19400	192200	ug/Kg
78-59-1	Isophorone	19400	U	6400	19400	192200	ug/Kg
88-75-5	2-Nitrophenol	19400	U	9400	19400	192200	ug/Kg
105-67-9	2,4-Dimethylphenol	19400	U	11000	19400	192200	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	19400	U	11200	19400	192200	ug/Kg
120-83-2	2,4-Dichlorophenol	19400	U	7400	19400	192200	ug/Kg
91-20-3	Naphthalene	105400	J	6700	19400	192200	ug/Kg
106-47-8	4-Chloroaniline	19400	U	13700	19400	192200	ug/Kg
87-68-3	Hexachlorobutadiene	19400	U	7000	19400	192200	ug/Kg
105-60-2	Caprolactam	38800	U	9000	38800	192200	ug/Kg
59-50-7	4-Chloro-3-methylphenol	19400	U	8600	19400	192200	ug/Kg
91-57-6	2-Methylnaphthalene	47200	J	4900	19400	192200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	19400	U	4700	19400	192200	ug/Kg
88-06-2	2,4,6-Trichlorophenol	19400	U	5900	19400	192200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	19400	U	13600	19400	192200	ug/Kg
92-52-4	1,1-Biphenyl	19400	U	7300	19400	192200	ug/Kg
91-58-7	2-Chloronaphthalene	19400	U	4400	19400	192200	ug/Kg
88-74-4	2-Nitroaniline	19400	U	8600	19400	192200	ug/Kg
131-11-3	Dimethylphthalate	19400	U	5200	19400	192200	ug/Kg
208-96-8	Acenaphthylene	19400	U	4900	19400	192200	ug/Kg
606-20-2	2,6-Dinitrotoluene	19400	U	7900	19400	192200	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKENINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082340.D	20	10/16/15 16:15	10/16/15 22:07	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	38800	U	12500	38800	192200	ug/Kg
83-32-9	Acenaphthene	431700		5500	19400	192200	ug/Kg
51-28-5	2,4-Dinitrophenol	155300	U	19700	155300	192200	ug/Kg
100-02-7	4-Nitrophenol	97100	U	36100	97100	192200	ug/Kg
132-64-9	Dibenzofuran	139600	J	7600	19400	192200	ug/Kg
121-14-2	2,4-Dinitrotoluene	19400	U	5800	19400	192200	ug/Kg
84-66-2	Diethylphthalate	19400	U	3000	19400	192200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	19400	U	10500	19400	192200	ug/Kg
86-73-7	Fluorene	362700		7300	19400	192200	ug/Kg
100-01-6	4-Nitroaniline	38800	U	25300	38800	192200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	97100	U	11100	97100	192200	ug/Kg
86-30-6	n-Nitrosodiphenylamine	19400	U	4700	19400	192200	ug/Kg
101-55-3	4-Bromophenyl-phenylether	19400	U	3800	19400	192200	ug/Kg
118-74-1	Hexachlorobenzene	19400	U	7900	19400	192200	ug/Kg
1912-24-9	Atrazine	19400	U	10300	19400	192200	ug/Kg
87-86-5	Pentachlorophenol	19400	U	13300	19400	192200	ug/Kg
85-01-8	Phenanthrene	4667400	E	5200	19400	192200	ug/Kg
120-12-7	Anthracene	1044700		4000	19400	192200	ug/Kg
86-74-8	Carbazole	1141000		4300	19400	192200	ug/Kg
84-74-2	Di-n-butylphthalate	19400	U	15300	19400	192200	ug/Kg
206-44-0	Fluoranthene	6371100	E	3900	19400	192200	ug/Kg
129-00-0	Pyrene	6028400	E	4700	19400	192200	ug/Kg
85-68-7	Butylbenzylphthalate	19400	U	9300	19400	192200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	19400	U	12500	19400	192200	ug/Kg
56-55-3	Benzo(a)anthracene	4323100	E	9300	19400	192200	ug/Kg
218-01-9	Chrysene	4088000	E	8800	19400	192200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2706200	E	6900	19400	192200	ug/Kg
117-84-0	Di-n-octyl phthalate	2871100	E	2200	19400	192200	ug/Kg
205-99-2	Benzo(b)fluoranthene	3542500	E	6300	19400	192200	ug/Kg
207-08-9	Benzo(k)fluoranthene	1702700	E	9100	19400	192200	ug/Kg
50-32-8	Benzo(a)pyrene	2647000	E	4200	19400	192200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	2290700	E	6500	19400	192200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	479800		5600	19400	192200	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKENINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082340.D	20	10/16/15 16:15	10/16/15 22:07	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1716500	E	7900	19400	192200	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	19400	U	7600	19400	192200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	19400	U	7600	19400	192200	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	76		28 - 127		51%	SPK: 150
13127-88-3	Phenol-d6	84		34 - 127		56%	SPK: 150
4165-60-0	Nitrobenzene-d5	39.6		31 - 132		40%	SPK: 100
321-60-8	2-Fluorobiphenyl	60.8		39 - 123		61%	SPK: 100
118-79-6	2,4,6-Tribromophenol	77.6		30 - 133		52%	SPK: 150
1718-51-0	Terphenyl-d14	89.2		37 - 115		89%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	50949	6.93				
1146-65-2	Naphthalene-d8	243756	8.21				
15067-26-2	Acenaphthene-d10	129905	9.95				
1517-22-2	Phenanthrene-d10	251052	11.45				
1719-03-5	Chrysene-d12	193227	14.14				
1520-96-3	Perylene-d12	228738	15.67				
TENTATIVE IDENTIFIED COMPOUNDS							
creosote	creosote	19000	U			0	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKENINSULATIONDL	SDG No.:	G4046
Lab Sample ID:	G4046-05DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082394.D	400	10/16/15 16:15	10/20/15 10:46	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	388300	UD	202700	388300	3844700	ug/Kg
108-95-2	Phenol	388300	UD	89700	388300	3844700	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	388300	UD	186400	388300	3844700	ug/Kg
95-57-8	2-Chlorophenol	388300	UD	205000	388300	3844700	ug/Kg
95-48-7	2-Methylphenol	388300	UD	210900	388300	3844700	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	388300	UD	160800	388300	3844700	ug/Kg
98-86-2	Acetophenone	388300	UD	118800	388300	3844700	ug/Kg
65794-96-9	3+4-Methylphenols	388300	UD	201600	388300	3844700	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	388300	UD	195700	388300	3844700	ug/Kg
67-72-1	Hexachloroethane	388300	UD	173600	388300	3844700	ug/Kg
98-95-3	Nitrobenzene	388300	UD	146800	388300	3844700	ug/Kg
78-59-1	Isophorone	388300	UD	128200	388300	3844700	ug/Kg
88-75-5	2-Nitrophenol	388300	UD	187600	388300	3844700	ug/Kg
105-67-9	2,4-Dimethylphenol	388300	UD	220200	388300	3844700	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	388300	UD	223700	388300	3844700	ug/Kg
120-83-2	2,4-Dichlorophenol	388300	UD	148000	388300	3844700	ug/Kg
91-20-3	Naphthalene	388300	UD	134000	388300	3844700	ug/Kg
106-47-8	4-Chloroaniline	388300	UD	273800	388300	3844700	ug/Kg
87-68-3	Hexachlorobutadiene	388300	UD	141000	388300	3844700	ug/Kg
105-60-2	Caprolactam	776700	UD	180600	776700	3844700	ug/Kg
59-50-7	4-Chloro-3-methylphenol	388300	UD	172400	388300	3844700	ug/Kg
91-57-6	2-Methylnaphthalene	388300	UD	97900	388300	3844700	ug/Kg
77-47-4	Hexachlorocyclopentadiene	388300	UD	94400	388300	3844700	ug/Kg
88-06-2	2,4,6-Trichlorophenol	388300	UD	118800	388300	3844700	ug/Kg
95-95-4	2,4,5-Trichlorophenol	388300	UD	272600	388300	3844700	ug/Kg
92-52-4	1,1-Biphenyl	388300	UD	146800	388300	3844700	ug/Kg
91-58-7	2-Chloronaphthalene	388300	UD	88500	388300	3844700	ug/Kg
88-74-4	2-Nitroaniline	388300	UD	172400	388300	3844700	ug/Kg
131-11-3	Dimethylphthalate	388300	UD	104900	388300	3844700	ug/Kg
208-96-8	Acenaphthylene	388300	UD	97900	388300	3844700	ug/Kg
606-20-2	2,6-Dinitrotoluene	388300	UD	158400	388300	3844700	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKENINSULATIONDL	SDG No.:	G4046
Lab Sample ID:	G4046-05DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082394.D	400	10/16/15 16:15	10/20/15 10:46	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	776700	UD	249300	776700	3844700	ug/Kg
83-32-9	Acenaphthene	388300	UD	109500	388300	3844700	ug/Kg
51-28-5	2,4-Dinitrophenol	3106800	UD	395000	3106800	3844700	ug/Kg
100-02-7	4-Nitrophenol	1941800	UD	721200	1941800	3844700	ug/Kg
132-64-9	Dibenzofuran	388300	UD	151500	388300	3844700	ug/Kg
121-14-2	2,4-Dinitrotoluene	388300	UD	116500	388300	3844700	ug/Kg
84-66-2	Diethylphthalate	388300	UD	60600	388300	3844700	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	388300	UD	210900	388300	3844700	ug/Kg
86-73-7	Fluorene	388300	UD	146800	388300	3844700	ug/Kg
100-01-6	4-Nitroaniline	776700	UD	505600	776700	3844700	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1941800	UD	222500	1941800	3844700	ug/Kg
86-30-6	n-Nitrosodiphenylamine	388300	UD	93200	388300	3844700	ug/Kg
101-55-3	4-Bromophenyl-phenylether	388300	UD	75700	388300	3844700	ug/Kg
118-74-1	Hexachlorobenzene	388300	UD	158400	388300	3844700	ug/Kg
1912-24-9	Atrazine	388300	UD	205000	388300	3844700	ug/Kg
87-86-5	Pentachlorophenol	388300	UD	265600	388300	3844700	ug/Kg
85-01-8	Phenanthrene	7937900	D	104900	388300	3844700	ug/Kg
120-12-7	Anthracene	1607800	JD	79200	388300	3844700	ug/Kg
86-74-8	Carbazole	1464100	JD	85000	388300	3844700	ug/Kg
84-74-2	Di-n-butylphthalate	388300	UD	305200	388300	3844700	ug/Kg
206-44-0	Fluoranthene	14003900	D	78100	388300	3844700	ug/Kg
129-00-0	Pyrene	12605800	D	93200	388300	3844700	ug/Kg
85-68-7	Butylbenzylphthalate	388300	UD	186400	388300	3844700	ug/Kg
91-94-1	3,3-Dichlorobenzidine	388300	UD	249300	388300	3844700	ug/Kg
56-55-3	Benzo(a)anthracene	6656300	D	185200	388300	3844700	ug/Kg
218-01-9	Chrysene	5844700	D	175900	388300	3844700	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	388300	UD	137500	388300	3844700	ug/Kg
117-84-0	Di-n-octyl phthalate	388300	UD	44300	388300	3844700	ug/Kg
205-99-2	Benzo(b)fluoranthene	5883500	D	127000	388300	3844700	ug/Kg
207-08-9	Benzo(k)fluoranthene	3363100	JD	182900	388300	3844700	ug/Kg
50-32-8	Benzo(a)pyrene	4656300	D	83900	388300	3844700	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	3029100	JD	129300	388300	3844700	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	788400	JD	111800	388300	3844700	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKENINSULATIONDL	SDG No.:	G4046
Lab Sample ID:	G4046-05DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	1.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082394.D	400	10/16/15 16:15	10/20/15 10:46	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	2831100	JD	157300	388300	3844700	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	388300	UD	152600	388300	3844700	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	388300	UD	152600	388300	3844700	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	0	*	28 - 127		0%	SPK: 150
13127-88-3	Phenol-d6	0	*	34 - 127		0%	SPK: 150
4165-60-0	Nitrobenzene-d5	0	*	31 - 132		0%	SPK: 100
321-60-8	2-Fluorobiphenyl	68		39 - 123		68%	SPK: 100
118-79-6	2,4,6-Tribromophenol	0	*	30 - 133		0%	SPK: 150
1718-51-0	Terphenyl-d14	80		37 - 115		80%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	81362	6.8				
1146-65-2	Naphthalene-d8	341341	8.09				
15067-26-2	Acenaphthene-d10	168918	9.85				
1517-22-2	Phenanthrene-d10	290613	11.34				
1719-03-5	Chrysene-d12	217062	14.04				
1520-96-3	Perylene-d12	214693	15.59				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

QC SUMMARY

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Surrogate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
G4046-03	GOODLUCKINSULATIOI	2-Fluorophenol	150	95.80	64		28	127
		Phenol-d6	150	112.80	75		34	127
		Nitrobenzene-d5	100	55.20	55		31	132
		2-Fluorobiphenyl	100	75.60	76		39	123
		2,4,6-Tribromophenol	150	101.60	68		30	133
		Terphenyl-d14	100	137.20	137	*	37	115
G4046-03DL	GOODLUCKINSULATIOI	2-Fluorophenol	150	0.00	0	*	28	127
		Phenol-d6	150	0.00	0	*	34	127
		Nitrobenzene-d5	100	0.00	0	*	31	132
		2-Fluorobiphenyl	100	88.00	88		39	123
		2,4,6-Tribromophenol	150	0.00	0	*	30	133
		Terphenyl-d14	100	104.00	104		37	115
G4046-03DL2	GOODLUCKINSULATIOI	2-Fluorophenol	150	0.00	0	*	28	127
		Phenol-d6	150	0.00	0	*	34	127
		Nitrobenzene-d5	100	0.00	0	*	31	132
		2-Fluorobiphenyl	100	70.00	70		39	123
		2,4,6-Tribromophenol	150	0.00	0	*	30	133
		Terphenyl-d14	100	90.00	90		37	115
G4046-05	MANAHAWKENINSULA	2-Fluorophenol	150	76.00	51		28	127
		Phenol-d6	150	84.00	56		34	127
		Nitrobenzene-d5	100	39.60	40		31	132
		2-Fluorobiphenyl	100	60.80	61		39	123
		2,4,6-Tribromophenol	150	77.60	52		30	133
		Terphenyl-d14	100	89.20	89		37	115
G4046-05DL	MANAHAWKENINSULA	2-Fluorophenol	150	0.00	0	*	28	127
		Phenol-d6	150	0.00	0	*	34	127
		Nitrobenzene-d5	100	0.00	0	*	31	132
		2-Fluorobiphenyl	100	68.00	68		39	123
		2,4,6-Tribromophenol	150	0.00	0	*	30	133
		Terphenyl-d14	100	80.00	80		37	115
G4051-02MS	TK1-1-20151015MS	2-Fluorophenol	150	118.10	79		28	127
		Phenol-d6	150	125.00	83		34	127
		Nitrobenzene-d5	100	73.40	73		31	132
		2-Fluorobiphenyl	100	88.40	88		39	123
		2,4,6-Tribromophenol	150	129.80	87		30	133
		Terphenyl-d14	100	87.20	87		37	115
G4051-03MSD	TK1-1-20151015MSD	2-Fluorophenol	150	135.50	90		28	127
		Phenol-d6	150	145.60	97		34	127
		Nitrobenzene-d5	100	78.00	78		31	132
		2-Fluorobiphenyl	100	96.30	96		39	123
		2,4,6-Tribromophenol	150	150.90	101		30	133
		Terphenyl-d14	100	90.80	91		37	115
PB86144BL	PB86144BL	2-Fluorophenol	150	121.41	81		28	127
		Phenol-d6	150	125.29	84		34	127
		Nitrobenzene-d5	100	80.87	81		31	132
		2-Fluorobiphenyl	100	85.05	85		39	123
		2,4,6-Tribromophenol	150	95.82	64		30	133
		Terphenyl-d14	100	83.19	83		37	115
PB86144BS	PB86144BS	2-Fluorophenol	150	119.60	80		28	127
		Phenol-d6	150	115.01	77		34	127
		Nitrobenzene-d5	100	82.43	82		31	132
		2-Fluorobiphenyl	100	84.16	84		39	123

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Surrogate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
PB86144BS	PB86144BS	2,4,6-Tribromophenol	150	106.71	71		30	133
		Terphenyl-d14	100	72.95	73		37	115

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: G4051-02MS		**Client Sample ID:**	**TK1-1-20151015MS**					**DataFile:**	**BF082328.D**		
Benzaldehyde	1900	0	930	ug/Kg	49				10	105	
Phenol	1900	0	1400	ug/Kg	74				40	115	
bis(2-Chloroethyl)ether	1900	0	1300	ug/Kg	68				48	110	
2-Chlorophenol	1900	0	1400	ug/Kg	74				39	115	
2-Methylphenol	1900	0	1400	ug/Kg	74				48	111	
2,2-oxybis(1-Chloropropane)	1900	0	1600	ug/Kg	84				43	116	
Acetophenone	1900	0	1400	ug/Kg	74				46	122	
3+4-Methylphenols	1900	0	1700	ug/Kg	89				46	115	
N-Nitroso-di-n-propylamine	1900	0	1400	ug/Kg	74				37	128	
Hexachloroethane	1900	0	1400	ug/Kg	74				37	117	
Nitrobenzene	1900	0	1200	ug/Kg	63				45	117	
Isophorone	1900	0	1500	ug/Kg	79				44	121	
2-Nitrophenol	1900	0	970	ug/Kg	51				32	123	
2,4-Dimethylphenol	1900	0	1400	ug/Kg	74				45	118	
bis(2-Chloroethoxy)methane	1900	0	1400	ug/Kg	74				47	117	
2,4-Dichlorophenol	1900	0	1300	ug/Kg	68				37	122	
Naphthalene	1900	0	1600	ug/Kg	84				42	121	
4-Chloroaniline	1900	0	490	ug/Kg	26				10	130	
Hexachlorobutadiene	1900	0	1300	ug/Kg	68				49	111	
Caprolactam	1900	0	1500	ug/Kg	79				26	133	
4-Chloro-3-methylphenol	1900	0	1500	ug/Kg	79				46	115	
2-Methylnaphthalene	1900	0	1600	ug/Kg	84				45	118	
Hexachlorocyclopentadiene	3800	0	3300	ug/Kg	87				10	127	
2,4,6-Trichlorophenol	1900	0	1300	ug/Kg	68				36	122	
2,4,5-Trichlorophenol	1900	0	1400	ug/Kg	74				33	125	
1,1-Biphenyl	1900	0	1400	ug/Kg	74				47	119	
2-Chloronaphthalene	1900	0	1500	ug/Kg	79				52	110	
2-Nitroaniline	1900	0	1200	ug/Kg	63				45	121	
Dimethylphthalate	1900	0	1900	ug/Kg	100				39	127	
Acenaphthylene	1900	0	2100	ug/Kg	111				45	117	
2,6-Dinitrotoluene	1900	0	1200	ug/Kg	63				50	114	
3-Nitroaniline	1900	0	940	ug/Kg	49				12	108	
Acenaphthene	1900	0	1900	ug/Kg	100				45	118	
2,4-Dinitrophenol	3800	0	0	ug/Kg	0	*			10	126	
4-Nitrophenol	3800	0	990	ug/Kg	26				18	141	
Dibenzofuran	1900	0	1900	ug/Kg	100				45	118	
2,4-Dinitrotoluene	1900	0	1400	ug/Kg	74				44	120	
Diethylphthalate	1900	0	1600	ug/Kg	84				50	113	
4-Chlorophenyl-phenylether	1900	0	1500	ug/Kg	79				51	111	
Fluorene	1900	0	2000	ug/Kg	105				41	121	
4-Nitroaniline	1900	0	1100	ug/Kg	58				38	113	
4,6-Dinitro-2-methylphenol	1900	0	320	ug/Kg	17				10	142	
N-Nitrosodiphenylamine	1900	0	1400	ug/Kg	74				45	122	
4-Bromophenyl-phenylether	1900	0	1100	ug/Kg	58				51	114	
Hexachlorobenzene	1900	0	1400	ug/Kg	74				48	114	
Atrazine	1900	0	1500	ug/Kg	79				40	129	
Pentachlorophenol	3800	0	2100	ug/Kg	55				15	145	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Phenanthrene	1900	1200	5800	ug/Kg	242	*			29	138	
Anthracene	1900	0	2600	ug/Kg	137	*			45	120	
Carbazole	1900	0	2000	ug/Kg	105				43	122	
Di-n-butylphthalate	1900	0	1300	ug/Kg	68				51	115	
Fluoranthene	1900	2300	8200	ug/Kg	311	*			33	133	
Pyrene	1900	1900	6600	ug/Kg	247	*			31	135	
Butylbenzylphthalate	1900	0	1300	ug/Kg	68				49	121	
3,3-Dichlorobenzidine	1900	0	700	ug/Kg	37				10	105	
Benzo(a)anthracene	1900	1200	4100	ug/Kg	153	*			35	132	
Chrysene	1900	920	4000	ug/Kg	162	*			34	131	
bis(2-Ethylhexyl)phthalate	1900	0	2600	ug/Kg	137	*			42	127	
Di-n-octyl phthalate	1900	0	1300	ug/Kg	68				50	123	
Benzo(b)fluoranthene	1900	1100	4000	ug/Kg	153	*			35	128	
Benzo(k)fluoranthene	1900	0	3100	ug/Kg	163	*			39	117	
Benzo(a)pyrene	1900	1000	3800	ug/Kg	147	*			35	129	
Indeno(1,2,3-cd)pyrene	1900	810	3200	ug/Kg	126				30	140	
Dibenz(a,h)anthracene	1900	0	1900	ug/Kg	100				18	147	
Benzo(g,h,i)perylene	1900	1000	3800	ug/Kg	147	*			31	132	
1,2,4,5-Tetrachlorobenzene	1900	0	1300	ug/Kg	68				52	122	
2,3,4,6-Tetrachlorophenol	1900	0	1500	ug/Kg	79				52	109	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: G4051-03MSD		**Client Sample ID: TK1-1-20151015MSD**						**DataFile: BF082329.D**			
Benzaldehyde	1900	0	1100	ug/Kg	58		17		10	105	20
Phenol	1900	0	1500	ug/Kg	79		7		40	115	20
bis(2-Chloroethyl)ether	1900	0	1500	ug/Kg	79		15		48	110	20
2-Chlorophenol	1900	0	1500	ug/Kg	79		7		39	115	20
2-Methylphenol	1900	0	1700	ug/Kg	89		18		48	111	20
2,2-oxybis(1-Chloropropane)	1900	0	1800	ug/Kg	95		12		43	116	20
Acetophenone	1900	0	1300	ug/Kg	68		8		46	122	20
3+4-Methylphenols	1900	0	1900	ug/Kg	100		12		46	115	20
N-Nitroso-di-n-propylamine	1900	0	1700	ug/Kg	89		18		37	128	20
Hexachloroethane	1900	0	1500	ug/Kg	79		7		37	117	20
Nitrobenzene	1900	0	1300	ug/Kg	68		8		45	117	20
Isophorone	1900	0	1400	ug/Kg	74		7		44	121	20
2-Nitrophenol	1900	0	1100	ug/Kg	58		13		32	123	20
2,4-Dimethylphenol	1900	0	1400	ug/Kg	74		0		45	118	20
bis(2-Chloroethoxy)methane	1900	0	1200	ug/Kg	63		16		47	117	20
2,4-Dichlorophenol	1900	0	1200	ug/Kg	63		8		37	122	20
Naphthalene	1900	0	1700	ug/Kg	89		6		42	121	20
4-Chloroaniline	1900	0	470	ug/Kg	25		4		10	130	20
Hexachlorobutadiene	1900	0	1300	ug/Kg	68		0		49	111	20
Caprolactam	1900	0	1400	ug/Kg	74		7		26	133	20
4-Chloro-3-methylphenol	1900	0	1500	ug/Kg	79		0		46	115	20
2-Methylnaphthalene	1900	0	1500	ug/Kg	79		6		45	118	20
Hexachlorocyclopentadiene	3800	0	3200	ug/Kg	84		4		10	127	20
2,4,6-Trichlorophenol	1900	0	1500	ug/Kg	79		15		36	122	20
2,4,5-Trichlorophenol	1900	0	1500	ug/Kg	79		7		33	125	20
1,1-Biphenyl	1900	0	1500	ug/Kg	79		7		47	119	20
2-Chloronaphthalene	1900	0	1500	ug/Kg	79		0		52	110	20
2-Nitroaniline	1900	0	1300	ug/Kg	68		8		45	121	20
Dimethylphthalate	1900	0	2000	ug/Kg	105		5		39	127	20
Acenaphthylene	1900	0	2100	ug/Kg	111		0		45	117	20
2,6-Dinitrotoluene	1900	0	1300	ug/Kg	68		8		50	114	20
3-Nitroaniline	1900	0	890	ug/Kg	47		4		12	108	20
Acenaphthene	1900	0	1900	ug/Kg	100		0		45	118	20
2,4-Dinitrophenol	3800	0	0	ug/Kg	0	*	0		10	126	20
4-Nitrophenol	3800	0	1000	ug/Kg	26		0		18	141	20
Dibenzofuran	1900	0	1900	ug/Kg	100		0		45	118	20
2,4-Dinitrotoluene	1900	0	1400	ug/Kg	74		0		44	120	20
Diethylphthalate	1900	0	1700	ug/Kg	89		6		50	113	20
4-Chlorophenyl-phenylether	1900	0	1600	ug/Kg	84		6		51	111	20
Fluorene	1900	0	2000	ug/Kg	105		0		41	121	20
4-Nitroaniline	1900	0	1200	ug/Kg	63		8		38	113	20
4,6-Dinitro-2-methylphenol	1900	0	300	ug/Kg	16		6		10	142	20
N-Nitrosodiphenylamine	1900	0	1500	ug/Kg	79		7		45	122	20
4-Bromophenyl-phenylether	1900	0	1200	ug/Kg	63		8		51	114	20
Hexachlorobenzene	1900	0	1500	ug/Kg	79		7		48	114	20
Atrazine	1900	0	1700	ug/Kg	89		12		40	129	20
Pentachlorophenol	3800	0	2200	ug/Kg	58		5		15	145	20

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Phenanthrene	1900	1200	6200	ug/Kg	263	*	8		29	138	20
Anthracene	1900	0	2800	ug/Kg	147	*	7		45	120	20
Carbazole	1900	0	2100	ug/Kg	111		6		43	122	20
Di-n-butylphthalate	1900	0	1500	ug/Kg	79		15		51	115	20
Fluoranthene	1900	2300	8600	ug/Kg	332	*	7		33	133	20
Pyrene	1900	1900	7000	ug/Kg	268	*	8		31	135	20
Butylbenzylphthalate	1900	0	1400	ug/Kg	74		8		49	121	20
3,3-Dichlorobenzidine	1900	0	830	ug/Kg	44		17		10	105	20
Benzo(a)anthracene	1900	1200	4700	ug/Kg	184	*	18		35	132	20
Chrysene	1900	920	3800	ug/Kg	152	*	6		34	131	20
bis(2-Ethylhexyl)phthalate	1900	0	2800	ug/Kg	147	*	7		42	127	20
Di-n-octyl phthalate	1900	0	1300	ug/Kg	68		0		50	123	20
Benzo(b)fluoranthene	1900	1100	4100	ug/Kg	158	*	3		35	128	20
Benzo(k)fluoranthene	1900	0	3300	ug/Kg	174	*	7		39	117	20
Benzo(a)pyrene	1900	1000	4000	ug/Kg	158	*	7		35	129	20
Indeno(1,2,3-cd)pyrene	1900	810	3500	ug/Kg	142	*	12		30	140	20
Dibenz(a,h)anthracene	1900	0	1800	ug/Kg	95		5		18	147	20
Benzo(g,h,i)perylene	1900	1000	3600	ug/Kg	137	*	7		31	132	20
1,2,4,5-Tetrachlorobenzene	1900	0	1400	ug/Kg	74		8		52	122	20
2,3,4,6-Tetrachlorophenol	1900	0	1600	ug/Kg	84		6		52	109	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D **DataFile:** BF082354.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB86144BS	Benzaldehyde	1700	740	ug/Kg	44				10	95	
	Phenol	1700	1100	ug/Kg	65				51	101	
	bis(2-Chloroethyl)ether	1700	1200	ug/Kg	71				55	99	
	2-Chlorophenol	1700	1200	ug/Kg	71				53	100	
	2-Methylphenol	1700	1300	ug/Kg	76				49	105	
	2,2-oxybis(1-Chloropropane)	1700	1200	ug/Kg	71				52	104	
	Acetophenone	1700	1400	ug/Kg	82				50	111	
	3+4-Methylphenols	1700	1300	ug/Kg	76				52	102	
	N-Nitroso-di-n-propylamine	1700	1200	ug/Kg	71				51	104	
	Hexachloroethane	1700	1200	ug/Kg	71				54	97	
	Nitrobenzene	1700	1300	ug/Kg	76				51	104	
	Isophorone	1700	1300	ug/Kg	76				55	101	
	2-Nitrophenol	1700	1400	ug/Kg	82				52	105	
	2,4-Dimethylphenol	1700	1500	ug/Kg	88				53	103	
	bis(2-Chloroethoxy)methane	1700	1400	ug/Kg	82				55	101	
	2,4-Dichlorophenol	1700	1400	ug/Kg	82				54	103	
	Naphthalene	1700	1300	ug/Kg	76				53	103	
	4-Chloroaniline	1700	550	ug/Kg	32				10	130	
	Hexachlorobutadiene	1700	1300	ug/Kg	76				50	106	
	Caprolactam	1700	1400	ug/Kg	82				49	106	
	4-Chloro-3-methylphenol	1700	1500	ug/Kg	88				55	101	
	2-Methylnaphthalene	1700	1400	ug/Kg	82				55	102	
	Hexachlorocyclopentadiene	3300	2100	ug/Kg	64				38	122	
	2,4,6-Trichlorophenol	1700	1300	ug/Kg	76				56	103	
	2,4,5-Trichlorophenol	1700	1300	ug/Kg	76				56	103	
	1,1-Biphenyl	1700	1300	ug/Kg	76				56	107	
	2-Chloronaphthalene	1700	1300	ug/Kg	76				56	102	
	2-Nitroaniline	1700	1400	ug/Kg	82				54	103	
	Dimethylphthalate	1700	1300	ug/Kg	76				61	111	
	Acenaphthylene	1700	1300	ug/Kg	76				57	101	
	2,6-Dinitrotoluene	1700	1300	ug/Kg	76				59	100	
	3-Nitroaniline	1700	640	ug/Kg	38				10	130	
	Acenaphthene	1700	1200	ug/Kg	71				57	102	
	2,4-Dinitrophenol	3300	2600	ug/Kg	79				32	114	
	4-Nitrophenol	3300	2200	ug/Kg	67				48	114	
	Dibenzofuran	1700	1300	ug/Kg	76				57	100	
	2,4-Dinitrotoluene	1700	1500	ug/Kg	88				58	102	
	Diethylphthalate	1700	1500	ug/Kg	88				56	101	
	4-Chlorophenyl-phenylether	1700	1400	ug/Kg	82				57	101	
	Fluorene	1700	1300	ug/Kg	76				57	101	
	4-Nitroaniline	1700	1200	ug/Kg	71				49	99	
	4,6-Dinitro-2-methylphenol	1700	1400	ug/Kg	82				44	119	
	N-Nitrosodiphenylamine	1700	1300	ug/Kg	76				57	103	
	4-Bromophenyl-phenylether	1700	1300	ug/Kg	76				57	105	
	Hexachlorobenzene	1700	1300	ug/Kg	76				54	106	
	Atrazine	1700	1600	ug/Kg	94				50	113	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D **DataFile:** BF082354.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB86144BS	Pentachlorophenol	3300	2700	ug/Kg	82				49	116	
	Phenanthrene	1700	1400	ug/Kg	82				58	101	
	Anthracene	1700	1400	ug/Kg	82				57	102	
	Carbazole	1700	1300	ug/Kg	76				57	102	
	Di-n-butylphthalate	1700	1500	ug/Kg	88				57	103	
	Fluoranthene	1700	1500	ug/Kg	88				56	102	
	Pyrene	1700	1300	ug/Kg	76				56	106	
	Butylbenzylphthalate	1700	1300	ug/Kg	76				57	106	
	3,3-Dichlorobenzidine	1700	760	ug/Kg	45				10	92	
	Benzo(a)anthracene	1700	1300	ug/Kg	76				56	103	
	Chrysene	1700	1200	ug/Kg	71				58	102	
	bis(2-Ethylhexyl)phthalate	1700	1300	ug/Kg	76				57	106	
	Di-n-octyl phthalate	1700	1300	ug/Kg	76				56	107	
	Benzo(b)fluoranthene	1700	1300	ug/Kg	76				56	103	
	Benzo(k)fluoranthene	1700	1300	ug/Kg	76				55	102	
	Benzo(a)pyrene	1700	1300	ug/Kg	76				57	103	
	Indeno(1,2,3-cd)pyrene	1700	1300	ug/Kg	76				50	113	
	Dibenz(a,h)anthracene	1700	1300	ug/Kg	76				52	119	
	Benzo(g,h,i)perylene	1700	1300	ug/Kg	76				56	105	
	1,2,4,5-Tetrachlorobenzene	1700	1200	ug/Kg	71				33	136	
	2,3,4,6-Tetrachlorophenol	1700	1300	ug/Kg	76				47	120	

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB86144BL

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082357.D Lab Sample ID: PB86144BL

Instrument ID: BNA_F Date Extracted: 10/16/2015

Matrix: (soil/water) SOIL Date Analyzed: 10/19/2015

Level: (low/med) LOW Time Analyzed: 15:59

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
GOODLUCKINSULATION	G4046-03	BF082338.D	10/16/2015
MANAHAWKENINSULATION	G4046-05	BF082340.D	10/16/2015
TK1-1-20151015MS	G4051-02MS	BF082328.D	10/16/2015
TK1-1-20151015MSD	G4051-03MSD	BF082329.D	10/16/2015
PB86144BS	PB86144BS	BF082354.D	10/19/2015

COMMENTS:

Form IV SV

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082165.D DFTPP Injection Date: 10/10/2015

Instrument ID: BNA_F DFTPP Injection Time: 09:26

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	33.7
68	Less than 2.0% of mass 69	0.5 (1.6) 1
69	Mass 69 relative abundance	31
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	44.1
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	25.2
365	Greater than 1% of mass 198	2.7
441	Present, but less than mass 443	13.4
442	Greater than 50% of mass 198	86.1
443	15.0 - 24.0% of mass 442	16.2 (18.8) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC02.5	SSTDICC02.5	BF082167.D	10/10/2015	10:31
SSTDICC010	SSTDICC010	BF082168.D	10/10/2015	11:01
SSTDICC025	SSTDICC025	BF082169.D	10/10/2015	11:32
SSTDICCC040	SSTDICCC040	BF082170.D	10/10/2015	12:02
SSTDICC050	SSTDICC050	BF082171.D	10/10/2015	12:32
SSTDICC060	SSTDICC060	BF082172.D	10/10/2015	13:03
SSTDICC080	SSTDICC080	BF082173.D	10/10/2015	13:33

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082319.D DFTPP Injection Date: 10/16/2015

Instrument ID: BNA_F DFTPP Injection Time: 11:18

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	31.7
68	Less than 2.0% of mass 69	0.5 (1.7) 1
69	Mass 69 relative abundance	31.2
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	42.6
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	24.6
365	Greater than 1% of mass 198	2.5
441	Present, but less than mass 443	14.2
442	Greater than 50% of mass 198	89.1
443	15.0 - 24.0% of mass 442	16.5 (18.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF082320.D	10/16/2015	11:49
TK1-1-20151015MS	G4051-02MS	BF082328.D	10/16/2015	16:23
TK1-1-20151015MSD	G4051-03MSD	BF082329.D	10/16/2015	16:52
GOODLUCKINSULATION	G4046-03	BF082338.D	10/16/2015	21:10
MANAHAWKENINSULATION	G4046-05	BF082340.D	10/16/2015	22:07

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082351.D DFTPP Injection Date: 10/19/2015

Instrument ID: BNA_F DFTPP Injection Time: 12:50

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	32.6
68	Less than 2.0% of mass 69	0.3 (1) 1
69	Mass 69 relative abundance	31.8
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	43.1
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	24.7
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	12.5
442	Greater than 50% of mass 198	76.1
443	15.0 - 24.0% of mass 442	14 (18.4) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF082352.D	10/19/2015	13:18
PB86144BS	PB86144BS	BF082354.D	10/19/2015	14:34
PB86144BL	PB86144BL	BF082357.D	10/19/2015	15:59

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082373.D DFTPP Injection Date: 10/20/2015

Instrument ID: BNA_F DFTPP Injection Time: 00:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.1
68	Less than 2.0% of mass 69	0.4 (1.2) 1
69	Mass 69 relative abundance	31.5
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	43.2
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	23.6
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	13.7
442	Greater than 50% of mass 198	79.9
443	15.0 - 24.0% of mass 442	15.7 (19.7) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF082374.D	10/20/2015	01:13
GOODLUCKINSULATIONDL	G4046-03DL	BF082390.D	10/20/2015	08:51
GOODLUCKINSULATIONDL2	G4046-03DL2	BF082391.D	10/20/2015	09:19
MANAHAWKENINSULATIONDL	G4046-05DL	BF082394.D	10/20/2015	10:46

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/16/2015

Lab File ID: BF082320.D Time Analyzed: 11:49

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	93275	6.83	382664	8.13	207326	9.89
	UPPER LIMIT	186550	7.33	765328	8.63	414652	10.39
	LOWER LIMIT	46637.5	6.33	191332	7.63	103663	9.39
	EPA SAMPLE NO.						
01	GOODLUCKINSULATION	51934	6.93	246864	8.21	130092	9.95
02	MANAHAWKENINSULATION	50949	6.93	243756	8.21	129905	9.95
03	TK1-1-20151015MS	53162	6.87	236964	8.16	126001	9.91
04	TK1-1-20151015MSD	45799 *	6.89	229217	8.17	117792	9.92

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/16/2015

Lab File ID: BF082320.D Time Analyzed: 11:49

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #		RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	418554	11.37	410674		14.07	337700	15.59
	UPPER LIMIT	837108	11.87	821348		14.57	675400	16.09
	LOWER LIMIT	209277	10.87	205337		13.57	168850	15.09
	EPA SAMPLE NO.							
01	GOODLUCKINSULATION	241981	11.45	134970	*	14.17	210864	15.76
02	MANAHAWKENINSULATION	251052	11.45	193227	*	14.14	228738	15.67
03	TK1-1-20151015MS	273091	11.39	265958		14.13	227615	15.70
04	TK1-1-20151015MSD	258375	11.42	258150		14.14	229036	15.73

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/19/2015

Lab File ID: BF082352.D Time Analyzed: 13:18

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	149596	6.8	587997	8.09	295216	9.85
	UPPER LIMIT	299192	7.3	1175990	8.59	590432	10.35
	LOWER LIMIT	74798	6.3	293999	7.59	147608	9.35
	EPA SAMPLE NO.						
01	PB86144BL	106489	6.80	411033	8.09	209250	9.85
02	PB86144BS	102323	6.80	392208	8.09	208807	9.85

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/19/2015

Lab File ID: BF082352.D Time Analyzed: 13:18

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	587022	11.35	509909	14.09	402116	15.67
	UPPER LIMIT	1174040	11.85	1019820	14.59	804232	16.17
	LOWER LIMIT	293511	10.85	254955	13.59	201058	15.17
	EPA SAMPLE NO.						
01	PB86144BL	424603	11.34	365882	14.06	285758	15.62
02	PB86144BS	389236	11.34	370193	14.06	315291	15.60

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/20/2015

Lab File ID: BF082374.D Time Analyzed: 01:13

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	158929	6.8	608031	8.09	309021	9.85
	UPPER LIMIT	317858	7.3	1216060	8.59	618042	10.35
	LOWER LIMIT	79464.5	6.3	304016	7.59	154511	9.35
	EPA SAMPLE NO.						
01	GOODLUCKINSULATIONDL2	81714	6.80	341420	8.09	166948	9.85
02	MANAHAWKENINSULATIONDL	81362	6.80	341341	8.09	168918	9.85
03	GOODLUCKINSULATIONDL	82165	6.80	348539	8.09	166465	9.85

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/20/2015

Lab File ID: BF082374.D Time Analyzed: 01:13

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #		RT #	IS5 (CRY) AREA #		RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	601128		11.35	468461		14.02	394407	15.54
	UPPER LIMIT	1202260		11.85	936922		14.52	788814	16.04
	LOWER LIMIT	300564		10.85	234231		13.52	197204	15.04
	EPA SAMPLE NO.								
01	GOODLUCKINSULATIONDL2	283191	*	11.34	216902	*	14.02	212585	15.53
02	MANAHAWKENINSULATIONDL	290613	*	11.34	217062	*	14.04	214693	15.59
03	GOODLUCKINSULATIONDL	291278	*	11.34	217145	*	14.02	211252	15.54

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BL	SDG No.:	G4046
Lab Sample ID:	PB86144BL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082357.D	1	10/16/15 16:15	10/19/15 15:59	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	33.3	U	17.4	33.3	330	ug/Kg
108-95-2	Phenol	33.3	U	7.7	33.3	330	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	33.3	U	16	33.3	330	ug/Kg
95-57-8	2-Chlorophenol	33.3	U	17.6	33.3	330	ug/Kg
95-48-7	2-Methylphenol	33.3	U	18.1	33.3	330	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	33.3	U	13.8	33.3	330	ug/Kg
98-86-2	Acetophenone	33.3	U	10.2	33.3	330	ug/Kg
65794-96-9	3+4-Methylphenols	33.3	U	17.3	33.3	330	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	33.3	U	16.8	33.3	330	ug/Kg
67-72-1	Hexachloroethane	33.3	U	14.9	33.3	330	ug/Kg
98-95-3	Nitrobenzene	33.3	U	12.6	33.3	330	ug/Kg
78-59-1	Isophorone	33.3	U	11	33.3	330	ug/Kg
88-75-5	2-Nitrophenol	33.3	U	16.1	33.3	330	ug/Kg
105-67-9	2,4-Dimethylphenol	33.3	U	18.9	33.3	330	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	33.3	U	19.2	33.3	330	ug/Kg
120-83-2	2,4-Dichlorophenol	33.3	U	12.7	33.3	330	ug/Kg
91-20-3	Naphthalene	33.3	U	11.5	33.3	330	ug/Kg
106-47-8	4-Chloroaniline	33.3	U	23.5	33.3	330	ug/Kg
87-68-3	Hexachlorobutadiene	33.3	U	12.1	33.3	330	ug/Kg
105-60-2	Caprolactam	66.7	U	15.5	66.7	330	ug/Kg
59-50-7	4-Chloro-3-methylphenol	33.3	U	14.8	33.3	330	ug/Kg
91-57-6	2-Methylnaphthalene	33.3	U	8.4	33.3	330	ug/Kg
77-47-4	Hexachlorocyclopentadiene	33.3	U	8.1	33.3	330	ug/Kg
88-06-2	2,4,6-Trichlorophenol	33.3	U	10.2	33.3	330	ug/Kg
95-95-4	2,4,5-Trichlorophenol	33.3	U	23.4	33.3	330	ug/Kg
92-52-4	1,1-Biphenyl	33.3	U	12.6	33.3	330	ug/Kg
91-58-7	2-Chloronaphthalene	33.3	U	7.6	33.3	330	ug/Kg
88-74-4	2-Nitroaniline	33.3	U	14.8	33.3	330	ug/Kg
131-11-3	Dimethylphthalate	33.3	U	9	33.3	330	ug/Kg
208-96-8	Acenaphthylene	33.3	U	8.4	33.3	330	ug/Kg
606-20-2	2,6-Dinitrotoluene	33.3	U	13.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BL	SDG No.:	G4046
Lab Sample ID:	PB86144BL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082357.D	1	10/16/15 16:15	10/19/15 15:59	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	66.7	U	21.4	66.7	330	ug/Kg
83-32-9	Acenaphthene	33.3	U	9.4	33.3	330	ug/Kg
51-28-5	2,4-Dinitrophenol	270	U	33.9	270	330	ug/Kg
100-02-7	4-Nitrophenol	170	U	61.9	170	330	ug/Kg
132-64-9	Dibenzofuran	33.3	U	13	33.3	330	ug/Kg
121-14-2	2,4-Dinitrotoluene	33.3	U	10	33.3	330	ug/Kg
84-66-2	Diethylphthalate	33.3	U	5.2	33.3	330	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	33.3	U	18.1	33.3	330	ug/Kg
86-73-7	Fluorene	33.3	U	12.6	33.3	330	ug/Kg
100-01-6	4-Nitroaniline	66.7	U	43.4	66.7	330	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	170	U	19.1	170	330	ug/Kg
86-30-6	n-Nitrosodiphenylamine	33.3	U	8	33.3	330	ug/Kg
101-55-3	4-Bromophenyl-phenylether	33.3	U	6.5	33.3	330	ug/Kg
118-74-1	Hexachlorobenzene	33.3	U	13.6	33.3	330	ug/Kg
1912-24-9	Atrazine	33.3	U	17.6	33.3	330	ug/Kg
87-86-5	Pentachlorophenol	33.3	U	22.8	33.3	330	ug/Kg
85-01-8	Phenanthrene	33.3	U	9	33.3	330	ug/Kg
120-12-7	Anthracene	33.3	U	6.8	33.3	330	ug/Kg
86-74-8	Carbazole	33.3	U	7.3	33.3	330	ug/Kg
84-74-2	Di-n-butylphthalate	33.3	U	26.2	33.3	330	ug/Kg
206-44-0	Fluoranthene	33.3	U	6.7	33.3	330	ug/Kg
129-00-0	Pyrene	33.3	U	8	33.3	330	ug/Kg
85-68-7	Butylbenzylphthalate	33.3	U	16	33.3	330	ug/Kg
91-94-1	3,3-Dichlorobenzidine	33.3	U	21.4	33.3	330	ug/Kg
56-55-3	Benzo(a)anthracene	33.3	U	15.9	33.3	330	ug/Kg
218-01-9	Chrysene	33.3	U	15.1	33.3	330	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	33.3	U	11.8	33.3	330	ug/Kg
117-84-0	Di-n-octyl phthalate	33.3	U	3.8	33.3	330	ug/Kg
205-99-2	Benzo(b)fluoranthene	33.3	U	10.9	33.3	330	ug/Kg
207-08-9	Benzo(k)fluoranthene	33.3	U	15.7	33.3	330	ug/Kg
50-32-8	Benzo(a)pyrene	33.3	U	7.2	33.3	330	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	33.3	U	11.1	33.3	330	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	33.3	U	9.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BL	SDG No.:	G4046
Lab Sample ID:	PB86144BL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082357.D	1	10/16/15 16:15	10/19/15 15:59	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	33.3	U	13.5	33.3	330	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	33.3	U	13.1	33.3	330	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	33.3	U	13.1	33.3	330	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		81%	SPK: 150
13127-88-3	Phenol-d6	130		34 - 127		84%	SPK: 150
4165-60-0	Nitrobenzene-d5	80.9		31 - 132		81%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.1		39 - 123		85%	SPK: 100
118-79-6	2,4,6-Tribromophenol	95.8		30 - 133		64%	SPK: 150
1718-51-0	Terphenyl-d14	83.2		37 - 115		83%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	106489	6.8				
1146-65-2	Naphthalene-d8	411033	8.09				
15067-26-2	Acenaphthene-d10	209250	9.85				
1517-22-2	Phenanthrene-d10	424603	11.34				
1719-03-5	Chrysene-d12	365882	14.06				
1520-96-3	Perylene-d12	285758	15.62				
TENTATIVE IDENTIFIED COMPOUNDS							
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1700	A			4.98	ug/Kg
	unknown6.57	2800	J			6.57	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BS	SDG No.:	G4046
Lab Sample ID:	PB86144BS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082354.D	1	10/16/15 16:15	10/19/15 14:34	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	740		17.4	33.3	330	ug/Kg
108-95-2	Phenol	1100		7.7	33.3	330	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1200		16	33.3	330	ug/Kg
95-57-8	2-Chlorophenol	1200		17.6	33.3	330	ug/Kg
95-48-7	2-Methylphenol	1300		18.1	33.3	330	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1200		13.8	33.3	330	ug/Kg
98-86-2	Acetophenone	1400		10.2	33.3	330	ug/Kg
65794-96-9	3+4-Methylphenols	1300		17.3	33.3	330	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1200		16.8	33.3	330	ug/Kg
67-72-1	Hexachloroethane	1200		14.9	33.3	330	ug/Kg
98-95-3	Nitrobenzene	1300		12.6	33.3	330	ug/Kg
78-59-1	Isophorone	1300		11	33.3	330	ug/Kg
88-75-5	2-Nitrophenol	1400		16.1	33.3	330	ug/Kg
105-67-9	2,4-Dimethylphenol	1500		18.9	33.3	330	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1400		19.2	33.3	330	ug/Kg
120-83-2	2,4-Dichlorophenol	1400		12.7	33.3	330	ug/Kg
91-20-3	Naphthalene	1300		11.5	33.3	330	ug/Kg
106-47-8	4-Chloroaniline	550		23.5	33.3	330	ug/Kg
87-68-3	Hexachlorobutadiene	1300		12.1	33.3	330	ug/Kg
105-60-2	Caprolactam	1400		15.5	66.6	330	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1500		14.8	33.3	330	ug/Kg
91-57-6	2-Methylnaphthalene	1400		8.4	33.3	330	ug/Kg
77-47-4	Hexachlorocyclopentadiene	2100		8.1	33.3	330	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1300		10.2	33.3	330	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1300		23.4	33.3	330	ug/Kg
92-52-4	1,1-Biphenyl	1300		12.6	33.3	330	ug/Kg
91-58-7	2-Chloronaphthalene	1300		7.6	33.3	330	ug/Kg
88-74-4	2-Nitroaniline	1400		14.8	33.3	330	ug/Kg
131-11-3	Dimethylphthalate	1300		9	33.3	330	ug/Kg
208-96-8	Acenaphthylene	1300		8.4	33.3	330	ug/Kg
606-20-2	2,6-Dinitrotoluene	1300		13.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BS	SDG No.:	G4046
Lab Sample ID:	PB86144BS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082354.D	1	10/16/15 16:15	10/19/15 14:34	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	640		21.4	66.6	330	ug/Kg
83-32-9	Acenaphthene	1200		9.4	33.3	330	ug/Kg
51-28-5	2,4-Dinitrophenol	2600		33.9	270	330	ug/Kg
100-02-7	4-Nitrophenol	2200		61.8	170	330	ug/Kg
132-64-9	Dibenzofuran	1300		13	33.3	330	ug/Kg
121-14-2	2,4-Dinitrotoluene	1500		10	33.3	330	ug/Kg
84-66-2	Diethylphthalate	1500		5.2	33.3	330	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1400		18.1	33.3	330	ug/Kg
86-73-7	Fluorene	1300		12.6	33.3	330	ug/Kg
100-01-6	4-Nitroaniline	1200		43.4	66.6	330	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1400		19.1	170	330	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1300		8	33.3	330	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1300		6.5	33.3	330	ug/Kg
118-74-1	Hexachlorobenzene	1300		13.6	33.3	330	ug/Kg
1912-24-9	Atrazine	1600		17.6	33.3	330	ug/Kg
87-86-5	Pentachlorophenol	2700	E	22.8	33.3	330	ug/Kg
85-01-8	Phenanthrene	1400		9	33.3	330	ug/Kg
120-12-7	Anthracene	1400		6.8	33.3	330	ug/Kg
86-74-8	Carbazole	1300		7.3	33.3	330	ug/Kg
84-74-2	Di-n-butylphthalate	1500		26.2	33.3	330	ug/Kg
206-44-0	Fluoranthene	1500		6.7	33.3	330	ug/Kg
129-00-0	Pyrene	1300		8	33.3	330	ug/Kg
85-68-7	Butylbenzylphthalate	1300		16	33.3	330	ug/Kg
91-94-1	3,3-Dichlorobenzidine	760		21.4	33.3	330	ug/Kg
56-55-3	Benzo(a)anthracene	1300		15.9	33.3	330	ug/Kg
218-01-9	Chrysene	1200		15.1	33.3	330	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	1300		11.8	33.3	330	ug/Kg
117-84-0	Di-n-octyl phthalate	1300		3.8	33.3	330	ug/Kg
205-99-2	Benzo(b)fluoranthene	1300		10.9	33.3	330	ug/Kg
207-08-9	Benzo(k)fluoranthene	1300		15.7	33.3	330	ug/Kg
50-32-8	Benzo(a)pyrene	1300		7.2	33.3	330	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1300		11.1	33.3	330	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1300		9.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BS	SDG No.:	G4046
Lab Sample ID:	PB86144BS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082354.D	1	10/16/15 16:15	10/19/15 14:34	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1300		13.5	33.3	330	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1200		13.1	33.3	330	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1300		13.1	33.3	330	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		80%	SPK: 150
13127-88-3	Phenol-d6	120		34 - 127		77%	SPK: 150
4165-60-0	Nitrobenzene-d5	82.4		31 - 132		82%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.2		39 - 123		84%	SPK: 100
118-79-6	2,4,6-Tribromophenol	110		30 - 133		71%	SPK: 150
1718-51-0	Terphenyl-d14	73		37 - 115		73%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	102323	6.8				
1146-65-2	Naphthalene-d8	392208	8.09				
15067-26-2	Acenaphthene-d10	208807	9.85				
1517-22-2	Phenanthrene-d10	389236	11.34				
1719-03-5	Chrysene-d12	370193	14.06				
1520-96-3	Perylene-d12	315291	15.6				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MS	SDG No.:	G4046
Lab Sample ID:	G4051-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082328.D	10	10/16/15 16:15	10/16/15 16:23	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	930	J	200	380	3800	ug/Kg
108-95-2	Phenol	1400	J	88.3	380	3800	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1300	J	180	380	3800	ug/Kg
95-57-8	2-Chlorophenol	1400	J	200	380	3800	ug/Kg
95-48-7	2-Methylphenol	1400	J	210	380	3800	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1600	J	160	380	3800	ug/Kg
98-86-2	Acetophenone	1400	J	120	380	3800	ug/Kg
65794-96-9	3+4-Methylphenols	1700	J	200	380	3800	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1400	J	190	380	3800	ug/Kg
67-72-1	Hexachloroethane	1400	J	170	380	3800	ug/Kg
98-95-3	Nitrobenzene	1200	J	140	380	3800	ug/Kg
78-59-1	Isophorone	1500	J	130	380	3800	ug/Kg
88-75-5	2-Nitrophenol	970	J	180	380	3800	ug/Kg
105-67-9	2,4-Dimethylphenol	1400	J	220	380	3800	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1400	J	220	380	3800	ug/Kg
120-83-2	2,4-Dichlorophenol	1300	J	150	380	3800	ug/Kg
91-20-3	Naphthalene	1600	J	130	380	3800	ug/Kg
106-47-8	4-Chloroaniline	490	J	270	380	3800	ug/Kg
87-68-3	Hexachlorobutadiene	1300	J	140	380	3800	ug/Kg
105-60-2	Caprolactam	1500	J	180	760	3800	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1500	J	170	380	3800	ug/Kg
91-57-6	2-Methylnaphthalene	1600	J	96.4	380	3800	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3300	J	92.9	380	3800	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1300	J	120	380	3800	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1400	J	270	380	3800	ug/Kg
92-52-4	1,1-Biphenyl	1400	J	140	380	3800	ug/Kg
91-58-7	2-Chloronaphthalene	1500	J	87.2	380	3800	ug/Kg
88-74-4	2-Nitroaniline	1200	J	170	380	3800	ug/Kg
131-11-3	Dimethylphthalate	1900	J	100	380	3800	ug/Kg
208-96-8	Acenaphthylene	2100	J	96.4	380	3800	ug/Kg
606-20-2	2,6-Dinitrotoluene	1200	J	160	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MS	SDG No.:	G4046
Lab Sample ID:	G4051-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082328.D	10	10/16/15 16:15	10/16/15 16:23	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	940	J	250	760	3800	ug/Kg
83-32-9	Acenaphthene	1900	J	110	380	3800	ug/Kg
51-28-5	2,4-Dinitrophenol	3100	U	390	3100	3800	ug/Kg
100-02-7	4-Nitrophenol	990	J	710	1900	3800	ug/Kg
132-64-9	Dibenzofuran	1900	J	150	380	3800	ug/Kg
121-14-2	2,4-Dinitrotoluene	1400	J	110	380	3800	ug/Kg
84-66-2	Diethylphthalate	1600	J	59.7	380	3800	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1500	J	210	380	3800	ug/Kg
86-73-7	Fluorene	2000	J	140	380	3800	ug/Kg
100-01-6	4-Nitroaniline	1100	J	500	760	3800	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	320	J	220	1900	3800	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1400	J	91.8	380	3800	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1100	J	74.6	380	3800	ug/Kg
118-74-1	Hexachlorobenzene	1400	J	160	380	3800	ug/Kg
1912-24-9	Atrazine	1500	J	200	380	3800	ug/Kg
87-86-5	Pentachlorophenol	2100	J	260	380	3800	ug/Kg
85-01-8	Phenanthrene	5800		100	380	3800	ug/Kg
120-12-7	Anthracene	2600	J	78	380	3800	ug/Kg
86-74-8	Carbazole	2000	J	83.7	380	3800	ug/Kg
84-74-2	Di-n-butylphthalate	1300	J	300	380	3800	ug/Kg
206-44-0	Fluoranthene	8200		76.9	380	3800	ug/Kg
129-00-0	Pyrene	6600		91.8	380	3800	ug/Kg
85-68-7	Butylbenzylphthalate	1300	J	180	380	3800	ug/Kg
91-94-1	3,3-Dichlorobenzidine	700	J	250	380	3800	ug/Kg
56-55-3	Benzo(a)anthracene	4100		180	380	3800	ug/Kg
218-01-9	Chrysene	4000		170	380	3800	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2600	J	140	380	3800	ug/Kg
117-84-0	Di-n-octyl phthalate	1300	J	43.6	380	3800	ug/Kg
205-99-2	Benzo(b)fluoranthene	4000		130	380	3800	ug/Kg
207-08-9	Benzo(k)fluoranthene	3100	J	180	380	3800	ug/Kg
50-32-8	Benzo(a)pyrene	3800		82.6	380	3800	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	3200	J	130	380	3800	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1900	J	110	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MS	SDG No.:	G4046
Lab Sample ID:	G4051-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082328.D	10	10/16/15 16:15	10/16/15 16:23	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	3800		150	380	3800	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1300	J	150	380	3800	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1500	J	150	380	3800	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		79%	SPK: 150
13127-88-3	Phenol-d6	130		34 - 127		83%	SPK: 150
4165-60-0	Nitrobenzene-d5	73.4		31 - 132		73%	SPK: 100
321-60-8	2-Fluorobiphenyl	88.4		39 - 123		88%	SPK: 100
118-79-6	2,4,6-Tribromophenol	130		30 - 133		87%	SPK: 150
1718-51-0	Terphenyl-d14	87.2		37 - 115		87%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	53162	6.87				
1146-65-2	Naphthalene-d8	236964	8.16				
15067-26-2	Acenaphthene-d10	126001	9.91				
1517-22-2	Phenanthrene-d10	273091	11.39				
1719-03-5	Chrysene-d12	265958	14.13				
1520-96-3	Perylene-d12	227615	15.7				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MSD	SDG No.:	G4046
Lab Sample ID:	G4051-03MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082329.D	10	10/16/15 16:15	10/16/15 16:52	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	1100	J	200	380	3800	ug/Kg
108-95-2	Phenol	1500	J	88.4	380	3800	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1500	J	180	380	3800	ug/Kg
95-57-8	2-Chlorophenol	1500	J	200	380	3800	ug/Kg
95-48-7	2-Methylphenol	1700	J	210	380	3800	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1800	J	160	380	3800	ug/Kg
98-86-2	Acetophenone	1300	J	120	380	3800	ug/Kg
65794-96-9	3+4-Methylphenols	1900	J	200	380	3800	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1700	J	190	380	3800	ug/Kg
67-72-1	Hexachloroethane	1500	J	170	380	3800	ug/Kg
98-95-3	Nitrobenzene	1300	J	140	380	3800	ug/Kg
78-59-1	Isophorone	1400	J	130	380	3800	ug/Kg
88-75-5	2-Nitrophenol	1100	J	180	380	3800	ug/Kg
105-67-9	2,4-Dimethylphenol	1400	J	220	380	3800	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1200	J	220	380	3800	ug/Kg
120-83-2	2,4-Dichlorophenol	1200	J	150	380	3800	ug/Kg
91-20-3	Naphthalene	1700	J	130	380	3800	ug/Kg
106-47-8	4-Chloroaniline	470	J	270	380	3800	ug/Kg
87-68-3	Hexachlorobutadiene	1300	J	140	380	3800	ug/Kg
105-60-2	Caprolactam	1400	J	180	770	3800	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1500	J	170	380	3800	ug/Kg
91-57-6	2-Methylnaphthalene	1500	J	96.5	380	3800	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3200	J	93	380	3800	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1500	J	120	380	3800	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1500	J	270	380	3800	ug/Kg
92-52-4	1,1-Biphenyl	1500	J	140	380	3800	ug/Kg
91-58-7	2-Chloronaphthalene	1500	J	87.3	380	3800	ug/Kg
88-74-4	2-Nitroaniline	1300	J	170	380	3800	ug/Kg
131-11-3	Dimethylphthalate	2000	J	100	380	3800	ug/Kg
208-96-8	Acenaphthylene	2100	J	96.5	380	3800	ug/Kg
606-20-2	2,6-Dinitrotoluene	1300	J	160	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MSD	SDG No.:	G4046
Lab Sample ID:	G4051-03MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082329.D	10	10/16/15 16:15	10/16/15 16:52	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	890	J	250	770	3800	ug/Kg
83-32-9	Acenaphthene	1900	J	110	380	3800	ug/Kg
51-28-5	2,4-Dinitrophenol	3100	U	390	3100	3800	ug/Kg
100-02-7	4-Nitrophenol	1000	J	710	1900	3800	ug/Kg
132-64-9	Dibenzofuran	1900	J	150	380	3800	ug/Kg
121-14-2	2,4-Dinitrotoluene	1400	J	110	380	3800	ug/Kg
84-66-2	Diethylphthalate	1700	J	59.7	380	3800	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1600	J	210	380	3800	ug/Kg
86-73-7	Fluorene	2000	J	140	380	3800	ug/Kg
100-01-6	4-Nitroaniline	1200	J	500	770	3800	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	300	J	220	1900	3800	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1500	J	91.9	380	3800	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1200	J	74.6	380	3800	ug/Kg
118-74-1	Hexachlorobenzene	1500	J	160	380	3800	ug/Kg
1912-24-9	Atrazine	1700	J	200	380	3800	ug/Kg
87-86-5	Pentachlorophenol	2200	J	260	380	3800	ug/Kg
85-01-8	Phenanthrene	6200		100	380	3800	ug/Kg
120-12-7	Anthracene	2800	J	78.1	380	3800	ug/Kg
86-74-8	Carbazole	2100	J	83.8	380	3800	ug/Kg
84-74-2	Di-n-butylphthalate	1500	J	300	380	3800	ug/Kg
206-44-0	Fluoranthene	8600		76.9	380	3800	ug/Kg
129-00-0	Pyrene	7000		91.9	380	3800	ug/Kg
85-68-7	Butylbenzylphthalate	1400	J	180	380	3800	ug/Kg
91-94-1	3,3-Dichlorobenzidine	830	J	250	380	3800	ug/Kg
56-55-3	Benzo(a)anthracene	4700		180	380	3800	ug/Kg
218-01-9	Chrysene	3800		170	380	3800	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2800	J	140	380	3800	ug/Kg
117-84-0	Di-n-octyl phthalate	1300	J	43.6	380	3800	ug/Kg
205-99-2	Benzo(b)fluoranthene	4100		130	380	3800	ug/Kg
207-08-9	Benzo(k)fluoranthene	3300	J	180	380	3800	ug/Kg
50-32-8	Benzo(a)pyrene	4000		82.7	380	3800	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	3500	J	130	380	3800	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1800	J	110	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MSD	SDG No.:	G4046
Lab Sample ID:	G4051-03MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082329.D	10	10/16/15 16:15	10/16/15 16:52	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	3600	J	160	380	3800	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1400	J	150	380	3800	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1600	J	150	380	3800	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	140		28 - 127		90%	SPK: 150
13127-88-3	Phenol-d6	150		34 - 127		97%	SPK: 150
4165-60-0	Nitrobenzene-d5	78		31 - 132		78%	SPK: 100
321-60-8	2-Fluorobiphenyl	96.3		39 - 123		96%	SPK: 100
118-79-6	2,4,6-Tribromophenol	150		30 - 133		101%	SPK: 150
1718-51-0	Terphenyl-d14	90.8		37 - 115		91%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	45799	6.89				
1146-65-2	Naphthalene-d8	229217	8.17				
15067-26-2	Acenaphthene-d10	117792	9.92				
1517-22-2	Phenanthrene-d10	258375	11.42				
1719-03-5	Chrysene-d12	258150	14.14				
1520-96-3	Perylene-d12	229036	15.73				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date(s): 10/10/2015 10/10/2015

Calibration Time(s): 10:31 13:33

LAB FILE ID: RRF2.5 = BF082167.D RRF010 = BF082168.D RRF025 = BF082169.D
RRF040 = BF082170.D RRF050 = BF082171.D RRF060 = BF082172.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2-Fluorophenol	0.982	1.037	1.008	1.031	0.962	0.918	0.991	4.2
Benzaldehyde	0.615	0.707	0.705	0.711	0.666	0.613	0.659	7.8
Phenol-d6	1.330	1.398	1.256	1.332	1.253	1.208	1.290	5.1
Phenol	1.622	1.529	1.404	1.591	1.461	1.299	1.487	7.5
bis(2-Chloroethyl)ether	1.508	1.380	1.149	1.277	1.236	1.110	1.257	11.5
2-Chlorophenol	1.339	1.331	1.178	1.181	1.160	1.171	1.210	7.4
2-Methylphenol	1.024	0.994	0.958	0.946	0.927	0.925	0.957	4.1
2,2-oxybis(1-Chloropropane)	2.154	1.955	1.665	1.637	1.597	1.579	1.751	12.4
Acetophenone	0.444	0.413	0.397	0.387	0.375	0.374	0.396	6.4
3+4-Methylphenols	1.327	1.285	1.159	1.109	1.031	1.058	1.140	10.9
n-Nitroso-di-n-propylamine	1.063	0.962	0.894	0.874	0.899	0.766	0.906	10.0
Nitrobenzene-d5	0.311	0.312	0.283	0.304	0.299	0.274	0.298	4.8
Hexachloroethane	0.607	0.547	0.489	0.490	0.469	0.460	0.504	10.8
Nitrobenzene	0.407	0.316	0.315	0.292	0.302	0.324	0.322	12.0
Isophorone	0.712	0.598	0.571	0.581	0.580	0.571	0.601	8.3
2-Nitrophenol	0.140	0.152	0.153	0.179	0.177	0.166	0.161	8.7
2,4-Dimethylphenol	0.260	0.261	0.258	0.250	0.255	0.266	0.259	2.3
bis(2-Chloroethoxy)methane	0.369	0.358	0.323	0.373	0.368	0.335	0.350	6.3
2,4-Dichlorophenol	0.243	0.259	0.255	0.276	0.267	0.245	0.259	4.7
Naphthalene	1.049	0.936	0.851	0.833	0.800	0.762	0.867	11.1
4-Chloroaniline	0.385	0.362	0.350	0.379	0.365	0.333	0.360	5.1
Hexachlorobutadiene	0.222	0.200	0.184	0.183	0.175	0.168	0.186	10.2
Caprolactam	0.080	0.073	0.073	0.080	0.069	0.074	0.075	5.4
4-Chloro-3-methylphenol	0.255	0.249	0.263	0.251	0.254	0.262	0.254	3.0
2-Methylnaphthalene	0.677	0.610	0.570	0.608	0.614	0.578	0.601	6.8
Hexachlorocyclopentadiene		0.146	0.201	0.260	0.271	0.284	0.245	24.7
2,4,6-Trichlorophenol	0.440	0.429	0.385	0.367	0.366	0.375	0.395	7.6
2-Fluorobiphenyl		1.492	1.162	1.264	1.193	1.101	1.206	13.4
2,4,5-Trichlorophenol	0.468	0.456	0.402	0.418	0.415	0.406	0.428	5.9
1,1-Biphenyl	1.830	1.776	1.425	1.390	1.429	1.444	1.525	12.6
2-Chloronaphthalene	1.434	1.341	1.095	1.159	1.160	1.157	1.201	11.3
2-Nitroaniline	0.291	0.350	0.325	0.317	0.331	0.348	0.330	6.3
Dimethylphthalate	1.815	1.523	1.364	1.241	1.265	1.350	1.408	14.3
Acenaphthylene	2.368	2.081	1.834	1.819	1.700	1.601	1.870	14.3
2,6-Dinitrotoluene	0.308	0.330	0.262	0.306	0.288	0.257	0.297	9.9
3-Nitroaniline	0.347	0.363	0.324	0.338	0.324	0.301	0.336	6.3

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date(s): 10/10/2015 10/10/2015

Calibration Time(s): 10:31 13:33

LAB FILE ID: RRF2.5 = BF082167.D RRF010 = BF082168.D RRF025 = BF082169.D
RRF040 = BF082170.D RRF050 = BF082171.D RRF060 = BF082172.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
Acenaphthene	1.400	1.177	1.066	1.116	1.075	1.014	1.123	12.0
2,4-Dinitrophenol		0.099	0.122	0.153	0.156	0.156	0.143	18.6
4-Nitrophenol		0.152	0.169	0.204	0.199	0.193	0.192	15.2
Dibenzofuran	1.833	1.734	1.526	1.525	1.432	1.318	1.541	11.8
2,4-Dinitrotoluene	0.354	0.427	0.368	0.376	0.350	0.356	0.371	7.0
Diethylphthalate		1.501	1.350	1.252	1.189	1.229	1.313	8.6
4-Chlorophenyl-phenylether		0.707	0.582	0.541	0.528	0.532	0.580	11.7
Fluorene	1.597	1.436	1.248	1.228	1.176	1.062	1.266	14.9
4-Nitroaniline	0.295	0.344	0.321	0.337	0.323	0.328	0.326	4.8
4,6-Dinitro-2-methylphenol		0.097	0.104	0.123	0.116	0.108	0.112	9.7
n-Nitrosodiphenylamine	0.732	0.655	0.571	0.588	0.538	0.514	0.599	12.3
2,4,6-Tribromophenol	0.199	0.202	0.186	0.176	0.170	0.182	0.188	6.6
4-Bromophenyl-phenylether	0.228	0.225	0.196	0.194	0.182	0.175	0.200	10.0
Hexachlorobenzene	0.265	0.231	0.196	0.214	0.206	0.205	0.216	11.2
Atrazine	0.238	0.198	0.198	0.171	0.166	0.179	0.190	13.1
Pentachlorophenol	0.079	0.106	0.105	0.123	0.125	0.119	0.111	14.6
Phenanthrene	1.237	1.081	0.976	0.916	0.884	0.831	0.980	14.0
Anthracene		1.203	0.978	1.039	0.999	0.966	1.010	10.7
Carbazole	1.089	1.013	0.878	0.890	0.866	0.859	0.922	10.0
Di-n-butylphthalate	1.389	1.294	1.156	1.117	1.047	0.961	1.137	13.8
Fluoranthene	1.275	1.145	1.067	1.067	0.972	0.894	1.053	12.3
Pyrene	1.379	1.201	1.131	1.137	1.100	1.068	1.187	9.4
Terphenyl-d14	0.946	0.801	0.689	0.736	0.708	0.674	0.755	12.4
Butylbenzylphthalate	0.605	0.562	0.513	0.510	0.504	0.494	0.542	8.9
3,3-Dichlorobenzidine	0.422	0.410	0.389	0.384	0.366	0.371	0.395	6.0
Benzo(a)anthracene	1.230	1.056	0.955	0.998	0.986	0.973	1.041	9.2
Chrysene	1.366	1.192	1.040	0.957	1.001	1.046	1.096	12.7
Bis(2-ethylhexyl)phthalate	0.882	0.784	0.716	0.764	0.744	0.740	0.773	7.0
Di-n-octyl phthalate	1.578	1.360	1.201	1.242	1.231	1.274	1.327	10.0
Benzo(b)fluoranthene	1.333	1.202	1.039	1.346	1.259	1.181	1.217	8.8
Benzo(k)fluoranthene	1.268	1.139	1.087	0.858	0.871	0.914	1.023	14.9
Benzo(a)pyrene	1.268	1.104	0.985	1.005	0.985	0.974	1.046	10.3
Indeno(1,2,3-cd)pyrene	1.058	0.965	0.822	0.775	0.793	0.796	0.872	12.2
Dibenzo(a,h)anthracene	0.971	0.937	0.817	0.815	0.795	0.808	0.857	8.1
Benzo(g,h,i)perylene	0.980	0.915	0.776	0.765	0.767	0.773	0.833	10.4
1,2,4,5-Tetrachlorobenzene	0.690	0.653	0.596	0.557	0.544	0.530	0.595	9.8

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date(s): 10/10/2015 10/10/2015

Calibration Time(s): 10:31 13:33

LAB FILE ID: RRF2.5 = BF082167.D RRF010 = BF082168.D RRF025 = BF082169.D
RRF040 = BF082170.D RRF050 = BF082171.D RRF060 = BF082172.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2,3,4,6-Tetrachlorophenol	0.385	0.382	0.355	0.320	0.322	0.329	0.350	7.8

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

Response Factor Report Instrumen

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Mon Oct 12 01:46:21 2015
Response Via : Initial Calibration

Calibration Files
2.5 =BF082167.D 10 =BF082168.D 25 =BF082169.D 40 =BF082170.D 50 =BF082171.D 60 =BF082172.D 80 =BF082173.D

		Compound	2.5	10	25	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------								
2)		1,4-Dioxane	0.659	0.498	0.478	0.467	0.467	0.442	0.475	0.498	14.65
3)		Pyridine	0.958	1.073	1.184	1.137	1.204	1.260	1.289	1.158	9.84
4)		n-Nitrosodimet...		0.412	0.473	0.509	0.516	0.512	0.526	0.491	8.73
5)	S	2-Fluorophenol	0.982	1.037	1.008	1.031	0.962	0.918	0.999	0.991	4.19
6)		Aniline	1.509	1.689	1.696	1.722	1.667	1.679	1.676	1.663	4.21
7)	S	Phenol-d6	1.330	1.398	1.256	1.332	1.253	1.208	1.251	1.290	5.09
8)		2-Chlorophenol	1.339	1.331	1.178	1.181	1.160	1.171	1.108	1.210	7.37
9)		Benzaldehyde	0.615	0.707	0.705	0.711	0.666	0.613	0.591	0.659	7.79
10)	C	Phenol	1.622	1.529	1.404	1.591	1.461	1.299	1.502	1.487	7.47
11)		bis(2-Chloroet...	1.508	1.380	1.149	1.277	1.236	1.110	1.142	1.257	11.50
12)		1,3-Dichlorobe...	1.604	1.509	1.416	1.394	1.350	1.289	1.300	1.409	8.10
13)	C	1,4-Dichlorobe...	1.697	1.595	1.462	1.479	1.408	1.330	1.328	1.471	9.25
14)		1,2-Dichlorobe...	1.685	1.616	1.366	1.276	1.235	1.272	1.329	1.397	12.83
15)		Benzyl Alcohol	0.799	0.937	0.915	0.922	0.914	0.893	0.851	0.890	5.46
16)		2,2'-oxybis(1-...	2.154	1.955	1.665	1.637	1.597	1.579	1.669	1.751	12.44
17)		2-Methylphenol	1.024	0.994	0.958	0.946	0.927	0.925	0.922	0.957	4.07
18)		Hexachloroethane	0.607	0.547	0.489	0.490	0.469	0.460	0.462	0.504	10.82
19)	P	n-Nitroso-di-n...	1.063	0.962	0.894	0.874	0.899	0.766	0.883	0.906	9.98
20)		3+4-Methylphenols	1.327	1.285	1.159	1.109	1.031	1.058	1.011	1.140	10.90
21)	I	Naphthalene-d8	----------ISTD----------								
22)		Acetophenone	0.444	0.413	0.397	0.387	0.375	0.374	0.380	0.396	6.44
23)	S	Nitrobenzene-d5	0.311	0.312	0.283	0.304	0.299	0.274	0.302	0.298	4.75
24)		Nitrobenzene	0.407	0.316	0.315	0.292	0.302	0.324	0.302	0.322	11.98
25)		Isophorone	0.712	0.598	0.571	0.581	0.580	0.571	0.594	0.601	8.32
26)	C	2-Nitrophenol	0.140	0.152	0.153	0.179	0.177	0.166	0.159	0.161	8.73
27)		2,4-Dimethylph...	0.260	0.261	0.258	0.250	0.255	0.266	0.266	0.259	2.26
28)		bis(2-Chloroet...	0.369	0.358	0.323	0.373	0.368	0.335	0.322	0.350	6.34
29)	C	2,4-Dichloroph...	0.243	0.259	0.255	0.276	0.267	0.245	0.268	0.259	4.73
30)		1,2,4-Trichlor...	0.351	0.311	0.292	0.296	0.293	0.268	0.280	0.299	8.96
31)		Naphthalene	1.049	0.936	0.851	0.833	0.800	0.762	0.837	0.867	11.13
32)		Benzoic acid		0.145	0.160	0.169	0.176	0.186	0.208	0.174	12.50
33)		4-Chloroaniline	0.385	0.362	0.350	0.379	0.365	0.333	0.347	0.360	5.08
34)	C	Hexachlorobuta...	0.222	0.200	0.184	0.183	0.175	0.168	0.171	0.186	10.19
35)		Caprolactam	0.080	0.073	0.073	0.080	0.069	0.074	0.078	0.075	5.37
36)	C	4-Chloro-3-met...	0.255	0.249	0.263	0.251	0.254	0.262	0.241	0.254	3.01
37)		2-Methylnaphth...	0.677	0.610	0.570	0.608	0.614	0.578	0.550	0.601	6.84

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF101015.M

38)	I	Acenaphthene-d10	----------ISTD----------								
39)		1,2,4,5-Tetrac...	0.690	0.653	0.596	0.557	0.544	0.530	0.594	0.595	9.85
40)	P	Hexachlorocycl...		0.146	0.201	0.260	0.271	0.284	0.310	0.245	24.71
41)	S	2,4,6-Tribromo...	0.199	0.202	0.186	0.176	0.170	0.182	0.197	0.188	6.57
42)	C	2,4,6-Trichlor...	0.440	0.429	0.385	0.367	0.366	0.375	0.406	0.395	7.63
43)		2,4,5-Trichlor...	0.468	0.456	0.402	0.418	0.415	0.406	0.432	0.428	5.90
44)	S	2-Fluorobiphenyl		1.492	1.162	1.264	1.193	1.101	1.024	1.206	13.43
45)		1,1'-Biphenyl	1.830	1.776	1.425	1.390	1.429	1.444	1.381	1.525	12.56
46)		2-Chloronaphth...	1.434	1.341	1.095	1.159	1.160	1.157	1.058	1.201	11.33
47)		2-Nitroaniline	0.291	0.350	0.325	0.317	0.331	0.348	0.345	0.330	6.34
48)		Acenaphthylene	2.368	2.081	1.834	1.819	1.700	1.601	1.689	1.870	14.32
49)		Dimethylphthalate	1.815	1.523	1.364	1.241	1.265	1.350	1.301	1.408	14.31
50)		2,6-Dinitrotol...	0.308	0.330	0.262	0.306	0.288	0.257	0.328	0.297	9.87
51)	C	Acenaphthene	1.400	1.177	1.066	1.116	1.075	1.014	1.012	1.123	12.01
52)		3-Nitroaniline	0.347	0.363	0.324	0.338	0.324	0.301	0.352	0.336	6.30
53)	P	2,4-Dinitrophenol		0.099	0.122	0.153	0.156	0.156	0.170	0.143	18.65
54)		Dibenzofuran	1.833	1.734	1.526	1.525	1.432	1.318	1.423	1.541	11.79
55)	P	4-Nitrophenol		0.152	0.169	0.204	0.199	0.193	0.236	0.192	15.19
56)		2,4-Dinitrotol...	0.354	0.427	0.368	0.376	0.350	0.356	0.369	0.371	7.04
57)		Fluorene	1.597	1.436	1.248	1.228	1.176	1.062	1.116	1.266	14.85
58)		2,3,4,6-Tetrac...	0.385	0.382	0.355	0.320	0.322	0.329	0.354	0.350	7.77
59)		Diethylphthalate		1.501	1.350	1.252	1.189	1.229	1.356	1.313	8.65
60)		4-Chlorophenyl...		0.707	0.582	0.541	0.528	0.532	0.589	0.580	11.66
61)		4-Nitroaniline	0.295	0.344	0.321	0.337	0.323	0.328	0.331	0.326	4.81
62)		Azobenzene	1.518	1.426	1.258	1.193	1.158	1.157	1.284	1.285	10.81
63)	I	Phenanthrene-d10	----------ISTD----------								
64)		4,6-Dinitro-2-...		0.097	0.104	0.123	0.116	0.108	0.125	0.112	9.74
65)	c	n-Nitrosodiphe...	0.732	0.655	0.571	0.588	0.538	0.514	0.595	0.599	12.32
66)		4-Bromophenyl-...	0.228	0.225	0.196	0.194	0.182	0.175	0.201	0.200	9.98
67)		Hexachlorobenzene	0.265	0.231	0.196	0.214	0.206	0.205	0.198	0.216	11.24
68)		Atrazine	0.238	0.198	0.198	0.171	0.166	0.179	0.178	0.190	13.07
69)	C	Pentachlorophenol	0.079	0.106	0.105	0.123	0.125	0.119	0.122	0.111	14.56
70)		Phenanthrene	1.237	1.081	0.976	0.916	0.884	0.831	0.937	0.980	14.04
71)		Anthracene		1.203	0.978	1.039	0.999	0.966	0.877	1.010	10.72
72)		Carbazole	1.089	1.013	0.878	0.890	0.866	0.859	0.856	0.922	9.97
73)		Di-n-butylphth...	1.389	1.294	1.156	1.117	1.047	0.961	0.994	1.137	13.82
74)	C	Fluoranthene	1.275	1.145	1.067	1.067	0.972	0.894	0.952	1.053	12.29
75)	I	Chrysene-d12	----------ISTD----------								
76)		Benzidine	0.598	0.668	0.581	0.594	0.554	0.520	0.542	0.580	8.34
77)		Pyrene	1.379	1.201	1.131	1.137	1.100	1.068	1.292	1.187	9.43
78)	S	Terphenyl-d14	0.946	0.801	0.689	0.736	0.708	0.674	0.729	0.755	12.43
79)		Butylbenzylpht...	0.605	0.562	0.513	0.510	0.504	0.494	0.604	0.542	8.88
80)		Benzo(a)anthra...	1.230	1.056	0.955	0.998	0.986	0.973	1.086	1.041	9.19
81)		3,3'-Dichlorob...	0.422	0.410	0.389	0.384	0.366	0.371	0.423	0.395	5.99
82)		Chrysene	1.366	1.192	1.040	0.957	1.001	1.046	1.074	1.096	12.70

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF101015.M

83)		Bis(2-ethylhex...	0.882	0.784	0.716	0.764	0.744	0.740	0.780	0.773	6.96
84)	c	Di-n-octyl pht...	1.578	1.360	1.201	1.242	1.231	1.274	1.404	1.327	9.99
85)		Indeno(1,2,3-c...	1.058	0.965	0.822	0.775	0.793	0.796	0.894	0.872	12.19
86)	I	Perylene-d12	----------ISTD----------								
87)		Benzo(b)fluora...	1.333	1.202	1.039	1.346	1.259	1.181	1.157	1.217	8.80
88)		Benzo(k)fluora...	1.268	1.139	1.087	0.858	0.871	0.914	1.022	1.023	14.94
89)	C	Benzo(a)pyrene	1.268	1.104	0.985	1.005	0.985	0.974	1.000	1.046	10.25
90)		Dibenzo(a,h)an...	0.971	0.937	0.817	0.815	0.795	0.808	0.855	0.857	8.14
91)		Benzo(g,h,i)pe...	0.980	0.915	0.776	0.765	0.767	0.773	0.852	0.832	10.35

(#) = Out of Range

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/16/2015 11:49

Lab File ID: BF082320.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	0.991	1.006		1.5	
Benzaldehyde	0.659	0.805		22.2	
Phenol-d6	1.290	1.355		5.0	
Phenol	1.487	1.424		-4.2	20.0
bis(2-Chloroethyl)ether	1.257	1.202		-4.4	
2-Chlorophenol	1.210	1.225		1.2	
2-Methylphenol	0.957	1.015		6.1	
2,2-oxybis(1-Chloropropane)	1.751	1.617		-7.7	
Acetophenone	0.396	0.407		2.8	
3+4-Methylphenols	1.140	1.262		10.7	
n-Nitroso-di-n-propylamine	0.906	0.856	0.050	-5.5	
Nitrobenzene-d5	0.298	0.318		6.7	
Hexachloroethane	0.504	0.493		-2.2	
Nitrobenzene	0.322	0.304		-5.6	
Isophorone	0.601	0.595		-1.0	
2-Nitrophenol	0.161	0.177		9.9	20.0
2,4-Dimethylphenol	0.259	0.293		13.1	
bis(2-Chloroethoxy)methane	0.350	0.366		4.6	
2,4-Dichlorophenol	0.259	0.263		1.5	20.0
Naphthalene	0.867	0.825		-4.8	
4-Chloroaniline	0.360	0.345		-4.2	
Hexachlorobutadiene	0.186	0.182		-2.2	20.0
Caprolactam	0.075	0.088		17.3	
4-Chloro-3-methylphenol	0.254	0.295		16.1	20.0
2-Methylnaphthalene	0.601	0.637		6.0	
Hexachlorocyclopentadiene	0.245	0.182	0.050	-25.7	
2,4,6-Trichlorophenol	0.395	0.381		-3.5	20.0
2-Fluorobiphenyl	1.206	1.235		2.4	
2,4,5-Trichlorophenol	0.428	0.411		-4.0	
1,1-Biphenyl	1.525	1.408		-7.7	
2-Chloronaphthalene	1.201	1.152		-4.1	
2-Nitroaniline	0.330	0.369		11.8	
Dimethylphthalate	1.408	1.267		-10.0	
Acenaphthylene	1.870	1.812		-3.1	
2,6-Dinitrotoluene	0.297	0.317		6.7	
3-Nitroaniline	0.336	0.339		0.9	
Acenaphthene	1.123	1.121		-0.2	20.0
2,4-Dinitrophenol	0.143	0.155	0.050	8.4	
4-Nitrophenol	0.192	0.215	0.050	12.0	
Dibenzofuran	1.541	1.470		-4.6	
2,4-Dinitrotoluene	0.371	0.369		-0.5	

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/16/2015 11:49

Lab File ID: BF082320.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.313	1.217		-7.3	
4-Chlorophenyl-phenylether	0.580	0.550		-5.2	
Fluorene	1.266	1.220		-3.6	
4-Nitroaniline	0.326	0.359		10.1	
4,6-Dinitro-2-methylphenol	0.112	0.111		-0.9	
n-Nitrosodiphenylamine	0.599	0.535		-10.7	20.0
2,4,6-Tribromophenol	0.188	0.183		-2.7	
4-Bromophenyl-phenylether	0.200	0.178		-11.0	
Hexachlorobenzene	0.216	0.204		-5.6	
Atrazine	0.190	0.186		-2.1	
Pentachlorophenol	0.111	0.114		2.7	20.0
Phenanthrene	0.980	0.902		-8.0	
Anthracene	1.010	1.024		1.4	
Carbazole	0.922	0.916		-0.7	
Di-n-butylphthalate	1.137	1.016		-10.6	
Fluoranthene	1.053	1.065		1.1	20.0
Pyrene	1.187	1.146		-3.5	
Terphenyl-d14	0.755	0.668		-11.5	
Butylbenzylphthalate	0.542	0.477		-12.0	
3,3-Dichlorobenzidine	0.395	0.370		-6.3	
Benzo(a)anthracene	1.041	0.978		-6.1	
Chrysene	1.096	0.941		-14.1	
Bis(2-ethylhexyl)phthalate	0.773	0.645		-16.6	
Di-n-octyl phthalate	1.327	1.086		-18.2	20.0
Benzo(b)fluoranthene	1.217	1.037		-14.8	
Benzo(k)fluoranthene	1.023	1.098		7.3	
Benzo(a)pyrene	1.046	0.998		-4.6	20.0
Indeno(1,2,3-cd)pyrene	0.872	0.856		-1.8	
Dibenzo(a,h)anthracene	0.857	0.858		0.1	
Benzo(g,h,i)perylene	0.833	0.846		1.6	
1,2,4,5-Tetrachlorobenzene	0.595	0.517		-13.1	
2,3,4,6-Tetrachlorophenol	0.350	0.362		3.4	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

Evaluate Continuing Calibration Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082320.D
Acq On : 16 Oct 2015 11:49
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 17 01:10:12 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	91	0.00
2		1,4-Dioxane	40.000	37.415	6.5	91	-0.07
3		Pyridine	40.000	44.654	-11.6	104	-0.05
4		n-Nitrosodimethylamine	40.000	43.061	-7.7	95	-0.06
5	S	2-Fluorophenol	80.000	81.221	-1.5	89	0.00
6		Aniline	40.000	40.917	-2.3	90	0.00
7	S	Phenol-d6	80.000	84.051	-5.1	93	0.00
8		2-Chlorophenol	40.000	40.504	-1.3	95	0.00
9		Benzaldehyde	40.000	48.887	-22.2	103	0.00
10	C	Phenol	40.000	38.313	4.2	82	0.01
11		bis(2-Chloroethyl)ether	40.000	38.236	4.4	86	0.00
12		1,3-Dichlorobenzene	40.000	41.021	-2.6	95	0.00
13	C	1,4-Dichlorobenzene	40.000	40.861	-2.2	93	0.00
14		1,2-Dichlorobenzene	40.000	36.918	7.7	92	0.00
15		Benzyl Alcohol	40.000	45.421	-13.6	100	0.01
16		2,2'-oxybis(1-Chloropropane	40.000	36.936	7.7	90	0.00
17		2-Methylphenol	40.000	42.429	-6.1	98	0.01
18		Hexachloroethane	40.000	39.133	2.2	92	0.00
19	P	n-Nitroso-di-n-propylamine	40.000	37.791	5.5	89	-0.01
20		3+4-Methylphenols	40.000	44.268	-10.7	104	0.01
21	I	Naphthalene-d8	20.000	20.000	0.0	93	0.00
22		Acetophenone	40.000	41.152	-2.9	98	0.00
23	S	Nitrobenzene-d5	80.000	85.488	-6.9	98	0.00
24		Nitrobenzene	40.000	37.708	5.7	97	0.00
25		Isophorone	40.000	39.621	0.9	96	0.00
26	C	2-Nitrophenol	40.000	43.960	-9.9	92	0.00
27		2,4-Dimethylphenol	40.000	45.195	-13.0	109	0.01
28		bis(2-Chloroethoxy)methane	40.000	41.888	-4.7	92	0.00
29	C	2,4-Dichlorophenol	40.000	40.653	-1.6	89	0.01
30		1,2,4-Trichlorobenzene	40.000	39.275	1.8	92	0.00
31		Naphthalene	40.000	38.063	4.8	92	0.00
32		Benzoic acid	40.000	36.232	9.4	87	0.01
33		4-Chloroaniline	40.000	38.317	4.2	85	0.00
34	C	Hexachlorobutadiene	40.000	39.059	2.4	93	0.00
35		Caprolactam	40.000	46.999	-17.5	103	0.00
36	C	4-Chloro-3-methylphenol	40.000	46.513	-16.3	109	0.01
37		2-Methylnaphthalene	40.000	42.380	-6.0	98	0.00
38	I	Acenaphthene-d10	20.000	20.000	0.0	98	0.00
39		1,2,4,5-Tetrachlorobenzene	40.000	34.746	13.1	91	0.00
40	P	Hexachlorocyclopentadiene	40.000	29.925	25.2#	69	0.00
41	S	2,4,6-Tribromophenol	80.000	78.182	2.3	102	0.01
42	C	2,4,6-Trichlorophenol	40.000	38.525	3.7	102	0.01
43		2,4,5-Trichlorophenol	40.000	38.408	4.0	97	0.00
44	S	2-Fluorobiphenyl	80.000	81.916	-2.4	96	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082320.D
Acq On : 16 Oct 2015 11:49
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 17 01:10:12 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45		1,1'-Biphenyl	40.000	36.934	7.7	100	0.01
46		2-Chloronaphthalene	40.000	38.371	4.1	98	0.00
47		2-Nitroaniline	40.000	44.752	-11.9	114	0.01
48		Acenaphthylene	40.000	38.751	3.1	98	0.00
49		Dimethylphthalate	40.000	35.996	10.0	100	0.00
50		2,6-Dinitrotoluene	40.000	42.625	-6.6	102	0.00
51	C	Acenaphthene	40.000	39.930	0.2	99	0.00
52		3-Nitroaniline	40.000	40.446	-1.1	99	0.00
53	P	2,4-Dinitrophenol	40.000	40.728	-1.8	100	0.00
54		Dibenzofuran	40.000	38.152	4.6	95	0.00
55	P	4-Nitrophenol	40.000	44.902	-12.3	104	0.01
56		2,4-Dinitrotoluene	40.000	39.714	0.7	96	0.00
57		Fluorene	40.000	38.552	3.6	98	0.00
58		2,3,4,6-Tetrachlorophenol	40.000	41.351	-3.4	111	0.01
59		Diethylphthalate	40.000	37.070	7.3	95	0.00
60		4-Chlorophenyl-phenylether	40.000	37.905	5.2	100	0.00
61		4-Nitroaniline	40.000	44.129	-10.3	105	0.00
62		Azobenzene	40.000	36.907	7.7	98	0.00
63	I	Phenanthrene-d10	20.000	20.000	0.0	107	0.00
64		4,6-Dinitro-2-methylphenol	40.000	39.469	1.3	96	0.00
65	c	n-Nitrosodiphenylamine	40.000	35.716	10.7	98	0.00
66		4-Bromophenyl-phenylether	40.000	35.647	10.9	99	0.00
67		Hexachlorobenzene	40.000	37.685	5.8	102	0.00
68		Atrazine	40.000	39.282	1.8	117	0.01
69	C	Pentachlorophenol	40.000	41.041	-2.6	100	0.00
70		Phenanthrene	40.000	36.812	8.0	106	0.00
71		Anthracene	40.000	40.540	-1.3	106	0.00
72		Carbazole	40.000	39.777	0.6	110	0.01
73		Di-n-butylphthalate	40.000	35.765	10.6	98	0.00
74	C	Fluoranthene	40.000	40.442	-1.1	107	0.01
75	I	Chrysene-d12	20.000	20.000	0.0	115	0.06
76		Benzidine	40.000	22.889	42.8#	65	0.01
77		Pyrene	40.000	38.623	3.4	116	0.01
78	S	Terphenyl-d14	80.000	70.807	11.5	105	0.00
79		Butylbenzylphthalate	40.000	35.195	12.0	108	0.02
80		Benzo(a)anthracene	40.000	37.612	6.0	113	0.06
81		3,3'-Dichlorobenzidine	40.000	37.473	6.3	111	0.06
82		Chrysene	40.000	34.344	14.1	114	0.06
83		Bis(2-ethylhexyl)phthalate	40.000	33.389	16.5	98	0.05
84	c	Di-n-octyl phthalate	40.000	32.746	18.1	101	0.13
85		Indeno(1,2,3-cd)pyrene	40.000	39.299	1.8	128	0.17
86	I	Perylene-d12	20.000	20.000	0.0	120	0.15
87		Benzo(b)fluoranthene	40.000	34.074	14.8	92	0.14

Evaluate Continuing Calibration Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082320.D
Acq On : 16 Oct 2015 11:49
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 17 01:10:12 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
88	Benzo(k)fluoranthene	40.000	42.931	-7.3	153	0.14
89 C	Benzo(a)pyrene	40.000	38.179	4.6	119	0.15
90	Dibenzo(a,h)anthracene	40.000	40.051	-0.1	126	0.18
91	Benzo(g,h,i)perylene	40.000	40.658	-1.6	132	0.18

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/19/2015 13:18

Lab File ID: BF082352.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	0.991	1.045		5.4	
Benzaldehyde	0.659	0.704		6.8	
Phenol-d6	1.290	1.310		1.5	
Phenol	1.487	1.471		-1.1	20.0
bis(2-Chloroethyl)ether	1.257	1.182		-6.0	
2-Chlorophenol	1.210	1.179		-2.6	
2-Methylphenol	0.957	0.923		-3.6	
2,2-oxybis(1-Chloropropane)	1.751	1.544		-11.8	
Acetophenone	0.396	0.391		-1.3	
3+4-Methylphenols	1.140	1.157		1.5	
n-Nitroso-di-n-propylamine	0.906	0.791	0.050	-12.7	
Nitrobenzene-d5	0.298	0.290		-2.7	
Hexachloroethane	0.504	0.485		-3.8	
Nitrobenzene	0.322	0.328		1.9	
Isophorone	0.601	0.598		-0.5	
2-Nitrophenol	0.161	0.165		2.5	20.0
2,4-Dimethylphenol	0.259	0.261		0.8	
bis(2-Chloroethoxy)methane	0.350	0.331		-5.4	
2,4-Dichlorophenol	0.259	0.277		6.9	20.0
Naphthalene	0.867	0.832		-4.0	
4-Chloroaniline	0.360	0.351		-2.5	
Hexachlorobutadiene	0.186	0.167		-10.2	20.0
Caprolactam	0.075	0.074		-1.3	
4-Chloro-3-methylphenol	0.254	0.251		-1.2	20.0
2-Methylnaphthalene	0.601	0.577		-4.0	
Hexachlorocyclopentadiene	0.245	0.199	0.050	-18.8	
2,4,6-Trichlorophenol	0.395	0.412		4.3	20.0
2-Fluorobiphenyl	1.206	1.067		-11.5	
2,4,5-Trichlorophenol	0.428	0.411		-4.0	
1,1-Biphenyl	1.525	1.452		-4.8	
2-Chloronaphthalene	1.201	1.081		-10.0	
2-Nitroaniline	0.330	0.338		2.4	
Dimethylphthalate	1.408	1.320		-6.3	
Acenaphthylene	1.870	1.733		-7.3	
2,6-Dinitrotoluene	0.297	0.332		11.8	
3-Nitroaniline	0.336	0.355		5.4	
Acenaphthene	1.123	1.039		-7.5	20.0
2,4-Dinitrophenol	0.143	0.148	0.050	3.5	
4-Nitrophenol	0.192	0.195	0.050	1.6	
Dibenzofuran	1.541	1.491		-3.2	
2,4-Dinitrotoluene	0.371	0.380		2.4	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/19/2015 13:18

Lab File ID: BF082352.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.313	1.375		4.7	
4-Chlorophenyl-phenylether	0.580	0.611		5.3	
Fluorene	1.266	1.261		-0.4	
4-Nitroaniline	0.326	0.340		4.3	
4,6-Dinitro-2-methylphenol	0.112	0.111		-0.9	
n-Nitrosodiphenylamine	0.599	0.602		0.5	20.0
2,4,6-Tribromophenol	0.188	0.157		-16.5	
4-Bromophenyl-phenylether	0.200	0.189		-5.5	
Hexachlorobenzene	0.216	0.182		-15.7	
Atrazine	0.190	0.162		-14.7	
Pentachlorophenol	0.111	0.109		-1.8	20.0
Phenanthrene	0.980	0.957		-2.3	
Anthracene	1.010	0.937		-7.2	
Carbazole	0.922	0.838		-9.1	
Di-n-butylphthalate	1.137	1.040		-8.5	
Fluoranthene	1.053	0.942		-10.5	20.0
Pyrene	1.187	1.186		-0.1	
Terphenyl-d14	0.755	0.639		-15.4	
Butylbenzylphthalate	0.542	0.538		-0.7	
3,3-Dichlorobenzidine	0.395	0.401		1.5	
Benzo(a)anthracene	1.041	0.954		-8.4	
Chrysene	1.096	0.986		-10.0	
Bis(2-ethylhexyl)phthalate	0.773	0.730		-5.6	
Di-n-octyl phthalate	1.327	1.305		-1.7	20.0
Benzo(b)fluoranthene	1.217	1.272		4.5	
Benzo(k)fluoranthene	1.023	0.850		-16.9	
Benzo(a)pyrene	1.046	0.985		-5.8	20.0
Indeno(1,2,3-cd)pyrene	0.872	0.813		-6.8	
Dibenzo(a,h)anthracene	0.857	0.877		2.3	
Benzo(g,h,i)perylene	0.833	0.855		2.6	
1,2,4,5-Tetrachlorobenzene	0.595	0.584		-1.8	
2,3,4,6-Tetrachlorophenol	0.350	0.331		-5.4	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\Data\BF101915\
Data File : BF082352.D
Acq On : 19 Oct 2015 13:18
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 01:57:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	146	-0.03
2		1,4-Dioxane	40.000	37.852	5.4	148	-0.08
3		Pyridine	40.000	44.272	-10.7	165	-0.09
4		n-Nitrosodimethylamine	40.000	40.793	-2.0	144	-0.08
5	S	2-Fluorophenol	80.000	84.341	-5.4	148	-0.03
6		Aniline	40.000	40.043	-0.1	141	-0.03
7	S	Phenol-d6	80.000	81.266	-1.6	144	-0.03
8		2-Chlorophenol	40.000	38.978	2.6	146	-0.03
9		Benzaldehyde	40.000	42.762	-6.9	145	-0.03
10	C	Phenol	40.000	39.568	1.1	135	-0.02
11		bis(2-Chloroethyl)ether	40.000	37.613	6.0	136	-0.03
12		1,3-Dichlorobenzene	40.000	39.722	0.7	147	-0.03
13	C	1,4-Dichlorobenzene	40.000	39.220	2.0	143	-0.03
14		1,2-Dichlorobenzene	40.000	34.022	14.9	136	-0.03
15		Benzyl Alcohol	40.000	41.912	-4.8	148	-0.02
16		2,2'-oxybis(1-Chloropropane	40.000	35.264	11.8	138	-0.03
17		2-Methylphenol	40.000	38.595	3.5	143	-0.02
18		Hexachloroethane	40.000	38.556	3.6	145	-0.03
19	P	n-Nitroso-di-n-propylamine	40.000	34.921	12.7	132	-0.03
20		3+4-Methylphenols	40.000	40.585	-1.5	153	-0.02
21	I	Naphthalene-d8	20.000	20.000	0.0	143	-0.03
22		Acetophenone	40.000	39.491	1.3	145	-0.03
23	S	Nitrobenzene-d5	80.000	77.791	2.8	137	-0.03
24		Nitrobenzene	40.000	40.643	-1.6	161	-0.02
25		Isophorone	40.000	39.776	0.6	147	-0.02
26	C	2-Nitrophenol	40.000	40.996	-2.5	132	-0.03
27		2,4-Dimethylphenol	40.000	40.233	-0.6	150	-0.02
28		bis(2-Chloroethoxy)methane	40.000	37.804	5.5	127	-0.03
29	C	2,4-Dichlorophenol	40.000	42.671	-6.7	144	-0.02
30		1,2,4-Trichlorobenzene	40.000	38.230	4.4	138	-0.03
31		Naphthalene	40.000	38.372	4.1	143	-0.03
32		Benzoic acid	40.000	30.946	22.6	114	-0.01
33		4-Chloroaniline	40.000	38.963	2.6	133	-0.03
34	C	Hexachlorobutadiene	40.000	35.779	10.6	131	-0.03
35		Caprolactam	40.000	39.086	2.3	132	-0.02
36	C	4-Chloro-3-methylphenol	40.000	39.601	1.0	143	-0.02
37		2-Methylnaphthalene	40.000	38.423	3.9	136	-0.03
38	I	Acenaphthene-d10	20.000	20.000	0.0	140	-0.03
39		1,2,4,5-Tetrachlorobenzene	40.000	39.286	1.8	147	-0.02
40	P	Hexachlorocyclopentadiene	40.000	32.057	19.9	107	-0.03
41	S	2,4,6-Tribromophenol	80.000	67.120	16.1	125	-0.02
42	C	2,4,6-Trichlorophenol	40.000	41.664	-4.2	157	-0.02
43		2,4,5-Trichlorophenol	40.000	38.446	3.9	138	-0.02
44	S	2-Fluorobiphenyl	80.000	70.765	11.5	118	-0.03

Data Path : U:\HPCHEM1\BNA F\Data\BF101915\
Data File : BF082352.D
Acq On : 19 Oct 2015 13:18
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 01:57:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45		1,1'-Biphenyl	40.000	38.077	4.8	146	-0.02
46		2-Chloronaphthalene	40.000	36.015	10.0	130	-0.03
47		2-Nitroaniline	40.000	41.042	-2.6	149	-0.02
48		Acenaphthylene	40.000	37.061	7.3	133	-0.03
49		Dimethylphthalate	40.000	37.481	6.3	149	-0.02
50		2,6-Dinitrotoluene	40.000	44.639	-11.6	152	-0.02
51	C	Acenaphthene	40.000	37.004	7.5	130	-0.02
52		3-Nitroaniline	40.000	42.245	-5.6	147	-0.02
53	P	2,4-Dinitrophenol	40.000	39.143	2.1	135	-0.02
54		Dibenzofuran	40.000	38.687	3.3	137	-0.02
55	P	4-Nitrophenol	40.000	41.575	-3.9	134	-0.02
56		2,4-Dinitrotoluene	40.000	40.929	-2.3	141	-0.02
57		Fluorene	40.000	39.837	0.4	144	-0.02
58		2,3,4,6-Tetrachlorophenol	40.000	37.900	5.3	145	-0.02
59		Diethylphthalate	40.000	41.906	-4.8	154	-0.02
60		4-Chlorophenyl-phenylether	40.000	42.164	-5.4	158	-0.02
61		4-Nitroaniline	40.000	41.797	-4.5	141	-0.02
62		Azobenzene	40.000	40.946	-2.4	154	-0.02
63	I	Phenanthrene-d10	20.000	20.000	0.0	151	-0.02
64		4,6-Dinitro-2-methylphenol	40.000	39.709	0.7	136	-0.02
65	c	n-Nitrosodiphenylamine	40.000	40.180	-0.4	154	-0.02
66		4-Bromophenyl-phenylether	40.000	37.718	5.7	147	-0.02
67		Hexachlorobenzene	40.000	33.626	15.9	128	-0.03
68		Atrazine	40.000	34.218	14.5	143	-0.02
69	C	Pentachlorophenol	40.000	39.261	1.8	134	-0.02
70		Phenanthrene	40.000	39.042	2.4	157	-0.02
71		Anthracene	40.000	37.108	7.2	136	-0.03
72		Carbazole	40.000	36.380	9.0	142	-0.02
73		Di-n-butylphthalate	40.000	36.586	8.5	140	-0.02
74	C	Fluoranthene	40.000	35.776	10.6	133	-0.02
75	I	Chrysene-d12	20.000	20.000	0.0	143	0.08
76		Benzidine	40.000	34.041	14.9	119	-0.01
77		Pyrene	40.000	39.960	0.1	150	-0.01
78	S	Terphenyl-d14	80.000	67.742	15.3	124	-0.01
79		Butylbenzylphthalate	40.000	39.711	0.7	151	0.02
80		Benzo(a)anthracene	40.000	36.685	8.3	137	0.07
81		3,3'-Dichlorobenzidine	40.000	40.606	-1.5	150	0.08
82		Chrysene	40.000	35.987	10.0	148	0.08
83		Bis(2-ethylhexyl)phthalate	40.000	37.795	5.5	137	0.08
84	c	Di-n-octyl phthalate	40.000	39.337	1.7	151	0.19
85		Indeno(1,2,3-cd)pyrene	40.000	37.335	6.7	151	0.26
86	I	Perylene-d12	20.000	20.000	0.0	143	0.23
87		Benzo(b)fluoranthene	40.000	41.830	-4.6	135	0.22

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\Data\BF101915\
Data File : BF082352.D
Acq On : 19 Oct 2015 13:18
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 01:57:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
88	Benzo(k)fluoranthene	40.000	33.256	16.9	141	0.22
89 C	Benzo(a)pyrene	40.000	37.670	5.8	140	0.23
90	Dibenzo(a,h)anthracene	40.000	40.927	-2.3	153	0.26
91	Benzo(g,h,i)perylene	40.000	41.070	-2.7	159	0.26

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/20/2015 01:13

Lab File ID: BF082374.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	0.991	0.956		-3.5	
Benzaldehyde	0.659	0.695		5.5	
Phenol-d6	1.290	1.237		-4.1	
Phenol	1.487	1.446		-2.8	20.0
bis(2-Chloroethyl)ether	1.257	1.145		-8.9	
2-Chlorophenol	1.210	1.168		-3.5	
2-Methylphenol	0.957	0.893		-6.7	
2,2-oxybis(1-Chloropropane)	1.751	1.500		-14.3	
Acetophenone	0.396	0.407		2.8	
3+4-Methylphenols	1.140	1.054		-7.5	
n-Nitroso-di-n-propylamine	0.906	0.759	0.050	-16.2	
Nitrobenzene-d5	0.298	0.287		-3.7	
Hexachloroethane	0.504	0.482		-4.4	
Nitrobenzene	0.322	0.344		6.8	
Isophorone	0.601	0.602		0.2	
2-Nitrophenol	0.161	0.166		3.1	20.0
2,4-Dimethylphenol	0.259	0.254		-1.9	
bis(2-Chloroethoxy)methane	0.350	0.334		-4.6	
2,4-Dichlorophenol	0.259	0.280		8.1	20.0
Naphthalene	0.867	0.823		-5.1	
4-Chloroaniline	0.360	0.358		-0.6	
Hexachlorobutadiene	0.186	0.167		-10.2	20.0
Caprolactam	0.075	0.082		9.3	
4-Chloro-3-methylphenol	0.254	0.264		3.9	20.0
2-Methylnaphthalene	0.601	0.589		-2.0	
Hexachlorocyclopentadiene	0.245	0.200	0.050	-18.4	
2,4,6-Trichlorophenol	0.395	0.392		-0.8	20.0
2-Fluorobiphenyl	1.206	1.032		-14.4	
2,4,5-Trichlorophenol	0.428	0.422		-1.4	
1,1-Biphenyl	1.525	1.439		-5.6	
2-Chloronaphthalene	1.201	1.091		-9.2	
2-Nitroaniline	0.330	0.328		-0.6	
Dimethylphthalate	1.408	1.318		-6.4	
Acenaphthylene	1.870	1.693		-9.5	
2,6-Dinitrotoluene	0.297	0.333		12.1	
3-Nitroaniline	0.336	0.353		5.1	
Acenaphthene	1.123	1.020		-9.2	20.0
2,4-Dinitrophenol	0.143	0.118	0.050	-17.5	
4-Nitrophenol	0.192	0.166	0.050	-13.5	
Dibenzofuran	1.541	1.426		-7.5	
2,4-Dinitrotoluene	0.371	0.365		-1.6	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/20/2015 01:13

Lab File ID: BF082374.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.313	1.359		3.5	
4-Chlorophenyl-phenylether	0.580	0.614		5.9	
Fluorene	1.266	1.186		-6.3	
4-Nitroaniline	0.326	0.332		1.8	
4,6-Dinitro-2-methylphenol	0.112	0.110		-1.8	
n-Nitrosodiphenylamine	0.599	0.589		-1.7	20.0
2,4,6-Tribromophenol	0.188	0.155		-17.6	
4-Bromophenyl-phenylether	0.200	0.192		-4.0	
Hexachlorobenzene	0.216	0.184		-14.8	
Atrazine	0.190	0.157		-17.4	
Pentachlorophenol	0.111	0.099		-10.8	20.0
Phenanthrene	0.980	0.969		-1.1	
Anthracene	1.010	0.945		-6.4	
Carbazole	0.922	0.856		-7.2	
Di-n-butylphthalate	1.137	1.044		-8.2	
Fluoranthene	1.053	0.979		-7.0	20.0
Pyrene	1.187	1.212		2.1	
Terphenyl-d14	0.755	0.703		-6.9	
Butylbenzylphthalate	0.542	0.558		3.0	
3,3-Dichlorobenzidine	0.395	0.384		-2.8	
Benzo(a)anthracene	1.041	1.039		-0.2	
Chrysene	1.096	1.060		-3.3	
Bis(2-ethylhexyl)phthalate	0.773	0.776		0.4	
Di-n-octyl phthalate	1.327	1.347		1.5	20.0
Benzo(b)fluoranthene	1.217	1.306		7.3	
Benzo(k)fluoranthene	1.023	0.808		-21.0	
Benzo(a)pyrene	1.046	0.986		-5.7	20.0
Indeno(1,2,3-cd)pyrene	0.872	0.895		2.6	
Dibenzo(a,h)anthracene	0.857	0.883		3.0	
Benzo(g,h,i)perylene	0.833	0.861		3.4	
1,2,4,5-Tetrachlorobenzene	0.595	0.582		-2.2	
2,3,4,6-Tetrachlorophenol	0.350	0.321		-8.3	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082374.D
Acq On : 20 Oct 2015 1:13
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 03:14:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	156	-0.03
2		1,4-Dioxane	40.000	36.134	9.7	150	-0.08
3		Pyridine	40.000	41.610	-4.0	165	-0.09
4		n-Nitrosodimethylamine	40.000	41.406	-3.5	155	-0.08
5	S	2-Fluorophenol	80.000	77.147	3.6	144	-0.03
6		Aniline	40.000	38.457	3.9	144	-0.03
7	S	Phenol-d6	80.000	76.740	4.1	144	-0.02
8		2-Chlorophenol	40.000	38.616	3.5	154	-0.03
9		Benzaldehyde	40.000	42.195	-5.5	152	-0.03
10	C	Phenol	40.000	38.914	2.7	141	-0.02
11		bis(2-Chloroethyl)ether	40.000	36.419	9.0	139	-0.03
12		1,3-Dichlorobenzene	40.000	38.799	3.0	152	-0.03
13	C	1,4-Dichlorobenzene	40.000	38.249	4.4	148	-0.03
14		1,2-Dichlorobenzene	40.000	33.270	16.8	142	-0.03
15		Benzyl Alcohol	40.000	39.330	1.7	148	-0.02
16		2,2'-oxybis(1-Chloropropane	40.000	34.262	14.3	142	-0.03
17		2-Methylphenol	40.000	37.322	6.7	147	-0.02
18		Hexachloroethane	40.000	38.291	4.3	153	-0.03
19	P	n-Nitroso-di-n-propylamine	40.000	33.535	16.2	135	-0.03
20		3+4-Methylphenols	40.000	36.998	7.5	148	-0.02
21	I	Naphthalene-d8	20.000	20.000	0.0	148	-0.03
22		Acetophenone	40.000	41.161	-2.9	156	-0.03
23	S	Nitrobenzene-d5	80.000	77.126	3.6	140	-0.03
24		Nitrobenzene	40.000	42.623	-6.6	175	-0.02
25		Isophorone	40.000	40.041	-0.1	153	-0.02
26	C	2-Nitrophenol	40.000	41.192	-3.0	137	-0.03
27		2,4-Dimethylphenol	40.000	39.180	2.1	151	-0.02
28		bis(2-Chloroethoxy)methane	40.000	38.232	4.4	133	-0.03
29	C	2,4-Dichlorophenol	40.000	43.155	-7.9	150	-0.02
30		1,2,4-Trichlorobenzene	40.000	39.110	2.2	146	-0.03
31		Naphthalene	40.000	37.960	5.1	146	-0.03
32		Benzoic acid	40.000	31.720	20.7	121	0.00
33		4-Chloroaniline	40.000	39.751	0.6	140	-0.02
34	C	Hexachlorobutadiene	40.000	35.803	10.5	135	-0.03
35		Caprolactam	40.000	43.731	-9.3	153	-0.01
36	C	4-Chloro-3-methylphenol	40.000	41.704	-4.3	156	-0.01
37		2-Methylnaphthalene	40.000	39.196	2.0	144	-0.03
38	I	Acenaphthene-d10	20.000	20.000	0.0	146	-0.03
39		1,2,4,5-Tetrachlorobenzene	40.000	39.146	2.1	153	-0.02
40	P	Hexachlorocyclopentadiene	40.000	32.153	19.6	113	-0.03
41	S	2,4,6-Tribromophenol	80.000	66.281	17.1	129	-0.02
42	C	2,4,6-Trichlorophenol	40.000	39.675	0.8	157	-0.02
43		2,4,5-Trichlorophenol	40.000	39.458	1.4	148	-0.02
44	S	2-Fluorobiphenyl	80.000	68.480	14.4	120	-0.03

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082374.D
Acq On : 20 Oct 2015 1:13
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 03:14:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45		1,1'-Biphenyl	40.000	37.746	5.6	152	-0.02
46		2-Chloronaphthalene	40.000	36.361	9.1	138	-0.03
47		2-Nitroaniline	40.000	39.753	0.6	151	-0.02
48		Acenaphthylene	40.000	36.201	9.5	136	-0.03
49		Dimethylphthalate	40.000	37.421	6.4	155	-0.02
50		2,6-Dinitrotoluene	40.000	44.879	-12.2	160	-0.02
51	C	Acenaphthene	40.000	36.349	9.1	134	-0.03
52		3-Nitroaniline	40.000	42.066	-5.2	153	-0.02
53	P	2,4-Dinitrophenol	40.000	32.503	18.7	113	-0.02
54		Dibenzofuran	40.000	37.010	7.5	137	-0.03
55	P	4-Nitrophenol	40.000	36.411	9.0	119	-0.01
56		2,4-Dinitrotoluene	40.000	39.316	1.7	142	-0.02
57		Fluorene	40.000	37.474	6.3	141	-0.02
58		2,3,4,6-Tetrachlorophenol	40.000	36.705	8.2	147	-0.02
59		Diethylphthalate	40.000	41.405	-3.5	159	-0.02
60		4-Chlorophenyl-phenylether	40.000	42.375	-5.9	166	-0.02
61		4-Nitroaniline	40.000	40.737	-1.8	144	-0.02
62		Azobenzene	40.000	40.365	-0.9	159	-0.02
63	I	Phenanthrene-d10	20.000	20.000	0.0	154	-0.02
64		4,6-Dinitro-2-methylphenol	40.000	39.035	2.4	137	-0.02
65	c	n-Nitrosodiphenylamine	40.000	39.357	1.6	155	-0.02
66		4-Bromophenyl-phenylether	40.000	38.365	4.1	153	-0.02
67		Hexachlorobenzene	40.000	34.075	14.8	133	-0.03
68		Atrazine	40.000	33.149	17.1	142	-0.02
69	C	Pentachlorophenol	40.000	35.499	11.3	124	-0.02
70		Phenanthrene	40.000	39.523	1.2	163	-0.02
71		Anthracene	40.000	37.423	6.4	140	-0.03
72		Carbazole	40.000	37.173	7.1	148	-0.01
73		Di-n-butylphthalate	40.000	36.731	8.2	144	-0.02
74	C	Fluoranthene	40.000	37.183	7.0	141	-0.02
75	I	Chrysene-d12	20.000	20.000	0.0	132	0.01
76		Benzidine	40.000	39.386	1.5	127	-0.02
77		Pyrene	40.000	40.851	-2.1	140	-0.02
78	S	Terphenyl-d14	80.000	74.494	6.9	126	-0.02
79		Butylbenzylphthalate	40.000	41.242	-3.1	144	-0.01
80		Benzo(a)anthracene	40.000	39.929	0.2	137	0.01
81		3,3'-Dichlorobenzidine	40.000	38.897	2.8	132	0.01
82		Chrysene	40.000	38.668	3.3	146	0.02
83		Bis(2-ethylhexyl)phthalate	40.000	40.164	-0.4	134	0.01
84	c	Di-n-octyl phthalate	40.000	40.608	-1.5	143	0.08
85		Indeno(1,2,3-cd)pyrene	40.000	41.096	-2.7	152	0.11
86	I	Perylene-d12	20.000	20.000	0.0	140	0.10
87		Benzo(b)fluoranthene	40.000	42.940	-7.3	136	0.09

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082374.D
Acq On : 20 Oct 2015 1:13
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 03:14:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
88	Benzo(k)fluoranthene	40.000	31.595	21.0	132	0.09
89 C	Benzo(a)pyrene	40.000	37.713	5.7	137	0.10
90	Dibenzo(a,h)anthracene	40.000	41.222	-3.1	152	0.11
91	Benzo(g,h,i)perylene	40.000	41.381	-3.5	157	0.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SAMPLE RAW DATA

Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082338.D
Acq On : 16 Oct 2015 21:10
Operator : UM/IZ
Sample : G4046-03 20X
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 19 14:46:29 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:28 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.93	152	51934m	20.00	ng		0.09
21) Naphthalene-d8	8.21	136	246864	20.00	ng		0.08
38) Acenaphthene-d10	9.95	164	130092	20.00	ng		0.07
63) Phenanthrene-d10	11.45	188	241981	20.00	ng		0.08
75) Chrysene-d12	14.17	240	134970	20.00	ng		0.10
86) Perylene-d12	15.76	264	210864	20.00	ng		0.17
System Monitoring Compounds							
5) 2-Fluorophenol	5.53	112	12333	4.79	ng		0.10
7) Phenol-d6	6.56	99	18897	5.64	ng		0.08
23) Nitrobenzene-d5	7.49	82	10138	2.76	ng		0.07
41) 2,4,6-Tribromophenol	10.74	330	6192	5.08	ng		0.06
44) 2-Fluorobiphenyl	9.27	172	29638	3.78	ng		0.06
78) Terphenyl-d14	13.03	244	34929	6.86	ng		0.07
Target Compounds							Qvalue
31) Naphthalene	8.23	128	413689	38.66	ng		99
37) 2-Methylnaphthalene	8.91	142	109786	14.80	ng		99
45) 1,1'-Biphenyl	9.37	154	28329	2.86	ng		99
51) Acenaphthene	9.99	154	458645	62.80	ng		100
54) Dibenzofuran	10.16	168	359575	35.86	ng		97
57) Fluorene	10.50	166	486755	59.11	ng		99
70) Phenanthrene	11.49	178	3181816	268.26	ng		95
71) Anthracene	11.53	178	1152195	94.27	ng		99
72) Carbazole	11.68	167	712020	63.86	ng		99
74) Fluoranthene	12.69	202	3800314	298.32	ng		96
77) Pyrene	12.92	202	2915937	364.04	ng		95
80) Benzo(a)anthracene	14.16	228	1210130	172.32	ng		98
82) Chrysene	14.21	228	1650728m	223.09	ng		
83) Bis(2-ethylhexyl)phthalate	14.16	149	4700183	901.26	ng	#	93
84) Di-n-octyl phthalate	14.85	149	107073	11.96	ng	#	93
85) Indeno(1,2,3-cd)pyrene	17.27	276	683469m	116.21	ng		
87) Benzo(b)fluoranthene	15.33	252	1990150m	155.13	ng		
88) Benzo(k)fluoranthene	15.35	252	714592m	66.27	ng		
89) Benzo(a)pyrene	15.70	252	1367816m	124.06	ng		
90) Dibenzo(a,h)anthracene	17.27	278	210737m	23.32	ng		
91) Benzo(g,h,i)perylene	17.72	276	617165	70.31	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (LSC Reviewed)

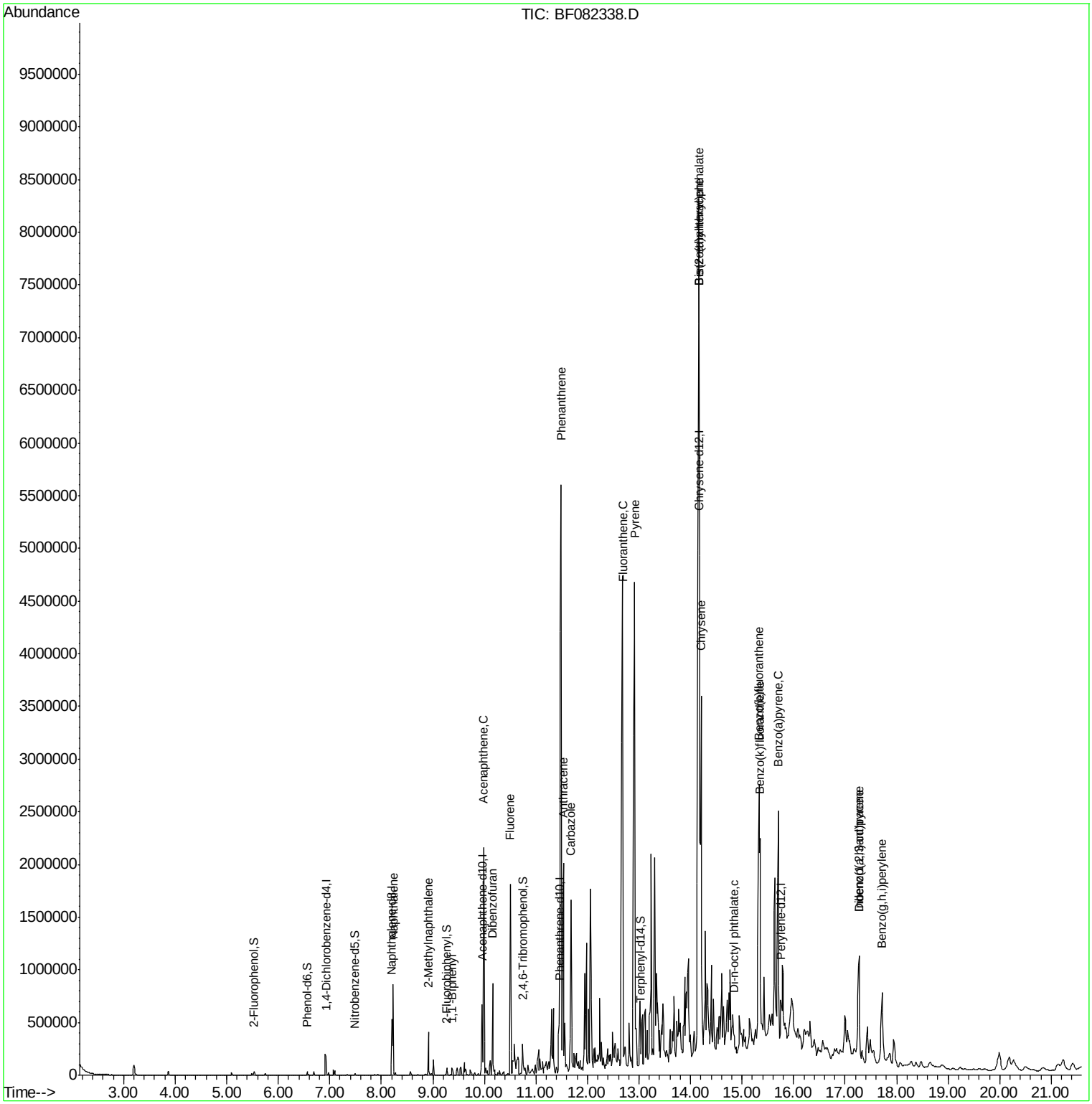
Sample Results: **BF082338.D**

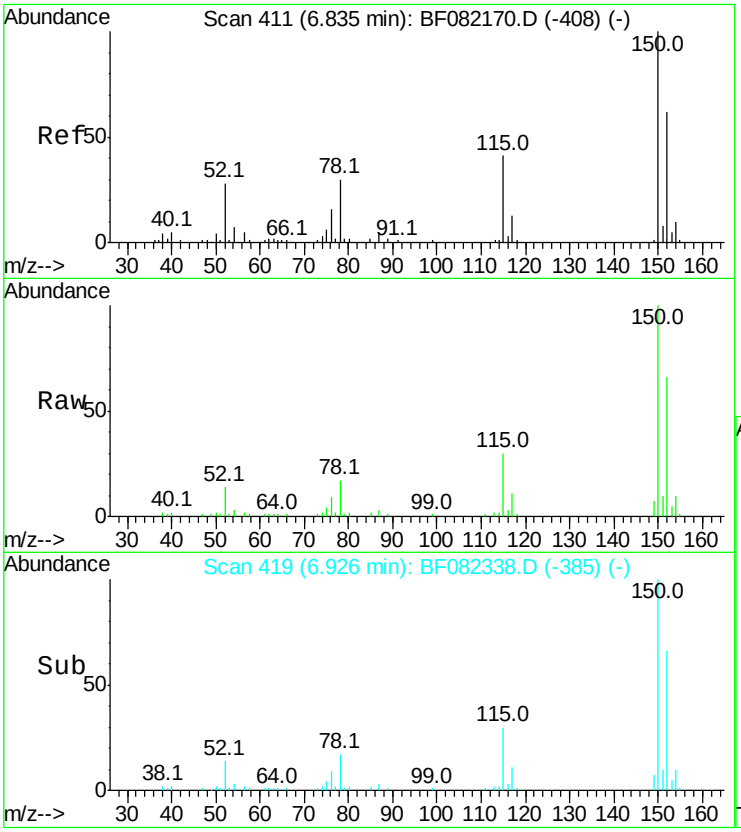
Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082338.D
Acq On : 16 Oct 2015 21:10
Operator : UM/IZ
Sample : G4046-03 20X
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 19 14:46:29 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:28 PM





#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng m
RT: 6.93 min Scan# 419
Delta R.T. 0.09 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:152 Resp: 51934

Ion	Ratio	Lower	Upper
152	100		
150	152.4	129.0	193.4
115	46.5	52.1	78.1#

Instrument :
BNA_F
ClientSampleId :
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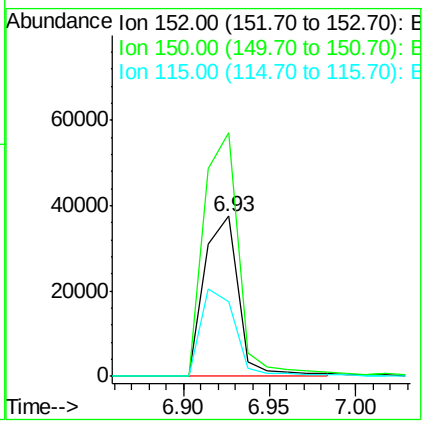
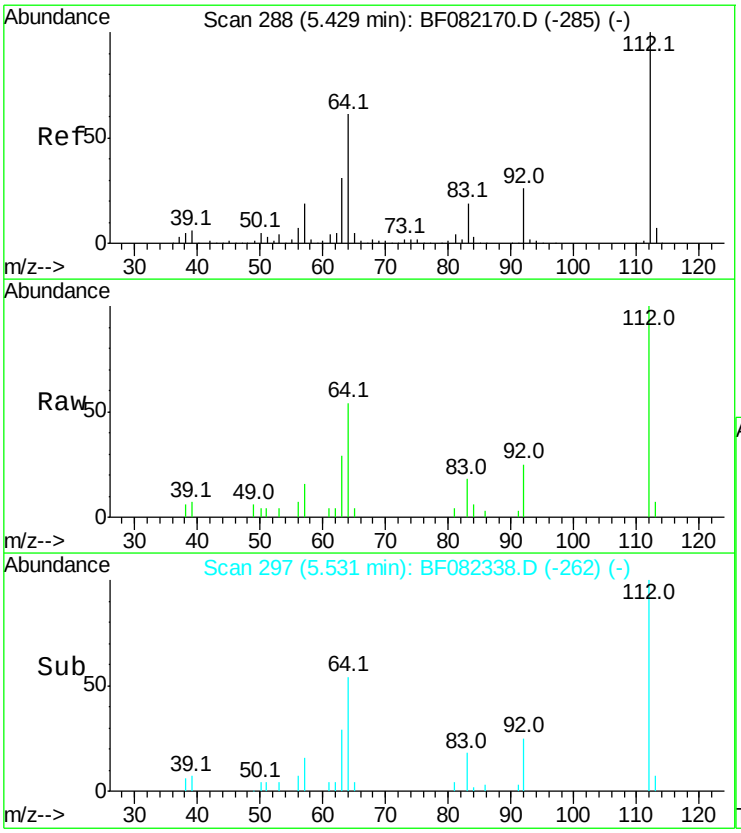
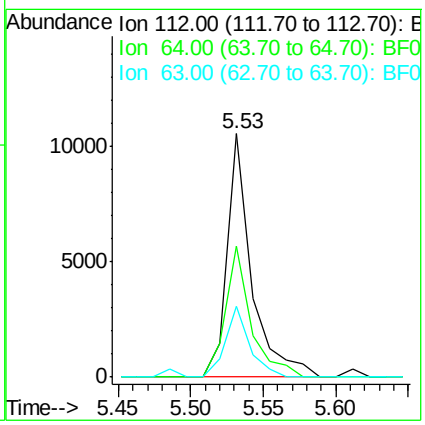


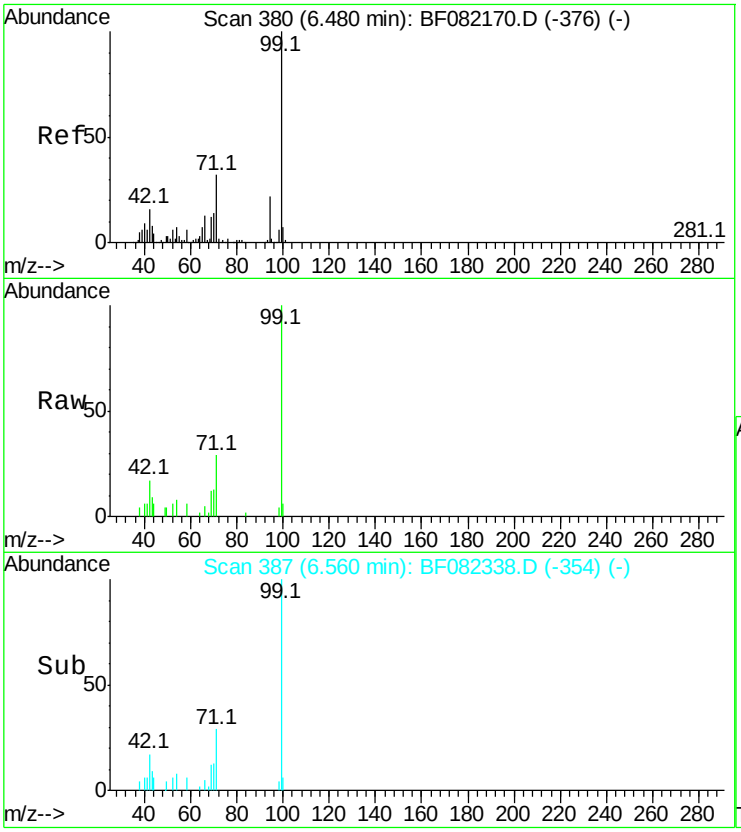


#5
2-Fluorophenol
Concen: 4.79 ng
RT: 5.53 min Scan# 297
Delta R.T. 0.10 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:112 Resp: 12333

Ion	Ratio	Lower	Upper
112	100		
64	54.0	48.6	73.0
63	29.0	25.1	37.7

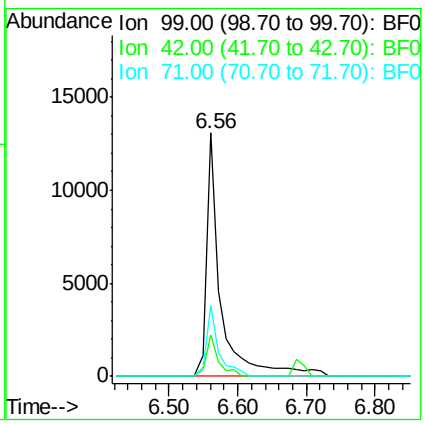




#7
Phenol-d6
Concen: 5.64 ng
RT: 6.56 min Scan# 387
Delta R.T. 0.08 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion: 99 Resp: 18897

Ion	Ratio	Lower	Upper
99	100		
42	16.8	13.2	19.8
71	29.1	25.6	38.4



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

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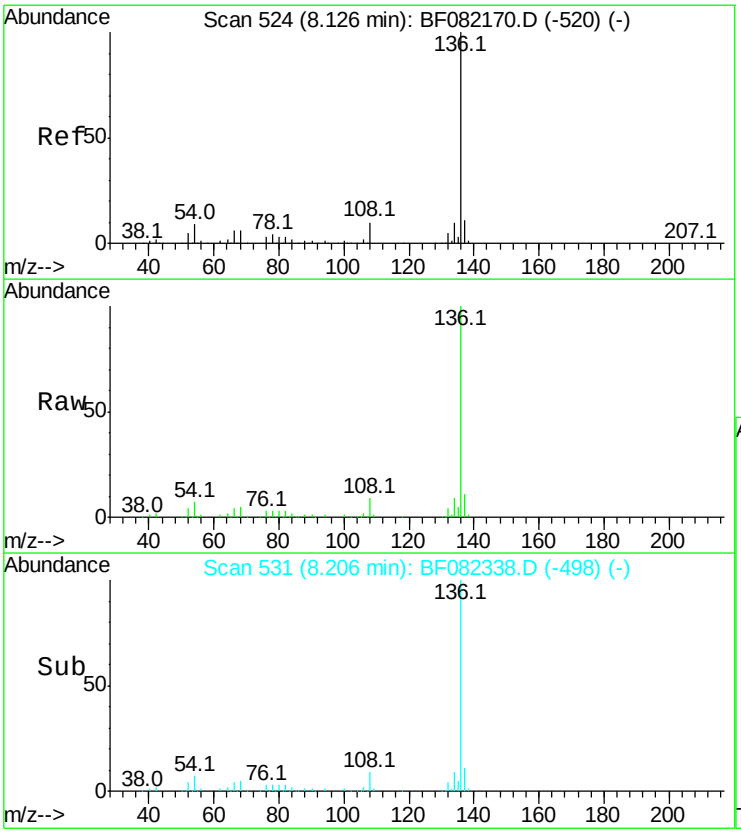
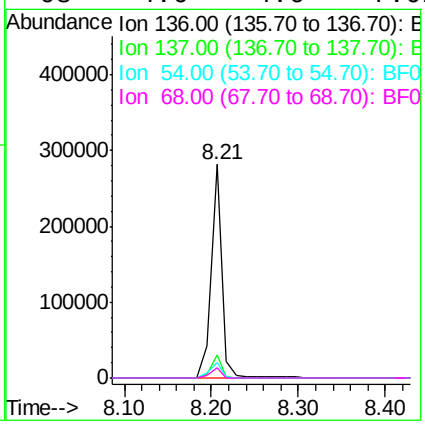
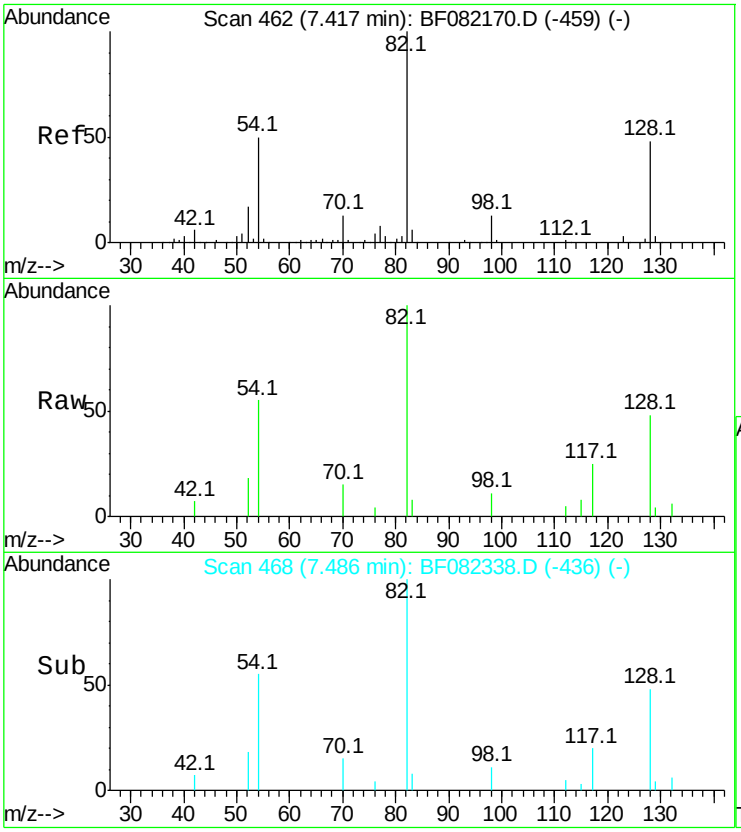


#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.21 min Scan# 531
Delta R.T. 0.08 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:136 Resp: 246864

Ion	Ratio	Lower	Upper
136	100		
137	10.7	9.0	13.6
54	7.0	7.5	11.3#
68	4.6	4.6	7.0#

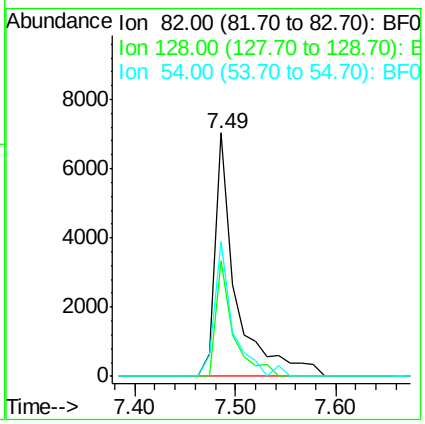




#23
Nitrobenzene-d5
Concen: 2.76 ng
RT: 7.49 min Scan# 468
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion: 82 Resp: 10138

Ion	Ratio	Lower	Upper
82	100		
128	47.6	38.7	58.1
54	55.2	40.1	60.1



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

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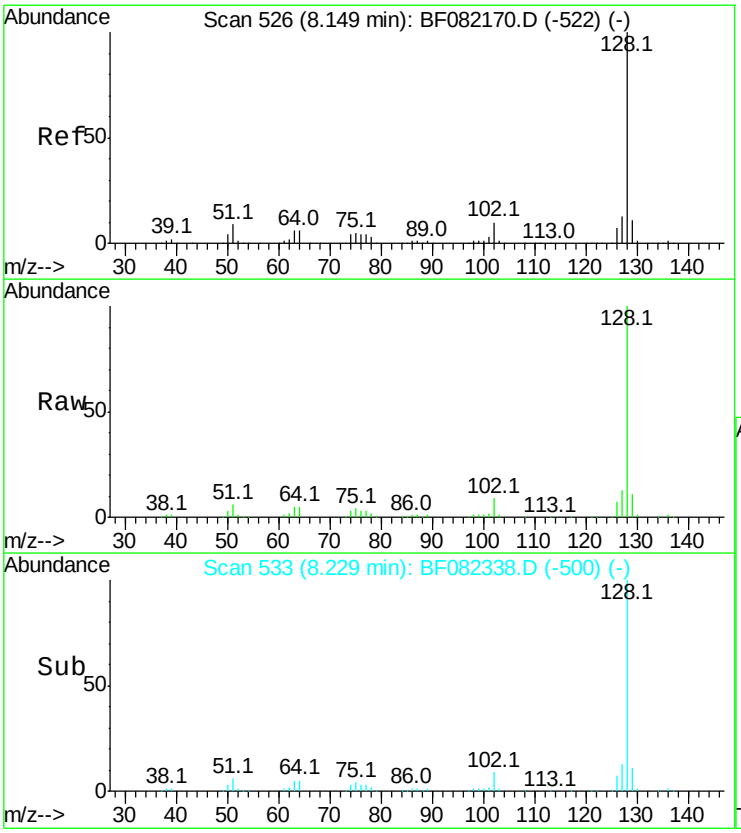
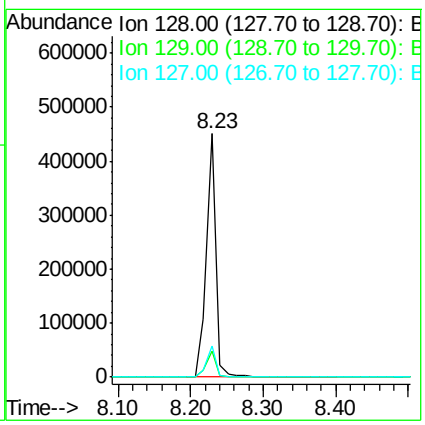
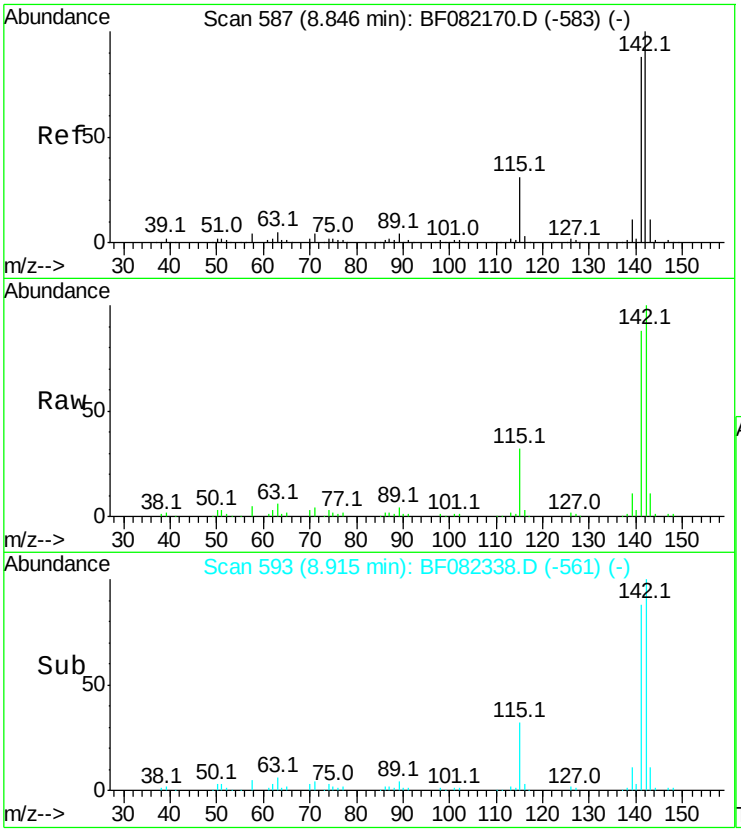


#31
Naphthalene
Concen: 38.66 ng
RT: 8.23 min Scan# 533
Delta R.T. 0.08 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:128 Resp: 413689

Ion	Ratio	Lower	Upper
128	100		
129	10.9	9.1	13.7
127	13.0	10.7	16.1





#37
2-Methylnaphthalene
Concen: 14.80 ng
RT: 8.91 min Scan# 593
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:142 Resp: 109786

Ion	Ratio	Lower	Upper
142	100		
141	88.4	70.4	105.6
115	32.1	24.6	37.0

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

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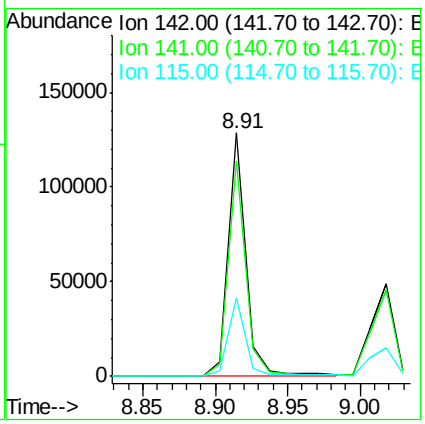
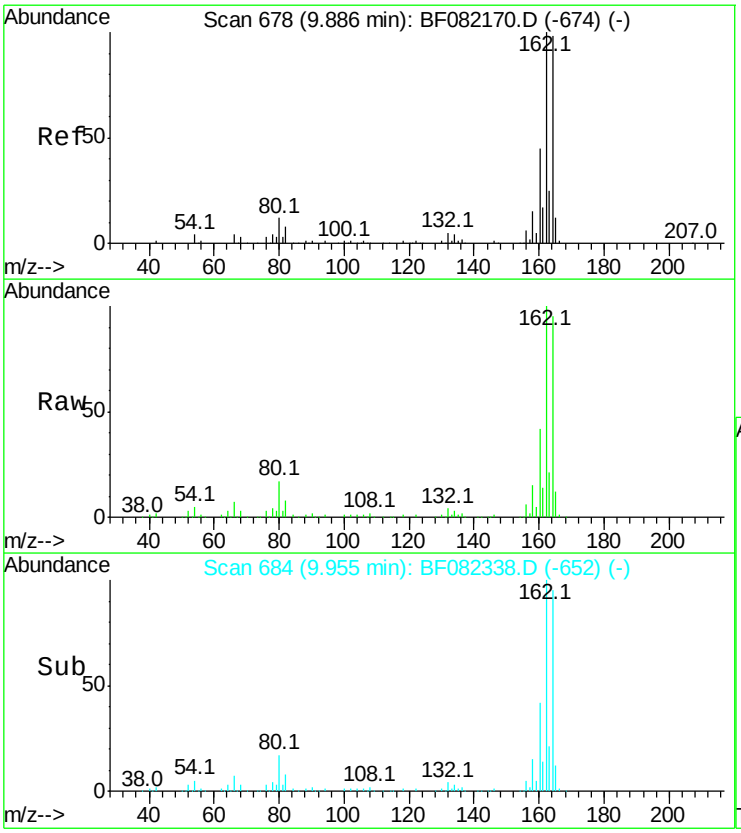
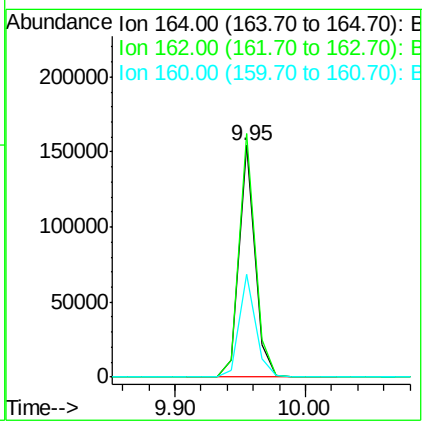


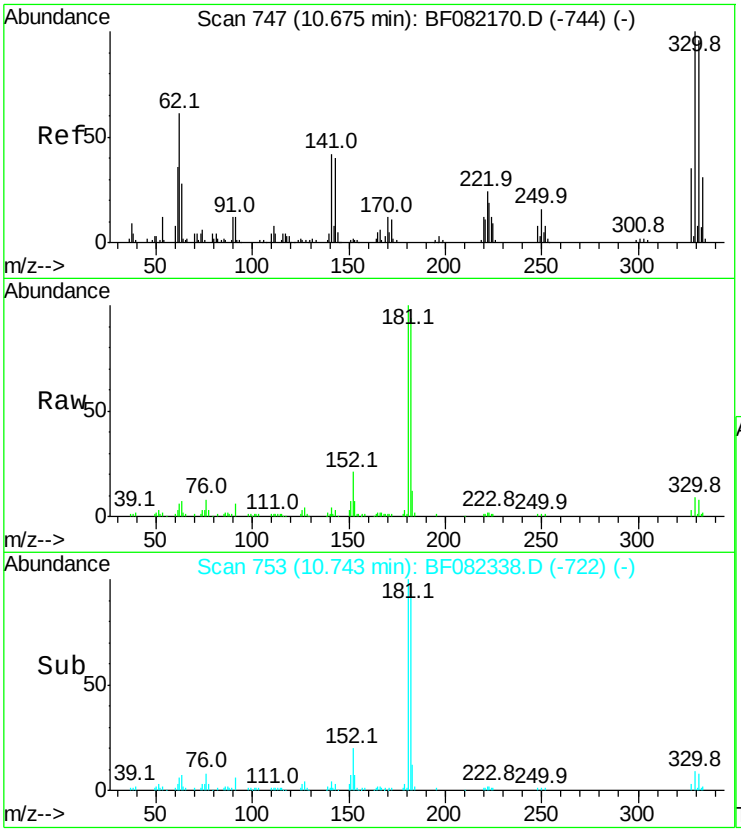


#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.95 min Scan# 684
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:164 Resp: 130092

Ion	Ratio	Lower	Upper
164	100		
162	105.0	81.6	122.4
160	44.6	36.4	54.6





#41
2,4,6-Tribromophenol
Concen: 5.08 ng
RT: 10.74 min Scan# 753
Delta R.T. 0.06 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:330 Resp: 6192

Ion	Ratio	Lower	Upper
330	100		
332	93.2	77.1	115.7
141	67.4	29.8	44.8#

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

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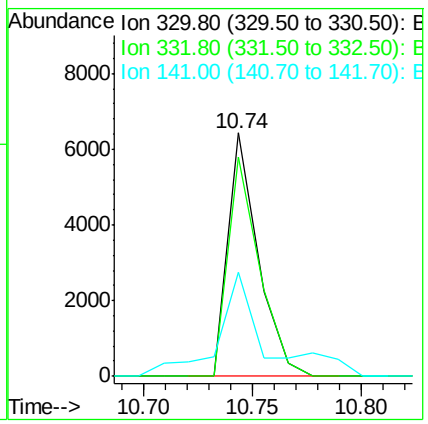
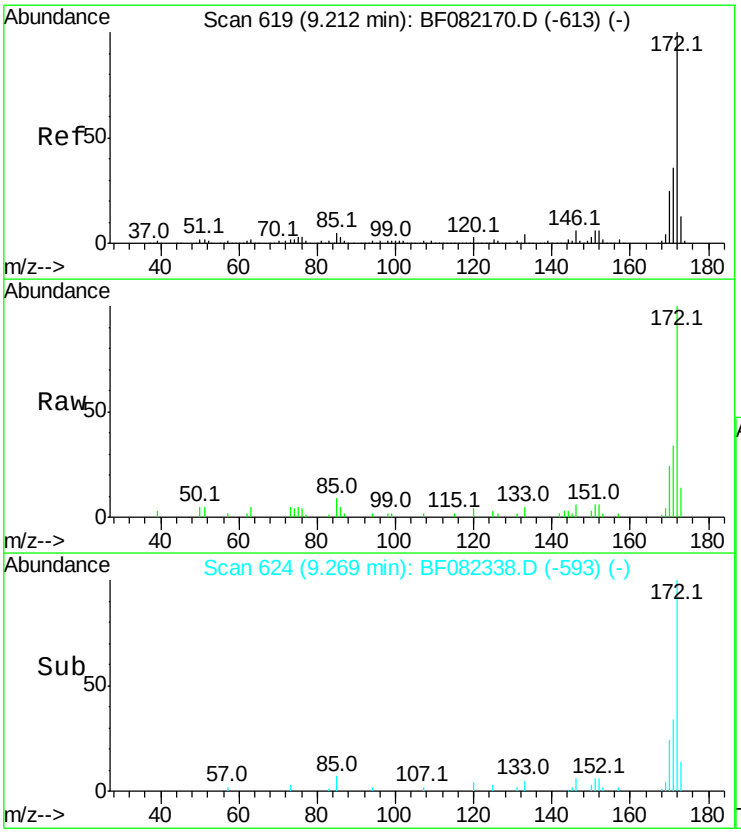
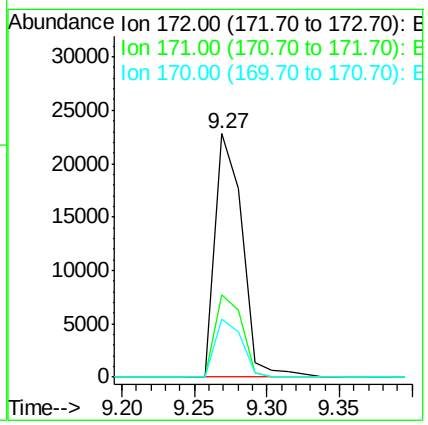




#44
2-Fluorobiphenyl
Concen: 3.78 ng
RT: 9.27 min Scan# 624
Delta R.T. 0.06 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:172 Resp: 29638

Ion	Ratio	Lower	Upper
172	100		
171	34.0	28.6	42.8
170	23.8	19.7	29.5



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

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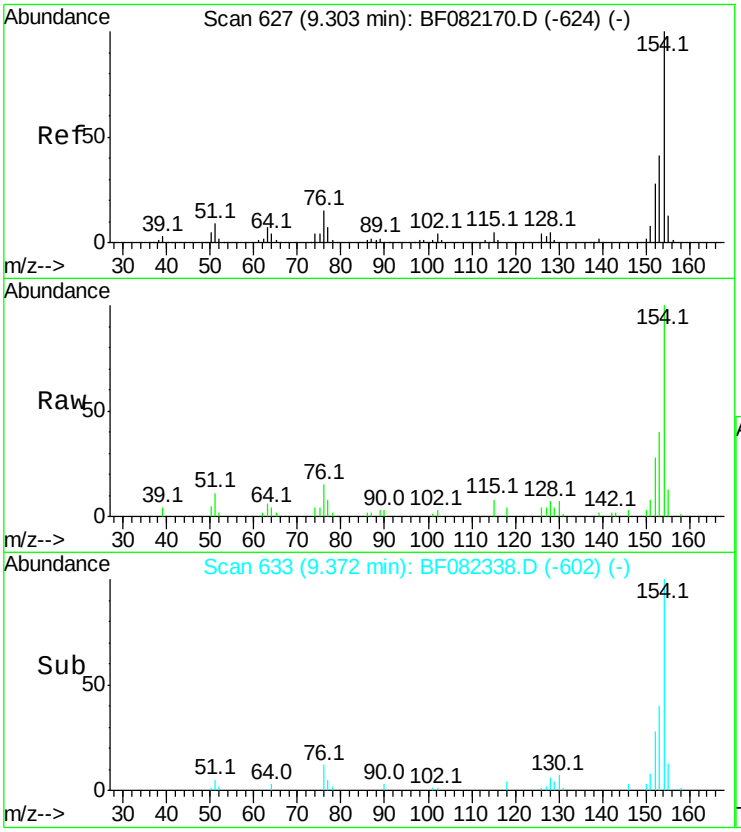
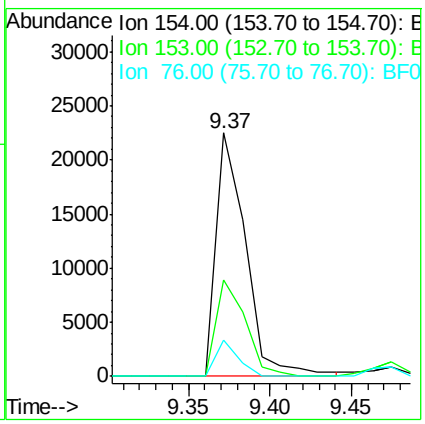
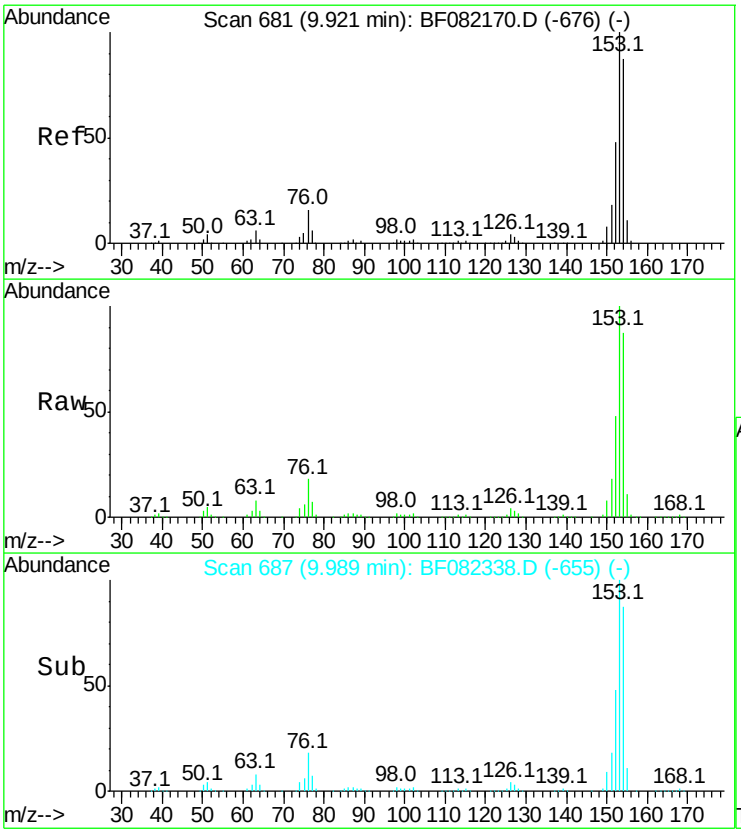


#45
1,1'-Biphenyl
Concen: 2.86 ng
RT: 9.37 min Scan# 633
Delta R.T. 0.06 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:154 Resp: 28329

Ion	Ratio	Lower	Upper
154	100		
153	39.8	20.6	60.6
76	15.1	0.0	35.2

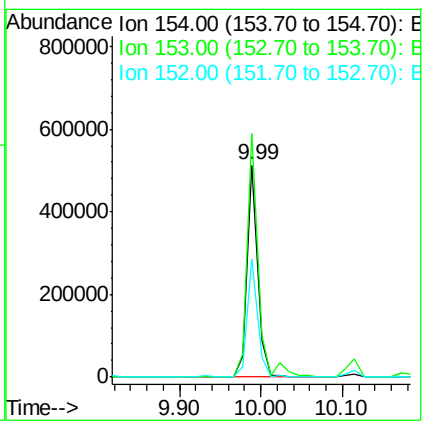


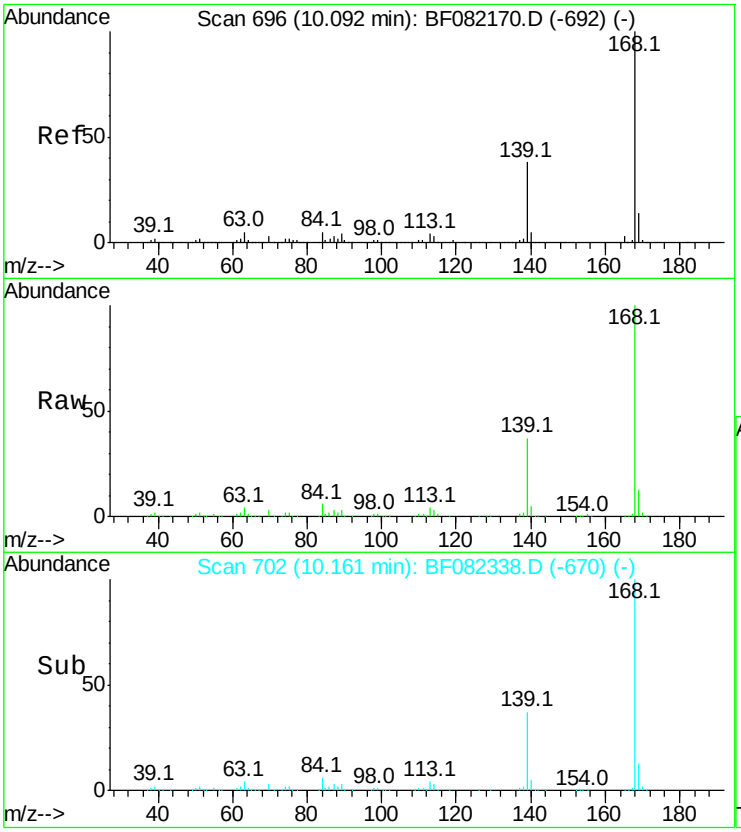


#51
Acenaphthene
Concen: 62.80 ng
RT: 9.99 min Scan# 687
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:154 Resp: 458645

Ion	Ratio	Lower	Upper
154	100		
153	114.7	91.4	137.2
152	55.5	44.3	66.5

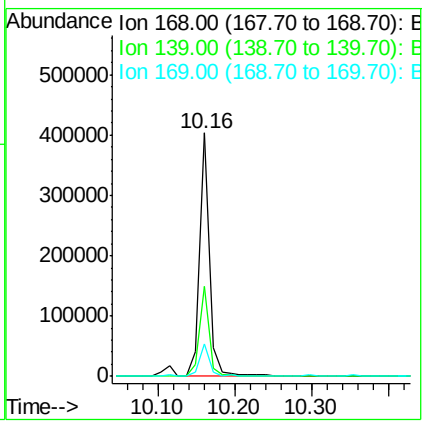




#54
Dibenzofuran
Concen: 35.86 ng
RT: 10.16 min Scan# 702
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:168 Resp: 359575

Ion	Ratio	Lower	Upper
168	100		
139	36.7	31.0	46.6
169	13.5	10.9	16.3



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

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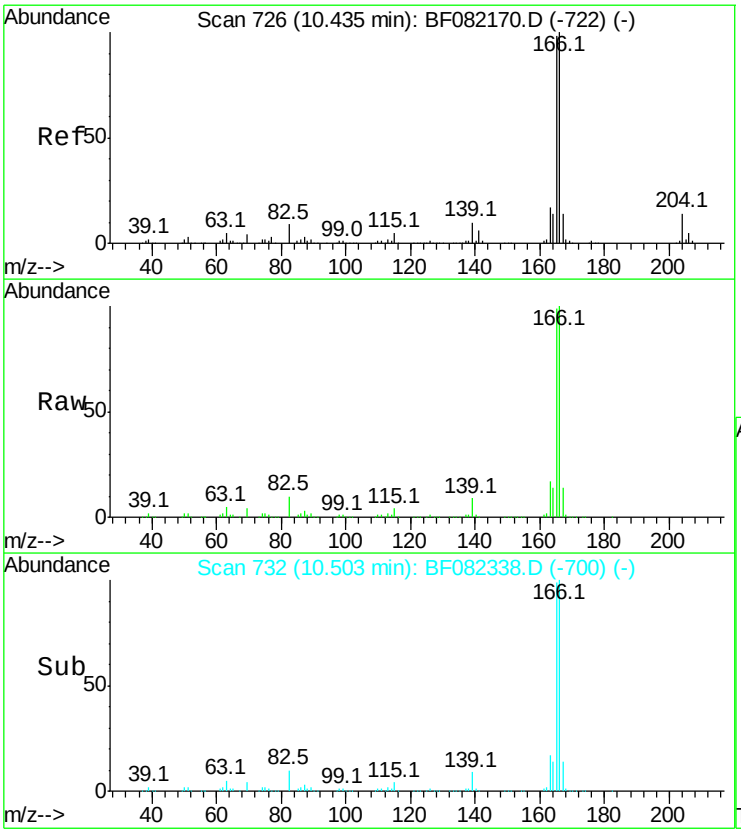
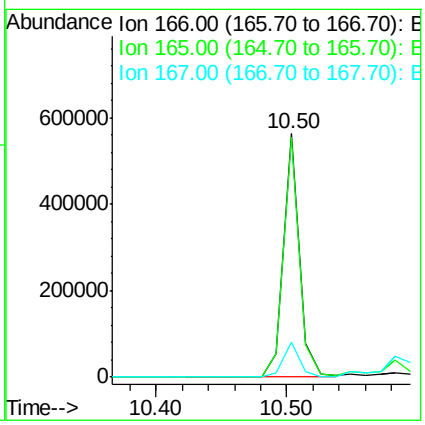


#57
Fluorene
Concen: 59.11 ng
RT: 10.50 min Scan# 732
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:166 Resp: 486755

Ion	Ratio	Lower	Upper
166	100		
165	98.5	78.3	117.5
167	14.1	10.8	16.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

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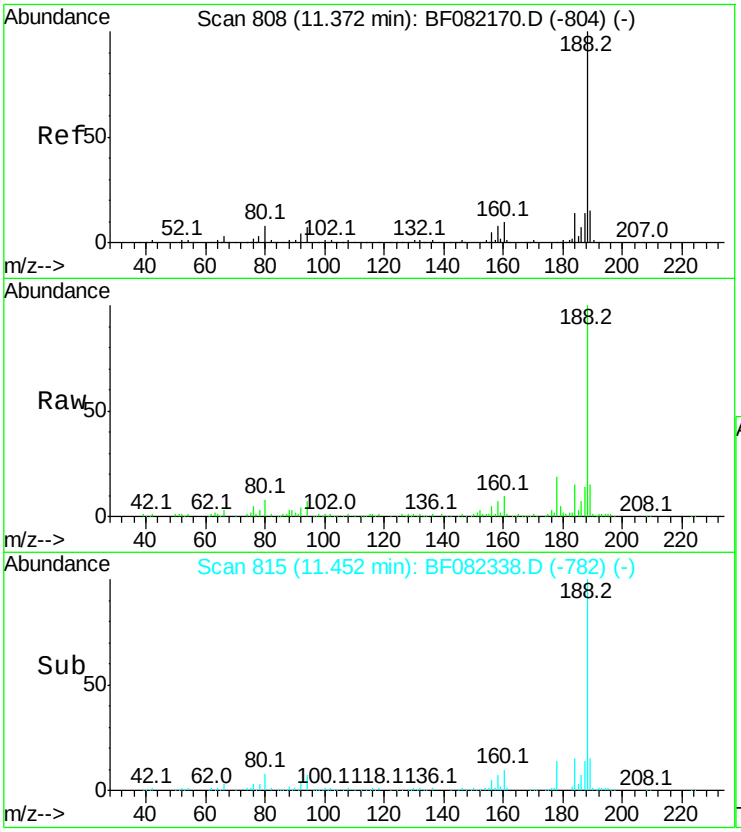
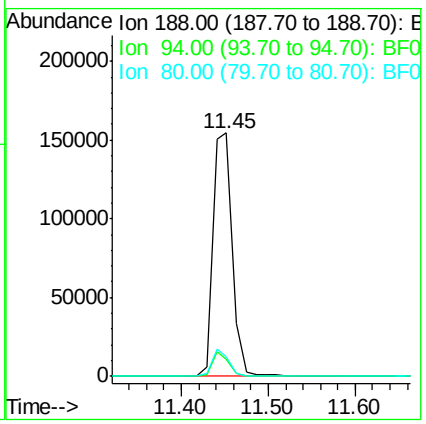
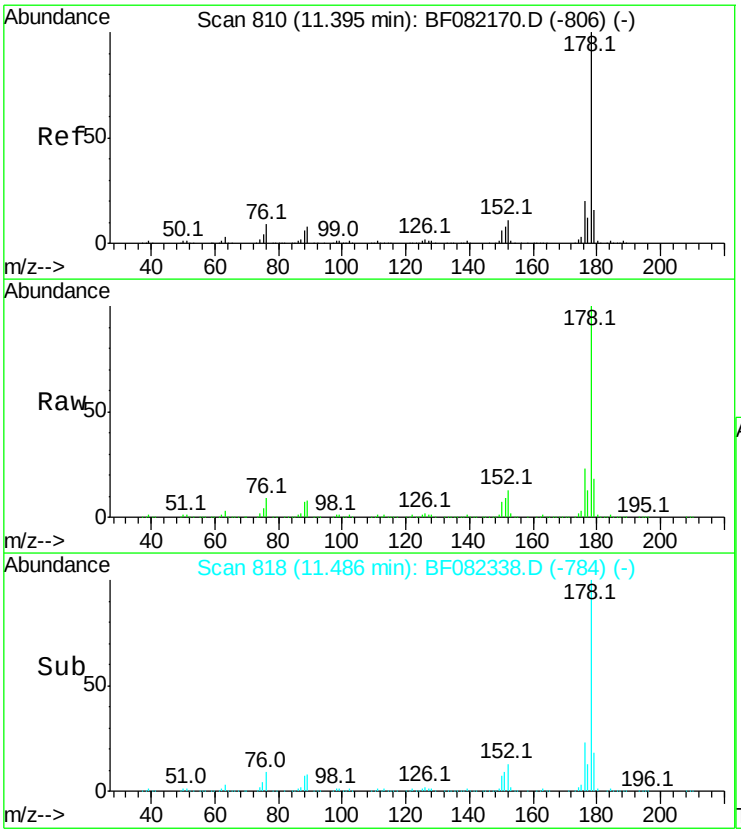


#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.45 min Scan# 815
Delta R.T. 0.08 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:188 Resp: 241981

Ion	Ratio	Lower	Upper
188	100		
94	7.2	5.8	8.6
80	8.2	6.4	9.6

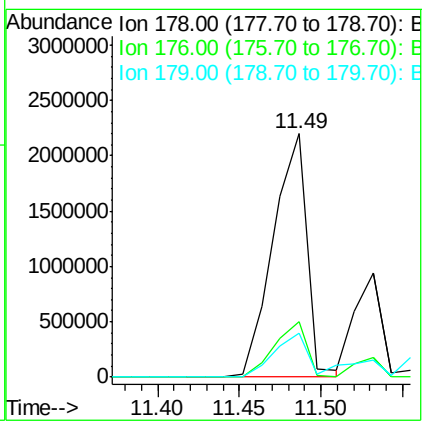




#70
Phenanthrene
Concen: 268.26 ng
RT: 11.49 min Scan# 818
Delta R.T. 0.09 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:178 Resp: 3181816

Ion	Ratio	Lower	Upper
178	100		
176	22.7	16.0	24.0
179	17.8	12.6	19.0



Instrument :
BNA_F
ClientSampleId :
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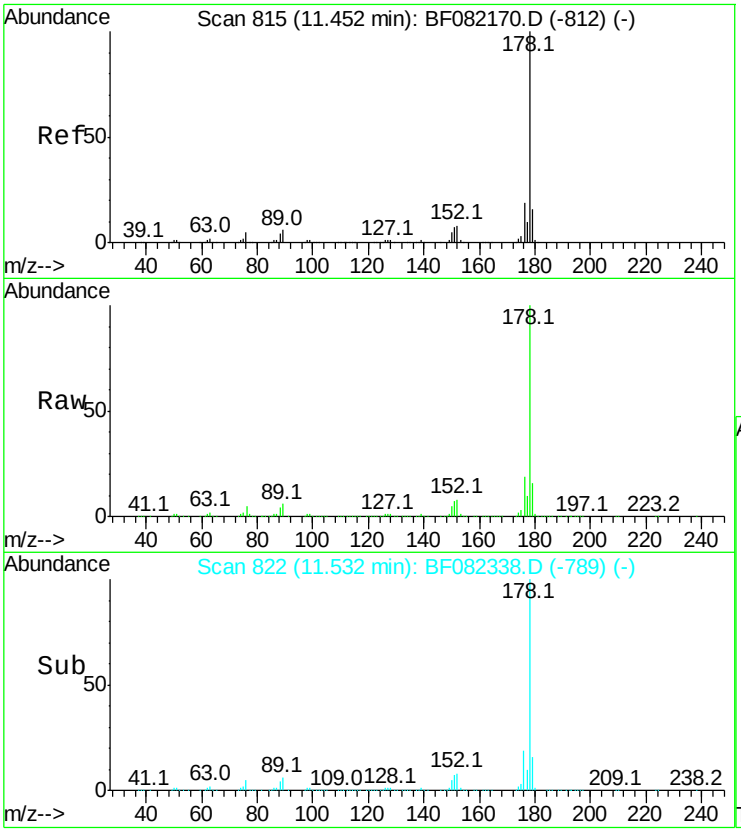
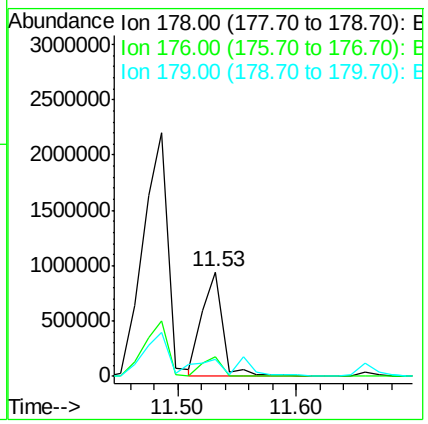
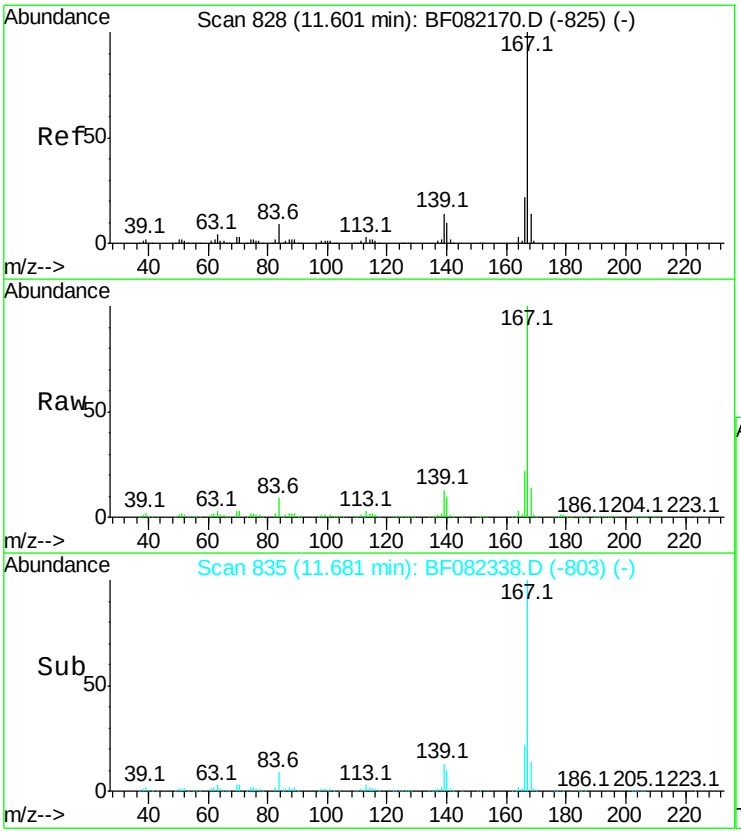


#71
Anthracene
Concen: 94.27 ng
RT: 11.53 min Scan# 822
Delta R.T. 0.08 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:178 Resp: 1152195

Ion	Ratio	Lower	Upper
178	100		
176	19.0	15.4	23.0
179	16.0	12.5	18.7

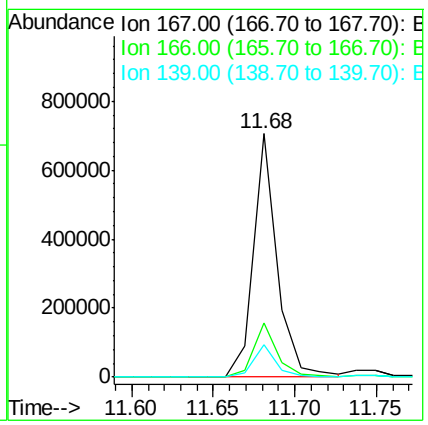


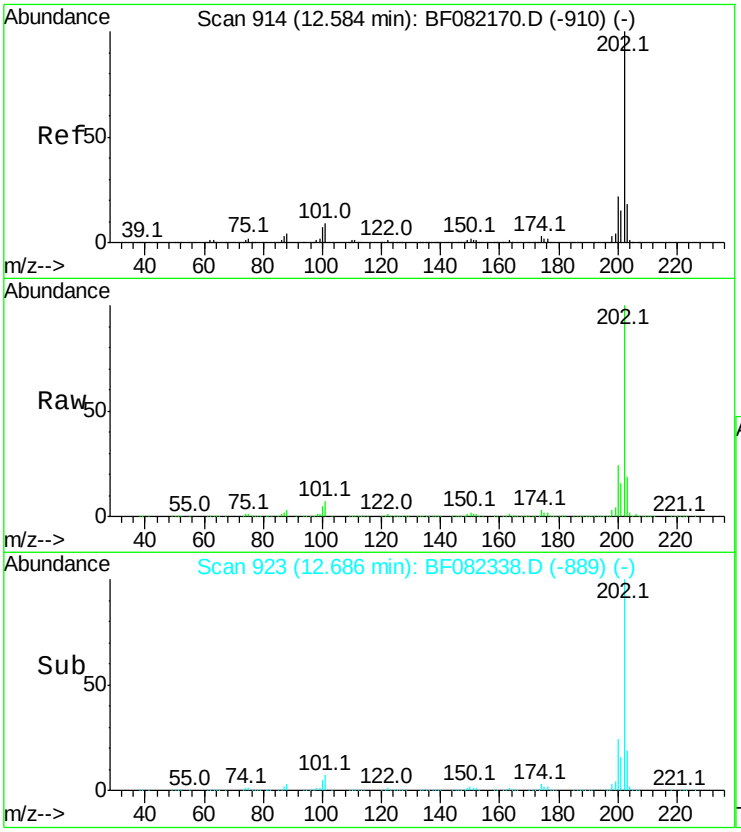


#72
Carbazole
Concen: 63.86 ng
RT: 11.68 min Scan# 835
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:167 Resp: 712020

Ion	Ratio	Lower	Upper
167	100		
166	22.1	17.3	25.9
139	13.4	11.2	16.8

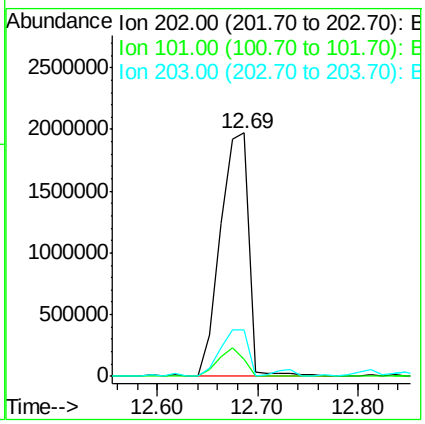




#74
Fluoranthene
Concen: 298.32 ng
RT: 12.69 min Scan# 923
Delta R.T. 0.09 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:202 Resp: 3800314

Ion	Ratio	Lower	Upper
202	100		
101	6.9	0.0	29.3
203	19.2	0.0	37.8



Instrument :
BNA_F
ClientSampleId :
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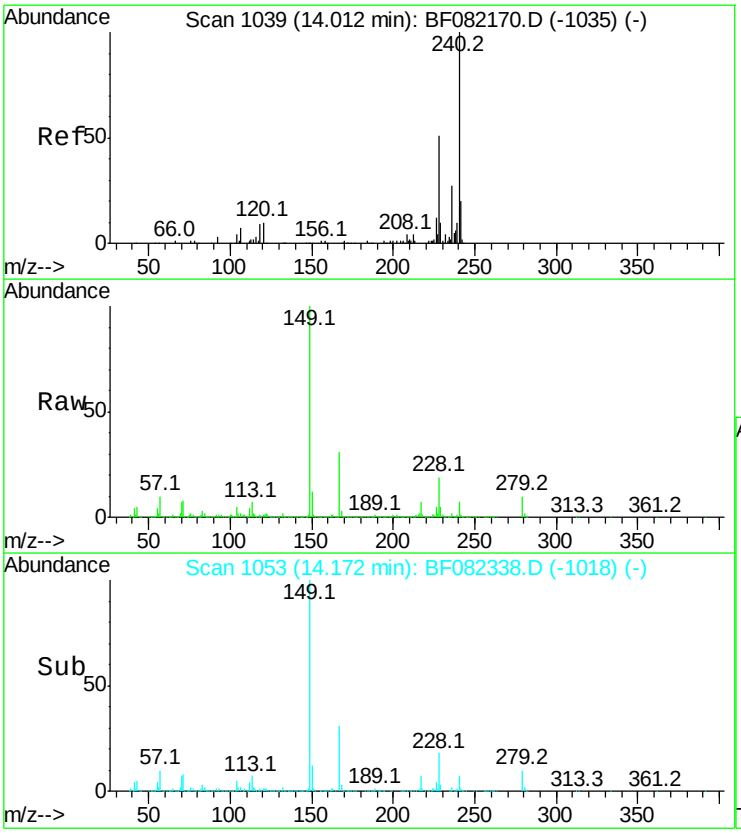
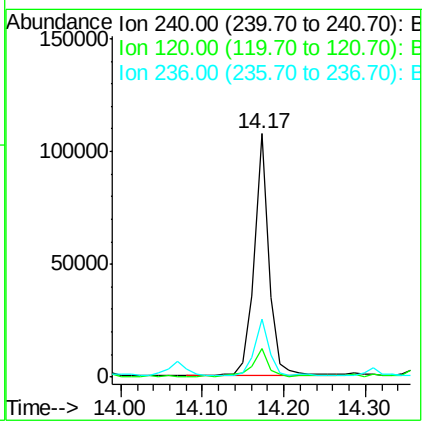


#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.17 min Scan# 1053
Delta R.T. 0.10 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

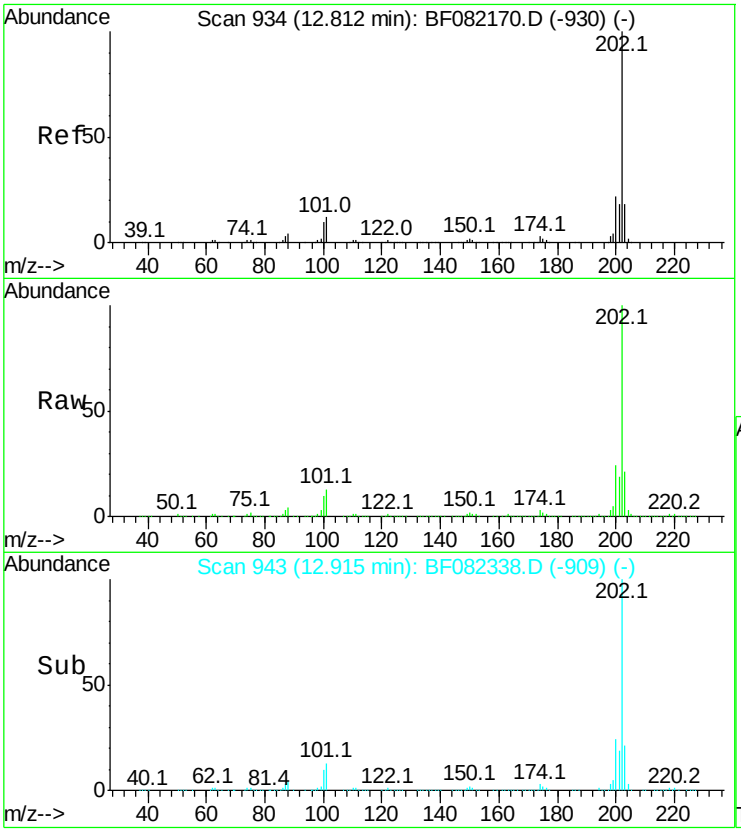
Tgt Ion:240 Resp: 134970

Ion	Ratio	Lower	Upper
240	100		
120	11.7	8.1	12.1
236	24.0	21.3	31.9



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

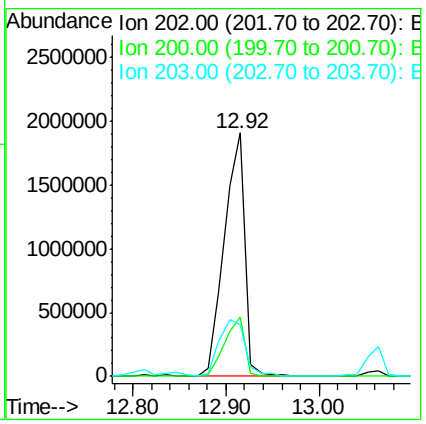
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:28 PM

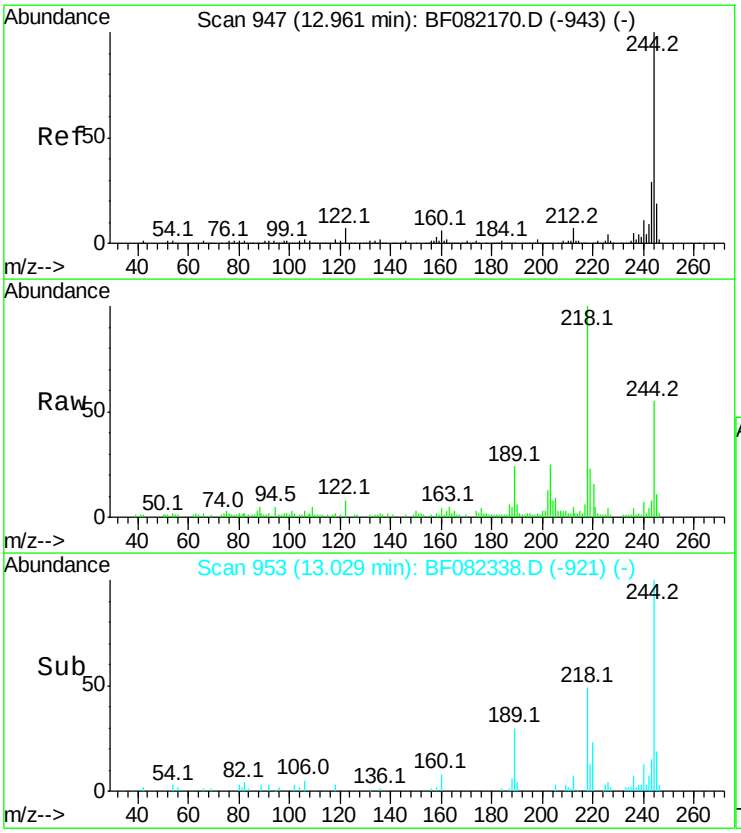


#77
Pyrene
Concen: 364.04 ng
RT: 12.92 min Scan# 943
Delta R.T. 0.09 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:202 Resp: 2915937

Ion	Ratio	Lower	Upper
202	100		
200	24.1	17.9	26.9
203	21.5	14.5	21.7

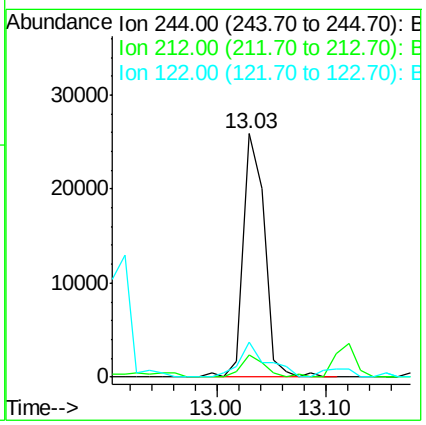


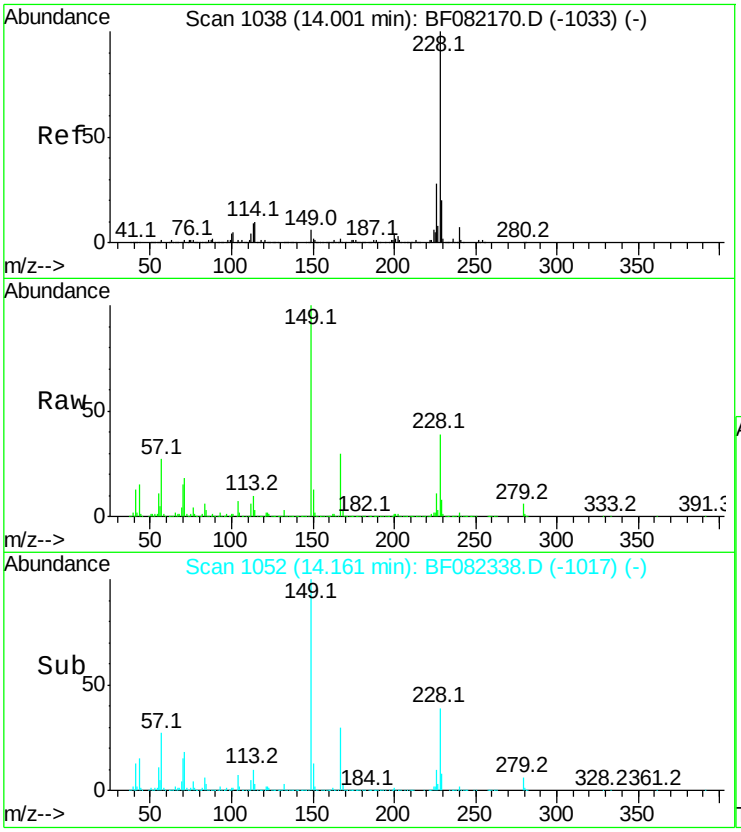


#78
Terphenyl-d14
Concen: 6.86 ng
RT: 13.03 min Scan# 953
Delta R.T. 0.07 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:244 Resp: 34929

Ion	Ratio	Lower	Upper
244	100		
212	9.2	5.8	8.6#
122	14.3	5.9	8.9#





#80
Benzo(a)anthracene
Concen: 172.32 ng
RT: 14.16 min Scan# 1052
Delta R.T. 0.10 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:228 Resp: 1210130

Ion	Ratio	Lower	Upper
228	100		
226	27.3	22.3	33.5
229	21.6	16.2	24.2

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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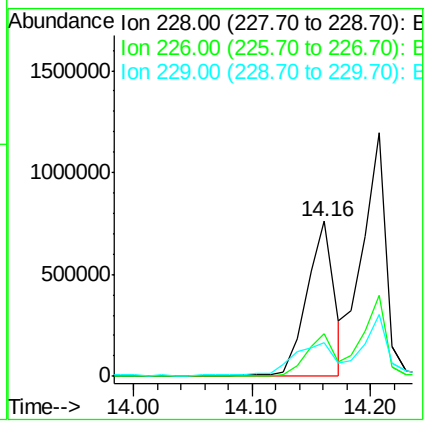
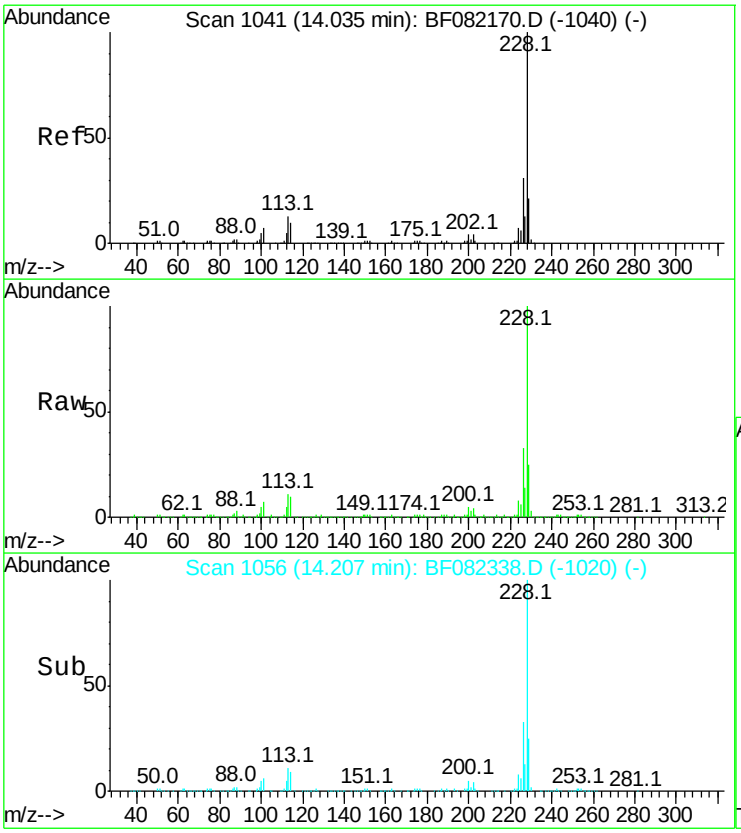
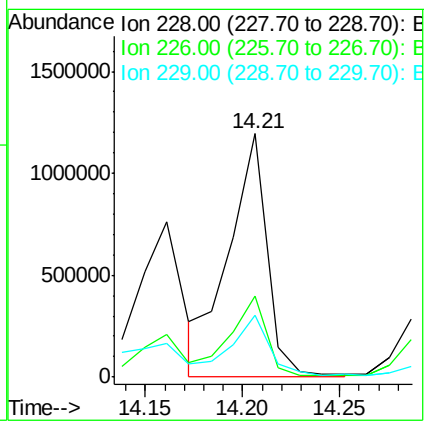


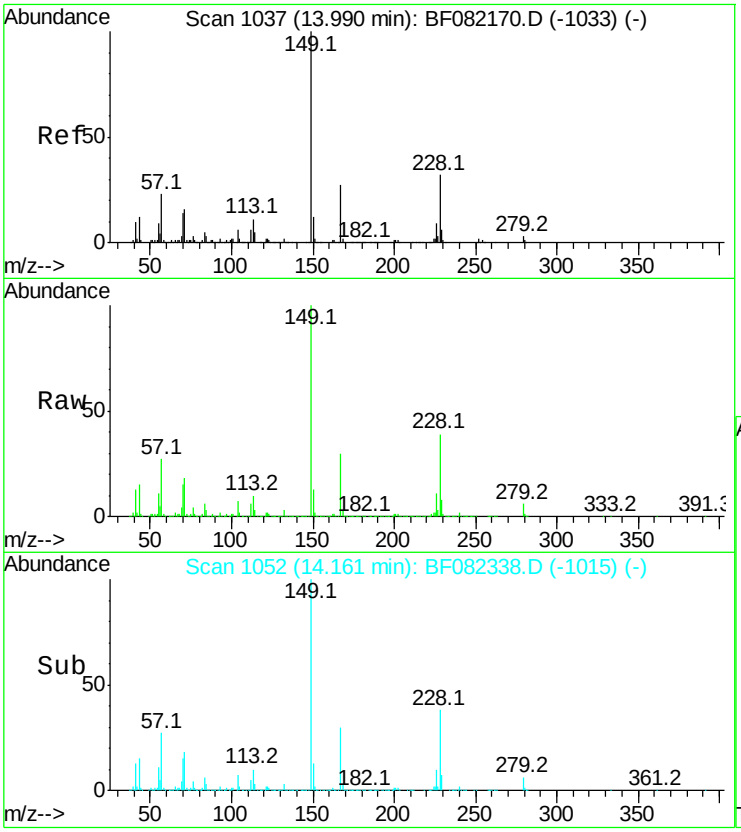


#82
Chrysene
Concen: 223.09 ng m
RT: 14.21 min Scan# 1056
Delta R.T. 0.11 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:228 Resp: 1650728

Ion	Ratio	Lower	Upper
228	100		
226	33.3	24.4	36.6
229	25.2	16.3	24.5#





#83
Bis(2-ethylhexyl)phthalate
Concen: 901.26 ng
RT: 14.16 min Scan# 1052
Delta R.T. 0.13 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:149 Resp: 4700183

Ion	Ratio	Lower	Upper
149	100		
167	30.0	21.3	31.9
279	6.3	2.6	4.0#

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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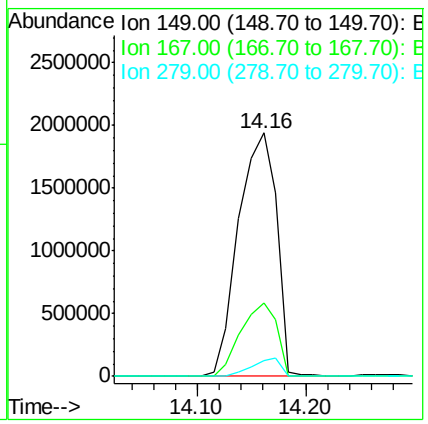
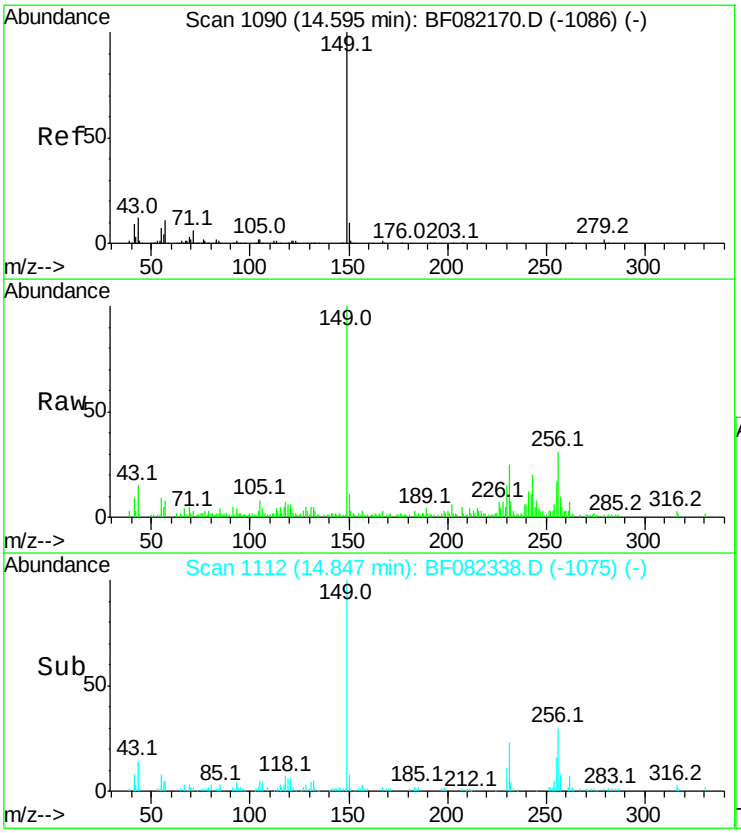
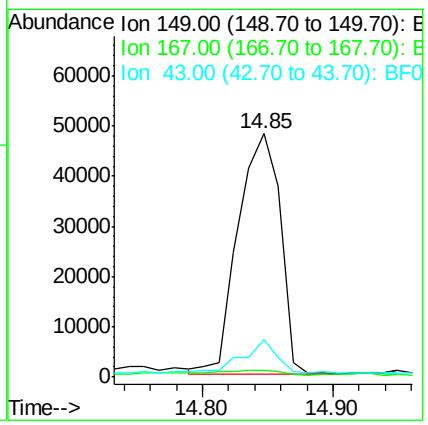


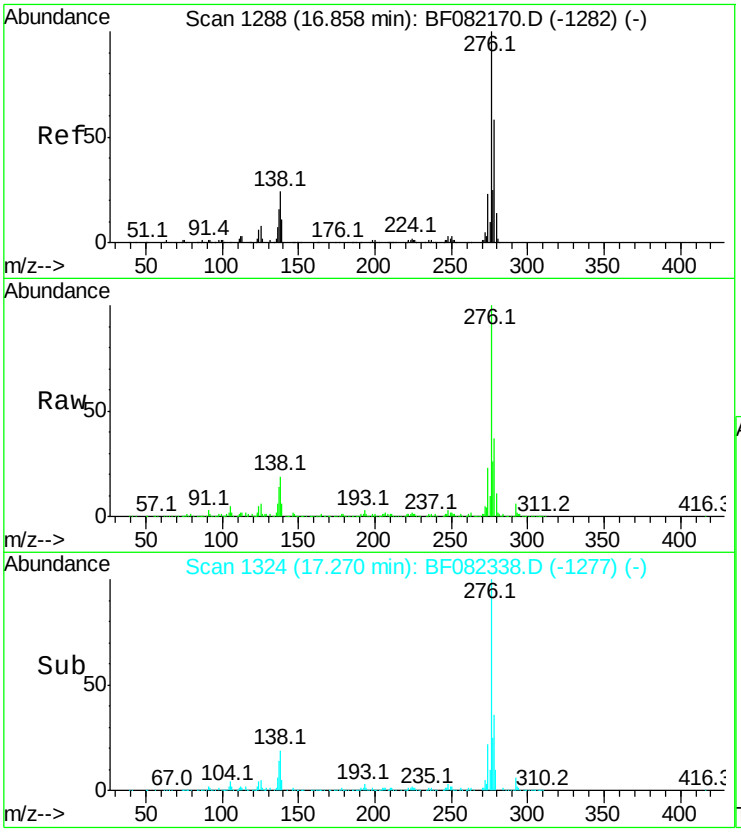


#84
Di-n-octyl phthalate
Concen: 11.96 ng
RT: 14.85 min Scan# 1112
Delta R.T. 0.13 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:149 Resp: 107073

Ion	Ratio	Lower	Upper
149	100		
167	3.3	1.3	1.9#
43	11.9	7.4	11.2#





#85
Indeno(1,2,3-cd)pyrene
Concen: 116.21 ng m
RT: 17.27 min Scan# 1324
Delta R.T. 0.24 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:276 Resp: 683469

Ion	Ratio	Lower	Upper
276	100		
138	4.5	19.7	29.5#
277	5.0	20.1	30.1#

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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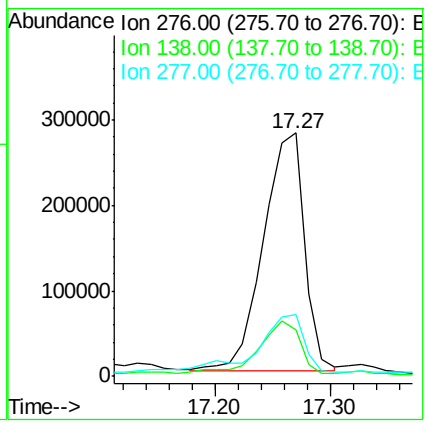
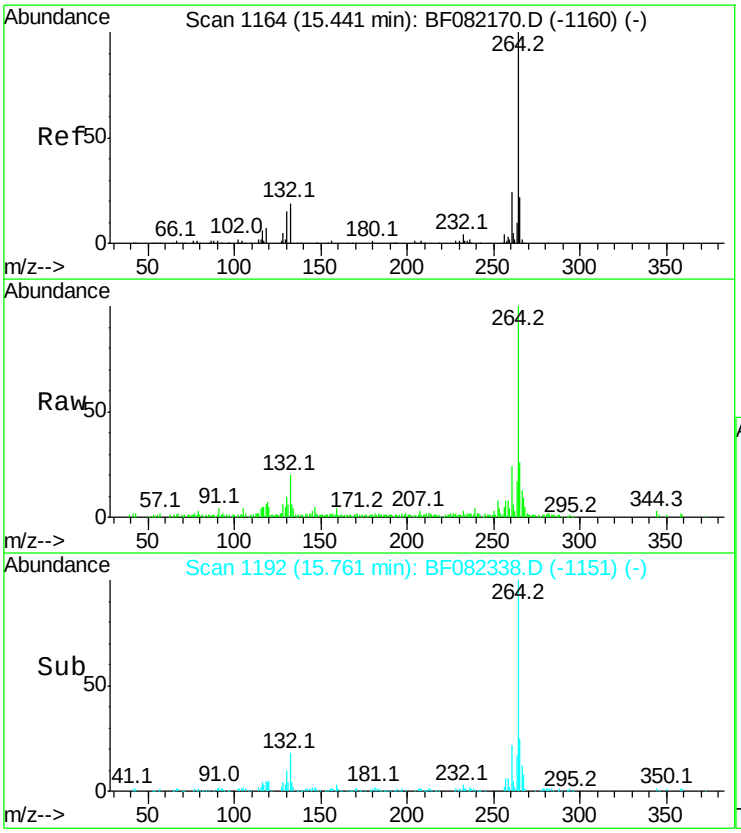
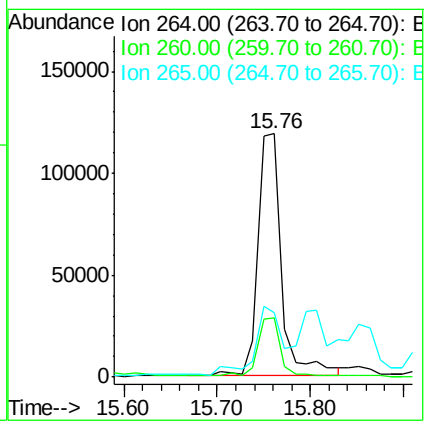


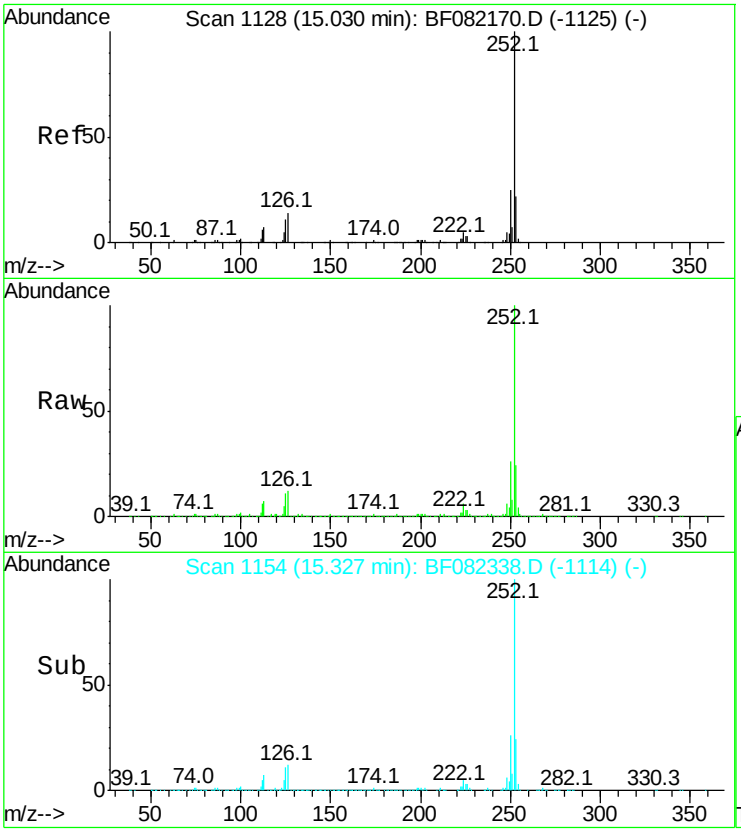


#86
Perylene-d12
Concen: 20.00 ng
RT: 15.76 min Scan# 1192
Delta R.T. 0.17 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:264 Resp: 210864

Ion	Ratio	Lower	Upper
264	100		
260	24.2	19.0	28.6
265	26.3	17.3	25.9#





#87
Benzo(b)fluoranthene
Concen: 155.13 ng m
RT: 15.33 min Scan# 1154
Delta R.T. 0.16 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:252 Resp: 1990150

Ion	Ratio	Lower	Upper
252	100		
253	23.6	18.0	27.0
125	10.8	8.6	12.8

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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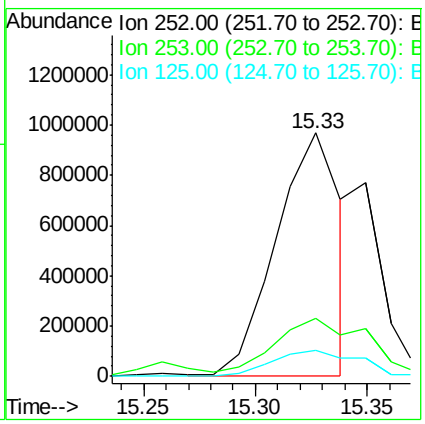
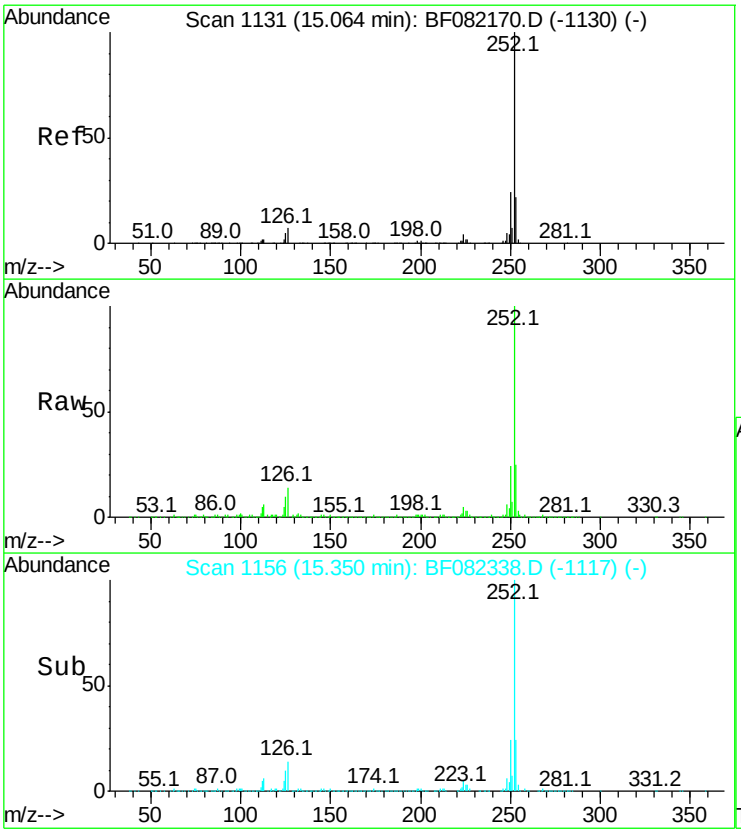
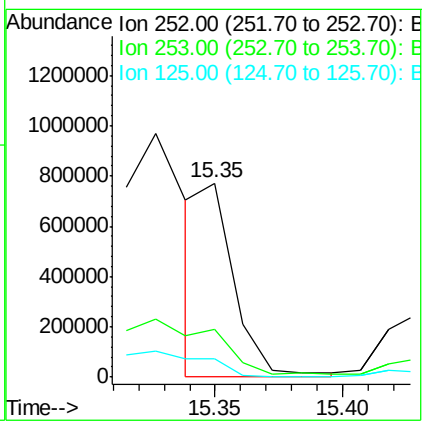


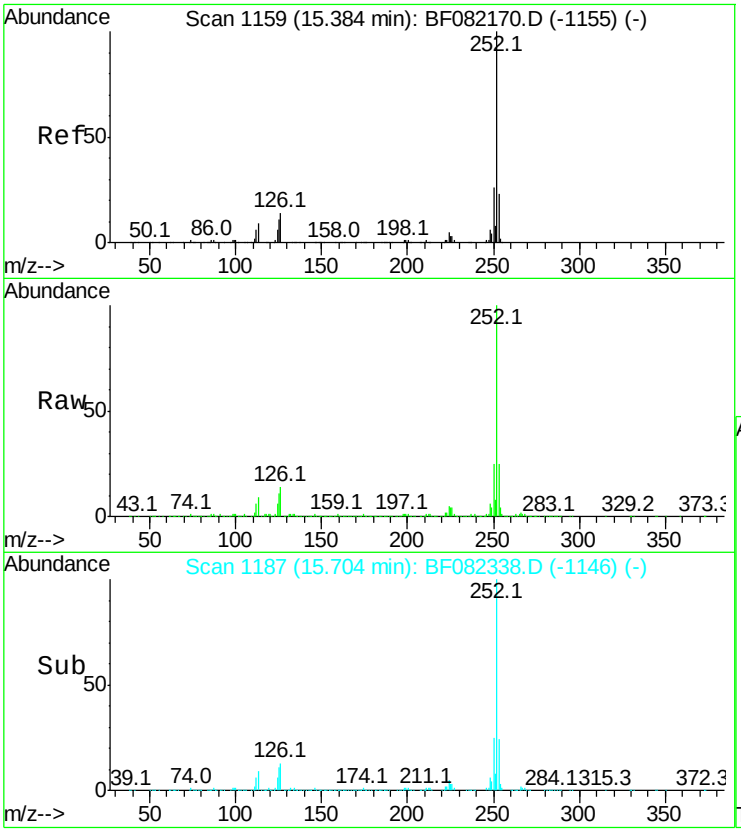


#88
Benzo(k)fluoranthene
Concen: 66.27 ng m
RT: 15.35 min Scan# 1156
Delta R.T. 0.15 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:252 Resp: 714592

Ion	Ratio	Lower	Upper
252	100		
253	24.6	17.8	26.6
125	9.6	6.7	10.1





#89
Benzo(a)pyrene
Concen: 124.06 ng m
RT: 15.70 min Scan# 1187
Delta R.T. 0.17 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:252 Resp: 1367816

Ion	Ratio	Lower	Upper
252	100		
253	24.7	18.2	27.2
125	11.0	8.9	13.3

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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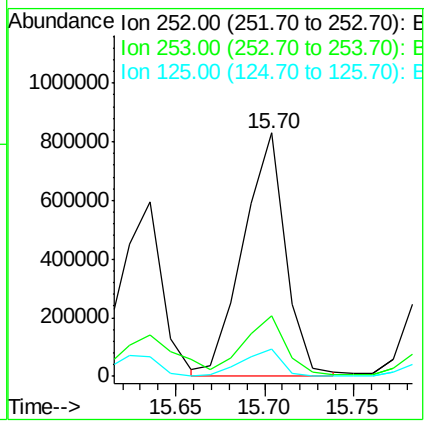
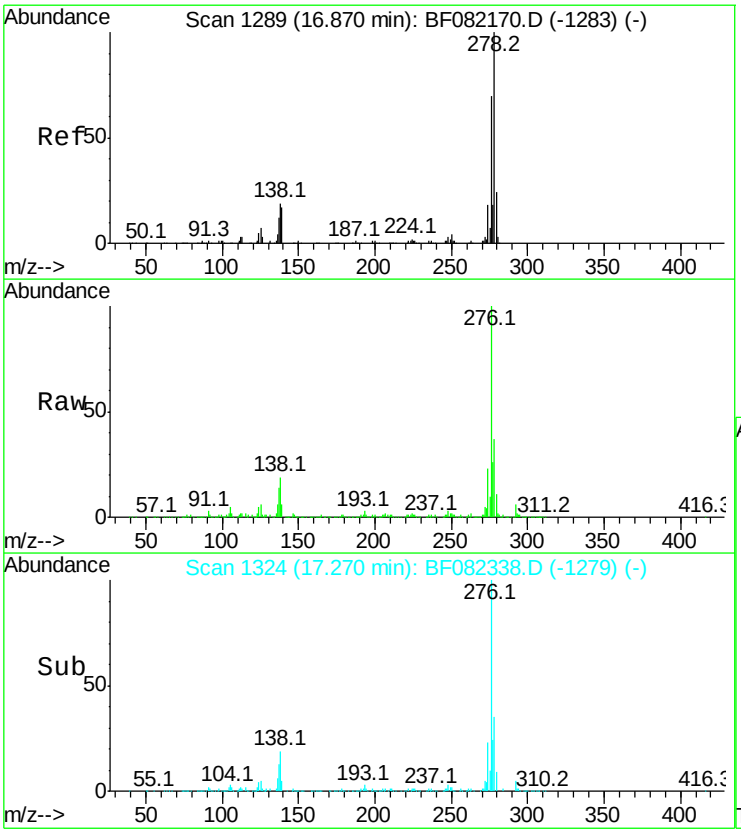
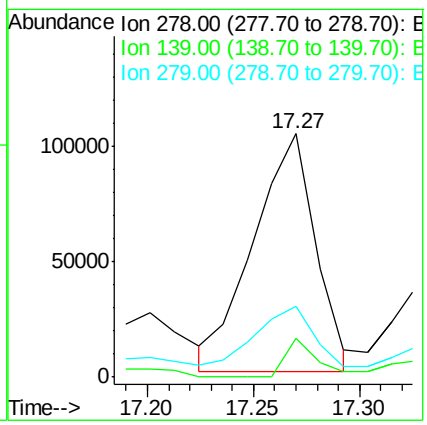


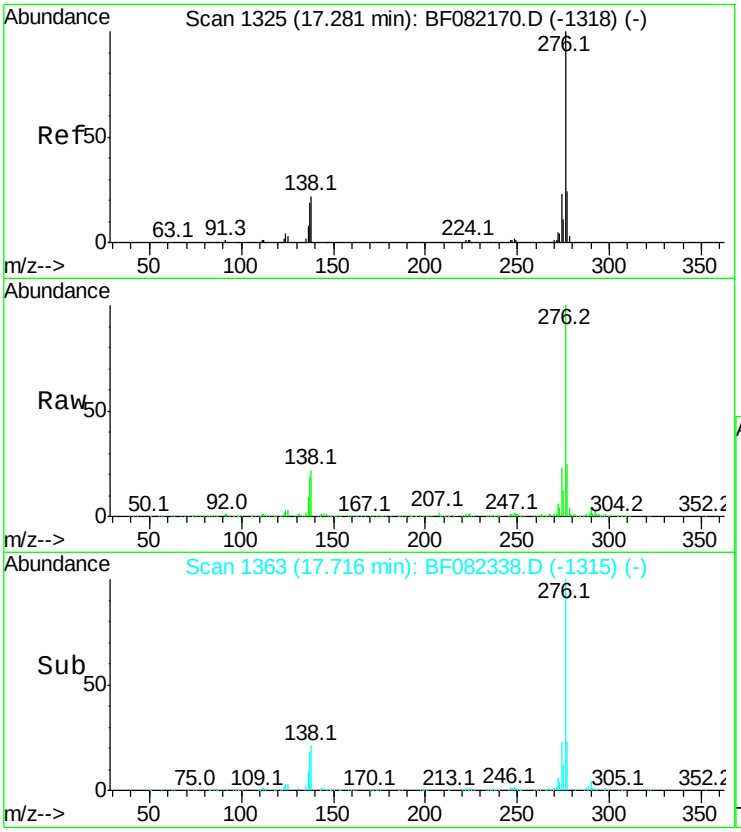


#90
Dibenzo(a,h)anthracene
Concen: 23.32 ng m
RT: 17.27 min Scan# 1324
Delta R.T. 0.22 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:278 Resp: 210737

Ion	Ratio	Lower	Upper
278	100		
139	15.9	13.3	19.9
279	29.2	18.9	28.3#

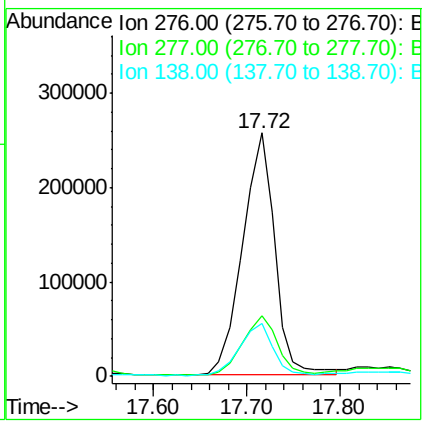




#91
Benzo(g,h,i)perylene
Concen: 70.31 ng
RT: 17.72 min Scan# 1363
Delta R.T. 0.25 min
Lab File: BF082338.D
Acq: 16 Oct 2015 21:10

Tgt Ion:276 Resp: 617165

Ion	Ratio	Lower	Upper
276	100		
277	24.8	18.8	28.2
138	21.8	17.4	26.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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10/19/2015 5:32:28 PM

LSC Area Percent Report

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082338.D
Acq On : 16 Oct 2015 21:10
Operator : UM/IZ
Sample : G4046-03 20X
Misc :
ALS Vial : 20 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.914	417	418	421	rBV	200226	279705	1.35%	0.214%
2	8.229	529	533	535	rBV2	864670	1249842	6.01%	0.954%
3	8.915	591	593	595	rBV	406459	331686	1.60%	0.253%
4	9.955	682	684	685	rBV	622940	498212	2.40%	0.380%
5	9.989	685	687	689	rVB	2141825	1829493	8.80%	1.397%
6	10.161	700	702	704	rBV	871301	791224	3.81%	0.604%
7	10.503	730	732	734	rBV	1807415	1562202	7.51%	1.193%
8	10.583	737	739	741	rVV2	284760	409070	1.97%	0.312%
9	10.652	741	745	748	rVB4	164338	442664	2.13%	0.338%
10	10.743	751	753	755	rVV	275928	371701	1.79%	0.284%
11	11.052	776	780	781	rBV2	231040	414899	2.00%	0.317%
12	11.201	788	793	794	rBV3	116087	266982	1.28%	0.204%
13	11.303	798	802	804	rVV2	567936	744706	3.58%	0.569%
14	11.338	804	805	808	rVB	617637	527334	2.54%	0.403%
15	11.486	812	818	819	rBV	5584070	8625849	41.49%	6.585%
16	11.532	819	822	823	rVV	1942498	2606649	12.54%	1.990%
17	11.555	823	824	826	rVB	423861	327993	1.58%	0.250%
18	11.681	831	835	839	rBV2	1623499	1988569	9.57%	1.518%
19	11.944	855	858	859	rBV	921339	888236	4.27%	0.678%
20	11.978	859	861	863	rVB	1150901	1132585	5.45%	0.865%
21	12.024	863	865	866	rBV	525888	436558	2.10%	0.333%
22	12.058	866	868	872	rVB2	1699895	2377349	11.44%	1.815%
23	12.241	882	884	885	rVB	602369	468945	2.26%	0.358%
24	12.492	904	906	908	rBV	319742	409865	1.97%	0.313%
25	12.538	908	910	913	rVB	178702	270149	1.30%	0.206%
26	12.595	913	915	918	rVB3	167830	291258	1.40%	0.222%
27	12.675	918	922	924	rBV	4660190	8805806	42.36%	6.723%
28	12.732	924	927	931	rVB2	184675	375542	1.81%	0.287%
29	12.812	931	934	936	rBV	411147	482392	2.32%	0.368%
30	12.915	939	943	944	rBV2	4604910	8746629	42.07%	6.677%
31	12.938	944	945	949	rVB	354582	513004	2.47%	0.392%
32	13.018	949	952	954	rBV	615638	734317	3.53%	0.561%
33	13.064	954	956	957	rVB	476861	607744	2.92%	0.464%
34	13.121	957	961	962	rBV2	526527	943248	4.54%	0.720%

Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082338.D
Acq On : 16 Oct 2015 21:10
Operator : UM/IZ
Sample : G4046-03 20X
Misc :
ALS Vial : 20 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

35	13.155	962	964	966	rVB	281842	242707	1.17%	0.185%
36	13.235	966	971	973	rBV	1954050	2632201	12.66%	2.009%
37	13.304	975	977	978	rBV	1879026	1845702	8.88%	1.409%
38	13.338	978	980	981	rBV	495484	460832	2.22%	0.352%
39	13.441	987	989	990	rBV	313042	507692	2.44%	0.388%
40	13.464	990	991	995	rVB2	512887	633451	3.05%	0.484%
41	13.532	995	997	1001	rVB3	111953	254746	1.23%	0.194%
42	13.601	1001	1003	1004	rBV2	316805	363955	1.75%	0.278%
43	13.681	1004	1010	1013	rVB3	577307	1235538	5.94%	0.943%
44	13.738	1013	1015	1016	rBV2	343951	492486	2.37%	0.376%
45	13.772	1016	1018	1019	rBV	259242	231197	1.11%	0.177%
46	13.887	1024	1028	1029	rVV2	744943	1037555	4.99%	0.792%
47	13.921	1029	1031	1032	rVV	595595	1108270	5.33%	0.846%
48	13.955	1032	1034	1036	rVV2	909704	1530482	7.36%	1.168%
49	13.989	1036	1037	1040	rVB2	216509	277079	1.33%	0.212%
50	14.069	1040	1044	1047	rBV	243968	474621	2.28%	0.362%
51	14.161	1047	1052	1055	rVV2	8115983	20789279	100.00%	15.871%
52	14.207	1055	1056	1059	rVV	3392374	3137205	15.09%	2.395%
53	14.287	1059	1063	1064	rVV	1156509	1595115	7.67%	1.218%
54	14.321	1064	1066	1071	rVV5	653355	1628946	7.84%	1.244%
55	14.401	1071	1073	1075	rVV	825153	957280	4.60%	0.731%
56	14.447	1075	1077	1081	rVV	498142	810433	3.90%	0.619%
57	14.515	1081	1083	1085	rVV2	231446	418036	2.01%	0.319%
58	14.561	1085	1087	1088	rVV2	332100	530369	2.55%	0.405%
59	14.607	1088	1091	1092	rVV	733185	1207552	5.81%	0.922%
60	14.641	1092	1094	1096	rVV2	417821	545885	2.63%	0.417%
61	14.710	1096	1100	1102	rVV3	481919	1052784	5.06%	0.804%
62	14.767	1102	1105	1107	rVV2	764212	1329163	6.39%	1.015%
63	14.824	1107	1110	1114	rVB3	329286	742427	3.57%	0.567%
64	14.950	1119	1121	1123	rBV	310718	475173	2.29%	0.363%
65	15.144	1135	1138	1142	rBV2	267163	662504	3.19%	0.506%
66	15.258	1145	1148	1150	rBV2	153727	300231	1.44%	0.229%
67	15.327	1150	1154	1159	rBV	2412501	6680517	32.13%	5.100%
68	15.430	1161	1163	1165	rVB	560538	751107	3.61%	0.573%
69	15.532	1170	1172	1174	rVV	267134	543553	2.61%	0.415%
70	15.578	1174	1176	1178	rVV3	269710	582098	2.80%	0.444%
71	15.635	1178	1181	1184	rVV	1556702	3073146	14.78%	2.346%

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082338.D
Acq On : 16 Oct 2015 21:10
Operator : UM/IZ
Sample : G4046-03 20X
Misc :
ALS Vial : 20 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

72	15.704	1184	1187	1189	rVV	2191115	3441583	16.55%	2.627%
73	15.750	1189	1191	1193	rVV	394686	759867	3.66%	0.580%
74	15.784	1193	1194	1202	rVV2	719869	1548360	7.45%	1.182%
75	15.967	1204	1210	1218	rVV3	389606	1825873	8.78%	1.394%
76	16.207	1227	1231	1233	rBV3	194005	534668	2.57%	0.408%
77	16.321	1239	1241	1244	rVB	248939	356810	1.72%	0.272%
78	16.561	1260	1262	1266	rVV4	102580	244093	1.17%	0.186%
79	16.995	1296	1300	1303	rBV	343130	914281	4.40%	0.698%
80	17.053	1303	1305	1311	rVB3	230019	606030	2.92%	0.463%
81	17.270	1319	1324	1327	rVB	969878	2175292	10.46%	1.661%
82	17.327	1327	1329	1334	rVB	123430	266326	1.28%	0.203%
83	17.430	1334	1338	1341	rBV	343474	822766	3.96%	0.628%
84	17.487	1341	1343	1346	rVB2	128107	209746	1.01%	0.160%
85	17.716	1357	1363	1370	rBV	666464	1779573	8.56%	1.359%
86	17.864	1370	1376	1380	rVV3	102328	378537	1.82%	0.289%
87	17.944	1380	1383	1391	rVB2	259627	725998	3.49%	0.554%
88	19.990	1554	1562	1570	rVB	166181	651051	3.13%	0.497%
89	20.184	1572	1579	1583	rVV	126263	543749	2.62%	0.415%
90	20.264	1583	1586	1600	rVB	97674	445986	2.15%	0.340%
91	21.133	1656	1662	1665	rBV	56995	236678	1.14%	0.181%
92	21.236	1667	1671	1681	rVB2	95362	381326	1.83%	0.291%
93	21.407	1681	1686	1693	rBV	62981	245638	1.18%	0.188%

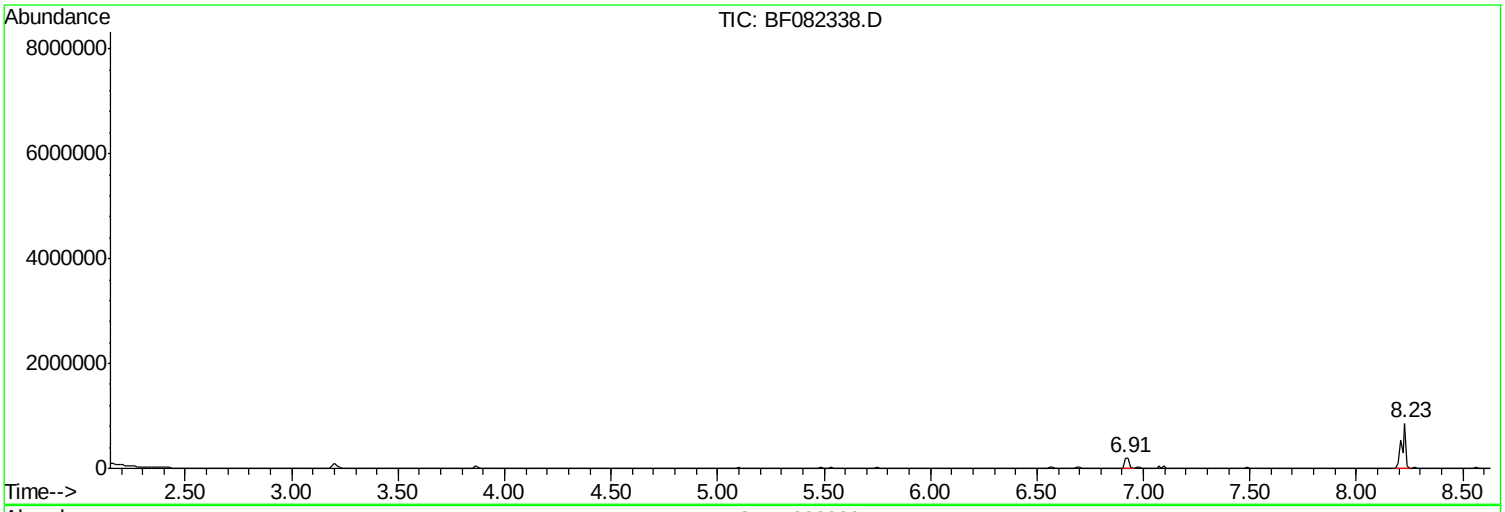
Sum of corrected areas: 130987955

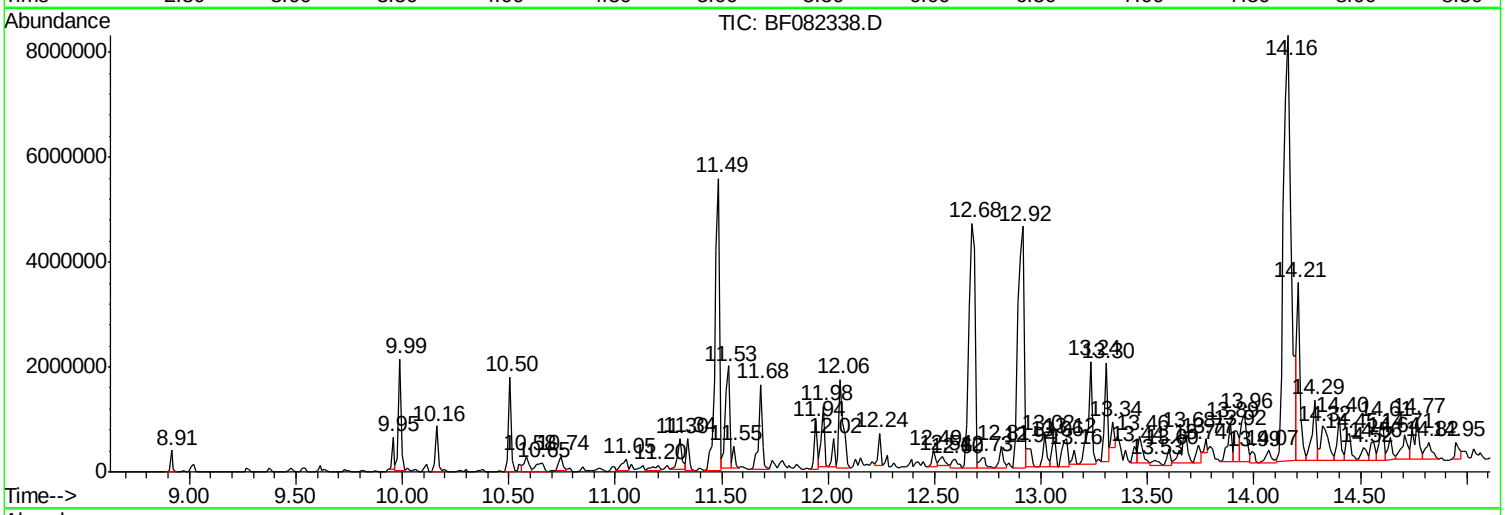
Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082338.D
Acq On : 16 Oct 2015 21:10
Operator : UM/IZ
Sample : G4046-03 20X
Misc :
ALS Vial : 20 Sample Multiplier: 1

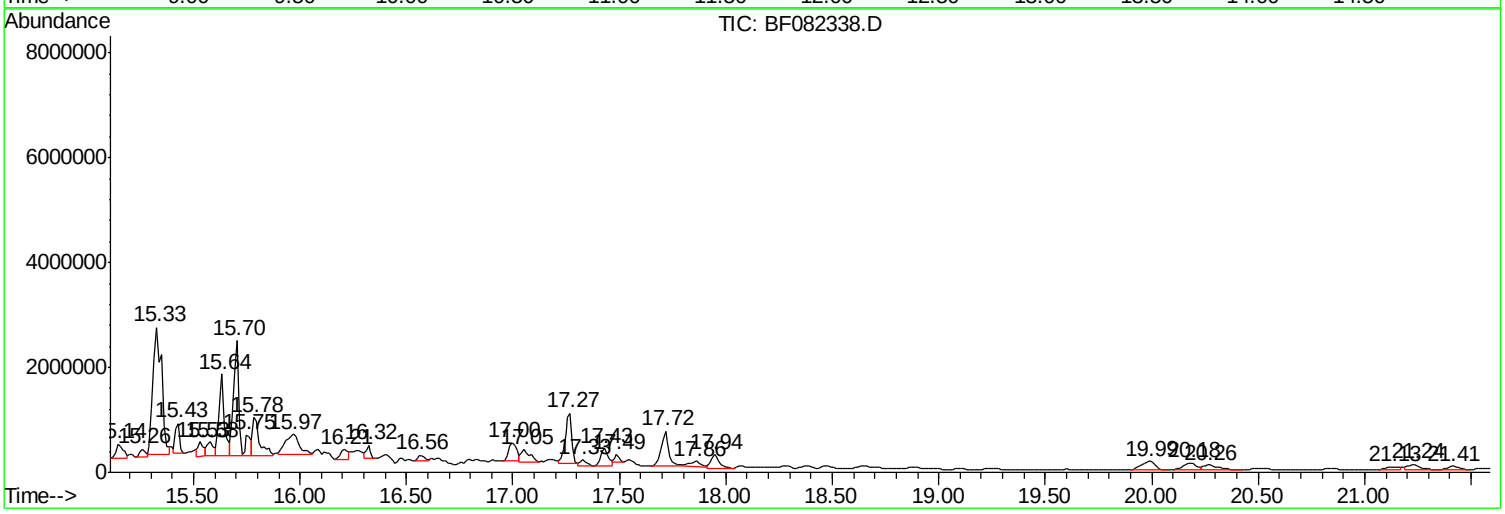
Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION







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Data Path : Z:\HPCHEM1\BNA_F\Data\BF101715\
Data File : BF082338.D
Acq On    : 16 Oct 2015  21:10
Operator  : UM/IZ
Sample    : G4046-03 20X
Misc      :
ALS Vial  : 20   Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected
```

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\Data\BF101715\
Data File : BF082338.D
Acq On : 16 Oct 2015 21:10
Operator : UM/IZ
Sample : G4046-03 20X
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATION

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc

Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082390.D
Acq On : 20 Oct 2015 8:51
Operator : UM/IZ
Sample : G4046-03DL 400X
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Oct 20 13:19:30 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:09 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	82165	20.00	ng	-0.03
21) Naphthalene-d8	8.09	136	348539	20.00	ng	-0.03
38) Acenaphthene-d10	9.85	164	166465	20.00	ng	-0.03
63) Phenanthrene-d10	11.34	188	291278	20.00	ng	-0.03
75) Chrysene-d12	14.02	240	217145	20.00	ng	0.01
86) Perylene-d12	15.54	264	211252	20.00	ng	0.10
System Monitoring Compounds						
5) 2-Fluorophenol	0.00	112	0	0.00	ng	
7) Phenol-d6	0.00	99	0	0.00	ng	
23) Nitrobenzene-d5	0.00	82	0	0.00	ng	
41) 2,4,6-Tribromophenol	0.00	330	0	0.00	ng	
44) 2-Fluorobiphenyl	9.18	172	2203	0.22	ng	-0.03
78) Terphenyl-d14	12.93	244	2138	0.26	ng	-0.03
Target Compounds						Qvalue
31) Naphthalene	8.11	128	36304	2.40	ng	98
51) Acenaphthene	9.89	154	42342	4.53	ng	99
54) Dibenzofuran	10.06	168	27511	2.14	ng	95
57) Fluorene	10.40	166	41683	3.96	ng	99
70) Phenanthrene	11.36	178	345345	24.19	ng	99
71) Anthracene	11.42	178	99430	6.76	ng	98
72) Carbazole	11.58	167	61772	4.60	ng	98
74) Fluoranthene	12.56	202	381595	24.89	ng	96
77) Pyrene	12.79	202	299285	23.22	ng	98
80) Benzo(a)anthracene	14.01	228	147105	13.02	ng	97
82) Chrysene	14.05	228	119659	10.05	ng	97
83) Bis(2-ethylhexyl)phthalate	14.01	149	816723	97.34	ng	99
85) Indeno(1,2,3-cd)pyrene	16.96	276	56212m	5.94	ng	
87) Benzo(b)fluoranthene	15.13	252	158735m	12.35	ng	
88) Benzo(k)fluoranthene	15.16	252	58179m	5.39	ng	
89) Benzo(a)pyrene	15.49	252	107984	9.78	ng	98
91) Benzo(g,h,i)perylene	17.40	276	45813	5.21	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Sample Results: **BF082390.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082390.D
Acq On : 20 Oct 2015 8:51
Operator : UM/IZ
Sample : G4046-03DL 400X
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Oct 20 13:19:30 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
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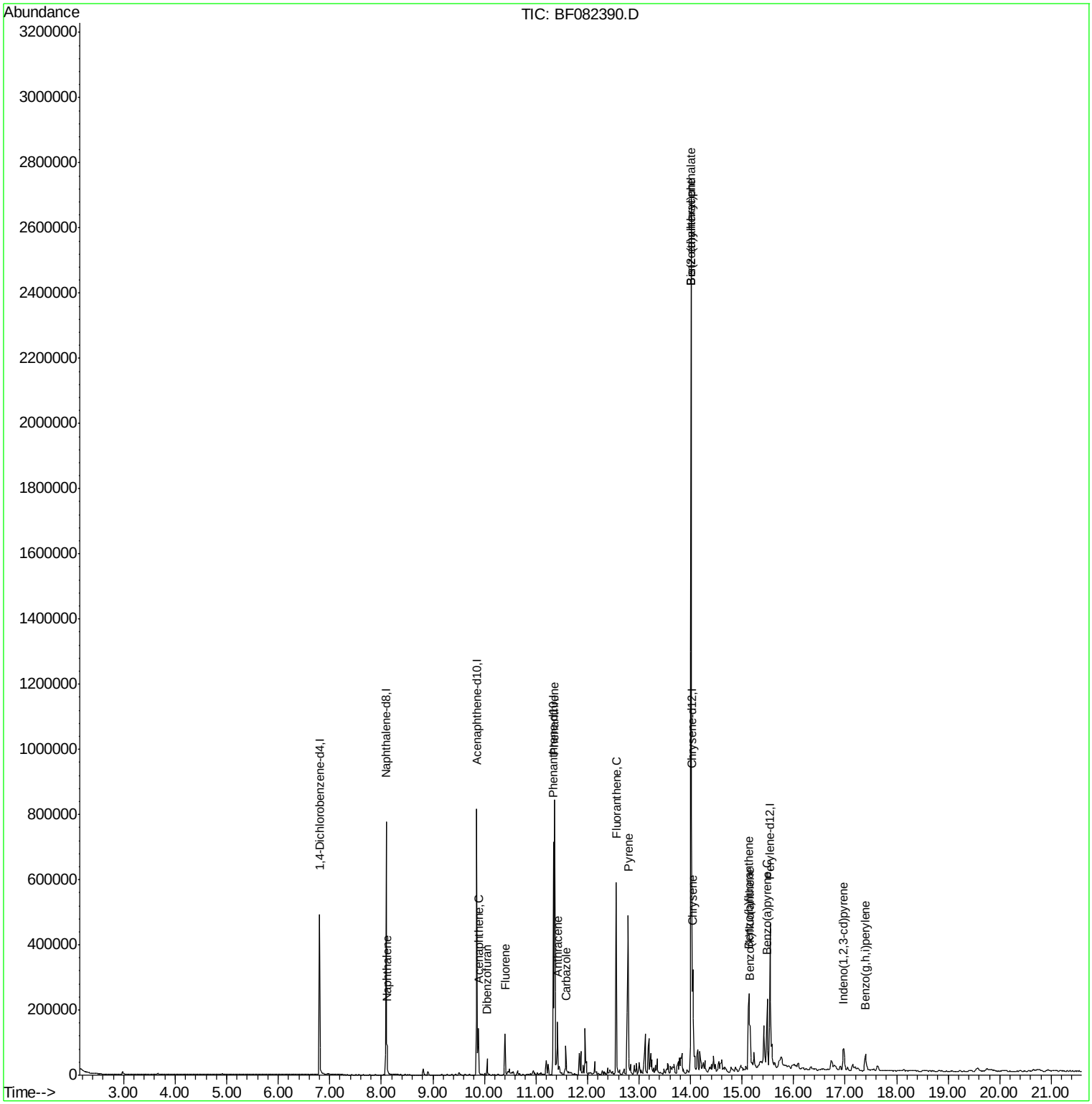
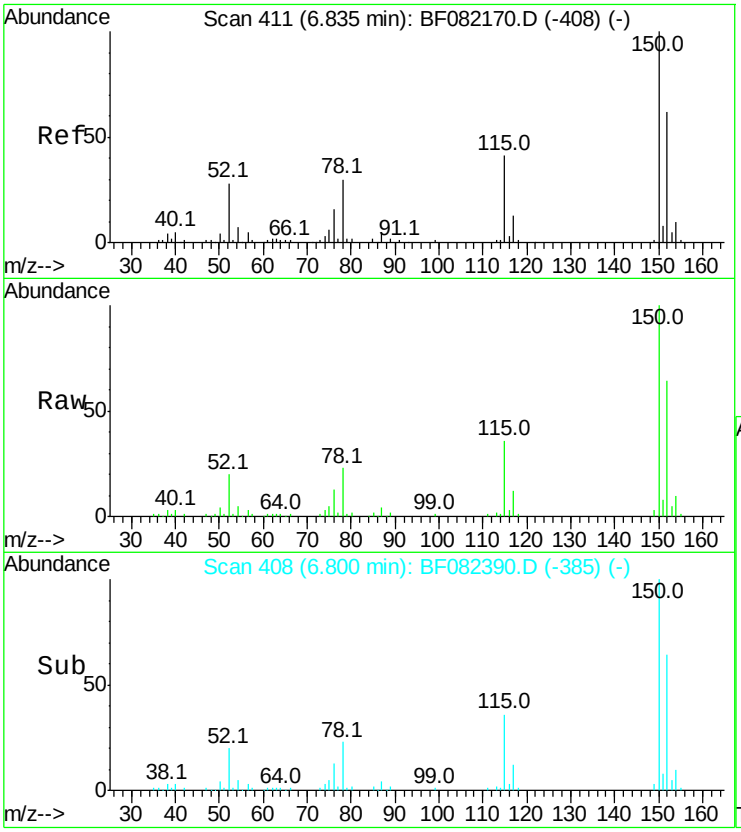
10/20/2015 6:26:09 PM

6 A B C D E F G H I J K

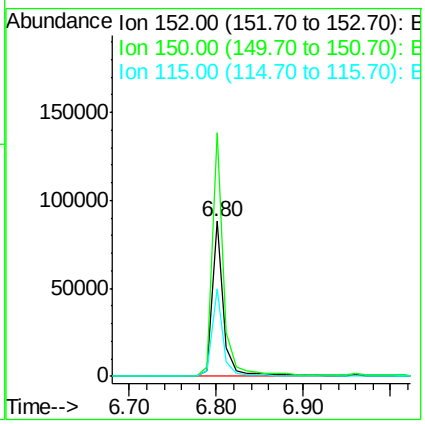




#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:152 Resp: 82165

Ion	Ratio	Lower	Upper
152	100		
150	157.3	129.0	193.4
115	56.7	52.1	78.1



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
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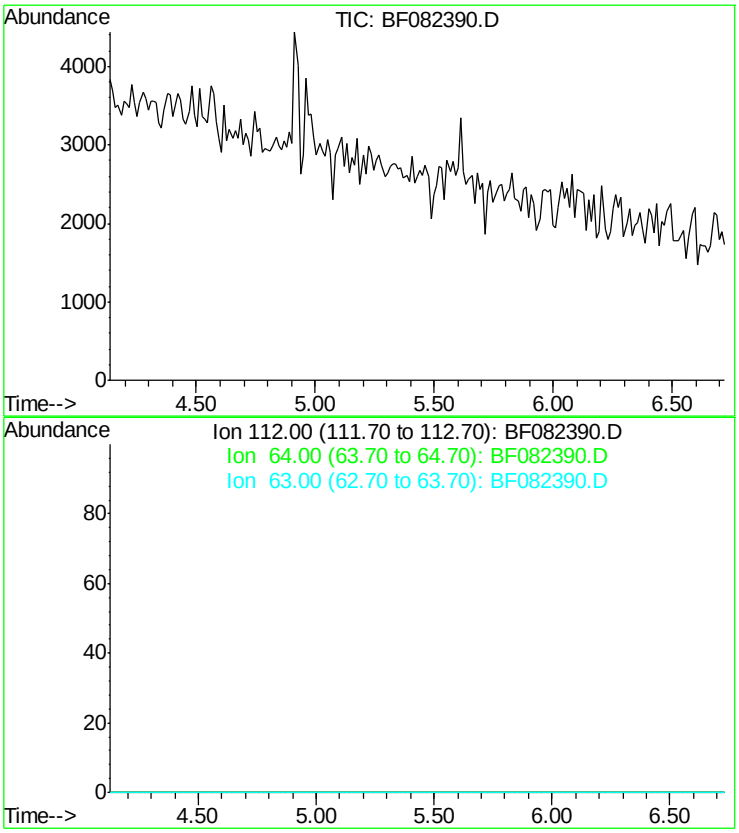

#5
2-Fluorophenol
Concen: 0.00 ng
Expected RT: 5.43 min

Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion: 112

Sig	Exp Ratio
112	100
64	60.8
63	31.4

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
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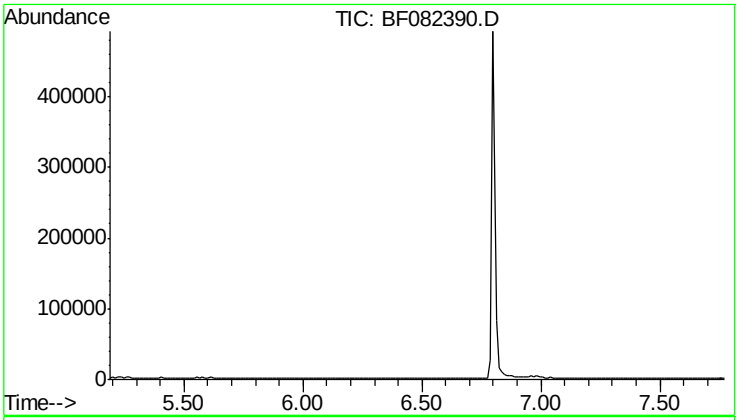
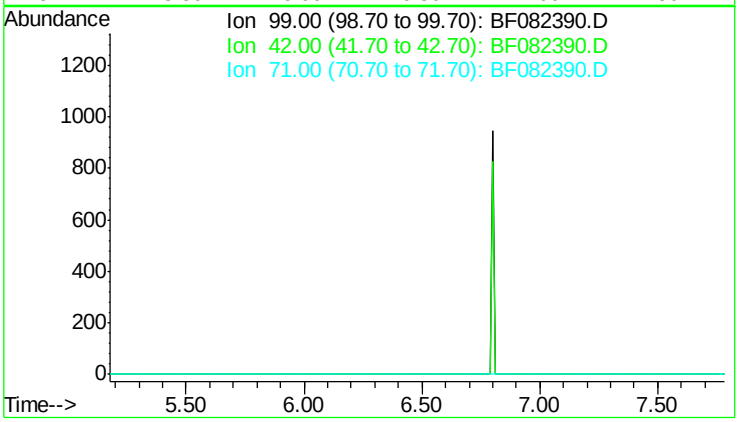
10/20/2015 6:26:09 PM



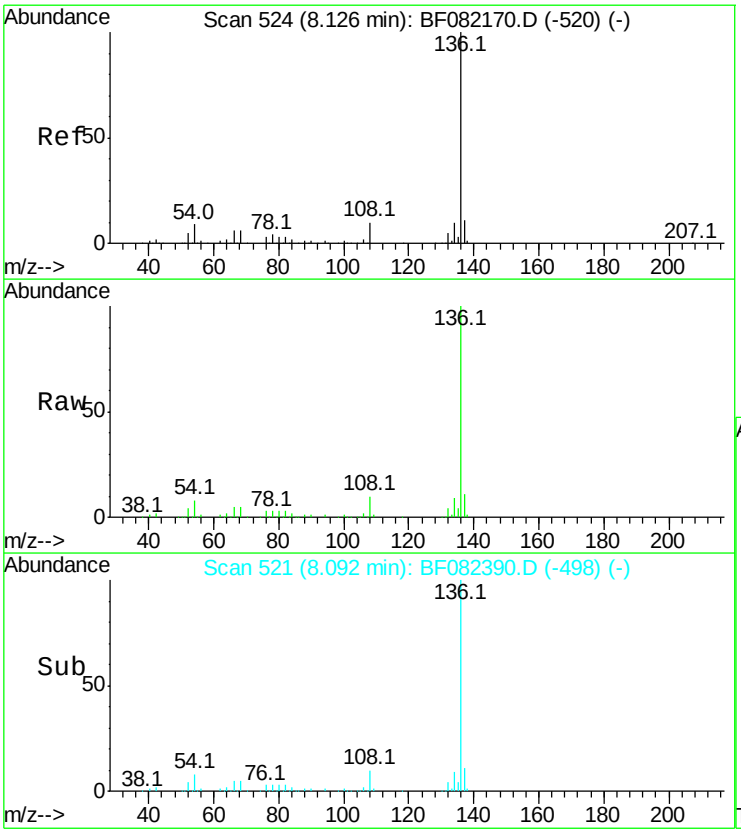


#7
Phenol-d6
Concen: 0.00 ng
Expected RT: 6.48 min

Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion: 99

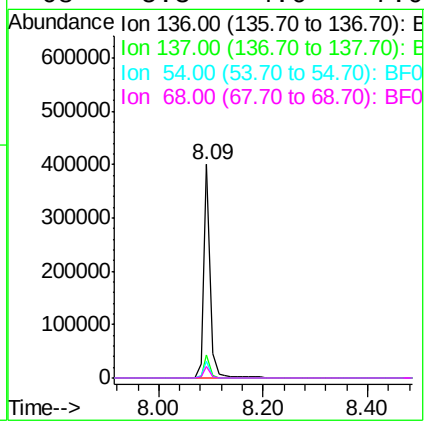
Sig	Exp Ratio
99	100
42	16.5
71	32.0



#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:136 Resp: 348539

Ion	Ratio	Lower	Upper
136	100		
137	10.9	9.0	13.6
54	7.8	7.5	11.3
68	5.3	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
MMdadoda
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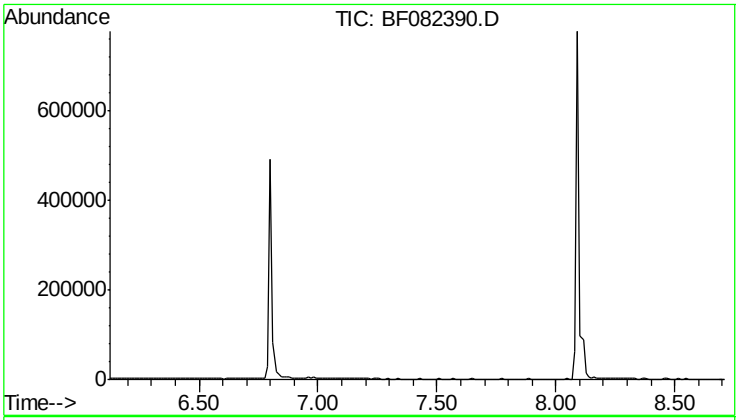
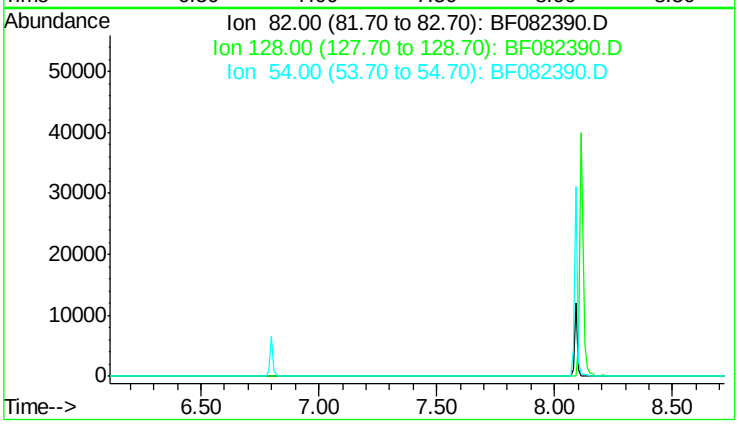


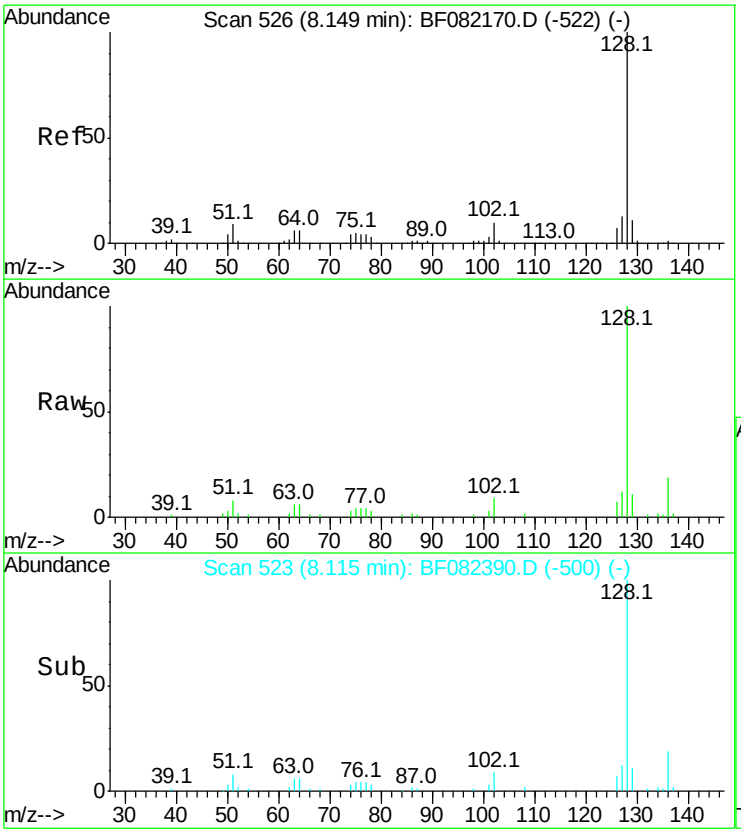
#23
Nitrobenzene-d5
Concen: 0.00 ng
Expected RT: 7.42 min

Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion: 82

Sig	Exp Ratio
82	100
128	48.4
54	50.1

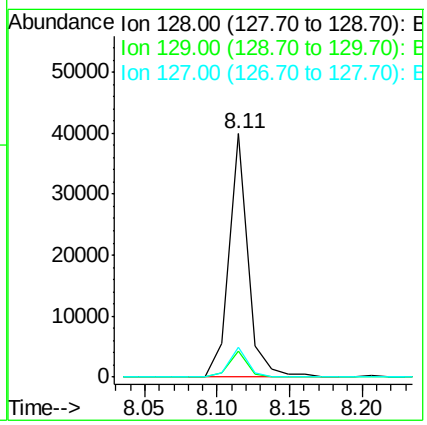


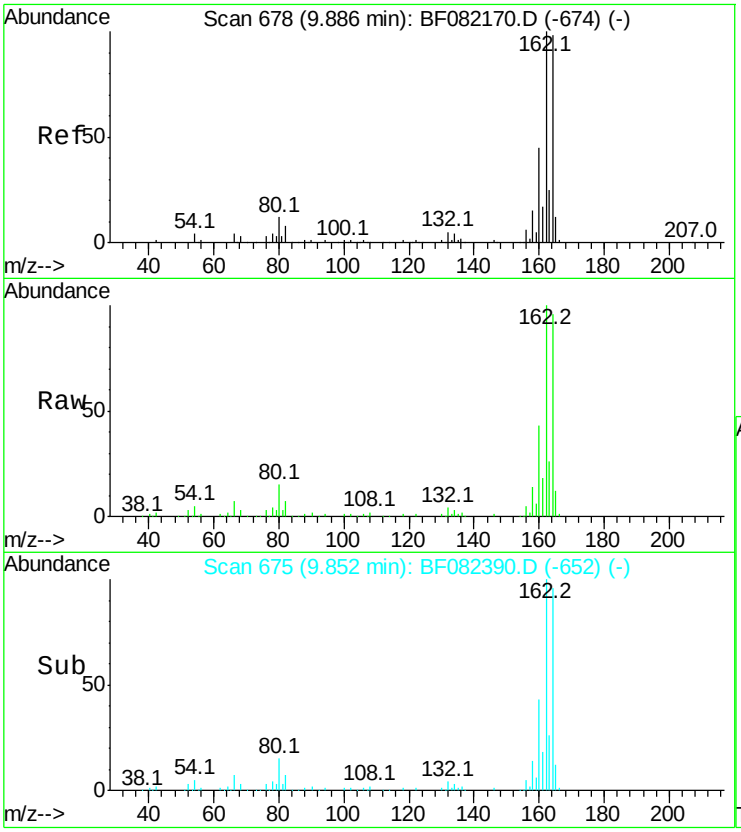


#31
Naphthalene
Concen: 2.40 ng
RT: 8.11 min Scan# 523
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:128 Resp: 36304

Ion	Ratio	Lower	Upper
128	100		
129	10.8	9.1	13.7
127	12.1	10.7	16.1

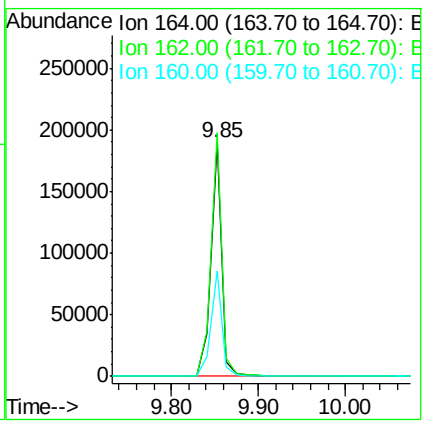




#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:164 Resp: 166465

Ion	Ratio	Lower	Upper
164	100		
162	104.0	81.6	122.4
160	45.1	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
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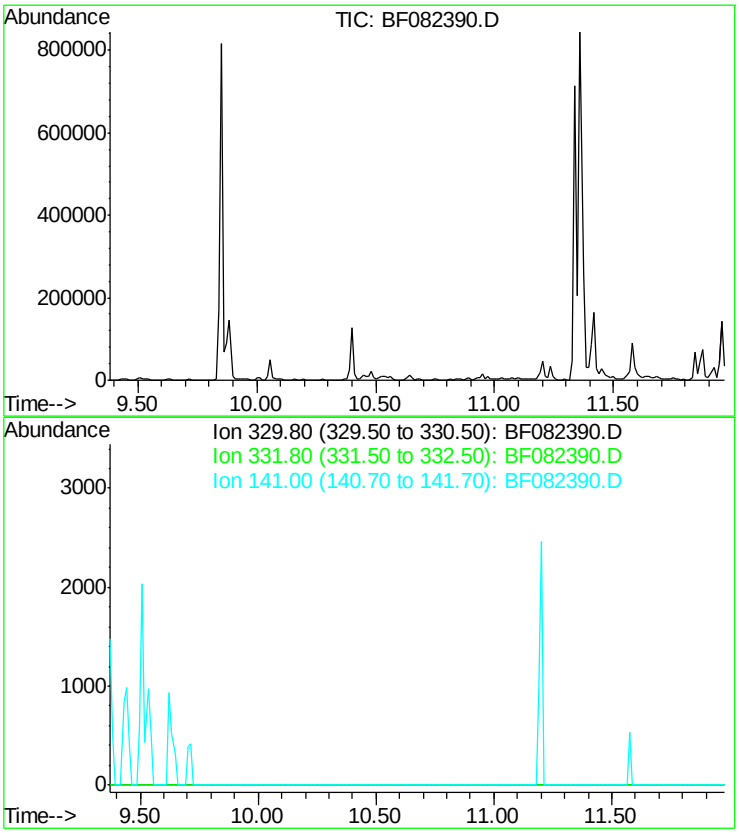
10/20/2015 6:26:09 PM

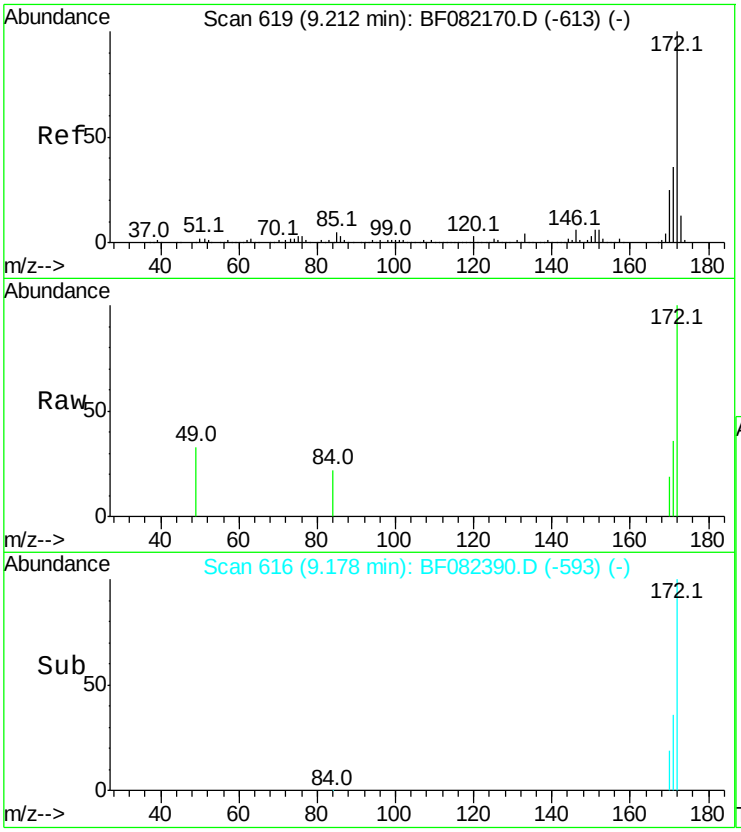


#41
2,4,6-Tribromophenol
Concen: 0.00 ng
Expected RT: 10.67 min

Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion: 330

Sig	Exp Ratio
330	100
332	96.4
141	37.3



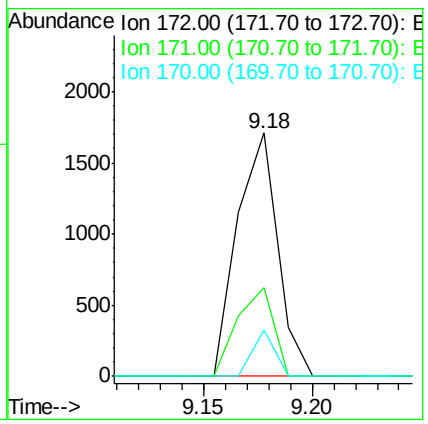
#44
2-Fluorobiphenyl
Concen: 0.22 ng
RT: 9.18 min Scan# 616
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

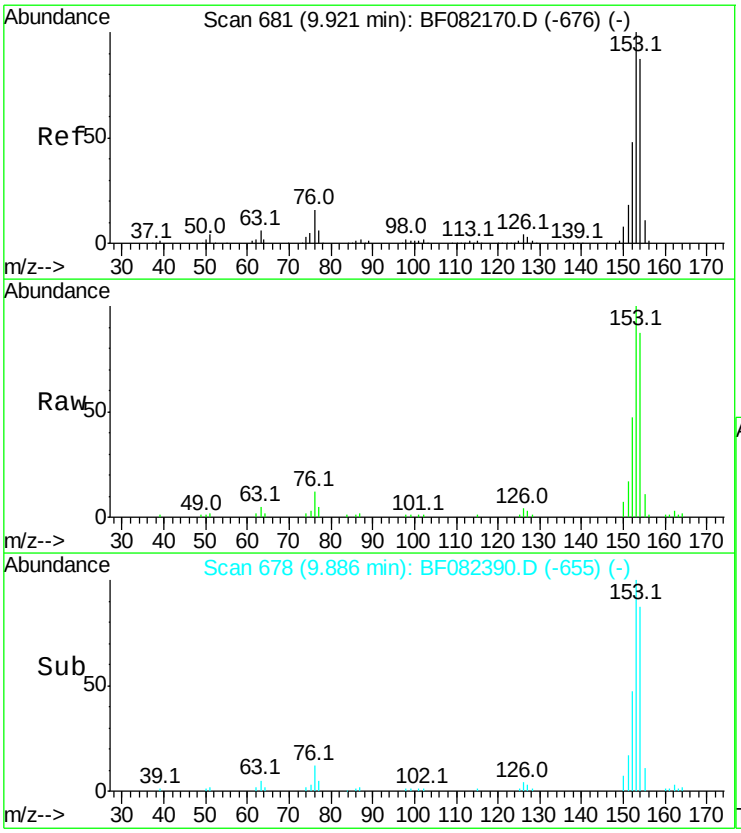
Tgt Ion:172 Resp: 2203

Ion	Ratio	Lower	Upper
172	100		
171	36.5	28.6	42.8
170	19.0	19.7	29.5#

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:09 PM

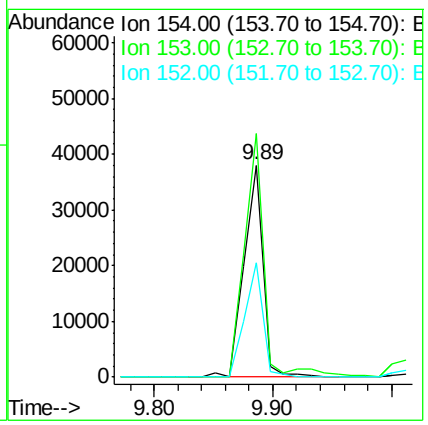


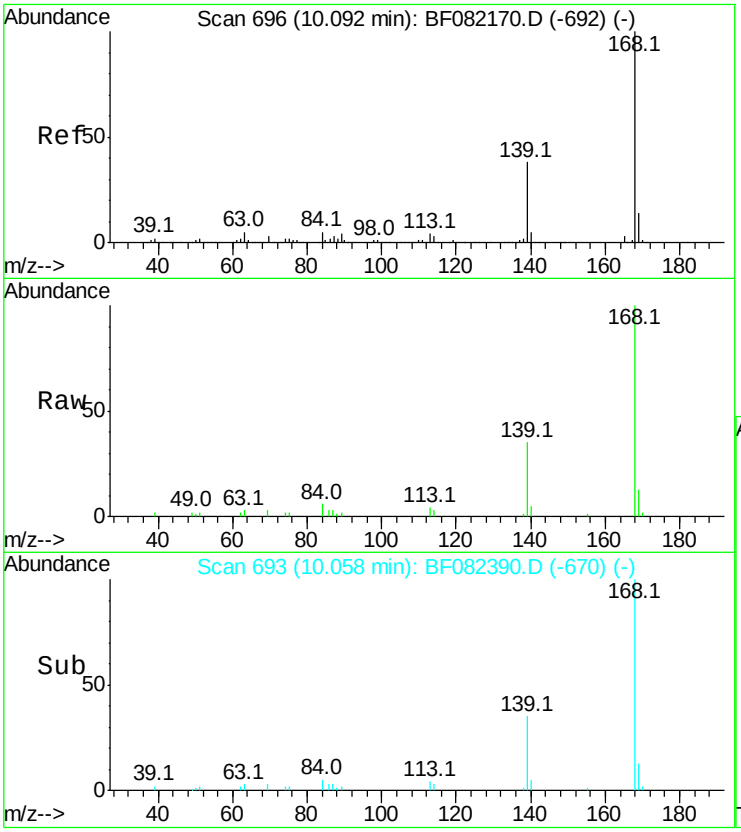


#51
Acenaphthene
Concen: 4.53 ng
RT: 9.89 min Scan# 678
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:154 Resp: 42342

Ion	Ratio	Lower	Upper
154	100		
153	114.9	91.4	137.2
152	54.1	44.3	66.5

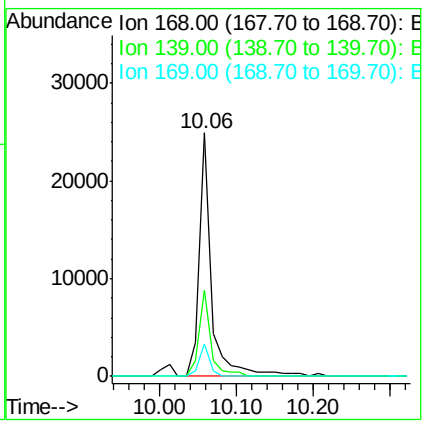




#54
Dibenzofuran
Concen: 2.14 ng
RT: 10.06 min Scan# 693
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:168 Resp: 27511

Ion	Ratio	Lower	Upper
168	100		
139	35.3	31.0	46.6
169	13.2	10.9	16.3



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

Manual Integrations APPROVED
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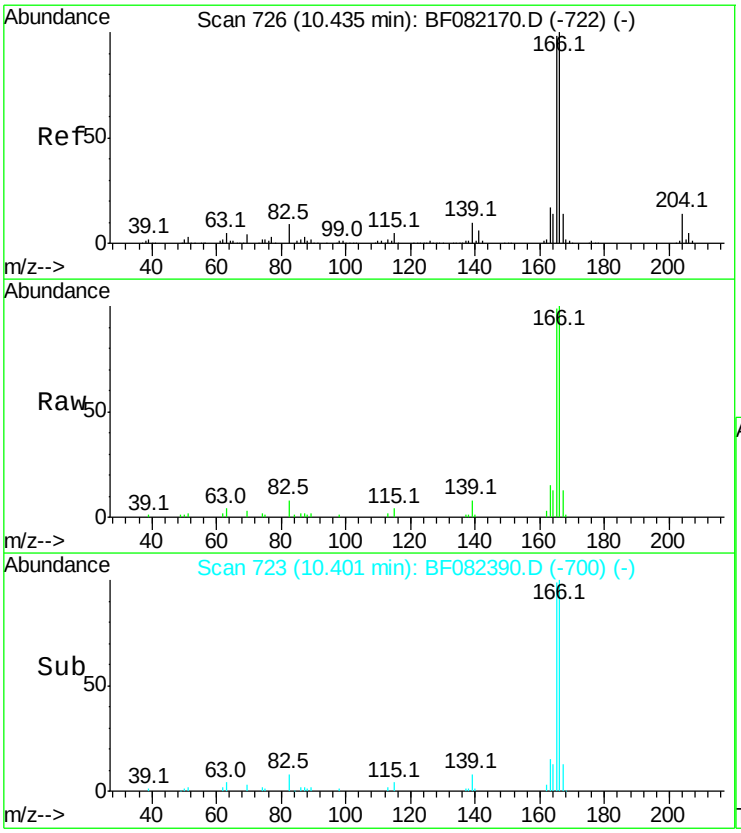
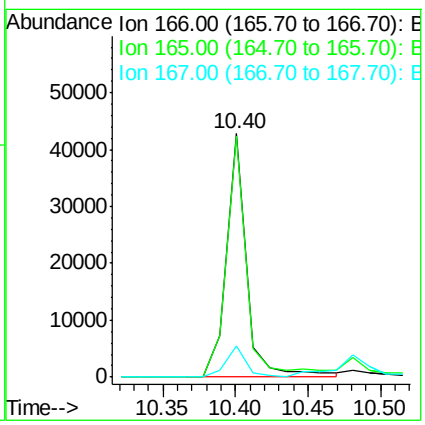
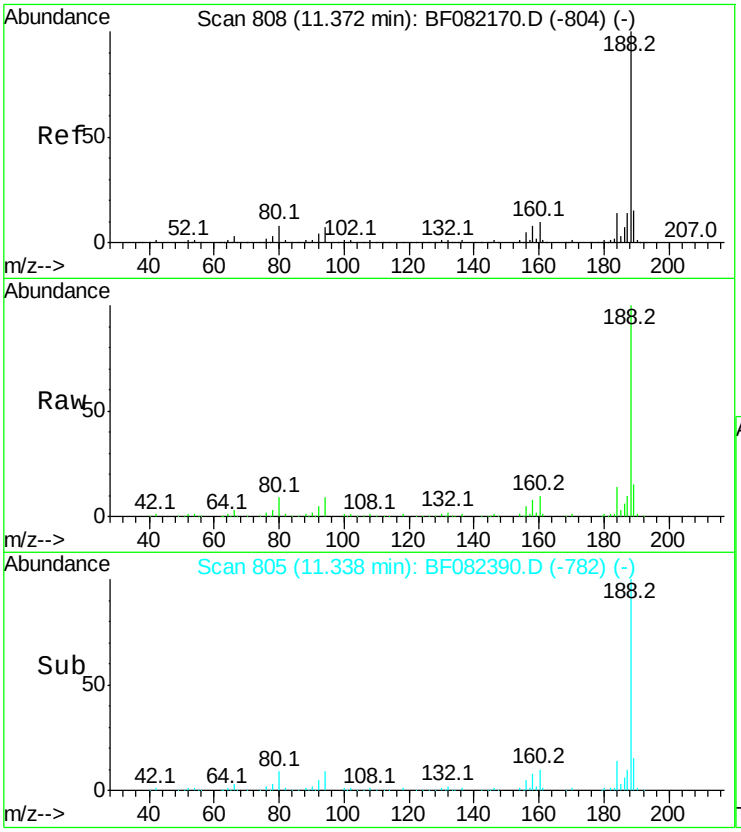


#57
Fluorene
Concen: 3.96 ng
RT: 10.40 min Scan# 723
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:166 Resp: 41683

Ion	Ratio	Lower	Upper
166	100		
165	98.9	78.3	117.5
167	12.8	10.8	16.2





#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:188 Resp: 291278

Ion	Ratio	Lower	Upper
188	100		
94	8.9	5.8	8.6#
80	9.5	6.4	9.6

Instrument :
BNA_F
ClientSampleId :
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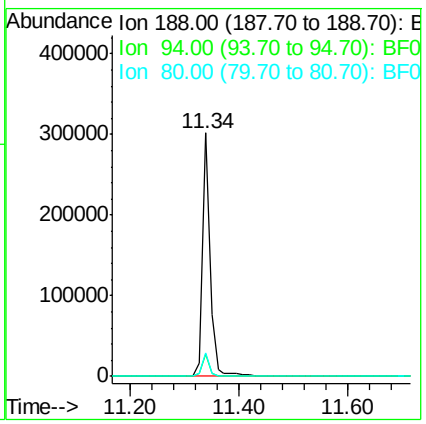
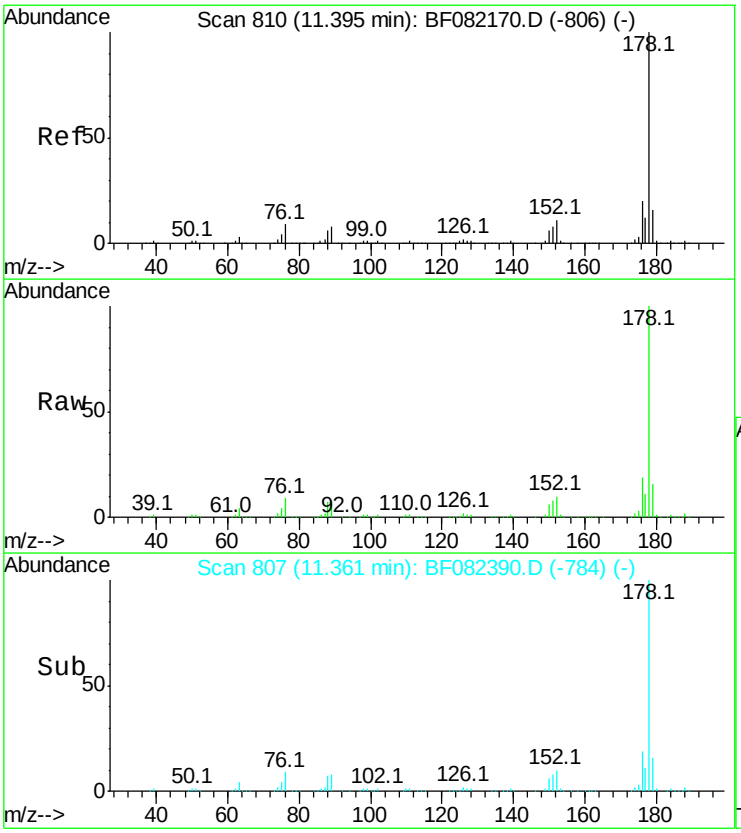
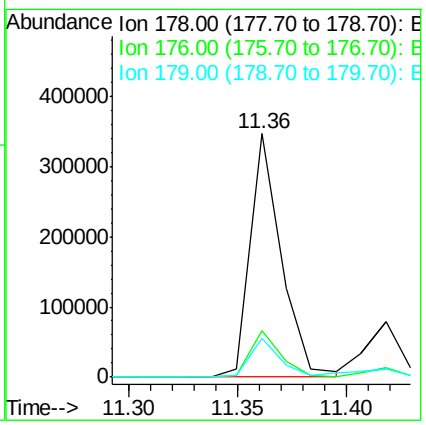




#70
Phenanthrene
Concen: 24.19 ng
RT: 11.36 min Scan# 807
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:178 Resp: 345345

Ion	Ratio	Lower	Upper
178	100		
176	19.2	16.0	24.0
179	15.7	12.6	19.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

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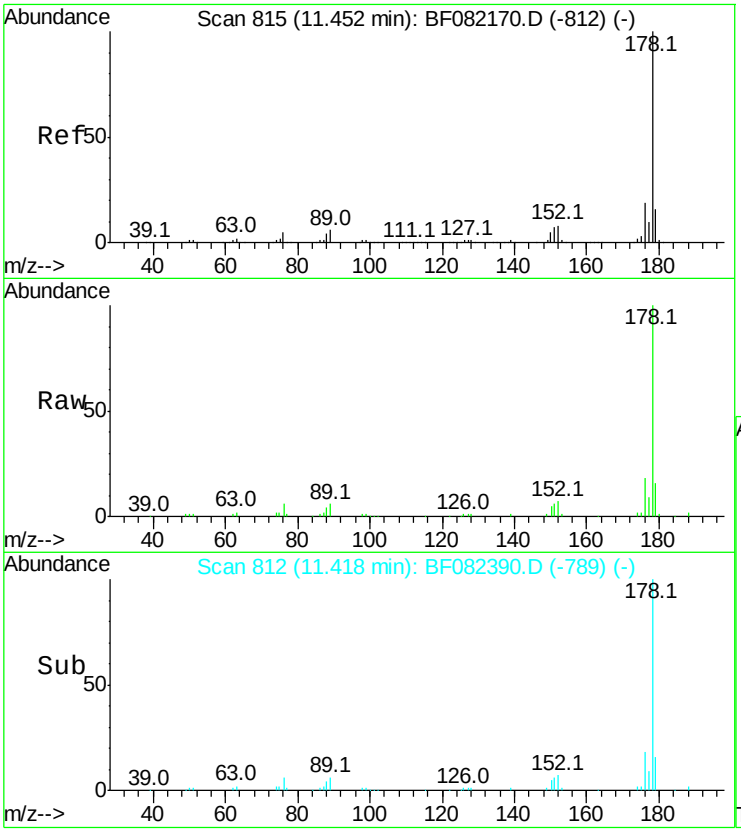
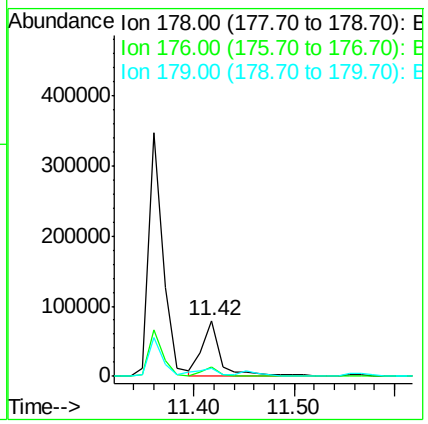
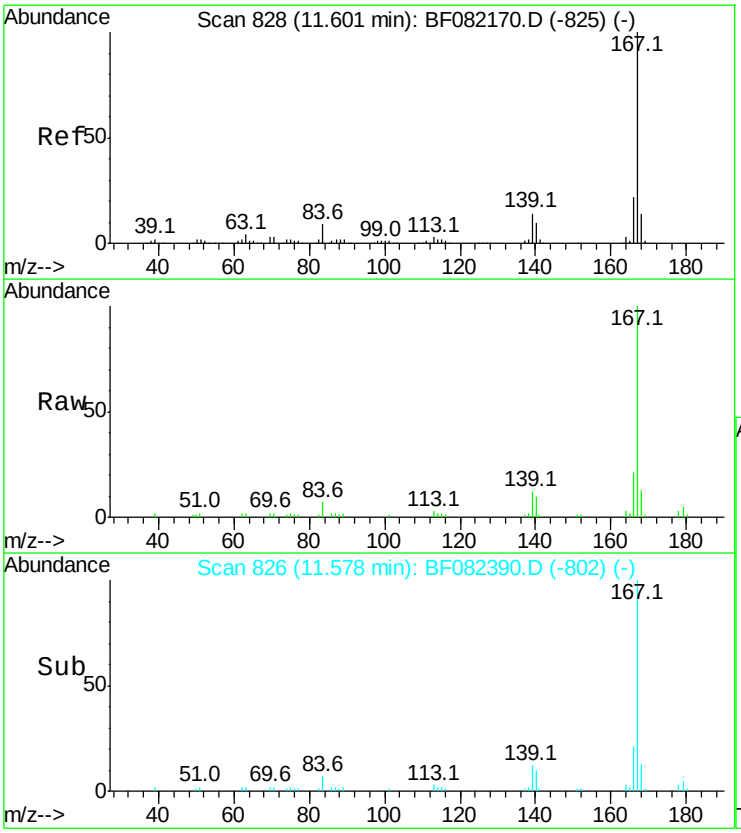


#71
Anthracene
Concen: 6.76 ng
RT: 11.42 min Scan# 812
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:178 Resp: 99430

Ion	Ratio	Lower	Upper
178	100		
176	17.6	15.4	23.0
179	15.6	12.5	18.7

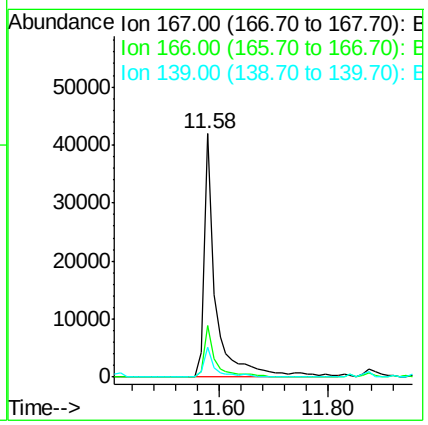




#72
Carbazole
Concen: 4.60 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:167 Resp: 61772

Ion	Ratio	Lower	Upper
167	100		
166	21.3	17.3	25.9
139	12.0	11.2	16.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

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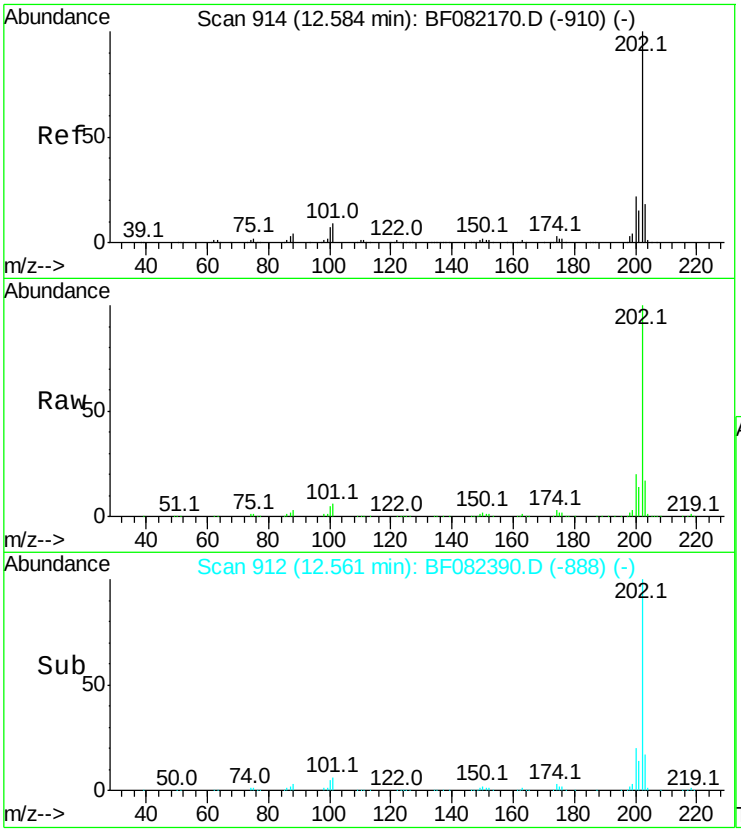
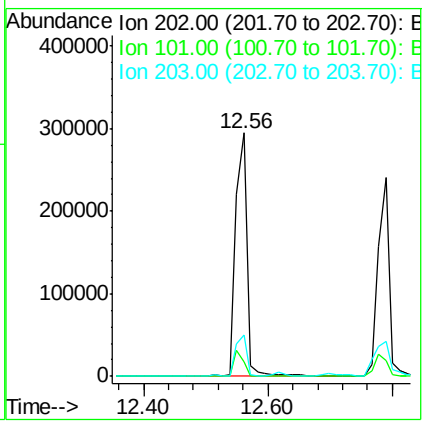
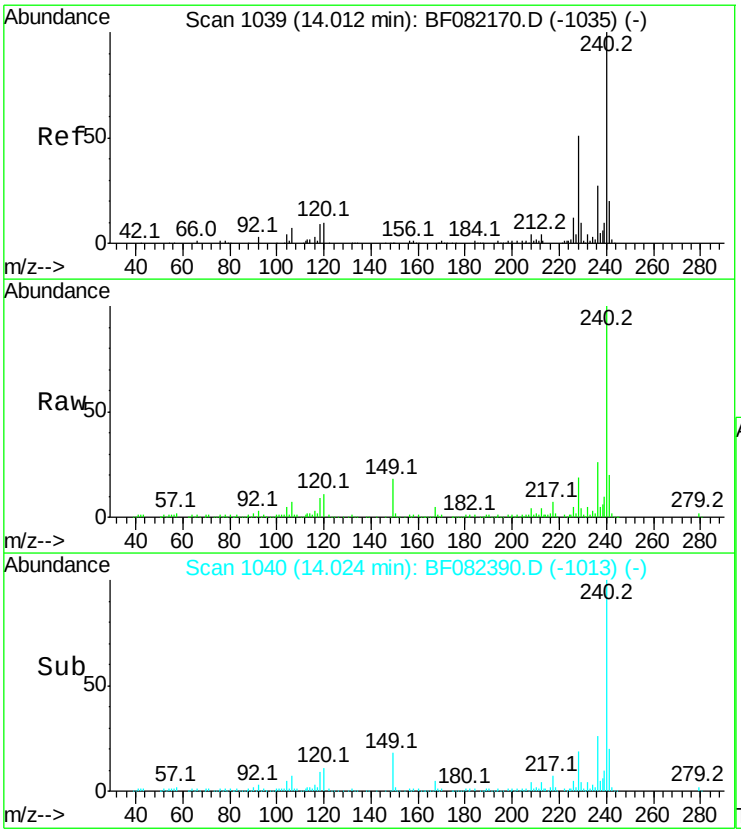


#74
Fluoranthene
Concen: 24.89 ng
RT: 12.56 min Scan# 912
Delta R.T. -0.02 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:202 Resp: 381595

Ion	Ratio	Lower	Upper
202	100		
101	6.1	0.0	29.3
203	17.1	0.0	37.8

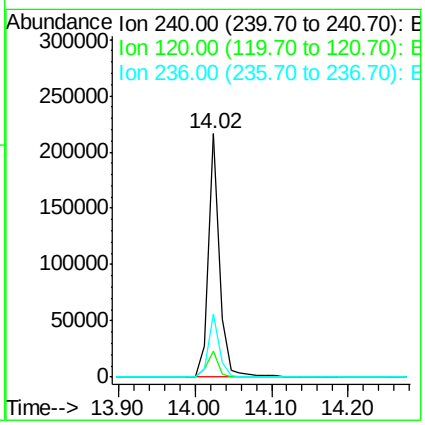




#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.02 min Scan# 1040
Delta R.T. 0.01 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:240 Resp: 217145

Ion	Ratio	Lower	Upper
240	100		
120	10.8	8.1	12.1
236	25.8	21.3	31.9



Instrument :
BNA_F
ClientSampleId :
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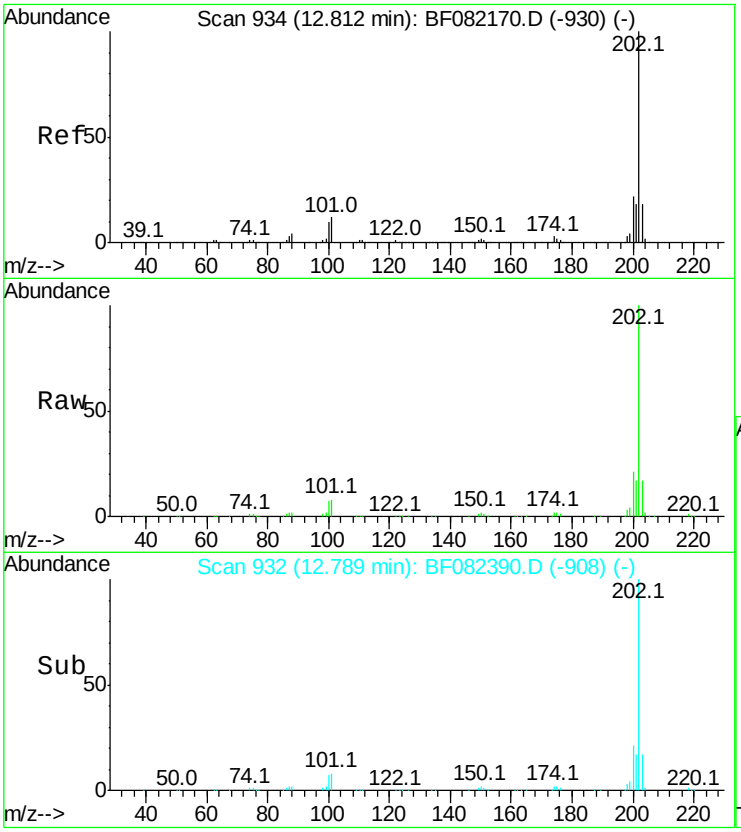
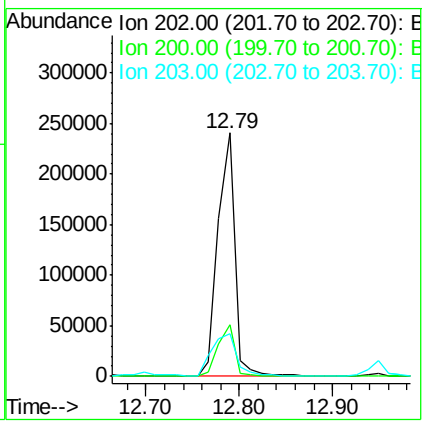
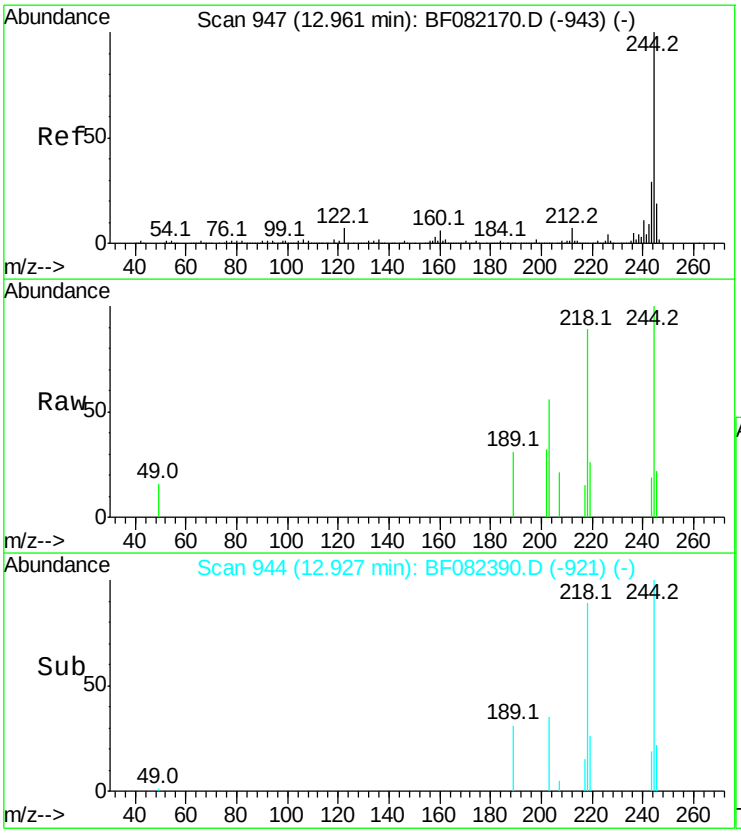


#77
Pyrene
Concen: 23.22 ng
RT: 12.79 min Scan# 932
Delta R.T. -0.02 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:202 Resp: 299285

Ion	Ratio	Lower	Upper
202	100		
200	21.2	17.9	26.9
203	17.4	14.5	21.7

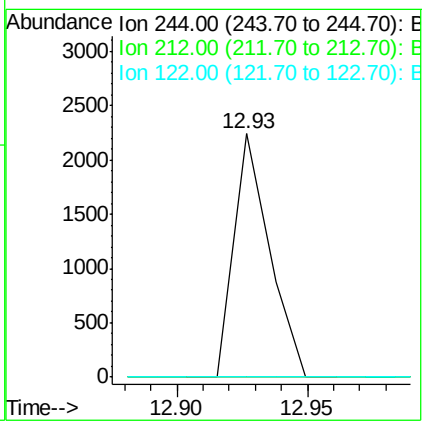


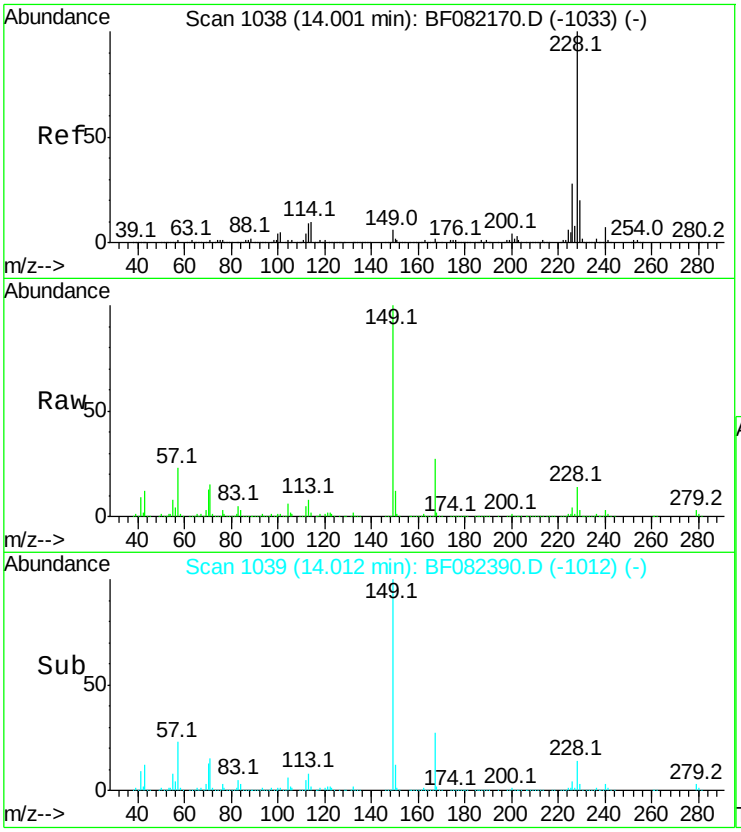


#78
Terphenyl-d14
Concen: 0.26 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:244 Resp: 2138

Ion	Ratio	Lower	Upper
244	100		
212	0.0	5.8	8.6#
122	0.0	5.9	8.9#





#80
Benzo(a)anthracene
Concen: 13.02 ng
RT: 14.01 min Scan# 1039
Delta R.T. 0.01 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:228 Resp: 147105

Ion	Ratio	Lower	Upper
228	100		
226	26.0	22.3	33.5
229	19.7	16.2	24.2

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

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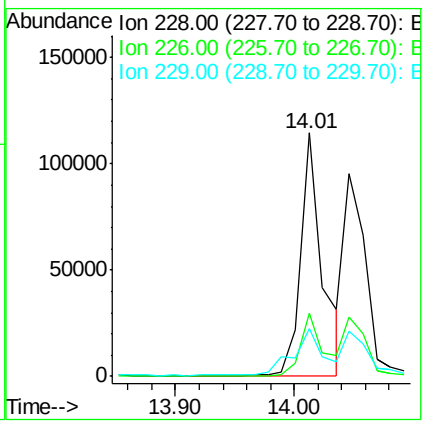
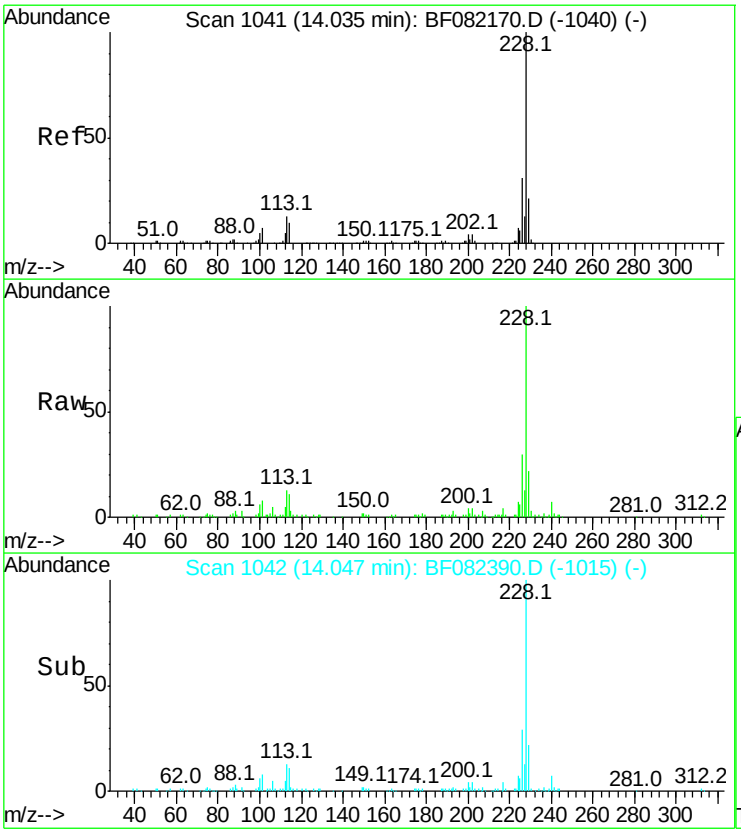
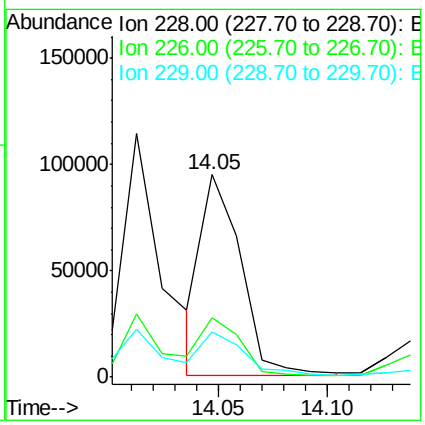


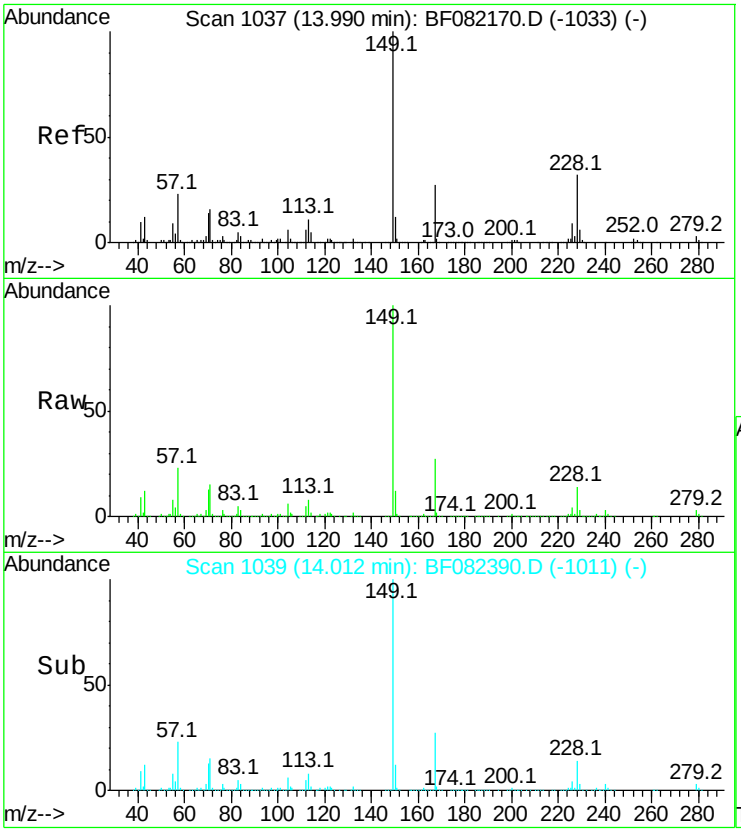


#82
Chrysene
Concen: 10.05 ng
RT: 14.05 min Scan# 1042
Delta R.T. 0.01 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:228 Resp: 119659

Ion	Ratio	Lower	Upper
228	100		
226	29.6	24.4	36.6
229	22.3	16.3	24.5





#83
Bis(2-ethylhexyl)phthalate
Concen: 97.34 ng
RT: 14.01 min Scan# 1039
Delta R.T. 0.02 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:149 Resp: 816723

Ion	Ratio	Lower	Upper
149	100		
167	27.0	21.3	31.9
279	3.3	2.6	4.0

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

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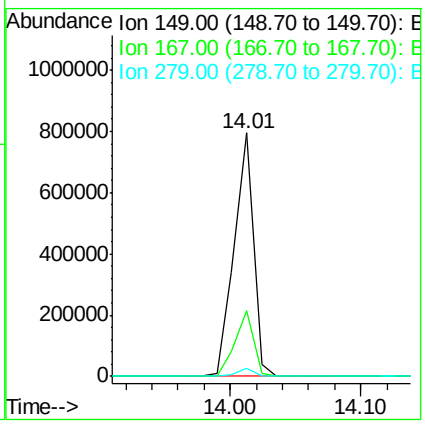
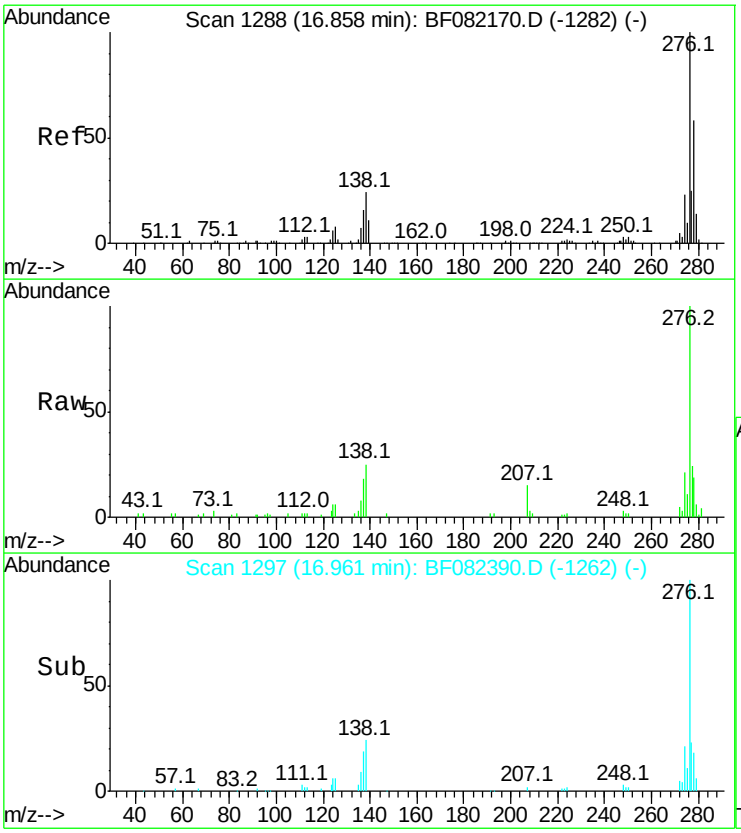
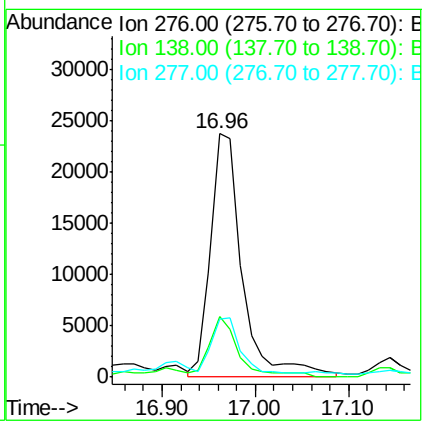


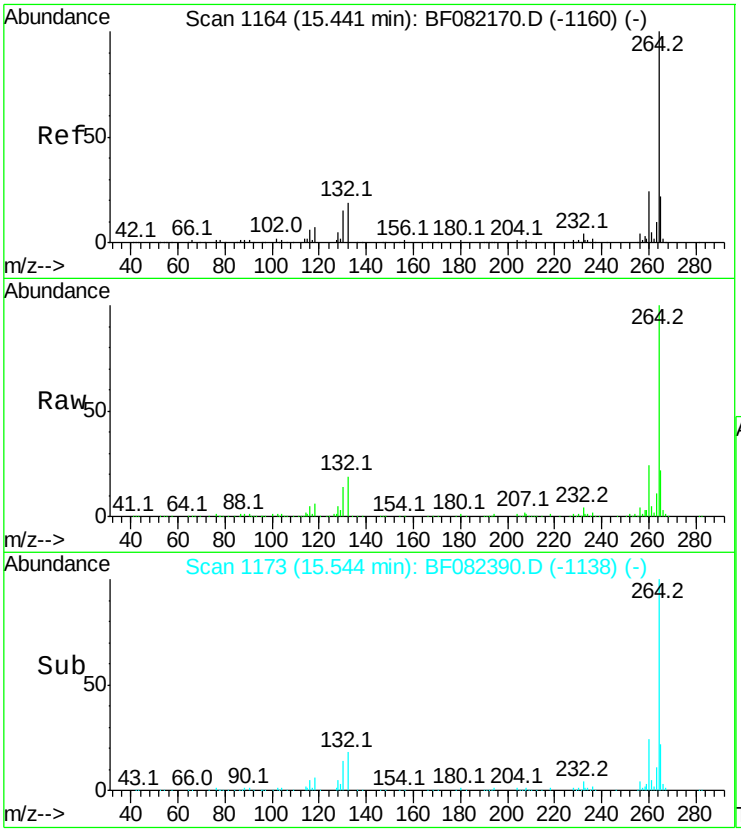


#85
Indeno(1,2,3-cd)pyrene
Concen: 5.94 ng m
RT: 16.96 min Scan# 1297
Delta R.T. 0.10 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:276 Resp: 56212

Ion	Ratio	Lower	Upper
276	100		
138	5.9	19.7	29.5#
277	5.8	20.1	30.1#





#86
Pervlene-d12
Concen: 20.00 ng
RT: 15.54 min Scan# 1173
Delta R.T. 0.10 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:264 Resp: 211252

Ion	Ratio	Lower	Upper
264	100		
260	24.1	19.0	28.6
265	22.0	17.3	25.9

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL

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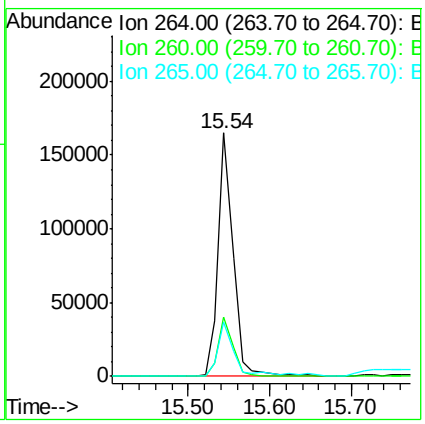
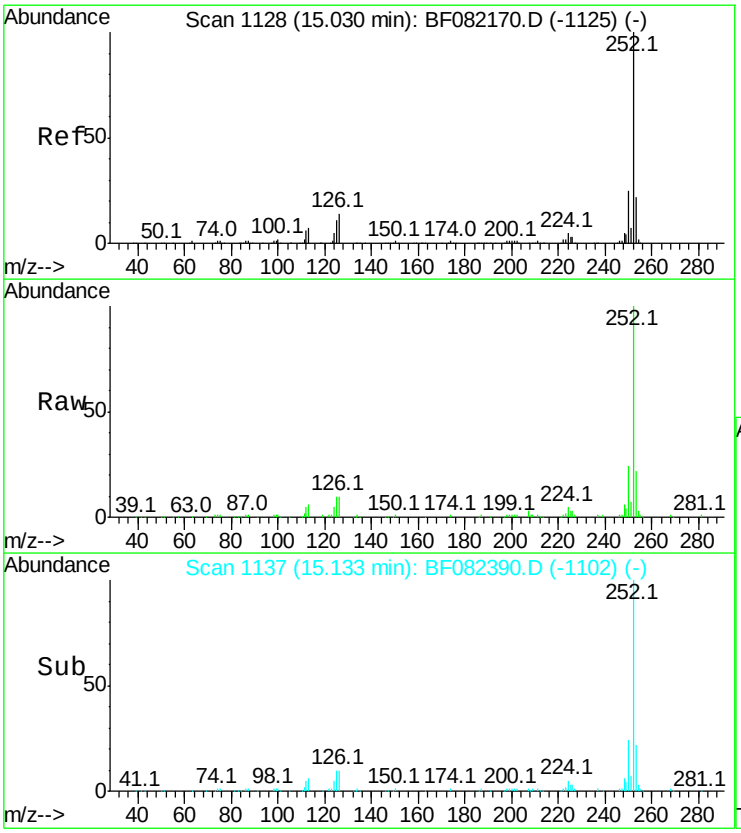
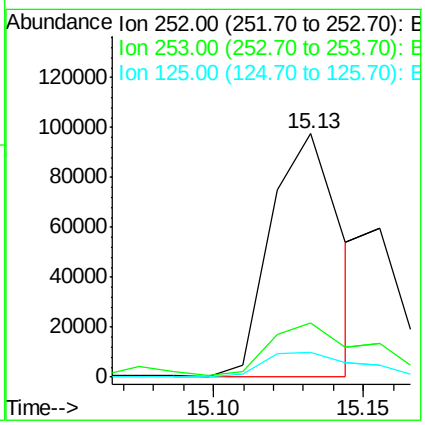


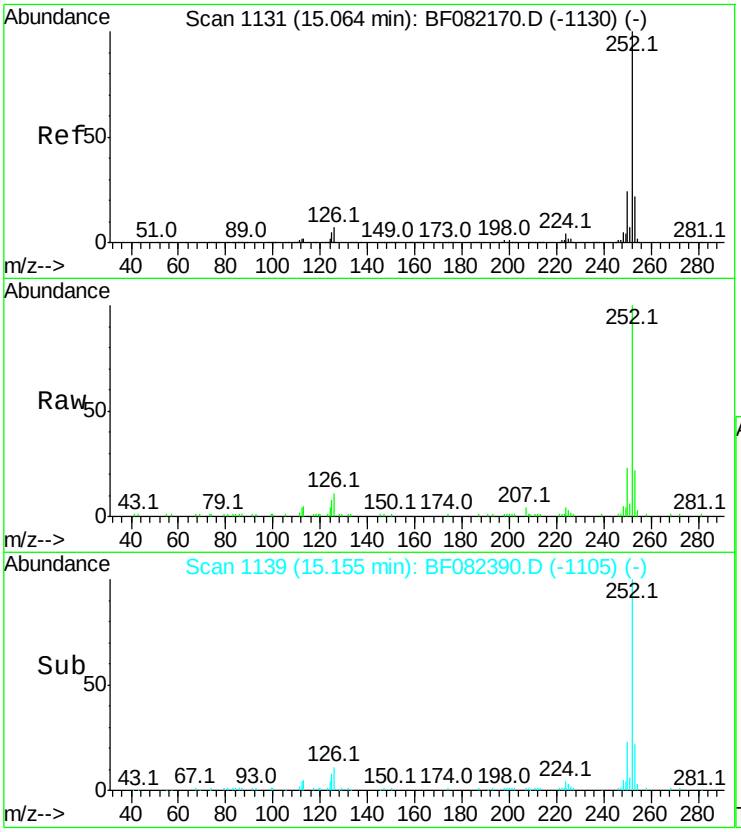


#87
Benzo(b)fluoranthene
Concen: 12.35 ng m
RT: 15.13 min Scan# 1137
Delta R.T. 0.10 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:252 Resp: 158735

Ion	Ratio	Lower	Upper
252	100		
253	22.1	18.0	27.0
125	9.9	8.6	12.8





#88
Benzo(k)fluoranthene
Concen: 5.39 ng m
RT: 15.16 min Scan# 1139
Delta R.T. 0.09 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:252 Resp: 58179

Ion	Ratio	Lower	Upper
252	100		
253	22.4	17.8	26.6
125	8.4	6.7	10.1

Instrument :
BNA_F
ClientSampleId :
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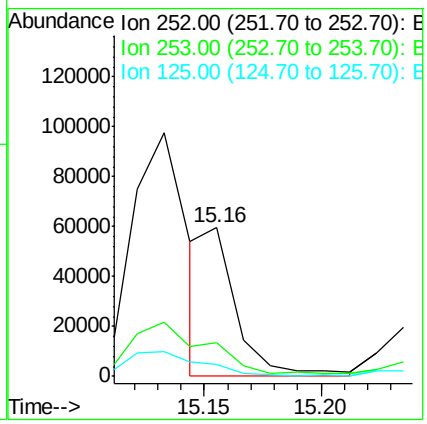
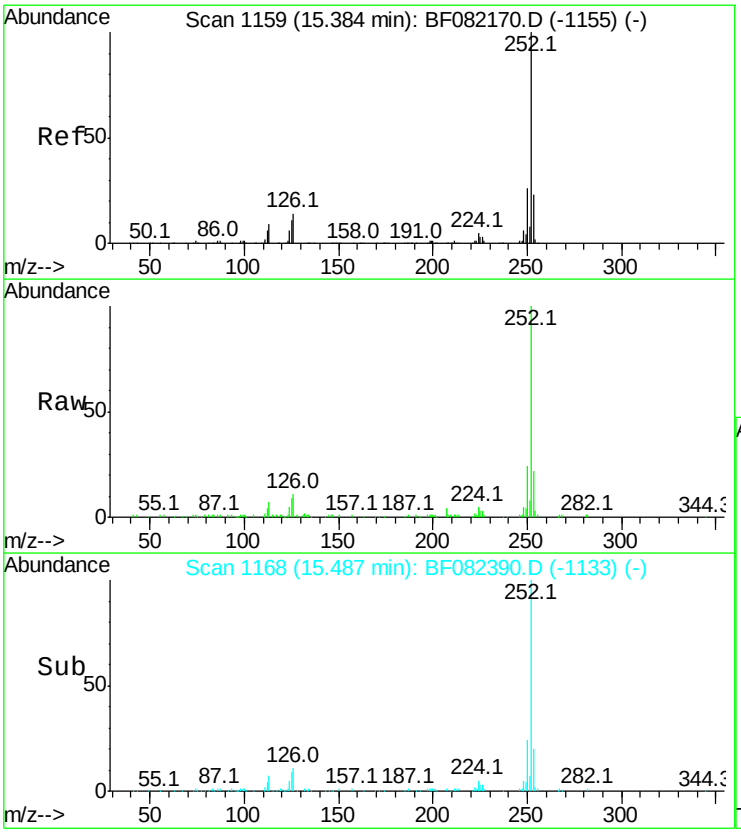
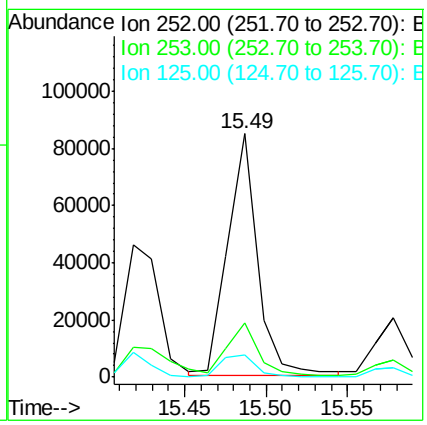


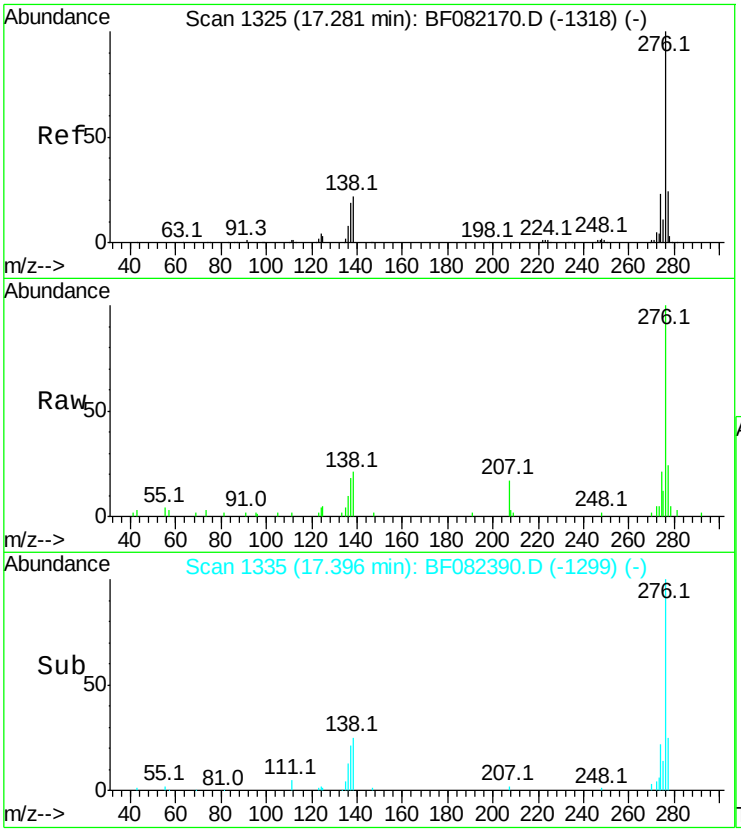


#89
Benzo(a)pyrene
Concen: 9.78 ng
RT: 15.49 min Scan# 1168
Delta R.T. 0.10 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:252 Resp: 107984

Ion	Ratio	Lower	Upper
252	100		
253	22.3	18.2	27.2
125	9.0	8.9	13.3

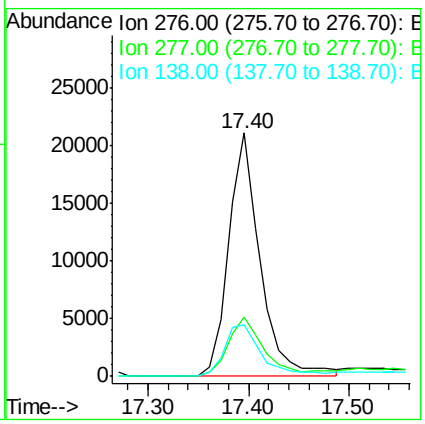




#91
Benzo(g,h,i)perylene
Concen: 5.21 ng
RT: 17.40 min Scan# 1335
Delta R.T. 0.11 min
Lab File: BF082390.D
Acq: 20 Oct 2015 8:51

Tgt Ion:276 Resp: 45813

Ion	Ratio	Lower	Upper
276	100		
277	24.4	18.8	28.2
138	21.0	17.4	26.2



Instrument :
BNA_F
ClientSampleId :
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Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082391.D
Acq On : 20 Oct 2015 9:19
Operator : UM/IZ
Sample : G4046-03DL2 1000X
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Oct 20 13:33:24 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	81714	20.00 ng	-0.03
21) Naphthalene-d8	8.09	136	341420	20.00 ng	-0.03
38) Acenaphthene-d10	9.85	164	166948	20.00 ng	-0.03
63) Phenanthrene-d10	11.34	188	283191	20.00 ng	-0.03
75) Chrysene-d12	14.02	240	216902	20.00 ng	0.01
86) Perylene-d12	15.53	264	212585	20.00 ng	0.09
System Monitoring Compounds					
5) 2-Fluorophenol	0.00	112	0	0.00 ng	
7) Phenol-d6	0.00	99	0	0.00 ng	
23) Nitrobenzene-d5	0.00	82	0	0.00 ng	
41) 2,4,6-Tribromophenol	0.00	330	0	0.00 ng	
44) 2-Fluorobiphenyl	9.18	172	706	0.07 ng	-0.03
78) Terphenyl-d14	12.93	244	765	0.09 ng	-0.03
Target Compounds					Qvalue
70) Phenanthrene	11.36	178	133301	9.60 ng	98
71) Anthracene	11.42	178	36116	2.52 ng	96
74) Fluoranthene	12.55	202	137214	9.20 ng	97
77) Pyrene	12.78	202	106217	8.25 ng	97
80) Benzo(a)anthracene	14.01	228	53688	4.76 ng	98
82) Chrysene	14.05	228	47847m	4.02 ng	
83) Bis(2-ethylhexyl)phthalate	14.00	149	310716	37.07 ng	99
85) Indeno(1,2,3-cd)pyrene	16.95	276	20531	2.17 ng	94
87) Benzo(b)fluoranthene	15.12	252	55091m	4.26 ng	
88) Benzo(k)fluoranthene	15.14	252	21973m	2.02 ng	
89) Benzo(a)pyrene	15.48	252	39476	3.55 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

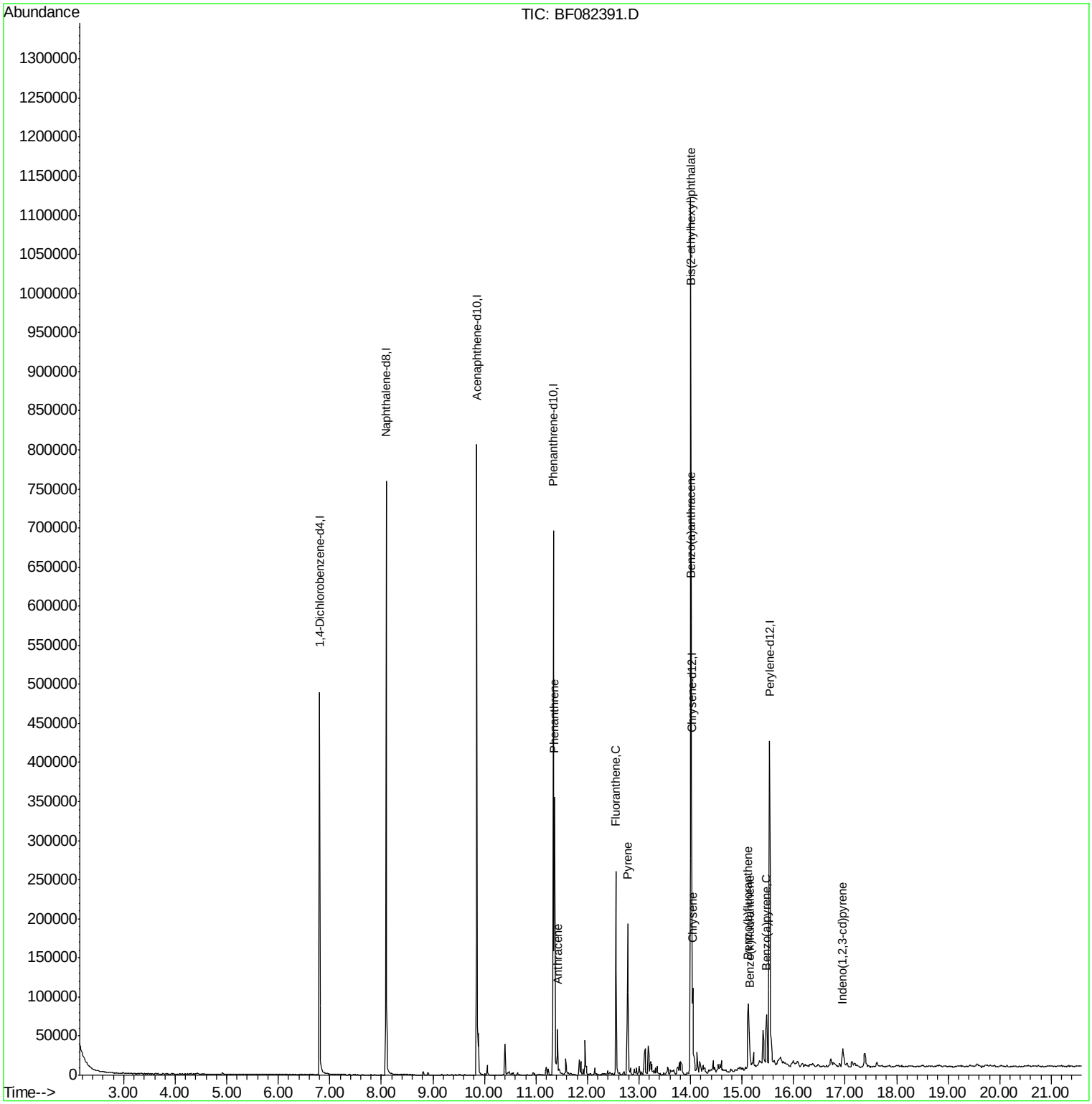
Sample Results: **BF082391.D**

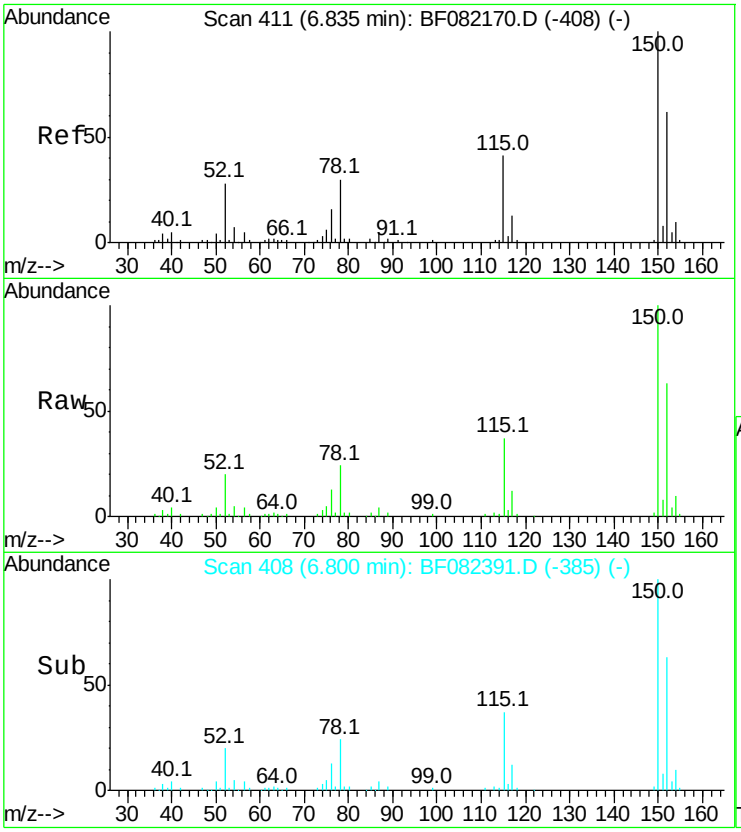
Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082391.D
Acq On : 20 Oct 2015 9:19
Operator : UM/IZ
Sample : G4046-03DL2 1000X
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Oct 20 13:33:24 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:10 PM

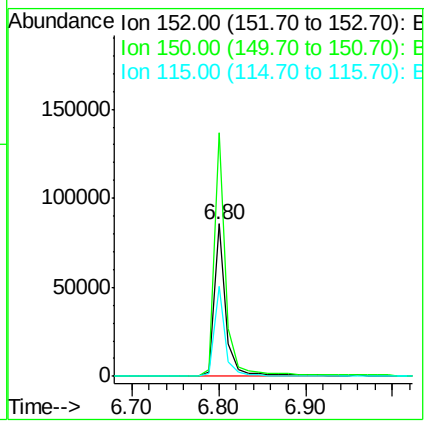




#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

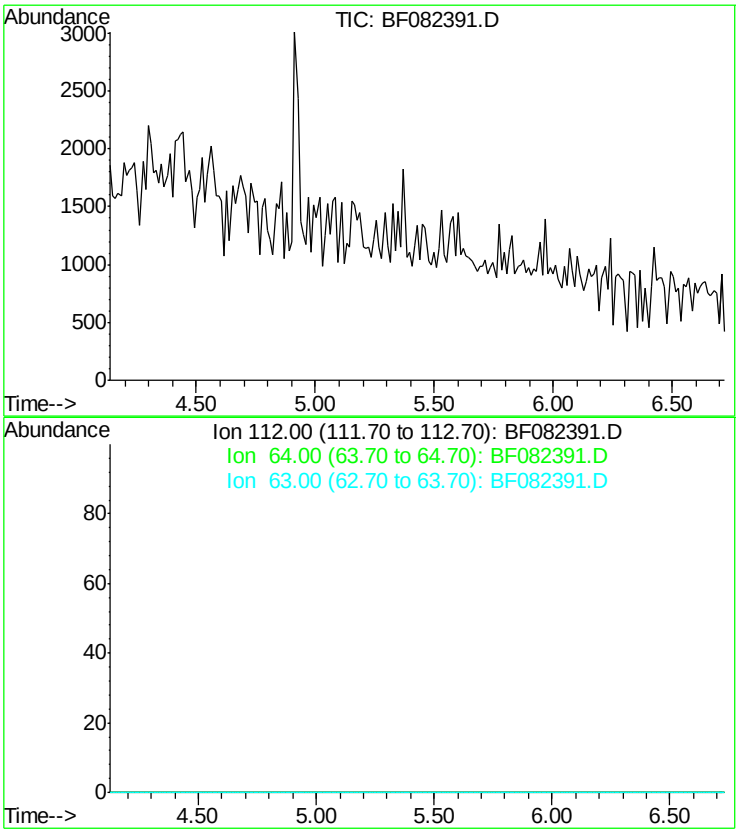
Tgt Ion:152 Resp: 81714

Ion	Ratio	Lower	Upper
152	100		
150	159.5	129.0	193.4
115	59.0	52.1	78.1



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:10 PM



#5
2-Fluorophenol
Concen: 0.00 ng
Expected RT: 5.43 min

Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion: 112

Sig	Exp Ratio
112	100
64	60.8
63	31.4

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
MMdadoda
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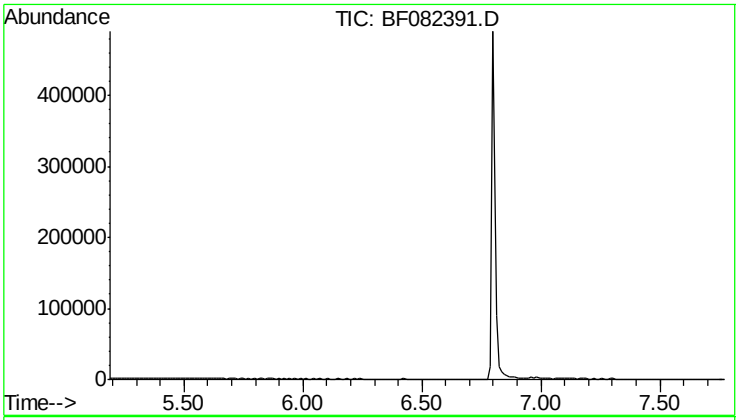
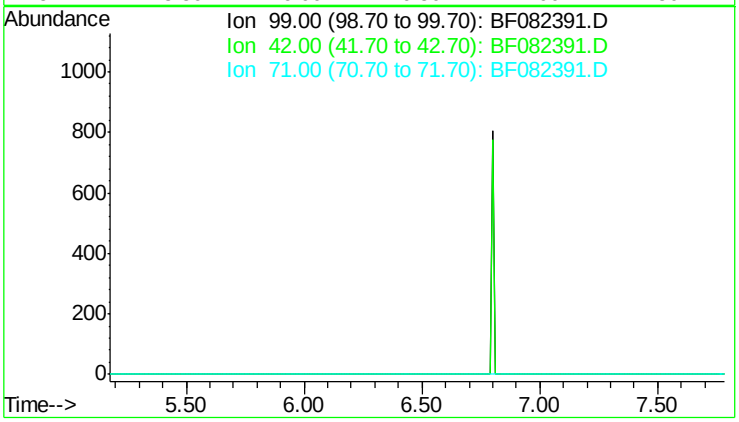


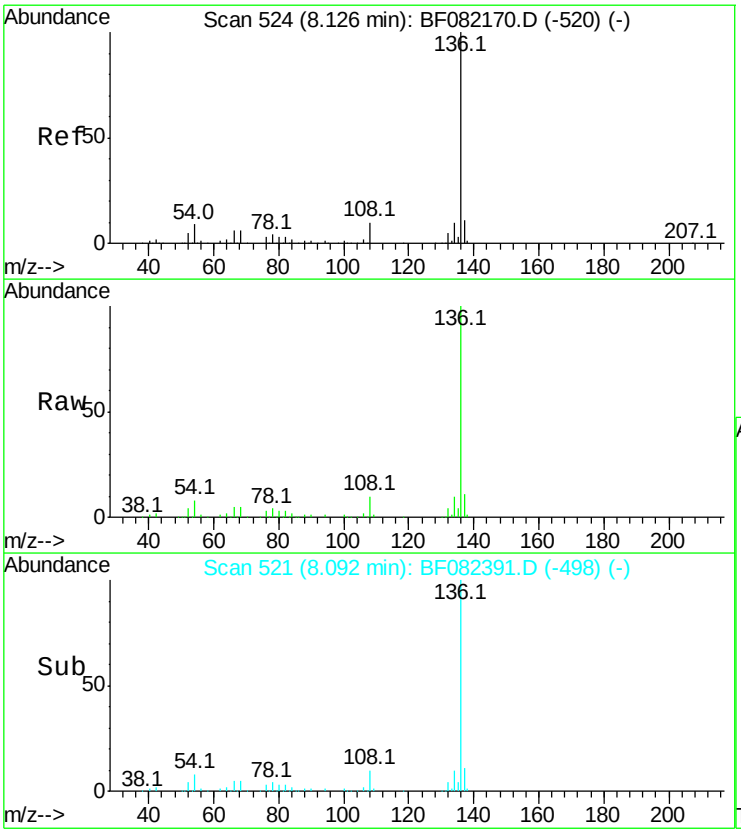


#7
Phenol-d6
Concen: 0.00 ng
Expected RT: 6.48 min

Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion: 99

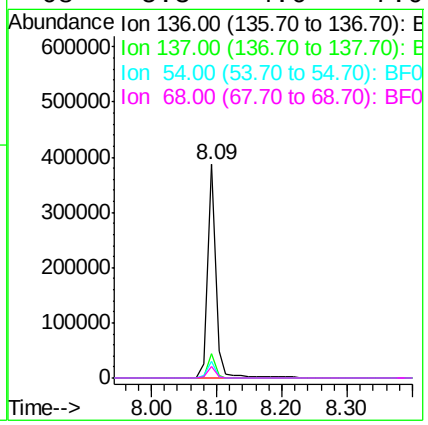
Sig	Exp Ratio
99	100
42	16.5
71	32.0



#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:136 Resp: 341420

Ion	Ratio	Lower	Upper
136	100		
137	11.2	9.0	13.6
54	8.0	7.5	11.3
68	5.3	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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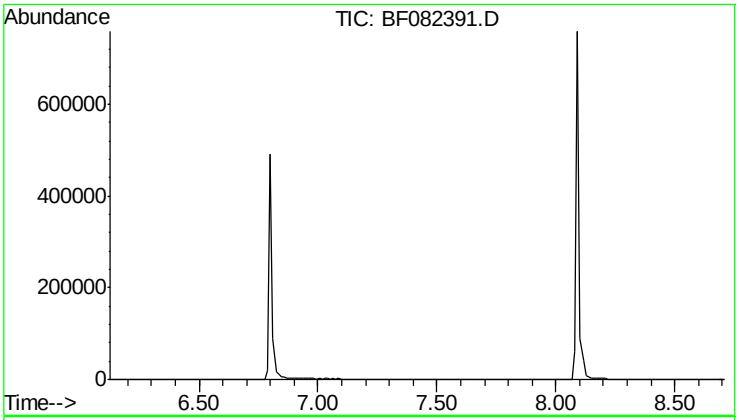
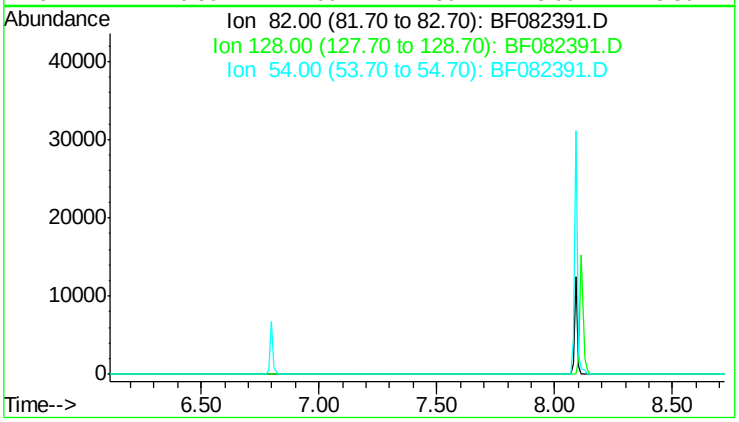


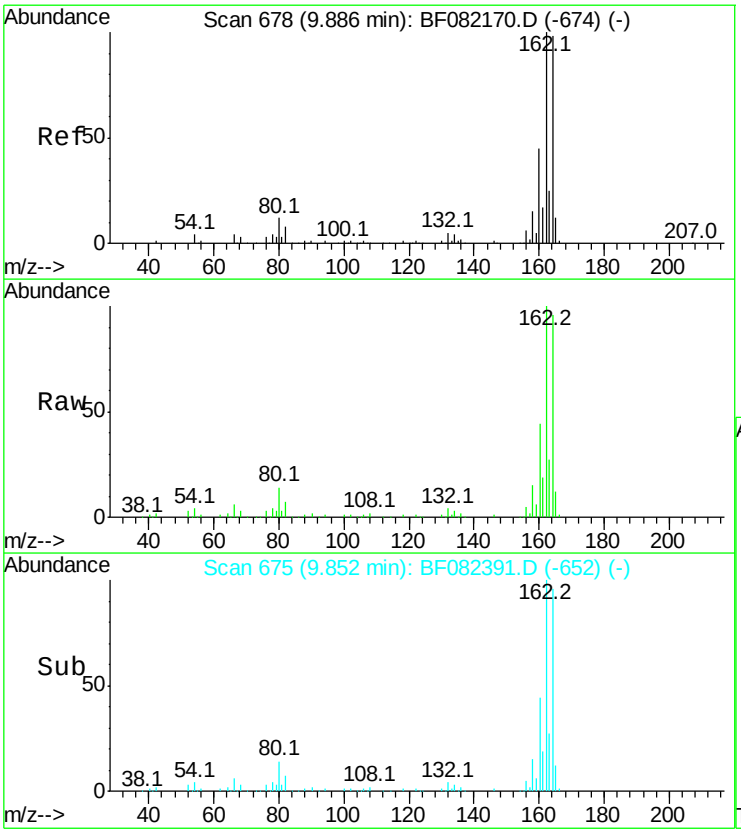
#23
Nitrobenzene-d5
Concen: 0.00 ng
Expected RT: 7.42 min

Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion: 82

Sig	Exp Ratio
82	100
128	48.4
54	50.1

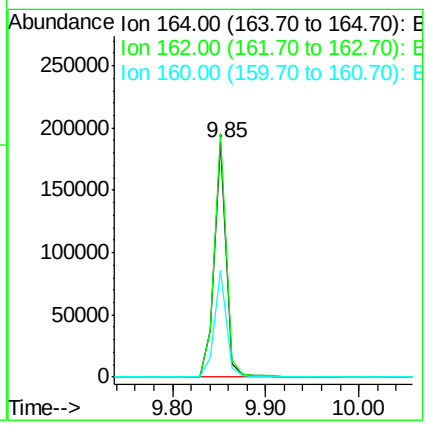




#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:164 Resp: 166948

Ion	Ratio	Lower	Upper
164	100		
162	103.9	81.6	122.4
160	45.5	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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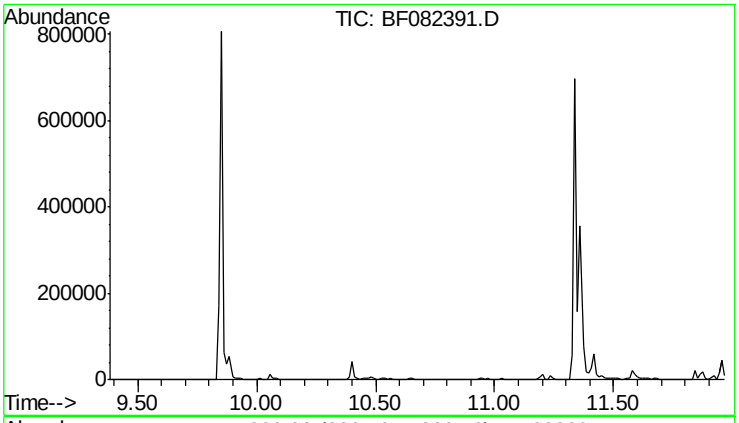
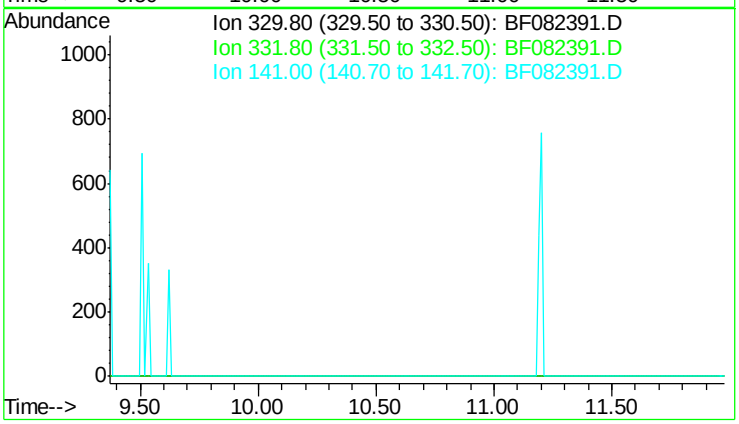


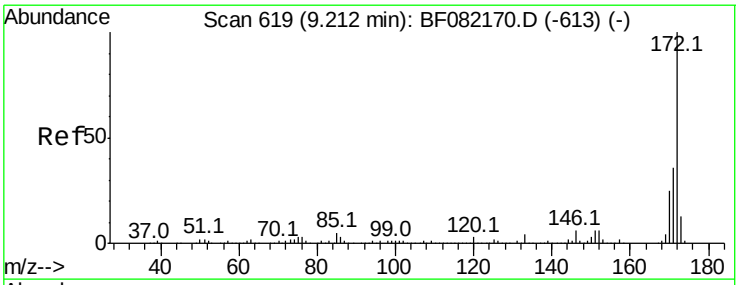


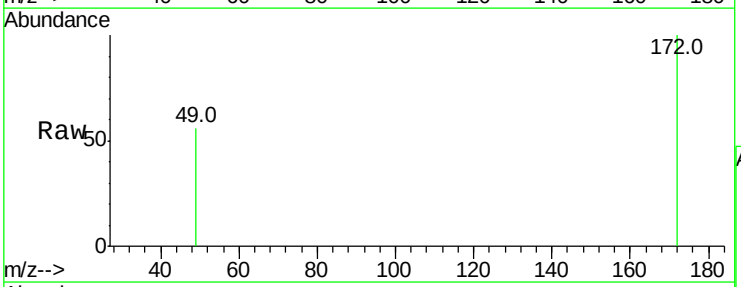
#41
2,4,6-Tribromophenol
Concen: 0.00 ng
Expected RT: 10.67 min

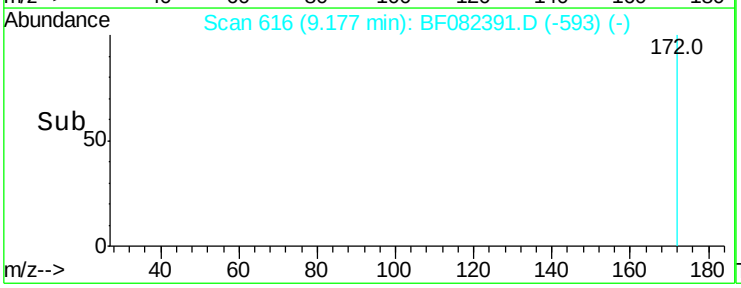
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion: 330

Sig	Exp Ratio
330	100
332	96.4
141	37.3



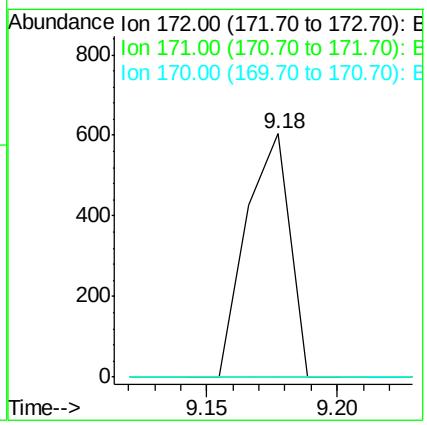




#44
2-Fluorobiphenyl
Concen: 0.07 ng
RT: 9.18 min Scan# 616
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:172 Resp: 706

Ion	Ratio	Lower	Upper
172	100		
171	0.0	28.6	42.8#
170	0.0	19.7	29.5#



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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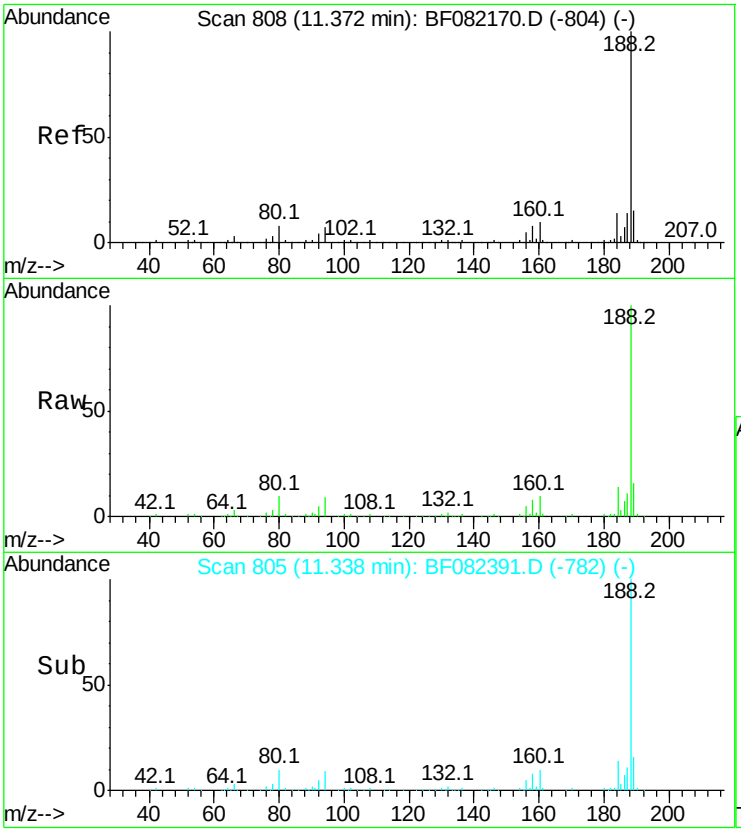
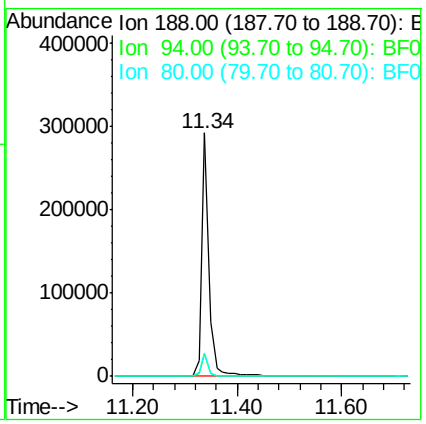
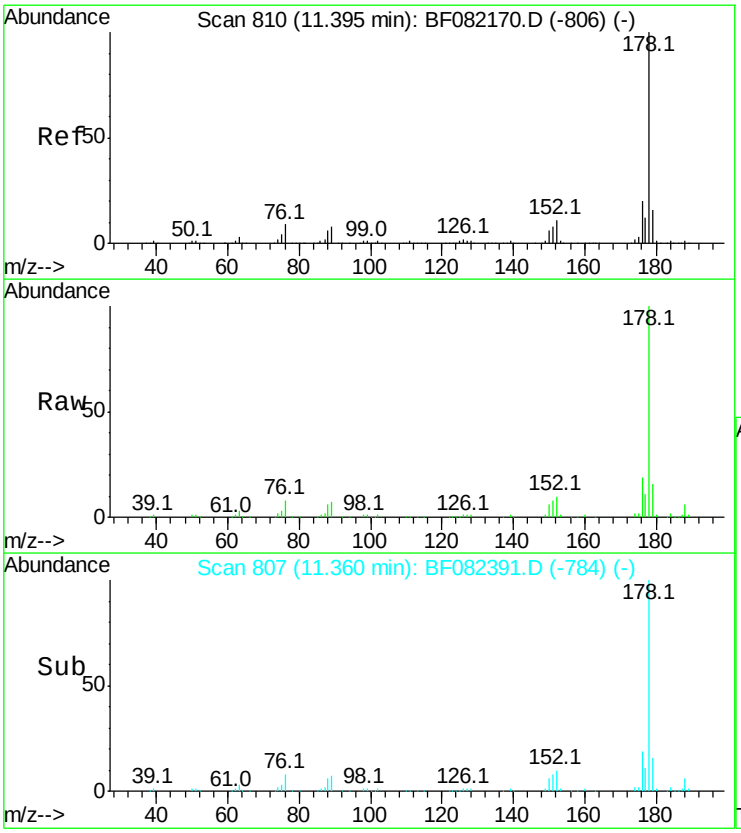


#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:188 Resp: 283191

Ion	Ratio	Lower	Upper
188	100		
94	9.0	5.8	8.6#
80	9.7	6.4	9.6#

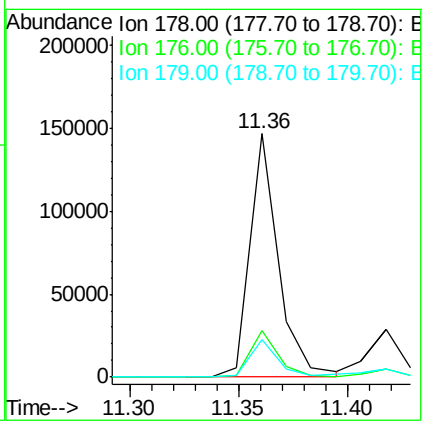


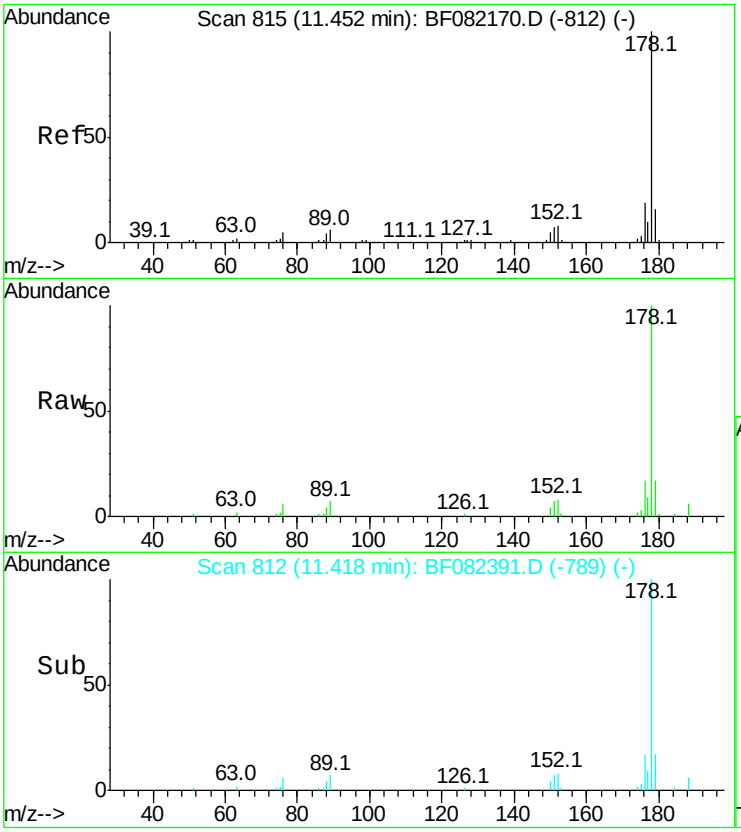


#70
Phenanthrene
Concen: 9.60 ng
RT: 11.36 min Scan# 807
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:178 Resp: 133301

Ion	Ratio	Lower	Upper
178	100		
176	18.8	16.0	24.0
179	15.6	12.6	19.0





#71
Anthracene
Concen: 2.52 ng
RT: 11.42 min Scan# 812
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:178 Resp: 36116

Ion	Ratio	Lower	Upper
178	100		
176	17.1	15.4	23.0
179	17.2	12.5	18.7

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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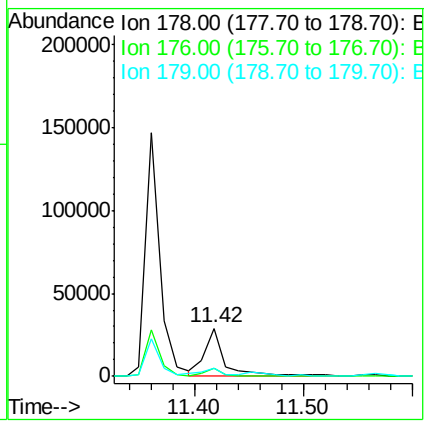
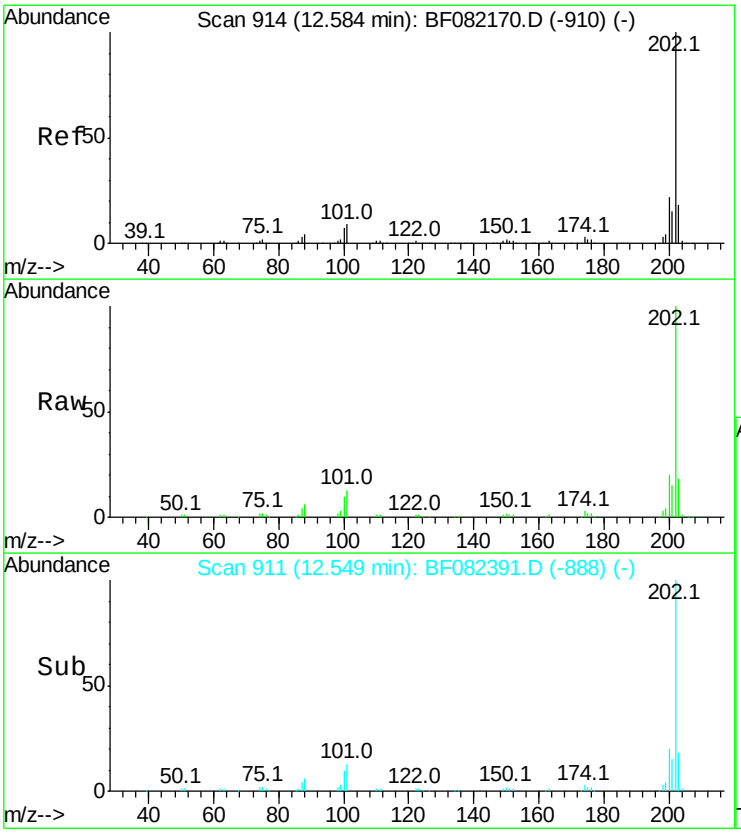
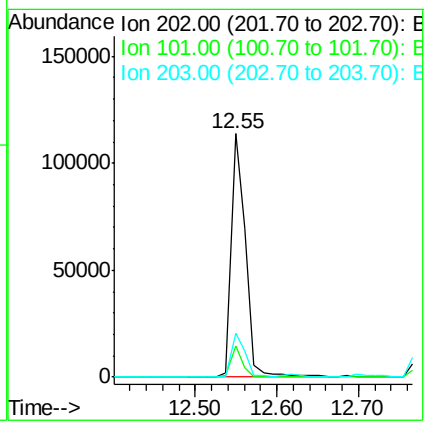


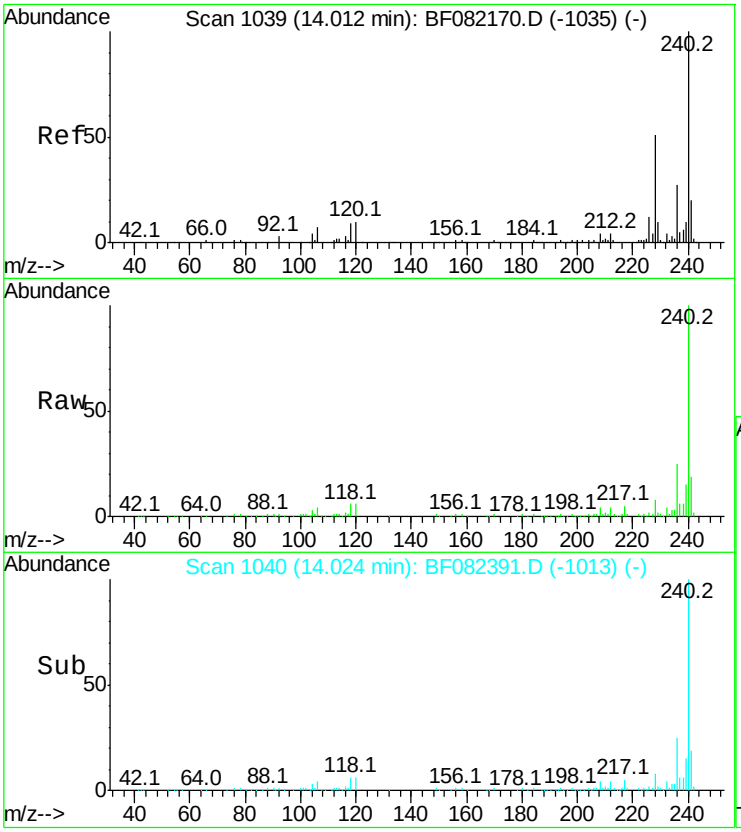


#74
Fluoranthene
Concen: 9.20 ng
RT: 12.55 min Scan# 911
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:202 Resp: 137214

Ion	Ratio	Lower	Upper
202	100		
101	12.6	0.0	29.3
203	17.8	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.02 min Scan# 1040
Delta R.T. 0.01 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:240 Resp: 216902

Ion	Ratio	Lower	Upper
240	100		
120	6.5	8.1	12.1#
236	25.4	21.3	31.9

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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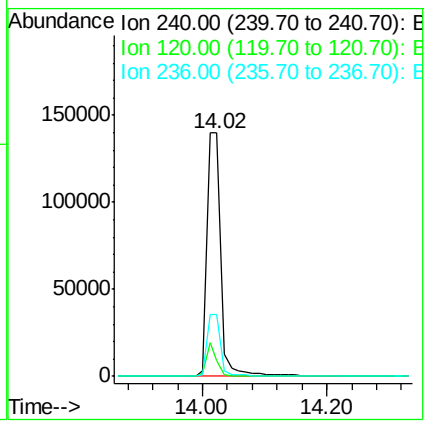
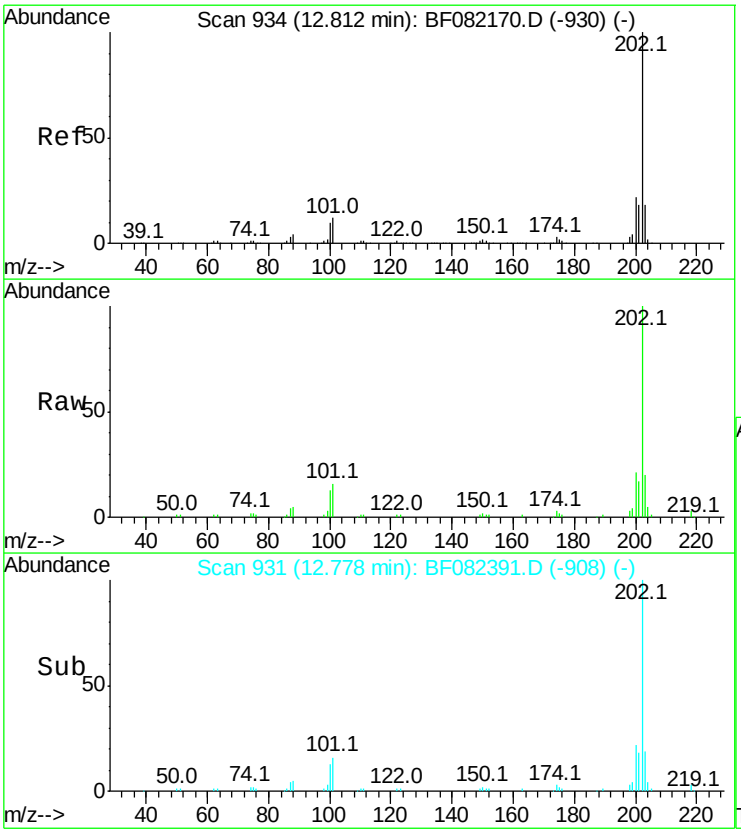
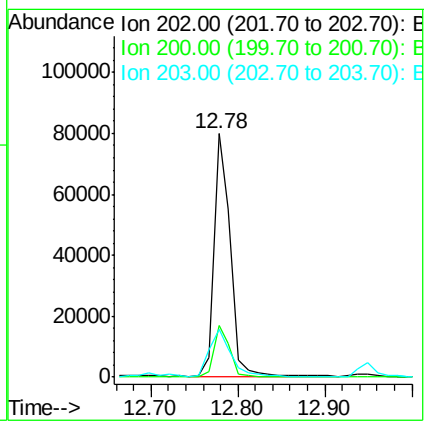


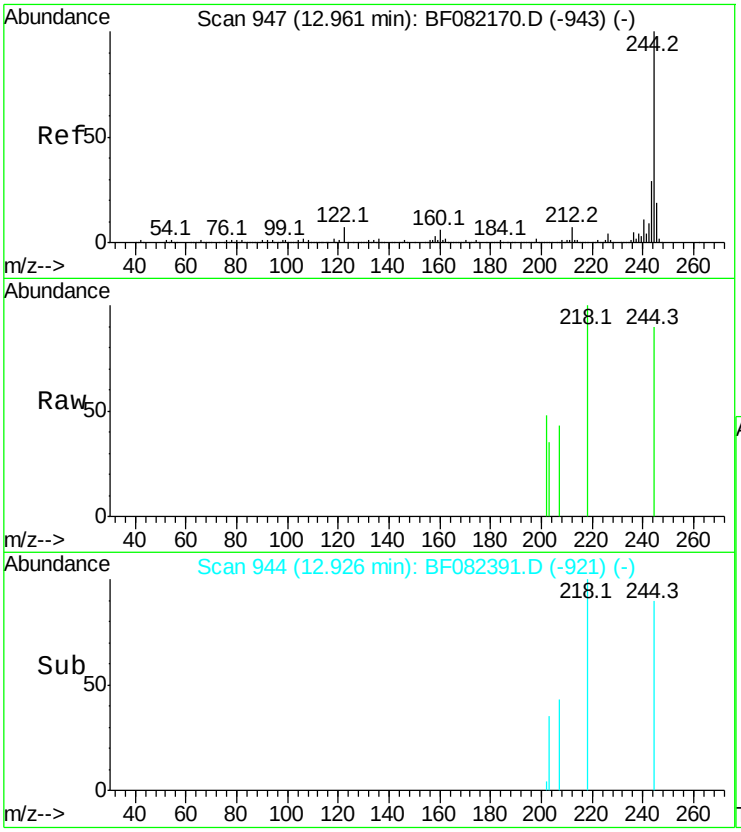


#77
Pyrene
Concen: 8.25 ng
RT: 12.78 min Scan# 931
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:202 Resp: 106217

Ion	Ratio	Lower	Upper
202	100		
200	21.4	17.9	26.9
203	19.8	14.5	21.7





#78
Terphenyl-d14
Concen: 0.09 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:244 Resp: 765

Ion	Ratio	Lower	Upper
244	100		
212	0.0	5.8	8.6#
122	0.0	5.9	8.9#

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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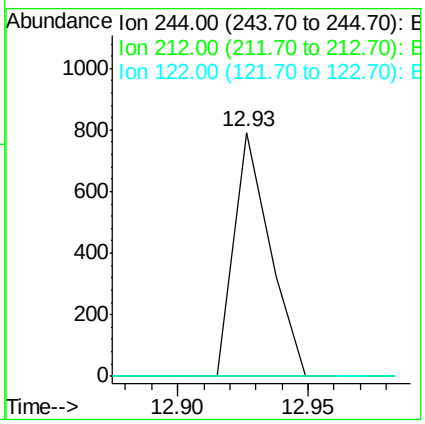
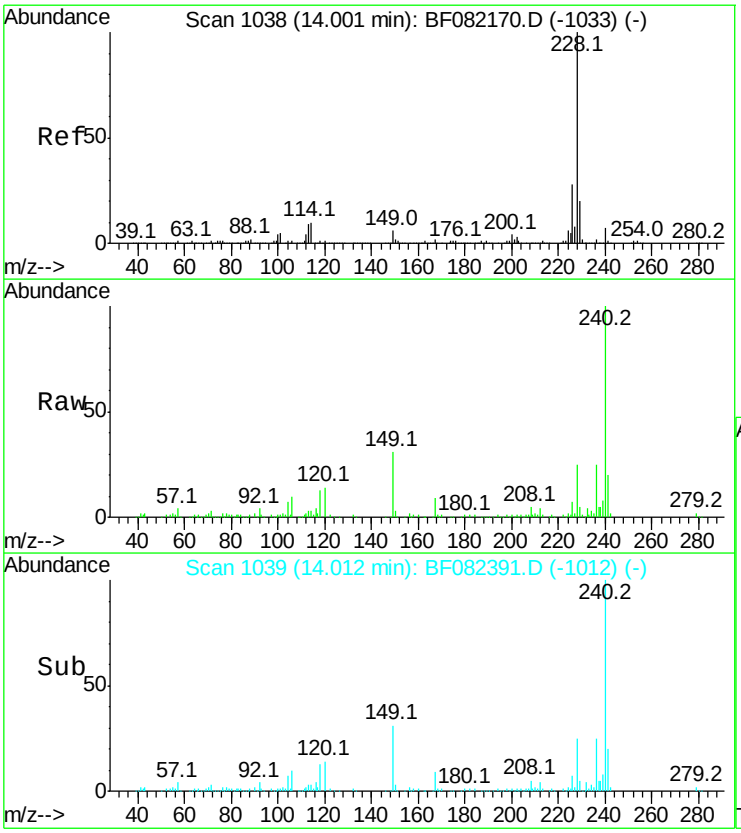
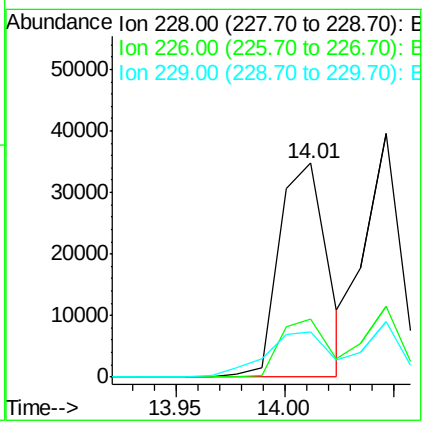


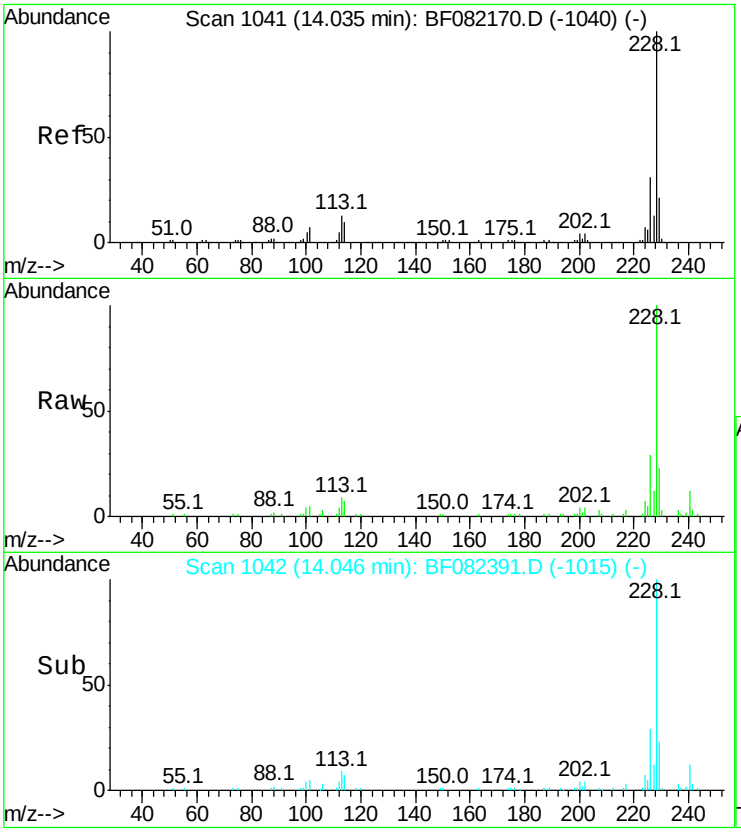


#80
Benzo(a)anthracene
Concen: 4.76 ng
RT: 14.01 min Scan# 1039
Delta R.T. 0.01 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:228 Resp: 53688

Ion	Ratio	Lower	Upper
228	100		
226	27.2	22.3	33.5
229	21.3	16.2	24.2





#82
Chrysene
Concen: 4.02 ng m
RT: 14.05 min Scan# 1042
Delta R.T. 0.01 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:228 Resp: 47847

Ion	Ratio	Lower	Upper
228	100		
226	28.9	24.4	36.6
229	22.9	16.3	24.5

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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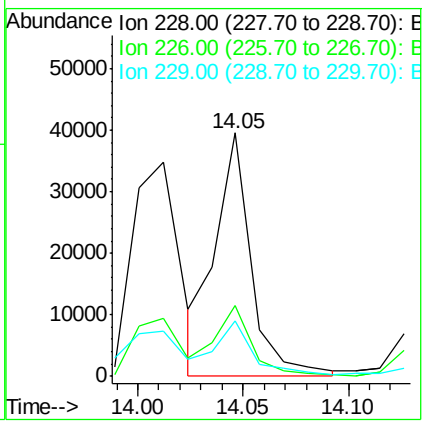
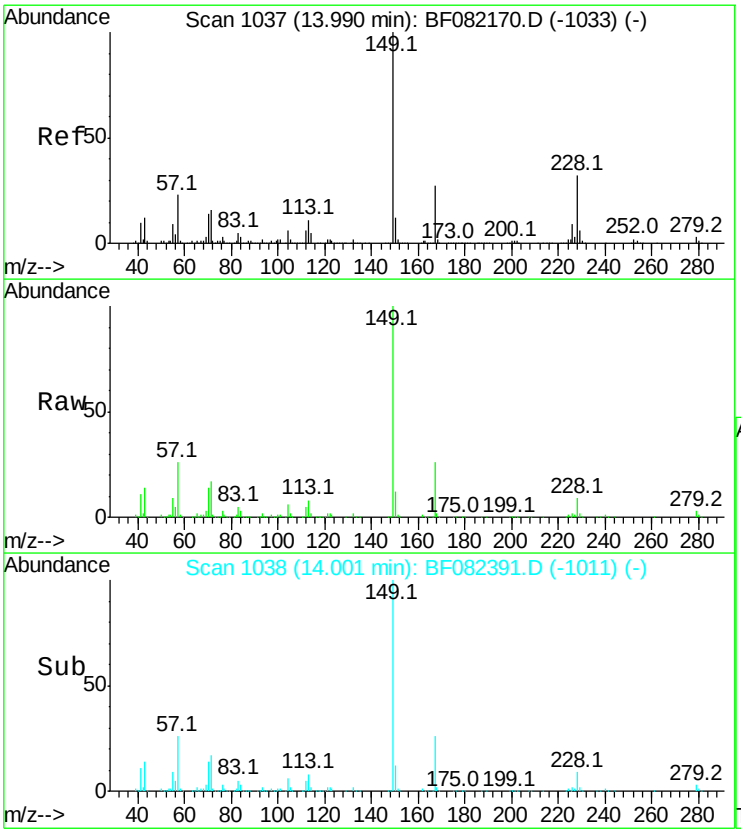
10/20/2015 6:26:10 PM

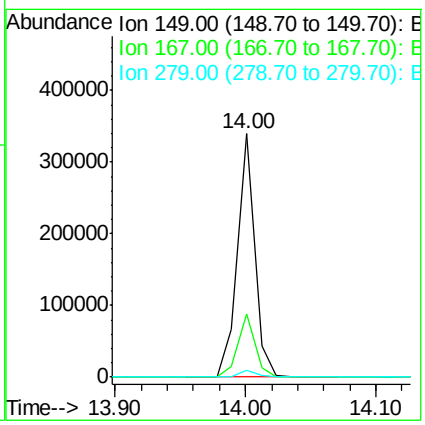


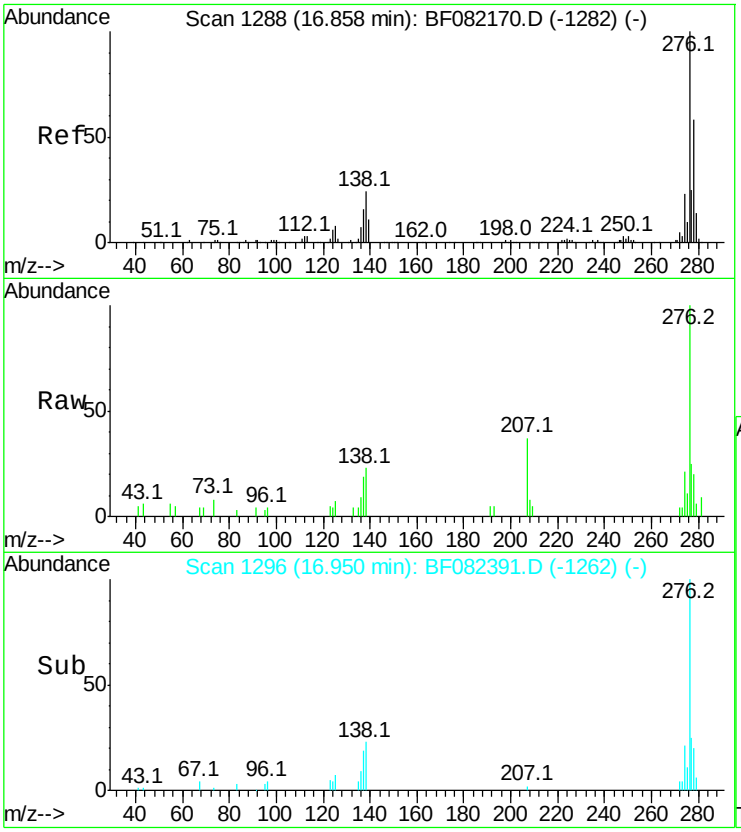


#83
Bis(2-ethylhexyl)phthalate
Concen: 37.07 ng
RT: 14.00 min Scan# 1038
Delta R.T. 0.01 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:149 Resp: 310716

Ion	Ratio	Lower	Upper
149	100		
167	25.8	21.3	31.9
279	2.9	2.6	4.0





#85
Indeno(1,2,3-cd)pyrene
Concen: 2.17 ng
RT: 16.95 min Scan# 1296
Delta R.T. 0.09 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:276 Resp: 20531

Ion	Ratio	Lower	Upper
276	100		
138	19.7	19.7	29.5
277	23.9	20.1	30.1

Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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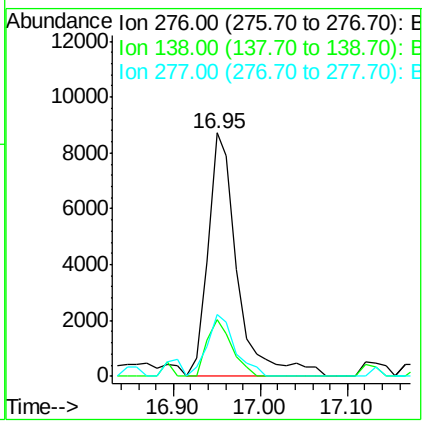
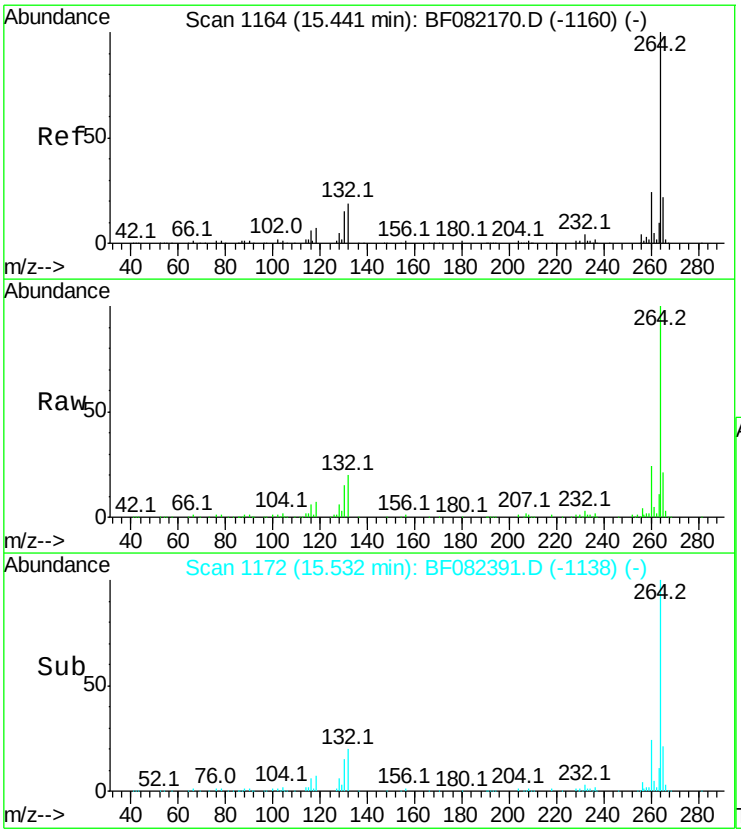
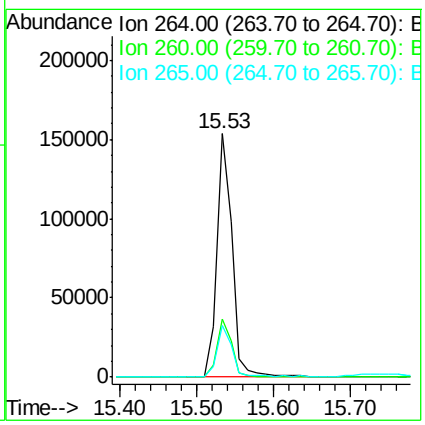


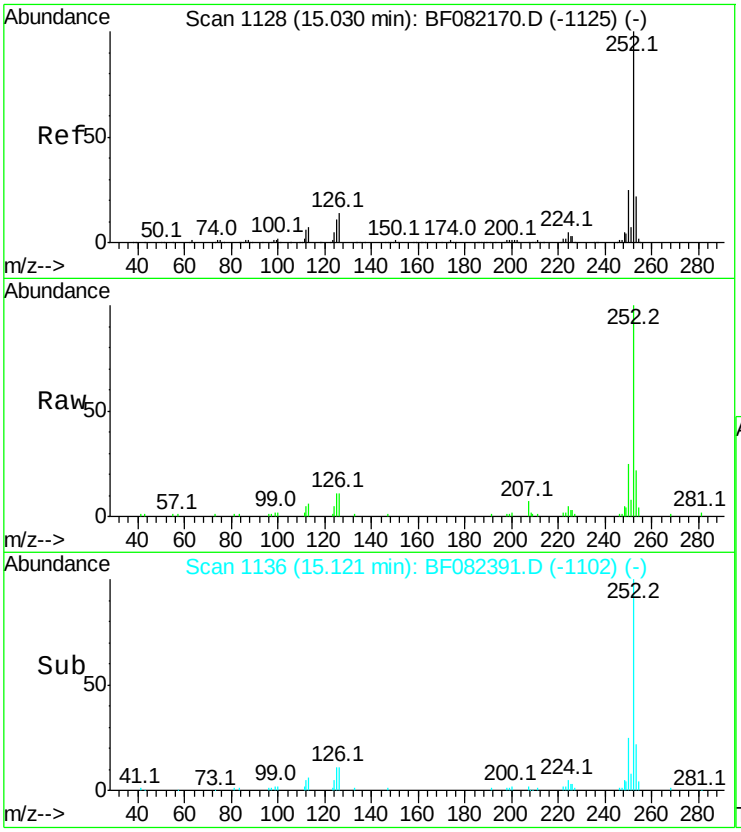


#86
Perylene-d12
Concen: 20.00 ng
RT: 15.53 min Scan# 1172
Delta R.T. 0.09 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:264 Resp: 212585

Ion	Ratio	Lower	Upper
264	100		
260	24.1	19.0	28.6
265	21.3	17.3	25.9

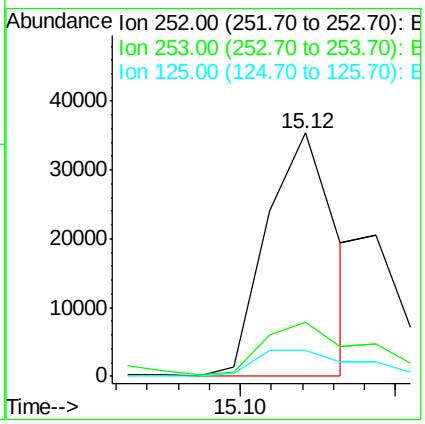




#87
Benzo(b)fluoranthene
Concen: 4.26 ng m
RT: 15.12 min Scan# 1136
Delta R.T. 0.09 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:252 Resp: 55091

Ion	Ratio	Lower	Upper
252	100		
253	22.4	18.0	27.0
125	10.9	8.6	12.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
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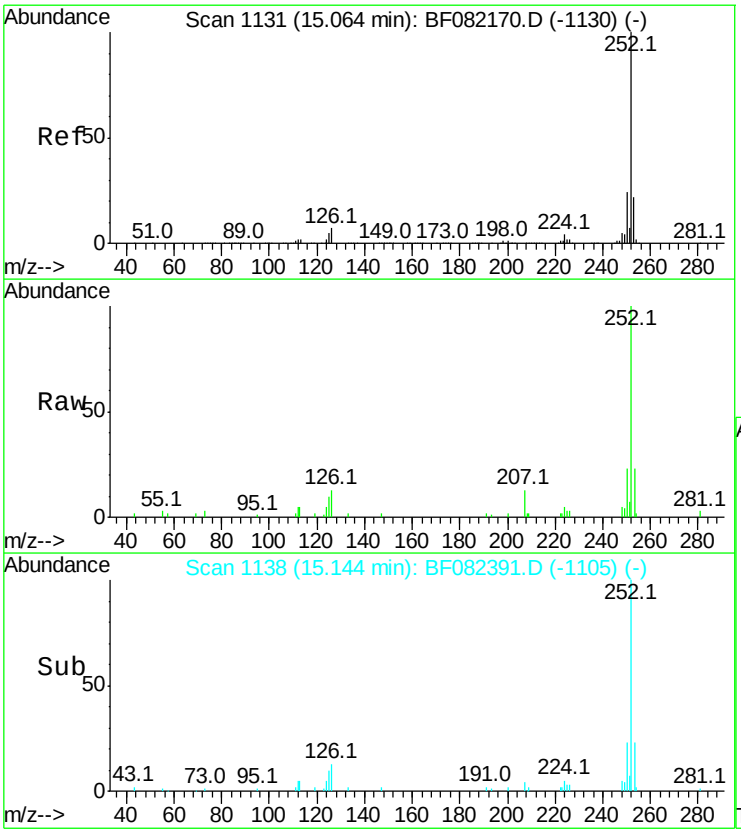
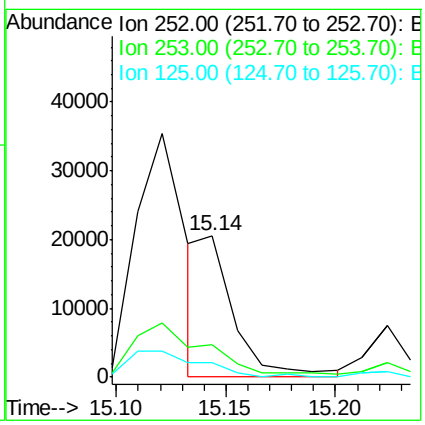
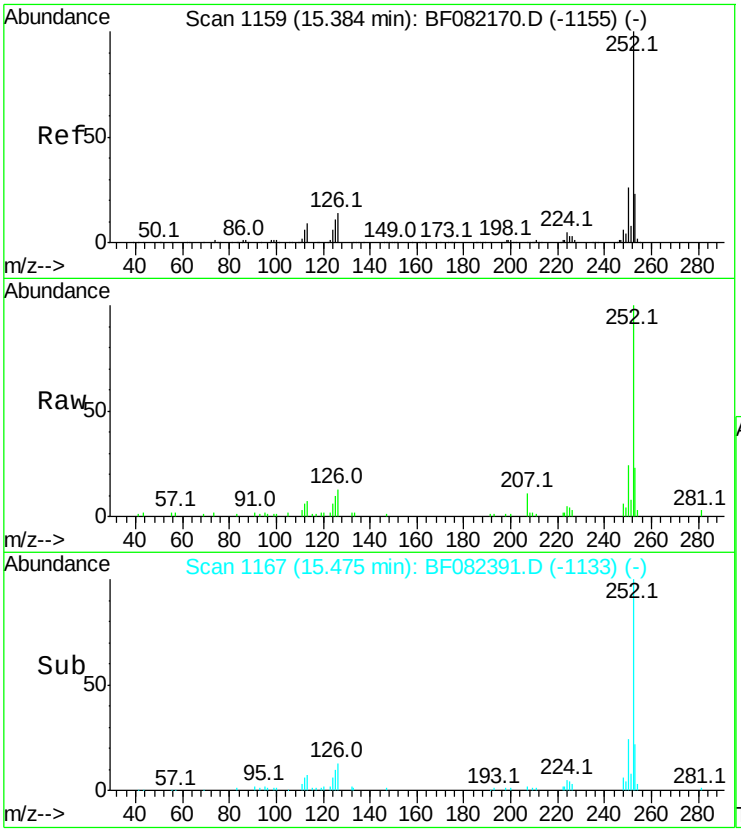


#88
Benzo(k)fluoranthene
Concen: 2.02 ng m
RT: 15.14 min Scan# 1138
Delta R.T. 0.08 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:252 Resp: 21973

Ion	Ratio	Lower	Upper
252	100		
253	22.6	17.8	26.6
125	9.9	6.7	10.1

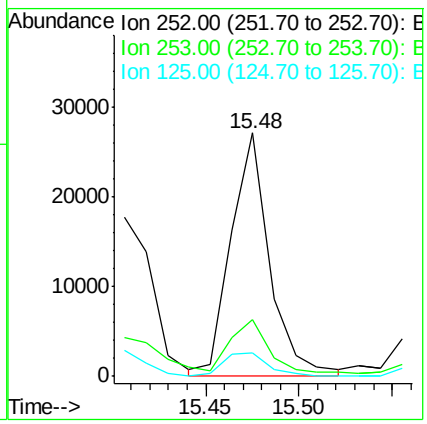




#89
Benzo(a)pyrene
Concen: 3.55 ng
RT: 15.48 min Scan# 1167
Delta R.T. 0.09 min
Lab File: BF082391.D
Acq: 20 Oct 2015 9:19

Tgt Ion:252 Resp: 39476

Ion	Ratio	Lower	Upper
252	100		
253	23.4	18.2	27.2
125	9.6	8.9	13.3



Instrument :
BNA_F
ClientSampleId :
GOODLUCKINSULATIONDL2

Manual Integrations APPROVED
MMdadoda
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Quantitation Report (LSC Reviewed)

Sample Results: **BF082340.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082340.D
Acq On : 16 Oct 2015 22:07
Operator : UM/IZ
Sample : G4046-05 20X
Misc :
ALS Vial : 22 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Manual Integrations APPROVED
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10/19/2015 5:32:32 PM

Quant Time: Oct 19 14:52:01 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.93	152	50949m	20.00 ng	0.09
21) Naphthalene-d8	8.21	136	243756	20.00 ng	0.08
38) Acenaphthene-d10	9.95	164	129905	20.00 ng	0.07
63) Phenanthrene-d10	11.45	188	251052	20.00 ng	0.08
75) Chrysene-d12	14.14	240	193227	20.00 ng	0.07
86) Perylene-d12	15.67	264	228738	20.00 ng	0.08
System Monitoring Compounds					
5) 2-Fluorophenol	5.53	112	9602	3.80 ng	0.10
7) Phenol-d6	6.56	99	13795	4.20 ng	0.08
23) Nitrobenzene-d5	7.49	82	7172	1.98 ng	0.07
41) 2,4,6-Tribromophenol	10.74	330	4726	3.88 ng	0.06
44) 2-Fluorobiphenyl	9.28	172	23785	3.04 ng	0.07
78) Terphenyl-d14	13.03	244	32499	4.46 ng	0.07
Target Compounds					Qvalue
31) Naphthalene	8.23	128	57366	5.43 ng	97
37) 2-Methylnaphthalene	8.91	142	17821	2.43 ng	98
51) Acenaphthene	9.99	154	162111	22.23 ng	99
54) Dibenzofuran	10.16	168	71985	7.19 ng	95
57) Fluorene	10.50	166	153586	18.68 ng	100
70) Phenanthrene	11.49	178	2957899	240.37 ng	95
71) Anthracene	11.52	178	682256	53.80 ng	98
72) Carbazole	11.68	167	679669	58.76 ng	99
74) Fluoranthene	12.69	202	4336567	328.11 ng	93
77) Pyrene	12.92	202	3560116m	310.46 ng	
80) Benzo(a)anthracene	14.13	228	2238388	222.64 ng	97
82) Chrysene	14.17	228	2230234m	210.53 ng	
83) Bis(2-ethylhexyl)phthalate	14.10	149	1040553	139.37 ng #	55
84) Di-n-octyl phthalate	14.77	149	1895846	147.86 ng #	100
85) Indeno(1,2,3-cd)pyrene	17.18	276	993282	117.97 ng	95
87) Benzo(b)fluoranthene	15.25	252	2538863m	182.44 ng	
88) Benzo(k)fluoranthene	15.26	252	1025754m	87.69 ng	
89) Benzo(a)pyrene	15.62	252	1630303	136.32 ng	97
90) Dibenzo(a,h)anthracene	17.18	278	242180	24.71 ng	95
91) Benzo(g,h,i)perylene	17.62	276	841659	88.40 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (LSC Reviewed)

Sample Results: **BF082340.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082340.D
Acq On : 16 Oct 2015 22:07
Operator : UM/IZ
Sample : G4046-05 20X
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Oct 19 14:52:01 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Manual Integrations APPROVED
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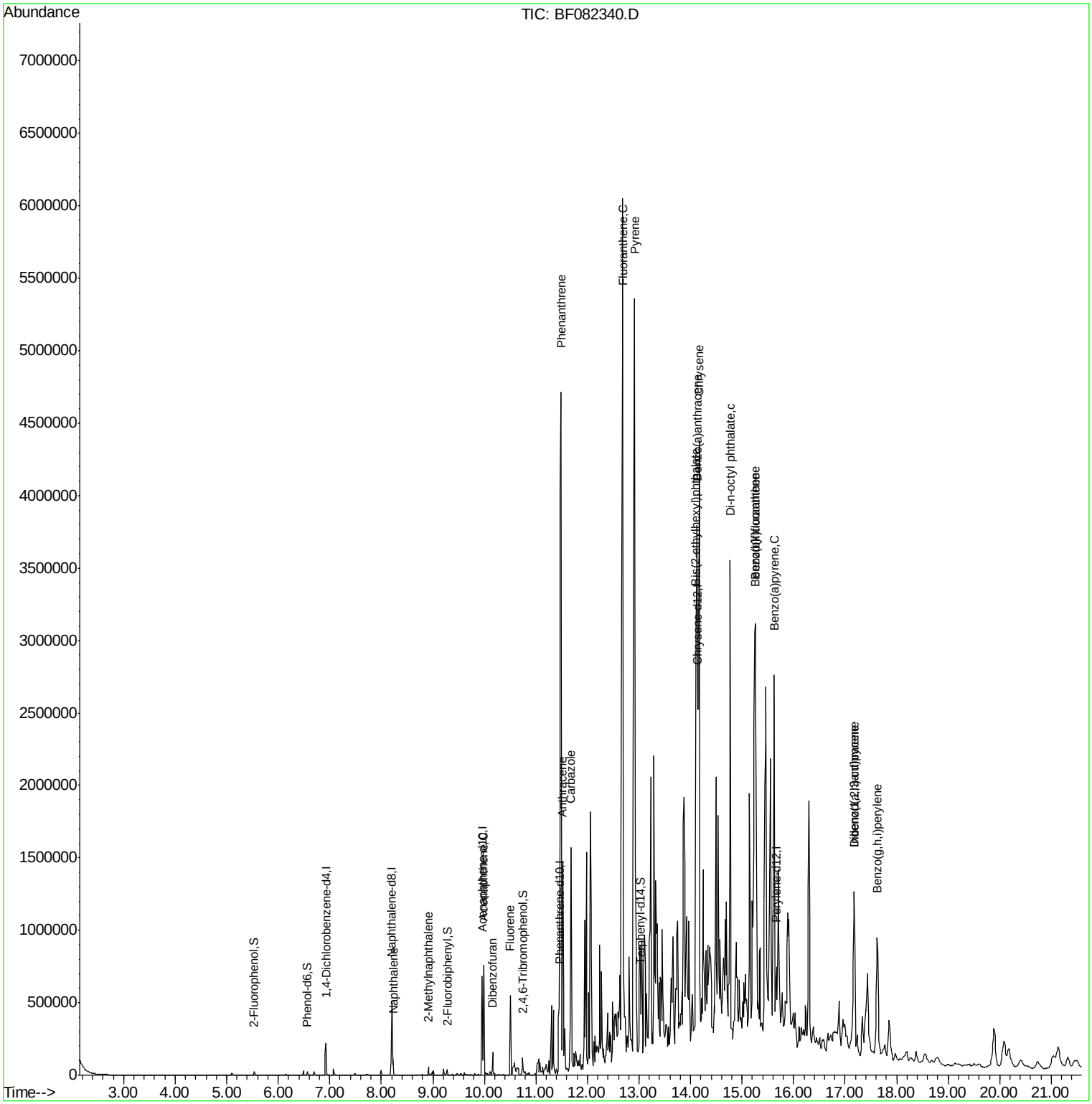
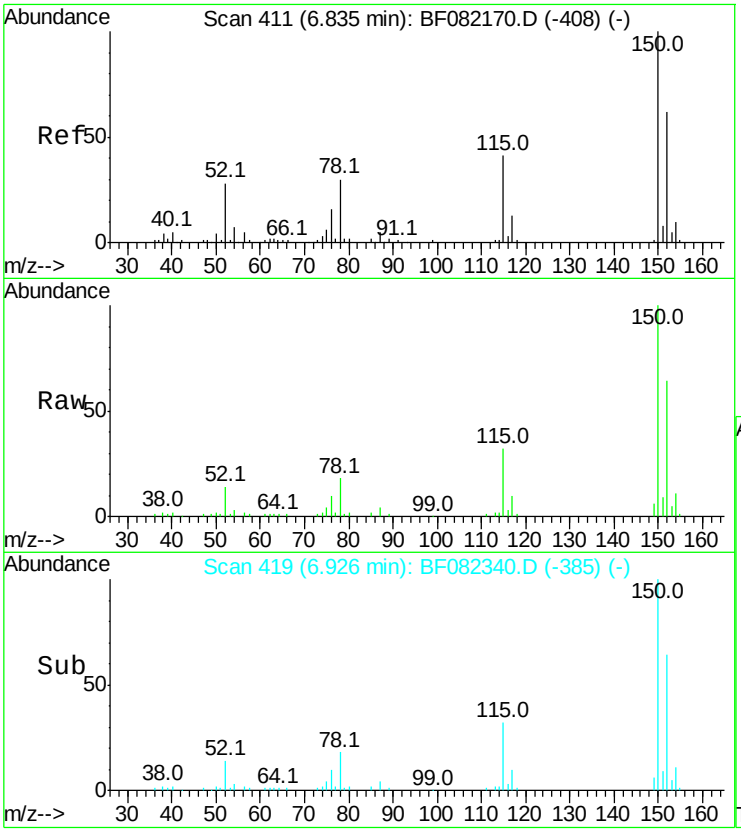
10/19/2015 5:32:32 PM



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

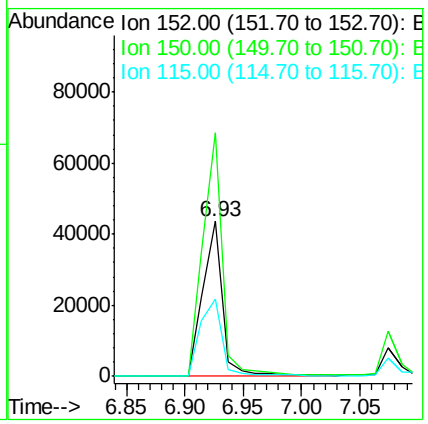
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:32 PM

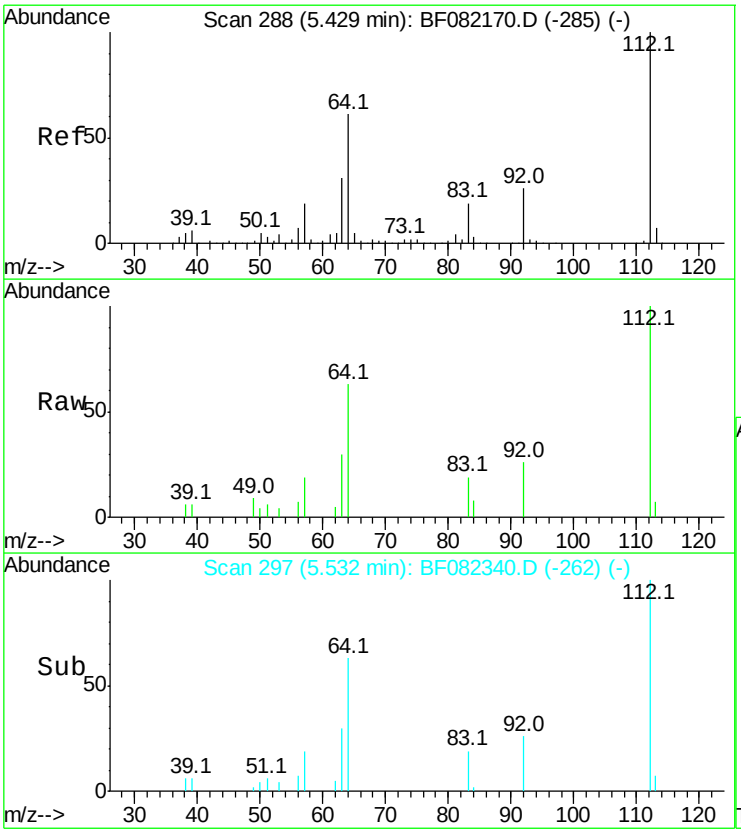


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng m
RT: 6.93 min Scan# 419
Delta R.T. 0.09 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:152 Resp: 50949

Ion	Ratio	Lower	Upper
152	100		
150	157.0	129.0	193.4
115	49.6	52.1	78.1#

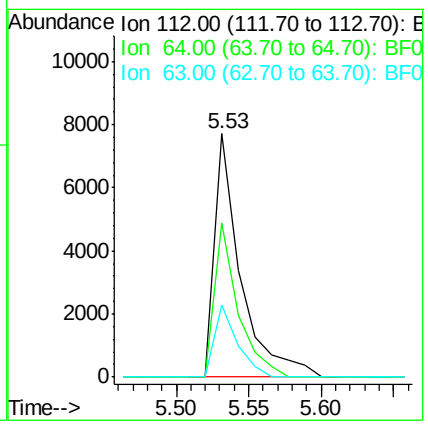


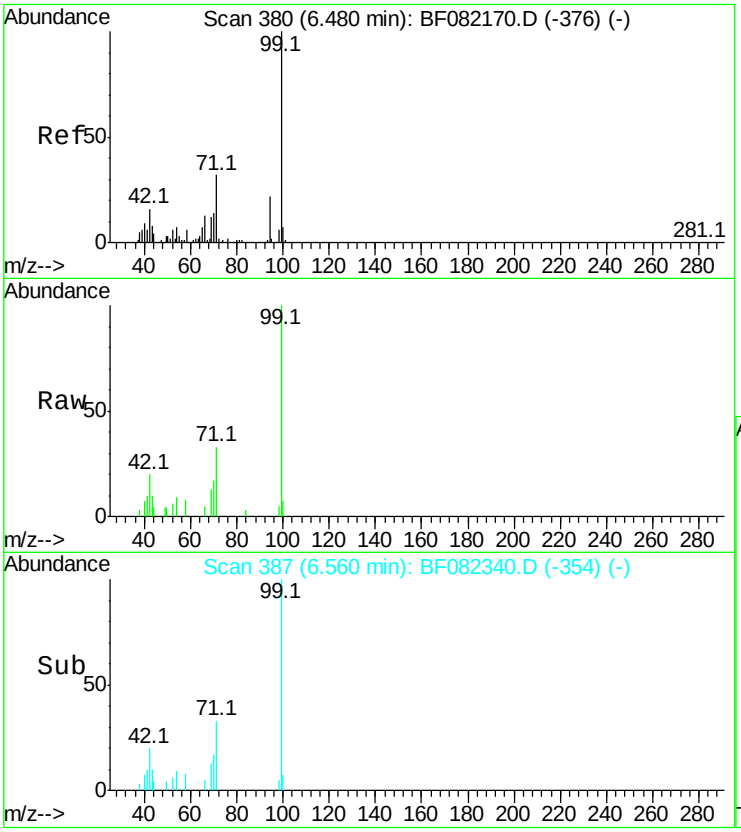


#5
2-Fluorophenol
Concen: 3.80 ng
RT: 5.53 min Scan# 297
Delta R.T. 0.10 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:112 Resp: 9602

Ion	Ratio	Lower	Upper
112	100		
64	63.1	48.6	73.0
63	29.7	25.1	37.7





#7
Phenol-d6
Concen: 4.20 ng
RT: 6.56 min Scan# 387
Delta R.T. 0.08 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion: 99 Resp: 13795

Ion	Ratio	Lower	Upper
99	100		
42	19.8	13.2	19.8#
71	33.2	25.6	38.4

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Manual Integrations APPROVED
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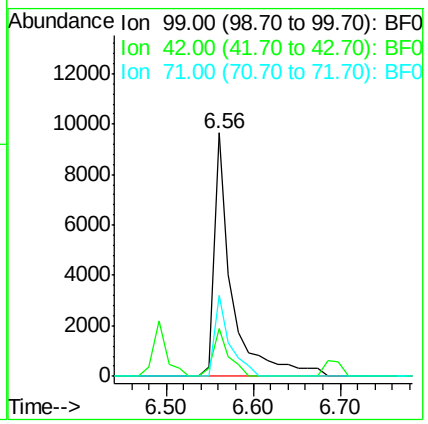
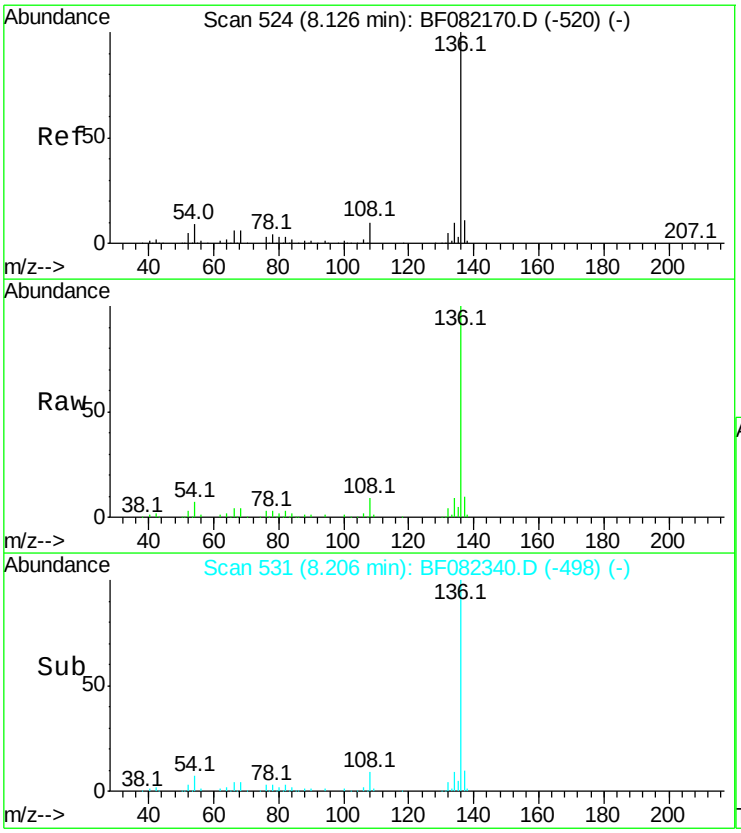
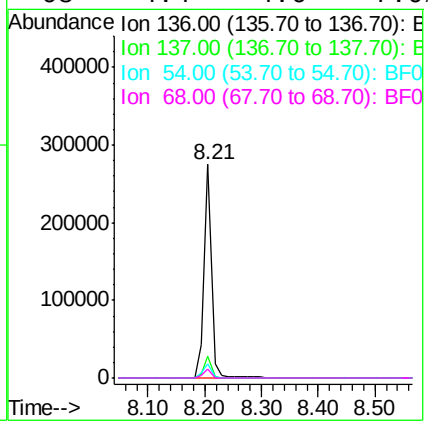




#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.21 min Scan# 531
Delta R.T. 0.08 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:136 Resp: 243756

Ion	Ratio	Lower	Upper
136	100		
137	10.3	9.0	13.6
54	6.7	7.5	11.3#
68	4.4	4.6	7.0#



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Manual Integrations APPROVED
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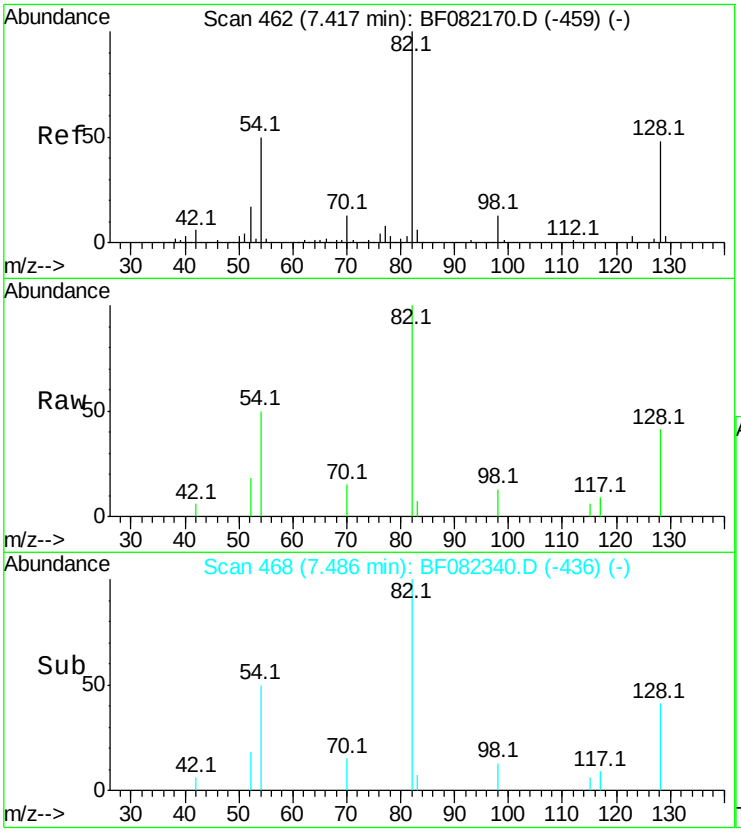
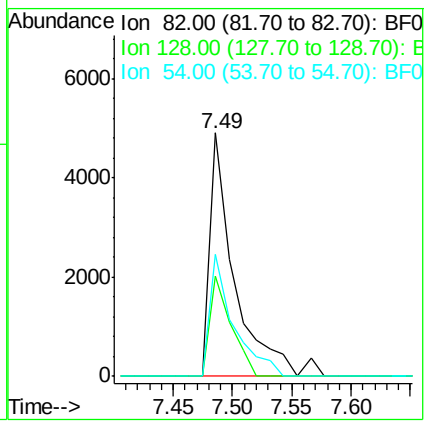
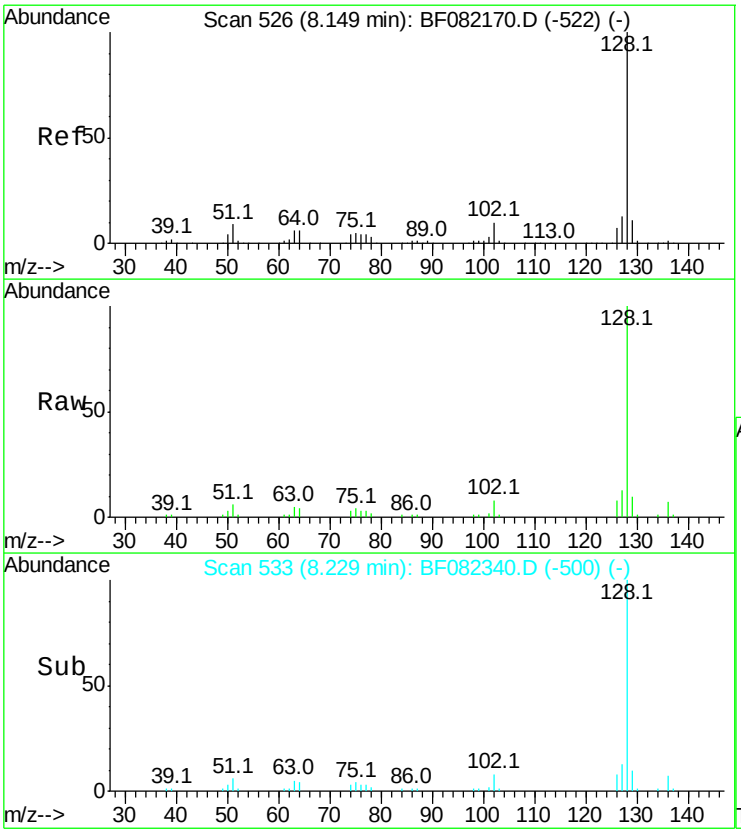


#23
Nitrobenzene-d5
Concen: 1.98 ng
RT: 7.49 min Scan# 468
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion: 82 Resp: 7172

Ion	Ratio	Lower	Upper
82	100		
128	41.1	38.7	58.1
54	50.2	40.1	60.1

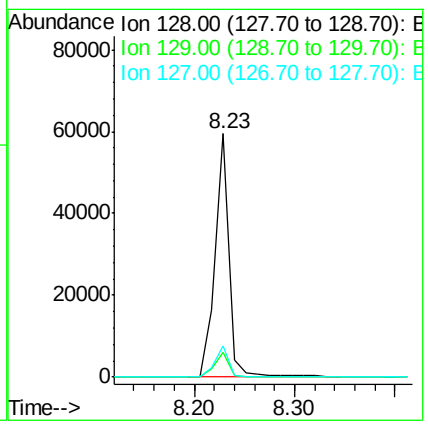




#31
Naphthalene
Concen: 5.43 ng
RT: 8.23 min Scan# 533
Delta R.T. 0.08 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:128 Resp: 57366

Ion	Ratio	Lower	Upper
128	100		
129	10.2	9.1	13.7
127	12.6	10.7	16.1



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Manual Integrations APPROVED
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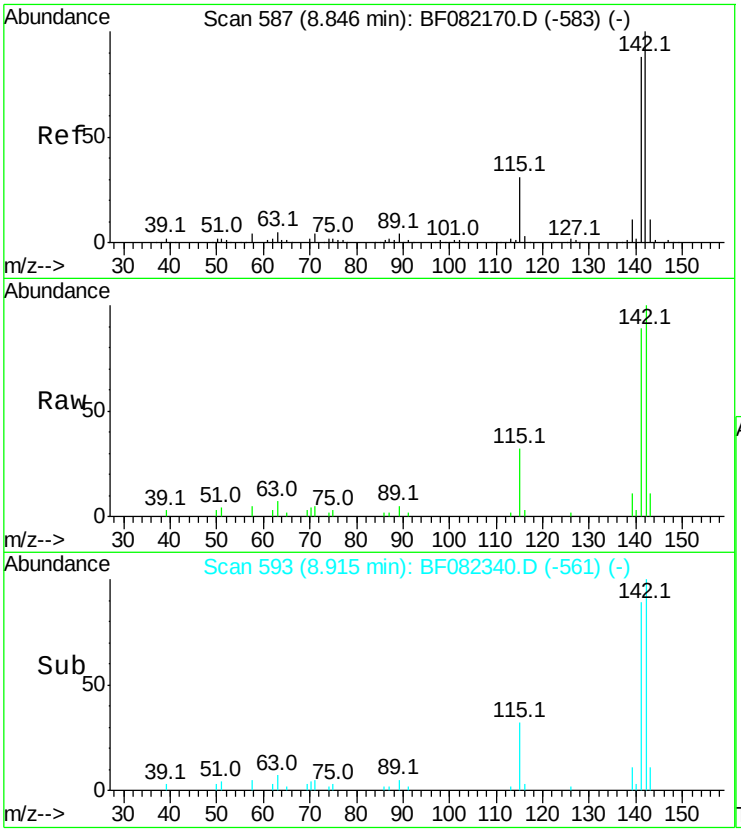
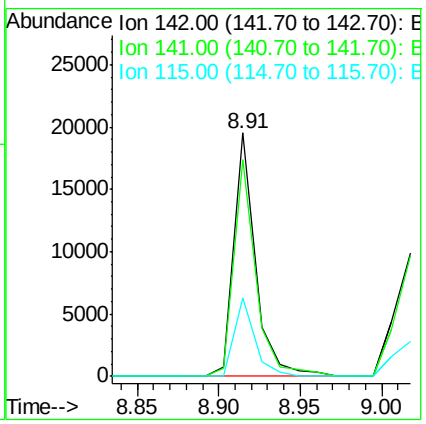
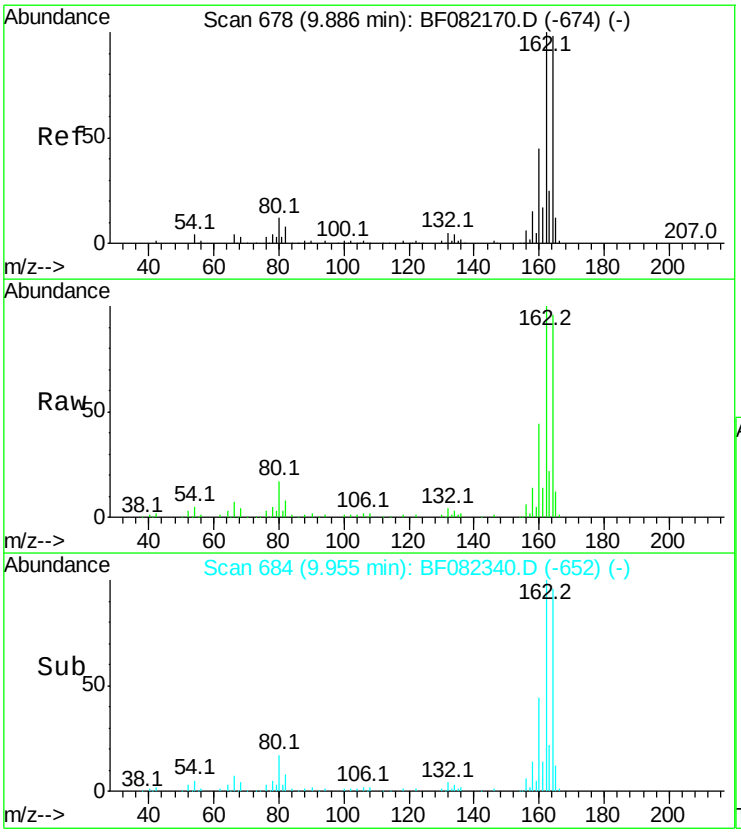


#37
2-Methylnaphthalene
Concen: 2.43 ng
RT: 8.91 min Scan# 593
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:142 Resp: 17821

Ion	Ratio	Lower	Upper
142	100		
141	89.1	70.4	105.6
115	32.5	24.6	37.0

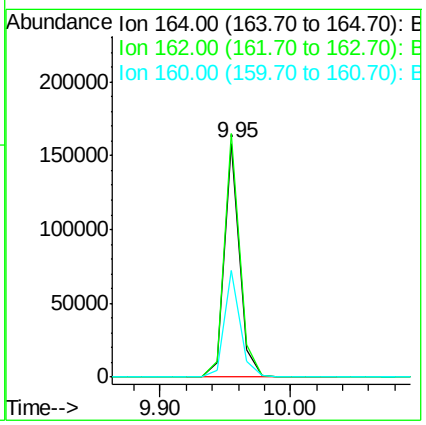




#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.95 min Scan# 684
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:164 Resp: 129905

Ion	Ratio	Lower	Upper
164	100		
162	104.2	81.6	122.4
160	45.7	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Manual Integrations APPROVED
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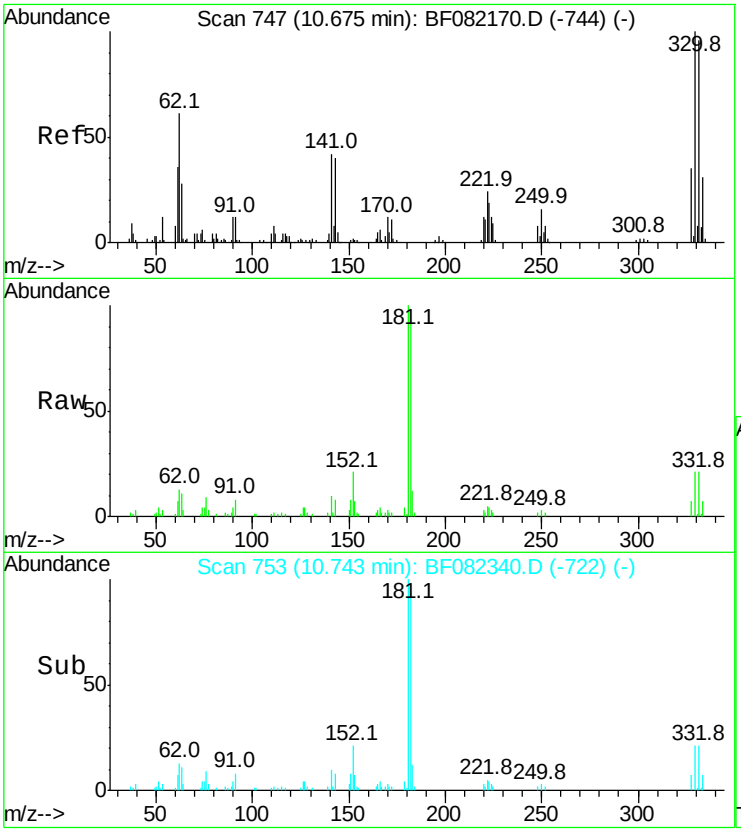
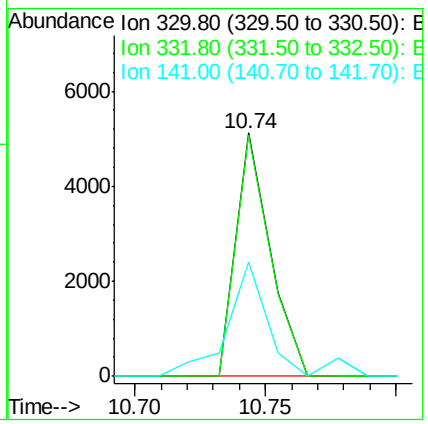
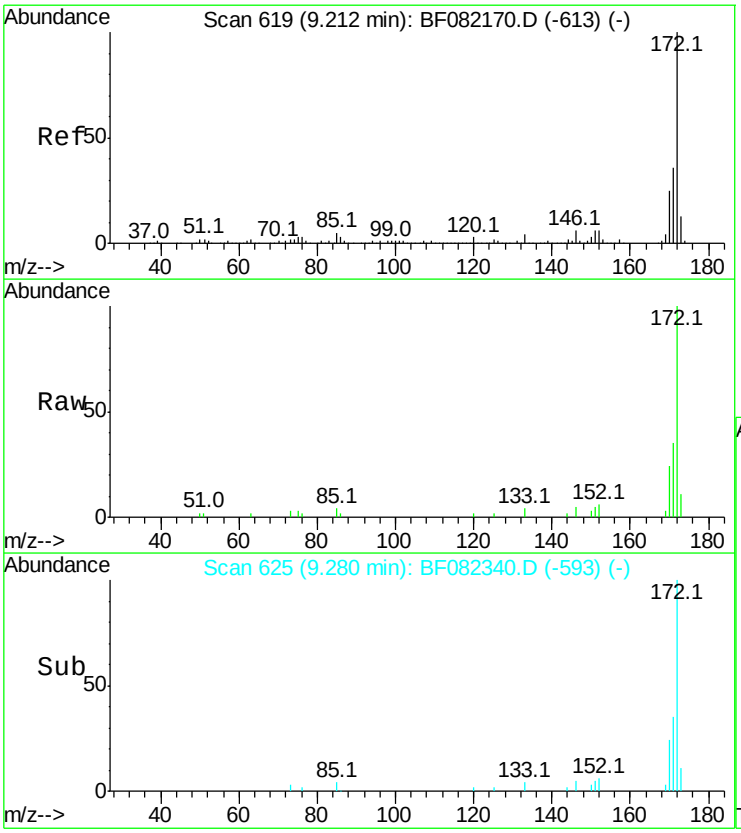


#41
2,4,6-Tribromophenol
Concen: 3.88 ng
RT: 10.74 min Scan# 753
Delta R.T. 0.06 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:330 Resp: 4726

Ion	Ratio	Lower	Upper
330	100		
332	98.8	77.1	115.7
141	59.0	29.8	44.8#

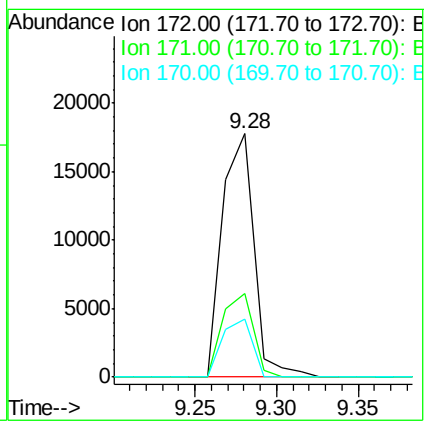




#44
2-Fluorobiphenyl
Concen: 3.04 ng
RT: 9.28 min Scan# 625
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:172 Resp: 23785

Ion	Ratio	Lower	Upper
172	100		
171	34.5	28.6	42.8
170	24.0	19.7	29.5



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Manual Integrations APPROVED
MMdadoda
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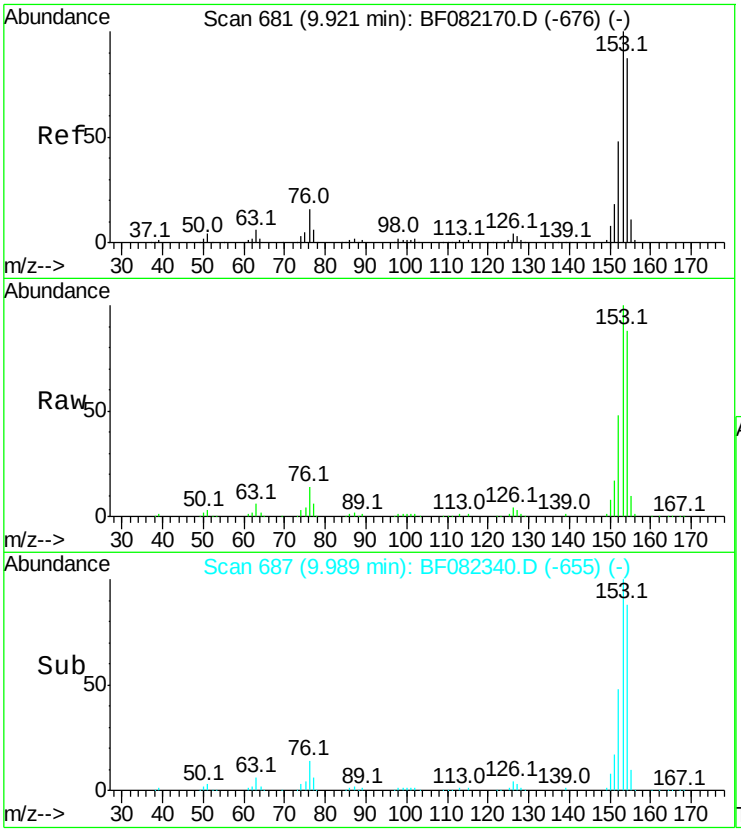
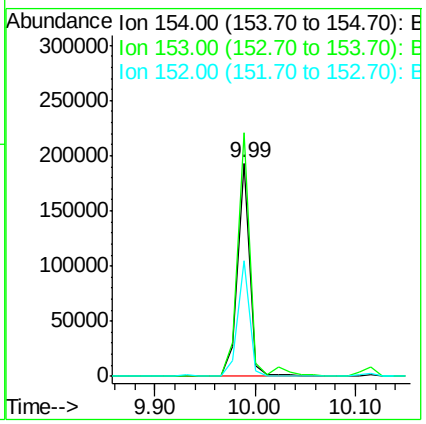
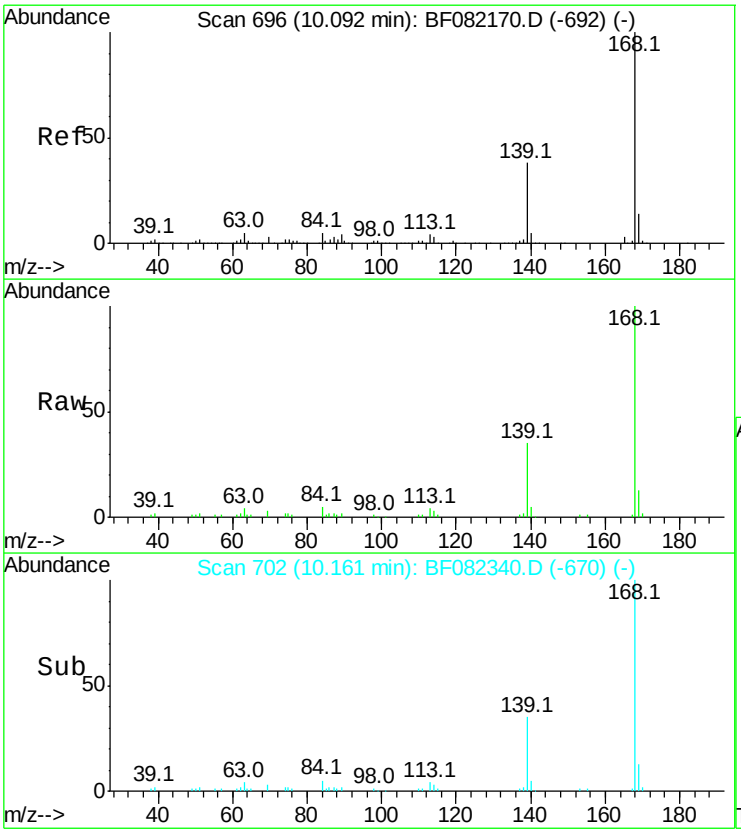


#51
Acenaphthene
Concen: 22.23 ng
RT: 9.99 min Scan# 687
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:154 Resp: 162111

Ion	Ratio	Lower	Upper
154	100		
153	114.2	91.4	137.2
152	54.4	44.3	66.5

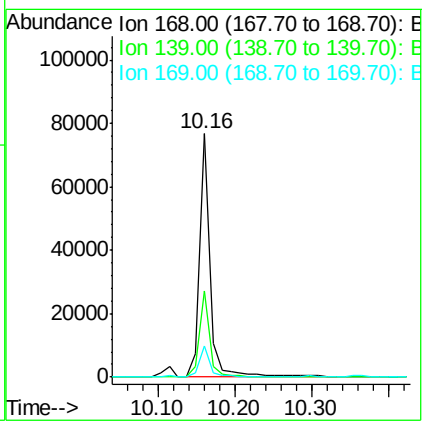




#54
Dibenzofuran
Concen: 7.19 ng
RT: 10.16 min Scan# 702
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:168 Resp: 71985

Ion	Ratio	Lower	Upper
168	100		
139	35.2	31.0	46.6
169	13.0	10.9	16.3



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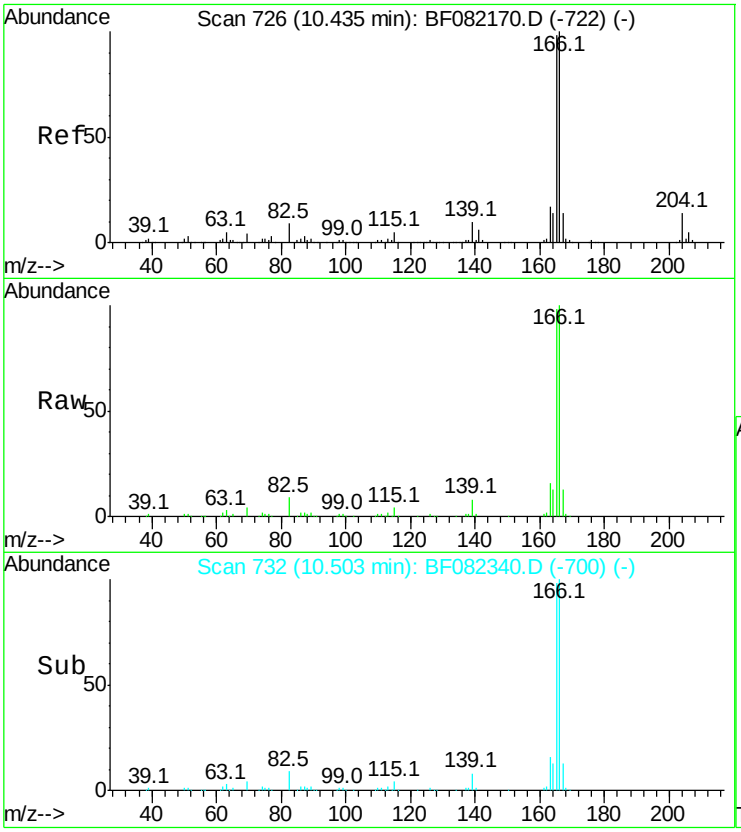
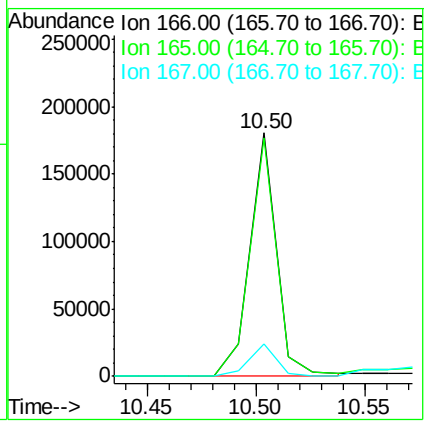
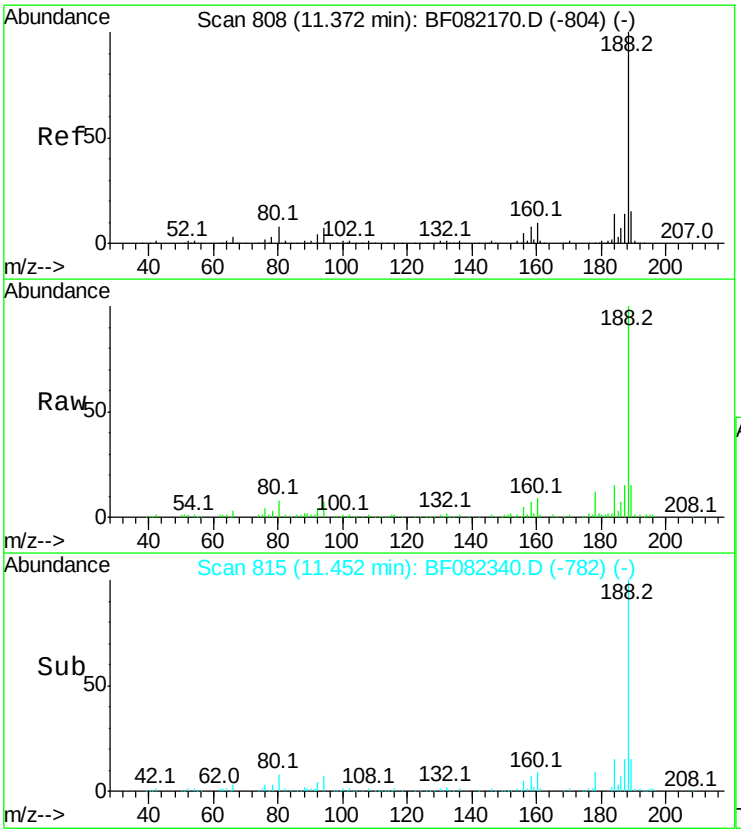


#57
Fluorene
Concen: 18.68 ng
RT: 10.50 min Scan# 732
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:166 Resp: 153586

Ion	Ratio	Lower	Upper
166	100		
165	98.1	78.3	117.5
167	13.5	10.8	16.2

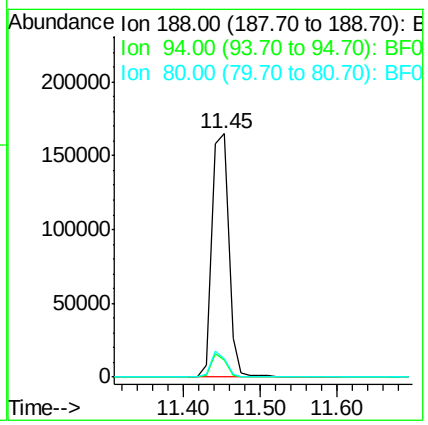




#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.45 min Scan# 815
Delta R.T. 0.08 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:188 Resp: 251052

Ion	Ratio	Lower	Upper
188	100		
94	7.1	5.8	8.6
80	7.5	6.4	9.6



Instrument :
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ClientSampleId :
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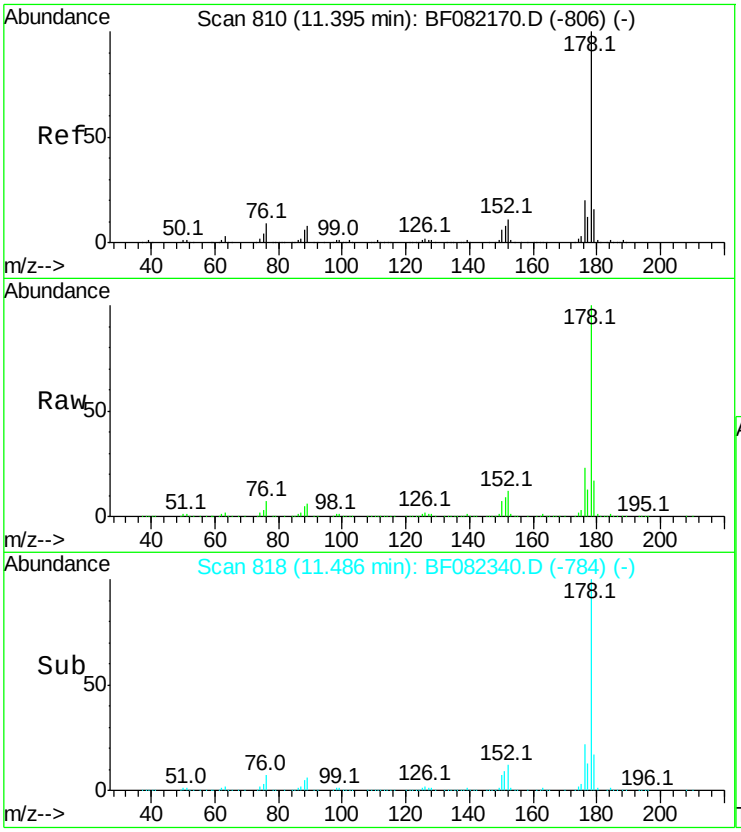
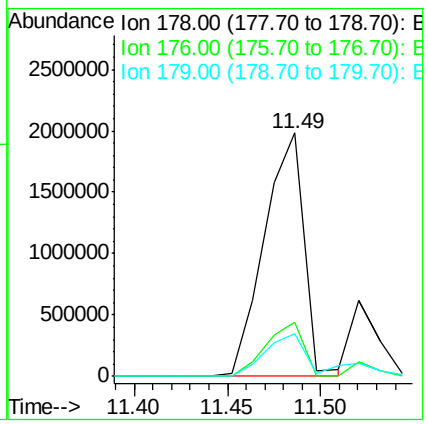
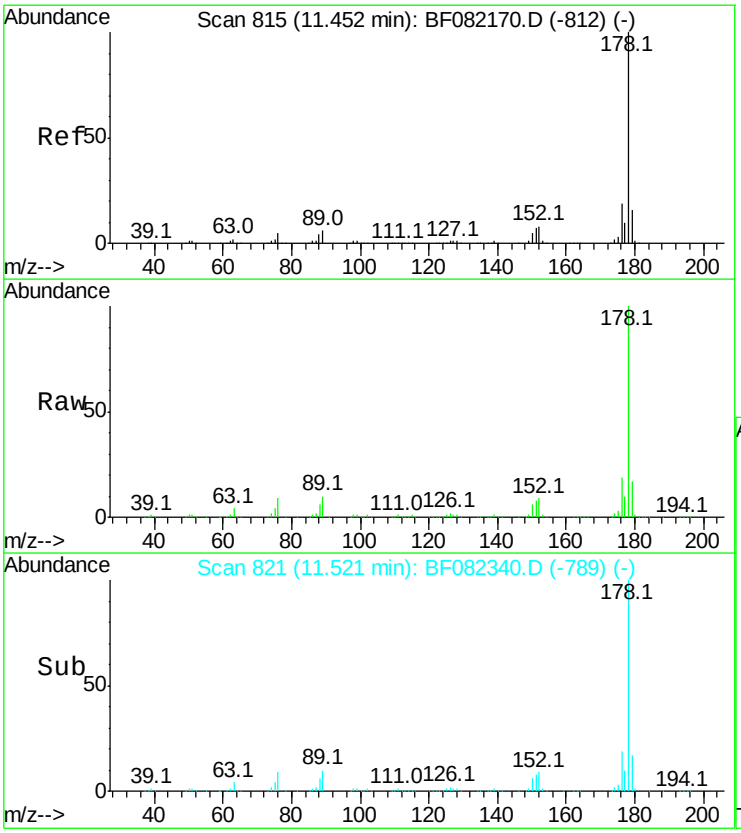


#70
Phenanthrene
Concen: 240.37 ng
RT: 11.49 min Scan# 818
Delta R.T. 0.09 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:178 Resp: 2957899

Ion	Ratio	Lower	Upper
178	100		
176	22.5	16.0	24.0
179	17.3	12.6	19.0

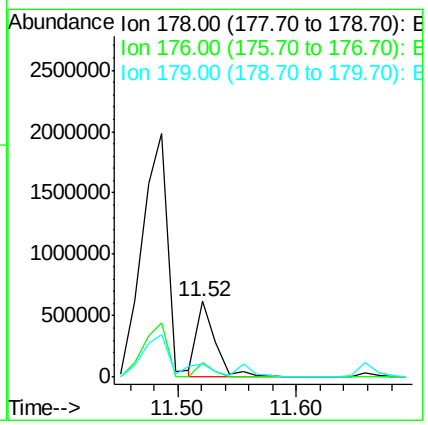




#71
Anthracene
Concen: 53.80 ng
RT: 11.52 min Scan# 821
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:178 Resp: 682256

Ion	Ratio	Lower	Upper
178	100		
176	18.8	15.4	23.0
179	17.1	12.5	18.7



Instrument :
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ClientSampleId :
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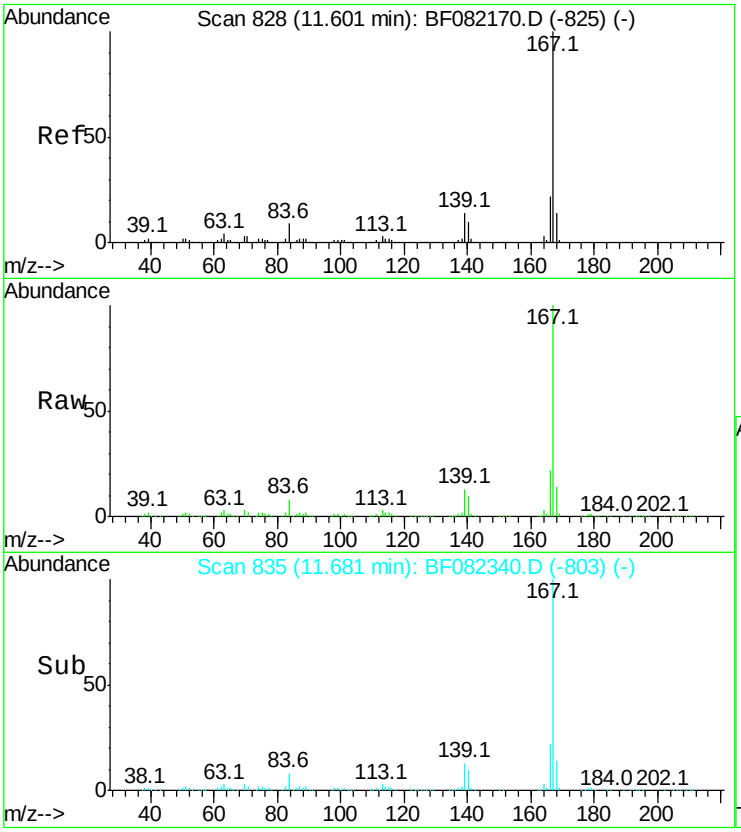
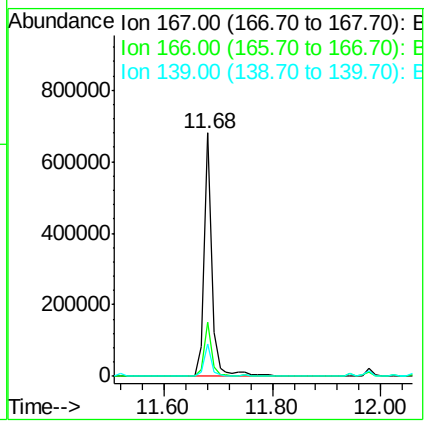
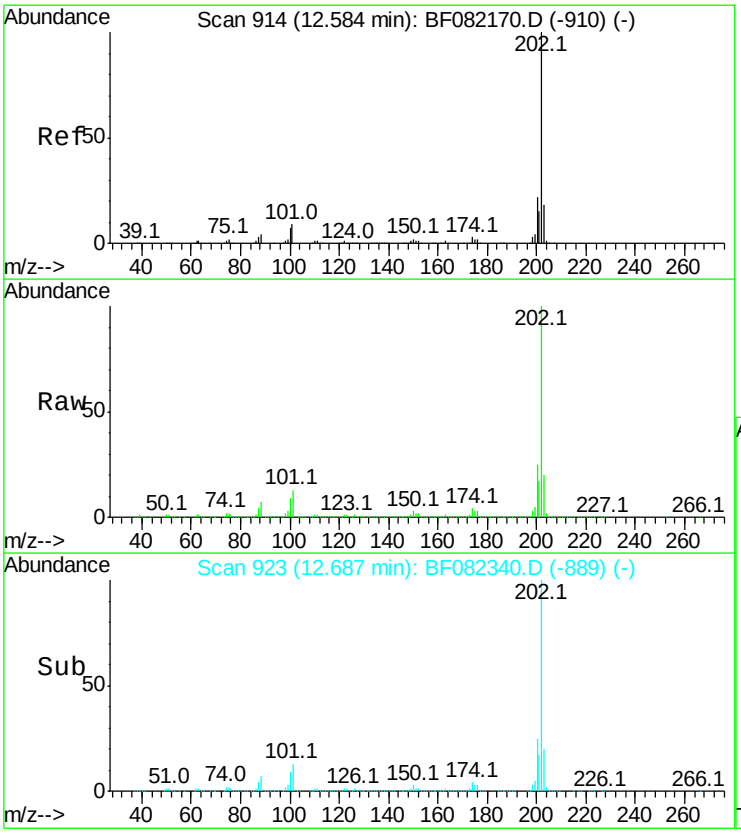


#72
Carbazole
Concen: 58.76 ng
RT: 11.68 min Scan# 835
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:167 Resp: 679669

Ion	Ratio	Lower	Upper
167	100		
166	22.1	17.3	25.9
139	13.3	11.2	16.8

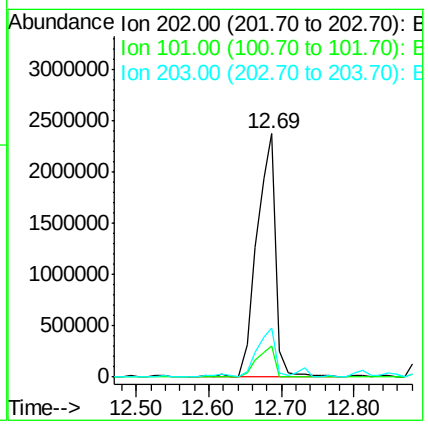


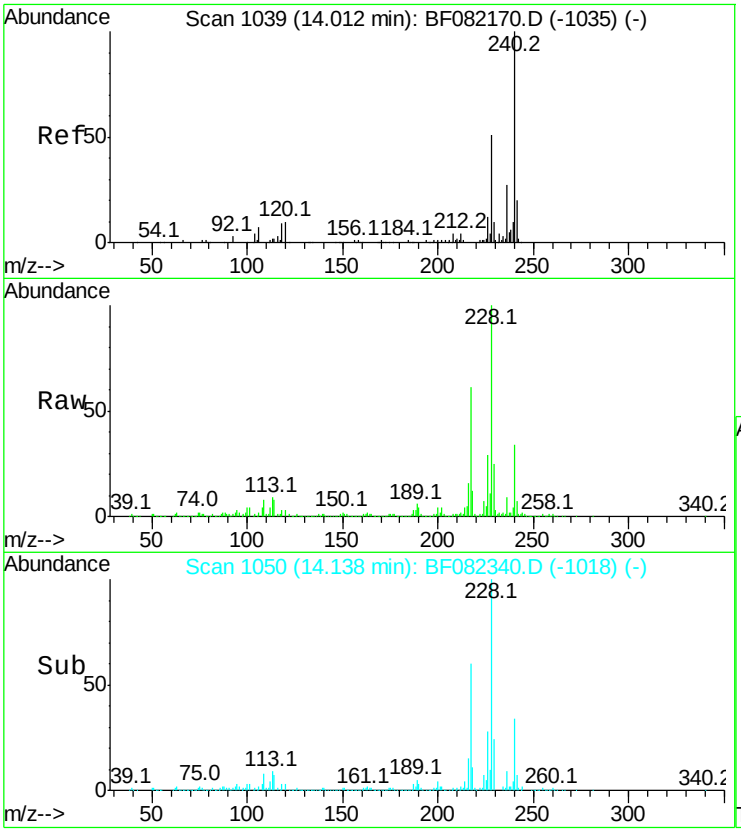


#74
Fluoranthene
Concen: 328.11 ng
RT: 12.69 min Scan# 923
Delta R.T. 0.09 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:202 Resp: 4336567

Ion	Ratio	Lower	Upper
202	100		
101	12.6	0.0	29.3
203	20.4	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.14 min Scan# 1050
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:240 Resp: 193227

Ion	Ratio	Lower	Upper
240	100		
120	8.5	8.1	12.1
236	26.2	21.3	31.9

Instrument :
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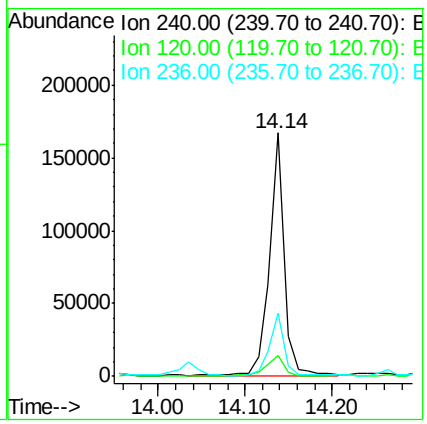
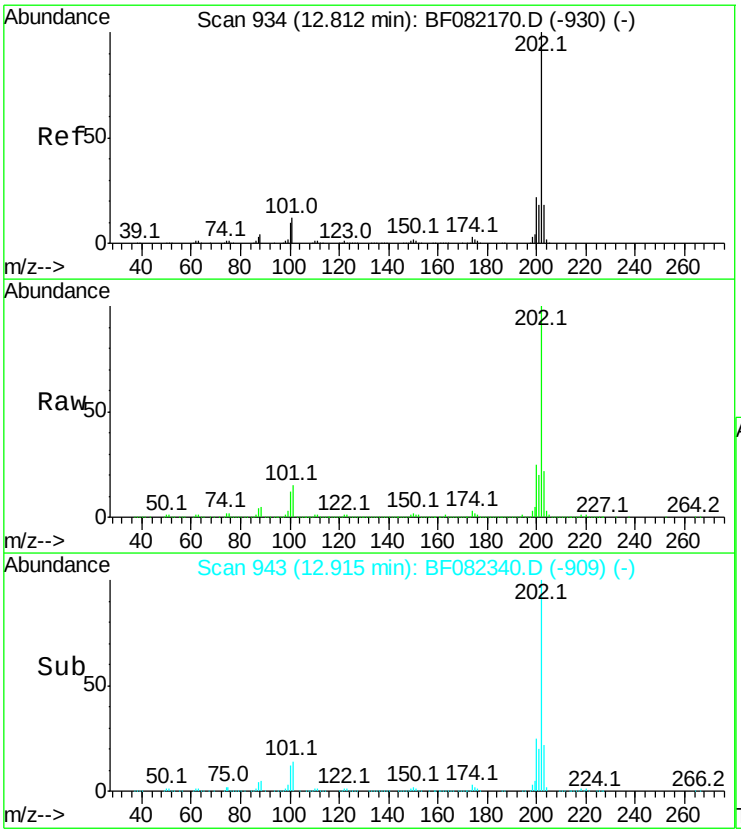
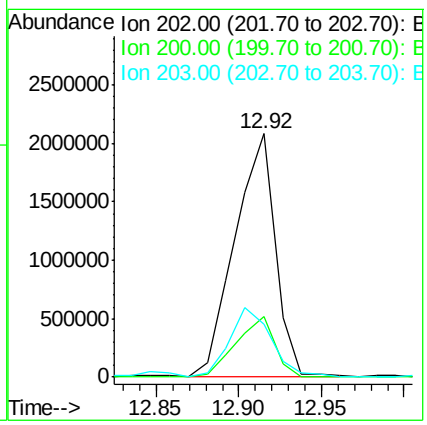




#77
Pyrene
Concen: 310.46 ng m
RT: 12.92 min Scan# 943
Delta R.T. 0.09 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:202 Resp: 3560116

Ion	Ratio	Lower	Upper
202	100		
200	25.1	17.9	26.9
203	21.8	14.5	21.7#



Instrument :
BNA_F
ClientSampleId :
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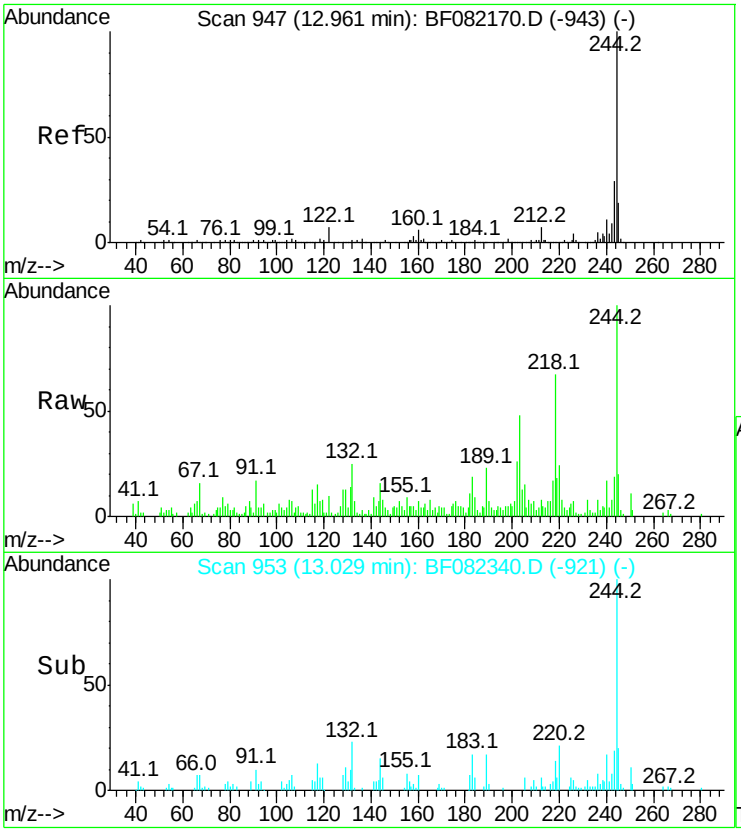
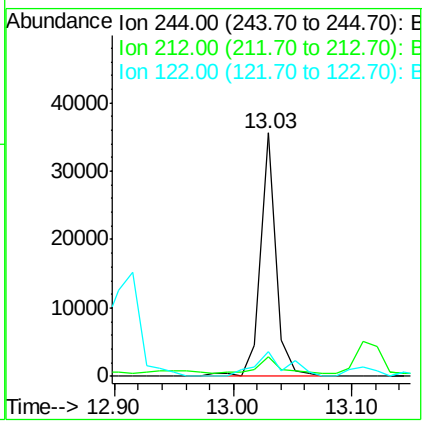
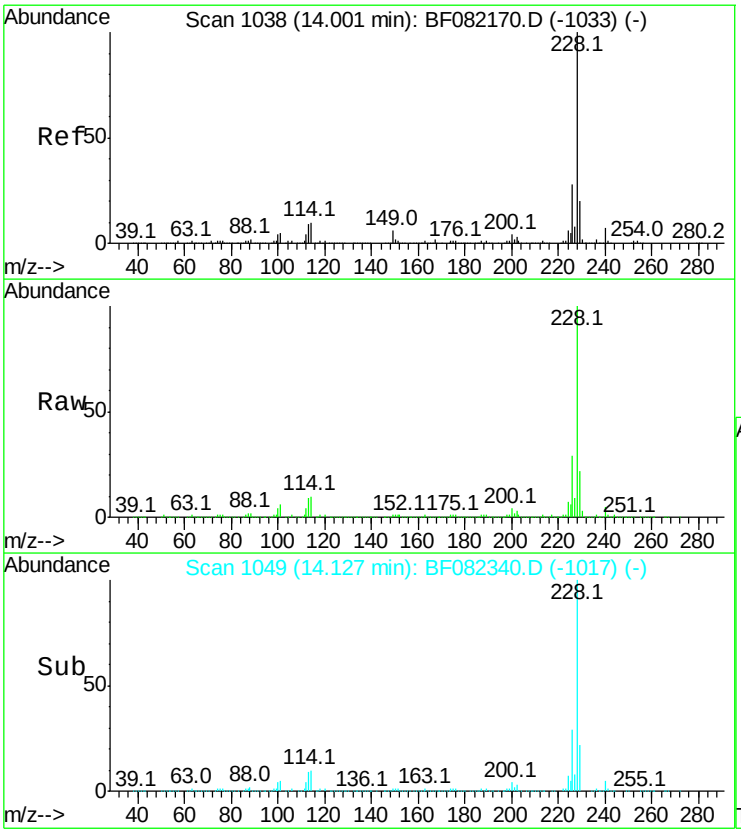


#78
Terphenyl-d14
Concen: 4.46 ng
RT: 13.03 min Scan# 953
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:244 Resp: 32499

Ion	Ratio	Lower	Upper
244	100		
212	8.1	5.8	8.6
122	10.0	5.9	8.9#

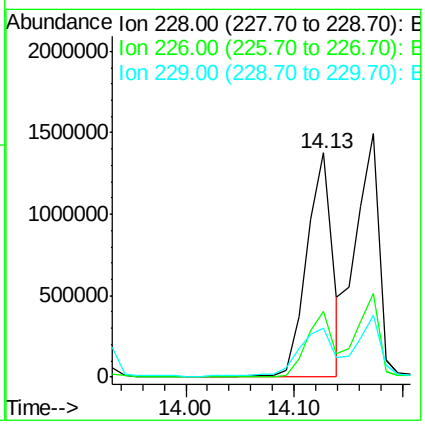


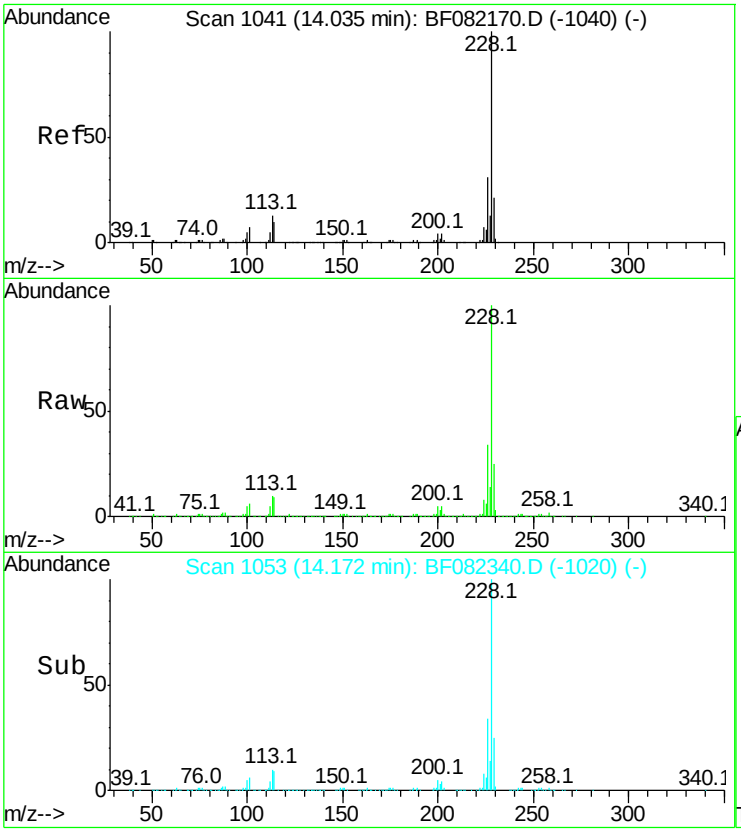


#80
Benzo(a)anthracene
Concen: 222.64 ng
RT: 14.13 min Scan# 1049
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:228 Resp: 2238388

Ion	Ratio	Lower	Upper
228	100		
226	29.4	22.3	33.5
229	22.1	16.2	24.2





#82
Chrysene
Concen: 210.53 ng m
RT: 14.17 min Scan# 1053
Delta R.T. 0.08 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:228 Resp: 2230234

Ion	Ratio	Lower	Upper
228	100		
226	34.1	24.4	36.6
229	25.3	16.3	24.5#

Instrument :
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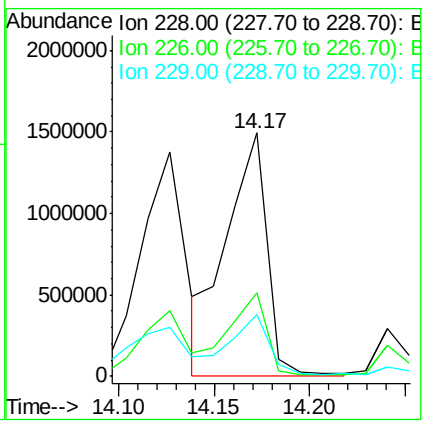
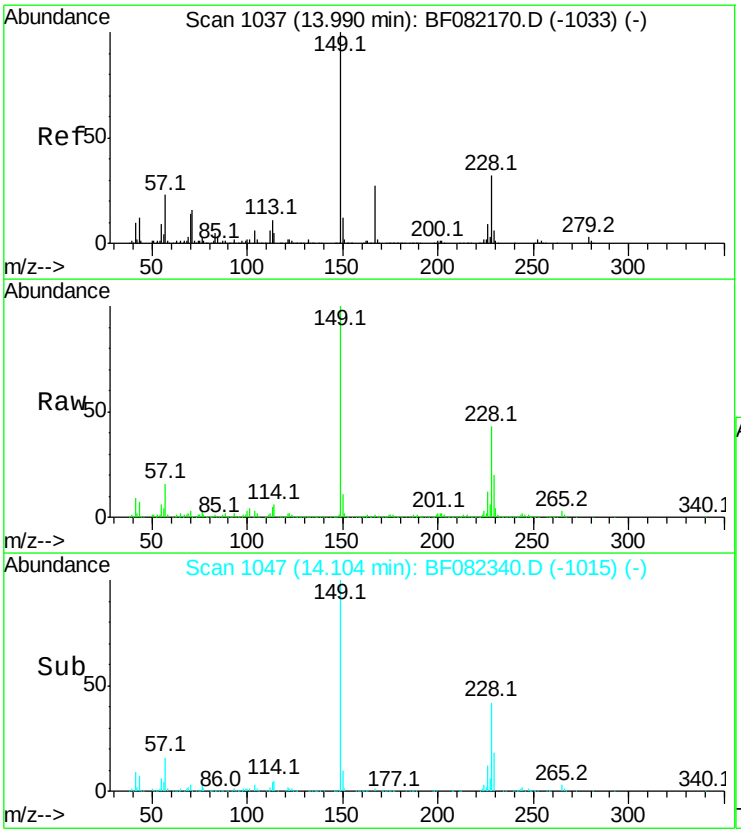
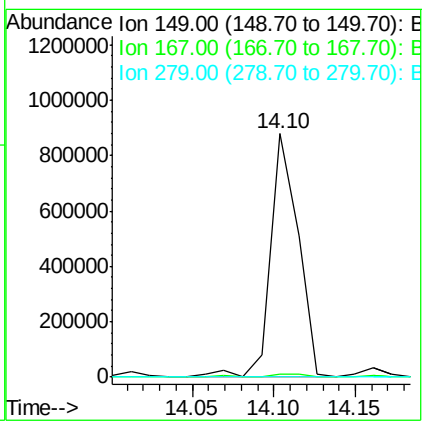


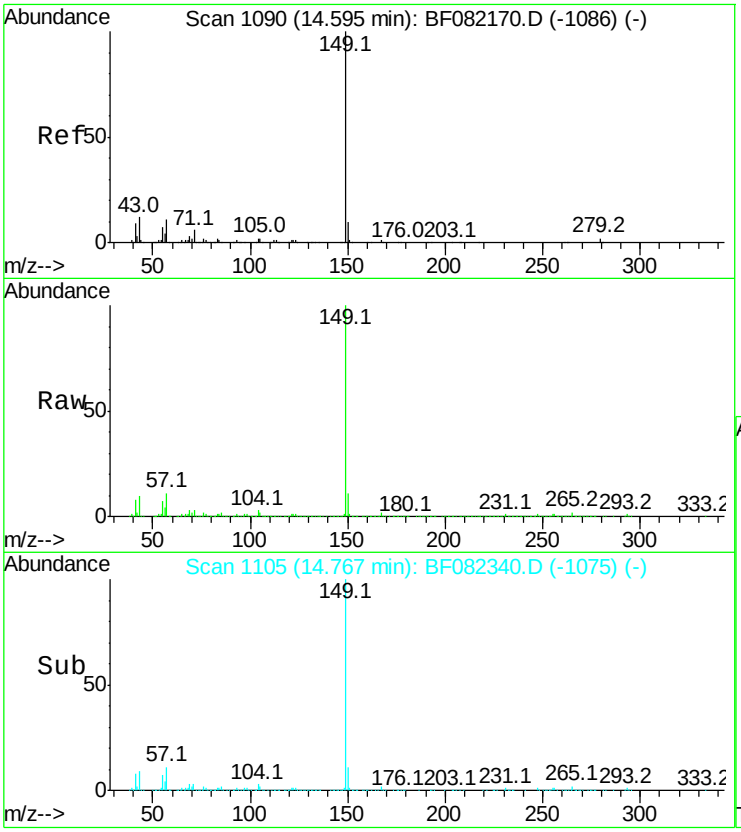


#83
Bis(2-ethylhexyl)phthalate
Concen: 139.37 ng
RT: 14.10 min Scan# 1047
Delta R.T. 0.07 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:149 Resp: 1040553

Ion	Ratio	Lower	Upper
149	100		
167	1.3	21.3	31.9#
279	0.0	2.6	4.0#

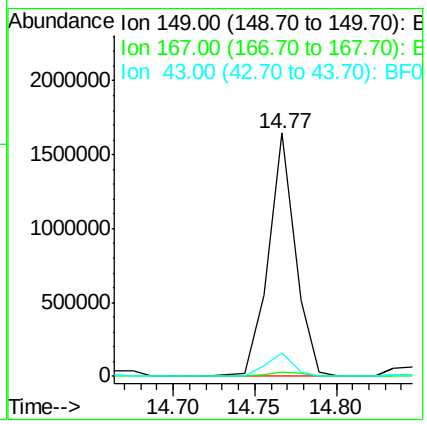




#84
Di-n-octyl phthalate
Concen: 147.86 ng
RT: 14.77 min Scan# 1105
Delta R.T. 0.05 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:149 Resp: 1895846

Ion	Ratio	Lower	Upper
149	100		
167	2.4	1.3	1.9#
43	9.4	7.4	11.2



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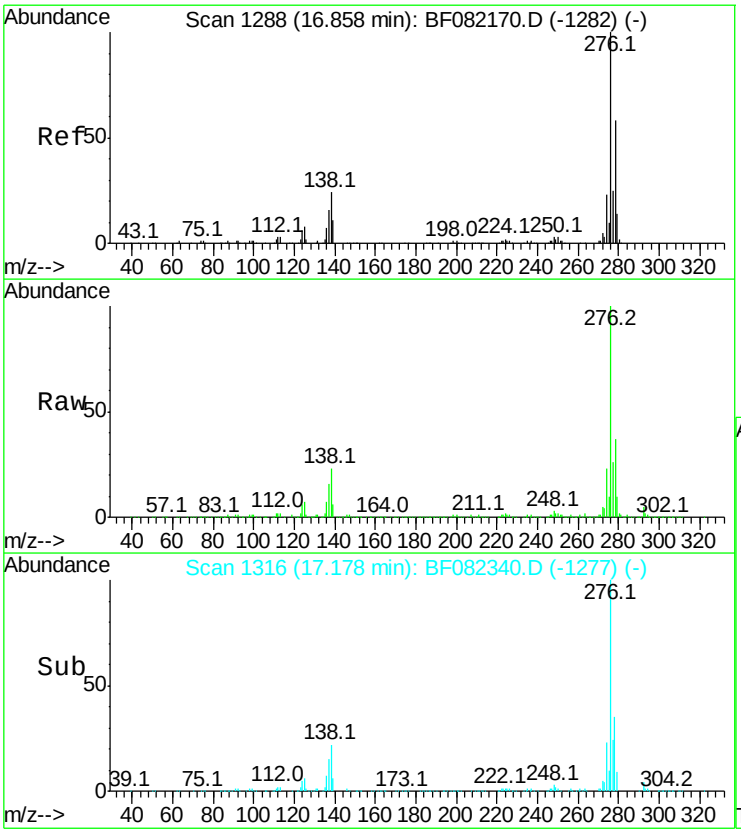
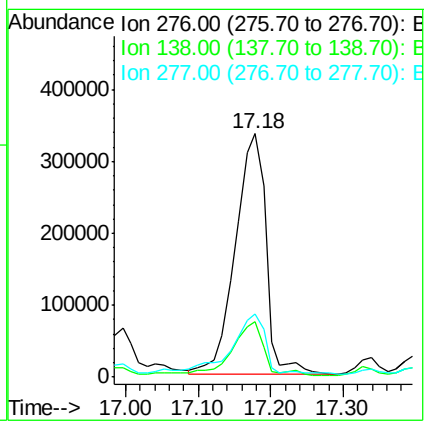
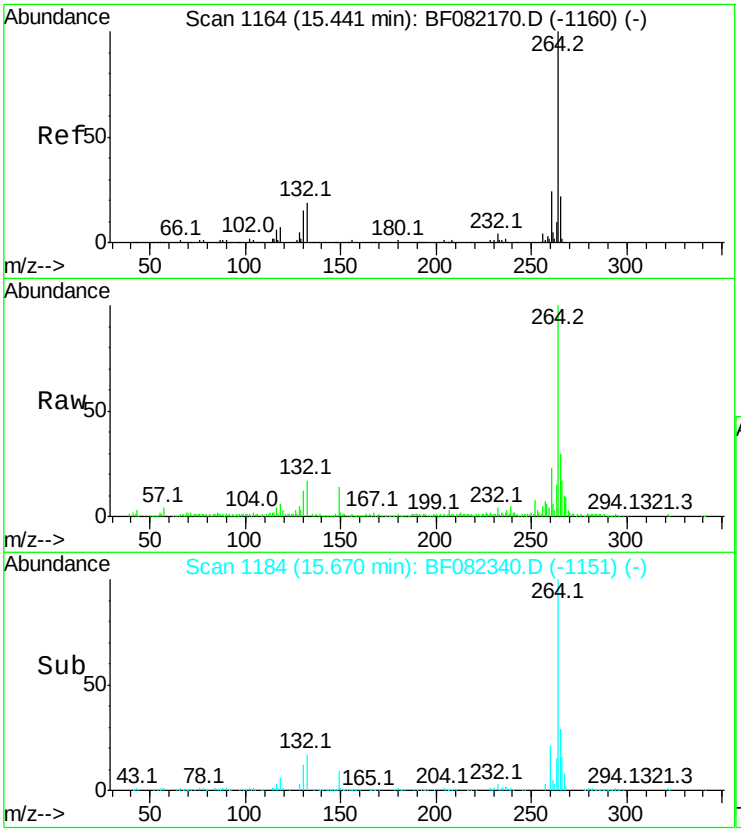


#85
Indeno(1,2,3-cd)pyrene
Concen: 117.97 ng
RT: 17.18 min Scan# 1316
Delta R.T. 0.15 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:276 Resp: 993282

Ion	Ratio	Lower	Upper
276	100		
138	21.5	19.7	29.5
277	26.9	20.1	30.1





#86
Pervlene-d12
Concen: 20.00 ng
RT: 15.67 min Scan# 1184
Delta R.T. 0.08 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:264 Resp: 228738

Ion	Ratio	Lower	Upper
264	100		
260	23.4	19.0	28.6
265	29.9	17.3	25.9#

Instrument :
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ClientSampleId :
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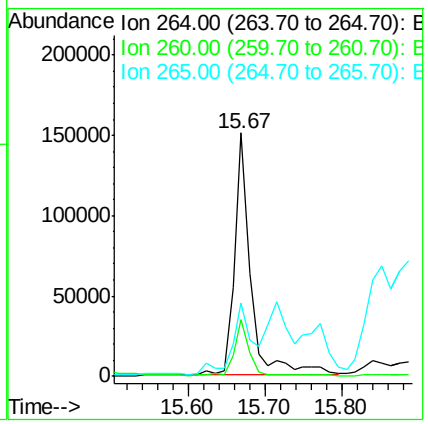
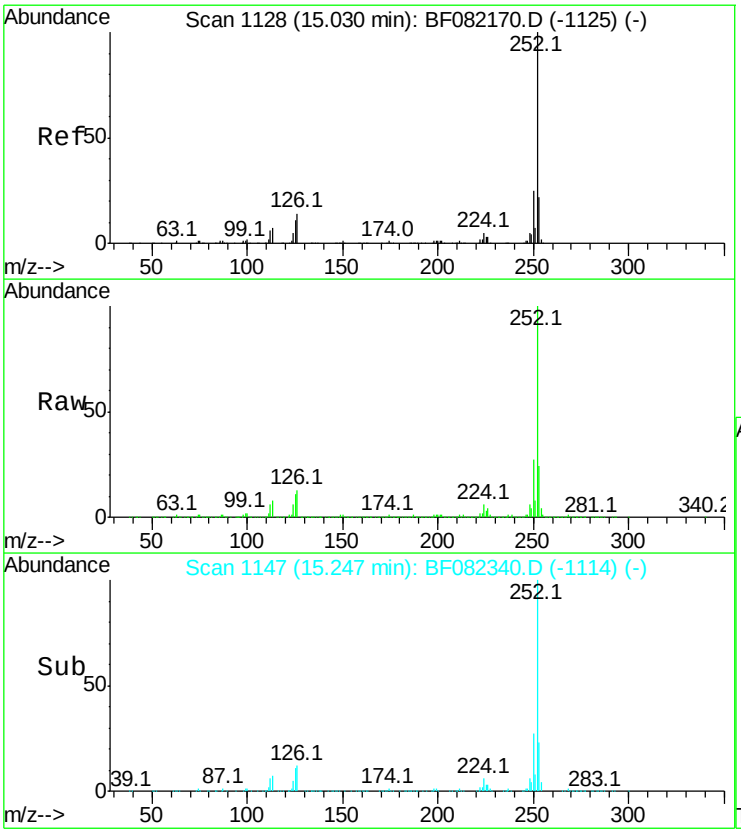
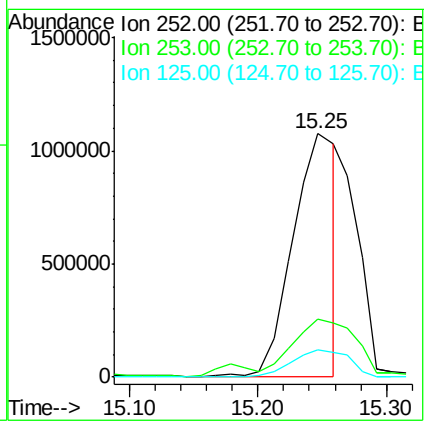


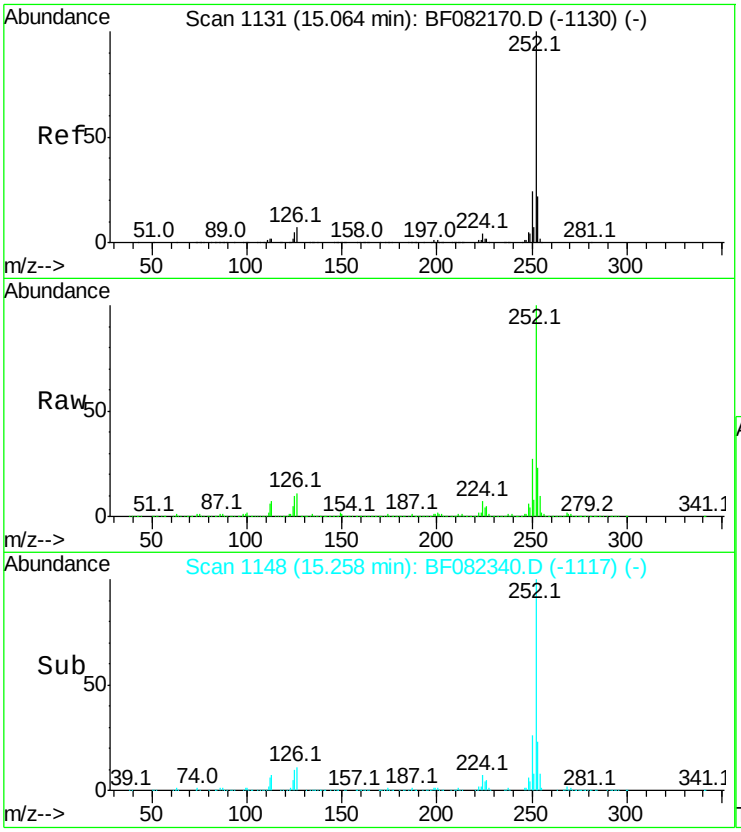


#87
Benzo(b)fluoranthene
Concen: 182.44 ng m
RT: 15.25 min Scan# 1147
Delta R.T. 0.08 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:252 Resp: 2538863

Ion	Ratio	Lower	Upper
252	100		
253	23.9	18.0	27.0
125	11.2	8.6	12.8





#88
Benzo(k)fluoranthene
Concen: 87.69 ng m
RT: 15.26 min Scan# 1148
Delta R.T. 0.06 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:252 Resp: 1025754

Ion	Ratio	Lower	Upper
252	100		
253	23.4	17.8	26.6
125	10.5	6.7	10.1#

Instrument :
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ClientSampleId :
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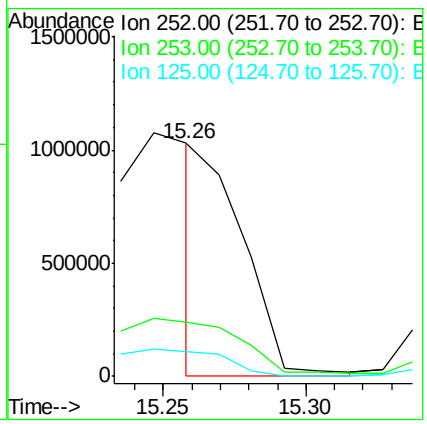
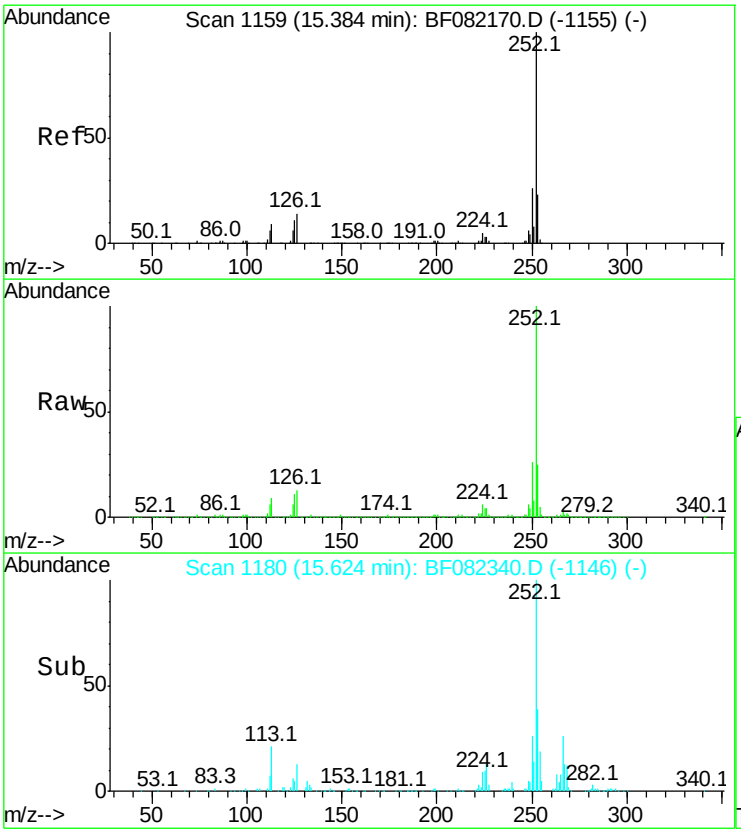
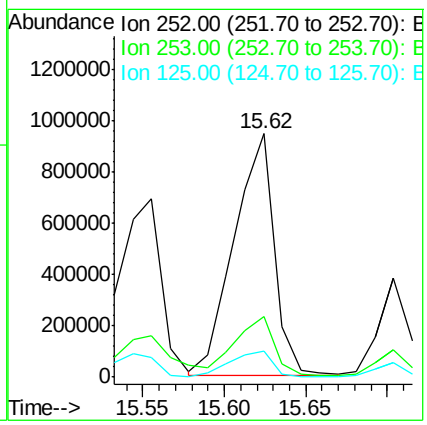


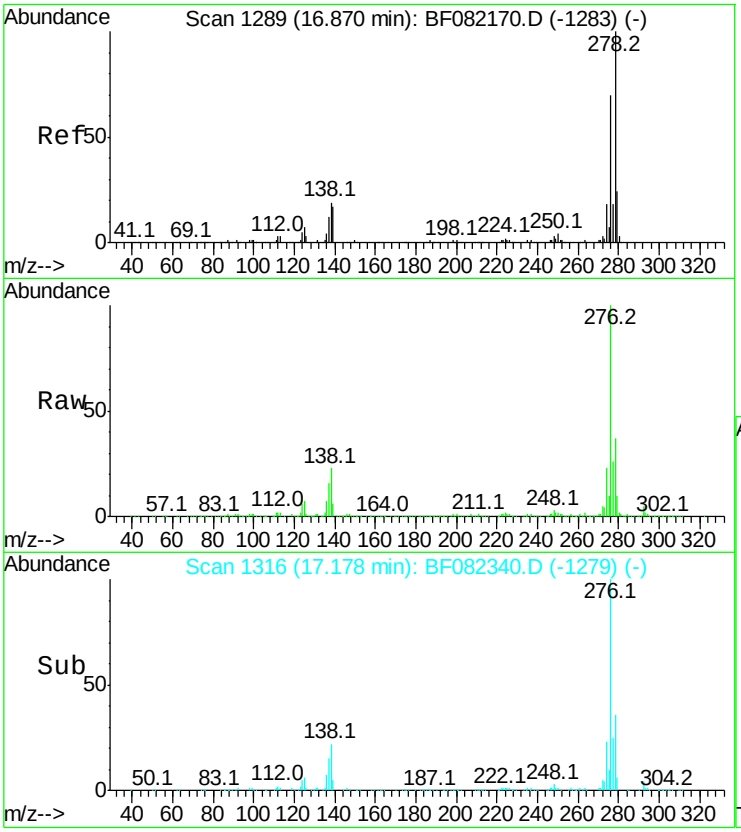


#89
Benzo(a)pyrene
Concen: 136.32 ng
RT: 15.62 min Scan# 1180
Delta R.T. 0.09 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:252 Resp: 1630303

Ion	Ratio	Lower	Upper
252	100		
253	24.9	18.2	27.2
125	10.7	8.9	13.3





#90
Dibenzo(a,h)anthracene
Concen: 24.71 ng
RT: 17.18 min Scan# 1316
Delta R.T. 0.13 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:278 Resp: 242180

Ion	Ratio	Lower	Upper
278	100		
139	16.3	13.3	19.9
279	27.2	18.9	28.3

Instrument :
BNA_F
ClientSampleId :
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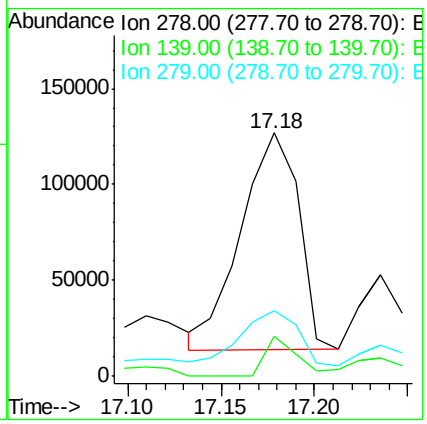
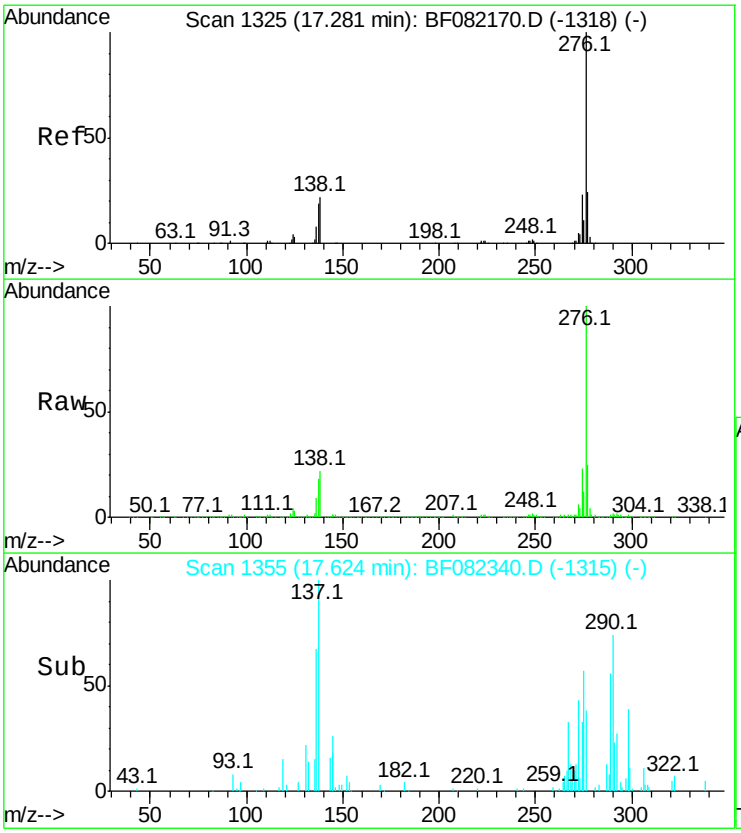
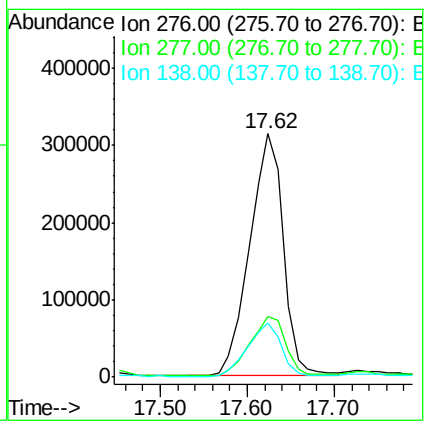




#91
Benzo(g,h,i)perylene
Concen: 88.40 ng
RT: 17.62 min Scan# 1355
Delta R.T. 0.16 min
Lab File: BF082340.D
Acq: 16 Oct 2015 22:07

Tgt Ion:276 Resp: 841659

Ion	Ratio	Lower	Upper
276	100		
277	24.7	18.8	28.2
138	22.3	17.4	26.2



LSC Area Percent Report

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082340.D
Acq On : 16 Oct 2015 22:07
Operator : UM/IZ
Sample : G4046-05 20X
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.926	417	419	421	rBV	224483	271596	2.26%	0.148%
2	8.206	529	531	532	rBV	513827	466389	3.88%	0.255%
3	9.955	682	684	685	rBV	675669	560101	4.66%	0.306%
4	9.989	685	687	689	rVB	753725	625779	5.20%	0.342%
5	10.503	730	732	734	rBV	548788	475155	3.95%	0.259%
6	11.304	799	802	803	rBV2	469799	513811	4.27%	0.280%
7	11.338	803	805	808	rVB	437409	409696	3.41%	0.224%
8	11.486	812	818	819	rBV	4704941	7801321	64.85%	4.259%
9	11.521	819	821	823	rVB	1341466	1347809	11.20%	0.736%
10	11.681	831	835	839	rBV2	1546114	1792056	14.90%	0.978%
11	11.944	855	858	859	rBV	1036416	983043	8.17%	0.537%
12	11.978	859	861	863	rVV	1500209	1491467	12.40%	0.814%
13	12.024	863	865	866	rVV	526733	489503	4.07%	0.267%
14	12.058	866	868	872	rVV2	1774474	2759179	22.93%	1.506%
15	12.184	877	879	882	rVV3	154393	446271	3.71%	0.244%
16	12.241	882	884	885	rVV	852634	809189	6.73%	0.442%
17	12.275	885	887	889	rVV	664217	752393	6.25%	0.411%
18	12.389	894	897	898	rVV	375046	530166	4.41%	0.289%
19	12.424	898	900	901	rVV	238234	333554	2.77%	0.182%
20	12.492	904	906	908	rVV	446096	693658	5.77%	0.379%
21	12.538	908	910	911	rVV	362786	657857	5.47%	0.359%
22	12.629	913	918	919	rVV4	622743	1536411	12.77%	0.839%
23	12.687	919	923	925	rVV	5983442	11002445	91.46%	6.006%
24	12.767	928	930	932	rVV2	200043	367947	3.06%	0.201%
25	12.812	932	934	936	rVV	745925	994912	8.27%	0.543%
26	12.915	939	943	949	rVV2	5280332	12030437	100.00%	6.568%
27	13.018	949	952	954	rVV	814007	1531599	12.73%	0.836%
28	13.052	954	955	957	rVV	843043	792548	6.59%	0.433%
29	13.109	957	960	962	rVV2	881069	1693322	14.08%	0.924%
30	13.144	962	963	966	rVV	476814	707248	5.88%	0.386%
31	13.224	966	970	972	rVV	1967140	3845838	31.97%	2.099%
32	13.292	972	976	978	rVV	2110344	2824851	23.48%	1.542%
33	13.327	978	979	983	rVV2	1249018	2756000	22.91%	1.505%
34	13.418	986	987	989	rVV	579728	959346	7.97%	0.524%

Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082340.D
Acq On : 16 Oct 2015 22:07
Operator : UM/IZ
Sample : G4046-05 20X
Misc :
ALS Vial : 22 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

35	13.452	989	990	994	rVV2	902687	1329771	11.05%	0.726%
36	13.532	994	997	999	rVV4	244138	671989	5.59%	0.367%
37	13.578	999	1001	1002	rVV	227313	304668	2.53%	0.166%
38	13.624	1002	1005	1006	rVV3	564336	960903	7.99%	0.525%
39	13.658	1006	1008	1011	rVV	848270	1309117	10.88%	0.715%
40	13.749	1011	1016	1018	rVV2	948431	2364525	19.65%	1.291%
41	13.829	1018	1023	1024	rVV	459320	1217853	10.12%	0.665%
42	13.875	1024	1027	1029	rVV3	1798668	4125745	34.29%	2.252%
43	13.921	1029	1031	1034	rVV3	975956	2257538	18.77%	1.232%
44	13.967	1034	1035	1038	rVV	938052	1110795	9.23%	0.606%
45	14.035	1038	1041	1043	rVV	429338	872197	7.25%	0.476%
46	14.127	1044	1049	1050	rVV2	3664547	9118182	75.79%	4.978%
47	14.172	1050	1053	1055	rVV	4250118	7241700	60.19%	3.953%
48	14.218	1055	1057	1058	rVV2	400009	647629	5.38%	0.354%
49	14.241	1058	1059	1062	rVV2	1283173	1982429	16.48%	1.082%
50	14.298	1062	1064	1066	rVV3	727281	1324795	11.01%	0.723%
51	14.332	1066	1067	1068	rVV	763999	857077	7.12%	0.468%
52	14.367	1068	1070	1074	rVV4	745804	2326983	19.34%	1.270%
53	14.492	1077	1081	1083	rVV	1911271	3003163	24.96%	1.639%
54	14.527	1083	1084	1087	rVV2	1645364	2878460	23.93%	1.571%
55	14.572	1087	1088	1090	rVV	790092	1029869	8.56%	0.562%
56	14.641	1090	1094	1096	rVV3	657999	1906860	15.85%	1.041%
57	14.698	1096	1099	1101	rVV2	1040176	2151254	17.88%	1.174%
58	14.767	1101	1105	1107	rVV	3396637	4809258	39.98%	2.625%
59	14.801	1107	1108	1110	rVV	164249	271503	2.26%	0.148%
60	14.881	1112	1115	1119	rVV4	754474	2147488	17.85%	1.172%
61	14.950	1119	1121	1123	rVV	495366	850611	7.07%	0.464%
62	15.007	1125	1126	1128	rVV	338848	576541	4.79%	0.315%
63	15.064	1128	1131	1135	rVV3	528487	1670619	13.89%	0.912%
64	15.144	1135	1138	1141	rVV	1772740	2817933	23.42%	1.538%
65	15.258	1141	1148	1151	rVV2	2936924	10653940	88.56%	5.816%
66	15.304	1151	1152	1154	rVV	335164	571169	4.75%	0.312%
67	15.350	1154	1156	1157	rVV	697587	1044495	8.68%	0.570%
68	15.384	1157	1159	1161	rVV3	179371	428622	3.56%	0.234%
69	15.464	1161	1166	1168	rVV	2495142	5938856	49.37%	3.242%
70	15.555	1170	1174	1176	rVV	1994014	4172180	34.68%	2.278%
71	15.624	1176	1180	1182	rVV	2566739	4545683	37.78%	2.482%

LSC Area Percent Report

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082340.D
Acq On : 16 Oct 2015 22:07
Operator : UM/IZ
Sample : G4046-05 20X
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

72	15.670	1182	1184	1185	rVV2	553733	905475	7.53%	0.494%
73	15.704	1185	1187	1191	rVV2	1220536	2328066	19.35%	1.271%
74	15.773	1191	1193	1196	rVV3	369491	826390	6.87%	0.451%
75	15.841	1196	1199	1201	rVV2	313141	859897	7.15%	0.469%
76	15.887	1201	1203	1207	rVV2	915770	2617418	21.76%	1.429%
77	15.990	1210	1212	1214	rVV	220510	438763	3.65%	0.240%
78	16.024	1214	1215	1219	rVB2	237667	387790	3.22%	0.212%
79	16.104	1219	1222	1224	rBV	145745	286066	2.38%	0.156%
80	16.230	1231	1233	1236	rVV	260202	474066	3.94%	0.259%
81	16.298	1236	1239	1243	rVB	1675013	2799182	23.27%	1.528%
82	16.378	1243	1246	1250	rBV4	115575	252029	2.09%	0.138%
83	16.561	1259	1262	1268	rVB4	80798	285409	2.37%	0.156%
84	16.664	1268	1271	1273	rBV	121829	250867	2.09%	0.137%
85	16.881	1288	1290	1293	rVB	311196	543359	4.52%	0.297%
86	16.961	1293	1297	1298	rBV2	186688	409724	3.41%	0.224%
87	17.178	1307	1316	1319	rBV	1083047	2861557	23.79%	1.562%
88	17.236	1319	1321	1326	rVB	142095	259531	2.16%	0.142%
89	17.338	1326	1330	1332	rBV	269089	649086	5.40%	0.354%
90	17.430	1332	1338	1346	rVB2	549155	1967696	16.36%	1.074%
91	17.624	1349	1355	1361	rVB	800997	2212889	18.39%	1.208%
92	17.853	1371	1375	1382	rVB2	274555	840032	6.98%	0.459%
93	18.550	1431	1436	1444	rVB6	58518	253534	2.11%	0.138%
94	18.779	1452	1456	1464	rVB4	48165	247306	2.06%	0.135%
95	19.887	1546	1553	1562	rVB	257983	985873	8.19%	0.538%
96	20.082	1563	1570	1574	rVV2	172934	730766	6.07%	0.399%
97	20.173	1574	1578	1590	rVB3	127373	583178	4.85%	0.318%
98	20.733	1622	1627	1637	rVB3	47297	241411	2.01%	0.132%
99	21.030	1647	1653	1657	rBV2	78604	378565	3.15%	0.207%
100	21.133	1658	1662	1673	rVB	135115	558032	4.64%	0.305%

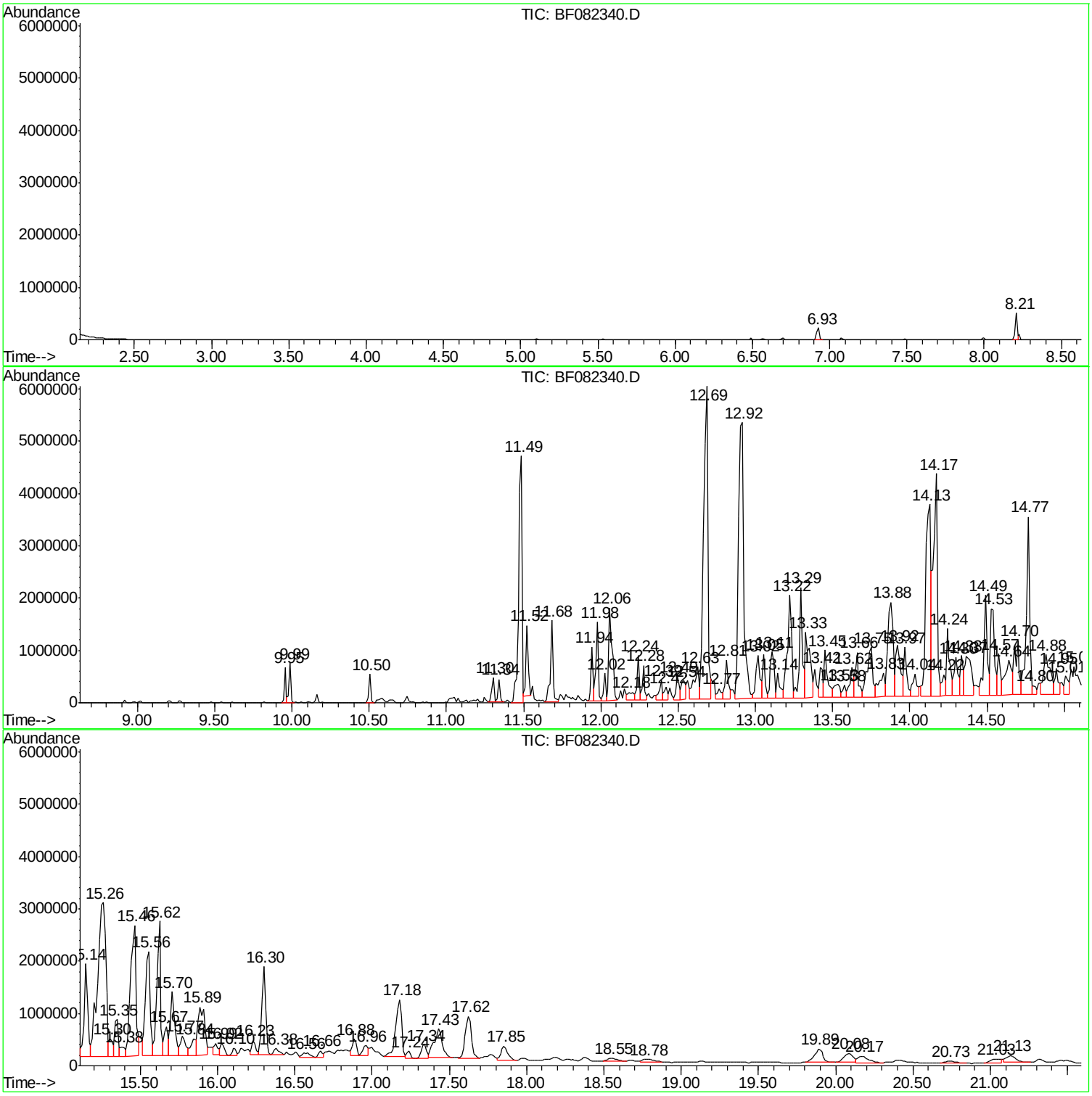
Sum of corrected areas: 183179254

Data Path : Z:\HPCHEM1\BNA F\Data\BF101715\
Data File : BF082340.D
Acq On : 16 Oct 2015 22:07
Operator : UM/IZ
Sample : G4046-05 20X
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION



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Data Path : Z:\HPCHEM1\BNA_F\Data\BF101715\
Data File : BF082340.D
Acq On    : 16 Oct 2015  22:07
Operator  : UM/IZ
Sample    : G4046-05 20X
Misc      :
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected
```

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\Data\BF101715\
Data File : BF082340.D
Acq On : 16 Oct 2015 22:07
Operator : UM/IZ
Sample : G4046-05 20X
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATION

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc

Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082394.D
Acq On : 20 Oct 2015 10:46
Operator : UM/IZ
Sample : G4046-05DL 400X
Misc :
ALS Vial : 41 Sample Multiplier: 1

Quant Time: Oct 20 13:57:36 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATIONDL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:16 PM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	81362	20.00 ng	-0.03
21) Naphthalene-d8	8.09	136	341341	20.00 ng	-0.03
38) Acenaphthene-d10	9.85	164	168918	20.00 ng	-0.03
63) Phenanthrene-d10	11.34	188	290613	20.00 ng	-0.03
75) Chrysene-d12	14.04	240	217062	20.00 ng	0.02
86) Perylene-d12	15.59	264	214693	20.00 ng	0.15
System Monitoring Compounds					
5) 2-Fluorophenol	0.00	112	0	0.00 ng	
7) Phenol-d6	0.00	99	0	0.00 ng	
23) Nitrobenzene-d5	0.00	82	0	0.00 ng	
41) 2,4,6-Tribromophenol	0.00	330	0	0.00 ng	
44) 2-Fluorobiphenyl	9.18	172	1729	0.17 ng	-0.03
78) Terphenyl-d14	12.94	244	1645	0.20 ng	-0.02
Target Compounds					Qvalue
70) Phenanthrene	11.36	178	291194	20.44 ng	99
71) Anthracene	11.42	178	60772	4.14 ng	98
72) Carbazole	11.58	167	50464	3.77 ng	97
74) Fluoranthene	12.56	202	551674	36.06 ng	97
77) Pyrene	12.79	202	418167	32.46 ng	98
80) Benzo(a)anthracene	14.02	228	193544	17.14 ng	98
82) Chrysene	14.07	228	179088	15.05 ng	98
85) Indeno(1,2,3-cd)pyrene	17.01	276	73745m	7.80 ng	
87) Benzo(b)fluoranthene	15.17	252	197893m	15.15 ng	
88) Benzo(k)fluoranthene	15.18	252	95044m	8.66 ng	
89) Benzo(a)pyrene	15.52	252	134570	11.99 ng	97
90) Dibenzo(a,h)anthracene	17.02	278	18642m	2.03 ng	
91) Benzo(g,h,i)perylene	17.44	276	65121	7.29 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Sample Results: **BF082394.D**

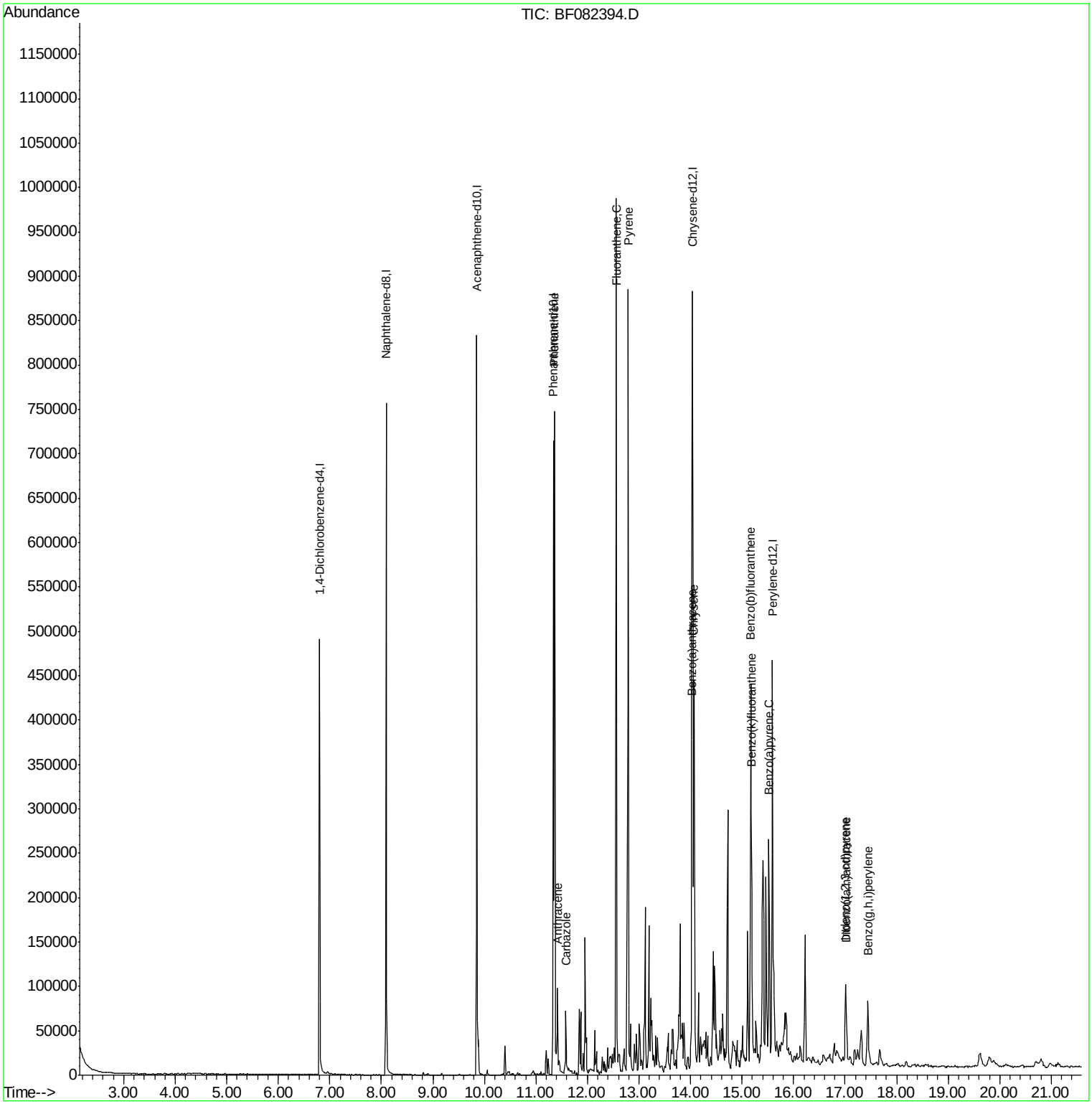
Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082394.D
Acq On : 20 Oct 2015 10:46
Operator : UM/IZ
Sample : G4046-05DL 400X
Misc :
ALS Vial : 41 Sample Multiplier: 1

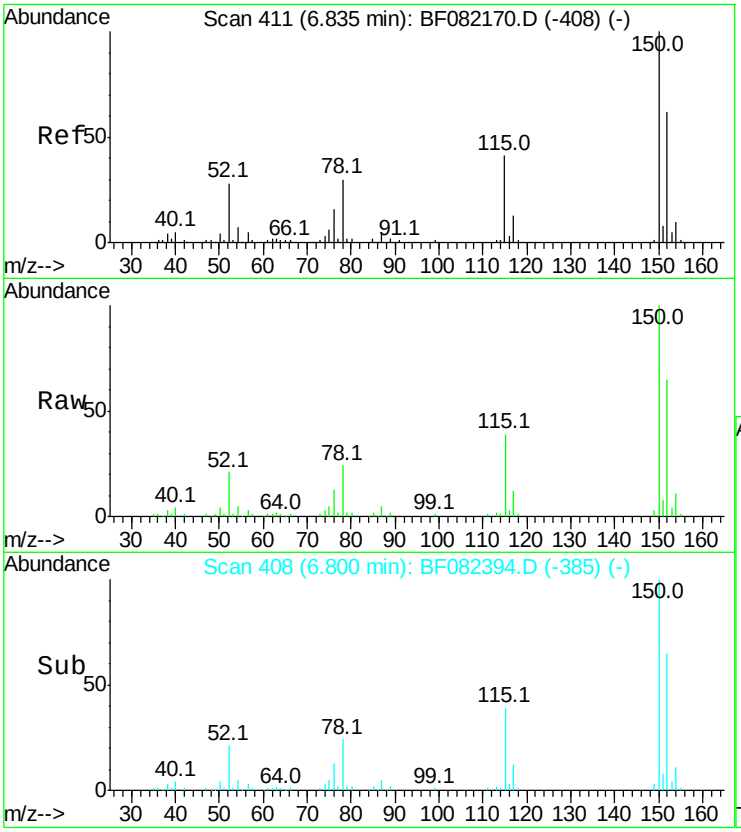
Quant Time: Oct 20 13:57:36 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATIONDL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:16 PM

6 A B C D E F G H I J K

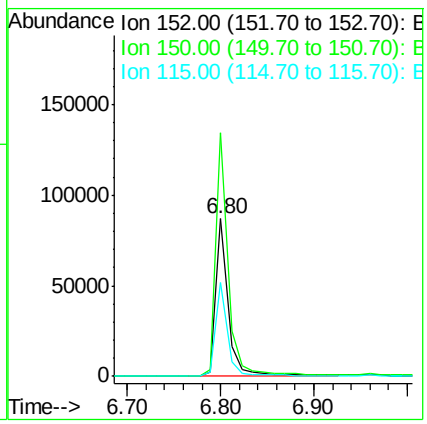




#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

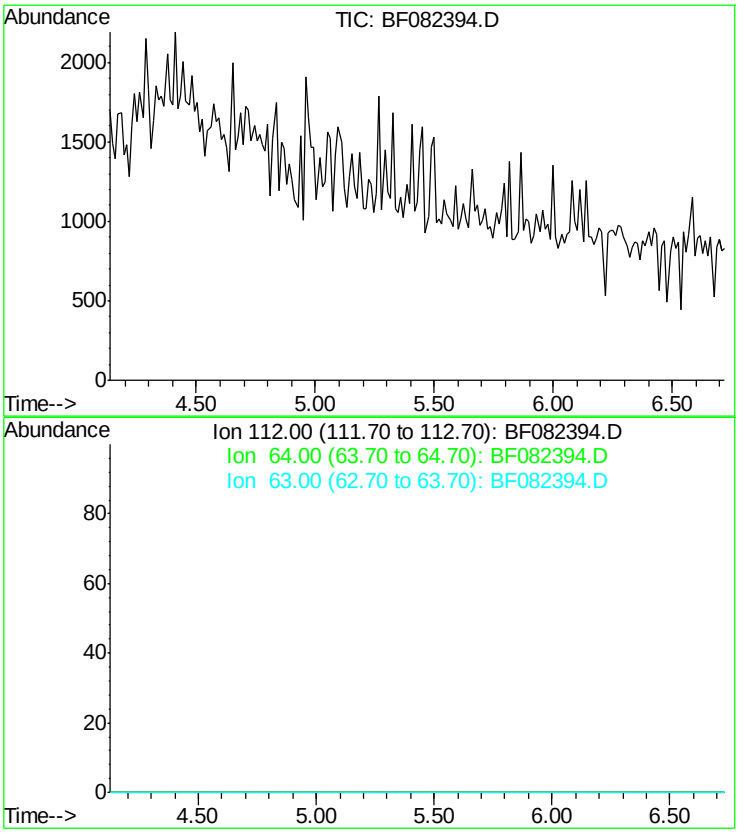
Tgt Ion:152 Resp: 81362

Ion	Ratio	Lower	Upper
152	100		
150	154.3	129.0	193.4
115	59.5	52.1	78.1



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATIONDL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:16 PM



#5
2-Fluorophenol
Concen: 0.00 ng
Expected RT: 5.43 min

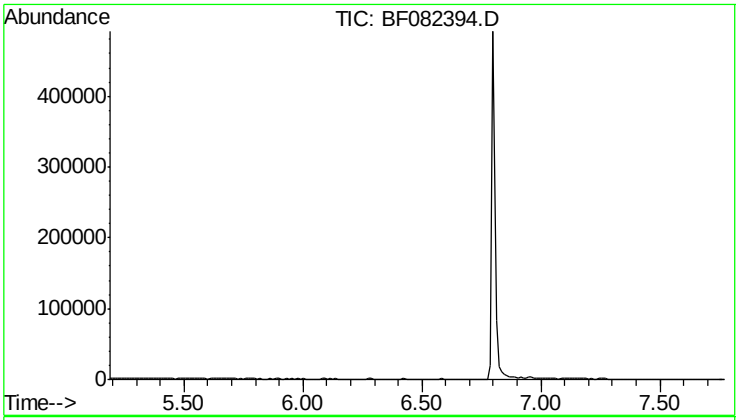
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

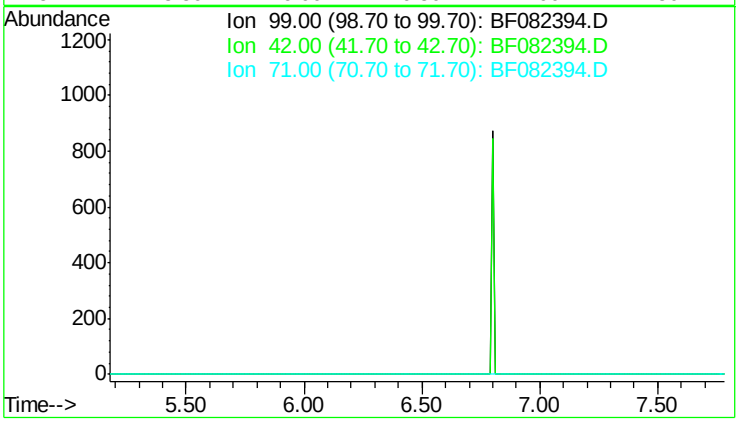
Tgt Ion: 112

Sig	Exp Ratio
112	100
64	60.8
63	31.4

Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATIONDL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:16 PM



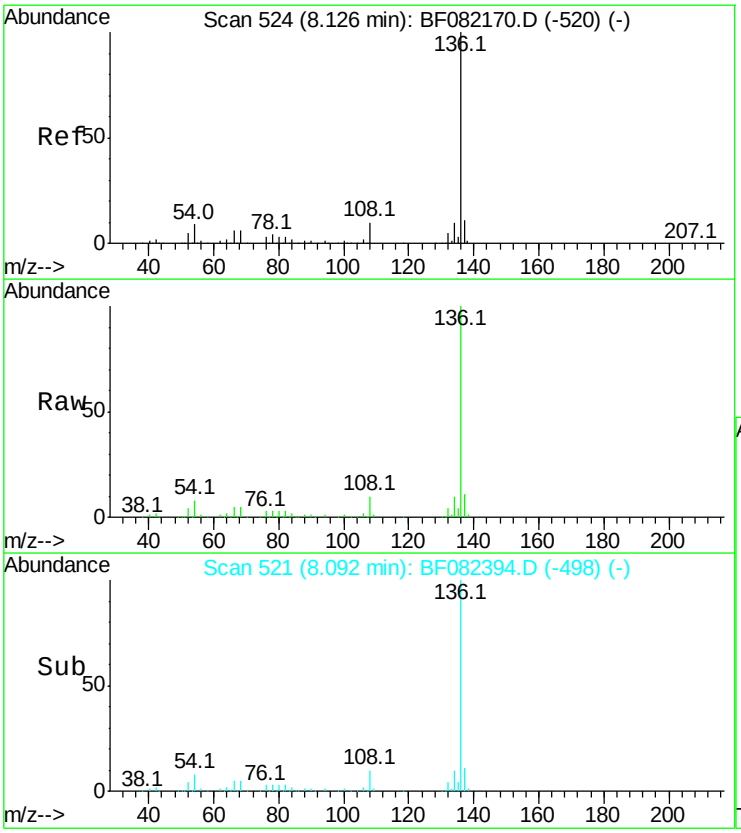


#7
Phenol-d6
Concen: 0.00 ng
Expected RT: 6.48 min

Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion: 99

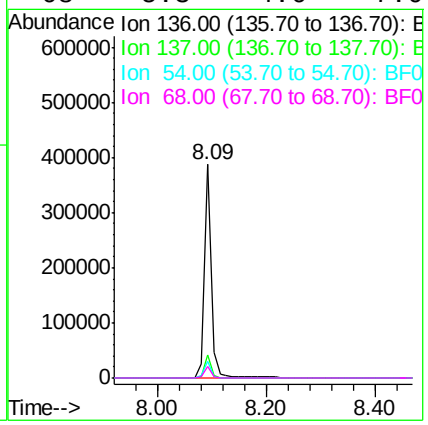
Sig	Exp Ratio
99	100
42	16.5
71	32.0



#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:136 Resp: 341341

Ion	Ratio	Lower	Upper
136	100		
137	11.0	9.0	13.6
54	7.8	7.5	11.3
68	5.3	4.6	7.0



Instrument :
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ClientSampleId :
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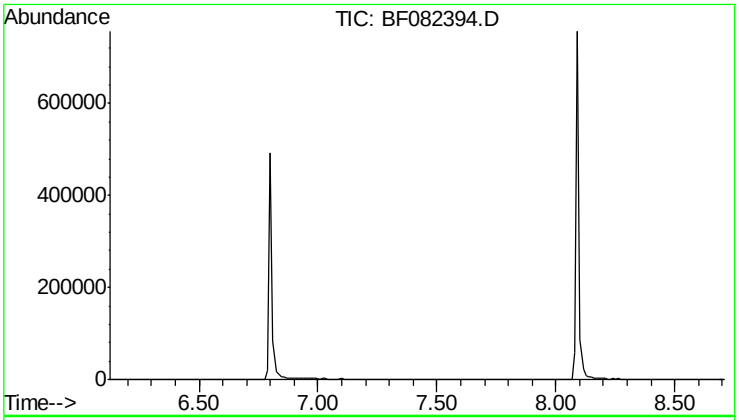
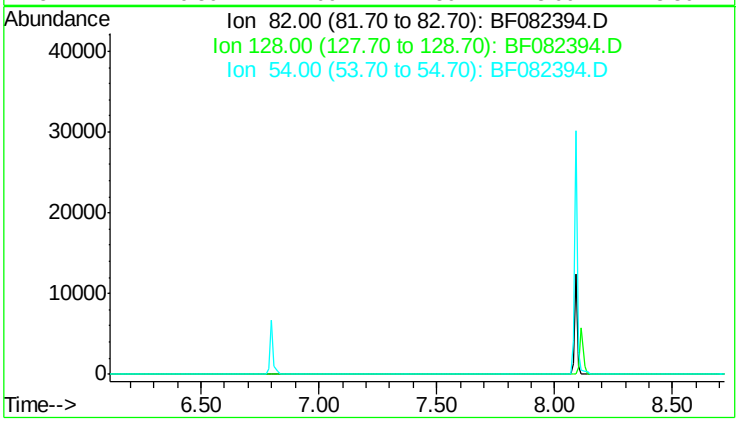


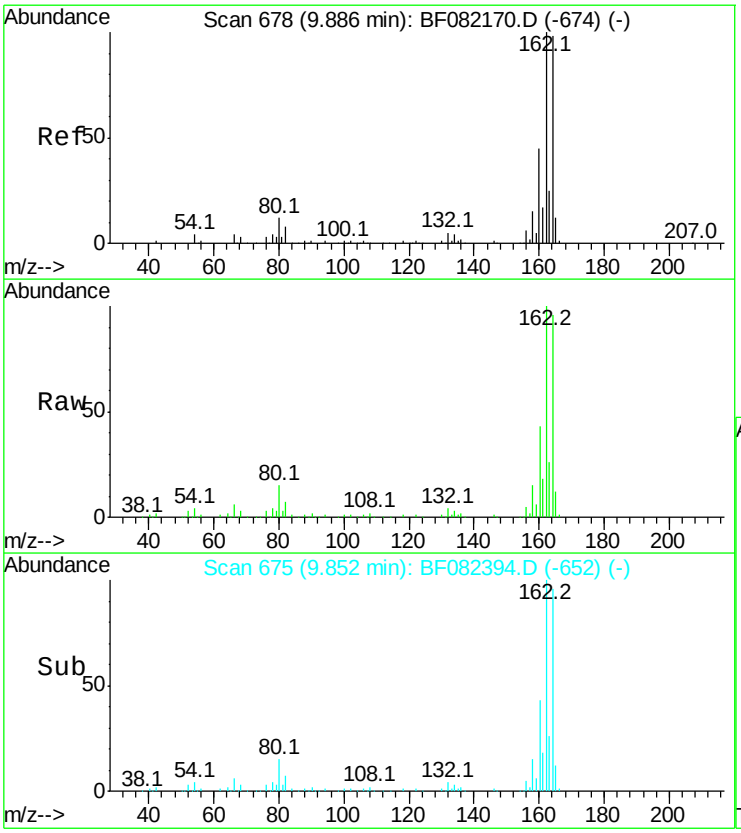


#23
Nitrobenzene-d5
Concen: 0.00 ng
Expected RT: 7.42 min

Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion: 82

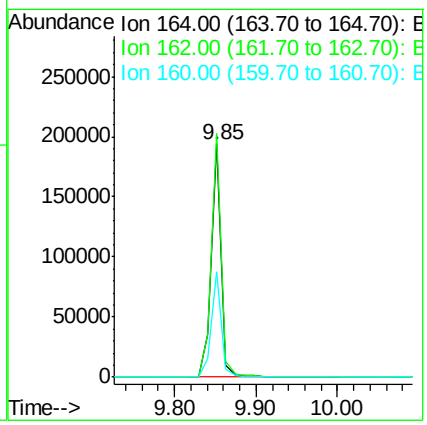
Sig	Exp Ratio
82	100
128	48.4
54	50.1



#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:164 Resp: 168918

Ion	Ratio	Lower	Upper
164	100		
162	104.5	81.6	122.4
160	45.4	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATIONDL

Manual Integrations APPROVED
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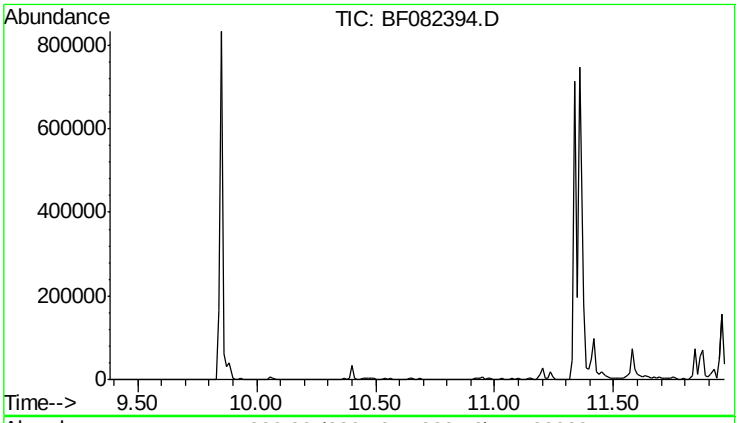
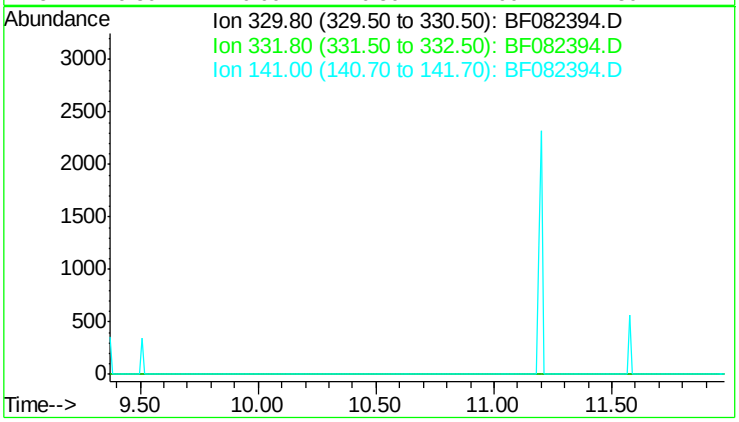


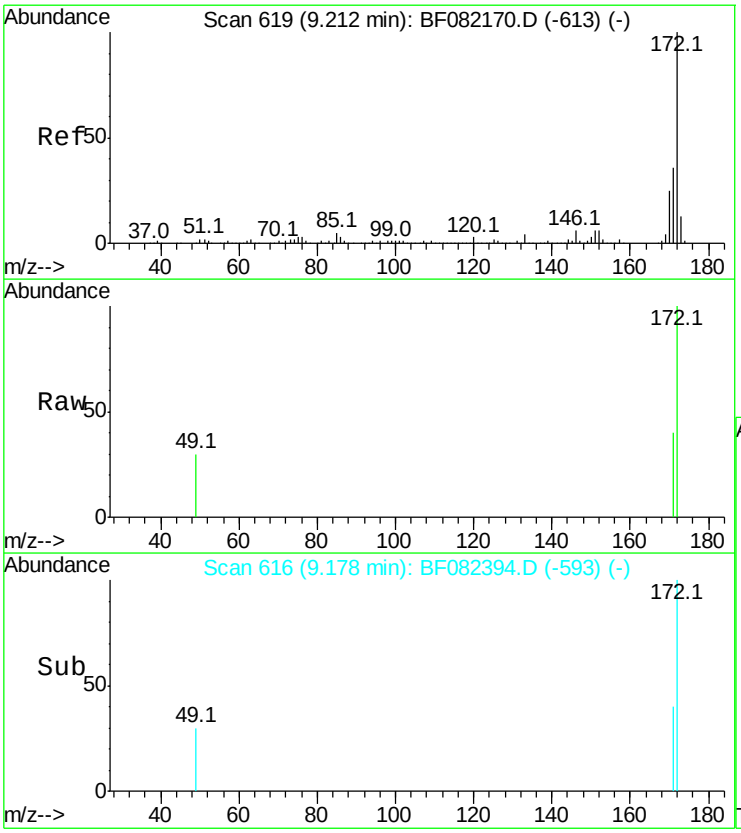


#41
2,4,6-Tribromophenol
Concen: 0.00 ng
Expected RT: 10.67 min

Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion: 330

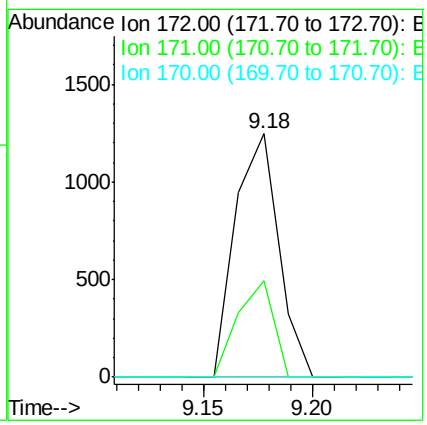
Sig	Exp Ratio
330	100
332	96.4
141	37.3



#44
2-Fluorobiphenyl
Concen: 0.17 ng
RT: 9.18 min Scan# 616
Delta R.T. -0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:172 Resp: 1729

Ion	Ratio	Lower	Upper
172	100		
171	39.6	28.6	42.8
170	0.0	19.7	29.5#



Instrument :
BNA_F
ClientSampleId :
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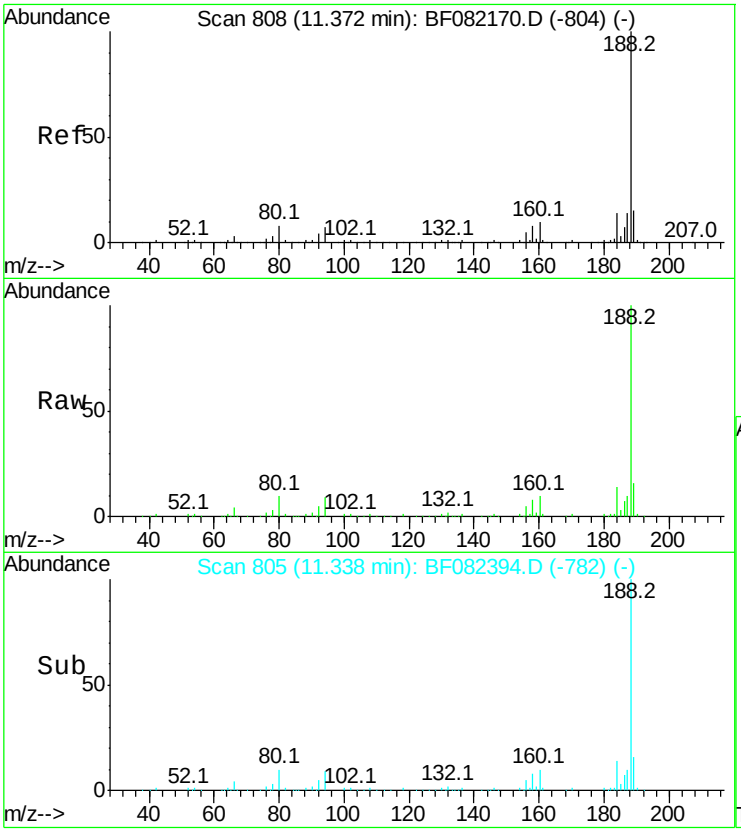
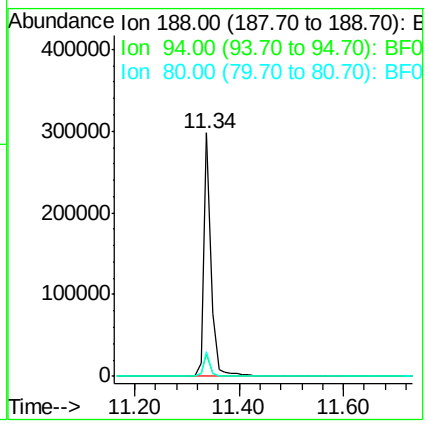
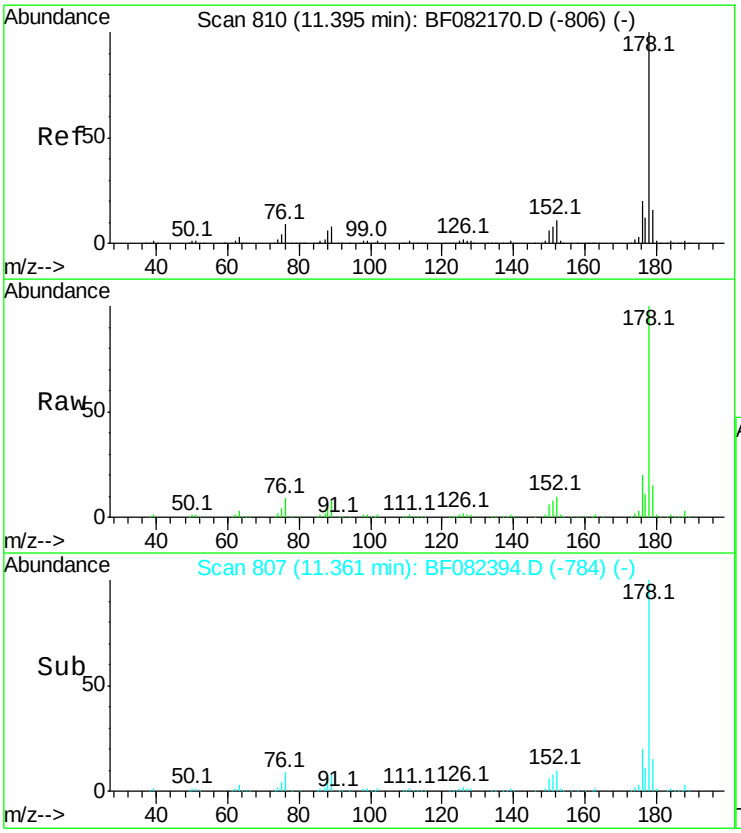


#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:188 Resp: 290613

Ion	Ratio	Lower	Upper
188	100		
94	9.0	5.8	8.6#
80	10.0	6.4	9.6#

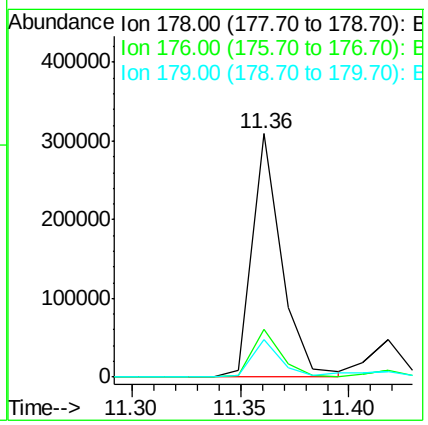


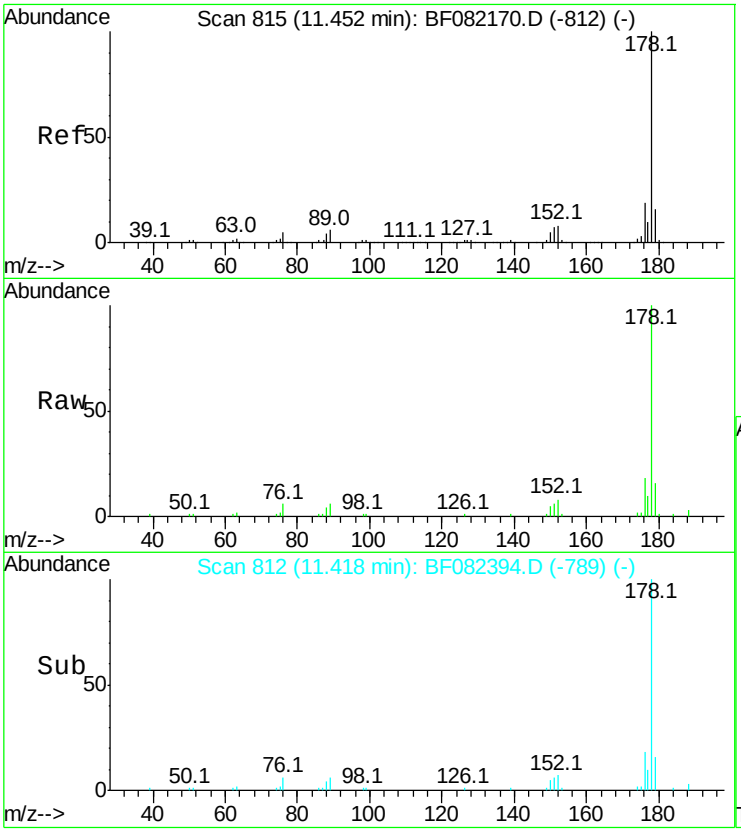


#70
Phenanthrene
Concen: 20.44 ng
RT: 11.36 min Scan# 807
Delta R.T. -0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:178 Resp: 291194

Ion	Ratio	Lower	Upper
178	100		
176	19.7	16.0	24.0
179	15.4	12.6	19.0

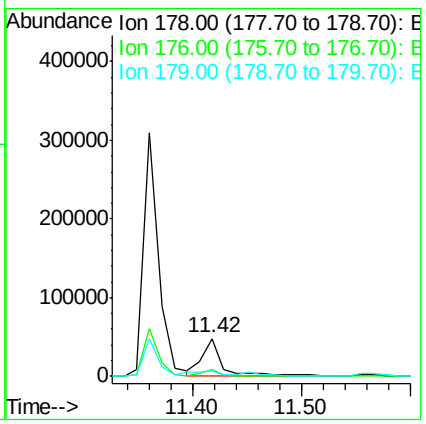




#71
Anthracene
Concen: 4.14 ng
RT: 11.42 min Scan# 812
Delta R.T. -0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:178 Resp: 60772

Ion	Ratio	Lower	Upper
178	100		
176	18.1	15.4	23.0
179	16.2	12.5	18.7



Instrument :
BNA_F
ClientSampleId :
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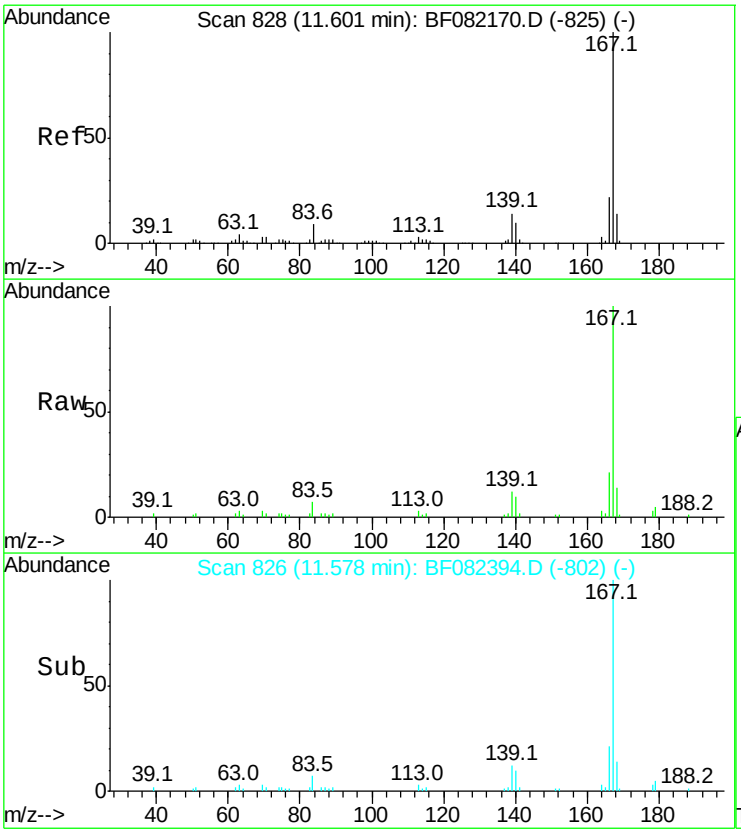
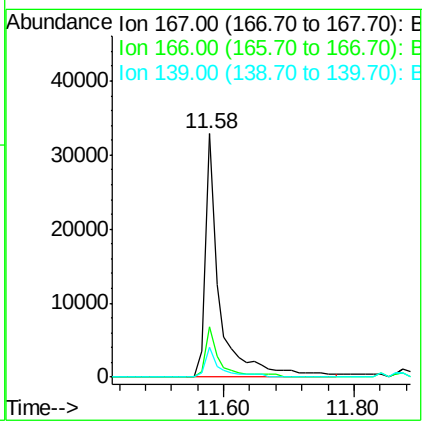


#72
Carbazole
Concen: 3.77 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:167 Resp: 50464

Ion	Ratio	Lower	Upper
167	100		
166	20.7	17.3	25.9
139	12.3	11.2	16.8



Instrument :
BNA_F
ClientSampleId :
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Manual Integrations APPROVED
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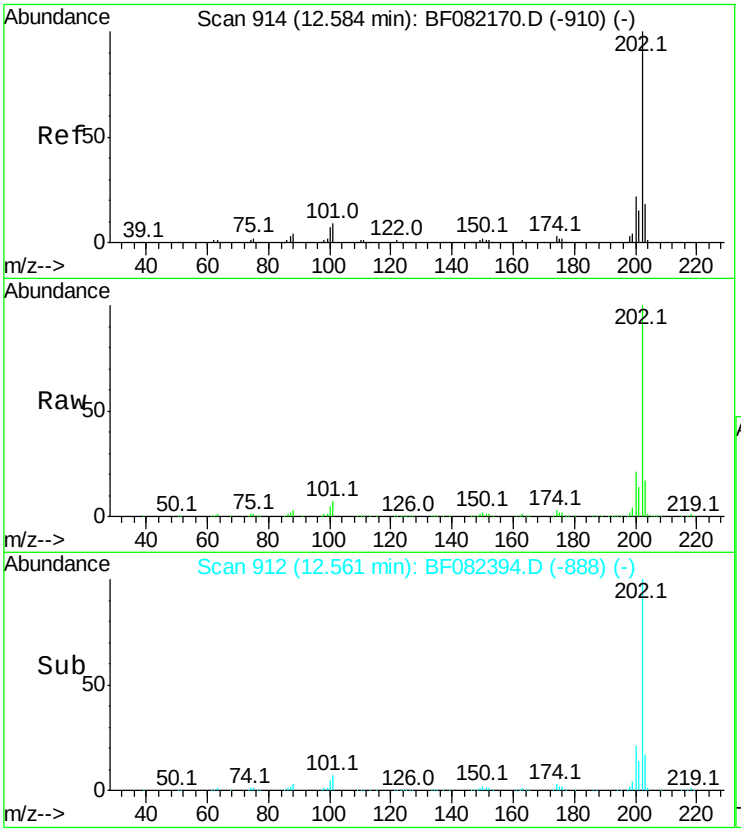
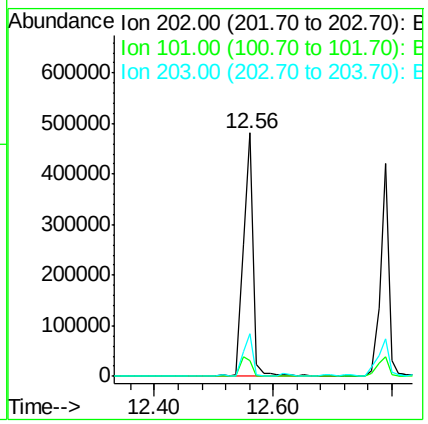
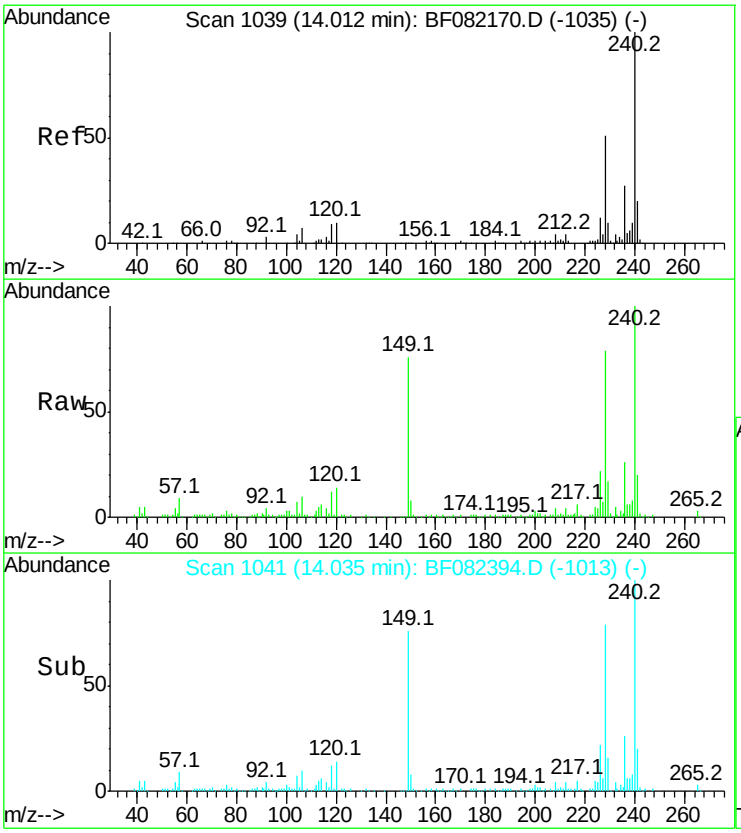


#74
Fluoranthene
Concen: 36.06 ng
RT: 12.56 min Scan# 912
Delta R.T. -0.02 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:202 Resp: 551674

Ion	Ratio	Lower	Upper
202	100		
101	6.7	0.0	29.3
203	17.3	0.0	37.8

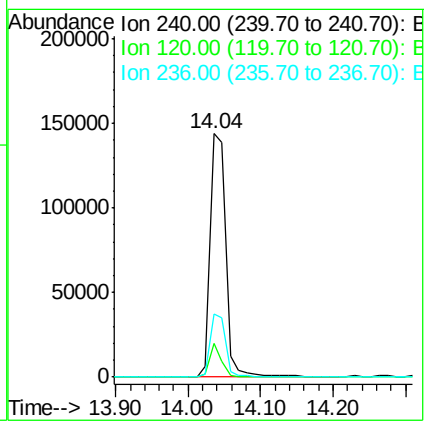




#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.04 min Scan# 1041
Delta R.T. 0.02 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:240 Resp: 217062

Ion	Ratio	Lower	Upper
240	100		
120	13.8	8.1	12.1#
236	25.9	21.3	31.9



Instrument :
BNA_F
ClientSampleId :
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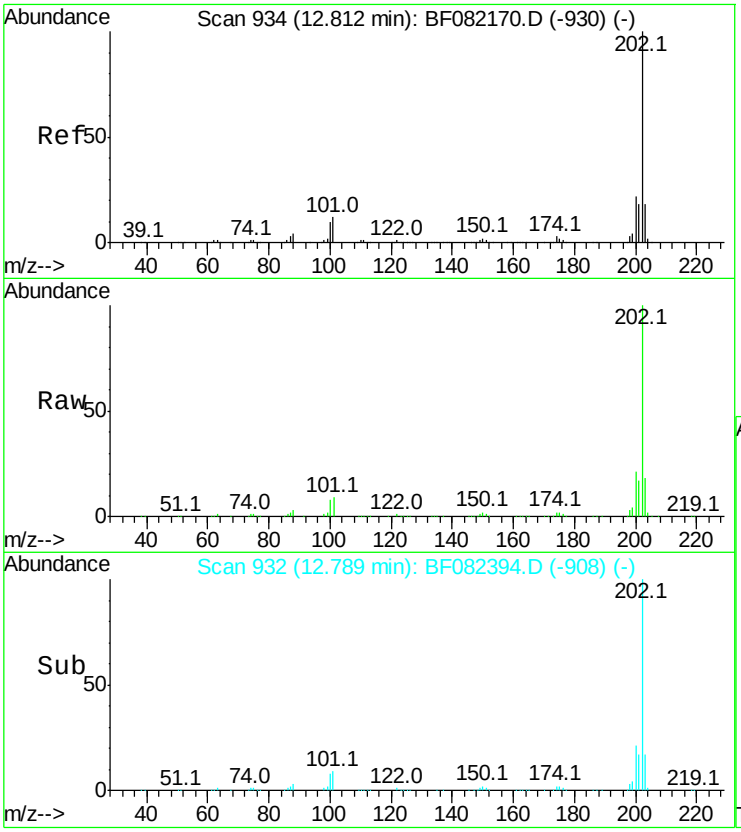
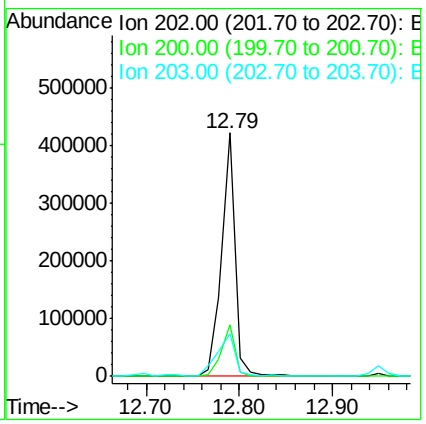
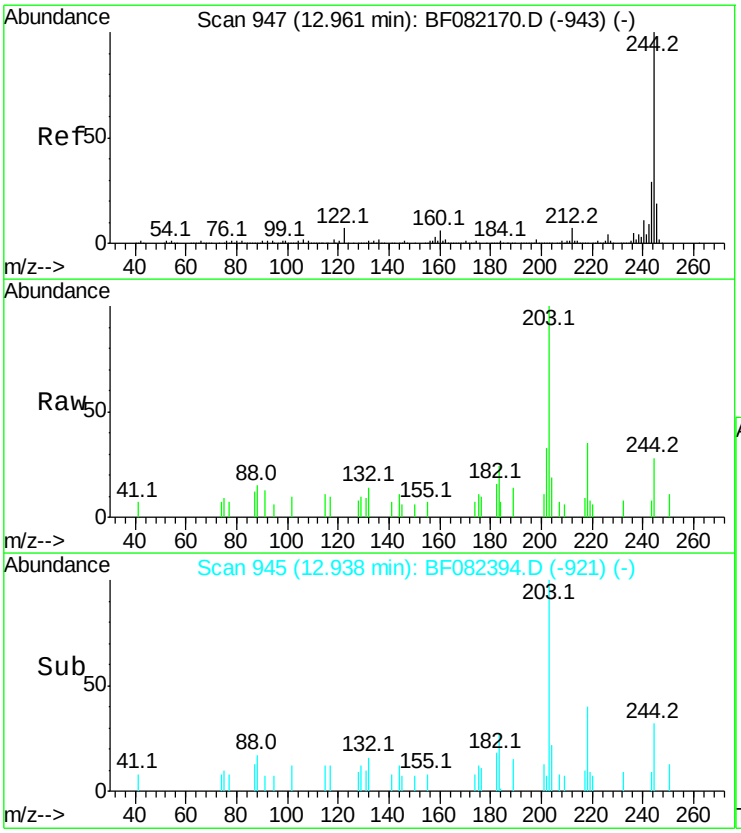


#77
Pyrene
Concen: 32.46 ng
RT: 12.79 min Scan# 932
Delta R.T. -0.02 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:202 Resp: 418167

Ion	Ratio	Lower	Upper
202	100		
200	21.2	17.9	26.9
203	17.5	14.5	21.7

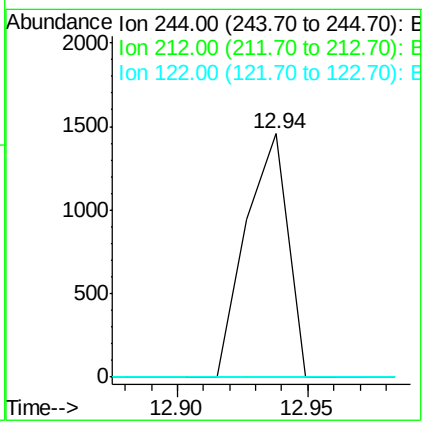


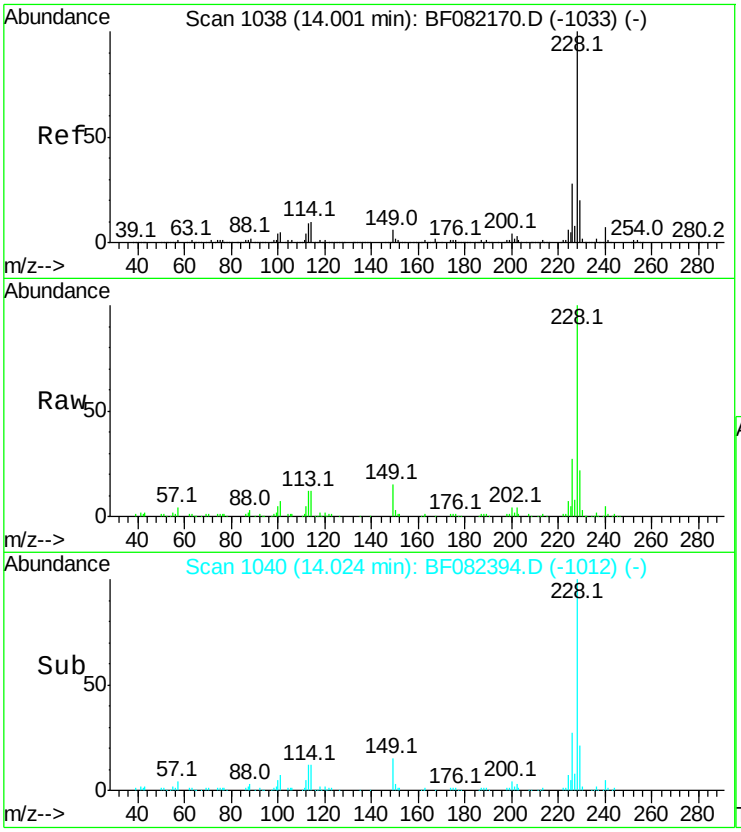


#78
Terphenyl-d14
Concen: 0.20 ng
RT: 12.94 min Scan# 945
Delta R.T. -0.02 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:244 Resp: 1645

Ion	Ratio	Lower	Upper
244	100		
212	0.0	5.8	8.6#
122	0.0	5.9	8.9#





#80
Benzo(a)anthracene
Concen: 17.14 ng
RT: 14.02 min Scan# 1040
Delta R.T. 0.02 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:228 Resp: 193544

Ion	Ratio	Lower	Upper
228	100		
226	27.5	22.3	33.5
229	21.6	16.2	24.2

Instrument :
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ClientSampleId :
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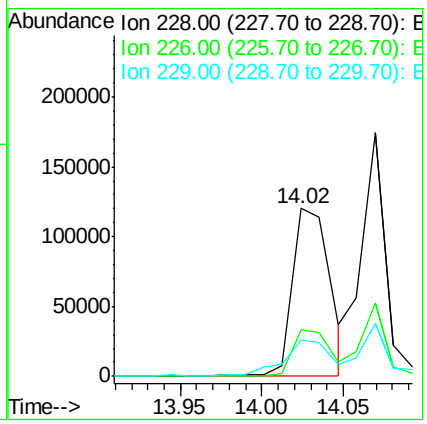
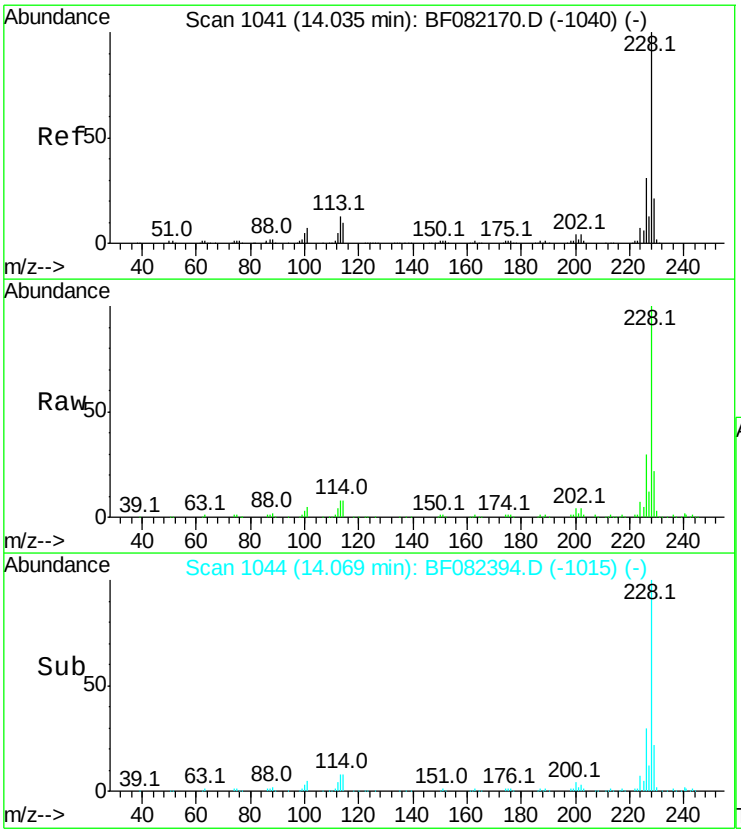
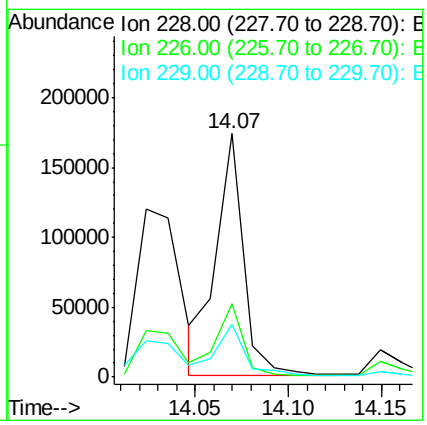


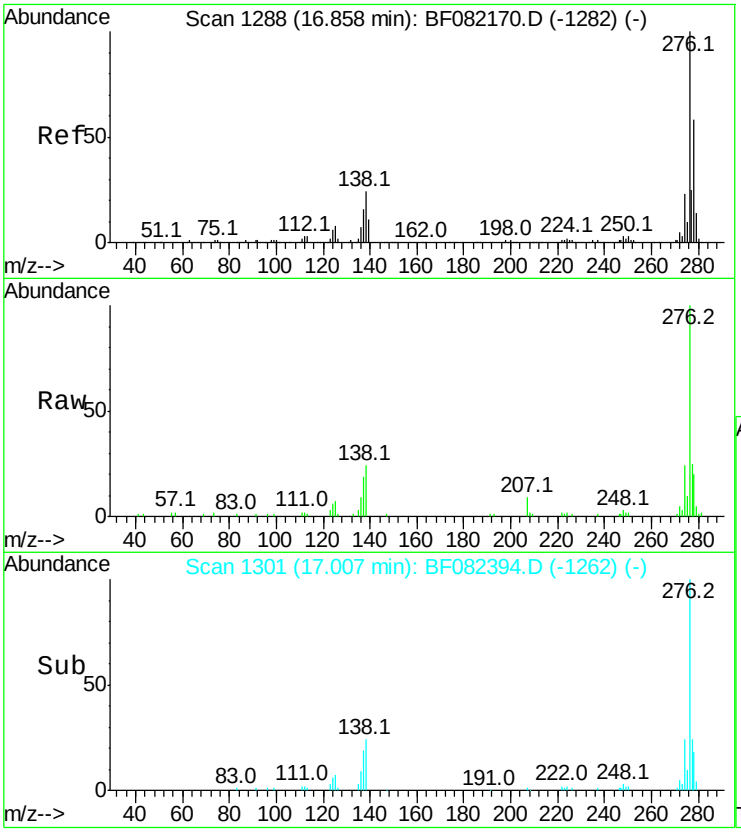


#82
Chrysene
Concen: 15.05 ng
RT: 14.07 min Scan# 1044
Delta R.T. 0.03 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:228 Resp: 179088

Ion	Ratio	Lower	Upper
228	100		
226	30.3	24.4	36.6
229	21.9	16.3	24.5





#85
Indeno(1,2,3-cd)pyrene
Concen: 7.80 ng m
RT: 17.01 min Scan# 1301
Delta R.T. 0.15 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:276 Resp: 73745

Ion	Ratio	Lower	Upper
276	100		
138	5.4	19.7	29.5#
277	6.0	20.1	30.1#

Instrument :
BNA_F
ClientSampleId :
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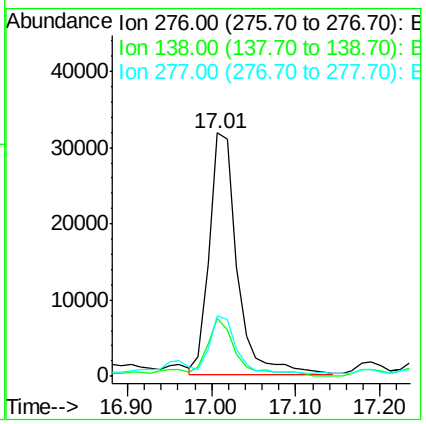
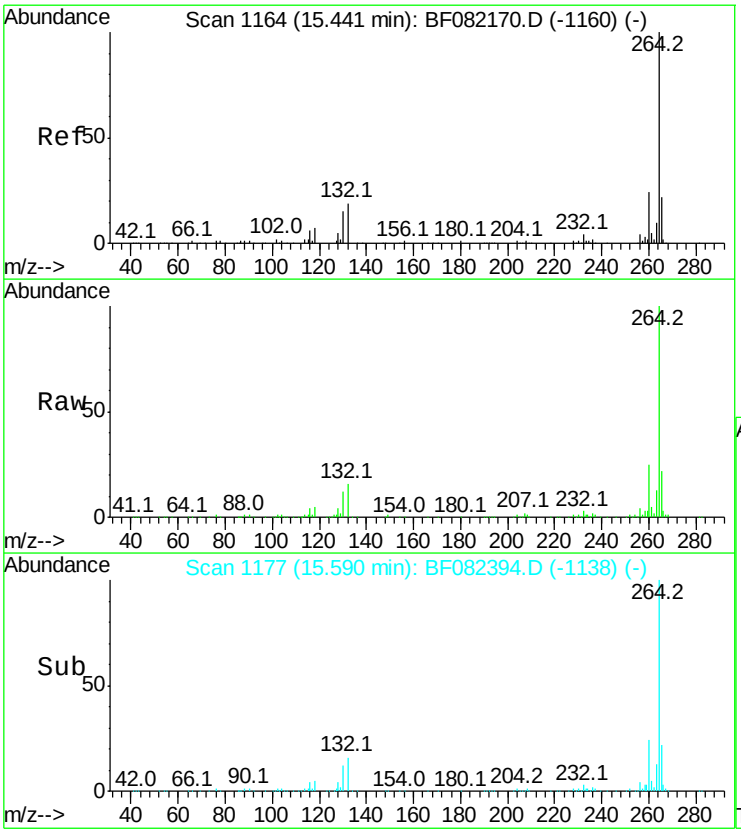
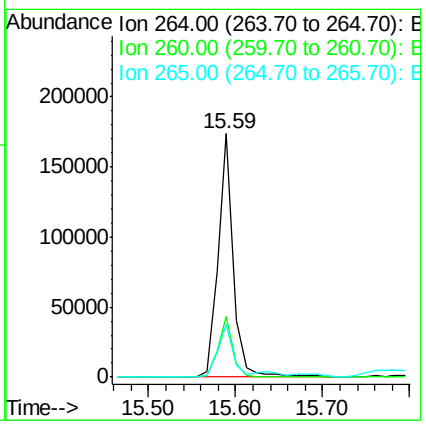


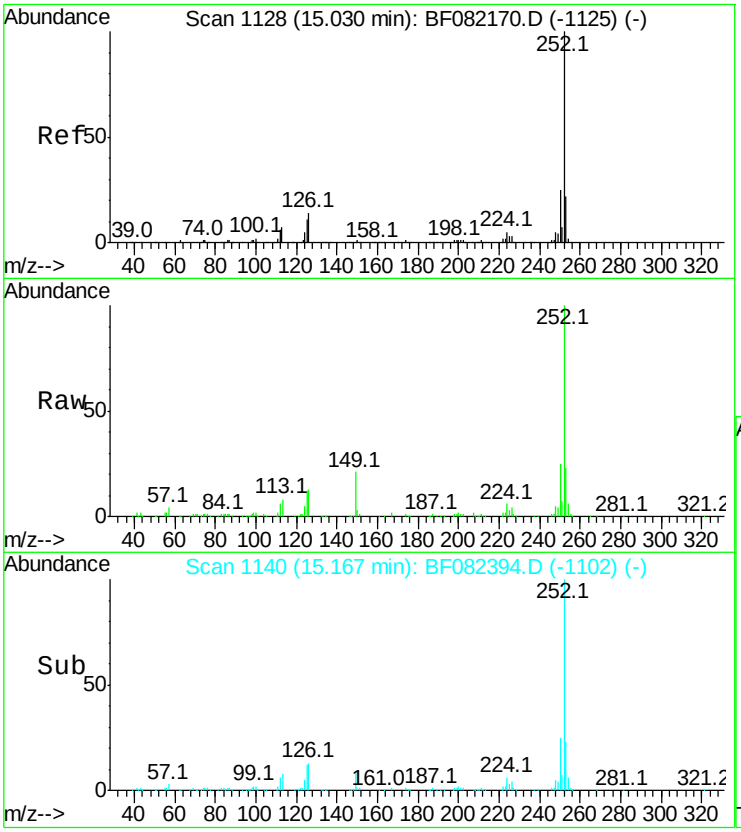


#86
Perylene-d12
Concen: 20.00 ng
RT: 15.59 min Scan# 1177
Delta R.T. 0.15 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:264 Resp: 214693

Ion	Ratio	Lower	Upper
264	100		
260	24.7	19.0	28.6
265	21.7	17.3	25.9

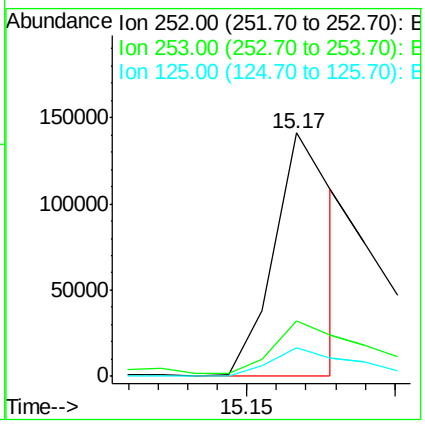




#87
Benzo(b)fluoranthene
Concen: 15.15 ng m
RT: 15.17 min Scan# 1140
Delta R.T. 0.14 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:252 Resp: 197893

Ion	Ratio	Lower	Upper
252	100		
253	22.5	18.0	27.0
125	11.5	8.6	12.8



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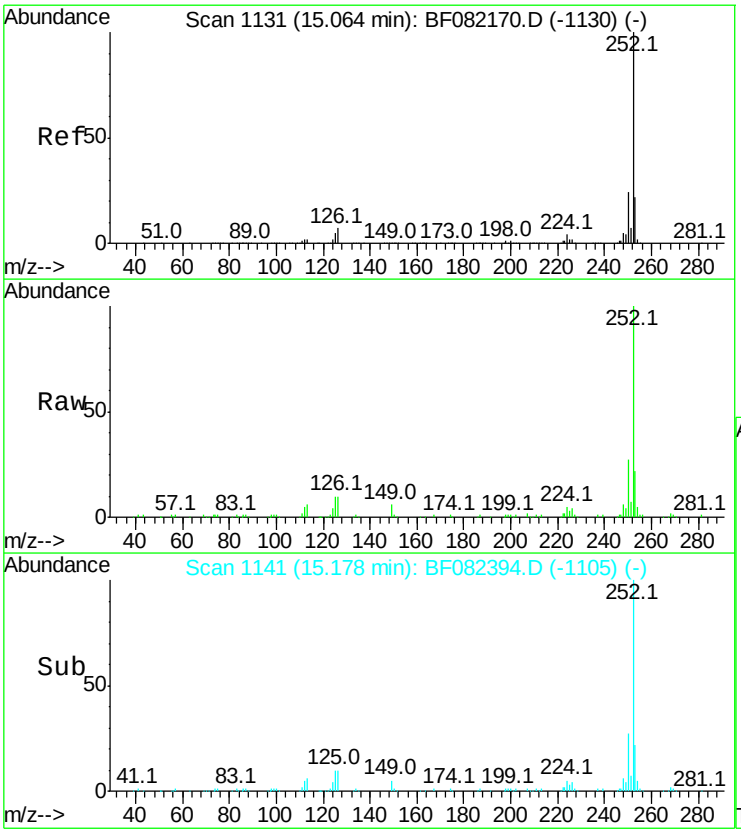
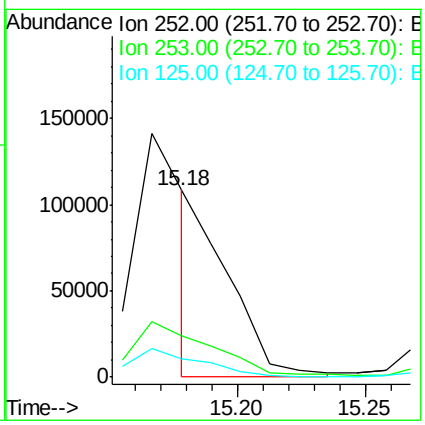
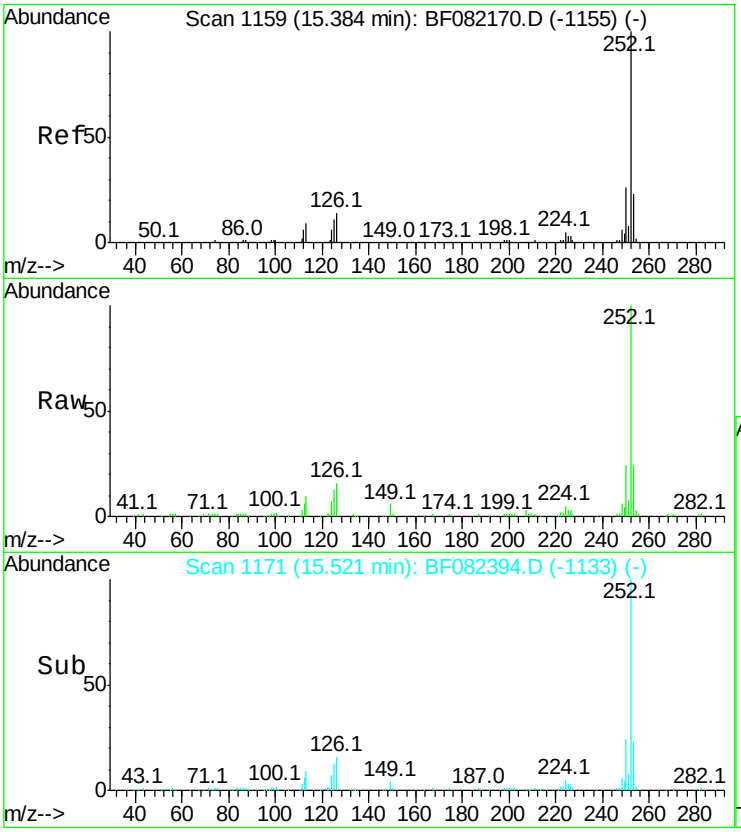


#88
Benzo(k)fluoranthene
Concen: 8.66 ng m
RT: 15.18 min Scan# 1141
Delta R.T. 0.11 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:252 Resp: 95044

Ion	Ratio	Lower	Upper
252	100		
253	21.8	17.8	26.6
125	9.7	6.7	10.1





#89
Benzo(a)pyrene
Concen: 11.99 ng
RT: 15.52 min Scan# 1171
Delta R.T. 0.14 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:252 Resp: 134570

Ion	Ratio	Lower	Upper
252	100		
253	23.6	18.2	27.2
125	12.5	8.9	13.3

Instrument :
BNA_F
ClientSampleId :
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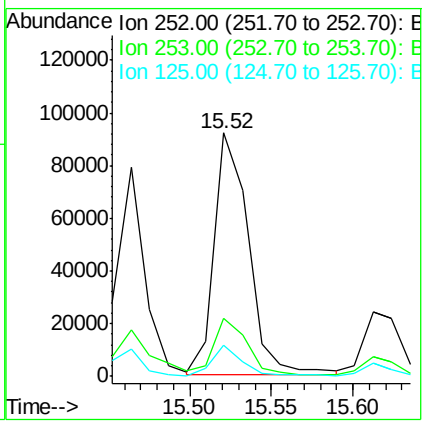
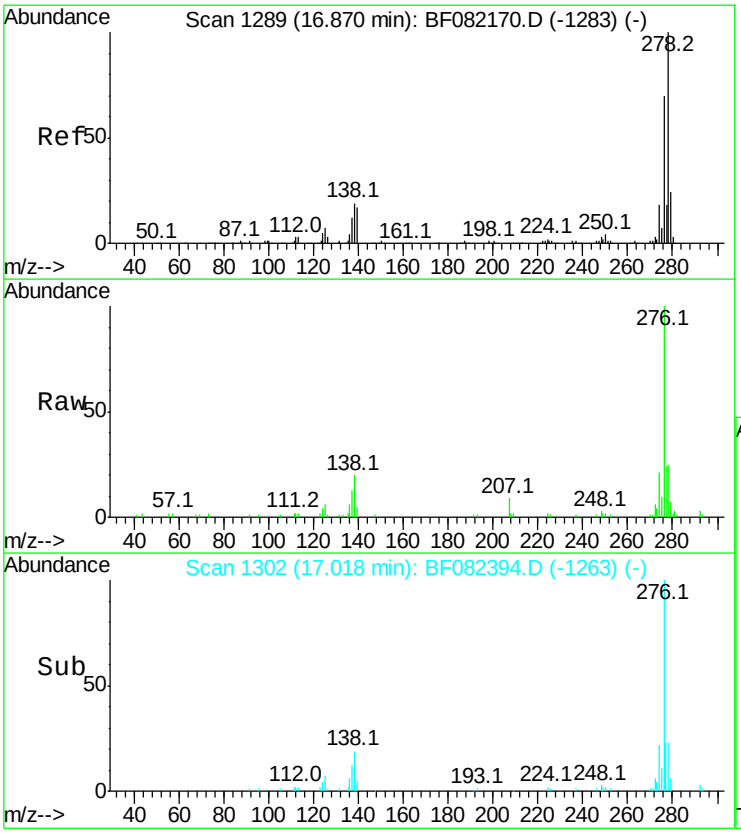
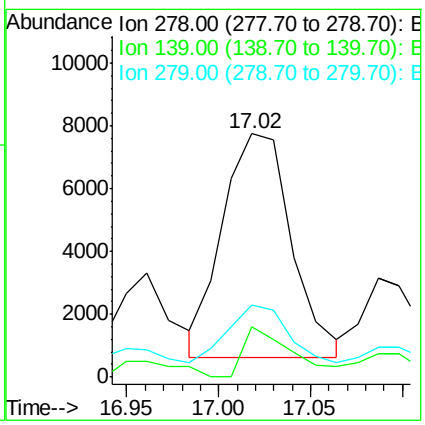


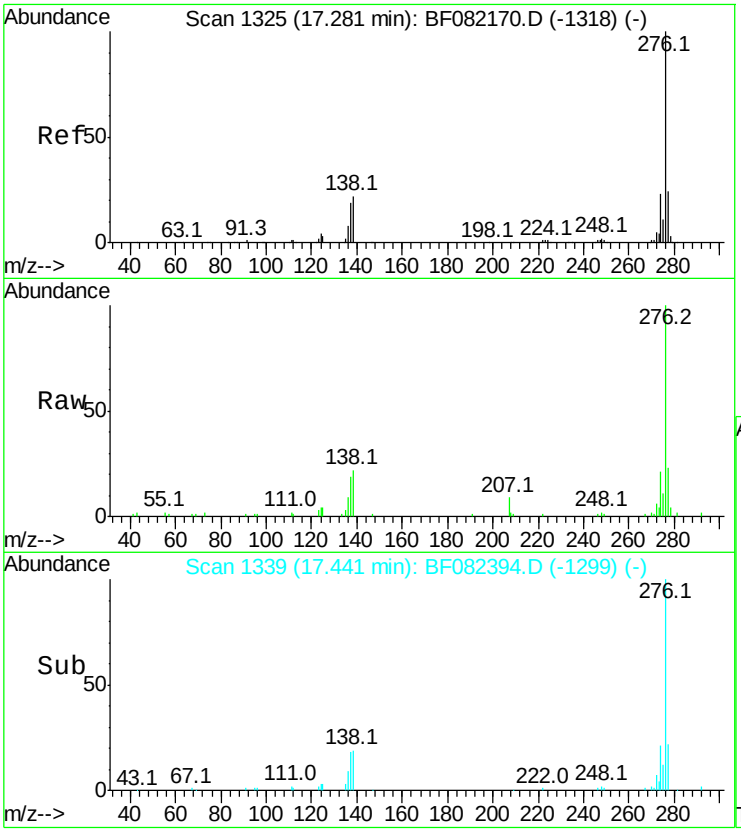


#90
Dibenzo(a,h)anthracene
Concen: 2.03 ng m
RT: 17.02 min Scan# 1302
Delta R.T. 0.15 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:278 Resp: 18642

Ion	Ratio	Lower	Upper
278	100		
139	20.7	13.3	19.9#
279	29.8	18.9	28.3#

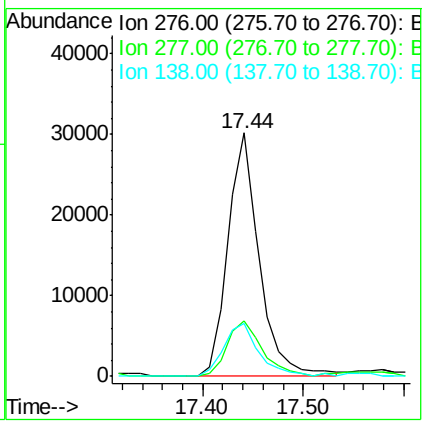




#91
Benzo(g,h,i)perylene
Concen: 7.29 ng
RT: 17.44 min Scan# 1339
Delta R.T. 0.16 min
Lab File: BF082394.D
Acq: 20 Oct 2015 10:46

Tgt Ion:276 Resp: 65121

Ion	Ratio	Lower	Upper
276	100		
277	23.0	18.8	28.2
138	21.6	17.4	26.2



Instrument :
BNA_F
ClientSampleId :
MANAHAWKENINSULATIONDL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:16 PM

Quantitation Report (LSC Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BL

Quant Time: Oct 20 02:18:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	106489	20.00	ng	0.00
21) Naphthalene-d8	8.09	136	411033	20.00	ng	0.00
38) Acenaphthene-d10	9.85	164	209250	20.00	ng	0.00
63) Phenanthrene-d10	11.34	188	424603	20.00	ng	-0.01
75) Chrysene-d12	14.06	240	365882	20.00	ng	-0.03
86) Perylene-d12	15.62	264	285758	20.00	ng	-0.05
System Monitoring Compounds						
5) 2-Fluorophenol	5.41	112	640594	121.41	ng	0.01
7) Phenol-d6	6.45	99	860285	125.29	ng	0.00
23) Nitrobenzene-d5	7.37	82	495003	80.87	ng	-0.01
41) 2,4,6-Tribromophenol	10.64	330	188039	95.82	ng	-0.01
44) 2-Fluorobiphenyl	9.18	172	1073103	85.05	ng	0.00
78) Terphenyl-d14	12.95	244	1148683	83.19	ng	0.00

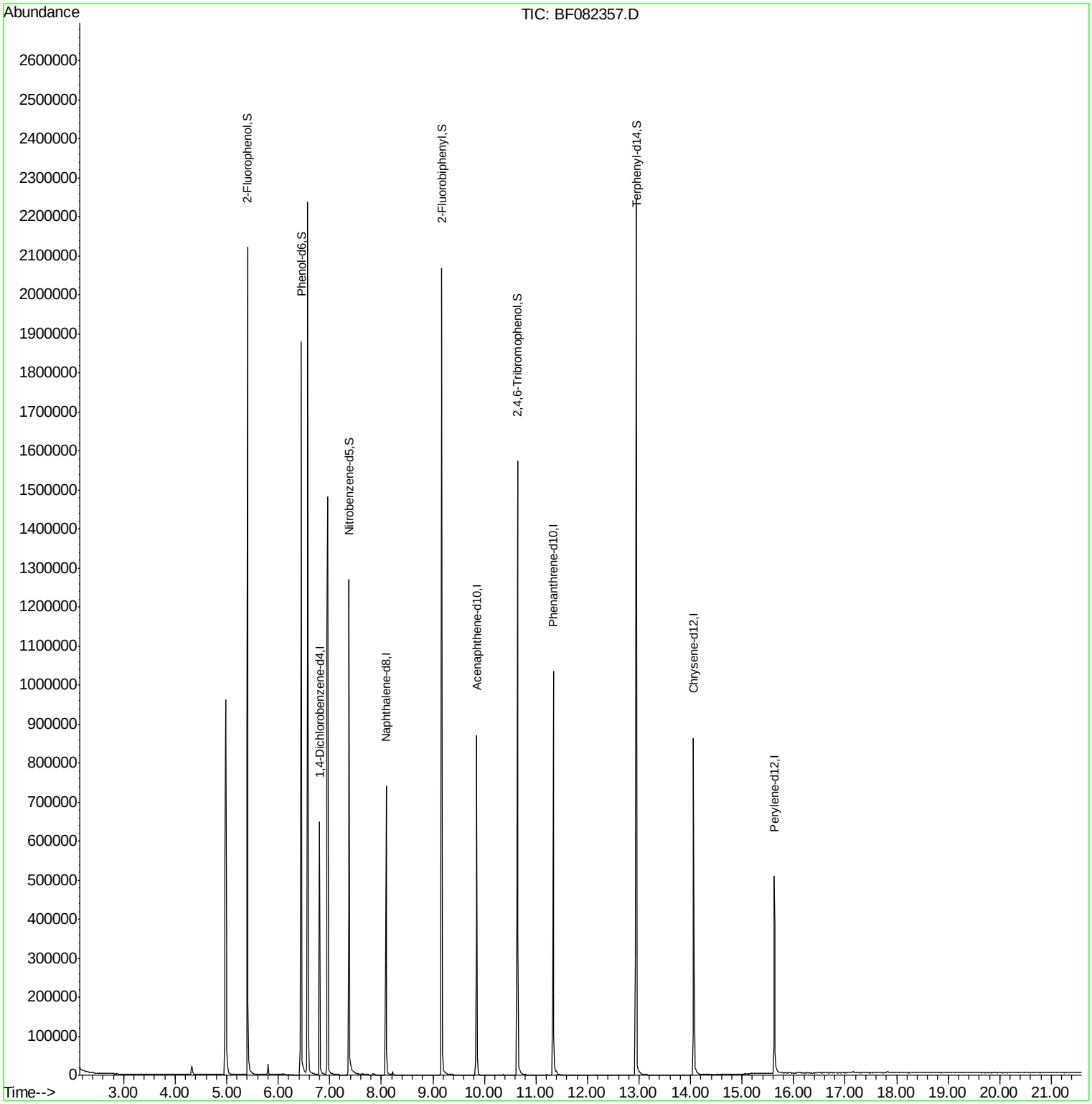
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

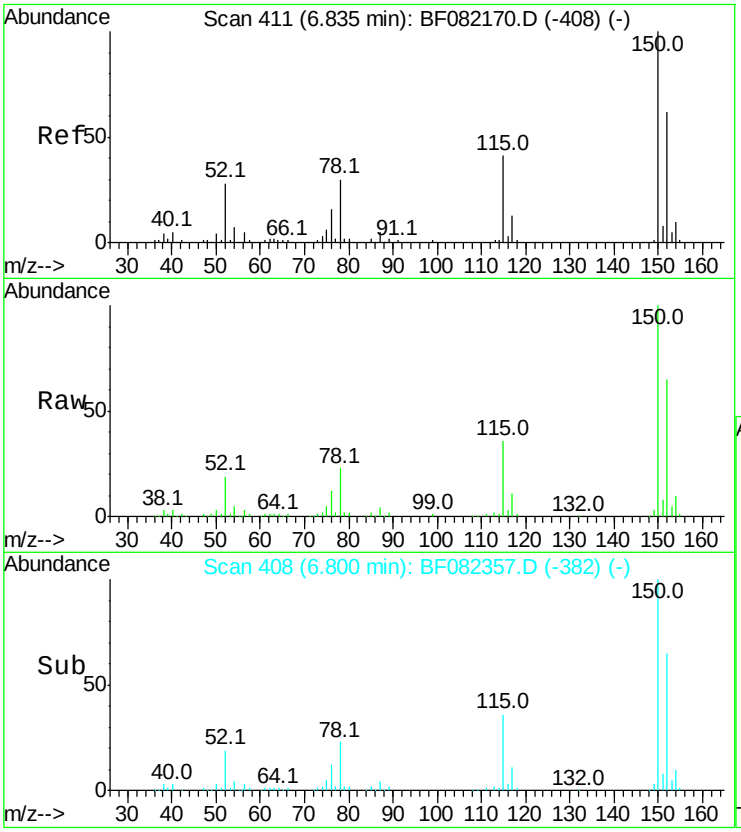
Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BL

Quant Time: Oct 20 02:18:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration



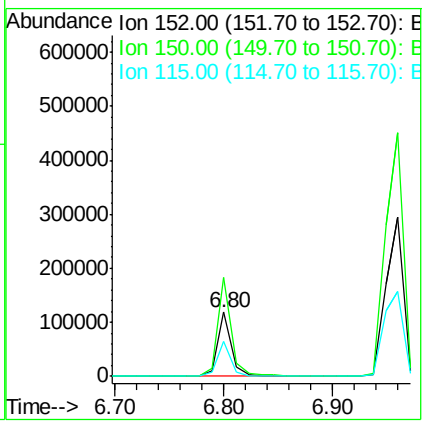
Instrument :
BNA_F
ClientSampleId :
PB86144BL

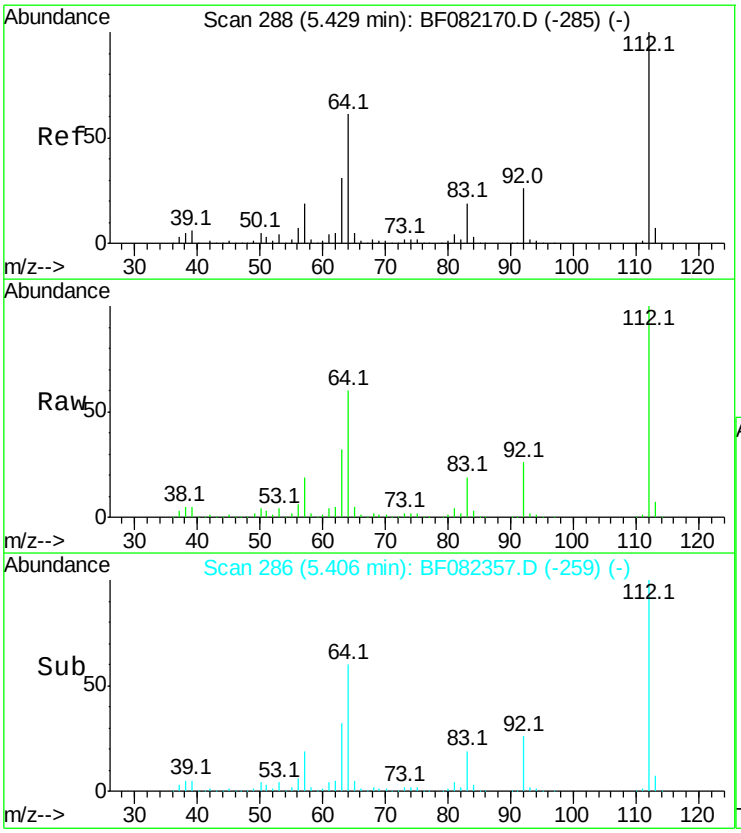


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:152 Resp: 106489

Ion	Ratio	Lower	Upper
152	100		
150	153.8	129.0	193.4
115	55.5	52.1	78.1

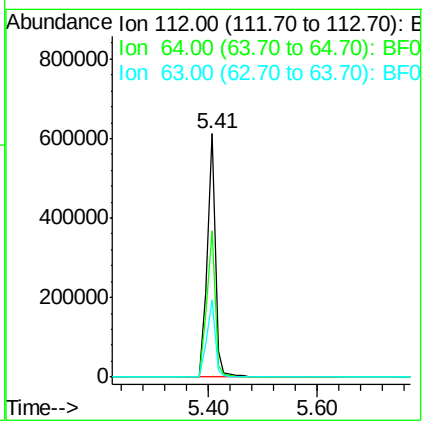




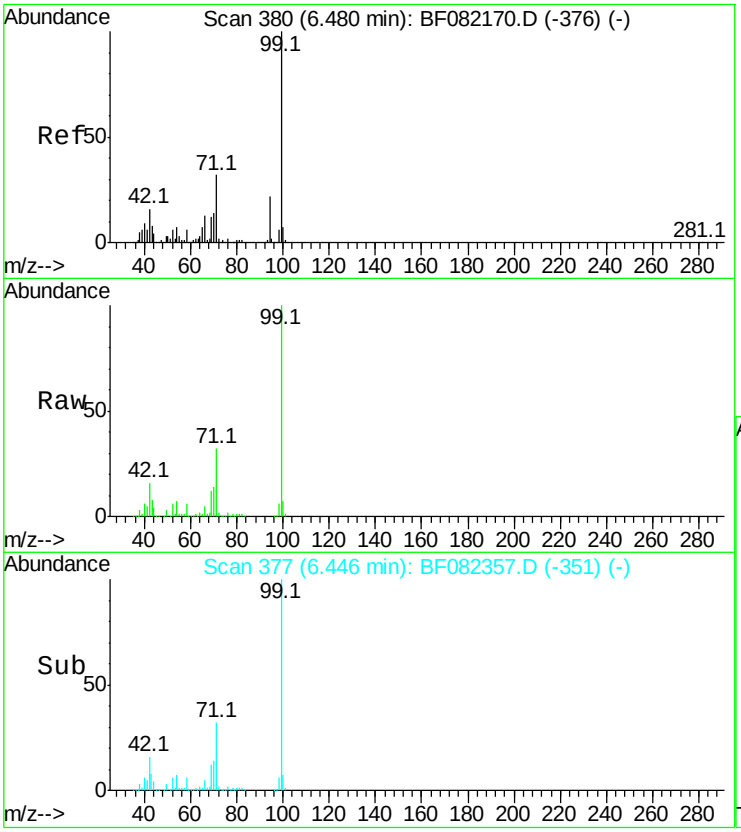
#5
2-Fluorophenol
Concen: 121.41 ng
RT: 5.41 min Scan# 286
Delta R.T. 0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:112 Resp: 640594

Ion	Ratio	Lower	Upper
112	100		
64	60.1	48.6	73.0
63	31.8	25.1	37.7



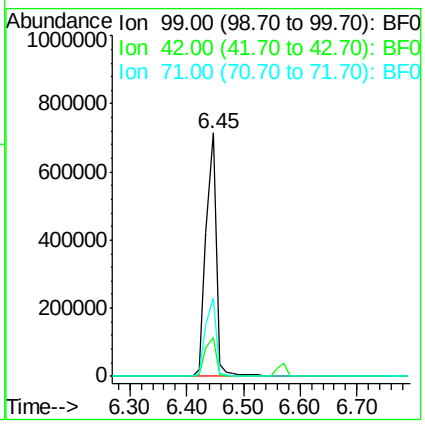
Instrument :
BNA_F
ClientSampleId :
PB86144BL

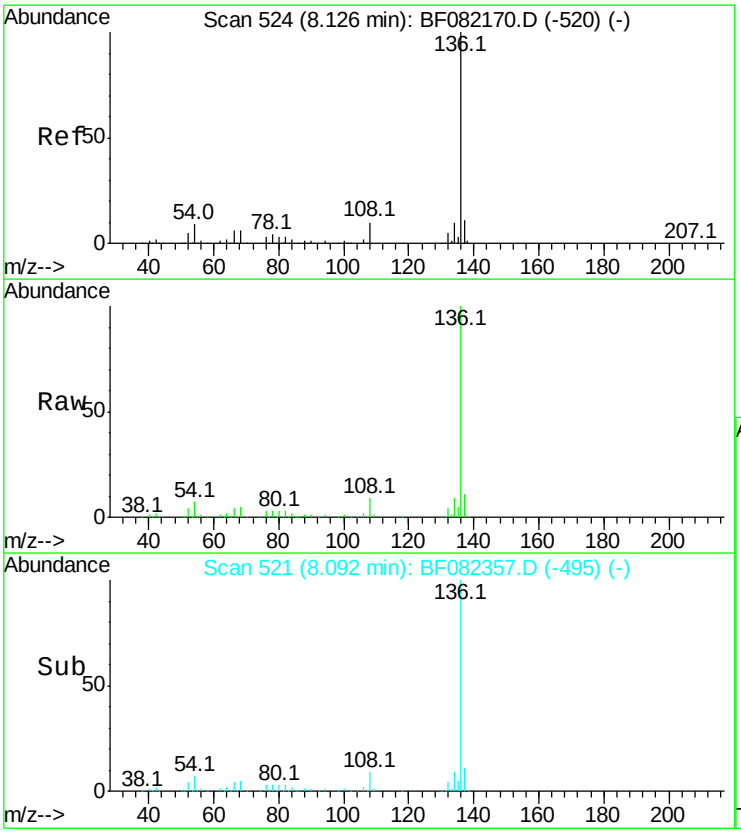


#7
Phenol-d6
Concen: 125.29 ng
RT: 6.45 min Scan# 377
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion: 99 Resp: 860285

Ion	Ratio	Lower	Upper
99	100		
42	15.8	13.2	19.8
71	32.4	25.6	38.4

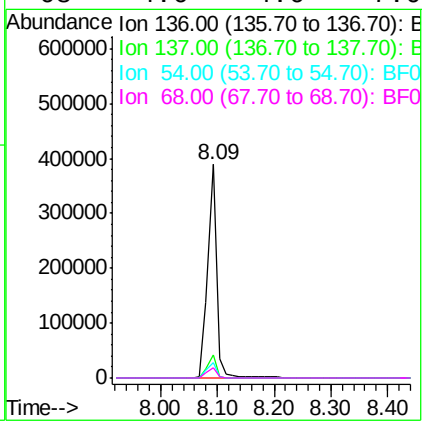




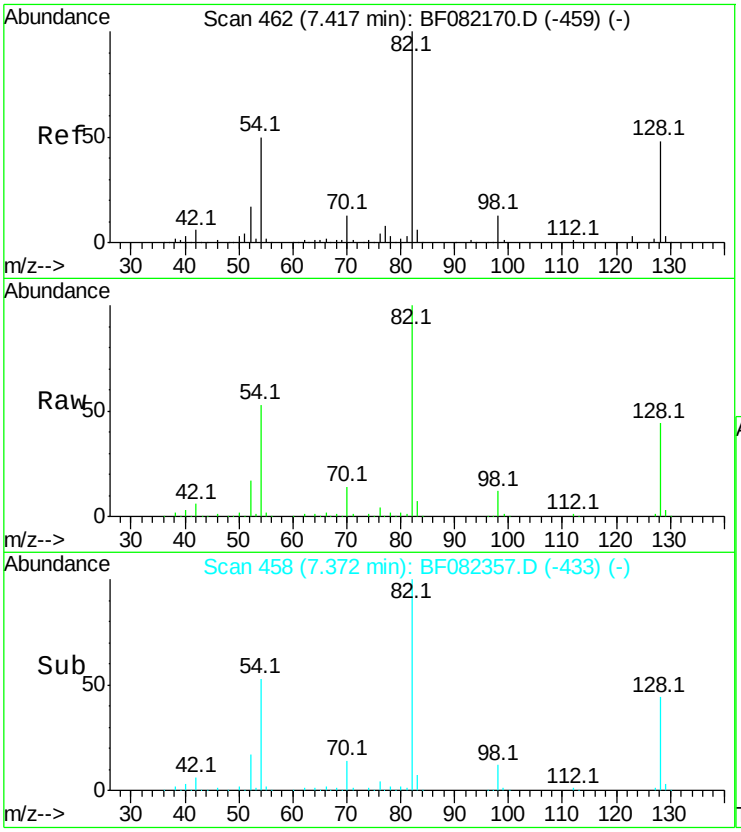
#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:136 Resp: 411033

Ion	Ratio	Lower	Upper
136	100		
137	10.7	9.0	13.6
54	7.1	7.5	11.3#
68	4.6	4.6	7.0



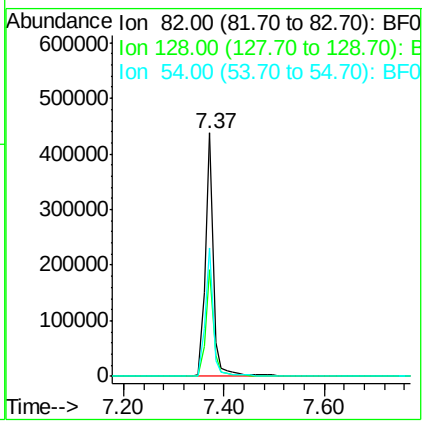
Instrument :
BNA_F
ClientSampleId :
PB86144BL

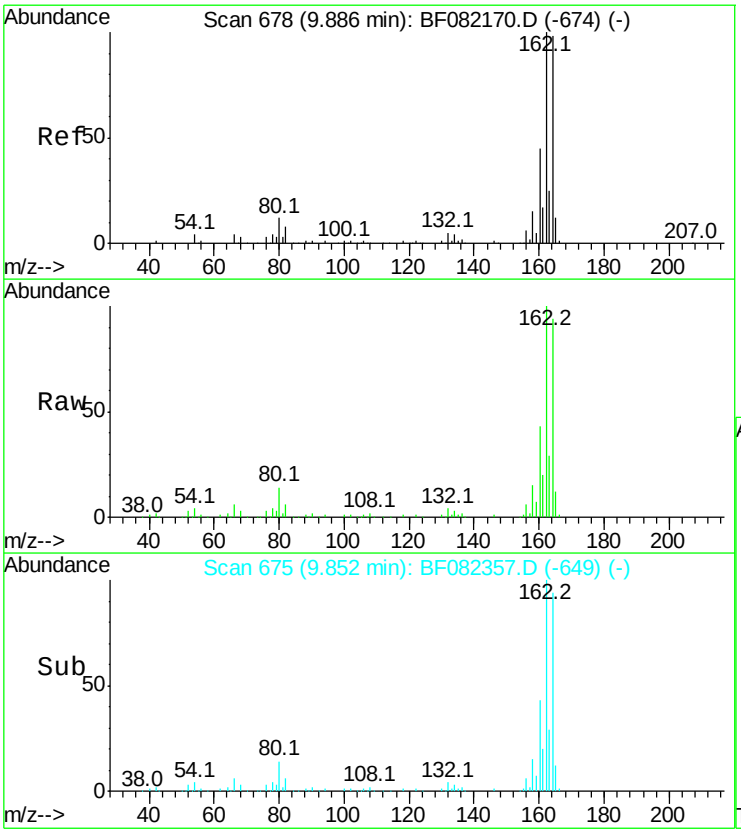


#23
Nitrobenzene-d5
Concen: 80.87 ng
RT: 7.37 min Scan# 458
Delta R.T. -0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion: 82 Resp: 495003

Ion	Ratio	Lower	Upper
82	100		
128	43.7	38.7	58.1
54	53.0	40.1	60.1

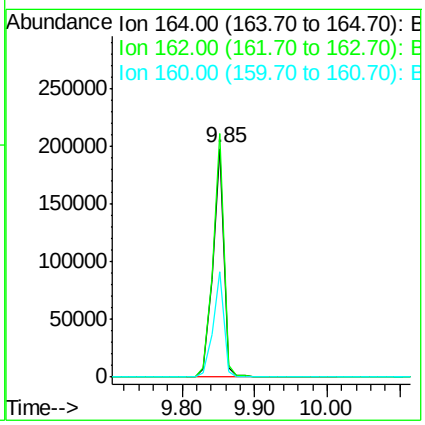




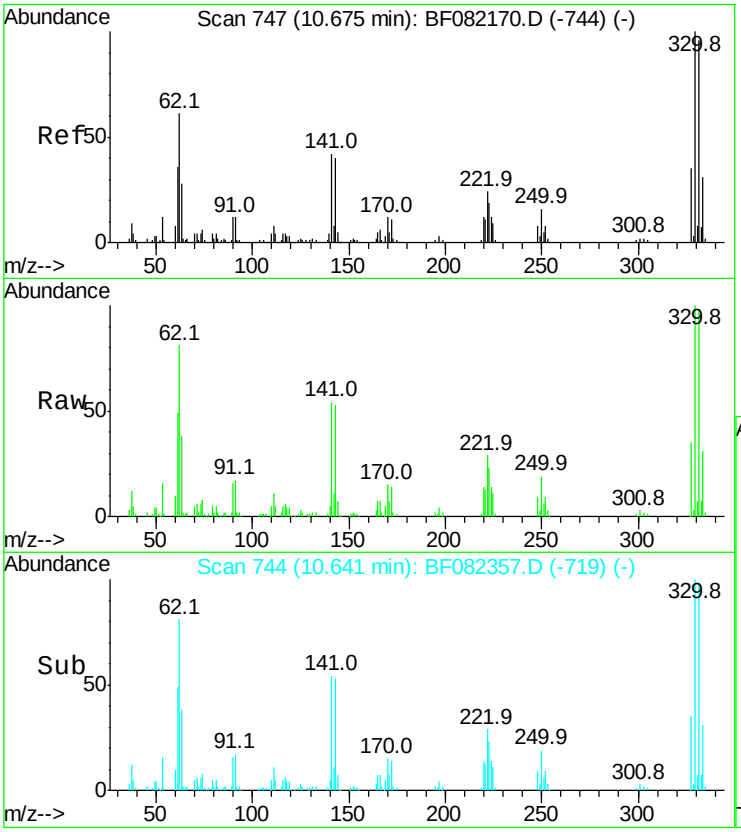
#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:164 Resp: 209250

Ion	Ratio	Lower	Upper
164	100		
162	106.7	81.6	122.4
160	45.9	36.4	54.6



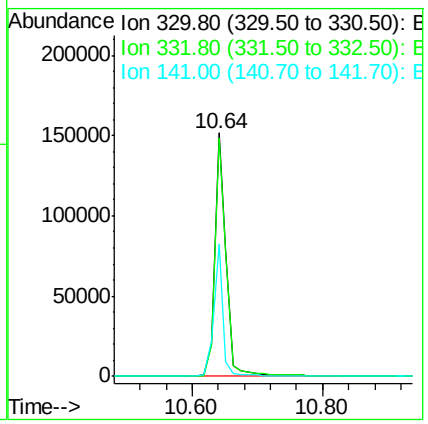
Instrument :
BNA_F
ClientSampleId :
PB86144BL

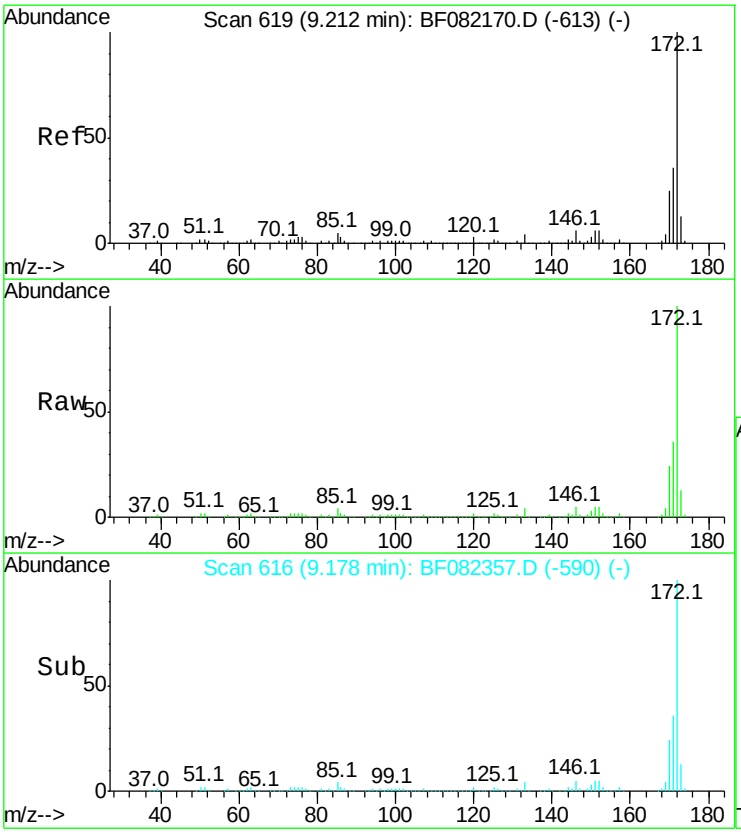


#41
2,4,6-Tribromophenol
Concen: 95.82 ng
RT: 10.64 min Scan# 744
Delta R.T. -0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:330 Resp: 188039

Ion	Ratio	Lower	Upper
330	100		
332	98.3	77.1	115.7
141	44.4	29.8	44.8

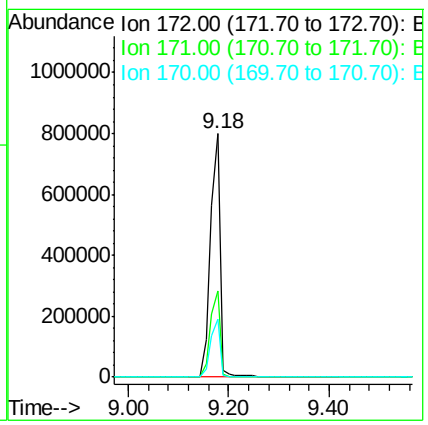




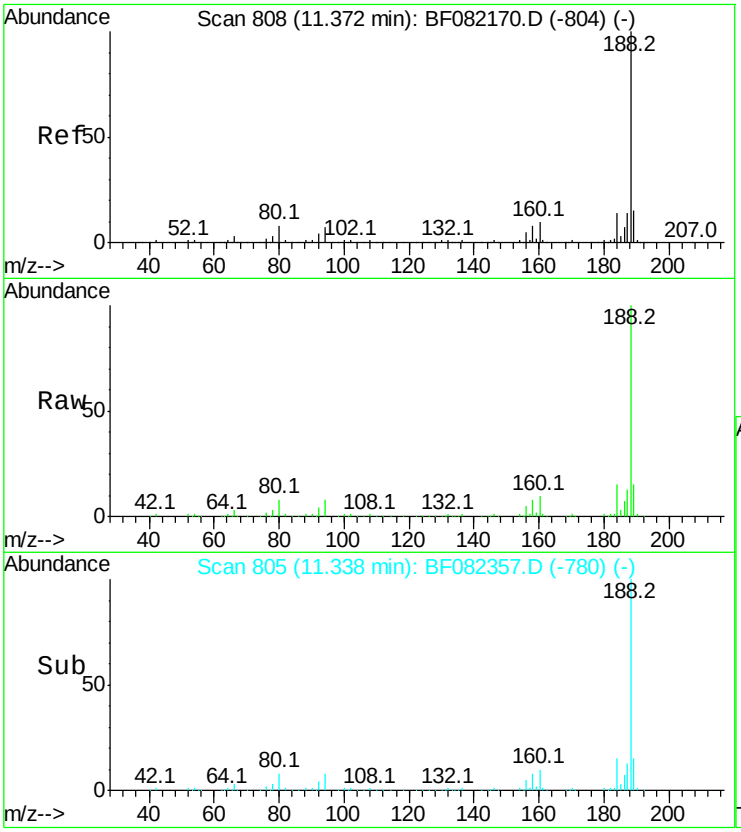
#44
2-Fluorobiphenyl
Concen: 85.05 ng
RT: 9.18 min Scan# 616
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:172 Resp: 1073103

Ion	Ratio	Lower	Upper
172	100		
171	35.5	28.6	42.8
170	24.0	19.7	29.5



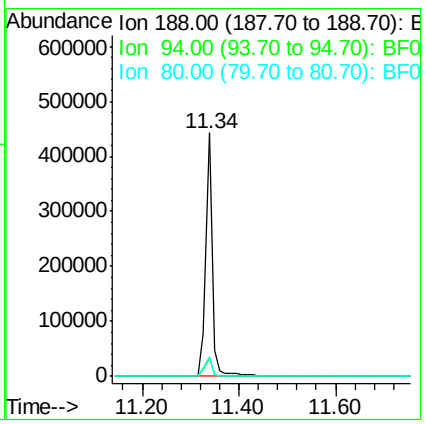
Instrument :
BNA_F
ClientSampleId :
PB86144BL

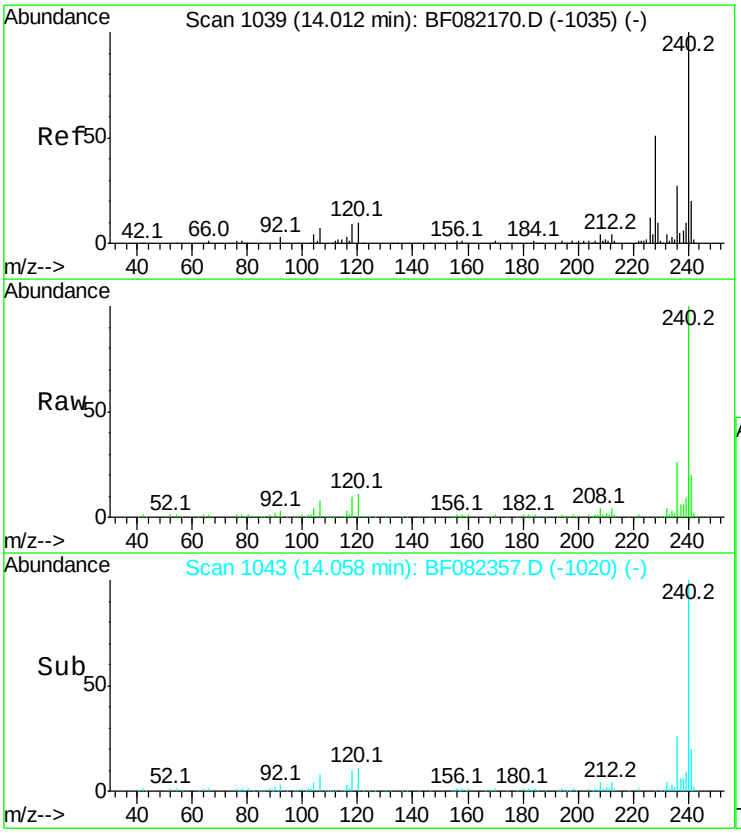


#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:188 Resp: 424603

Ion	Ratio	Lower	Upper
188	100		
94	7.5	5.8	8.6
80	7.8	6.4	9.6

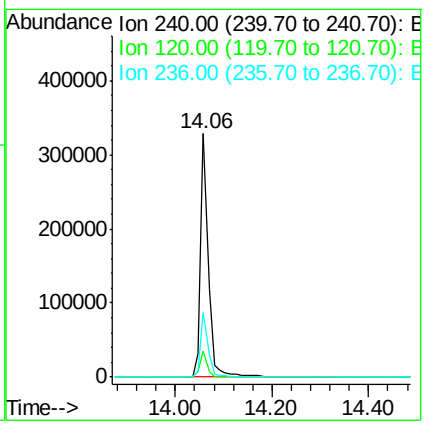




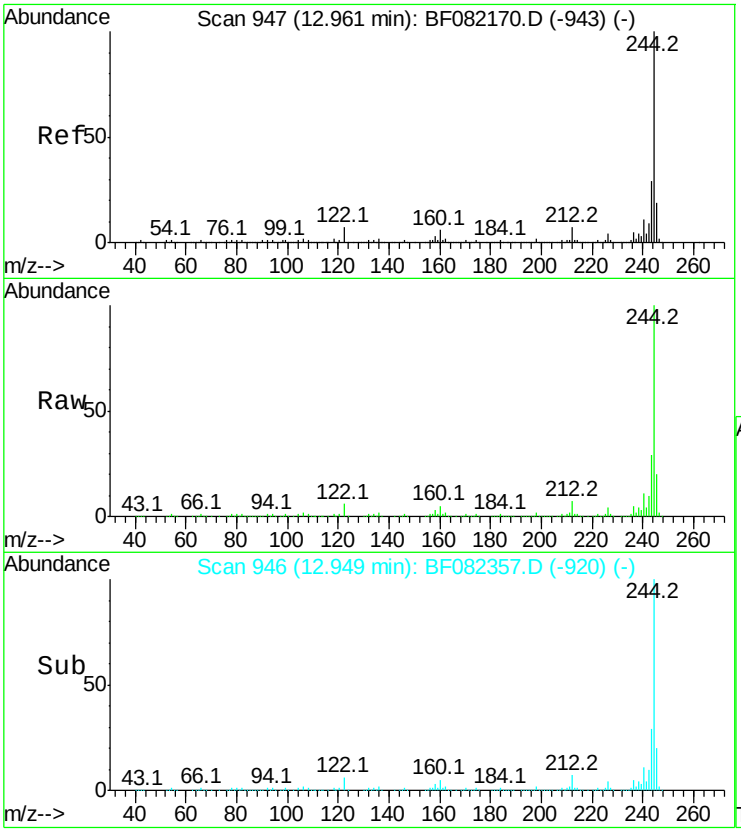
#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.06 min Scan# 1043
Delta R.T. -0.03 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:240 Resp: 365882

Ion	Ratio	Lower	Upper
240	100		
120	10.8	8.1	12.1
236	26.2	21.3	31.9



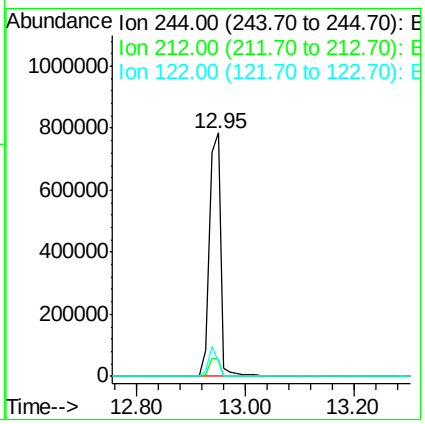
Instrument :
BNA_F
ClientSampleId :
PB86144BL

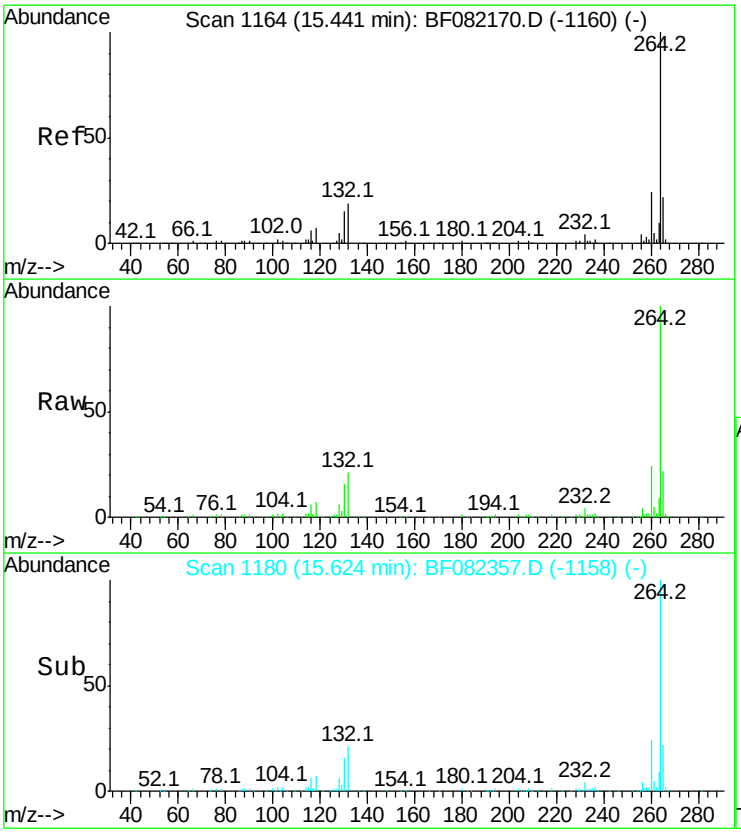


#78
Terphenyl-d14
Concen: 83.19 ng
RT: 12.95 min Scan# 946
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:244 Resp: 1148683

Ion	Ratio	Lower	Upper
244	100		
212	7.1	5.8	8.6
122	6.1	5.9	8.9

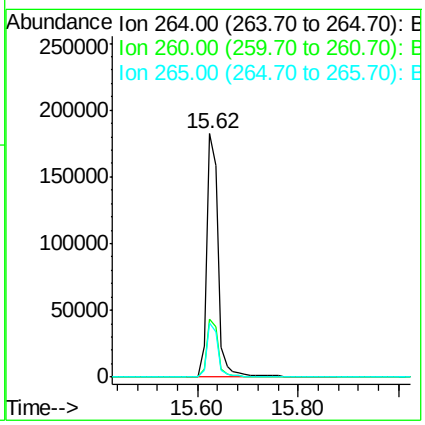




#86
Perylene-d12
Concen: 20.00 ng
RT: 15.62 min Scan# 1180
Delta R.T. -0.05 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:264 Resp: 285758

Ion	Ratio	Lower	Upper
264	100		
260	23.9	19.0	28.6
265	22.0	17.3	25.9



Instrument :
BNA_F
ClientSampleId :
PB86144BL

LSC Area Percent Report

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.320	188	191	199	rVB	21567	33600	1.03%	0.140%
2	4.983	245	249	258	rBV	960721	1400574	43.00%	5.830%
3	5.406	283	286	288	rBV	2121474	2189161	67.22%	9.113%
4	5.806	318	321	323	rBV	25686	33109	1.02%	0.138%
5	6.446	374	377	379	rBV	1880416	2243875	68.90%	9.341%
6	6.572	385	388	390	rBV	2230617	2358294	72.41%	9.817%
7	6.800	406	408	410	rBV	646945	564248	17.33%	2.349%
8	6.960	419	422	424	rBV	1480162	1834131	56.32%	7.635%
9	7.372	455	458	460	rBV	1270621	1325531	40.70%	5.518%
10	8.092	518	521	523	rBV	739798	764256	23.47%	3.181%
11	9.178	612	616	618	rBV	2069331	2915818	89.53%	12.138%
12	9.852	672	675	677	rBV	871478	921425	28.29%	3.836%
13	10.641	741	744	747	rBV	1575035	1638585	50.31%	6.821%
14	11.338	802	805	807	rBV	1034972	943303	28.96%	3.927%
15	12.938	942	945	948	rBV	2247239	3256771	100.00%	13.557%
16	14.058	1041	1043	1046	rBV	863589	892158	27.39%	3.714%
17	15.624	1177	1180	1183	rBV	505193	707365	21.72%	2.945%

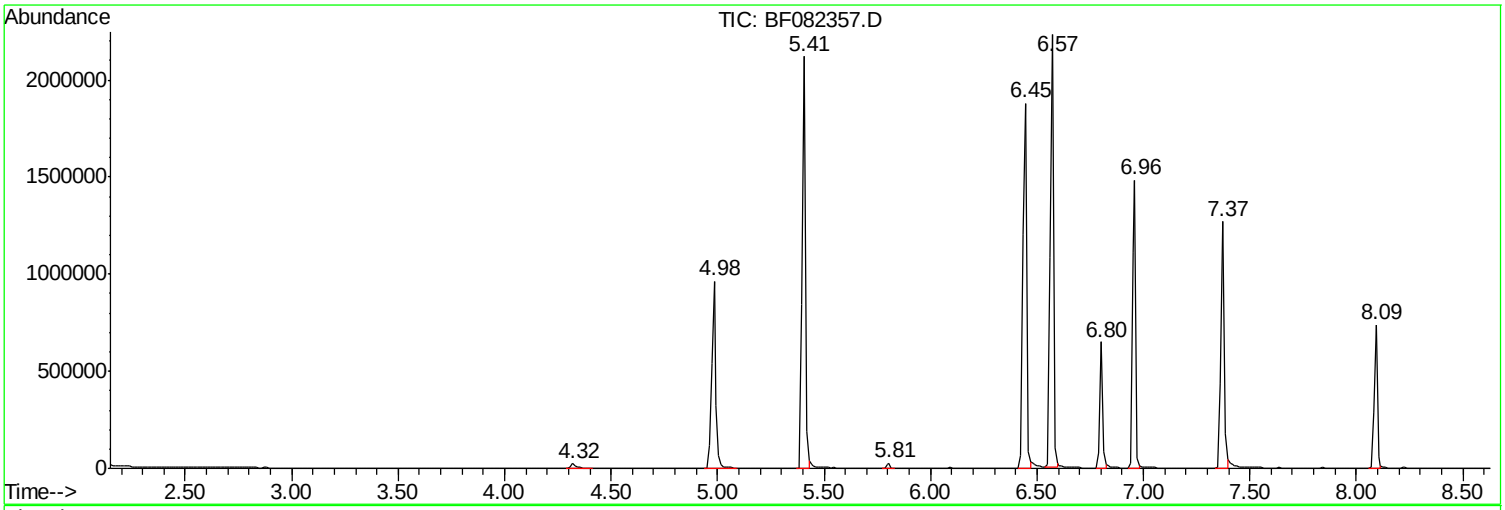
Sum of corrected areas: 24022204

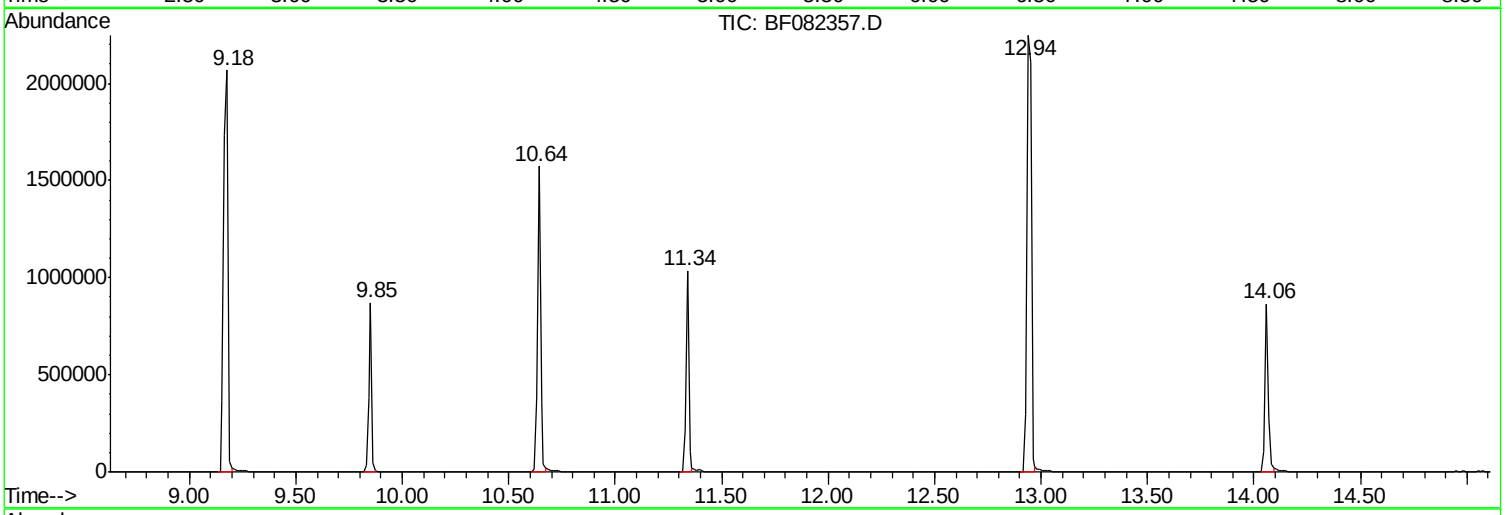
Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

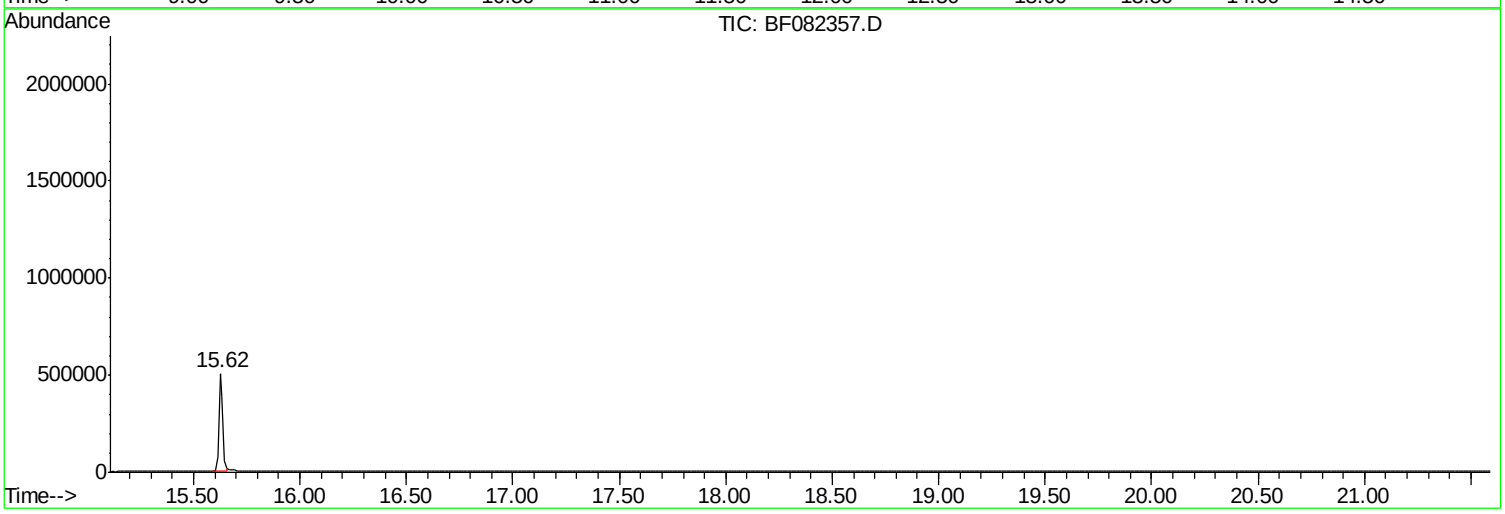
Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
PB86144BL







Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BL

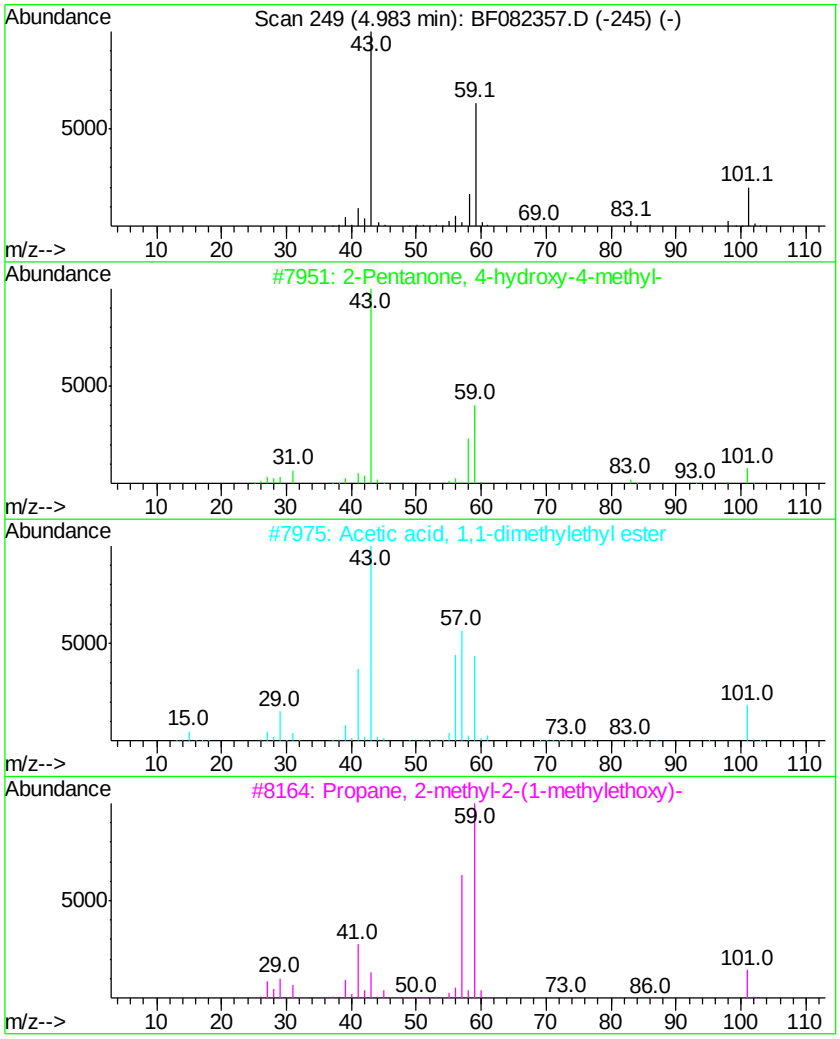
Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

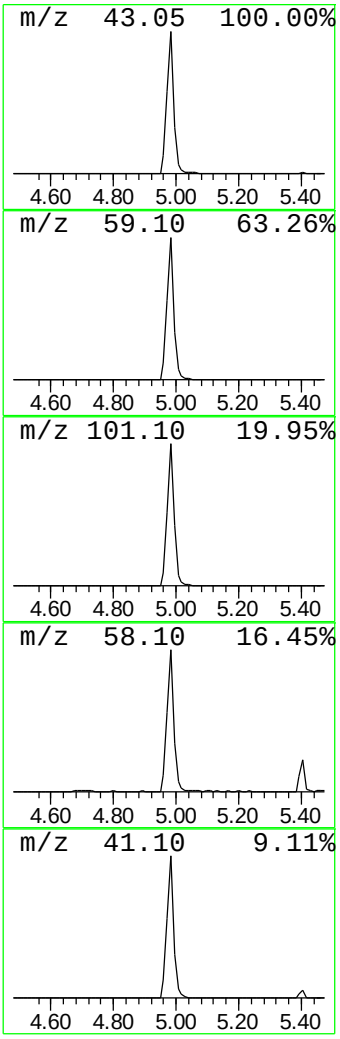
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 2-Pentanone, 4-hydroxy-4-me... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.98	49.64 ng	1400570	1,4-Dichlorobenzene-d4	6.80

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentanone, 4-hydroxy-4-methyl-	116	C6H12O2	000123-42-2	56
2	Acetic acid, 1,1-dimethylethyl e...	116	C6H12O2	000540-88-5	39
3	Propane, 2-methyl-2-(1-methyleth...	116	C7H16O	017348-59-3	36
4	3-Hexanol, 4-methyl-	116	C7H16O	000615-29-2	28
5	Acetic acid, cyano-, 1,1-dimethy...	141	C7H11NO2	001116-98-9	25





Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BL

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

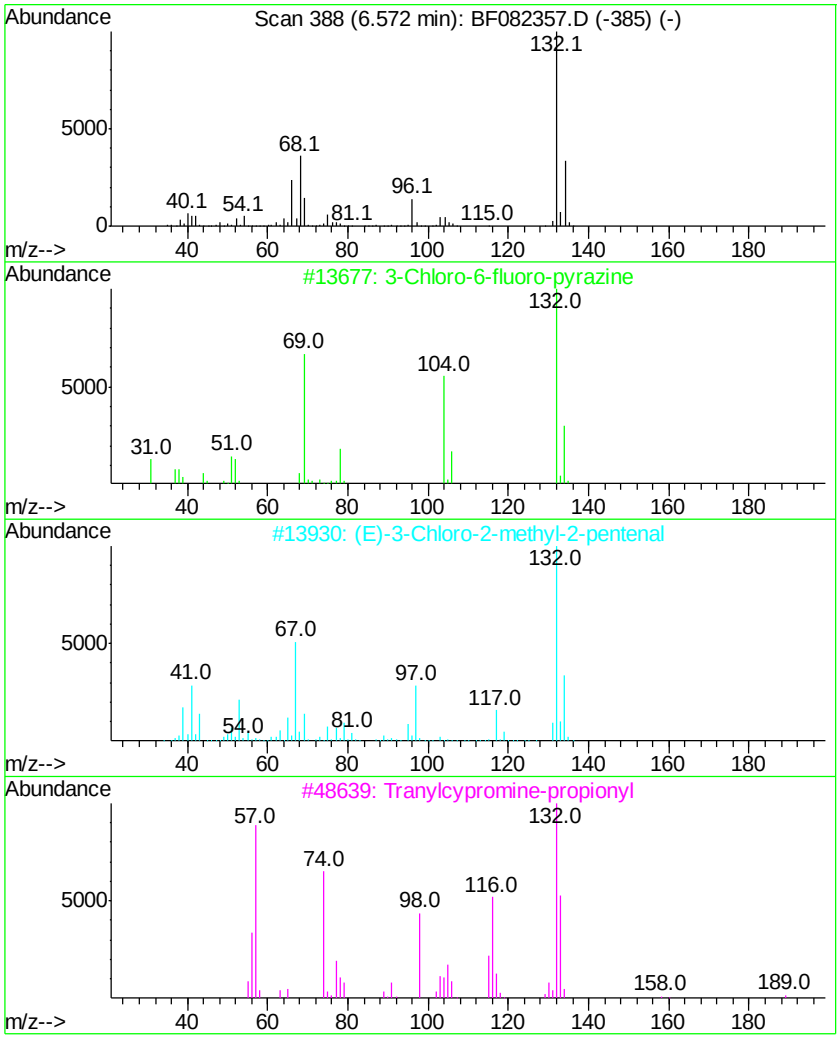
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

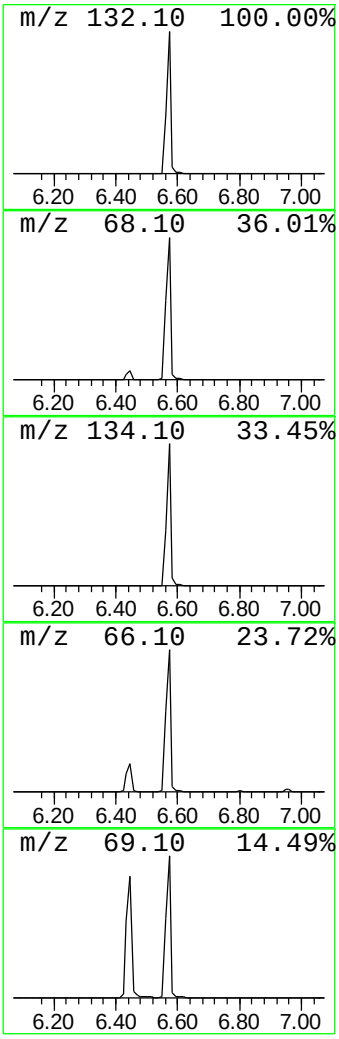
****

Peak Number 2 unknown6.57 Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.57	83.59 ng	2358290	1,4-Dichlorobenzene-d4	6.80

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Chloro-6-fluoro-pyrazine	132	C4H2ClFN2	1000146-10-7	35
2	(E)-3-Chloro-2-methyl-2-pentenal	132	C6H9ClO	031357-76-3	17
3	Tranylcypromine-propionyl	189	C12H15NO	1000123-86-3	12
4	5-Aminoindole	132	C8H8N2	005192-03-0	12
5	Benzene, 1,3,5-trifluoro-	132	C6H3F3	000372-38-3	9





Instrument :
BNA_F
ClientSampleId :
PB86144BL

Tentatively Identified Compound (LSC) summary

Data Path : U:\HPCHEM1\BNA_F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
2-Pentanone, 4-hy...	4.98	49.6	ng	1400570	1	6.80	564248	20.0
unknown6.57	6.57	83.6	ng	2358290	1	6.80	564248	20.0

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082354.D
Acq On : 19 Oct 2015 14:34
Operator : UM/IZ
Sample : PB86144BS
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BS

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:25:44 PM

Quant Time: Oct 20 02:13:59 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	102323	20.00 ng		0.00
21) Naphthalene-d8	8.09	136	392208	20.00 ng		0.00
38) Acenaphthene-d10	9.85	164	208807	20.00 ng		0.00
63) Phenanthrene-d10	11.34	188	389236	20.00 ng		-0.01
75) Chrysene-d12	14.06	240	370193	20.00 ng		-0.03
86) Perylene-d12	15.60	264	315291	20.00 ng		-0.07
System Monitoring Compounds						
5) 2-Fluorophenol	5.41	112	606389	119.60 ng		0.01
7) Phenol-d6	6.45	99	758810	115.01 ng		0.00
23) Nitrobenzene-d5	7.37	82	481399	82.43 ng		-0.01
41) 2,4,6-Tribromophenol	10.65	330	208959	106.71 ng		0.00
44) 2-Fluorobiphenyl	9.18	172	1059614	84.16 ng		0.00
78) Terphenyl-d14	12.94	244	1019094	72.95 ng		-0.01
Target Compounds						Qvalue
2) 1,4-Dioxane	2.43	88	80706	31.68 ng		98
3) Pyridine	3.13	79	209472	35.36 ng		99
4) n-Nitrosodimethylamine	3.10	42	93900	37.37 ng		98
6) Aniline	6.47	93	188404	22.15 ng	#	77
8) 2-Chlorophenol	6.58	128	224571	36.28 ng	#	75
9) Benzaldehyde	6.34	77	74604	22.14 ng		87
10) Phenol	6.46	94	252614	33.21 ng		85
11) bis(2-Chloroethyl)ether	6.55	93	228748	35.56 ng		96
12) 1,3-Dichlorobenzene	6.74	146	277874m	38.55 ng		
13) 1,4-Dichlorobenzene	6.82	146	274847	36.51 ng		96
14) 1,2-Dichlorobenzene	6.97	146	266201	37.24 ng		95
15) Benzyl Alcohol	6.95	79	181850	39.93 ng		99
16) 2,2'-oxybis(1-Chloropropan	7.09	45	321550	35.90 ng		98
17) 2-Methylphenol	7.07	107	196158	40.08 ng		98
18) Hexachloroethane	7.31	117	94735	36.77 ng	#	83
19) n-Nitroso-di-n-propylamine	7.22	70	162247	35.02 ng	#	88
20) 3+4-Methylphenols	7.22	107	234790	40.26 ng		96
22) Acetophenone	7.22	105	321001	41.37 ng	#	95
24) Nitrobenzene	7.39	77	246314	38.96 ng		96
25) Isophorone	7.63	82	458507	38.90 ng		98
26) 2-Nitrophenol	7.71	139	136427	43.22 ng		96
27) 2,4-Dimethylphenol	7.76	122	222774	43.80 ng		95
28) bis(2-Chloroethoxy)methane	7.85	93	294869	42.99 ng		99
29) 2,4-Dichlorophenol	7.95	162	218009	42.88 ng		96
30) 1,2,4-Trichlorobenzene	8.03	180	233084	39.78 ng		98
31) Naphthalene	8.11	128	675314	39.72 ng		100
32) Benzoic acid	7.90	122	130469	38.22 ng		91
33) 4-Chloroaniline	8.17	127	117243	16.60 ng		98
34) Hexachlorobutadiene	8.23	225	139237	38.13 ng		98
35) Caprolactam	8.55	113	62732	42.52 ng	#	72
36) 4-Chloro-3-methylphenol	8.66	107	221009	44.46 ng		97
37) 2-Methylnaphthalene	8.81	142	505084	42.85 ng		99
39) 1,2,4,5-Tetrachlorobenzene	8.97	216	224804	36.20 ng		97
40) Hexachlorocyclopentadiene	8.96	237	195984	64.19 ng		98

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082354.D
Acq On : 19 Oct 2015 14:34
Operator : UM/IZ
Sample : PB86144BS
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BS

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:25:44 PM

Quant Time: Oct 20 02:13:59 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
42) 2,4,6-Trichlorophenol	9.10	196	158897	38.52 ng		99
43) 2,4,5-Trichlorophenol	9.13	196	171011	38.27 ng	#	87
45) 1,1'-Biphenyl	9.28	154	614987	38.62 ng		95
46) 2-Chloronaphthalene	9.30	162	495349	39.52 ng		99
47) 2-Nitroaniline	9.41	65	146791	42.66 ng	#	79
48) Acenaphthylene	9.71	152	744564	38.13 ng		99
49) Dimethylphthalate	9.59	163	587210	39.94 ng		98
50) 2,6-Dinitrotoluene	9.65	165	121058	39.02 ng	#	80
51) Acenaphthene	9.89	154	426023	36.34 ng		99
52) 3-Nitroaniline	9.82	138	66828	19.07 ng		98
53) 2,4-Dinitrophenol	9.93	184	135755	78.44 ng	#	90
54) Dibenzofuran	10.06	168	629015	39.08 ng		96
55) 4-Nitrophenol	9.99	139	152296	67.21 ng	#	83
56) 2,4-Dinitrotoluene	10.06	165	175394	45.23 ng		92
57) Fluorene	10.40	166	503664	38.10 ng		97
58) 2,3,4,6-Tetrachlorophenol	10.18	232	146102	40.02 ng		98
59) Diethylphthalate	10.29	149	597140	43.57 ng		97
60) 4-Chlorophenyl-phenylether	10.40	204	253709	41.90 ng	#	79
61) 4-Nitroaniline	10.43	138	123740	36.40 ng		93
62) Azobenzene	10.56	77	551625	41.12 ng		86
64) 4,6-Dinitro-2-methylphenol	10.46	198	89454	40.95 ng	#	54
65) n-Nitrosodiphenylamine	10.51	169	461358	39.59 ng		99
66) 4-Bromophenyl-phenylether	10.89	248	152908	39.25 ng	#	80
67) Hexachlorobenzene	10.95	284	165199	39.21 ng	#	78
68) Atrazine	11.05	200	177616	48.11 ng		99
69) Pentachlorophenol	11.15	266	178737	82.45 ng		97
70) Phenanthrene	11.37	178	823695	43.17 ng		99
71) Anthracene	11.42	178	831752	42.31 ng		99
72) Carbazole	11.58	167	719677	40.13 ng		99
73) Di-n-butylphthalate	11.91	149	984738	44.51 ng		99
74) Fluoranthene	12.56	202	929782	45.37 ng		98
76) Benzidine	12.69	184	284474	26.52 ng		97
77) Pyrene	12.79	202	857310	39.02 ng		99
79) Butylbenzylphthalate	13.43	149	393959	39.29 ng		95
80) Benzo(a)anthracene	14.05	228	748540	38.86 ng		100
81) 3,3'-Dichlorobenzidine	14.00	252	167711	22.94 ng	#	98
82) Chrysene	14.08	228	725269	35.74 ng		99
83) Bis(2-ethylhexyl)phthalate	14.04	149	571543	39.96 ng		99
84) Di-n-octyl phthalate	14.73	149	966778	39.36 ng		99
85) Indeno(1,2,3-cd)pyrene	17.04	276	624762	38.73 ng		98
87) Benzo(b)fluoranthene	15.19	252	746326m	38.91 ng		
88) Benzo(k)fluoranthene	15.21	252	626390m	38.85 ng		
89) Benzo(a)pyrene	15.54	252	651616	39.53 ng		99
90) Dibenzo(a,h)anthracene	17.05	278	530312	39.25 ng		99
91) Benzo(g,h,i)perylene	17.46	276	512423	39.04 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

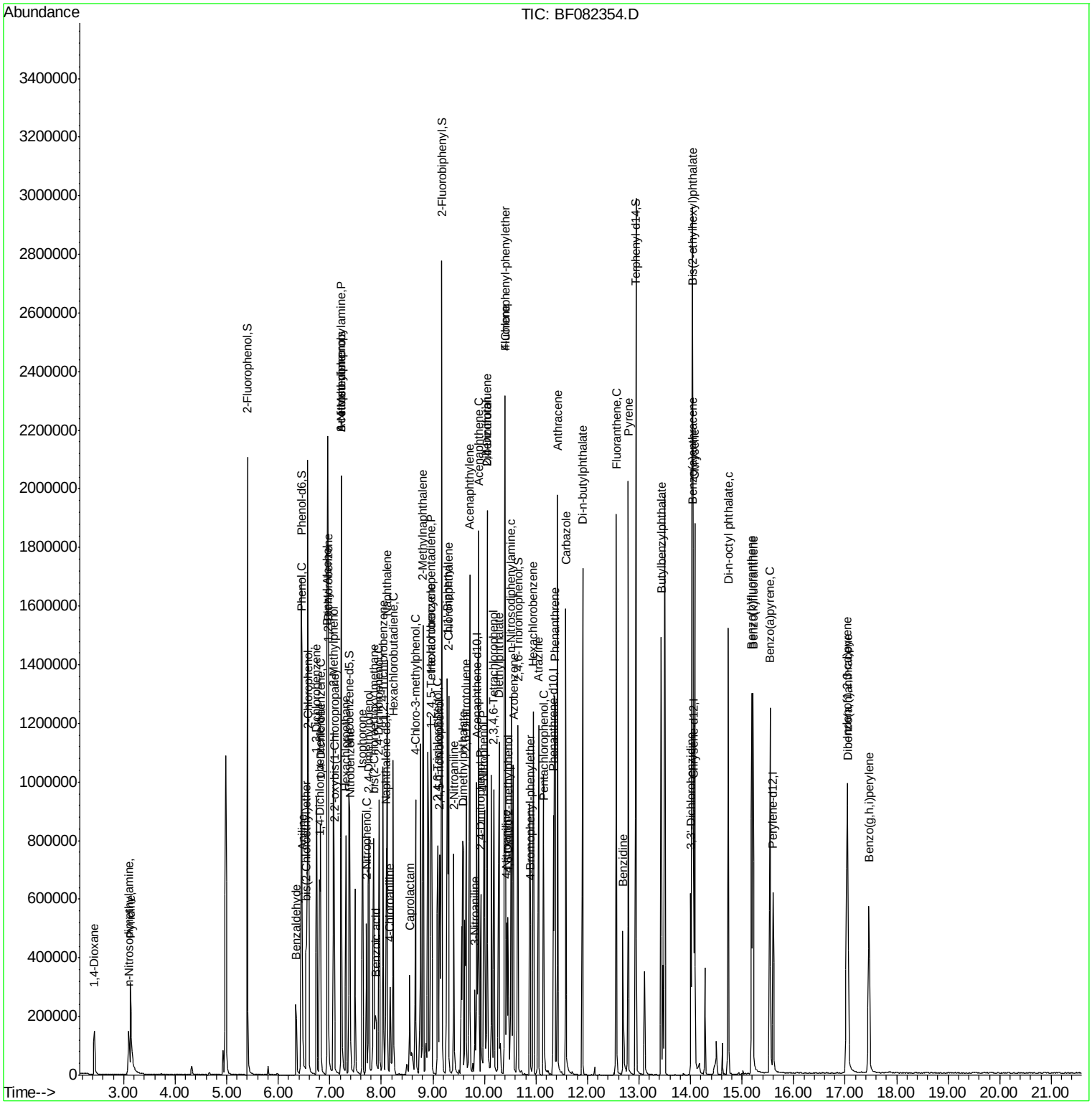
Sample Results: **BF082354.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082354.D
Acq On : 19 Oct 2015 14:34
Operator : UM/IZ
Sample : PB86144BS
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 20 02:13:59 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
PB86144BS

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:25:44 PM



Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082328.D
Acq On : 16 Oct 2015 16:23
Operator : UM/IZ
Sample : G4051-02MS 10X
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 05:58:22 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MS

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:11 PM

6 A B C D E F G H I J K

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.87	152	53162	20.00	ng		0.03
21) Naphthalene-d8	8.16	136	236964	20.00	ng		0.03
38) Acenaphthene-d10	9.91	164	126001	20.00	ng		0.02
63) Phenanthrene-d10	11.39	188	273091	20.00	ng		0.02
75) Chrysene-d12	14.13	240	265958	20.00	ng		0.06
86) Perylene-d12	15.70	264	227615	20.00	ng		0.11
System Monitoring Compounds							
5) 2-Fluorophenol	5.47	112	31106	11.81	ng		0.05
7) Phenol-d6	6.51	99	42849	12.50	ng		0.03
23) Nitrobenzene-d5	7.44	82	25911	7.34	ng		0.02
41) 2,4,6-Tribromophenol	10.71	330	15332	12.98	ng		0.02
44) 2-Fluorobiphenyl	9.23	172	67179	8.84	ng		0.02
78) Terphenyl-d14	13.00	244	87474	8.72	ng		0.03
Target Compounds							Qvalue
2) 1,4-Dioxane	2.42	88	5195	3.93	ng	#	80
3) Pyridine	3.27	79	8487m	2.76	ng		
8) 2-Chlorophenol	6.66	128	11709	3.64	ng		94
9) Benzaldehyde	6.42	77	4259	2.43	ng		100
10) Phenol	6.53	94	14541	3.68	ng		91
11) bis(2-Chloroethyl)ether	6.61	93	11677	3.49	ng		99
12) 1,3-Dichlorobenzene	6.81	146	14233	3.80	ng		96
13) 1,4-Dichlorobenzene	6.89	146	14387	3.68	ng		99
14) 1,2-Dichlorobenzene	7.04	146	15350	4.13	ng		93
15) Benzyl Alcohol	7.02	79	8909	3.76	ng		100
16) 2,2'-oxybis(1-Chloropropan	7.15	45	19040	4.09	ng		91
17) 2-Methylphenol	7.13	107	9622	3.78	ng	#	90
18) Hexachloroethane	7.38	117	4933	3.69	ng		89
19) n-Nitroso-di-n-propylamine	7.28	70	8874	3.69	ng	#	89
20) 3+4-Methylphenols	7.29	107	13459	4.44	ng	#	83
22) Acetophenone	7.28	105	16607	3.54	ng	#	93
24) Nitrobenzene	7.45	77	12049	3.15	ng	#	89
25) Isophorone	7.69	82	27233	3.82	ng		96
26) 2-Nitrophenol	7.78	139	4841	2.54	ng		97
27) 2,4-Dimethylphenol	7.82	122	11278	3.67	ng		94
28) bis(2-Chloroethoxy)methane	7.91	93	15058	3.63	ng		97
29) 2,4-Dichlorophenol	8.03	162	10739	3.50	ng		95
30) 1,2,4-Trichlorobenzene	8.10	180	11707	3.31	ng		94
31) Naphthalene	8.18	128	44229	4.31	ng		97
34) Hexachlorobutadiene	8.30	225	7263	3.29	ng		97
35) Caprolactam	8.56	113	3508	3.94	ng	#	89
36) 4-Chloro-3-methylphenol	8.72	107	11487	3.82	ng		85
37) 2-Methylnaphthalene	8.87	142	29574	4.15	ng		98
39) 1,2,4,5-Tetrachlorobenzene	9.04	216	12897	3.44	ng		96
40) Hexachlorocyclopentadiene	9.02	237	643	8.61	ng		90
42) 2,4,6-Trichlorophenol	9.15	196	8575	3.44	ng		98
43) 2,4,5-Trichlorophenol	9.20	196	10095	3.74	ng		95
45) 1,1'-Biphenyl	9.34	154	34274	3.57	ng		96
46) 2-Chloronaphthalene	9.36	162	28734	3.80	ng		97

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082328.D
Acq On : 16 Oct 2015 16:23
Operator : UM/IZ
Sample : G4051-02MS 10X
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MS

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:11 PM

Quant Time: Oct 17 05:58:22 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
47) 2-Nitroaniline	9.46	65	6692	3.22 ng		91
48) Acenaphthylene	9.77	152	63601	5.40 ng		98
49) Dimethylphthalate	9.63	163	43971	4.96 ng	#	97
50) 2,6-Dinitrotoluene	9.70	165	5800	3.10 ng		90
51) Acenaphthene	9.94	154	34543	4.88 ng		97
52) 3-Nitroaniline	9.89	138	5224	2.47 ng	#	94
54) Dibenzofuran	10.11	168	49437	5.09 ng		99
55) 4-Nitrophenol	10.07	139	3562m	2.59 ng		
56) 2,4-Dinitrotoluene	10.10	165	8381	3.58 ng	#	95
57) Fluorene	10.46	166	41582	5.21 ng		97
58) 2,3,4,6-Tetrachlorophenol	10.24	232	8639	3.92 ng	#	93
59) Diethylphthalate	10.33	149	33672	4.07 ng		96
60) 4-Chlorophenyl-phenylether	10.46	204	13913	3.81 ng	#	82
61) 4-Nitroaniline	10.50	138	5920	2.89 ng		97
62) Azobenzene	10.61	77	31832	3.93 ng		98
65) n-Nitrosodiphenylamine	10.57	169	29565	3.62 ng		99
66) 4-Bromophenyl-phenylether	10.95	248	8172	2.99 ng	#	84
67) Hexachlorobenzene	11.01	284	10954	3.71 ng	#	84
68) Atrazine	11.10	200	10251	3.96 ng		97
69) Pentachlorophenol	11.21	266	8293	5.45 ng		97
70) Phenanthrene	11.43	178	204409	15.27 ng		97
71) Anthracene	11.47	178	95482	6.92 ng		98
72) Carbazole	11.63	167	64611	5.13 ng		98
73) Di-n-butylphthalate	11.96	149	54853	3.53 ng		99
74) Fluoranthene	12.62	202	308939	21.49 ng		99
77) Pyrene	12.85	202	273492	17.33 ng		98
79) Butylbenzylphthalate	13.50	149	25355	3.52 ng	#	85
80) Benzo(a)anthracene	14.12	228	148353	10.72 ng		99
82) Chrysene	14.15	228	153969m	10.56 ng		
83) Bis(2-ethylhexyl)phthalate	14.10	149	68888	6.70 ng		99
84) Di-n-octyl phthalate	14.80	149	58084	3.29 ng	#	95
85) Indeno(1,2,3-cd)pyrene	17.17	276	95992	8.28 ng		98
87) Benzo(b)fluoranthene	15.27	252	143993m	10.40 ng		
88) Benzo(k)fluoranthene	15.29	252	93291m	8.01 ng		
89) Benzo(a)pyrene	15.64	252	117996	9.91 ng		99
90) Dibenzo(a,h)anthracene	17.18	278	48526	4.98 ng		99
91) Benzo(g,h,i)perylene	17.60	276	93559	9.87 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

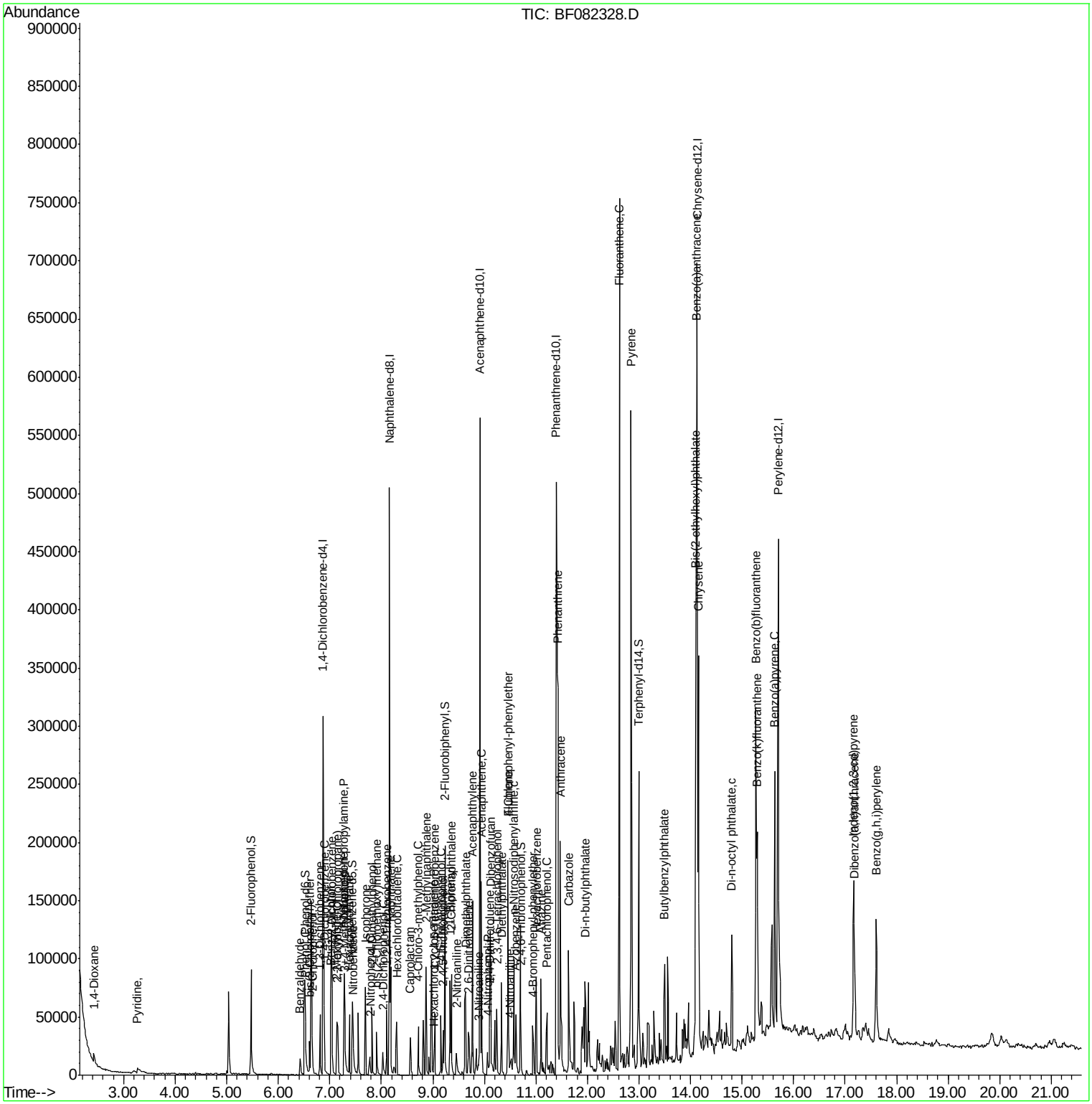
Sample Results: **BF082328.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082328.D
Acq On : 16 Oct 2015 16:23
Operator : UM/IZ
Sample : G4051-02MS 10X
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 05:58:22 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MS

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:11 PM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082329.D
Acq On : 16 Oct 2015 16:52
Operator : UM/IZ
Sample : G4051-03MSD 10X
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 19 04:33:40 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MSD

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:13 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.89	152	45799m	20.00	ng		0.06
21) Naphthalene-d8	8.17	136	229217	20.00	ng		0.05
38) Acenaphthene-d10	9.92	164	117792	20.00	ng		0.03
63) Phenanthrene-d10	11.42	188	258375	20.00	ng		0.05
75) Chrysene-d12	14.14	240	258150	20.00	ng		0.07
86) Perylene-d12	15.73	264	229036	20.00	ng		0.14
System Monitoring Compounds							
5) 2-Fluorophenol	5.49	112	30755	13.55	ng		0.06
7) Phenol-d6	6.53	99	42985	14.56	ng		0.05
23) Nitrobenzene-d5	7.45	82	26614	7.80	ng		0.03
41) 2,4,6-Tribromophenol	10.72	330	16674	15.09	ng		0.03
44) 2-Fluorobiphenyl	9.25	172	68369	9.63	ng		0.03
78) Terphenyl-d14	13.01	244	88413	9.08	ng		0.05
Target Compounds							Qvalue
2) 1,4-Dioxane	2.45	88	4844	4.25	ng	#	61
3) Pyridine	3.31	79	7549	2.85	ng	#	84
4) n-Nitrosodimethylamine	3.23	42	2327	2.07	ng	#	74
8) 2-Chlorophenol	6.67	128	11049	3.99	ng		92
9) Benzaldehyde	6.45	77	4226	2.80	ng		93
10) Phenol	6.54	94	13646	4.01	ng		92
11) bis(2-Chloroethyl)ether	6.62	93	10979	3.81	ng		91
12) 1,3-Dichlorobenzene	6.82	146	13051m	4.05	ng		
13) 1,4-Dichlorobenzene	6.90	146	14067m	4.18	ng		
14) 1,2-Dichlorobenzene	7.05	146	13356	4.17	ng		98
15) Benzyl Alcohol	7.03	79	8546	4.19	ng		96
16) 2,2'-oxybis(1-Chloropropan	7.17	45	18643	4.65	ng		95
17) 2-Methylphenol	7.15	107	9760m	4.46	ng		
18) Hexachloroethane	7.39	117	4626	4.01	ng		96
19) n-Nitroso-di-n-propylamine	7.29	70	9219m	4.45	ng		
20) 3+4-Methylphenols	7.31	107	13033m	4.99	ng		
22) Acetophenone	7.30	105	15378	3.39	ng	#	92
24) Nitrobenzene	7.47	77	12447	3.37	ng		95
25) Isophorone	7.70	82	25192	3.66	ng		98
26) 2-Nitrophenol	7.79	139	5265	2.85	ng		99
27) 2,4-Dimethylphenol	7.83	122	10650	3.58	ng		94
28) bis(2-Chloroethoxy)methane	7.92	93	13086	3.26	ng		98
29) 2,4-Dichlorophenol	8.05	162	9271	3.12	ng		98
30) 1,2,4-Trichlorobenzene	8.11	180	12893	3.76	ng		95
31) Naphthalene	8.19	128	44579	4.49	ng		99
34) Hexachlorobutadiene	8.31	225	7314	3.43	ng		97
35) Caprolactam	8.57	113	3216	3.73	ng	#	61
36) 4-Chloro-3-methylphenol	8.73	107	11311	3.89	ng		89
37) 2-Methylnaphthalene	8.88	142	26890	3.90	ng		95
39) 1,2,4,5-Tetrachlorobenzene	9.05	216	12692	3.62	ng		96
40) Hexachlorocyclopentadiene	9.03	237	331m	8.47	ng		
42) 2,4,6-Trichlorophenol	9.17	196	8869	3.81	ng		99
43) 2,4,5-Trichlorophenol	9.21	196	9643	3.83	ng		97
45) 1,1'-Biphenyl	9.35	154	34946	3.89	ng		95

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082329.D
Acq On : 16 Oct 2015 16:52
Operator : UM/IZ
Sample : G4051-03MSD 10X
Misc :
ALS Vial : 11 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MSD

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:13 PM

Quant Time: Oct 19 04:33:40 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
46) 2-Chloronaphthalene	9.37	162	27138	3.84 ng		95
47) 2-Nitroaniline	9.47	65	6810	3.51 ng		92
48) Acenaphthylene	9.78	152	59330	5.39 ng		98
49) Dimethylphthalate	9.65	163	42996	5.18 ng	#	98
50) 2,6-Dinitrotoluene	9.71	165	5947	3.40 ng		88
51) Acenaphthene	9.95	154	32882	4.97 ng		95
52) 3-Nitroaniline	9.90	138	4591	2.32 ng	#	89
54) Dibenzofuran	10.13	168	45828	5.05 ng		96
55) 4-Nitrophenol	10.09	139	3399m	2.68 ng		
56) 2,4-Dinitrotoluene	10.11	165	8097	3.70 ng	#	90
57) Fluorene	10.47	166	39746	5.33 ng		97
58) 2,3,4,6-Tetrachlorophenol	10.25	232	8540	4.15 ng	#	96
59) Diethylphthalate	10.34	149	34072	4.41 ng		99
60) 4-Chlorophenyl-phenylether	10.47	204	14070	4.12 ng	#	84
61) 4-Nitroaniline	10.51	138	5822	3.04 ng		87
62) Azobenzene	10.63	77	30352	4.01 ng	#	79
65) n-Nitrosodiphenylamine	10.58	169	30615	3.96 ng		99
66) 4-Bromophenyl-phenylether	10.96	248	8353	3.23 ng	#	82
67) Hexachlorobenzene	11.02	284	11197	4.00 ng	#	80
68) Atrazine	11.11	200	10589	4.32 ng		98
69) Pentachlorophenol	11.22	266	8306	5.77 ng		96
70) Phenanthrene	11.44	178	204930	16.18 ng		97
71) Anthracene	11.49	178	94849	7.27 ng		100
72) Carbazole	11.65	167	66174	5.56 ng		99
73) Di-n-butylphthalate	11.97	149	58249	3.97 ng		99
74) Fluoranthene	12.63	202	303893	22.34 ng		100
77) Pyrene	12.86	202	278389	18.17 ng		98
79) Butylbenzylphthalate	13.51	149	25664	3.67 ng		94
80) Benzo(a)anthracene	14.13	228	164774	12.27 ng		98
81) 3,3'-Dichlorobenzidine	14.09	252	11051	2.17 ng		96
82) Chrysene	14.17	228	140960	9.96 ng		98
83) Bis(2-ethylhexyl)phthalate	14.12	149	72669	7.29 ng	#	99
84) Di-n-octyl phthalate	14.82	149	59926	3.50 ng		98
85) Indeno(1,2,3-cd)pyrene	17.20	276	101732m	9.04 ng		
87) Benzo(b)fluoranthene	15.29	252	148863m	10.68 ng		
88) Benzo(k)fluoranthene	15.30	252	100264m	8.56 ng		
89) Benzo(a)pyrene	15.66	252	123704	10.33 ng		99
90) Dibenzo(a,h)anthracene	17.21	278	45796	4.67 ng		95
91) Benzo(g,h,i)perylene	17.65	276	90381	9.48 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sample Results: **BF082329.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082329.D
Acq On : 16 Oct 2015 16:52
Operator : UM/IZ
Sample : G4051-03MSD 10X
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 19 04:33:40 2015
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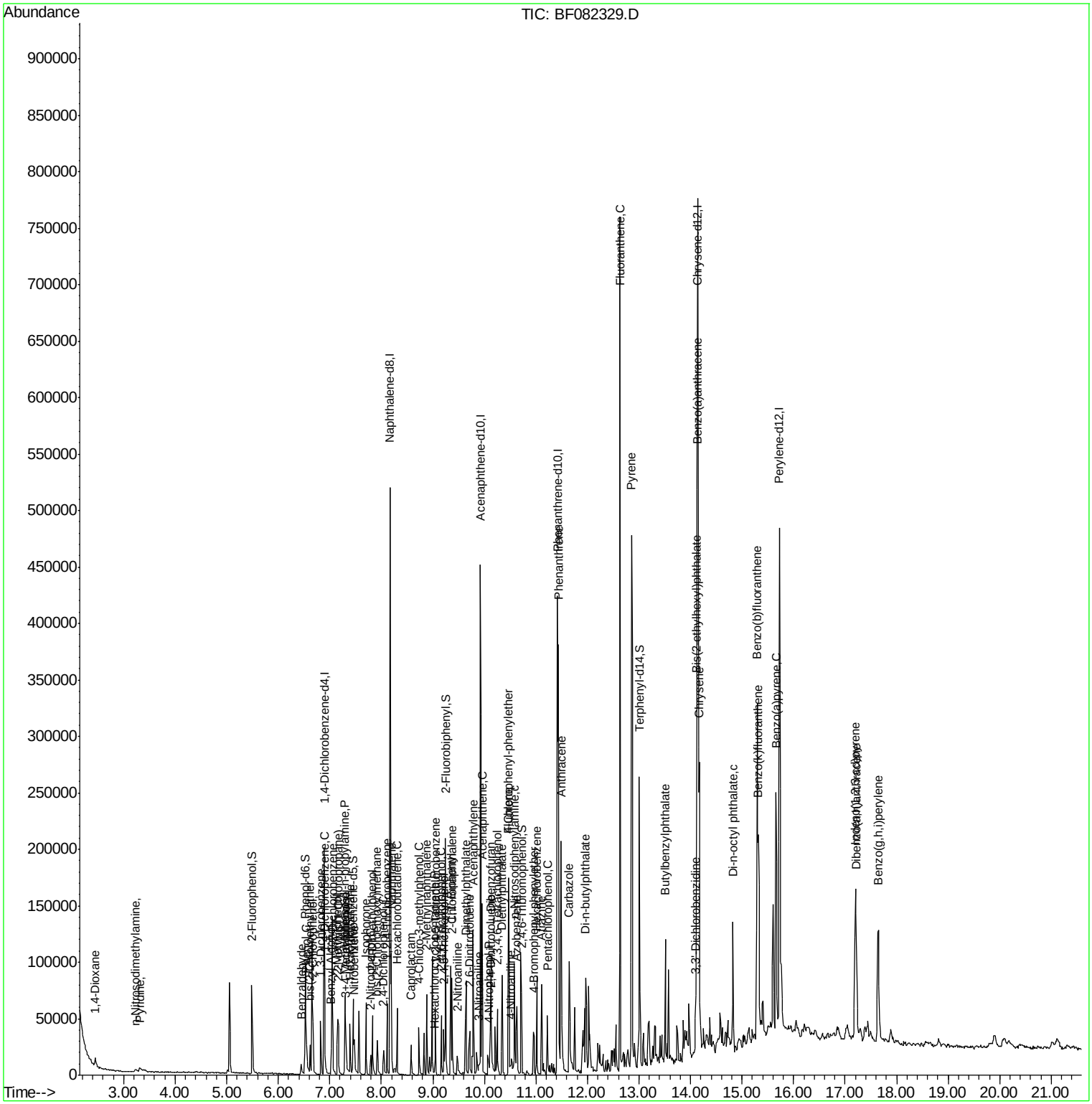
Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MSD

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:13 PM



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Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3979-09MSD	BF082185.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	Aniline	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	Caprolactam	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Aniline	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Caprolactam	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3974-03MSD	BF082182.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly
G3974-03MSD	BF082182.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3974-03MSD	BF082182.D	Benzoic acid	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly
G3974-03MSD	BF082182.D	Caprolactam	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly
G3974-03MS	BF082181.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:20 PM	MMDadoda	10/12/2015 2:35:08 PM	Peak Integrated by Software incorrectly
G3974-03MS	BF082181.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:20 PM	MMDadoda	10/12/2015 2:35:08 PM	Peak Integrated by Software incorrectly
G3974-03MS	BF082181.D	Caprolactam	UMANGI	10/12/2015 2:14:20 PM	MMDadoda	10/12/2015 2:35:08 PM	Peak Integrated by Software incorrectly
PB86017BSD	BF082179.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:16 PM	MMDadoda	10/12/2015 2:33:12 PM	Peak Integrated by Software incorrectly
PB86017BSD	BF082179.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:16 PM	MMDadoda	10/12/2015 2:33:12 PM	Peak Integrated by Software incorrectly
PB86017BSD	BF082179.D	Caprolactam	UMANGI	10/12/2015 2:14:16 PM	MMDadoda	10/12/2015 2:33:12 PM	Peak Integrated by Software incorrectly
PB86017BS	BF082178.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:11 PM	MMDadoda	10/12/2015 2:33:01 PM	Peak Integrated by Software incorrectly
PB86017BS	BF082178.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:11 PM	MMDadoda	10/12/2015 2:33:01 PM	Peak Integrated by Software incorrectly
PB86017BS	BF082178.D	Caprolactam	UMANGI	10/12/2015 2:14:11 PM	MMDadoda	10/12/2015 2:33:01 PM	Peak Integrated by Software incorrectly
PB86038BS	BF082177.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:05 PM	MMDadoda	10/12/2015 2:35:02 PM	Peak Integrated by Software incorrectly
PB86038BS	BF082177.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:05 PM	MMDadoda	10/12/2015 2:35:02 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB86038BS	BF082177.D	Caprolactam	UMANGI	10/12/2015 2:14:05 PM	MMDadoda	10/12/2015 2:35:02 PM	Peak Integrated by Software incorrectly
PB86050BS	BF082176.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:13:59 PM	MMDadoda	10/12/2015 2:32:42 PM	Peak Integrated by Software incorrectly
PB86050BS	BF082176.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:59 PM	MMDadoda	10/12/2015 2:32:42 PM	Peak Integrated by Software incorrectly
PB86050BS	BF082176.D	Caprolactam	UMANGI	10/12/2015 2:13:59 PM	MMDadoda	10/12/2015 2:32:42 PM	Peak Integrated by Software incorrectly
PB86035BS	BF082175.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:13:15 PM	MMDadoda	10/12/2015 2:31:43 PM	Peak Integrated by Software incorrectly
PB86035BS	BF082175.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:15 PM	MMDadoda	10/12/2015 2:31:43 PM	Peak Integrated by Software incorrectly
PB86035BS	BF082175.D	Caprolactam	UMANGI	10/12/2015 2:13:15 PM	MMDadoda	10/12/2015 2:31:43 PM	Peak Integrated by Software incorrectly
SSTDICV040	BF082174.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:13:08 PM	MMDadoda	10/12/2015 2:31:21 PM	Peak Integrated by Software incorrectly
SSTDICV040	BF082174.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:08 PM	MMDadoda	10/12/2015 2:31:21 PM	Peak Integrated by Software incorrectly
SSTDICC080	BF082173.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:02 PM	MMDadoda	10/12/2015 2:31:11 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDICC060	BF082172.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	n-Nitroso-di-n-propylamine	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICCC040	BF082170.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:12:05 PM	MMDadoda	10/12/2015 2:30:48 PM	Peak Integrated by Software incorrectly
SSTDICCC040	BF082170.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:05 PM	MMDadoda	10/12/2015 2:30:48 PM	Peak Integrated by Software incorrectly
SSTDICC025	BF082169.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:00 PM	MMDadoda	10/12/2015 2:30:42 PM	Peak Integrated by Software incorrectly
SSTDICC010	BF082168.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:11:56 PM	MMDadoda	10/12/2015 2:30:37 PM	Peak Integrated by Software incorrectly
SSTDICC02.5	BF082167.D	4-Nitrophenol	UMANGI	10/12/2015 2:11:52 PM	MMDadoda	10/12/2015 2:30:31 PM	Peak Integrated by Software incorrectly
SSTDICC02.5	BF082167.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:11:52 PM	MMDadoda	10/12/2015 2:30:31 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDICC02.5	BF082167.D	bis(2-Chloroethyl)ether	UMANGI	10/12/2015 2:11:52 PM	MMDadoda	10/12/2015 2:30:31 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082166.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:11:48 PM	MMDadoda	10/12/2015 2:30:24 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082166.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:11:48 PM	MMDadoda	10/12/2015 2:30:24 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082166.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:11:48 PM	MMDadoda	10/12/2015 2:30:24 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	Aniline	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	Phenol	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
G3928-06	BF082214.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:18:29 PM	MMDadoda	10/12/2015 2:39:48 PM	Peak Integrated by Software incorrectly
G3921-03	BF082213.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly
G3921-03	BF082213.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3921-03	BF082213.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly
G3921-03	BF082213.D	Chrysene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Chrysene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	2-Methylnaphthalene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Chrysene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3921-07DL	BF082210.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly
G3921-07DL	BF082210.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3921-07DL	BF082210.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly
G3921-07DL	BF082210.D	Chrysene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly
G3889-02DL	BF082209.D	Fluorene	UMANGI	10/12/2015 2:17:27 PM	MMDadoda	10/12/2015 2:38:55 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Chrysene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Dibenzo(a,h)anthracene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3979-08	BF082205.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:34 PM	MMDadoda	10/12/2015 2:38:27 PM	Peak Integrated by Software incorrectly
G3979-08	BF082205.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:34 PM	MMDadoda	10/12/2015 2:38:27 PM	Peak Integrated by Software incorrectly
G3979-07	BF082204.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:29 PM	MMDadoda	10/12/2015 2:38:16 PM	Peak Integrated by Software incorrectly
G3974-02	BF082199.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly
G3974-02	BF082199.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly
G3974-02	BF082199.D	Chrysene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly

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Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3974-02	BF082199.D	Fluorene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly
G3906-09MSD	BF082198.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:19 PM	MMDadoda	10/12/2015 2:38:01 PM	Peak Integrated by Software incorrectly
G3906-09MSD	BF082198.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:19 PM	MMDadoda	10/12/2015 2:38:01 PM	Peak Integrated by Software incorrectly
G3906-09MS	BF082197.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:14 PM	MMDadoda	10/12/2015 2:35:44 PM	Peak Integrated by Software incorrectly
G3906-09MS	BF082197.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:14 PM	MMDadoda	10/12/2015 2:35:44 PM	Peak Integrated by Software incorrectly
G3906-09MS	BF082197.D	Caprolactam	UMANGI	10/12/2015 2:16:14 PM	MMDadoda	10/12/2015 2:35:44 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082190.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:15:28 PM	MMDadoda	10/12/2015 2:37:53 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082190.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:28 PM	MMDadoda	10/12/2015 2:37:53 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082188.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:15:24 PM	MMDadoda	10/12/2015 2:37:45 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082188.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:24 PM	MMDadoda	10/12/2015 2:37:45 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101715	Instrument	BNA_f

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G4034-01	BF082326.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4034-01	BF082326.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4034-01	BF082326.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4034-01	BF082326.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4051-01	BF082327.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:21:16 PM	MMdadoda	10/19/2015 5:32:09 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	4-Nitrophenol	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Chrysene	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Pyridine	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	1,3-Dichlorobenzene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	1,4-Dichlorobenzene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-03MSD	BF082329.D	2-Methylphenol	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	3+4-Methylphenols	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	4-Nitrophenol	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Aniline	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Hexachlorocyclopentadiene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	n-Nitroso-di-n-propylamine	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-05	BF082331.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Chrysene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-06	BF082332.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:05 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-06	BF082332.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:05 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-06	BF082332.D	Chrysene	UMANGI	10/19/2015 5:23:05 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-07	BF082333.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:23:18 PM	MMdadoda	10/19/2015 5:32:20 PM	Peak Integrated by Software incorrectly
G4051-07	BF082333.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:18 PM	MMdadoda	10/19/2015 5:32:20 PM	Peak Integrated by Software incorrectly
G4051-07	BF082333.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:18 PM	MMdadoda	10/19/2015 5:32:20 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-08	BF082334.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly

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G4046-02	BF082337.D	1,1"-Biphenyl	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	2,4,6-Tribromophenol	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	2,4-Dimethylphenol	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	2-Fluorobiphenyl	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	2-Methylnaphthalene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Acenaphthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Acenaphthene-d10	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Acenaphthylene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Anthracene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-02	BF082337.D	Benzo(g,h,i)perylene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Carbazole	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Chrysene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Chrysene-d12	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Dibenzofuran	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Fluoranthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Fluorene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Naphthalene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Naphthalene-d8	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Nitrobenzene-d5	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-02	BF082337.D	Perylene-d12	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Phenanthrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Phenanthrene-d10	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Pyrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Terphenyl-d14	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Chrysene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	1,1"-Biphenyl	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly

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G4046-04	BF082339.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	2,4,6-Tribromophenol	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	2-Fluorobiphenyl	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	2-Methylnaphthalene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Acenaphthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Acenaphthene-d10	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Acenaphthylene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Anthracene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(g,h,i)perylene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-04	BF082339.D	Carbazole	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Chrysene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Chrysene-d12	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Dibenzofuran	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Fluoranthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Fluorene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Naphthalene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Naphthalene-d8	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Nitrobenzene-d5	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Perylene-d12	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Phenanthrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly

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G4046-04	BF082339.D	Phenanthrene-d10	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Pyrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Terphenyl-d14	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	Chrysene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	Pyrene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4015-13	BF082341.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:25:32 PM	MMdadoda	10/19/2015 5:32:34 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082343.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:26:25 PM	MMdadoda	10/19/2015 5:32:35 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly

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G4009-01	BF082345.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Chrysene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Chrysene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4009-03	BF082347.D	Chrysene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Chrysene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Chrysene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082350.D	1,3-Dichlorobenzene	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly

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SSTDCCC040	BF082350.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082350.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082350.D	n-Nitroso-di-n-propylamine	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly
G3993-02	BF082325.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:26 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4051-10	BF082324.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:43 PM	MMdadoda	10/19/2015 5:32:06 PM	Peak Integrated by Software incorrectly
G4017-02	BF082323.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:04 PM	MMdadoda	10/19/2015 5:32:05 PM	Peak Integrated by Software incorrectly
G4017-02	BF082323.D	Benzaldehyde	UMANGI	10/19/2015 5:20:04 PM	MMdadoda	10/19/2015 5:32:05 PM	Peak Integrated by Software incorrectly
PB86109BS	BF082322.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:19:50 PM	MMdadoda	10/19/2015 5:32:04 PM	Peak Integrated by Software incorrectly
PB86109BS	BF082322.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:19:50 PM	MMdadoda	10/19/2015 5:32:04 PM	Peak Integrated by Software incorrectly
PB86109BL	BF082321.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:19:39 PM	MMdadoda	10/19/2015 5:32:03 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082320.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:19:22 PM	MMdadoda	10/19/2015 5:32:02 PM	Peak Integrated by Software incorrectly

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SSTDCCC040	BF082352.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:19 PM	MMdadoda	10/20/2015 6:25:41 PM	Peak Integrated by Software incorrectly
PB86128BSD	BF082353.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:22 PM	MMdadoda	10/20/2015 6:25:43 PM	Peak Integrated by Software incorrectly
PB86128BSD	BF082353.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:22 PM	MMdadoda	10/20/2015 6:25:43 PM	Peak Integrated by Software incorrectly
PB86128BSD	BF082353.D	Caprolactam	UMANGI	10/20/2015 6:08:22 PM	MMdadoda	10/20/2015 6:25:43 PM	Peak Integrated by Software incorrectly
PB86144BS	BF082354.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:24 PM	MMdadoda	10/20/2015 6:25:44 PM	Peak Integrated by Software incorrectly
PB86144BS	BF082354.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:24 PM	MMdadoda	10/20/2015 6:25:44 PM	Peak Integrated by Software incorrectly
PB86144BS	BF082354.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:24 PM	MMdadoda	10/20/2015 6:25:44 PM	Peak Integrated by Software incorrectly
PB86137BS	BF082355.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:27 PM	MMdadoda	10/20/2015 6:25:45 PM	Peak Integrated by Software incorrectly
PB86137BS	BF082355.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:27 PM	MMdadoda	10/20/2015 6:25:45 PM	Peak Integrated by Software incorrectly
PB86128BS	BF082356.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:29 PM	MMdadoda	10/20/2015 6:25:46 PM	Peak Integrated by Software incorrectly
PB86128BS	BF082356.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:29 PM	MMdadoda	10/20/2015 6:25:46 PM	Peak Integrated by Software incorrectly
PB86165BS	BF082358.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:33 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
PB86165BS	BF082358.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:33 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB86165BS	BF082358.D	Caprolactam	UMANGI	10/20/2015 6:08:33 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G4047-02	BF082365.D	3+4-Methylphenols	UMANGI	10/23/2015 11:25:45 AM	MMdadoda	10/23/2015 11:27:10 AM	Peak Integrated by Software incorrectly
G4047-02	BF082365.D	Benzoic acid	UMANGI	10/23/2015 11:25:45 AM	MMdadoda	10/23/2015 11:27:10 AM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	1,4-Dichlorobenzene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	1,4-Dichlorobenzene-d4	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	2-Methylphenol	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	n-Nitroso-di-n-propylamine	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	Pyridine	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	1,4-Dichlorobenzene	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3993-02MSD	BF082369.D	1,4-Dichlorobenzene-d4	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	2-Methylphenol	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	n-Nitroso-di-n-propylamine	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	Pyridine	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3975-10MS	BF082370.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:44 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
G3975-10MS	BF082370.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:44 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
G3975-10MSD	BF082371.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:47 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
G3975-10MSD	BF082371.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:47 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082372.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:49 PM	MMdadoda	10/20/2015 6:25:54 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082374.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:55 PM	MMdadoda	10/20/2015 6:25:54 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082374.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:55 PM	MMdadoda	10/20/2015 6:25:54 PM	Peak Integrated by Software incorrectly
G4040-01	BF082376.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:08:58 PM	MMdadoda	10/20/2015 6:25:55 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4040-01	BF082376.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:58 PM	MMdadoda	10/20/2015 6:25:55 PM	Peak Integrated by Software incorrectly
G4040-01	BF082376.D	Chrysene	UMANGI	10/20/2015 6:08:58 PM	MMdadoda	10/20/2015 6:25:55 PM	Peak Integrated by Software incorrectly
G4040-02	BF082377.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:09:00 PM	MMdadoda	10/20/2015 6:25:57 PM	Peak Integrated by Software incorrectly
G4040-02	BF082377.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:00 PM	MMdadoda	10/20/2015 6:25:57 PM	Peak Integrated by Software incorrectly
G4040-02	BF082377.D	Chrysene	UMANGI	10/20/2015 6:09:00 PM	MMdadoda	10/20/2015 6:25:57 PM	Peak Integrated by Software incorrectly
G4040-04	BF082379.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:09:03 PM	MMdadoda	10/20/2015 6:25:59 PM	Peak Integrated by Software incorrectly
G4040-04	BF082379.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:03 PM	MMdadoda	10/20/2015 6:25:59 PM	Coelution Of the peak
G4040-04	BF082379.D	Chrysene	UMANGI	10/20/2015 6:09:03 PM	MMdadoda	10/20/2015 6:25:59 PM	Peak Integrated by Software incorrectly
G4040-05	BF082380.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:06 PM	MMdadoda	10/20/2015 6:25:59 PM	Coelution Of the peak
G4051-01RE	BF082381.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:09 PM	MMdadoda	10/20/2015 6:26:00 PM	Coelution Of the peak
G4051-06RE	BF082382.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:11 PM	MMdadoda	10/20/2015 6:26:02 PM	Coelution Of the peak
G4051-06RE	BF082382.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:11 PM	MMdadoda	10/20/2015 6:26:02 PM	Coelution Of the peak
G4051-08DL	BF082383.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:14 PM	MMdadoda	10/20/2015 6:26:03 PM	Coelution Of the peak

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Manual Integration Report

Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-08DL	BF082383.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:14 PM	MMdadoda	10/20/2015 6:26:03 PM	Coelution Of the peak
G4051-09DL	BF082384.D	Benzo(a)pyrene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Peak Integrated by Software incorrectly
G4051-09DL	BF082384.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Coelution Of the peak
G4051-09DL	BF082384.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Coelution Of the peak
G4051-09DL	BF082384.D	Chrysene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Peak Integrated by Software incorrectly
G4051-09DL	BF082384.D	Dibenzo(a,h)anthracene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Peak Integrated by Software incorrectly
G4009-03DL	BF082385.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4009-03DL	BF082385.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4009-03DL	BF082385.D	Chrysene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Peak Integrated by Software incorrectly
G4009-03DL	BF082385.D	Dibenzo(a,h)anthracene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Peak Integrated by Software incorrectly
G4046-01DL	BF082386.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:26 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4046-01DL	BF082386.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:26 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4046-01DL2	BF082387.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:29 PM	MMdadoda	10/20/2015 6:26:08 PM	Coelution Of the peak

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-01DL2	BF082387.D	Chrysene	UMANGI	10/20/2015 6:09:29 PM	MMdadoda	10/20/2015 6:26:08 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Coelution Of the peak
G4046-02DL	BF082388.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Coelution Of the peak
G4046-02DL	BF082388.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Chrysene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL2	BF082389.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:31 PM	MMdadoda	10/20/2015 6:26:12 PM	Peak Integrated by Software incorrectly
G4046-02DL2	BF082389.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:31 PM	MMdadoda	10/20/2015 6:26:12 PM	Peak Integrated by Software incorrectly
G4046-02DL2	BF082389.D	Chrysene	UMANGI	10/20/2015 6:09:31 PM	MMdadoda	10/20/2015 6:26:12 PM	Peak Integrated by Software incorrectly
G4046-03DL	BF082390.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:34 PM	MMdadoda	10/20/2015 6:26:09 PM	Peak Integrated by Software incorrectly
G4046-03DL	BF082390.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:34 PM	MMdadoda	10/20/2015 6:26:09 PM	Peak Integrated by Software incorrectly
G4046-03DL	BF082390.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/20/2015 6:09:34 PM	MMdadoda	10/20/2015 6:26:09 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-03DL2	BF082391.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:36 PM	MMdadoda	10/20/2015 6:26:10 PM	Peak Integrated by Software incorrectly
G4046-03DL2	BF082391.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:36 PM	MMdadoda	10/20/2015 6:26:10 PM	Peak Integrated by Software incorrectly
G4046-03DL2	BF082391.D	Chrysene	UMANGI	10/20/2015 6:09:36 PM	MMdadoda	10/20/2015 6:26:10 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Anthracene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Chrysene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Phenanthrene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL2	BF082393.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:09:42 PM	MMdadoda	10/20/2015 6:26:14 PM	Peak Integrated by Software incorrectly
G4046-04DL2	BF082393.D	Chrysene	UMANGI	10/20/2015 6:09:42 PM	MMdadoda	10/20/2015 6:26:14 PM	Peak Integrated by Software incorrectly
G4046-05DL	BF082394.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly
G4046-05DL	BF082394.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly
G4046-05DL	BF082394.D	Dibenzo(a,h)anthracene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-05DL	BF082394.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly
G4040-04RE	BF082396.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:47 PM	MMdadoda	10/20/2015 6:26:17 PM	Peak Integrated by Software incorrectly
G4040-04RE	BF082396.D	Chrysene	UMANGI	10/20/2015 6:09:47 PM	MMdadoda	10/20/2015 6:26:17 PM	Peak Integrated by Software incorrectly
G4040-05RE	BF082397.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:53 PM	MMdadoda	10/20/2015 6:26:20 PM	Peak Integrated by Software incorrectly

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BF082165.D	10 Oct 2015 9:26	UM/IZ	Ok
2	SSTDCCC040	BF082166.D	10 Oct 2015 9:56	UM/IZ	Not Ok
3	SSTDICC02.5	BF082167.D	10 Oct 2015 10:31	UM/IZ	Ok,M
4	SSTDICC010	BF082168.D	10 Oct 2015 11:01	UM/IZ	Ok,M
5	SSTDICC025	BF082169.D	10 Oct 2015 11:32	UM/IZ	Ok,M
6	SSTDICCC040	BF082170.D	10 Oct 2015 12:02	UM/IZ	Ok,M
7	SSTDICC050	BF082171.D	10 Oct 2015 12:32	UM/IZ	Ok,M
8	SSTDICC060	BF082172.D	10 Oct 2015 13:03	UM/IZ	Ok,M
9	SSTDICC080	BF082173.D	10 Oct 2015 13:33	UM/IZ	Ok,M
10	SSTDICV040	BF082174.D	10 Oct 2015 14:03	UM/IZ	Ok,M
11	PB86035BS	BF082175.D	10 Oct 2015 14:34	UM/IZ	Ok,M
12	PB86050BS	BF082176.D	10 Oct 2015 15:04	UM/IZ	Ok,M
13	PB86038BS	BF082177.D	10 Oct 2015 15:35	UM/IZ	Ok,M
14	PB86017BS	BF082178.D	10 Oct 2015 16:06	UM/IZ	Ok,M
15	PB86017BSD	BF082179.D	10 Oct 2015 16:36	UM/IZ	Ok,M
16	G3974-03	BF082180.D	10 Oct 2015 17:07	UM/IZ	Ok
17	G3974-03MS	BF082181.D	10 Oct 2015 17:37	UM/IZ	Ok,M
18	G3974-03MSD	BF082182.D	10 Oct 2015 18:08	UM/IZ	Ok,M
19	G3979-09	BF082183.D	10 Oct 2015 18:39	UM/IZ	Ok
20	G3979-09MS	BF082184.D	10 Oct 2015 19:09	UM/IZ	Ok,M
21	G3979-09MSD	BF082185.D	10 Oct 2015 19:39	UM/IZ	Ok,M
22	G3979-10	BF082186.D	10 Oct 2015 20:10	UM/IZ	Ok
23	G3979-11	BF082187.D	10 Oct 2015 20:40	UM/IZ	Ok
24	SSTDCCC040	BF082188.D	10 Oct 2015 21:10	UM/IZ	Ok,M
25	DFTPP	BF082189.D	10 Oct 2015 21:41	UM/IZ	Ok
26	SSTDCCC040	BF082190.D	10 Oct 2015 22:11	UM/IZ	Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

27	G3979-12	BF082191.D	10 Oct 2015 22:41	UM/IZ	Ok
28	G3979-21	BF082192.D	10 Oct 2015 23:12	UM/IZ	Ok
29	G3979-22	BF082193.D	10 Oct 2015 23:42	UM/IZ	Ok
30	G3979-23	BF082194.D	11 Oct 2015 00:12	UM/IZ	Ok
31	G3979-24	BF082195.D	11 Oct 2015 00:42	UM/IZ	Ok
32	G3979-25	BF082196.D	11 Oct 2015 1:12	UM/IZ	Ok
33	G3906-09MS	BF082197.D	11 Oct 2015 1:42	UM/IZ	Ok,M
34	G3906-09MSD	BF082198.D	11 Oct 2015 2:12	UM/IZ	Ok,M
35	G3974-02	BF082199.D	11 Oct 2015 2:42	UM/IZ	Dilution
36	G3959-04	BF082200.D	11 Oct 2015 3:11	UM/IZ	Ok
37	G3959-03	BF082201.D	11 Oct 2015 3:41	UM/IZ	Ok
38	G3979-05	BF082202.D	11 Oct 2015 4:11	UM/IZ	Ok
39	G3979-06	BF082203.D	11 Oct 2015 4:41	UM/IZ	Ok
40	G3979-07	BF082204.D	11 Oct 2015 5:11	UM/IZ	Ok,M
41	G3979-08	BF082205.D	11 Oct 2015 5:40	UM/IZ	Ok,M
42	G3979-18	BF082206.D	11 Oct 2015 6:10	UM/IZ	Ok
43	G3979-19	BF082207.D	11 Oct 2015 6:40	UM/IZ	Ok
44	G3979-20	BF082208.D	11 Oct 2015 7:10	UM/IZ	Ok,M
45	G3889-02DL	BF082209.D	11 Oct 2015 7:39	UM/IZ	Ok,M
46	G3921-07DL	BF082210.D	11 Oct 2015 8:09	UM/IZ	Ok,M
47	G3974-01DL	BF082211.D	11 Oct 2015 8:39	UM/IZ	Dilution
48	G3933-01	BF082212.D	11 Oct 2015 9:09	UM/IZ	Ok,M
49	G3921-03	BF082213.D	11 Oct 2015 9:38	UM/IZ	Ok,M
50	G3928-06	BF082214.D	11 Oct 2015 10:08	UM/IZ	Not Ok
51	SSTDCCC040	BF082215.D	11 Oct 2015 10:38	UM/IZ	Not Ok

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BF082319.D	16 Oct 2015 11:18	UM/IZ	Ok
2	SSTDCCC040	BF082320.D	16 Oct 2015 11:49	UM/IZ	Ok,M
3	PB86109BL	BF082321.D	16 Oct 2015 12:49	UM/IZ	Ok,M
4	PB86109BS	BF082322.D	16 Oct 2015 13:17	UM/IZ	Ok,M
5	G4017-02	BF082323.D	16 Oct 2015 13:54	UM/IZ	Ok,M
6	G4051-10	BF082324.D	16 Oct 2015 14:22	UM/IZ	Ok,M
7	G3993-02	BF082325.D	16 Oct 2015 14:51	UM/IZ	Ok,M
8	G4034-01	BF082326.D	16 Oct 2015 15:20	UM/IZ	Ok,M
9	G4051-01	BF082327.D	16 Oct 2015 15:54	UM/IZ	ReRun
10	G4051-02MS	BF082328.D	16 Oct 2015 16:23	UM/IZ	Ok,M
11	G4051-03MSD	BF082329.D	16 Oct 2015 16:52	UM/IZ	Ok,M
12	G4051-04	BF082330.D	16 Oct 2015 17:20	UM/IZ	Ok,M
13	G4051-05	BF082331.D	16 Oct 2015 17:49	UM/IZ	Ok,M
14	G4051-06	BF082332.D	16 Oct 2015 18:18	UM/IZ	ReRun
15	G4051-07	BF082333.D	16 Oct 2015 18:47	UM/IZ	Ok,M
16	G4051-08	BF082334.D	16 Oct 2015 19:15	UM/IZ	Dilution
17	G4051-09	BF082335.D	16 Oct 2015 19:44	UM/IZ	Dilution
18	G4046-01	BF082336.D	16 Oct 2015 20:12	UM/IZ	Dilution
19	G4046-02	BF082337.D	16 Oct 2015 20:41	UM/IZ	Dilution
20	G4046-03	BF082338.D	16 Oct 2015 21:10	UM/IZ	Dilution
21	G4046-04	BF082339.D	16 Oct 2015 21:39	UM/IZ	Dilution
22	G4046-05	BF082340.D	16 Oct 2015 22:07	UM/IZ	Dilution
23	G4015-13	BF082341.D	16 Oct 2015 22:36	UM/IZ	Ok,M
24	DFTPP	BF082342.D	17 Oct 2015 00:04	UM/IZ	Ok
25	SSTDCCC040	BF082343.D	17 Oct 2015 00:33	UM/IZ	Ok,M
26	G4016-03	BF082344.D	17 Oct 2015 1:05	UM/IZ	Ok

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

27	G4009-01	BF082345.D	17 Oct 2015 1:33	UM/IZ	Ok,M
28	G4009-02	BF082346.D	17 Oct 2015 2:02	UM/IZ	Ok,M
29	G4009-03	BF082347.D	17 Oct 2015 2:31	UM/IZ	Dilution
30	G4016-12	BF082348.D	17 Oct 2015 2:59	UM/IZ	Dilution
31	G4016-12DL	BF082349.D	17 Oct 2015 3:28	UM/IZ	Ok,M
32	SSTDCCC040	BF082350.D	17 Oct 2015 3:56	UM/IZ	Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BF082351.D	19 Oct 2015 12:50	UM/IZ	Ok
2	SSTDCCC040	BF082352.D	19 Oct 2015 13:18	UM/IZ	Ok,M
3	PB86128BSD	BF082353.D	19 Oct 2015 14:05	UM/IZ	Ok,M
4	PB86144BS	BF082354.D	19 Oct 2015 14:34	UM/IZ	Ok,M
5	PB86137BS	BF082355.D	19 Oct 2015 15:02	UM/IZ	Ok,M
6	PB86128BS	BF082356.D	19 Oct 2015 15:31	UM/IZ	Ok,M
7	PB86144BL	BF082357.D	19 Oct 2015 15:59	UM/IZ	Ok
8	PB86165BS	BF082358.D	19 Oct 2015 16:28	UM/IZ	Ok,M
9	PB86137BL	BF082359.D	19 Oct 2015 16:58	UM/IZ	Ok
10	PB86137TB	BF082360.D	19 Oct 2015 17:26	UM/IZ	Ok
11	PB86128BL	BF082361.D	19 Oct 2015 17:55	UM/IZ	Ok
12	PB86165BL	BF082362.D	19 Oct 2015 18:24	UM/IZ	Ok
13	PB86165TB	BF082363.D	19 Oct 2015 18:53	UM/IZ	Ok
14	G3918-03RE	BF082364.D	19 Oct 2015 19:21	UM/IZ	Confirms
15	G4047-02	BF082365.D	19 Oct 2015 19:50	UM/IZ	ReRun
16	G3975-10	BF082366.D	19 Oct 2015 20:19	UM/IZ	Ok
17	G3975-09	BF082367.D	19 Oct 2015 20:47	UM/IZ	ReRun
18	G3993-02MS	BF082368.D	19 Oct 2015 21:16	UM/IZ	Ok,M
19	G3993-02MSD	BF082369.D	19 Oct 2015 21:45	UM/IZ	Ok,M
20	G3975-10MS	BF082370.D	19 Oct 2015 22:14	UM/IZ	Ok,M
21	G3975-10MSD	BF082371.D	19 Oct 2015 22:42	UM/IZ	Ok,M
22	SSTDCCC040	BF082372.D	19 Oct 2015 23:11	UM/IZ	Ok,M
23	DFTPP	BF082373.D	20 Oct 2015 00:44	UM/IZ	Ok
24	SSTDCCC040	BF082374.D	20 Oct 2015 1:13	UM/IZ	Ok,M
25	G4084-01	BF082375.D	20 Oct 2015 1:42	UM/IZ	Ok
26	G4040-01	BF082376.D	20 Oct 2015 2:10	UM/IZ	Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

27	G4040-02	BF082377.D	20 Oct 2015 2:39	UM/IZ	Ok,M
28	G4040-03	BF082378.D	20 Oct 2015 3:07	UM/IZ	ReRun
29	G4040-04	BF082379.D	20 Oct 2015 3:36	UM/IZ	ReRun
30	G4040-05	BF082380.D	20 Oct 2015 4:05	UM/IZ	ReRun
31	G4051-01RE	BF082381.D	20 Oct 2015 4:33	UM/IZ	Confirms
32	G4051-06RE	BF082382.D	20 Oct 2015 5:02	UM/IZ	Confirms
33	G4051-08DL	BF082383.D	20 Oct 2015 5:31	UM/IZ	Ok,M
34	G4051-09DL	BF082384.D	20 Oct 2015 5:59	UM/IZ	Ok,M
35	G4009-03DL	BF082385.D	20 Oct 2015 6:28	UM/IZ	Ok,M
36	G4046-01DL	BF082386.D	20 Oct 2015 6:56	UM/IZ	Dilution
37	G4046-01DL2	BF082387.D	20 Oct 2015 7:25	UM/IZ	Ok,M
38	G4046-02DL	BF082388.D	20 Oct 2015 7:53	UM/IZ	Dilution
39	G4046-02DL2	BF082389.D	20 Oct 2015 8:22	UM/IZ	Ok,M
40	G4046-03DL	BF082390.D	20 Oct 2015 8:51	UM/IZ	Dilution
41	G4046-03DL2	BF082391.D	20 Oct 2015 9:19	UM/IZ	Ok,M
42	G4046-04DL	BF082392.D	20 Oct 2015 9:48	UM/IZ	Dilution
43	G4046-04DL2	BF082393.D	20 Oct 2015 10:17	UM/IZ	Ok,M
44	G4046-05DL	BF082394.D	20 Oct 2015 10:46	UM/IZ	Ok,M
45	G4040-03RE	BF082395.D	20 Oct 2015 11:15	UM/IZ	Confirms
46	G4040-04RE	BF082396.D	20 Oct 2015 11:43	UM/IZ	Confirms
47	G4040-05RE	BF082397.D	20 Oct 2015 12:12	UM/IZ	Confirms
48	G3975-09RE	BF082398.D	20 Oct 2015 12:41	UM/IZ	Confirms

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP	DFTPP	BF082165.D		Ok
2	SSTDCCC040	SSTDCCC040	BF082166.D	Need ICAL	Not Ok
3	SSTDICC02.5	SSTDICC02.5	BF082167.D	Compound # 4,32,40,44,53,55,59,60,64,71 removed from 2.5 PPM level	Ok,M
4	SSTDICC010	SSTDICC010	BF082168.D	linear Regression used for Compound # 40,53	Ok,M
5	SSTDICC025	SSTDICC025	BF082169.D	Quadratic Regression used for Compound # 55	Ok,M
6	SSTDICCC040	SSTDICCC040	BF082170.D		Ok,M
7	SSTDICC050	SSTDICC050	BF082171.D		Ok,M
8	SSTDICC060	SSTDICC060	BF082172.D		Ok,M
9	SSTDICC080	SSTDICC080	BF082173.D		Ok,M
10	SSTDICV040	ICVBF101015	BF082174.D		Ok,M
11	PB86035BS	PB86035BS	BF082175.D		Ok,M
12	PB86050BS	PB86050BS	BF082176.D		Ok,M
13	PB86038BS	PB86038BS	BF082177.D		Ok,M
14	PB86017BS	PB86017BS	BF082178.D		Ok,M
15	PB86017BSD	PB86017BSD	BF082179.D		Ok,M
16	G3974-03	MGP222BR-35-37	BF082180.D		Ok
17	G3974-03MS	MGP222BR-35-37MS	BF082181.D		Ok,M
18	G3974-03MSD	MGP222BR-35-37MSD	BF082182.D		Ok,M
19	G3979-09	A13COMP	BF082183.D		Ok
20	G3979-09MS	A13COMPMS	BF082184.D		Ok,M
21	G3979-09MSD	A13COMPMSD	BF082185.D		Ok,M
22	G3979-10	A14COMP	BF082186.D		Ok

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

23	G3979-11	A15COMP	BF082187.D		Ok
24	SSTDCCC040	SSTDCCC040EC	BF082188.D		Ok,M
25	DFTPP	DFTPP	BF082189.D		Ok
26	SSTDCCC040	SSTDCCC040	BF082190.D		Ok,M
27	G3979-12	A16COMP	BF082191.D		Ok
28	G3979-21	A12COMP	BF082192.D		Ok
29	G3979-22	A9COMP	BF082193.D		Ok
30	G3979-23	A10COMP	BF082194.D		Ok
31	G3979-24	A11COMP	BF082195.D		Ok
32	G3979-25	A12COMP	BF082196.D		Ok
33	G3906-09MS	IM-MLA-(1.5-02)MS	BF082197.D		Ok,M
34	G3906-09MSD	IM-MLA-(1.5-02)MSD	BF082198.D		Ok,M
35	G3974-02	MGP222BR-22-24	BF082199.D	Need 5X	Dilution
36	G3959-04	PO-002	BF082200.D		Ok
37	G3959-03	PO-004	BF082201.D		Ok
38	G3979-05	A13COMP	BF082202.D		Ok
39	G3979-06	A14COMP	BF082203.D		Ok
40	G3979-07	A15COMP	BF082204.D		Ok,M
41	G3979-08	A16COMP	BF082205.D		Ok,M
42	G3979-18	A9COMP	BF082206.D		Ok
43	G3979-19	A10COMP	BF082207.D		Ok
44	G3979-20	A11COMP	BF082208.D		Ok,M
45	G3889-02DL	MGP123-5-7DL	BF082209.D		Ok,M

Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

46	G3921-07DL	LS-COMP(1-8)DL	BF082210.D		Ok,M
47	G3974-01DL	MGP222BR-12-14DL	BF082211.D	Need 200X	Dilution
48	G3933-01	TP-COMP-04	BF082212.D		Ok,M
49	G3921-03	RS-COMP(1-8)	BF082213.D		Ok,M
50	G3928-06	OS-SB-22(46-48)A	BF082214.D	Out of tune time	Not Ok
51	SSTDCCC040	SSTDCCC040EC	BF082215.D	Out of tune time	Not Ok

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP	DFTPP	BF082319.D		Ok
2	SSTDCCC040	SSTDCCC040	BF082320.D		Ok,M
3	PB86109BL	PB86109BL	BF082321.D		Ok,M
4	PB86109BS	PB86109BS	BF082322.D		Ok,M
5	G4017-02	TEC-10	BF082323.D		Ok,M
6	G4051-10	FB1-20151015	BF082324.D		Ok,M
7	G3993-02	STOCKPILE	BF082325.D		Ok,M
8	G4034-01	CWC-1-20151014	BF082326.D		Ok,M
9	G4051-01	TK1-1-20151015	BF082327.D	Surrogate fail	ReRun
10	G4051-02MS	TK1-1-20151015MS	BF082328.D		Ok,M
11	G4051-03MSD	TK1-1-20151015MSD	BF082329.D	Internal standard fail	Ok,M
12	G4051-04	TK1-3-20151015	BF082330.D		Ok,M
13	G4051-05	TK1-4-20151015	BF082331.D		Ok,M
14	G4051-06	TK1-6-20151015	BF082332.D	Surrogate fail	ReRun
15	G4051-07	TK1-2-20151015	BF082333.D		Ok,M
16	G4051-08	TK1-DUP-20151015	BF082334.D	Need 5X	Dilution
17	G4051-09	TK1-5-20151015	BF082335.D	Surrogate fail, Need 5X	Dilution
18	G4046-01	GOODLUCK902	BF082336.D	Internal standard fail, Need 50X, 250X	Dilution
19	G4046-02	GOODLUCK58	BF082337.D	Internal standard fail, Need 50X, 250X	Dilution
20	G4046-03	GOODLUCKINSULATION	BF082338.D	Internal standard fail, Need 400X	Dilution
21	G4046-04	MANAHAWKEN112	BF082339.D	Internal standard fail, Need 50X,500X	Dilution
22	G4046-05	MANAHAWKENINSULATI	BF082340.D	Internal standard fail, Need 400X	Dilution

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

23	G4015-13	LW-1	BF082341.D		Ok,M
24	DFTPP	DFTPP	BF082342.D		Ok
25	SSTDCCC040	SSTDCCC040	BF082343.D		Ok,M
26	G4016-03	CS-3	BF082344.D		Ok
27	G4009-01	KW-1	BF082345.D		Ok,M
28	G4009-02	KW-2	BF082346.D		Ok,M
29	G4009-03	KW-3	BF082347.D	Need 2X	Dilution
30	G4016-12	CS-13	BF082348.D	Need 20X	Dilution
31	G4016-12DL	CS-13DL	BF082349.D		Ok,M
32	SSTDCCC040	SSTDCCC040EC	BF082350.D		Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP	DFTPP	BF082351.D		Ok
2	SSTDCCC040	SSTDCCC040	BF082352.D		Ok,M
3	PB86128BSD	PB86128BSD	BF082353.D		Ok,M
4	PB86144BS	PB86144BS	BF082354.D		Ok,M
5	PB86137BS	PB86137BS	BF082355.D		Ok,M
6	PB86128BS	PB86128BS	BF082356.D		Ok,M
7	PB86144BL	PB86144BL	BF082357.D		Ok
8	PB86165BS	PB86165BS	BF082358.D		Ok,M
9	PB86137BL	PB86137BL	BF082359.D		Ok
10	PB86137TB	PB86137TB	BF082360.D		Ok
11	PB86128BL	PB86128BL	BF082361.D		Ok
12	PB86165BL	PB86165BL	BF082362.D		Ok
13	PB86165TB	PB86165TB	BF082363.D		Ok
14	G3918-03RE	WC100215-LRE	BF082364.D	Fax is given with original run	Confirms
15	G4047-02	EFFWW	BF082365.D	ISTD fail	ReRun
16	G3975-10	PX3	BF082366.D		Ok
17	G3975-09	PX3	BF082367.D	Internal standard fail	ReRun
18	G3993-02MS	STOCKPILEMS	BF082368.D		Ok,M
19	G3993-02MSD	STOCKPILEMSD	BF082369.D		Ok,M
20	G3975-10MS	PX3MS	BF082370.D		Ok,M
21	G3975-10MSD	PX3MSD	BF082371.D		Ok,M
22	SSTDCCC040	SSTDCCC040EC	BF082372.D		Ok,M

Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

23	DFTPP	DFTPP	BF082373.D		Ok
24	SSTDCCC040	SSTDCCC040	BF082374.D		Ok,M
25	G4084-01	SB-07-7.5-8.0-092915	BF082375.D		Ok
26	G4040-01	IM-MLA-2.5-03	BF082376.D		Ok,M
27	G4040-02	IM-MLA-2.5-04	BF082377.D		Ok,M
28	G4040-03	IM-MLA-2.5-05	BF082378.D	Internal standard fail	ReRun
29	G4040-04	IM-MLA-1.5-05	BF082379.D	Internal standard fail	ReRun
30	G4040-05	IM-MLA-DGA-03	BF082380.D	Internal standard fail	ReRun
31	G4051-01RE	TK1-1-20151015RE	BF082381.D	Surrogate fail	Confirms
32	G4051-06RE	TK1-6-20151015RE	BF082382.D	Surrogate fail	Confirms
33	G4051-08DL	TK1-DUP-20151015DL	BF082383.D		Ok,M
34	G4051-09DL	TK1-5-20151015DL	BF082384.D		Ok,M
35	G4009-03DL	KW-3DL	BF082385.D		Ok,M
36	G4046-01DL	GOODLUCK902DL	BF082386.D	Need 250X	Dilution
37	G4046-01DL2	GOODLUCK902DL2	BF082387.D	Internal standard fail	Ok,M
38	G4046-02DL	GOODLUCK58DL	BF082388.D	Need 250X;Internal standard fail	Dilution
39	G4046-02DL2	GOODLUCK58DL2	BF082389.D		Ok,M
40	G4046-03DL	GOODLUCKINSULATIONI	BF082390.D	Need 1000X	Dilution
41	G4046-03DL2	GOODLUCKINSULATIONI	BF082391.D		Ok,M
42	G4046-04DL	MANAHAWKEN112DL	BF082392.D	Need 500X	Dilution
43	G4046-04DL2	MANAHAWKEN112DL2	BF082393.D		Ok,M
44	G4046-05DL	MANAHAWKENINSULATI	BF082394.D		Ok,M
45	G4040-03RE	IM-MLA-2.5-05RE	BF082395.D	Internal standard fail	Confirms

Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

46	G4040-04RE	IM-MLA-1.5-05RE	BF082396.D	Internal standard fail	Confirms
47	G4040-05RE	IM-MLA-DGA-03RE	BF082397.D	Internal standard fail	Confirms
48	G3975-09RE	PX3RE	BF082398.D	Internal standard fail	Confirms

CHEMTECH EXTRACTION LOGPAGE

PB86144

SOP ID: M 3541 ASE-Extraction-07

Matrix : Solid

Clean Up SOP #: N/A

Weigh By: RS Extraction By: RS

Balance check: RS

Balance ID: PM-4600

Batch# PB86144

Extraction Date : 10/16/15

Extraction Start Time : 09:21

Extraction End Time : 12:40

Review By :

Filter By: RS Concentration By: MM

Weight 1: (20.00) 20.00 Weight 2: (110.00) 110.00

Method of Extraction

☐ Seperatory Funne ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☑ Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	1.0ML	50/100 ppm	SP3463
Surrogate	1.0ML	100/150 ppm	SP3391

Chemical Used	ML/SAMPLE USED	Lot Number
Mcl2/Acetone/1:1		EP1614
Baked Na2SO4		EP1613
Sand		E1520

10/16

10/16

Extraction Conformance/Non-Conformance Comments:

Gr 3975-09 & Gr 4084-01 Extracted & added in Batch.

Extraction End Time: 12:40 Gr 4084-01 Extracted out of Hold time.

KD Bath Temperature: 60.1 c

Received Date: 10/16/15

Delivered Date: 10/16/15

Delivered Time: 12:45

Gr 3975-09 } Delivered
Gr 4084-01 } at 18:15

Envap Temperature: 40 c

Received By: Um

Delivered By: MM

Analysis Group:

Extraction Group: , RS, , MM, UA, RP, JP, BP, NP, UM

CHEMTECH EXTRACTION LOGPAGE **PrepBatch ID** **PB86144**

Analytical Method: 8270D **Extraction Date:** 10/16/2015-09:21 **Concentration Date:** 10 / 16 / 15

Lab Sample ID	Client Sample ID	Test	g/ mL	PH	Surr/Spike By: Added By	Surr/Spike By: Verified By	Final Vol.(mL)	Comments	Prep Pos
	2	2							
PB86144BL	SBLK44	SVOCMS Group1	30.00	N/A	RS	AP	1		U1 01
PB86144BS	SLCS44	SVOCMS Group1	30.03						02
G3975-09	PX3	SVOCMS Group1	30.06					Yellow with Matrix BT 16:15,	03
G4034-01	CWC-1-20151014	SVOCMS Group1	30.04					Black Matrix	04
G4040-01	IM-MLA-2.5-03	SVOCMS Group1	30.09						05
G4040-02	IM-MLA-2.5-04	SVOCMS Group1	30.06						06
G4040-03	IM-MLA-2.5-05	SVOCMS Group1	30.08						U2 01
G4040-04	IM-MLA-1.5-05	SVOCMS Group1	30.10						02
G4040-05	IM-MLA-DGA-03	SVOCMS Group1	30.05						03
G4046-01	GOODLUCK902	SVOC-TCL BNA -20	5.01					Wood Chips	04
G4046-02	GOODLUCK58	SVOC-TCL BNA -20	5.04						05
G4046-03	GOODLUCKINSULATION	SVOCMS Group1	1.05					Asbestos Matrix	06
G4046-04	MANAHAWKEN112	SVOC-TCL BNA -20	5.03					Wood Chips	U3 01
G4046-05	MANAHAWKENINSULATION	SVOCMS Group1	1.03					Asbestos Matrix	02
G4051-01	TK1-1-20151015	SVOCMS Group1	30.11						03
G4051-02	G4051-01MS	SVOCMS Group1	30.06						04
G4051-03	G4051-01MSD	SVOCMS Group1	30.03						05
G4051-04	TK1-3-20151015	SVOCMS Group1	30.09						06
G4051-05	TK1-4-20151015	SVOCMS Group1	30.03						U4 01
G4051-06	TK1-6-20151015	SVOCMS Group1	30.08						02
G4051-07	TK1-2-20151015	SVOCMS Group1	30.03						03
G4051-08	TK1-DUP-20151015	SVOCMS Group1	30.11						04
G4051-09	TK1-5-20151015	SVOCMS Group1	30.04						05
G4084-01	SB-07-7.5-8.0-092915	SVOCMS Group2	30.10				1	Yellow with Matrix BT 16:15	06

* Extracts relinquished on the same date as received.

CHEMTECH

EXTRACTION LOGPAGE

PrepBatch ID : PB86144

Analytical Method:_____ Extraction Date: 10/16/2015-09:21 Concentration Date:___/___/___

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments		Prep Pos
		2 2			Added By	Verified By				
PB86144BL	SBLK44	SVOCMS Group1	30.00	N/A	RUPESH	rajesh	1			
PB86144BS	SLCS44	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1			
G3975-09	PX3	SVOCMS Group1	30.06	N/A	RUPESH	rajesh	1			
G4034-01	CWC-1-20151014	SVOCMS Group1	30.04	N/A	RUPESH	rajesh	1			
G4040-01	IM-MLA-2.5-03	SVOCMS Group1	30.09	N/A	RUPESH	rajesh	1			
G4040-02	IM-MLA-2.5-04	SVOCMS Group1	30.06	N/A	RUPESH	rajesh	1			
G4040-03	IM-MLA-2.5-05	SVOCMS Group1	30.08	N/A	RUPESH	rajesh	1			
G4040-04	IM-MLA-1.5-05	SVOCMS Group1	30.10	N/A	RUPESH	rajesh	1			
G4040-05	IM-MLA-DGA-03	SVOCMS Group1	30.05	N/A	RUPESH	rajesh	1			
G4046-01	GOODLUCK902	SVOC-TCL BNA -20	5.01	N/A	RUPESH	rajesh	1			
G4046-02	GOODLUCK58	SVOC-TCL BNA -20	5.04	N/A	RUPESH	rajesh	1			
G4046-03	GOODLUCKINSULATION	SVOCMS Group1	1.05	N/A	RUPESH	rajesh	1			
G4046-04	MANAHAWKEN112	SVOC-TCL BNA -20	5.03	N/A	RUPESH	rajesh	1			
G4046-05	MANAHAWKENINSULATION	SVOCMS Group1	1.03	N/A	RUPESH	rajesh	1			
G4051-01	TK1-1-20151015	SVOCMS Group1	30.11	N/A	RUPESH	rajesh	1			
G4051-02	G4051-01MS	SVOCMS Group1	30.06	N/A	RUPESH	rajesh	1			

* Extracts relinquished on the same date as received.

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CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID : PB86144**

Analytical Method: 2 **Extraction Date:** 10/16/2015-09:21 **Concentration Date:** __/__/__

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
		2	2		Added By	Verified By			
G4051-03	G4051-01MSD	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1		
G4051-04	TK1-3-20151015	SVOCMS Group1	30.09	N/A	RUPESH	rajesh	1		
G4051-05	TK1-4-20151015	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1		
G4051-06	TK1-6-20151015	SVOCMS Group1	30.08	N/A	RUPESH	rajesh	1		
G4051-07	TK1-2-20151015	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1		
G4051-08	TK1-DUP-20151015	SVOCMS Group1	30.11	N/A	RUPESH	rajesh	1		
G4051-09	TK1-5-20151015	SVOCMS Group1	30.04	N/A	RUPESH	rajesh	1		
G4084-01	SB-07-7.5-8.0-092915	SVOCMS Group2	30.10	N/A	RUPESH	rajesh	1		

10/16

* Extracts relinquished on the same date as received.

10/16

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

LAB CHRONICLE

OrderID:	G4046	**OrderDate:**	10/15/2015 11:06:06 AM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4046-03	**GOODLUCKINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/16/15	
G4046-03DL	**GOODLUCKINSULATIONDL**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/20/15	
G4046-03DL2	**GOODLUCKINSULATIONDL2**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/20/15	
G4046-05	**MANAHAWKENINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/16/15	
G4046-05DL	**MANAHAWKENINSULATIONDL**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/20/15	

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
Client ID :	**GOODLUCK902**									
G4046-01	GOODLUCK902	SOIL	Acenaphthylene		22,300.000		500	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Acenaphthene		11,700.000	J	560	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Dibenzofuran		27,400.000		780	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Fluorene		107,700.000		750	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Phenanthrene		878,100.000	E	540	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Anthracene		411,900.000	E	410	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Carbazole		234,600.000	E	440	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Fluoranthene		936,500.000	E	400	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Pyrene		652,100.000	E	480	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzo(a)anthracene		271,000.000	E	950	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Chrysene		220,400.000	E	900	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzo(b)fluoranthene		133,300.000		650	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzo(k)fluoranthene		48,800.000		940	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzo(a)pyrene		51,500.000		430	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Indeno(1,2,3-cd)pyrene		21,300.000		660	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Dibenzo(a,h)anthracene		7,000.000	J	570	2000	19800	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzo(g,h,i)perylene		14,000.000	J	810	2000	19800	ug/Kg
			Total Svoc :		**4,049,600.00**					
G4046-01	GOODLUCK902	SOIL	1,1-Biphenyl, 3,4-dimethyl-	*	21,900.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	11H-Benzo[a]fluoren-11-one	*	16,300.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	11H-Benzo[b]fluorene	*	13,200.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	1-Isopropenylnaphthalene	*	38,800.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	2,4,6-Cycloheptatrien-1-one, 2-ph	*	33,300.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	2,8-Dimethylquinoline	*	12,200.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	4,5-Dihydrobenzo[e]pyrene	*	22,100.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	4H-Cyclopenta[def]phenanthrene	*	14,500.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	7H-Benz[de]anthracen-7-one	*	17,600.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzene, 1,1-(1-butenylidene)bis-	*	11,700.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzo[b]naphtho[2,1-d]thiophene	*	17,200.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Benzofuran, 2-ethenyl-	*	20,200.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Cyclopenta(def)phenanthrenone	*	11,900.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Naphthalene, 2-(1-methylethenyl)	*	12,600.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Phenanthrene, 2-methyl-	*	9,200.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Pyrene, 1-methyl-	*	14,900.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Pyrene, 2-methyl-	*	17,300.000	J	0		0	ug/Kg
G4046-01	GOODLUCK902	SOIL	Quinoline, 2,4-dimethyl-	*	17,000.000	J	0		0	ug/Kg
			Total Tics :		**321,900.00**					
			Total Concentration:		**4,371,500.00**					

Client ID : GOODLUCK902DL

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
G4046-01DL	GOODLUCK902DL	SOIL	Dibenzofuran	32,400.000	JD	3900	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Fluorene	134,400.000	D	3800	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Phenanthrene	1,581,700.000	ED	2700	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Anthracene	706,100.000	D	2000	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Carbazole	272,700.000	D	2200	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Fluoranthene	1,322,100.000	ED	2000	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Pyrene	1,051,700.000	ED	2400	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Benzo(a)anthracene	335,200.000	D	4800	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Chrysene	288,000.000	D	4500	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Benzo(b)fluoranthene	145,600.000	D	3300	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Benzo(k)fluoranthene	91,400.000	JD	4700	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Benzo(a)pyrene	61,000.000	JD	2200	10000	98800	ug/Kg
G4046-01DL	GOODLUCK902DL	SOIL	Indeno(1,2,3-cd)pyrene	26,100.000	JD	3300	10000	98800	ug/Kg
			Total Svoc :	**6,048,400.00**					
			Total Concentration:	**6,048,400.00**					

Client ID : GOODLUCK902DL2

G4046-01DL2	GOODLUCK902DL2	SOIL	Fluorene	138,700.000	JD	18900	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Phenanthrene	1,954,100.000	D	13500	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Anthracene	842,800.000	D	10200	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Carbazole	315,900.000	JD	10900	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Fluoranthene	2,047,400.000	D	10000	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Pyrene	1,196,600.000	D	12000	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Benzo(a)anthracene	328,300.000	JD	23800	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Chrysene	326,300.000	JD	22600	49900	494000	ug/Kg
G4046-01DL2	GOODLUCK902DL2	SOIL	Benzo(b)fluoranthene	149,700.000	JD	16300	49900	494000	ug/Kg
			Total Svoc :	**7,299,800.00**					
			Total Concentration:	**7,299,800.00**					

Client ID : GOODLUCK58

G4046-02	GOODLUCK58	SOIL	2,4-Dimethylphenol	9,400.000	J	1100	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Naphthalene	15,000.000	J	680	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	2-Methylnaphthalene	38,500.000		500	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	1,1-Biphenyl	22,200.000		750	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Acenaphthylene	15,100.000	J	500	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Acenaphthene	130,400.000		560	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Dibenzofuran	214,500.000	E	770	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Fluorene	320,600.000	E	750	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Phenanthrene	1,180,400.000	E	540	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Anthracene	367,700.000	E	400	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Carbazole	248,400.000	E	430	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Fluoranthene	1,037,700.000	E	400	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Pyrene	666,500.000	E	480	2000	19600	ug/Kg

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
G4046-02	GOODLUCK58	SOIL	Benzo(a)anthracene		308,100.000	E	950	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Chrysene		266,800.000	E	900	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzo(b)fluoranthene		161,000.000	E	650	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzo(k)fluoranthene		78,000.000		930	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzo(a)pyrene		62,600.000		430	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Indeno(1,2,3-cd)pyrene		33,300.000		660	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Dibenzo(a,h)anthracene		10,300.000	J	570	2000	19600	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzo(g,h,i)perylene		22,900.000		800	2000	19600	ug/Kg
			Total Svoc :		**5,209,400.00**					
G4046-02	GOODLUCK58	SOIL	Pyrene, 1-methyl-	*	23,100.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	unknown13.97	*	16,000.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	1,1-Binaphthalene	*	48,100.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzene, [1-(2,4-cyclopentadien-1	*	50,000.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	11H-Benzo[a]fluoren-11-one	*	20,800.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	11H-Benzo[b]fluorene	*	27,600.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	1-Isopropenylnaphthalene	*	21,200.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	2,4,6-Cycloheptatrien-1-one, 2-ph	*	84,800.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	3,3-Dimethylbiphenyl	*	20,400.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	7H-Benz[de]anthracen-7-one	*	23,100.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	9,10-Anthracenedione, 2-methyl-	*	19,600.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Benzo[b]naphtho[2,1-d]thiophene	*	30,000.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Diphenylmethane	*	27,300.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Fluoranthene, 2-methyl-	*	19,400.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Naphthalene, 1,6-dimethyl-	*	26,200.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Naphthalene, 1,7-dimethyl-	*	24,100.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Naphthalene, 1-methyl-	*	23,300.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Naphthalene, 2,3-dimethyl-	*	17,900.000	J	0		0	ug/Kg
G4046-02	GOODLUCK58	SOIL	Phenanthro[3,4-c]furan-1,3-dione	*	24,800.000	J	0		0	ug/Kg
			Total Tics :		**547,700.00**					
			Total Concentration:		**5,757,100.00**					

Client ID : GOODLUCK58DL

G4046-02DL	GOODLUCK58DL	SOIL	2-Methylnaphthalene	43,500.000	JD	2500	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	1,1-Biphenyl	29,200.000	JD	3800	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Acenaphthene	193,600.000	D	2800	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Dibenzofuran	308,700.000	D	3900	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Fluorene	442,900.000	D	3800	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Phenanthrene	2,024,600.000	ED	2700	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Anthracene	525,900.000	D	2000	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Carbazole	311,500.000	D	2200	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Fluoranthene	1,394,700.000	ED	2000	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Pyrene	1,097,500.000	ED	2400	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Benzo(a)anthracene	336,100.000	D	4700	9900	98200	ug/Kg

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
G4046-02DL	GOODLUCK58DL	SOIL	Chrysene	413,300.000	D	4500	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Benzo(b)fluoranthene	239,600.000	D	3200	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Benzo(k)fluoranthene	64,300.000	JD	4700	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Benzo(a)pyrene	76,800.000	JD	2100	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Indeno(1,2,3-cd)pyrene	36,100.000	JD	3300	9900	98200	ug/Kg
G4046-02DL	GOODLUCK58DL	SOIL	Benzo(g,h,i)perylene	28,700.000	JD	4000	9900	98200	ug/Kg
			Total Svoc :	**7,567,000.00**					
			Total Concentration:	**7,567,000.00**					
Client ID :	**GOODLUCK58DL2**								
G4046-02DL2	GOODLUCK58DL2	SOIL	Acenaphthene	196,400.000	JD	14000	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Dibenzofuran	311,500.000	JD	19300	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Fluorene	516,400.000	D	18800	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Phenanthrene	2,797,600.000	D	13400	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Anthracene	652,800.000	D	10100	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Carbazole	341,300.000	JD	10900	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Fluoranthene	1,919,600.000	D	10000	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Pyrene	1,311,000.000	D	11900	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Benzo(a)anthracene	366,100.000	JD	23700	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Chrysene	456,300.000	JD	22500	49600	491100	ug/Kg
G4046-02DL2	GOODLUCK58DL2	SOIL	Benzo(b)fluoranthene	241,600.000	JD	16200	49600	491100	ug/Kg
			Total Svoc :	**9,110,600.00**					
			Total Concentration:	**9,110,600.00**					
Client ID :	**MANAHAWKEN112**								
G4046-04	MANAHAWKEN112	SOIL	Naphthalene	31,200.000		690	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	2-Methylnaphthalene	53,000.000		500	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	1,1-Biphenyl	22,300.000		750	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Acenaphthylene	21,700.000		500	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Acenaphthene	255,900.000	E	560	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Dibenzofuran	305,800.000	E	780	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Fluorene	356,200.000	E	750	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Phenanthrene	1,936,100.000	E	540	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Anthracene	280,300.000	E	410	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Carbazole	358,100.000	E	440	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Fluoranthene	1,399,400.000	E	400	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Pyrene	912,500.000	E	480	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzo(a)anthracene	308,800.000	E	950	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Chrysene	308,400.000	E	900	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzo(b)fluoranthene	137,800.000		650	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzo(k)fluoranthene	77,800.000		940	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzo(a)pyrene	63,000.000		430	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Indeno(1,2,3-cd)pyrene	32,600.000		660	2000	19700	ug/Kg

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
G4046-04	MANAHAWKEN112	SOIL	Dibenzo(a,h)anthracene		8,200.000	J	570	2000	19700	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzo(g,h,i)perylene		22,500.000		810	2000	19700	ug/Kg
			Total Svoc :		**6,891,600.00**					
G4046-04	MANAHAWKEN112	SOIL	Anthracene, 9-phenyl-	*	34,600.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Benzene, [1-(2,4-cyclopentadien-1	*	42,700.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Cyclopenta[cd]pyrene	*	15,000.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Dibenzofuran, 4-methyl-	*	95,200.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Diphenylmethane	*	26,600.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	11H-Benzo[b]fluorene	*	23,300.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	1-Isopropenylnaphthalene	*	20,900.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	3,3-Dimethylbiphenyl	*	22,600.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Pyrene, 1-methyl-	*	15,600.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Pyrene, 2-methyl-	*	17,500.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Rubicene-	*	20,400.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	unknown12.82	*	16,600.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Naphthalene, 1,3-dimethyl-	*	21,000.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Naphthalene, 1,4,5-trimethyl-	*	15,500.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Naphthalene, 1,4-dimethyl-	*	30,700.000	J	0		0	ug/Kg
G4046-04	MANAHAWKEN112	SOIL	Naphthalene, 2,7-dimethyl-	*	28,000.000	J	0		0	ug/Kg
			Total Tics :		**446,200.00**					
			Total Concentration:		**7,337,800.00**					

Client ID : MANAHAWKEN112DL

G4046-04DL	MANAHAWKEN112DL	SOIL	Naphthalene	39,500.000	JD	3400	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	2-Methylnaphthalene	57,000.000	JD	2500	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	1,1-Biphenyl	30,600.000	JD	3800	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Acenaphthylene	20,700.000	JD	2500	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Acenaphthene	367,800.000	D	2800	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Dibenzofuran	422,700.000	D	3900	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Fluorene	531,500.000	D	3800	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Phenanthrene	3,010,600.000	ED	2700	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Anthracene	481,600.000	D	2000	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Carbazole	398,800.000	D	2200	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Fluoranthene	2,010,900.000	ED	2000	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Pyrene	1,351,600.000	ED	2400	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Benzo(a)anthracene	370,900.000	D	4700	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Chrysene	358,500.000	D	4500	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Benzo(b)fluoranthene	217,800.000	D	3300	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Benzo(k)fluoranthene	56,600.000	JD	4700	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Benzo(a)pyrene	80,700.000	JD	2100	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Indeno(1,2,3-cd)pyrene	38,000.000	JD	3300	9900	98400	ug/Kg
G4046-04DL	MANAHAWKEN112DL	SOIL	Benzo(g,h,i)perylene	26,300.000	JD	4000	9900	98400	ug/Kg
			Total Svoc :	**9,872,100.00**					

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Hit Summary Sheet
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
			Total Concentration:	**9,872,100.00**					
Client ID : MANAHAWKEN112DL2									
G4046-04DL2	MANAHAWKEN112DL	SOIL	Acenaphthene	357,900.000	JD	28000	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Dibenzofuran	434,400.000	JD	38800	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Fluorene	696,800.000	JD	37600	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Phenanthrene	4,160,000.000	D	26800	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Anthracene	541,800.000	JD	20300	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Carbazole	409,500.000	JD	21800	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Fluoranthene	2,760,400.000	D	20000	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Pyrene	1,795,200.000	D	23900	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Benzo(a)anthracene	356,900.000	JD	47400	99400	984100	ug/Kg
G4046-04DL2	MANAHAWKEN112DL	SOIL	Chrysene	375,700.000	JD	45000	99400	984100	ug/Kg
			Total Svoc :	**11,888,600.00**					
			Total Concentration:	**11,888,600.00**					

SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082336.D	10	10/16/15 16:15	10/16/15 20:12	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	2000	U	1000	2000	19800	ug/Kg
108-95-2	Phenol	2000	U	460	2000	19800	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	2000	U	960	2000	19800	ug/Kg
95-57-8	2-Chlorophenol	2000	U	1100	2000	19800	ug/Kg
95-48-7	2-Methylphenol	2000	U	1100	2000	19800	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	2000	U	830	2000	19800	ug/Kg
98-86-2	Acetophenone	2000	U	610	2000	19800	ug/Kg
65794-96-9	3+4-Methylphenols	2000	U	1000	2000	19800	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	2000	U	1000	2000	19800	ug/Kg
67-72-1	Hexachloroethane	2000	U	890	2000	19800	ug/Kg
98-95-3	Nitrobenzene	2000	U	750	2000	19800	ug/Kg
78-59-1	Isophorone	2000	U	660	2000	19800	ug/Kg
88-75-5	2-Nitrophenol	2000	U	960	2000	19800	ug/Kg
105-67-9	2,4-Dimethylphenol	2000	U	1100	2000	19800	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	2000	U	1100	2000	19800	ug/Kg
120-83-2	2,4-Dichlorophenol	2000	U	760	2000	19800	ug/Kg
91-20-3	Naphthalene	2000	U	690	2000	19800	ug/Kg
106-47-8	4-Chloroaniline	2000	U	1400	2000	19800	ug/Kg
87-68-3	Hexachlorobutadiene	2000	U	720	2000	19800	ug/Kg
105-60-2	Caprolactam	4000	U	930	4000	19800	ug/Kg
59-50-7	4-Chloro-3-methylphenol	2000	U	890	2000	19800	ug/Kg
91-57-6	2-Methylnaphthalene	2000	U	500	2000	19800	ug/Kg
77-47-4	Hexachlorocyclopentadiene	2000	U	490	2000	19800	ug/Kg
88-06-2	2,4,6-Trichlorophenol	2000	U	610	2000	19800	ug/Kg
95-95-4	2,4,5-Trichlorophenol	2000	U	1400	2000	19800	ug/Kg
92-52-4	1,1-Biphenyl	2000	U	750	2000	19800	ug/Kg
91-58-7	2-Chloronaphthalene	2000	U	460	2000	19800	ug/Kg
88-74-4	2-Nitroaniline	2000	U	890	2000	19800	ug/Kg
131-11-3	Dimethylphthalate	2000	U	540	2000	19800	ug/Kg
208-96-8	Acenaphthylene	22300		500	2000	19800	ug/Kg
606-20-2	2,6-Dinitrotoluene	2000	U	810	2000	19800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082336.D	10	10/16/15 16:15	10/16/15 20:12	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	4000	U	1300	4000	19800	ug/Kg
83-32-9	Acenaphthene	11700	J	560	2000	19800	ug/Kg
51-28-5	2,4-Dinitrophenol	16000	U	2000	16000	19800	ug/Kg
100-02-7	4-Nitrophenol	10000	U	3700	10000	19800	ug/Kg
132-64-9	Dibenzofuran	27400		780	2000	19800	ug/Kg
121-14-2	2,4-Dinitrotoluene	2000	U	600	2000	19800	ug/Kg
84-66-2	Diethylphthalate	2000	U	310	2000	19800	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	2000	U	1100	2000	19800	ug/Kg
86-73-7	Fluorene	107700		750	2000	19800	ug/Kg
100-01-6	4-Nitroaniline	4000	U	2600	4000	19800	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	10000	U	1100	10000	19800	ug/Kg
86-30-6	n-Nitrosodiphenylamine	2000	U	480	2000	19800	ug/Kg
101-55-3	4-Bromophenyl-phenylether	2000	U	390	2000	19800	ug/Kg
118-74-1	Hexachlorobenzene	2000	U	810	2000	19800	ug/Kg
1912-24-9	Atrazine	2000	U	1100	2000	19800	ug/Kg
87-86-5	Pentachlorophenol	2000	U	1400	2000	19800	ug/Kg
85-01-8	Phenanthrene	878100	E	540	2000	19800	ug/Kg
120-12-7	Anthracene	411900	E	410	2000	19800	ug/Kg
86-74-8	Carbazole	234600	E	440	2000	19800	ug/Kg
84-74-2	Di-n-butylphthalate	2000	U	1600	2000	19800	ug/Kg
206-44-0	Fluoranthene	936500	E	400	2000	19800	ug/Kg
129-00-0	Pyrene	652100	E	480	2000	19800	ug/Kg
85-68-7	Butylbenzylphthalate	2000	U	960	2000	19800	ug/Kg
91-94-1	3,3-Dichlorobenzidine	2000	U	1300	2000	19800	ug/Kg
56-55-3	Benzo(a)anthracene	271000	E	950	2000	19800	ug/Kg
218-01-9	Chrysene	220400	E	900	2000	19800	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2000	U	710	2000	19800	ug/Kg
117-84-0	Di-n-octyl phthalate	2000	U	230	2000	19800	ug/Kg
205-99-2	Benzo(b)fluoranthene	133300		650	2000	19800	ug/Kg
207-08-9	Benzo(k)fluoranthene	48800		940	2000	19800	ug/Kg
50-32-8	Benzo(a)pyrene	51500		430	2000	19800	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	21300		660	2000	19800	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	7000	J	570	2000	19800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082336.D	10	10/16/15 16:15	10/16/15 20:12	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	14000	J	810	2000	19800	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	2000	U	780	2000	19800	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	2000	U	780	2000	19800	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	84.9		28 - 127		57%	SPK: 150
13127-88-3	Phenol-d6	93.4		34 - 127		62%	SPK: 150
4165-60-0	Nitrobenzene-d5	55.5		31 - 132		56%	SPK: 100
321-60-8	2-Fluorobiphenyl	70.4		39 - 123		70%	SPK: 100
118-79-6	2,4,6-Tribromophenol	91.6		30 - 133		61%	SPK: 150
1718-51-0	Terphenyl-d14	83.7		37 - 115		84%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	51040	6.91				
1146-65-2	Naphthalene-d8	231886	8.21				
15067-26-2	Acenaphthene-d10	128806	9.95				
1517-22-2	Phenanthrene-d10	228686	11.45				
1719-03-5	Chrysene-d12	196863	14.15				
1520-96-3	Perylene-d12	207832	15.7				
TENTATIVE IDENTIFIED COMPOUNDS							
001463-17-8	2,8-Dimethylquinoline	12200	J			9.6	ug/Kg
001198-37-4	Quinoline, 2,4-dimethyl-	17000	J			9.71	ug/Kg
007522-79-4	Benzofuran, 2-ethenyl-	20200	J			10.1	ug/Kg
007383-90-6	1,1-Biphenyl, 3,4-dimethyl-	21900	J			10.45	ug/Kg
001855-47-6	1-Isopropenylnaphthalene	38800	J			10.56	ug/Kg
003710-23-4	Naphthalene, 2-(1-methylethenyl)-	12600	J			10.63	ug/Kg
014562-09-5	2,4,6-Cycloheptatrien-1-one, 2-phe	33300	J			10.65	ug/Kg
002531-84-2	Phenanthrene, 2-methyl-	9200	J			11.98	ug/Kg
000203-64-5	4H-Cyclopenta[def]phenanthrene	14500	J			12.07	ug/Kg
001726-14-3	Benzene, 1,1-(1-butenylidene)bis-	11700	J			12.82	ug/Kg
002381-21-7	Pyrene, 1-methyl-	14900	J			13.12	ug/Kg
000243-17-4	11H-Benzo[b]fluorene	13200	J			13.24	ug/Kg
003442-78-2	Pyrene, 2-methyl-	17300	J			13.34	ug/Kg
000479-79-8	11H-Benzo[a]fluoren-11-one	16300	J			13.76	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082336.D	10	10/16/15 16:15	10/16/15 20:12	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
000239-35-0	Benzo[b]naphtho[2,1-d]thiophene	17200	J			13.88	ug/Kg
000082-05-3	7H-Benz[de]anthracen-7-one	17600	J			13.99	ug/Kg
005737-13-3	Cyclopenta(def)phenanthrenone	11900	J			15.04	ug/Kg
095676-42-9	4,5-Dihydrobenzo[e]pyrene	22100	J			15.11	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902DL	SDG No.:	G4046
Lab Sample ID:	G4046-01DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082386.D	50	10/16/15 16:15	10/20/15 06:56	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	10000	UD	5200	10000	98800	ug/Kg
108-95-2	Phenol	10000	UD	2300	10000	98800	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	10000	UD	4800	10000	98800	ug/Kg
95-57-8	2-Chlorophenol	10000	UD	5300	10000	98800	ug/Kg
95-48-7	2-Methylphenol	10000	UD	5400	10000	98800	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	10000	UD	4100	10000	98800	ug/Kg
98-86-2	Acetophenone	10000	UD	3100	10000	98800	ug/Kg
65794-96-9	3+4-Methylphenols	10000	UD	5200	10000	98800	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	10000	UD	5000	10000	98800	ug/Kg
67-72-1	Hexachloroethane	10000	UD	4500	10000	98800	ug/Kg
98-95-3	Nitrobenzene	10000	UD	3800	10000	98800	ug/Kg
78-59-1	Isophorone	10000	UD	3300	10000	98800	ug/Kg
88-75-5	2-Nitrophenol	10000	UD	4800	10000	98800	ug/Kg
105-67-9	2,4-Dimethylphenol	10000	UD	5700	10000	98800	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	10000	UD	5700	10000	98800	ug/Kg
120-83-2	2,4-Dichlorophenol	10000	UD	3800	10000	98800	ug/Kg
91-20-3	Naphthalene	10000	UD	3400	10000	98800	ug/Kg
106-47-8	4-Chloroaniline	10000	UD	7000	10000	98800	ug/Kg
87-68-3	Hexachlorobutadiene	10000	UD	3600	10000	98800	ug/Kg
105-60-2	Caprolactam	20000	UD	4600	20000	98800	ug/Kg
59-50-7	4-Chloro-3-methylphenol	10000	UD	4400	10000	98800	ug/Kg
91-57-6	2-Methylnaphthalene	10000	UD	2500	10000	98800	ug/Kg
77-47-4	Hexachlorocyclopentadiene	10000	UD	2400	10000	98800	ug/Kg
88-06-2	2,4,6-Trichlorophenol	10000	UD	3100	10000	98800	ug/Kg
95-95-4	2,4,5-Trichlorophenol	10000	UD	7000	10000	98800	ug/Kg
92-52-4	1,1-Biphenyl	10000	UD	3800	10000	98800	ug/Kg
91-58-7	2-Chloronaphthalene	10000	UD	2300	10000	98800	ug/Kg
88-74-4	2-Nitroaniline	10000	UD	4400	10000	98800	ug/Kg
131-11-3	Dimethylphthalate	10000	UD	2700	10000	98800	ug/Kg
208-96-8	Acenaphthylene	10000	UD	2500	10000	98800	ug/Kg
606-20-2	2,6-Dinitrotoluene	10000	UD	4100	10000	98800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902DL	SDG No.:	G4046
Lab Sample ID:	G4046-01DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082386.D	50	10/16/15 16:15	10/20/15 06:56	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	20000	UD	6400	20000	98800	ug/Kg
83-32-9	Acenaphthene	10000	UD	2800	10000	98800	ug/Kg
51-28-5	2,4-Dinitrophenol	79800	UD	10100	79800	98800	ug/Kg
100-02-7	4-Nitrophenol	49900	UD	18500	49900	98800	ug/Kg
132-64-9	Dibenzofuran	32400	JD	3900	10000	98800	ug/Kg
121-14-2	2,4-Dinitrotoluene	10000	UD	3000	10000	98800	ug/Kg
84-66-2	Diethylphthalate	10000	UD	1600	10000	98800	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	10000	UD	5400	10000	98800	ug/Kg
86-73-7	Fluorene	134400	D	3800	10000	98800	ug/Kg
100-01-6	4-Nitroaniline	20000	UD	13000	20000	98800	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	49900	UD	5700	49900	98800	ug/Kg
86-30-6	n-Nitrosodiphenylamine	10000	UD	2400	10000	98800	ug/Kg
101-55-3	4-Bromophenyl-phenylether	10000	UD	1900	10000	98800	ug/Kg
118-74-1	Hexachlorobenzene	10000	UD	4100	10000	98800	ug/Kg
1912-24-9	Atrazine	10000	UD	5300	10000	98800	ug/Kg
87-86-5	Pentachlorophenol	10000	UD	6800	10000	98800	ug/Kg
85-01-8	Phenanthrene	1581700	ED	2700	10000	98800	ug/Kg
120-12-7	Anthracene	706100	D	2000	10000	98800	ug/Kg
86-74-8	Carbazole	272700	D	2200	10000	98800	ug/Kg
84-74-2	Di-n-butylphthalate	10000	UD	7800	10000	98800	ug/Kg
206-44-0	Fluoranthene	1322100	ED	2000	10000	98800	ug/Kg
129-00-0	Pyrene	1051700	ED	2400	10000	98800	ug/Kg
85-68-7	Butylbenzylphthalate	10000	UD	4800	10000	98800	ug/Kg
91-94-1	3,3-Dichlorobenzidine	10000	UD	6400	10000	98800	ug/Kg
56-55-3	Benzo(a)anthracene	335200	D	4800	10000	98800	ug/Kg
218-01-9	Chrysene	288000	D	4500	10000	98800	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	10000	UD	3500	10000	98800	ug/Kg
117-84-0	Di-n-octyl phthalate	10000	UD	1100	10000	98800	ug/Kg
205-99-2	Benzo(b)fluoranthene	145600	D	3300	10000	98800	ug/Kg
207-08-9	Benzo(k)fluoranthene	91400	JD	4700	10000	98800	ug/Kg
50-32-8	Benzo(a)pyrene	61000	JD	2200	10000	98800	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	26100	JD	3300	10000	98800	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	10000	UD	2900	10000	98800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902DL	SDG No.:	G4046
Lab Sample ID:	G4046-01DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082386.D	50	10/16/15 16:15	10/20/15 06:56	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	10000	UD	4000	10000	98800	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	10000	UD	3900	10000	98800	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	10000	UD	3900	10000	98800	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	66		28 - 127		44%	SPK: 150
13127-88-3	Phenol-d6	78.5		34 - 127		52%	SPK: 150
4165-60-0	Nitrobenzene-d5	39.5		31 - 132		40%	SPK: 100
321-60-8	2-Fluorobiphenyl	82		39 - 123		82%	SPK: 100
118-79-6	2,4,6-Tribromophenol	71.5		30 - 133		48%	SPK: 150
1718-51-0	Terphenyl-d14	99.5		37 - 115		100%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	93624	6.8				
1146-65-2	Naphthalene-d8	383235	8.09				
15067-26-2	Acenaphthene-d10	190593	9.85				
1517-22-2	Phenanthrene-d10	328926	11.35				
1719-03-5	Chrysene-d12	250015	14.01				
1520-96-3	Perylene-d12	231804	15.52				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902DL2	SDG No.:	G4046
Lab Sample ID:	G4046-01DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082387.D	250	10/16/15 16:15	10/20/15 07:25	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	49900	UD	26000	49900	494000	ug/Kg
108-95-2	Phenol	49900	UD	11500	49900	494000	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	49900	UD	24000	49900	494000	ug/Kg
95-57-8	2-Chlorophenol	49900	UD	26300	49900	494000	ug/Kg
95-48-7	2-Methylphenol	49900	UD	27100	49900	494000	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	49900	UD	20700	49900	494000	ug/Kg
98-86-2	Acetophenone	49900	UD	15300	49900	494000	ug/Kg
65794-96-9	3+4-Methylphenols	49900	UD	25900	49900	494000	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	49900	UD	25100	49900	494000	ug/Kg
67-72-1	Hexachloroethane	49900	UD	22300	49900	494000	ug/Kg
98-95-3	Nitrobenzene	49900	UD	18900	49900	494000	ug/Kg
78-59-1	Isophorone	49900	UD	16500	49900	494000	ug/Kg
88-75-5	2-Nitrophenol	49900	UD	24100	49900	494000	ug/Kg
105-67-9	2,4-Dimethylphenol	49900	UD	28300	49900	494000	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	49900	UD	28700	49900	494000	ug/Kg
120-83-2	2,4-Dichlorophenol	49900	UD	19000	49900	494000	ug/Kg
91-20-3	Naphthalene	49900	UD	17200	49900	494000	ug/Kg
106-47-8	4-Chloroaniline	49900	UD	35200	49900	494000	ug/Kg
87-68-3	Hexachlorobutadiene	49900	UD	18100	49900	494000	ug/Kg
105-60-2	Caprolactam	99800	UD	23200	99800	494000	ug/Kg
59-50-7	4-Chloro-3-methylphenol	49900	UD	22200	49900	494000	ug/Kg
91-57-6	2-Methylnaphthalene	49900	UD	12600	49900	494000	ug/Kg
77-47-4	Hexachlorocyclopentadiene	49900	UD	12100	49900	494000	ug/Kg
88-06-2	2,4,6-Trichlorophenol	49900	UD	15300	49900	494000	ug/Kg
95-95-4	2,4,5-Trichlorophenol	49900	UD	35000	49900	494000	ug/Kg
92-52-4	1,1-Biphenyl	49900	UD	18900	49900	494000	ug/Kg
91-58-7	2-Chloronaphthalene	49900	UD	11400	49900	494000	ug/Kg
88-74-4	2-Nitroaniline	49900	UD	22200	49900	494000	ug/Kg
131-11-3	Dimethylphthalate	49900	UD	13500	49900	494000	ug/Kg
208-96-8	Acenaphthylene	49900	UD	12600	49900	494000	ug/Kg
606-20-2	2,6-Dinitrotoluene	49900	UD	20400	49900	494000	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902DL2	SDG No.:	G4046
Lab Sample ID:	G4046-01DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082387.D	250	10/16/15 16:15	10/20/15 07:25	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	99800	UD	32000	99800	494000	ug/Kg
83-32-9	Acenaphthene	49900	UD	14100	49900	494000	ug/Kg
51-28-5	2,4-Dinitrophenol	399200	UD	50700	399200	494000	ug/Kg
100-02-7	4-Nitrophenol	249500	UD	92700	249500	494000	ug/Kg
132-64-9	Dibenzofuran	49900	UD	19500	49900	494000	ug/Kg
121-14-2	2,4-Dinitrotoluene	49900	UD	15000	49900	494000	ug/Kg
84-66-2	Diethylphthalate	49900	UD	7800	49900	494000	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	49900	UD	27100	49900	494000	ug/Kg
86-73-7	Fluorene	138700	JD	18900	49900	494000	ug/Kg
100-01-6	4-Nitroaniline	99800	UD	65000	99800	494000	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	249500	UD	28600	249500	494000	ug/Kg
86-30-6	n-Nitrosodiphenylamine	49900	UD	12000	49900	494000	ug/Kg
101-55-3	4-Bromophenyl-phenylether	49900	UD	9700	49900	494000	ug/Kg
118-74-1	Hexachlorobenzene	49900	UD	20400	49900	494000	ug/Kg
1912-24-9	Atrazine	49900	UD	26300	49900	494000	ug/Kg
87-86-5	Pentachlorophenol	49900	UD	34100	49900	494000	ug/Kg
85-01-8	Phenanthrene	1954100	D	13500	49900	494000	ug/Kg
120-12-7	Anthracene	842800	D	10200	49900	494000	ug/Kg
86-74-8	Carbazole	315900	JD	10900	49900	494000	ug/Kg
84-74-2	Di-n-butylphthalate	49900	UD	39200	49900	494000	ug/Kg
206-44-0	Fluoranthene	2047400	D	10000	49900	494000	ug/Kg
129-00-0	Pyrene	1196600	D	12000	49900	494000	ug/Kg
85-68-7	Butylbenzylphthalate	49900	UD	24000	49900	494000	ug/Kg
91-94-1	3,3-Dichlorobenzidine	49900	UD	32000	49900	494000	ug/Kg
56-55-3	Benzo(a)anthracene	328300	JD	23800	49900	494000	ug/Kg
218-01-9	Chrysene	326300	JD	22600	49900	494000	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	49900	UD	17700	49900	494000	ug/Kg
117-84-0	Di-n-octyl phthalate	49900	UD	5700	49900	494000	ug/Kg
205-99-2	Benzo(b)fluoranthene	149700	JD	16300	49900	494000	ug/Kg
207-08-9	Benzo(k)fluoranthene	49900	UD	23500	49900	494000	ug/Kg
50-32-8	Benzo(a)pyrene	49900	UD	10800	49900	494000	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	49900	UD	16600	49900	494000	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	49900	UD	14400	49900	494000	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902DL2	SDG No.:	G4046
Lab Sample ID:	G4046-01DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082387.D	250	10/16/15 16:15	10/20/15 07:25	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	49900	UD	20200	49900	494000	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	49900	UD	19600	49900	494000	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	49900	UD	19600	49900	494000	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	0	*	28 - 127		0%	SPK: 150
13127-88-3	Phenol-d6	20	*	34 - 127		13%	SPK: 150
4165-60-0	Nitrobenzene-d5	0	*	31 - 132		0%	SPK: 100
321-60-8	2-Fluorobiphenyl	82.5		39 - 123		82%	SPK: 100
118-79-6	2,4,6-Tribromophenol	32.5	*	30 - 133		22%	SPK: 150
1718-51-0	Terphenyl-d14	92.5		37 - 115		93%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	83299	6.8				
1146-65-2	Naphthalene-d8	346134	8.09				
15067-26-2	Acenaphthene-d10	165438	9.85				
1517-22-2	Phenanthrene-d10	283576	11.34				
1719-03-5	Chrysene-d12	223607	14.01				
1520-96-3	Perylene-d12	213886	15.51				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082337.D	10	10/16/15 16:15	10/16/15 20:41	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	2000	U	1000	2000	19600	ug/Kg
108-95-2	Phenol	2000	U	460	2000	19600	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	2000	U	950	2000	19600	ug/Kg
95-57-8	2-Chlorophenol	2000	U	1000	2000	19600	ug/Kg
95-48-7	2-Methylphenol	2000	U	1100	2000	19600	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	2000	U	820	2000	19600	ug/Kg
98-86-2	Acetophenone	2000	U	610	2000	19600	ug/Kg
65794-96-9	3+4-Methylphenols	2000	U	1000	2000	19600	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	2000	U	1000	2000	19600	ug/Kg
67-72-1	Hexachloroethane	2000	U	890	2000	19600	ug/Kg
98-95-3	Nitrobenzene	2000	U	750	2000	19600	ug/Kg
78-59-1	Isophorone	2000	U	650	2000	19600	ug/Kg
88-75-5	2-Nitrophenol	2000	U	960	2000	19600	ug/Kg
105-67-9	2,4-Dimethylphenol	9400	J	1100	2000	19600	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	2000	U	1100	2000	19600	ug/Kg
120-83-2	2,4-Dichlorophenol	2000	U	760	2000	19600	ug/Kg
91-20-3	Naphthalene	15000	J	680	2000	19600	ug/Kg
106-47-8	4-Chloroaniline	2000	U	1400	2000	19600	ug/Kg
87-68-3	Hexachlorobutadiene	2000	U	720	2000	19600	ug/Kg
105-60-2	Caprolactam	4000	U	920	4000	19600	ug/Kg
59-50-7	4-Chloro-3-methylphenol	2000	U	880	2000	19600	ug/Kg
91-57-6	2-Methylnaphthalene	38500		500	2000	19600	ug/Kg
77-47-4	Hexachlorocyclopentadiene	2000	U	480	2000	19600	ug/Kg
88-06-2	2,4,6-Trichlorophenol	2000	U	610	2000	19600	ug/Kg
95-95-4	2,4,5-Trichlorophenol	2000	U	1400	2000	19600	ug/Kg
92-52-4	1,1-Biphenyl	22200		750	2000	19600	ug/Kg
91-58-7	2-Chloronaphthalene	2000	U	450	2000	19600	ug/Kg
88-74-4	2-Nitroaniline	2000	U	880	2000	19600	ug/Kg
131-11-3	Dimethylphthalate	2000	U	540	2000	19600	ug/Kg
208-96-8	Acenaphthylene	15100	J	500	2000	19600	ug/Kg
606-20-2	2,6-Dinitrotoluene	2000	U	810	2000	19600	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082337.D	10	10/16/15 16:15	10/16/15 20:41	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	4000	U	1300	4000	19600	ug/Kg
83-32-9	Acenaphthene	130400		560	2000	19600	ug/Kg
51-28-5	2,4-Dinitrophenol	15900	U	2000	15900	19600	ug/Kg
100-02-7	4-Nitrophenol	9900	U	3700	9900	19600	ug/Kg
132-64-9	Dibenzofuran	214500	E	770	2000	19600	ug/Kg
121-14-2	2,4-Dinitrotoluene	2000	U	600	2000	19600	ug/Kg
84-66-2	Diethylphthalate	2000	U	310	2000	19600	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	2000	U	1100	2000	19600	ug/Kg
86-73-7	Fluorene	320600	E	750	2000	19600	ug/Kg
100-01-6	4-Nitroaniline	4000	U	2600	4000	19600	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	9900	U	1100	9900	19600	ug/Kg
86-30-6	n-Nitrosodiphenylamine	2000	U	480	2000	19600	ug/Kg
101-55-3	4-Bromophenyl-phenylether	2000	U	390	2000	19600	ug/Kg
118-74-1	Hexachlorobenzene	2000	U	810	2000	19600	ug/Kg
1912-24-9	Atrazine	2000	U	1000	2000	19600	ug/Kg
87-86-5	Pentachlorophenol	2000	U	1400	2000	19600	ug/Kg
85-01-8	Phenanthrene	1180400	E	540	2000	19600	ug/Kg
120-12-7	Anthracene	367700	E	400	2000	19600	ug/Kg
86-74-8	Carbazole	248400	E	430	2000	19600	ug/Kg
84-74-2	Di-n-butylphthalate	2000	U	1600	2000	19600	ug/Kg
206-44-0	Fluoranthene	1037700	E	400	2000	19600	ug/Kg
129-00-0	Pyrene	666500	E	480	2000	19600	ug/Kg
85-68-7	Butylbenzylphthalate	2000	U	950	2000	19600	ug/Kg
91-94-1	3,3-Dichlorobenzidine	2000	U	1300	2000	19600	ug/Kg
56-55-3	Benzo(a)anthracene	308100	E	950	2000	19600	ug/Kg
218-01-9	Chrysene	266800	E	900	2000	19600	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2000	U	700	2000	19600	ug/Kg
117-84-0	Di-n-octyl phthalate	2000	U	230	2000	19600	ug/Kg
205-99-2	Benzo(b)fluoranthene	161000	E	650	2000	19600	ug/Kg
207-08-9	Benzo(k)fluoranthene	78000		930	2000	19600	ug/Kg
50-32-8	Benzo(a)pyrene	62600		430	2000	19600	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	33300		660	2000	19600	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	10300	J	570	2000	19600	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082337.D	10	10/16/15 16:15	10/16/15 20:41	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	22900		800	2000	19600	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	2000	U	780	2000	19600	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	2000	U	780	2000	19600	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	75.2		28 - 127		50%	SPK: 150
13127-88-3	Phenol-d6	78.5		34 - 127		52%	SPK: 150
4165-60-0	Nitrobenzene-d5	47		31 - 132		47%	SPK: 100
321-60-8	2-Fluorobiphenyl	61.8		39 - 123		62%	SPK: 100
118-79-6	2,4,6-Tribromophenol	80		30 - 133		53%	SPK: 150
1718-51-0	Terphenyl-d14	70.8		37 - 115		71%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	52994	6.93				
1146-65-2	Naphthalene-d8	243928	8.21				
15067-26-2	Acenaphthene-d10	130707	9.95				
1517-22-2	Phenanthrene-d10	216214	11.45				
1719-03-5	Chrysene-d12	201193	14.18				
1520-96-3	Perylene-d12	207898	15.77				
TENTATIVE IDENTIFIED COMPOUNDS							
000090-12-0	Naphthalene, 1-methyl-	23300	J			9.02	ug/Kg
000575-37-1	Naphthalene, 1,7-dimethyl-	24100	J			9.54	ug/Kg
000575-43-9	Naphthalene, 1,6-dimethyl-	26200	J			9.61	ug/Kg
000581-40-8	Naphthalene, 2,3-dimethyl-	17900	J			9.73	ug/Kg
001855-47-6	1-Isopropenylnaphthalene	21200	J			10.11	ug/Kg
000612-75-9	3,3-Dimethylbiphenyl	20400	J			10.46	ug/Kg
002320-32-3	Benzene, [1-(2,4-cyclopentadien-1-	50000	J			10.57	ug/Kg
000101-81-5	Diphenylmethane	27300	J			10.59	ug/Kg
014562-09-5	2,4,6-Cycloheptatrien-1-one, 2-phe	84800	J			10.66	ug/Kg
000084-54-8	9,10-Anthracenedione, 2-methyl-	19600	J			12.82	ug/Kg
033543-31-6	Fluoranthene, 2-methyl-	19400	J			13.13	ug/Kg
000243-17-4	11H-Benzo[b]fluorene	27600	J			13.25	ug/Kg
002381-21-7	Pyrene, 1-methyl-	23100	J			13.35	ug/Kg
000479-79-8	11H-Benzo[a]fluoren-11-one	20800	J			13.78	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082337.D	10	10/16/15 16:15	10/16/15 20:41	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
000239-35-0	Benzo[b]naphtho[2,1-d]thiophene	30000	J			13.9	ug/Kg
	unknown13.97	16000	J			13.97	ug/Kg
000082-05-3	7H-Benz[de]anthracen-7-one	23100	J			14.02	ug/Kg
005723-54-6	Phenanthro[3,4-c]furan-1,3-dione	24800	J			15.1	ug/Kg
000604-53-5	1,1-Binaphthalene	48100	J			15.17	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58DL	SDG No.:	G4046
Lab Sample ID:	G4046-02DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082388.D	50	10/16/15 16:15	10/20/15 07:53	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	9900	UD	5200	9900	98200	ug/Kg
108-95-2	Phenol	9900	UD	2300	9900	98200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	9900	UD	4800	9900	98200	ug/Kg
95-57-8	2-Chlorophenol	9900	UD	5200	9900	98200	ug/Kg
95-48-7	2-Methylphenol	9900	UD	5400	9900	98200	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	9900	UD	4100	9900	98200	ug/Kg
98-86-2	Acetophenone	9900	UD	3000	9900	98200	ug/Kg
65794-96-9	3+4-Methylphenols	9900	UD	5100	9900	98200	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	9900	UD	5000	9900	98200	ug/Kg
67-72-1	Hexachloroethane	9900	UD	4400	9900	98200	ug/Kg
98-95-3	Nitrobenzene	9900	UD	3800	9900	98200	ug/Kg
78-59-1	Isophorone	9900	UD	3300	9900	98200	ug/Kg
88-75-5	2-Nitrophenol	9900	UD	4800	9900	98200	ug/Kg
105-67-9	2,4-Dimethylphenol	9900	UD	5600	9900	98200	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	9900	UD	5700	9900	98200	ug/Kg
120-83-2	2,4-Dichlorophenol	9900	UD	3800	9900	98200	ug/Kg
91-20-3	Naphthalene	9900	UD	3400	9900	98200	ug/Kg
106-47-8	4-Chloroaniline	9900	UD	7000	9900	98200	ug/Kg
87-68-3	Hexachlorobutadiene	9900	UD	3600	9900	98200	ug/Kg
105-60-2	Caprolactam	19800	UD	4600	19800	98200	ug/Kg
59-50-7	4-Chloro-3-methylphenol	9900	UD	4400	9900	98200	ug/Kg
91-57-6	2-Methylnaphthalene	43500	JD	2500	9900	98200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	9900	UD	2400	9900	98200	ug/Kg
88-06-2	2,4,6-Trichlorophenol	9900	UD	3000	9900	98200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	9900	UD	7000	9900	98200	ug/Kg
92-52-4	1,1-Biphenyl	29200	JD	3800	9900	98200	ug/Kg
91-58-7	2-Chloronaphthalene	9900	UD	2300	9900	98200	ug/Kg
88-74-4	2-Nitroaniline	9900	UD	4400	9900	98200	ug/Kg
131-11-3	Dimethylphthalate	9900	UD	2700	9900	98200	ug/Kg
208-96-8	Acenaphthylene	9900	UD	2500	9900	98200	ug/Kg
606-20-2	2,6-Dinitrotoluene	9900	UD	4000	9900	98200	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58DL	SDG No.:	G4046
Lab Sample ID:	G4046-02DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082388.D	50	10/16/15 16:15	10/20/15 07:53	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	19800	UD	6400	19800	98200	ug/Kg
83-32-9	Acenaphthene	193600	D	2800	9900	98200	ug/Kg
51-28-5	2,4-Dinitrophenol	79400	UD	10100	79400	98200	ug/Kg
100-02-7	4-Nitrophenol	49600	UD	18400	49600	98200	ug/Kg
132-64-9	Dibenzofuran	308700	D	3900	9900	98200	ug/Kg
121-14-2	2,4-Dinitrotoluene	9900	UD	3000	9900	98200	ug/Kg
84-66-2	Diethylphthalate	9900	UD	1500	9900	98200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	9900	UD	5400	9900	98200	ug/Kg
86-73-7	Fluorene	442900	D	3800	9900	98200	ug/Kg
100-01-6	4-Nitroaniline	19800	UD	12900	19800	98200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	49600	UD	5700	49600	98200	ug/Kg
86-30-6	n-Nitrosodiphenylamine	9900	UD	2400	9900	98200	ug/Kg
101-55-3	4-Bromophenyl-phenylether	9900	UD	1900	9900	98200	ug/Kg
118-74-1	Hexachlorobenzene	9900	UD	4000	9900	98200	ug/Kg
1912-24-9	Atrazine	9900	UD	5200	9900	98200	ug/Kg
87-86-5	Pentachlorophenol	9900	UD	6800	9900	98200	ug/Kg
85-01-8	Phenanthrene	2024600	ED	2700	9900	98200	ug/Kg
120-12-7	Anthracene	525900	D	2000	9900	98200	ug/Kg
86-74-8	Carbazole	311500	D	2200	9900	98200	ug/Kg
84-74-2	Di-n-butylphthalate	9900	UD	7800	9900	98200	ug/Kg
206-44-0	Fluoranthene	1394700	ED	2000	9900	98200	ug/Kg
129-00-0	Pyrene	1097500	ED	2400	9900	98200	ug/Kg
85-68-7	Butylbenzylphthalate	9900	UD	4800	9900	98200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	9900	UD	6400	9900	98200	ug/Kg
56-55-3	Benzo(a)anthracene	336100	D	4700	9900	98200	ug/Kg
218-01-9	Chrysene	413300	D	4500	9900	98200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	9900	UD	3500	9900	98200	ug/Kg
117-84-0	Di-n-octyl phthalate	9900	UD	1100	9900	98200	ug/Kg
205-99-2	Benzo(b)fluoranthene	239600	D	3200	9900	98200	ug/Kg
207-08-9	Benzo(k)fluoranthene	64300	JD	4700	9900	98200	ug/Kg
50-32-8	Benzo(a)pyrene	76800	JD	2100	9900	98200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	36100	JD	3300	9900	98200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	9900	UD	2900	9900	98200	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58DL	SDG No.:	G4046
Lab Sample ID:	G4046-02DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082388.D	50	10/16/15 16:15	10/20/15 07:53	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	28700	JD	4000	9900	98200	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	9900	UD	3900	9900	98200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	9900	UD	3900	9900	98200	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	59.5		28 - 127		40%	SPK: 150
13127-88-3	Phenol-d6	71.5		34 - 127		48%	SPK: 150
4165-60-0	Nitrobenzene-d5	40.5		31 - 132		41%	SPK: 100
321-60-8	2-Fluorobiphenyl	73.5		39 - 123		74%	SPK: 100
118-79-6	2,4,6-Tribromophenol	59		30 - 133		39%	SPK: 150
1718-51-0	Terphenyl-d14	89		37 - 115		89%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	87643	6.8				
1146-65-2	Naphthalene-d8	363932	8.09				
15067-26-2	Acenaphthene-d10	183232	9.85				
1517-22-2	Phenanthrene-d10	293126	11.35				
1719-03-5	Chrysene-d12	226533	14.01				
1520-96-3	Perylene-d12	225265	15.51				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58DL2	SDG No.:	G4046
Lab Sample ID:	G4046-02DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082389.D	250	10/16/15 16:15	10/20/15 08:22	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	49600	UD	25900	49600	491100	ug/Kg
108-95-2	Phenol	49600	UD	11500	49600	491100	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	49600	UD	23800	49600	491100	ug/Kg
95-57-8	2-Chlorophenol	49600	UD	26200	49600	491100	ug/Kg
95-48-7	2-Methylphenol	49600	UD	26900	49600	491100	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	49600	UD	20500	49600	491100	ug/Kg
98-86-2	Acetophenone	49600	UD	15200	49600	491100	ug/Kg
65794-96-9	3+4-Methylphenols	49600	UD	25700	49600	491100	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	49600	UD	25000	49600	491100	ug/Kg
67-72-1	Hexachloroethane	49600	UD	22200	49600	491100	ug/Kg
98-95-3	Nitrobenzene	49600	UD	18800	49600	491100	ug/Kg
78-59-1	Isophorone	49600	UD	16400	49600	491100	ug/Kg
88-75-5	2-Nitrophenol	49600	UD	24000	49600	491100	ug/Kg
105-67-9	2,4-Dimethylphenol	49600	UD	28100	49600	491100	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	49600	UD	28600	49600	491100	ug/Kg
120-83-2	2,4-Dichlorophenol	49600	UD	18900	49600	491100	ug/Kg
91-20-3	Naphthalene	49600	UD	17100	49600	491100	ug/Kg
106-47-8	4-Chloroaniline	49600	UD	35000	49600	491100	ug/Kg
87-68-3	Hexachlorobutadiene	49600	UD	18000	49600	491100	ug/Kg
105-60-2	Caprolactam	99200	UD	23100	99200	491100	ug/Kg
59-50-7	4-Chloro-3-methylphenol	49600	UD	22000	49600	491100	ug/Kg
91-57-6	2-Methylnaphthalene	49600	UD	12500	49600	491100	ug/Kg
77-47-4	Hexachlorocyclopentadiene	49600	UD	12100	49600	491100	ug/Kg
88-06-2	2,4,6-Trichlorophenol	49600	UD	15200	49600	491100	ug/Kg
95-95-4	2,4,5-Trichlorophenol	49600	UD	34800	49600	491100	ug/Kg
92-52-4	1,1-Biphenyl	49600	UD	18800	49600	491100	ug/Kg
91-58-7	2-Chloronaphthalene	49600	UD	11300	49600	491100	ug/Kg
88-74-4	2-Nitroaniline	49600	UD	22000	49600	491100	ug/Kg
131-11-3	Dimethylphthalate	49600	UD	13400	49600	491100	ug/Kg
208-96-8	Acenaphthylene	49600	UD	12500	49600	491100	ug/Kg
606-20-2	2,6-Dinitrotoluene	49600	UD	20200	49600	491100	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58DL2	SDG No.:	G4046
Lab Sample ID:	G4046-02DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082389.D	250	10/16/15 16:15	10/20/15 08:22	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	99200	UD	31800	99200	491100	ug/Kg
83-32-9	Acenaphthene	196400	JD	14000	49600	491100	ug/Kg
51-28-5	2,4-Dinitrophenol	396800	UD	50400	396800	491100	ug/Kg
100-02-7	4-Nitrophenol	248000	UD	92100	248000	491100	ug/Kg
132-64-9	Dibenzofuran	311500	JD	19300	49600	491100	ug/Kg
121-14-2	2,4-Dinitrotoluene	49600	UD	14900	49600	491100	ug/Kg
84-66-2	Diethylphthalate	49600	UD	7700	49600	491100	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	49600	UD	26900	49600	491100	ug/Kg
86-73-7	Fluorene	516400	D	18800	49600	491100	ug/Kg
100-01-6	4-Nitroaniline	99200	UD	64600	99200	491100	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	248000	UD	28400	248000	491100	ug/Kg
86-30-6	n-Nitrosodiphenylamine	49600	UD	11900	49600	491100	ug/Kg
101-55-3	4-Bromophenyl-phenylether	49600	UD	9700	49600	491100	ug/Kg
118-74-1	Hexachlorobenzene	49600	UD	20200	49600	491100	ug/Kg
1912-24-9	Atrazine	49600	UD	26200	49600	491100	ug/Kg
87-86-5	Pentachlorophenol	49600	UD	33900	49600	491100	ug/Kg
85-01-8	Phenanthrene	2797600	D	13400	49600	491100	ug/Kg
120-12-7	Anthracene	652800	D	10100	49600	491100	ug/Kg
86-74-8	Carbazole	341300	JD	10900	49600	491100	ug/Kg
84-74-2	Di-n-butylphthalate	49600	UD	39000	49600	491100	ug/Kg
206-44-0	Fluoranthene	1919600	D	10000	49600	491100	ug/Kg
129-00-0	Pyrene	1311000	D	11900	49600	491100	ug/Kg
85-68-7	Butylbenzylphthalate	49600	UD	23800	49600	491100	ug/Kg
91-94-1	3,3-Dichlorobenzidine	49600	UD	31800	49600	491100	ug/Kg
56-55-3	Benzo(a)anthracene	366100	JD	23700	49600	491100	ug/Kg
218-01-9	Chrysene	456300	JD	22500	49600	491100	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	49600	UD	17600	49600	491100	ug/Kg
117-84-0	Di-n-octyl phthalate	49600	UD	5700	49600	491100	ug/Kg
205-99-2	Benzo(b)fluoranthene	241600	JD	16200	49600	491100	ug/Kg
207-08-9	Benzo(k)fluoranthene	49600	UD	23400	49600	491100	ug/Kg
50-32-8	Benzo(a)pyrene	49600	UD	10700	49600	491100	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	49600	UD	16500	49600	491100	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	49600	UD	14300	49600	491100	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58DL2	SDG No.:	G4046
Lab Sample ID:	G4046-02DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082389.D	250	10/16/15 16:15	10/20/15 08:22	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	49600	UD	20100	49600	491100	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	49600	UD	19500	49600	491100	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	49600	UD	19500	49600	491100	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	0	*	28 - 127		0%	SPK: 150
13127-88-3	Phenol-d6	10	*	34 - 127		7%	SPK: 150
4165-60-0	Nitrobenzene-d5	0	*	31 - 132		0%	SPK: 100
321-60-8	2-Fluorobiphenyl	70		39 - 123		70%	SPK: 100
118-79-6	2,4,6-Tribromophenol	0	*	30 - 133		0%	SPK: 150
1718-51-0	Terphenyl-d14	85		37 - 115		85%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	84210	6.8				
1146-65-2	Naphthalene-d8	350338	8.09				
15067-26-2	Acenaphthene-d10	174525	9.85				
1517-22-2	Phenanthrene-d10	301600	11.34				
1719-03-5	Chrysene-d12	231620	14.02				
1520-96-3	Perylene-d12	215371	15.54				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082339.D	10	10/16/15 16:15	10/16/15 21:39	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	2000	U	1000	2000	19700	ug/Kg
108-95-2	Phenol	2000	U	460	2000	19700	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	2000	U	950	2000	19700	ug/Kg
95-57-8	2-Chlorophenol	2000	U	1000	2000	19700	ug/Kg
95-48-7	2-Methylphenol	2000	U	1100	2000	19700	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	2000	U	820	2000	19700	ug/Kg
98-86-2	Acetophenone	2000	U	610	2000	19700	ug/Kg
65794-96-9	3+4-Methylphenols	2000	U	1000	2000	19700	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	2000	U	1000	2000	19700	ug/Kg
67-72-1	Hexachloroethane	2000	U	890	2000	19700	ug/Kg
98-95-3	Nitrobenzene	2000	U	750	2000	19700	ug/Kg
78-59-1	Isophorone	2000	U	660	2000	19700	ug/Kg
88-75-5	2-Nitrophenol	2000	U	960	2000	19700	ug/Kg
105-67-9	2,4-Dimethylphenol	2000	U	1100	2000	19700	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	2000	U	1100	2000	19700	ug/Kg
120-83-2	2,4-Dichlorophenol	2000	U	760	2000	19700	ug/Kg
91-20-3	Naphthalene	31200		690	2000	19700	ug/Kg
106-47-8	4-Chloroaniline	2000	U	1400	2000	19700	ug/Kg
87-68-3	Hexachlorobutadiene	2000	U	720	2000	19700	ug/Kg
105-60-2	Caprolactam	4000	U	920	4000	19700	ug/Kg
59-50-7	4-Chloro-3-methylphenol	2000	U	880	2000	19700	ug/Kg
91-57-6	2-Methylnaphthalene	53000		500	2000	19700	ug/Kg
77-47-4	Hexachlorocyclopentadiene	2000	U	480	2000	19700	ug/Kg
88-06-2	2,4,6-Trichlorophenol	2000	U	610	2000	19700	ug/Kg
95-95-4	2,4,5-Trichlorophenol	2000	U	1400	2000	19700	ug/Kg
92-52-4	1,1-Biphenyl	22300		750	2000	19700	ug/Kg
91-58-7	2-Chloronaphthalene	2000	U	450	2000	19700	ug/Kg
88-74-4	2-Nitroaniline	2000	U	880	2000	19700	ug/Kg
131-11-3	Dimethylphthalate	2000	U	540	2000	19700	ug/Kg
208-96-8	Acenaphthylene	21700		500	2000	19700	ug/Kg
606-20-2	2,6-Dinitrotoluene	2000	U	810	2000	19700	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082339.D	10	10/16/15 16:15	10/16/15 21:39	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	4000	U	1300	4000	19700	ug/Kg
83-32-9	Acenaphthene	255900	E	560	2000	19700	ug/Kg
51-28-5	2,4-Dinitrophenol	15900	U	2000	15900	19700	ug/Kg
100-02-7	4-Nitrophenol	9900	U	3700	9900	19700	ug/Kg
132-64-9	Dibenzofuran	305800	E	780	2000	19700	ug/Kg
121-14-2	2,4-Dinitrotoluene	2000	U	600	2000	19700	ug/Kg
84-66-2	Diethylphthalate	2000	U	310	2000	19700	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	2000	U	1100	2000	19700	ug/Kg
86-73-7	Fluorene	356200	E	750	2000	19700	ug/Kg
100-01-6	4-Nitroaniline	4000	U	2600	4000	19700	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	9900	U	1100	9900	19700	ug/Kg
86-30-6	n-Nitrosodiphenylamine	2000	U	480	2000	19700	ug/Kg
101-55-3	4-Bromophenyl-phenylether	2000	U	390	2000	19700	ug/Kg
118-74-1	Hexachlorobenzene	2000	U	810	2000	19700	ug/Kg
1912-24-9	Atrazine	2000	U	1000	2000	19700	ug/Kg
87-86-5	Pentachlorophenol	2000	U	1400	2000	19700	ug/Kg
85-01-8	Phenanthrene	1936100	E	540	2000	19700	ug/Kg
120-12-7	Anthracene	280300	E	410	2000	19700	ug/Kg
86-74-8	Carbazole	358100	E	440	2000	19700	ug/Kg
84-74-2	Di-n-butylphthalate	2000	U	1600	2000	19700	ug/Kg
206-44-0	Fluoranthene	1399400	E	400	2000	19700	ug/Kg
129-00-0	Pyrene	912500	E	480	2000	19700	ug/Kg
85-68-7	Butylbenzylphthalate	2000	U	950	2000	19700	ug/Kg
91-94-1	3,3-Dichlorobenzidine	2000	U	1300	2000	19700	ug/Kg
56-55-3	Benzo(a)anthracene	308800	E	950	2000	19700	ug/Kg
218-01-9	Chrysene	308400	E	900	2000	19700	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2000	U	700	2000	19700	ug/Kg
117-84-0	Di-n-octyl phthalate	2000	U	230	2000	19700	ug/Kg
205-99-2	Benzo(b)fluoranthene	137800		650	2000	19700	ug/Kg
207-08-9	Benzo(k)fluoranthene	77800		940	2000	19700	ug/Kg
50-32-8	Benzo(a)pyrene	63000		430	2000	19700	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	32600		660	2000	19700	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	8200	J	570	2000	19700	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082339.D	10	10/16/15 16:15	10/16/15 21:39	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	22500		810	2000	19700	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	2000	U	780	2000	19700	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	2000	U	780	2000	19700	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	73.7		28 - 127		49%	SPK: 150
13127-88-3	Phenol-d6	85.3		34 - 127		57%	SPK: 150
4165-60-0	Nitrobenzene-d5	41.9		31 - 132		42%	SPK: 100
321-60-8	2-Fluorobiphenyl	59.3		39 - 123		59%	SPK: 100
118-79-6	2,4,6-Tribromophenol	76.9		30 - 133		51%	SPK: 150
1718-51-0	Terphenyl-d14	77.8		37 - 115		78%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	51432	6.93				
1146-65-2	Naphthalene-d8	234368	8.21				
15067-26-2	Acenaphthene-d10	129589	9.95				
1517-22-2	Phenanthrene-d10	198676	11.45				
1719-03-5	Chrysene-d12	187743	14.15				
1520-96-3	Perylene-d12	200069	15.69				
TENTATIVE IDENTIFIED COMPOUNDS							
000582-16-1	Naphthalene, 2,7-dimethyl-	28000	J			9.54	ug/Kg
000571-58-4	Naphthalene, 1,4-dimethyl-	30700	J			9.61	ug/Kg
000575-41-7	Naphthalene, 1,3-dimethyl-	21000	J			9.73	ug/Kg
001855-47-6	1-Isopropenylnaphthalene	20900	J			10.11	ug/Kg
002131-41-1	Naphthalene, 1,4,5-trimethyl-	15500	J			10.37	ug/Kg
000612-75-9	3,3-Dimethylbiphenyl	22600	J			10.46	ug/Kg
002320-32-3	Benzene, [1-(2,4-cyclopentadien-1-	42700	J			10.57	ug/Kg
000101-81-5	Diphenylmethane	26600	J			10.59	ug/Kg
007320-53-8	Dibenzofuran, 4-methyl-	95200	J			10.66	ug/Kg
	unknown12.82	16600	J			12.82	ug/Kg
002381-21-7	Pyrene, 1-methyl-	15600	J			13.12	ug/Kg
000243-17-4	11H-Benzo[b]fluorene	23300	J			13.24	ug/Kg
003442-78-2	Pyrene, 2-methyl-	17500	J			13.34	ug/Kg
027208-37-3	Cyclopenta[cd]pyrene	15000	J			13.93	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082339.D	10	10/16/15 16:15	10/16/15 21:39	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
000602-55-1	Anthracene, 9-phenyl-	34600	J			15.09	ug/Kg
000197-61-5	Rubicene-	20400	J			18.76	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112DL	SDG No.:	G4046
Lab Sample ID:	G4046-04DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082392.D	50	10/16/15 16:15	10/20/15 09:48	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	9900	UD	5200	9900	98400	ug/Kg
108-95-2	Phenol	9900	UD	2300	9900	98400	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	9900	UD	4800	9900	98400	ug/Kg
95-57-8	2-Chlorophenol	9900	UD	5200	9900	98400	ug/Kg
95-48-7	2-Methylphenol	9900	UD	5400	9900	98400	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	9900	UD	4100	9900	98400	ug/Kg
98-86-2	Acetophenone	9900	UD	3000	9900	98400	ug/Kg
65794-96-9	3+4-Methylphenols	9900	UD	5200	9900	98400	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	9900	UD	5000	9900	98400	ug/Kg
67-72-1	Hexachloroethane	9900	UD	4400	9900	98400	ug/Kg
98-95-3	Nitrobenzene	9900	UD	3800	9900	98400	ug/Kg
78-59-1	Isophorone	9900	UD	3300	9900	98400	ug/Kg
88-75-5	2-Nitrophenol	9900	UD	4800	9900	98400	ug/Kg
105-67-9	2,4-Dimethylphenol	9900	UD	5600	9900	98400	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	9900	UD	5700	9900	98400	ug/Kg
120-83-2	2,4-Dichlorophenol	9900	UD	3800	9900	98400	ug/Kg
91-20-3	Naphthalene	39500	JD	3400	9900	98400	ug/Kg
106-47-8	4-Chloroaniline	9900	UD	7000	9900	98400	ug/Kg
87-68-3	Hexachlorobutadiene	9900	UD	3600	9900	98400	ug/Kg
105-60-2	Caprolactam	19900	UD	4600	19900	98400	ug/Kg
59-50-7	4-Chloro-3-methylphenol	9900	UD	4400	9900	98400	ug/Kg
91-57-6	2-Methylnaphthalene	57000	JD	2500	9900	98400	ug/Kg
77-47-4	Hexachlorocyclopentadiene	9900	UD	2400	9900	98400	ug/Kg
88-06-2	2,4,6-Trichlorophenol	9900	UD	3000	9900	98400	ug/Kg
95-95-4	2,4,5-Trichlorophenol	9900	UD	7000	9900	98400	ug/Kg
92-52-4	1,1-Biphenyl	30600	JD	3800	9900	98400	ug/Kg
91-58-7	2-Chloronaphthalene	9900	UD	2300	9900	98400	ug/Kg
88-74-4	2-Nitroaniline	9900	UD	4400	9900	98400	ug/Kg
131-11-3	Dimethylphthalate	9900	UD	2700	9900	98400	ug/Kg
208-96-8	Acenaphthylene	20700	JD	2500	9900	98400	ug/Kg
606-20-2	2,6-Dinitrotoluene	9900	UD	4100	9900	98400	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112DL	SDG No.:	G4046
Lab Sample ID:	G4046-04DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082392.D	50	10/16/15 16:15	10/20/15 09:48	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	19900	UD	6400	19900	98400	ug/Kg
83-32-9	Acenaphthene	367800	D	2800	9900	98400	ug/Kg
51-28-5	2,4-Dinitrophenol	79500	UD	10100	79500	98400	ug/Kg
100-02-7	4-Nitrophenol	49700	UD	18500	49700	98400	ug/Kg
132-64-9	Dibenzofuran	422700	D	3900	9900	98400	ug/Kg
121-14-2	2,4-Dinitrotoluene	9900	UD	3000	9900	98400	ug/Kg
84-66-2	Diethylphthalate	9900	UD	1600	9900	98400	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	9900	UD	5400	9900	98400	ug/Kg
86-73-7	Fluorene	531500	D	3800	9900	98400	ug/Kg
100-01-6	4-Nitroaniline	19900	UD	12900	19900	98400	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	49700	UD	5700	49700	98400	ug/Kg
86-30-6	n-Nitrosodiphenylamine	9900	UD	2400	9900	98400	ug/Kg
101-55-3	4-Bromophenyl-phenylether	9900	UD	1900	9900	98400	ug/Kg
118-74-1	Hexachlorobenzene	9900	UD	4100	9900	98400	ug/Kg
1912-24-9	Atrazine	9900	UD	5200	9900	98400	ug/Kg
87-86-5	Pentachlorophenol	9900	UD	6800	9900	98400	ug/Kg
85-01-8	Phenanthrene	3010600	ED	2700	9900	98400	ug/Kg
120-12-7	Anthracene	481600	D	2000	9900	98400	ug/Kg
86-74-8	Carbazole	398800	D	2200	9900	98400	ug/Kg
84-74-2	Di-n-butylphthalate	9900	UD	7800	9900	98400	ug/Kg
206-44-0	Fluoranthene	2010900	ED	2000	9900	98400	ug/Kg
129-00-0	Pyrene	1351600	ED	2400	9900	98400	ug/Kg
85-68-7	Butylbenzylphthalate	9900	UD	4800	9900	98400	ug/Kg
91-94-1	3,3-Dichlorobenzidine	9900	UD	6400	9900	98400	ug/Kg
56-55-3	Benzo(a)anthracene	370900	D	4700	9900	98400	ug/Kg
218-01-9	Chrysene	358500	D	4500	9900	98400	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	9900	UD	3500	9900	98400	ug/Kg
117-84-0	Di-n-octyl phthalate	9900	UD	1100	9900	98400	ug/Kg
205-99-2	Benzo(b)fluoranthene	217800	D	3300	9900	98400	ug/Kg
207-08-9	Benzo(k)fluoranthene	56600	JD	4700	9900	98400	ug/Kg
50-32-8	Benzo(a)pyrene	80700	JD	2100	9900	98400	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	38000	JD	3300	9900	98400	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	9900	UD	2900	9900	98400	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112DL	SDG No.:	G4046
Lab Sample ID:	G4046-04DL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082392.D	50	10/16/15 16:15	10/20/15 09:48	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	26300	JD	4000	9900	98400	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	9900	UD	3900	9900	98400	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	9900	UD	3900	9900	98400	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	56		28 - 127		37%	SPK: 150
13127-88-3	Phenol-d6	63		34 - 127		42%	SPK: 150
4165-60-0	Nitrobenzene-d5	43.5		31 - 132		44%	SPK: 100
321-60-8	2-Fluorobiphenyl	77.5		39 - 123		77%	SPK: 100
118-79-6	2,4,6-Tribromophenol	59.5		30 - 133		40%	SPK: 150
1718-51-0	Terphenyl-d14	92		37 - 115		92%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	88798	6.8				
1146-65-2	Naphthalene-d8	363670	8.09				
15067-26-2	Acenaphthene-d10	183300	9.85				
1517-22-2	Phenanthrene-d10	298546	11.35				
1719-03-5	Chrysene-d12	230022	14.02				
1520-96-3	Perylene-d12	225063	15.53				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112DL2	SDG No.:	G4046
Lab Sample ID:	G4046-04DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082393.D	500	10/16/15 16:15	10/20/15 10:17	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	99400	UD	51900	99400	984100	ug/Kg
108-95-2	Phenol	99400	UD	23000	99400	984100	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	99400	UD	47700	99400	984100	ug/Kg
95-57-8	2-Chlorophenol	99400	UD	52500	99400	984100	ug/Kg
95-48-7	2-Methylphenol	99400	UD	54000	99400	984100	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	99400	UD	41200	99400	984100	ug/Kg
98-86-2	Acetophenone	99400	UD	30400	99400	984100	ug/Kg
65794-96-9	3+4-Methylphenols	99400	UD	51600	99400	984100	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	99400	UD	50100	99400	984100	ug/Kg
67-72-1	Hexachloroethane	99400	UD	44400	99400	984100	ug/Kg
98-95-3	Nitrobenzene	99400	UD	37600	99400	984100	ug/Kg
78-59-1	Isophorone	99400	UD	32800	99400	984100	ug/Kg
88-75-5	2-Nitrophenol	99400	UD	48000	99400	984100	ug/Kg
105-67-9	2,4-Dimethylphenol	99400	UD	56400	99400	984100	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	99400	UD	57300	99400	984100	ug/Kg
120-83-2	2,4-Dichlorophenol	99400	UD	37900	99400	984100	ug/Kg
91-20-3	Naphthalene	99400	UD	34300	99400	984100	ug/Kg
106-47-8	4-Chloroaniline	99400	UD	70100	99400	984100	ug/Kg
87-68-3	Hexachlorobutadiene	99400	UD	36100	99400	984100	ug/Kg
105-60-2	Caprolactam	198800	UD	46200	198800	984100	ug/Kg
59-50-7	4-Chloro-3-methylphenol	99400	UD	44100	99400	984100	ug/Kg
91-57-6	2-Methylnaphthalene	99400	UD	25000	99400	984100	ug/Kg
77-47-4	Hexachlorocyclopentadiene	99400	UD	24200	99400	984100	ug/Kg
88-06-2	2,4,6-Trichlorophenol	99400	UD	30400	99400	984100	ug/Kg
95-95-4	2,4,5-Trichlorophenol	99400	UD	69800	99400	984100	ug/Kg
92-52-4	1,1-Biphenyl	99400	UD	37600	99400	984100	ug/Kg
91-58-7	2-Chloronaphthalene	99400	UD	22700	99400	984100	ug/Kg
88-74-4	2-Nitroaniline	99400	UD	44100	99400	984100	ug/Kg
131-11-3	Dimethylphthalate	99400	UD	26800	99400	984100	ug/Kg
208-96-8	Acenaphthylene	99400	UD	25000	99400	984100	ug/Kg
606-20-2	2,6-Dinitrotoluene	99400	UD	40600	99400	984100	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112DL2	SDG No.:	G4046
Lab Sample ID:	G4046-04DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082393.D	500	10/16/15 16:15	10/20/15 10:17	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	198800	UD	63800	198800	984100	ug/Kg
83-32-9	Acenaphthene	357900	JD	28000	99400	984100	ug/Kg
51-28-5	2,4-Dinitrophenol	795200	UD	101100	795200	984100	ug/Kg
100-02-7	4-Nitrophenol	497000	UD	184600	497000	984100	ug/Kg
132-64-9	Dibenzofuran	434400	JD	38800	99400	984100	ug/Kg
121-14-2	2,4-Dinitrotoluene	99400	UD	29800	99400	984100	ug/Kg
84-66-2	Diethylphthalate	99400	UD	15500	99400	984100	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	99400	UD	54000	99400	984100	ug/Kg
86-73-7	Fluorene	696800	JD	37600	99400	984100	ug/Kg
100-01-6	4-Nitroaniline	198800	UD	129400	198800	984100	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	497000	UD	57000	497000	984100	ug/Kg
86-30-6	n-Nitrosodiphenylamine	99400	UD	23900	99400	984100	ug/Kg
101-55-3	4-Bromophenyl-phenylether	99400	UD	19400	99400	984100	ug/Kg
118-74-1	Hexachlorobenzene	99400	UD	40600	99400	984100	ug/Kg
1912-24-9	Atrazine	99400	UD	52500	99400	984100	ug/Kg
87-86-5	Pentachlorophenol	99400	UD	68000	99400	984100	ug/Kg
85-01-8	Phenanthrene	4160000	D	26800	99400	984100	ug/Kg
120-12-7	Anthracene	541800	JD	20300	99400	984100	ug/Kg
86-74-8	Carbazole	409500	JD	21800	99400	984100	ug/Kg
84-74-2	Di-n-butylphthalate	99400	UD	78100	99400	984100	ug/Kg
206-44-0	Fluoranthene	2760400	D	20000	99400	984100	ug/Kg
129-00-0	Pyrene	1795200	D	23900	99400	984100	ug/Kg
85-68-7	Butylbenzylphthalate	99400	UD	47700	99400	984100	ug/Kg
91-94-1	3,3-Dichlorobenzidine	99400	UD	63800	99400	984100	ug/Kg
56-55-3	Benzo(a)anthracene	356900	JD	47400	99400	984100	ug/Kg
218-01-9	Chrysene	375700	JD	45000	99400	984100	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	99400	UD	35200	99400	984100	ug/Kg
117-84-0	Di-n-octyl phthalate	99400	UD	11300	99400	984100	ug/Kg
205-99-2	Benzo(b)fluoranthene	99400	UD	32500	99400	984100	ug/Kg
207-08-9	Benzo(k)fluoranthene	99400	UD	46800	99400	984100	ug/Kg
50-32-8	Benzo(a)pyrene	99400	UD	21500	99400	984100	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	99400	UD	33100	99400	984100	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	99400	UD	28600	99400	984100	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112DL2	SDG No.:	G4046
Lab Sample ID:	G4046-04DL2	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	5.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082393.D	500	10/16/15 16:15	10/20/15 10:17	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	99400	UD	40300	99400	984100	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	99400	UD	39100	99400	984100	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	99400	UD	39100	99400	984100	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	0	*	28 - 127		0%	SPK: 150
13127-88-3	Phenol-d6	0	*	34 - 127		0%	SPK: 150
4165-60-0	Nitrobenzene-d5	0	*	31 - 132		0%	SPK: 100
321-60-8	2-Fluorobiphenyl	60		39 - 123		60%	SPK: 100
118-79-6	2,4,6-Tribromophenol	0	*	30 - 133		0%	SPK: 150
1718-51-0	Terphenyl-d14	70		37 - 115		70%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	83201	6.8				
1146-65-2	Naphthalene-d8	346298	8.09				
15067-26-2	Acenaphthene-d10	168528	9.85				
1517-22-2	Phenanthrene-d10	294591	11.34				
1719-03-5	Chrysene-d12	221500	14.04				
1520-96-3	Perylene-d12	210304	15.57				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

QC SUMMARY

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Surrogate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
G4046-01	GOODLUCK902	2-Fluorophenol	150	84.90	57		28	127
		Phenol-d6	150	93.40	62		34	127
		Nitrobenzene-d5	100	55.50	56		31	132
		2-Fluorobiphenyl	100	70.40	70		39	123
		2,4,6-Tribromophenol	150	91.60	61		30	133
		Terphenyl-d14	100	83.70	84		37	115
G4046-01DL	GOODLUCK902DL	2-Fluorophenol	150	66.00	44		28	127
		Phenol-d6	150	78.50	52		34	127
		Nitrobenzene-d5	100	39.50	40		31	132
		2-Fluorobiphenyl	100	82.00	82		39	123
		2,4,6-Tribromophenol	150	71.50	48		30	133
		Terphenyl-d14	100	99.50	100		37	115
G4046-01DL2	GOODLUCK902DL2	2-Fluorophenol	150	0.00	0	*	28	127
		Phenol-d6	150	20.00	13	*	34	127
		Nitrobenzene-d5	100	0.00	0	*	31	132
		2-Fluorobiphenyl	100	82.50	82		39	123
		2,4,6-Tribromophenol	150	32.50	22	*	30	133
		Terphenyl-d14	100	92.50	93		37	115
G4046-02	GOODLUCK58	2-Fluorophenol	150	75.20	50		28	127
		Phenol-d6	150	78.50	52		34	127
		Nitrobenzene-d5	100	47.00	47		31	132
		2-Fluorobiphenyl	100	61.80	62		39	123
		2,4,6-Tribromophenol	150	80.00	53		30	133
		Terphenyl-d14	100	70.80	71		37	115
G4046-02DL	GOODLUCK58DL	2-Fluorophenol	150	59.50	40		28	127
		Phenol-d6	150	71.50	48		34	127
		Nitrobenzene-d5	100	40.50	41		31	132
		2-Fluorobiphenyl	100	73.50	74		39	123
		2,4,6-Tribromophenol	150	59.00	39		30	133
		Terphenyl-d14	100	89.00	89		37	115
G4046-02DL2	GOODLUCK58DL2	2-Fluorophenol	150	0.00	0	*	28	127
		Phenol-d6	150	10.00	7	*	34	127
		Nitrobenzene-d5	100	0.00	0	*	31	132
		2-Fluorobiphenyl	100	70.00	70		39	123
		2,4,6-Tribromophenol	150	0.00	0	*	30	133
		Terphenyl-d14	100	85.00	85		37	115
G4046-04	MANAHAWKEN112	2-Fluorophenol	150	73.70	49		28	127
		Phenol-d6	150	85.30	57		34	127
		Nitrobenzene-d5	100	41.90	42		31	132
		2-Fluorobiphenyl	100	59.30	59		39	123
		2,4,6-Tribromophenol	150	76.90	51		30	133
		Terphenyl-d14	100	77.80	78		37	115
G4046-04DL	MANAHAWKEN112DL	2-Fluorophenol	150	56.00	37		28	127
		Phenol-d6	150	63.00	42		34	127
		Nitrobenzene-d5	100	43.50	44		31	132
		2-Fluorobiphenyl	100	77.50	77		39	123
		2,4,6-Tribromophenol	150	59.50	40		30	133
		Terphenyl-d14	100	92.00	92		37	115
G4046-04DL2	MANAHAWKEN112DL2	2-Fluorophenol	150	0.00	0	*	28	127
		Phenol-d6	150	0.00	0	*	34	127
		Nitrobenzene-d5	100	0.00	0	*	31	132
		2-Fluorobiphenyl	100	60.00	60		39	123

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Surrogate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
G4046-04DL2	MANAHAWKEN112DL2	2,4,6-Tribromophenol	150	0.00	0	*	30	133
		Terphenyl-d14	100	70.00	70		37	115
G4051-02MS	TK1-1-20151015MS	2-Fluorophenol	150	118.10	79		28	127
		Phenol-d6	150	125.00	83		34	127
		Nitrobenzene-d5	100	73.40	73		31	132
		2-Fluorobiphenyl	100	88.40	88		39	123
		2,4,6-Tribromophenol	150	129.80	87		30	133
		Terphenyl-d14	100	87.20	87		37	115
G4051-03MSD	TK1-1-20151015MSD	2-Fluorophenol	150	135.50	90		28	127
		Phenol-d6	150	145.60	97		34	127
		Nitrobenzene-d5	100	78.00	78		31	132
		2-Fluorobiphenyl	100	96.30	96		39	123
		2,4,6-Tribromophenol	150	150.90	101		30	133
		Terphenyl-d14	100	90.80	91		37	115
PB86144BL	PB86144BL	2-Fluorophenol	150	121.41	81		28	127
		Phenol-d6	150	125.29	84		34	127
		Nitrobenzene-d5	100	80.87	81		31	132
		2-Fluorobiphenyl	100	85.05	85		39	123
		2,4,6-Tribromophenol	150	95.82	64		30	133
		Terphenyl-d14	100	83.19	83		37	115
PB86144BS	PB86144BS	2-Fluorophenol	150	119.60	80		28	127
		Phenol-d6	150	115.01	77		34	127
		Nitrobenzene-d5	100	82.43	82		31	132
		2-Fluorobiphenyl	100	84.16	84		39	123
		2,4,6-Tribromophenol	150	106.71	71		30	133
		Terphenyl-d14	100	72.95	73		37	115

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: G4051-02MS		**Client Sample ID:**	**TK1-1-20151015MS**					**DataFile:**	**BF082328.D**		
Benzaldehyde	1900	0	930	ug/Kg	49				10	105	
Phenol	1900	0	1400	ug/Kg	74				40	115	
bis(2-Chloroethyl)ether	1900	0	1300	ug/Kg	68				48	110	
2-Chlorophenol	1900	0	1400	ug/Kg	74				39	115	
2-Methylphenol	1900	0	1400	ug/Kg	74				48	111	
2,2-oxybis(1-Chloropropane)	1900	0	1600	ug/Kg	84				43	116	
Acetophenone	1900	0	1400	ug/Kg	74				46	122	
3+4-Methylphenols	1900	0	1700	ug/Kg	89				46	115	
N-Nitroso-di-n-propylamine	1900	0	1400	ug/Kg	74				37	128	
Hexachloroethane	1900	0	1400	ug/Kg	74				37	117	
Nitrobenzene	1900	0	1200	ug/Kg	63				45	117	
Isophorone	1900	0	1500	ug/Kg	79				44	121	
2-Nitrophenol	1900	0	970	ug/Kg	51				32	123	
2,4-Dimethylphenol	1900	0	1400	ug/Kg	74				45	118	
bis(2-Chloroethoxy)methane	1900	0	1400	ug/Kg	74				47	117	
2,4-Dichlorophenol	1900	0	1300	ug/Kg	68				37	122	
Naphthalene	1900	0	1600	ug/Kg	84				42	121	
4-Chloroaniline	1900	0	490	ug/Kg	26				10	130	
Hexachlorobutadiene	1900	0	1300	ug/Kg	68				49	111	
Caprolactam	1900	0	1500	ug/Kg	79				26	133	
4-Chloro-3-methylphenol	1900	0	1500	ug/Kg	79				46	115	
2-Methylnaphthalene	1900	0	1600	ug/Kg	84				45	118	
Hexachlorocyclopentadiene	3800	0	3300	ug/Kg	87				10	127	
2,4,6-Trichlorophenol	1900	0	1300	ug/Kg	68				36	122	
2,4,5-Trichlorophenol	1900	0	1400	ug/Kg	74				33	125	
1,1-Biphenyl	1900	0	1400	ug/Kg	74				47	119	
2-Chloronaphthalene	1900	0	1500	ug/Kg	79				52	110	
2-Nitroaniline	1900	0	1200	ug/Kg	63				45	121	
Dimethylphthalate	1900	0	1900	ug/Kg	100				39	127	
Acenaphthylene	1900	0	2100	ug/Kg	111				45	117	
2,6-Dinitrotoluene	1900	0	1200	ug/Kg	63				50	114	
3-Nitroaniline	1900	0	940	ug/Kg	49				12	108	
Acenaphthene	1900	0	1900	ug/Kg	100				45	118	
2,4-Dinitrophenol	3800	0	0	ug/Kg	0	*			10	126	
4-Nitrophenol	3800	0	990	ug/Kg	26				18	141	
Dibenzofuran	1900	0	1900	ug/Kg	100				45	118	
2,4-Dinitrotoluene	1900	0	1400	ug/Kg	74				44	120	
Diethylphthalate	1900	0	1600	ug/Kg	84				50	113	
4-Chlorophenyl-phenylether	1900	0	1500	ug/Kg	79				51	111	
Fluorene	1900	0	2000	ug/Kg	105				41	121	
4-Nitroaniline	1900	0	1100	ug/Kg	58				38	113	
4,6-Dinitro-2-methylphenol	1900	0	320	ug/Kg	17				10	142	
N-Nitrosodiphenylamine	1900	0	1400	ug/Kg	74				45	122	
4-Bromophenyl-phenylether	1900	0	1100	ug/Kg	58				51	114	
Hexachlorobenzene	1900	0	1400	ug/Kg	74				48	114	
Atrazine	1900	0	1500	ug/Kg	79				40	129	
Pentachlorophenol	3800	0	2100	ug/Kg	55				15	145	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Phenanthrene	1900	1200	5800	ug/Kg	242	*			29	138	
Anthracene	1900	0	2600	ug/Kg	137	*			45	120	
Carbazole	1900	0	2000	ug/Kg	105				43	122	
Di-n-butylphthalate	1900	0	1300	ug/Kg	68				51	115	
Fluoranthene	1900	2300	8200	ug/Kg	311	*			33	133	
Pyrene	1900	1900	6600	ug/Kg	247	*			31	135	
Butylbenzylphthalate	1900	0	1300	ug/Kg	68				49	121	
3,3-Dichlorobenzidine	1900	0	700	ug/Kg	37				10	105	
Benzo(a)anthracene	1900	1200	4100	ug/Kg	153	*			35	132	
Chrysene	1900	920	4000	ug/Kg	162	*			34	131	
bis(2-Ethylhexyl)phthalate	1900	0	2600	ug/Kg	137	*			42	127	
Di-n-octyl phthalate	1900	0	1300	ug/Kg	68				50	123	
Benzo(b)fluoranthene	1900	1100	4000	ug/Kg	153	*			35	128	
Benzo(k)fluoranthene	1900	0	3100	ug/Kg	163	*			39	117	
Benzo(a)pyrene	1900	1000	3800	ug/Kg	147	*			35	129	
Indeno(1,2,3-cd)pyrene	1900	810	3200	ug/Kg	126				30	140	
Dibenz(a,h)anthracene	1900	0	1900	ug/Kg	100				18	147	
Benzo(g,h,i)perylene	1900	1000	3800	ug/Kg	147	*			31	132	
1,2,4,5-Tetrachlorobenzene	1900	0	1300	ug/Kg	68				52	122	
2,3,4,6-Tetrachlorophenol	1900	0	1500	ug/Kg	79				52	109	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: G4051-03MSD		**Client Sample ID: TK1-1-20151015MSD**						**DataFile: BF082329.D**			
Benzaldehyde	1900	0	1100	ug/Kg	58		17		10	105	20
Phenol	1900	0	1500	ug/Kg	79		7		40	115	20
bis(2-Chloroethyl)ether	1900	0	1500	ug/Kg	79		15		48	110	20
2-Chlorophenol	1900	0	1500	ug/Kg	79		7		39	115	20
2-Methylphenol	1900	0	1700	ug/Kg	89		18		48	111	20
2,2-oxybis(1-Chloropropane)	1900	0	1800	ug/Kg	95		12		43	116	20
Acetophenone	1900	0	1300	ug/Kg	68		8		46	122	20
3+4-Methylphenols	1900	0	1900	ug/Kg	100		12		46	115	20
N-Nitroso-di-n-propylamine	1900	0	1700	ug/Kg	89		18		37	128	20
Hexachloroethane	1900	0	1500	ug/Kg	79		7		37	117	20
Nitrobenzene	1900	0	1300	ug/Kg	68		8		45	117	20
Isophorone	1900	0	1400	ug/Kg	74		7		44	121	20
2-Nitrophenol	1900	0	1100	ug/Kg	58		13		32	123	20
2,4-Dimethylphenol	1900	0	1400	ug/Kg	74		0		45	118	20
bis(2-Chloroethoxy)methane	1900	0	1200	ug/Kg	63		16		47	117	20
2,4-Dichlorophenol	1900	0	1200	ug/Kg	63		8		37	122	20
Naphthalene	1900	0	1700	ug/Kg	89		6		42	121	20
4-Chloroaniline	1900	0	470	ug/Kg	25		4		10	130	20
Hexachlorobutadiene	1900	0	1300	ug/Kg	68		0		49	111	20
Caprolactam	1900	0	1400	ug/Kg	74		7		26	133	20
4-Chloro-3-methylphenol	1900	0	1500	ug/Kg	79		0		46	115	20
2-Methylnaphthalene	1900	0	1500	ug/Kg	79		6		45	118	20
Hexachlorocyclopentadiene	3800	0	3200	ug/Kg	84		4		10	127	20
2,4,6-Trichlorophenol	1900	0	1500	ug/Kg	79		15		36	122	20
2,4,5-Trichlorophenol	1900	0	1500	ug/Kg	79		7		33	125	20
1,1-Biphenyl	1900	0	1500	ug/Kg	79		7		47	119	20
2-Chloronaphthalene	1900	0	1500	ug/Kg	79		0		52	110	20
2-Nitroaniline	1900	0	1300	ug/Kg	68		8		45	121	20
Dimethylphthalate	1900	0	2000	ug/Kg	105		5		39	127	20
Acenaphthylene	1900	0	2100	ug/Kg	111		0		45	117	20
2,6-Dinitrotoluene	1900	0	1300	ug/Kg	68		8		50	114	20
3-Nitroaniline	1900	0	890	ug/Kg	47		4		12	108	20
Acenaphthene	1900	0	1900	ug/Kg	100		0		45	118	20
2,4-Dinitrophenol	3800	0	0	ug/Kg	0	*	0		10	126	20
4-Nitrophenol	3800	0	1000	ug/Kg	26		0		18	141	20
Dibenzofuran	1900	0	1900	ug/Kg	100		0		45	118	20
2,4-Dinitrotoluene	1900	0	1400	ug/Kg	74		0		44	120	20
Diethylphthalate	1900	0	1700	ug/Kg	89		6		50	113	20
4-Chlorophenyl-phenylether	1900	0	1600	ug/Kg	84		6		51	111	20
Fluorene	1900	0	2000	ug/Kg	105		0		41	121	20
4-Nitroaniline	1900	0	1200	ug/Kg	63		8		38	113	20
4,6-Dinitro-2-methylphenol	1900	0	300	ug/Kg	16		6		10	142	20
N-Nitrosodiphenylamine	1900	0	1500	ug/Kg	79		7		45	122	20
4-Bromophenyl-phenylether	1900	0	1200	ug/Kg	63		8		51	114	20
Hexachlorobenzene	1900	0	1500	ug/Kg	79		7		48	114	20
Atrazine	1900	0	1700	ug/Kg	89		12		40	129	20
Pentachlorophenol	3800	0	2200	ug/Kg	58		5		15	145	20

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Phenanthrene	1900	1200	6200	ug/Kg	263	*	8		29	138	20
Anthracene	1900	0	2800	ug/Kg	147	*	7		45	120	20
Carbazole	1900	0	2100	ug/Kg	111		6		43	122	20
Di-n-butylphthalate	1900	0	1500	ug/Kg	79		15		51	115	20
Fluoranthene	1900	2300	8600	ug/Kg	332	*	7		33	133	20
Pyrene	1900	1900	7000	ug/Kg	268	*	8		31	135	20
Butylbenzylphthalate	1900	0	1400	ug/Kg	74		8		49	121	20
3,3-Dichlorobenzidine	1900	0	830	ug/Kg	44		17		10	105	20
Benzo(a)anthracene	1900	1200	4700	ug/Kg	184	*	18		35	132	20
Chrysene	1900	920	3800	ug/Kg	152	*	6		34	131	20
bis(2-Ethylhexyl)phthalate	1900	0	2800	ug/Kg	147	*	7		42	127	20
Di-n-octyl phthalate	1900	0	1300	ug/Kg	68		0		50	123	20
Benzo(b)fluoranthene	1900	1100	4100	ug/Kg	158	*	3		35	128	20
Benzo(k)fluoranthene	1900	0	3300	ug/Kg	174	*	7		39	117	20
Benzo(a)pyrene	1900	1000	4000	ug/Kg	158	*	7		35	129	20
Indeno(1,2,3-cd)pyrene	1900	810	3500	ug/Kg	142	*	12		30	140	20
Dibenz(a,h)anthracene	1900	0	1800	ug/Kg	95		5		18	147	20
Benzo(g,h,i)perylene	1900	1000	3600	ug/Kg	137	*	7		31	132	20
1,2,4,5-Tetrachlorobenzene	1900	0	1400	ug/Kg	74		8		52	122	20
2,3,4,6-Tetrachlorophenol	1900	0	1600	ug/Kg	84		6		52	109	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D **DataFile:** BF082354.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB86144BS	Benzaldehyde	1700	740	ug/Kg	44				10	95	
	Phenol	1700	1100	ug/Kg	65				51	101	
	bis(2-Chloroethyl)ether	1700	1200	ug/Kg	71				55	99	
	2-Chlorophenol	1700	1200	ug/Kg	71				53	100	
	2-Methylphenol	1700	1300	ug/Kg	76				49	105	
	2,2-oxybis(1-Chloropropane)	1700	1200	ug/Kg	71				52	104	
	Acetophenone	1700	1400	ug/Kg	82				50	111	
	3+4-Methylphenols	1700	1300	ug/Kg	76				52	102	
	N-Nitroso-di-n-propylamine	1700	1200	ug/Kg	71				51	104	
	Hexachloroethane	1700	1200	ug/Kg	71				54	97	
	Nitrobenzene	1700	1300	ug/Kg	76				51	104	
	Isophorone	1700	1300	ug/Kg	76				55	101	
	2-Nitrophenol	1700	1400	ug/Kg	82				52	105	
	2,4-Dimethylphenol	1700	1500	ug/Kg	88				53	103	
	bis(2-Chloroethoxy)methane	1700	1400	ug/Kg	82				55	101	
	2,4-Dichlorophenol	1700	1400	ug/Kg	82				54	103	
	Naphthalene	1700	1300	ug/Kg	76				53	103	
	4-Chloroaniline	1700	550	ug/Kg	32				10	130	
	Hexachlorobutadiene	1700	1300	ug/Kg	76				50	106	
	Caprolactam	1700	1400	ug/Kg	82				49	106	
	4-Chloro-3-methylphenol	1700	1500	ug/Kg	88				55	101	
	2-Methylnaphthalene	1700	1400	ug/Kg	82				55	102	
	Hexachlorocyclopentadiene	3300	2100	ug/Kg	64				38	122	
	2,4,6-Trichlorophenol	1700	1300	ug/Kg	76				56	103	
	2,4,5-Trichlorophenol	1700	1300	ug/Kg	76				56	103	
	1,1-Biphenyl	1700	1300	ug/Kg	76				56	107	
	2-Chloronaphthalene	1700	1300	ug/Kg	76				56	102	
	2-Nitroaniline	1700	1400	ug/Kg	82				54	103	
	Dimethylphthalate	1700	1300	ug/Kg	76				61	111	
	Acenaphthylene	1700	1300	ug/Kg	76				57	101	
	2,6-Dinitrotoluene	1700	1300	ug/Kg	76				59	100	
	3-Nitroaniline	1700	640	ug/Kg	38				10	130	
	Acenaphthene	1700	1200	ug/Kg	71				57	102	
	2,4-Dinitrophenol	3300	2600	ug/Kg	79				32	114	
	4-Nitrophenol	3300	2200	ug/Kg	67				48	114	
	Dibenzofuran	1700	1300	ug/Kg	76				57	100	
	2,4-Dinitrotoluene	1700	1500	ug/Kg	88				58	102	
	Diethylphthalate	1700	1500	ug/Kg	88				56	101	
	4-Chlorophenyl-phenylether	1700	1400	ug/Kg	82				57	101	
	Fluorene	1700	1300	ug/Kg	76				57	101	
	4-Nitroaniline	1700	1200	ug/Kg	71				49	99	
	4,6-Dinitro-2-methylphenol	1700	1400	ug/Kg	82				44	119	
	N-Nitrosodiphenylamine	1700	1300	ug/Kg	76				57	103	
	4-Bromophenyl-phenylether	1700	1300	ug/Kg	76				57	105	
	Hexachlorobenzene	1700	1300	ug/Kg	76				54	106	
	Atrazine	1700	1600	ug/Kg	94				50	113	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8270D **DataFile:** BF082354.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB86144BS	Pentachlorophenol	3300	2700	ug/Kg	82				49	116	
	Phenanthrene	1700	1400	ug/Kg	82				58	101	
	Anthracene	1700	1400	ug/Kg	82				57	102	
	Carbazole	1700	1300	ug/Kg	76				57	102	
	Di-n-butylphthalate	1700	1500	ug/Kg	88				57	103	
	Fluoranthene	1700	1500	ug/Kg	88				56	102	
	Pyrene	1700	1300	ug/Kg	76				56	106	
	Butylbenzylphthalate	1700	1300	ug/Kg	76				57	106	
	3,3-Dichlorobenzidine	1700	760	ug/Kg	45				10	92	
	Benzo(a)anthracene	1700	1300	ug/Kg	76				56	103	
	Chrysene	1700	1200	ug/Kg	71				58	102	
	bis(2-Ethylhexyl)phthalate	1700	1300	ug/Kg	76				57	106	
	Di-n-octyl phthalate	1700	1300	ug/Kg	76				56	107	
	Benzo(b)fluoranthene	1700	1300	ug/Kg	76				56	103	
	Benzo(k)fluoranthene	1700	1300	ug/Kg	76				55	102	
	Benzo(a)pyrene	1700	1300	ug/Kg	76				57	103	
	Indeno(1,2,3-cd)pyrene	1700	1300	ug/Kg	76				50	113	
	Dibenz(a,h)anthracene	1700	1300	ug/Kg	76				52	119	
	Benzo(g,h,i)perylene	1700	1300	ug/Kg	76				56	105	
	1,2,4,5-Tetrachlorobenzene	1700	1200	ug/Kg	71				33	136	
	2,3,4,6-Tetrachlorophenol	1700	1300	ug/Kg	76				47	120	

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB86144BL

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082357.D Lab Sample ID: PB86144BL

Instrument ID: BNA_F Date Extracted: 10/16/2015

Matrix: (soil/water) SOIL Date Analyzed: 10/19/2015

Level: (low/med) LOW Time Analyzed: 15:59

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB86144BS	PB86144BS	BF082354.D	10/19/2015
GOODLUCK902	G4046-01	BF082336.D	10/16/2015
GOODLUCK58	G4046-02	BF082337.D	10/16/2015
TK1-1-20151015MS	G4051-02MS	BF082328.D	10/16/2015
TK1-1-20151015MSD	G4051-03MSD	BF082329.D	10/16/2015
MANAHAWKEN112	G4046-04	BF082339.D	10/16/2015

COMMENTS:

Form IV SV

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082165.D DFTPP Injection Date: 10/10/2015

Instrument ID: BNA_F DFTPP Injection Time: 09:26

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	33.7
68	Less than 2.0% of mass 69	0.5 (1.6) 1
69	Mass 69 relative abundance	31
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	44.1
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	25.2
365	Greater than 1% of mass 198	2.7
441	Present, but less than mass 443	13.4
442	Greater than 50% of mass 198	86.1
443	15.0 - 24.0% of mass 442	16.2 (18.8) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC02.5	SSTDICC02.5	BF082167.D	10/10/2015	10:31
SSTDICC010	SSTDICC010	BF082168.D	10/10/2015	11:01
SSTDICC025	SSTDICC025	BF082169.D	10/10/2015	11:32
SSTDICCC040	SSTDICCC040	BF082170.D	10/10/2015	12:02
SSTDICC050	SSTDICC050	BF082171.D	10/10/2015	12:32
SSTDICC060	SSTDICC060	BF082172.D	10/10/2015	13:03
SSTDICC080	SSTDICC080	BF082173.D	10/10/2015	13:33

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082319.D DFTPP Injection Date: 10/16/2015

Instrument ID: BNA_F DFTPP Injection Time: 11:18

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	31.7
68	Less than 2.0% of mass 69	0.5 (1.7) 1
69	Mass 69 relative abundance	31.2
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	42.6
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	24.6
365	Greater than 1% of mass 198	2.5
441	Present, but less than mass 443	14.2
442	Greater than 50% of mass 198	89.1
443	15.0 - 24.0% of mass 442	16.5 (18.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF082320.D	10/16/2015	11:49
TK1-1-20151015MS	G4051-02MS	BF082328.D	10/16/2015	16:23
TK1-1-20151015MSD	G4051-03MSD	BF082329.D	10/16/2015	16:52
GOODLUCK902	G4046-01	BF082336.D	10/16/2015	20:12
GOODLUCK58	G4046-02	BF082337.D	10/16/2015	20:41
MANAHAWKEN112	G4046-04	BF082339.D	10/16/2015	21:39

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082351.D DFTPP Injection Date: 10/19/2015

Instrument ID: BNA_F DFTPP Injection Time: 12:50

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	32.6
68	Less than 2.0% of mass 69	0.3 (1) 1
69	Mass 69 relative abundance	31.8
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	43.1
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	24.7
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	12.5
442	Greater than 50% of mass 198	76.1
443	15.0 - 24.0% of mass 442	14 (18.4) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF082352.D	10/19/2015	13:18
PB86144BS	PB86144BS	BF082354.D	10/19/2015	14:34
PB86144BL	PB86144BL	BF082357.D	10/19/2015	15:59

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM SAS No.: G4046 SDG NO.: G4046

Lab File ID: BF082373.D DFTPP Injection Date: 10/20/2015

Instrument ID: BNA_F DFTPP Injection Time: 00:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.1
68	Less than 2.0% of mass 69	0.4 (1.2) 1
69	Mass 69 relative abundance	31.5
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	43.2
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	23.6
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	13.7
442	Greater than 50% of mass 198	79.9
443	15.0 - 24.0% of mass 442	15.7 (19.7) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF082374.D	10/20/2015	01:13
GOODLUCK902DL	G4046-01DL	BF082386.D	10/20/2015	06:56
GOODLUCK902DL2	G4046-01DL2	BF082387.D	10/20/2015	07:25
GOODLUCK58DL	G4046-02DL	BF082388.D	10/20/2015	07:53
GOODLUCK58DL2	G4046-02DL2	BF082389.D	10/20/2015	08:22
MANAHAWKEN112DL	G4046-04DL	BF082392.D	10/20/2015	09:48
MANAHAWKEN112DL2	G4046-04DL2	BF082393.D	10/20/2015	10:17

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/16/2015

Lab File ID: BF082320.D Time Analyzed: 11:49

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	93275	6.83	382664	8.13	207326	9.89
	UPPER LIMIT	186550	7.33	765328	8.63	414652	10.39
	LOWER LIMIT	46637.5	6.33	191332	7.63	103663	9.39
	EPA SAMPLE NO.						
01	GOODLUCK902	51040	6.91	231886	8.21	128806	9.95
02	GOODLUCK58	52994	6.93	243928	8.21	130707	9.95
03	MANAHAWKEN112	51432	6.93	234368	8.21	129589	9.95
04	TK1-1-20151015MS	53162	6.87	236964	8.16	126001	9.91
05	TK1-1-20151015MSD	45799 *	6.89	229217	8.17	117792	9.92

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/16/2015

Lab File ID: BF082320.D Time Analyzed: 11:49

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	418554	11.37	410674	14.07	337700	15.59
	UPPER LIMIT	837108	11.87	821348	14.57	675400	16.09
	LOWER LIMIT	209277	10.87	205337	13.57	168850	15.09
	EPA SAMPLE NO.						
01	GOODLUCK902	228686	11.45	196863 *	14.15	207832	15.70
02	GOODLUCK58	216214	11.45	201193 *	14.18	207898	15.77
03	MANAHAWKEN112	198676 *	11.45	187743 *	14.15	200069	15.69
04	TK1-1-20151015MS	273091	11.39	265958	14.13	227615	15.70
05	TK1-1-20151015MSD	258375	11.42	258150	14.14	229036	15.73

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/19/2015

Lab File ID: BF082352.D Time Analyzed: 13:18

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	149596	6.8	587997	8.09	295216	9.85
	UPPER LIMIT	299192	7.3	1175990	8.59	590432	10.35
	LOWER LIMIT	74798	6.3	293999	7.59	147608	9.35
	EPA SAMPLE NO.						
01	PB86144BL	106489	6.80	411033	8.09	209250	9.85
02	PB86144BS	102323	6.80	392208	8.09	208807	9.85

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/19/2015

Lab File ID: BF082352.D Time Analyzed: 13:18

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	587022	11.35	509909	14.09	402116	15.67
	UPPER LIMIT	1174040	11.85	1019820	14.59	804232	16.17
	LOWER LIMIT	293511	10.85	254955	13.59	201058	15.17
	EPA SAMPLE NO.						
01	PB86144BL	424603	11.34	365882	14.06	285758	15.62
02	PB86144BS	389236	11.34	370193	14.06	315291	15.60

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/20/2015

Lab File ID: BF082374.D Time Analyzed: 01:13

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	158929	6.8	608031	8.09	309021	9.85
	UPPER LIMIT	317858	7.3	1216060	8.59	618042	10.35
	LOWER LIMIT	79464.5	6.3	304016	7.59	154511	9.35
	EPA SAMPLE NO.						
01	GOODLUCK902DL	93624	6.80	383235	8.09	190593	9.85
02	GOODLUCK902DL2	83299	6.80	346134	8.09	165438	9.85
03	GOODLUCK58DL	87643	6.80	363932	8.09	183232	9.85
04	GOODLUCK58DL2	84210	6.80	350338	8.09	174525	9.85
05	MANAHAWKEN112DL	88798	6.80	363670	8.09	183300	9.85
06	MANAHAWKEN112DL2	83201	6.80	346298	8.09	168528	9.85

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

EPA Sample No.: SSTDCCC040 Date Analyzed: 10/20/2015

Lab File ID: BF082374.D Time Analyzed: 01:13

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #		RT #	IS5 (CRY) AREA #		RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	601128		11.35	468461		14.02	394407	15.54
	UPPER LIMIT	1202260		11.85	936922		14.52	788814	16.04
	LOWER LIMIT	300564		10.85	234231		13.52	197204	15.04
	EPA SAMPLE NO.								
01	GOODLUCK902DL	328926		11.35	250015		14.01	231804	15.52
02	GOODLUCK902DL2	283576	*	11.34	223607	*	14.01	213886	15.51
03	GOODLUCK58DL	293126	*	11.35	226533	*	14.01	225265	15.51
04	GOODLUCK58DL2	301600		11.34	231620	*	14.02	215371	15.54
05	MANAHAWKEN112DL	298546	*	11.35	230022	*	14.02	225063	15.53
06	MANAHAWKEN112DL2	294591	*	11.34	221500	*	14.04	210304	15.57

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Form VIII SV-1

QC SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BL	SDG No.:	G4046
Lab Sample ID:	PB86144BL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082357.D	1	10/16/15 16:15	10/19/15 15:59	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	33.3	U	17.4	33.3	330	ug/Kg
108-95-2	Phenol	33.3	U	7.7	33.3	330	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	33.3	U	16	33.3	330	ug/Kg
95-57-8	2-Chlorophenol	33.3	U	17.6	33.3	330	ug/Kg
95-48-7	2-Methylphenol	33.3	U	18.1	33.3	330	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	33.3	U	13.8	33.3	330	ug/Kg
98-86-2	Acetophenone	33.3	U	10.2	33.3	330	ug/Kg
65794-96-9	3+4-Methylphenols	33.3	U	17.3	33.3	330	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	33.3	U	16.8	33.3	330	ug/Kg
67-72-1	Hexachloroethane	33.3	U	14.9	33.3	330	ug/Kg
98-95-3	Nitrobenzene	33.3	U	12.6	33.3	330	ug/Kg
78-59-1	Isophorone	33.3	U	11	33.3	330	ug/Kg
88-75-5	2-Nitrophenol	33.3	U	16.1	33.3	330	ug/Kg
105-67-9	2,4-Dimethylphenol	33.3	U	18.9	33.3	330	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	33.3	U	19.2	33.3	330	ug/Kg
120-83-2	2,4-Dichlorophenol	33.3	U	12.7	33.3	330	ug/Kg
91-20-3	Naphthalene	33.3	U	11.5	33.3	330	ug/Kg
106-47-8	4-Chloroaniline	33.3	U	23.5	33.3	330	ug/Kg
87-68-3	Hexachlorobutadiene	33.3	U	12.1	33.3	330	ug/Kg
105-60-2	Caprolactam	66.7	U	15.5	66.7	330	ug/Kg
59-50-7	4-Chloro-3-methylphenol	33.3	U	14.8	33.3	330	ug/Kg
91-57-6	2-Methylnaphthalene	33.3	U	8.4	33.3	330	ug/Kg
77-47-4	Hexachlorocyclopentadiene	33.3	U	8.1	33.3	330	ug/Kg
88-06-2	2,4,6-Trichlorophenol	33.3	U	10.2	33.3	330	ug/Kg
95-95-4	2,4,5-Trichlorophenol	33.3	U	23.4	33.3	330	ug/Kg
92-52-4	1,1-Biphenyl	33.3	U	12.6	33.3	330	ug/Kg
91-58-7	2-Chloronaphthalene	33.3	U	7.6	33.3	330	ug/Kg
88-74-4	2-Nitroaniline	33.3	U	14.8	33.3	330	ug/Kg
131-11-3	Dimethylphthalate	33.3	U	9	33.3	330	ug/Kg
208-96-8	Acenaphthylene	33.3	U	8.4	33.3	330	ug/Kg
606-20-2	2,6-Dinitrotoluene	33.3	U	13.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BL	SDG No.:	G4046
Lab Sample ID:	PB86144BL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082357.D	1	10/16/15 16:15	10/19/15 15:59	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	66.7	U	21.4	66.7	330	ug/Kg
83-32-9	Acenaphthene	33.3	U	9.4	33.3	330	ug/Kg
51-28-5	2,4-Dinitrophenol	270	U	33.9	270	330	ug/Kg
100-02-7	4-Nitrophenol	170	U	61.9	170	330	ug/Kg
132-64-9	Dibenzofuran	33.3	U	13	33.3	330	ug/Kg
121-14-2	2,4-Dinitrotoluene	33.3	U	10	33.3	330	ug/Kg
84-66-2	Diethylphthalate	33.3	U	5.2	33.3	330	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	33.3	U	18.1	33.3	330	ug/Kg
86-73-7	Fluorene	33.3	U	12.6	33.3	330	ug/Kg
100-01-6	4-Nitroaniline	66.7	U	43.4	66.7	330	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	170	U	19.1	170	330	ug/Kg
86-30-6	n-Nitrosodiphenylamine	33.3	U	8	33.3	330	ug/Kg
101-55-3	4-Bromophenyl-phenylether	33.3	U	6.5	33.3	330	ug/Kg
118-74-1	Hexachlorobenzene	33.3	U	13.6	33.3	330	ug/Kg
1912-24-9	Atrazine	33.3	U	17.6	33.3	330	ug/Kg
87-86-5	Pentachlorophenol	33.3	U	22.8	33.3	330	ug/Kg
85-01-8	Phenanthrene	33.3	U	9	33.3	330	ug/Kg
120-12-7	Anthracene	33.3	U	6.8	33.3	330	ug/Kg
86-74-8	Carbazole	33.3	U	7.3	33.3	330	ug/Kg
84-74-2	Di-n-butylphthalate	33.3	U	26.2	33.3	330	ug/Kg
206-44-0	Fluoranthene	33.3	U	6.7	33.3	330	ug/Kg
129-00-0	Pyrene	33.3	U	8	33.3	330	ug/Kg
85-68-7	Butylbenzylphthalate	33.3	U	16	33.3	330	ug/Kg
91-94-1	3,3-Dichlorobenzidine	33.3	U	21.4	33.3	330	ug/Kg
56-55-3	Benzo(a)anthracene	33.3	U	15.9	33.3	330	ug/Kg
218-01-9	Chrysene	33.3	U	15.1	33.3	330	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	33.3	U	11.8	33.3	330	ug/Kg
117-84-0	Di-n-octyl phthalate	33.3	U	3.8	33.3	330	ug/Kg
205-99-2	Benzo(b)fluoranthene	33.3	U	10.9	33.3	330	ug/Kg
207-08-9	Benzo(k)fluoranthene	33.3	U	15.7	33.3	330	ug/Kg
50-32-8	Benzo(a)pyrene	33.3	U	7.2	33.3	330	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	33.3	U	11.1	33.3	330	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	33.3	U	9.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BL	SDG No.:	G4046
Lab Sample ID:	PB86144BL	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082357.D	1	10/16/15 16:15	10/19/15 15:59	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	33.3	U	13.5	33.3	330	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	33.3	U	13.1	33.3	330	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	33.3	U	13.1	33.3	330	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		81%	SPK: 150
13127-88-3	Phenol-d6	130		34 - 127		84%	SPK: 150
4165-60-0	Nitrobenzene-d5	80.9		31 - 132		81%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.1		39 - 123		85%	SPK: 100
118-79-6	2,4,6-Tribromophenol	95.8		30 - 133		64%	SPK: 150
1718-51-0	Terphenyl-d14	83.2		37 - 115		83%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	106489	6.8				
1146-65-2	Naphthalene-d8	411033	8.09				
15067-26-2	Acenaphthene-d10	209250	9.85				
1517-22-2	Phenanthrene-d10	424603	11.34				
1719-03-5	Chrysene-d12	365882	14.06				
1520-96-3	Perylene-d12	285758	15.62				
TENTATIVE IDENTIFIED COMPOUNDS							
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1700	A			4.98	ug/Kg
	unknown6.57	2800	J			6.57	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BS	SDG No.:	G4046
Lab Sample ID:	PB86144BS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082354.D	1	10/16/15 16:15	10/19/15 14:34	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	740		17.4	33.3	330	ug/Kg
108-95-2	Phenol	1100		7.7	33.3	330	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1200		16	33.3	330	ug/Kg
95-57-8	2-Chlorophenol	1200		17.6	33.3	330	ug/Kg
95-48-7	2-Methylphenol	1300		18.1	33.3	330	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1200		13.8	33.3	330	ug/Kg
98-86-2	Acetophenone	1400		10.2	33.3	330	ug/Kg
65794-96-9	3+4-Methylphenols	1300		17.3	33.3	330	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1200		16.8	33.3	330	ug/Kg
67-72-1	Hexachloroethane	1200		14.9	33.3	330	ug/Kg
98-95-3	Nitrobenzene	1300		12.6	33.3	330	ug/Kg
78-59-1	Isophorone	1300		11	33.3	330	ug/Kg
88-75-5	2-Nitrophenol	1400		16.1	33.3	330	ug/Kg
105-67-9	2,4-Dimethylphenol	1500		18.9	33.3	330	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1400		19.2	33.3	330	ug/Kg
120-83-2	2,4-Dichlorophenol	1400		12.7	33.3	330	ug/Kg
91-20-3	Naphthalene	1300		11.5	33.3	330	ug/Kg
106-47-8	4-Chloroaniline	550		23.5	33.3	330	ug/Kg
87-68-3	Hexachlorobutadiene	1300		12.1	33.3	330	ug/Kg
105-60-2	Caprolactam	1400		15.5	66.6	330	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1500		14.8	33.3	330	ug/Kg
91-57-6	2-Methylnaphthalene	1400		8.4	33.3	330	ug/Kg
77-47-4	Hexachlorocyclopentadiene	2100		8.1	33.3	330	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1300		10.2	33.3	330	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1300		23.4	33.3	330	ug/Kg
92-52-4	1,1-Biphenyl	1300		12.6	33.3	330	ug/Kg
91-58-7	2-Chloronaphthalene	1300		7.6	33.3	330	ug/Kg
88-74-4	2-Nitroaniline	1400		14.8	33.3	330	ug/Kg
131-11-3	Dimethylphthalate	1300		9	33.3	330	ug/Kg
208-96-8	Acenaphthylene	1300		8.4	33.3	330	ug/Kg
606-20-2	2,6-Dinitrotoluene	1300		13.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BS	SDG No.:	G4046
Lab Sample ID:	PB86144BS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082354.D	1	10/16/15 16:15	10/19/15 14:34	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	640		21.4	66.6	330	ug/Kg
83-32-9	Acenaphthene	1200		9.4	33.3	330	ug/Kg
51-28-5	2,4-Dinitrophenol	2600		33.9	270	330	ug/Kg
100-02-7	4-Nitrophenol	2200		61.8	170	330	ug/Kg
132-64-9	Dibenzofuran	1300		13	33.3	330	ug/Kg
121-14-2	2,4-Dinitrotoluene	1500		10	33.3	330	ug/Kg
84-66-2	Diethylphthalate	1500		5.2	33.3	330	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1400		18.1	33.3	330	ug/Kg
86-73-7	Fluorene	1300		12.6	33.3	330	ug/Kg
100-01-6	4-Nitroaniline	1200		43.4	66.6	330	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1400		19.1	170	330	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1300		8	33.3	330	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1300		6.5	33.3	330	ug/Kg
118-74-1	Hexachlorobenzene	1300		13.6	33.3	330	ug/Kg
1912-24-9	Atrazine	1600		17.6	33.3	330	ug/Kg
87-86-5	Pentachlorophenol	2700	E	22.8	33.3	330	ug/Kg
85-01-8	Phenanthrene	1400		9	33.3	330	ug/Kg
120-12-7	Anthracene	1400		6.8	33.3	330	ug/Kg
86-74-8	Carbazole	1300		7.3	33.3	330	ug/Kg
84-74-2	Di-n-butylphthalate	1500		26.2	33.3	330	ug/Kg
206-44-0	Fluoranthene	1500		6.7	33.3	330	ug/Kg
129-00-0	Pyrene	1300		8	33.3	330	ug/Kg
85-68-7	Butylbenzylphthalate	1300		16	33.3	330	ug/Kg
91-94-1	3,3-Dichlorobenzidine	760		21.4	33.3	330	ug/Kg
56-55-3	Benzo(a)anthracene	1300		15.9	33.3	330	ug/Kg
218-01-9	Chrysene	1200		15.1	33.3	330	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	1300		11.8	33.3	330	ug/Kg
117-84-0	Di-n-octyl phthalate	1300		3.8	33.3	330	ug/Kg
205-99-2	Benzo(b)fluoranthene	1300		10.9	33.3	330	ug/Kg
207-08-9	Benzo(k)fluoranthene	1300		15.7	33.3	330	ug/Kg
50-32-8	Benzo(a)pyrene	1300		7.2	33.3	330	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1300		11.1	33.3	330	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1300		9.6	33.3	330	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86144BS	SDG No.:	G4046
Lab Sample ID:	PB86144BS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	0
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082354.D	1	10/16/15 16:15	10/19/15 14:34	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1300		13.5	33.3	330	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1200		13.1	33.3	330	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1300		13.1	33.3	330	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		80%	SPK: 150
13127-88-3	Phenol-d6	120		34 - 127		77%	SPK: 150
4165-60-0	Nitrobenzene-d5	82.4		31 - 132		82%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.2		39 - 123		84%	SPK: 100
118-79-6	2,4,6-Tribromophenol	110		30 - 133		71%	SPK: 150
1718-51-0	Terphenyl-d14	73		37 - 115		73%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	102323	6.8				
1146-65-2	Naphthalene-d8	392208	8.09				
15067-26-2	Acenaphthene-d10	208807	9.85				
1517-22-2	Phenanthrene-d10	389236	11.34				
1719-03-5	Chrysene-d12	370193	14.06				
1520-96-3	Perylene-d12	315291	15.6				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MS	SDG No.:	G4046
Lab Sample ID:	G4051-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082328.D	10	10/16/15 16:15	10/16/15 16:23	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	930	J	200	380	3800	ug/Kg
108-95-2	Phenol	1400	J	88.3	380	3800	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1300	J	180	380	3800	ug/Kg
95-57-8	2-Chlorophenol	1400	J	200	380	3800	ug/Kg
95-48-7	2-Methylphenol	1400	J	210	380	3800	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1600	J	160	380	3800	ug/Kg
98-86-2	Acetophenone	1400	J	120	380	3800	ug/Kg
65794-96-9	3+4-Methylphenols	1700	J	200	380	3800	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1400	J	190	380	3800	ug/Kg
67-72-1	Hexachloroethane	1400	J	170	380	3800	ug/Kg
98-95-3	Nitrobenzene	1200	J	140	380	3800	ug/Kg
78-59-1	Isophorone	1500	J	130	380	3800	ug/Kg
88-75-5	2-Nitrophenol	970	J	180	380	3800	ug/Kg
105-67-9	2,4-Dimethylphenol	1400	J	220	380	3800	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1400	J	220	380	3800	ug/Kg
120-83-2	2,4-Dichlorophenol	1300	J	150	380	3800	ug/Kg
91-20-3	Naphthalene	1600	J	130	380	3800	ug/Kg
106-47-8	4-Chloroaniline	490	J	270	380	3800	ug/Kg
87-68-3	Hexachlorobutadiene	1300	J	140	380	3800	ug/Kg
105-60-2	Caprolactam	1500	J	180	760	3800	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1500	J	170	380	3800	ug/Kg
91-57-6	2-Methylnaphthalene	1600	J	96.4	380	3800	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3300	J	92.9	380	3800	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1300	J	120	380	3800	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1400	J	270	380	3800	ug/Kg
92-52-4	1,1-Biphenyl	1400	J	140	380	3800	ug/Kg
91-58-7	2-Chloronaphthalene	1500	J	87.2	380	3800	ug/Kg
88-74-4	2-Nitroaniline	1200	J	170	380	3800	ug/Kg
131-11-3	Dimethylphthalate	1900	J	100	380	3800	ug/Kg
208-96-8	Acenaphthylene	2100	J	96.4	380	3800	ug/Kg
606-20-2	2,6-Dinitrotoluene	1200	J	160	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MS	SDG No.:	G4046
Lab Sample ID:	G4051-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082328.D	10	10/16/15 16:15	10/16/15 16:23	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	940	J	250	760	3800	ug/Kg
83-32-9	Acenaphthene	1900	J	110	380	3800	ug/Kg
51-28-5	2,4-Dinitrophenol	3100	U	390	3100	3800	ug/Kg
100-02-7	4-Nitrophenol	990	J	710	1900	3800	ug/Kg
132-64-9	Dibenzofuran	1900	J	150	380	3800	ug/Kg
121-14-2	2,4-Dinitrotoluene	1400	J	110	380	3800	ug/Kg
84-66-2	Diethylphthalate	1600	J	59.7	380	3800	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1500	J	210	380	3800	ug/Kg
86-73-7	Fluorene	2000	J	140	380	3800	ug/Kg
100-01-6	4-Nitroaniline	1100	J	500	760	3800	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	320	J	220	1900	3800	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1400	J	91.8	380	3800	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1100	J	74.6	380	3800	ug/Kg
118-74-1	Hexachlorobenzene	1400	J	160	380	3800	ug/Kg
1912-24-9	Atrazine	1500	J	200	380	3800	ug/Kg
87-86-5	Pentachlorophenol	2100	J	260	380	3800	ug/Kg
85-01-8	Phenanthrene	5800		100	380	3800	ug/Kg
120-12-7	Anthracene	2600	J	78	380	3800	ug/Kg
86-74-8	Carbazole	2000	J	83.7	380	3800	ug/Kg
84-74-2	Di-n-butylphthalate	1300	J	300	380	3800	ug/Kg
206-44-0	Fluoranthene	8200		76.9	380	3800	ug/Kg
129-00-0	Pyrene	6600		91.8	380	3800	ug/Kg
85-68-7	Butylbenzylphthalate	1300	J	180	380	3800	ug/Kg
91-94-1	3,3-Dichlorobenzidine	700	J	250	380	3800	ug/Kg
56-55-3	Benzo(a)anthracene	4100		180	380	3800	ug/Kg
218-01-9	Chrysene	4000		170	380	3800	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2600	J	140	380	3800	ug/Kg
117-84-0	Di-n-octyl phthalate	1300	J	43.6	380	3800	ug/Kg
205-99-2	Benzo(b)fluoranthene	4000		130	380	3800	ug/Kg
207-08-9	Benzo(k)fluoranthene	3100	J	180	380	3800	ug/Kg
50-32-8	Benzo(a)pyrene	3800		82.6	380	3800	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	3200	J	130	380	3800	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1900	J	110	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MS	SDG No.:	G4046
Lab Sample ID:	G4051-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082328.D	10	10/16/15 16:15	10/16/15 16:23	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	3800		150	380	3800	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1300	J	150	380	3800	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1500	J	150	380	3800	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		79%	SPK: 150
13127-88-3	Phenol-d6	130		34 - 127		83%	SPK: 150
4165-60-0	Nitrobenzene-d5	73.4		31 - 132		73%	SPK: 100
321-60-8	2-Fluorobiphenyl	88.4		39 - 123		88%	SPK: 100
118-79-6	2,4,6-Tribromophenol	130		30 - 133		87%	SPK: 150
1718-51-0	Terphenyl-d14	87.2		37 - 115		87%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	53162	6.87				
1146-65-2	Naphthalene-d8	236964	8.16				
15067-26-2	Acenaphthene-d10	126001	9.91				
1517-22-2	Phenanthrene-d10	273091	11.39				
1719-03-5	Chrysene-d12	265958	14.13				
1520-96-3	Perylene-d12	227615	15.7				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MSD	SDG No.:	G4046
Lab Sample ID:	G4051-03MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082329.D	10	10/16/15 16:15	10/16/15 16:52	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	1100	J	200	380	3800	ug/Kg
108-95-2	Phenol	1500	J	88.4	380	3800	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1500	J	180	380	3800	ug/Kg
95-57-8	2-Chlorophenol	1500	J	200	380	3800	ug/Kg
95-48-7	2-Methylphenol	1700	J	210	380	3800	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1800	J	160	380	3800	ug/Kg
98-86-2	Acetophenone	1300	J	120	380	3800	ug/Kg
65794-96-9	3+4-Methylphenols	1900	J	200	380	3800	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1700	J	190	380	3800	ug/Kg
67-72-1	Hexachloroethane	1500	J	170	380	3800	ug/Kg
98-95-3	Nitrobenzene	1300	J	140	380	3800	ug/Kg
78-59-1	Isophorone	1400	J	130	380	3800	ug/Kg
88-75-5	2-Nitrophenol	1100	J	180	380	3800	ug/Kg
105-67-9	2,4-Dimethylphenol	1400	J	220	380	3800	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1200	J	220	380	3800	ug/Kg
120-83-2	2,4-Dichlorophenol	1200	J	150	380	3800	ug/Kg
91-20-3	Naphthalene	1700	J	130	380	3800	ug/Kg
106-47-8	4-Chloroaniline	470	J	270	380	3800	ug/Kg
87-68-3	Hexachlorobutadiene	1300	J	140	380	3800	ug/Kg
105-60-2	Caprolactam	1400	J	180	770	3800	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1500	J	170	380	3800	ug/Kg
91-57-6	2-Methylnaphthalene	1500	J	96.5	380	3800	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3200	J	93	380	3800	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1500	J	120	380	3800	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1500	J	270	380	3800	ug/Kg
92-52-4	1,1-Biphenyl	1500	J	140	380	3800	ug/Kg
91-58-7	2-Chloronaphthalene	1500	J	87.3	380	3800	ug/Kg
88-74-4	2-Nitroaniline	1300	J	170	380	3800	ug/Kg
131-11-3	Dimethylphthalate	2000	J	100	380	3800	ug/Kg
208-96-8	Acenaphthylene	2100	J	96.5	380	3800	ug/Kg
606-20-2	2,6-Dinitrotoluene	1300	J	160	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MSD	SDG No.:	G4046
Lab Sample ID:	G4051-03MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082329.D	10	10/16/15 16:15	10/16/15 16:52	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	890	J	250	770	3800	ug/Kg
83-32-9	Acenaphthene	1900	J	110	380	3800	ug/Kg
51-28-5	2,4-Dinitrophenol	3100	U	390	3100	3800	ug/Kg
100-02-7	4-Nitrophenol	1000	J	710	1900	3800	ug/Kg
132-64-9	Dibenzofuran	1900	J	150	380	3800	ug/Kg
121-14-2	2,4-Dinitrotoluene	1400	J	110	380	3800	ug/Kg
84-66-2	Diethylphthalate	1700	J	59.7	380	3800	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1600	J	210	380	3800	ug/Kg
86-73-7	Fluorene	2000	J	140	380	3800	ug/Kg
100-01-6	4-Nitroaniline	1200	J	500	770	3800	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	300	J	220	1900	3800	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1500	J	91.9	380	3800	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1200	J	74.6	380	3800	ug/Kg
118-74-1	Hexachlorobenzene	1500	J	160	380	3800	ug/Kg
1912-24-9	Atrazine	1700	J	200	380	3800	ug/Kg
87-86-5	Pentachlorophenol	2200	J	260	380	3800	ug/Kg
85-01-8	Phenanthrene	6200		100	380	3800	ug/Kg
120-12-7	Anthracene	2800	J	78.1	380	3800	ug/Kg
86-74-8	Carbazole	2100	J	83.8	380	3800	ug/Kg
84-74-2	Di-n-butylphthalate	1500	J	300	380	3800	ug/Kg
206-44-0	Fluoranthene	8600		76.9	380	3800	ug/Kg
129-00-0	Pyrene	7000		91.9	380	3800	ug/Kg
85-68-7	Butylbenzylphthalate	1400	J	180	380	3800	ug/Kg
91-94-1	3,3-Dichlorobenzidine	830	J	250	380	3800	ug/Kg
56-55-3	Benzo(a)anthracene	4700		180	380	3800	ug/Kg
218-01-9	Chrysene	3800		170	380	3800	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	2800	J	140	380	3800	ug/Kg
117-84-0	Di-n-octyl phthalate	1300	J	43.6	380	3800	ug/Kg
205-99-2	Benzo(b)fluoranthene	4100		130	380	3800	ug/Kg
207-08-9	Benzo(k)fluoranthene	3300	J	180	380	3800	ug/Kg
50-32-8	Benzo(a)pyrene	4000		82.7	380	3800	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	3500	J	130	380	3800	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1800	J	110	380	3800	ug/Kg

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/15/15
Project:	U.S. Fish and Wildlife	Date Received:	10/15/15
Client Sample ID:	TK1-1-20151015MSD	SDG No.:	G4046
Lab Sample ID:	G4051-03MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082329.D	10	10/16/15 16:15	10/16/15 16:52	PB86144

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	3600	J	160	380	3800	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1400	J	150	380	3800	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1600	J	150	380	3800	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	140		28 - 127		90%	SPK: 150
13127-88-3	Phenol-d6	150		34 - 127		97%	SPK: 150
4165-60-0	Nitrobenzene-d5	78		31 - 132		78%	SPK: 100
321-60-8	2-Fluorobiphenyl	96.3		39 - 123		96%	SPK: 100
118-79-6	2,4,6-Tribromophenol	150		30 - 133		101%	SPK: 150
1718-51-0	Terphenyl-d14	90.8		37 - 115		91%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	45799	6.89				
1146-65-2	Naphthalene-d8	229217	8.17				
15067-26-2	Acenaphthene-d10	117792	9.92				
1517-22-2	Phenanthrene-d10	258375	11.42				
1719-03-5	Chrysene-d12	258150	14.14				
1520-96-3	Perylene-d12	229036	15.73				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date(s): 10/10/2015 10/10/2015

Calibration Time(s): 10:31 13:33

LAB FILE ID: RRF2.5 = BF082167.D RRF010 = BF082168.D RRF025 = BF082169.D
RRF040 = BF082170.D RRF050 = BF082171.D RRF060 = BF082172.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2-Fluorophenol	0.982	1.037	1.008	1.031	0.962	0.918	0.991	4.2
Benzaldehyde	0.615	0.707	0.705	0.711	0.666	0.613	0.659	7.8
Phenol-d6	1.330	1.398	1.256	1.332	1.253	1.208	1.290	5.1
Phenol	1.622	1.529	1.404	1.591	1.461	1.299	1.487	7.5
bis(2-Chloroethyl)ether	1.508	1.380	1.149	1.277	1.236	1.110	1.257	11.5
2-Chlorophenol	1.339	1.331	1.178	1.181	1.160	1.171	1.210	7.4
2-Methylphenol	1.024	0.994	0.958	0.946	0.927	0.925	0.957	4.1
2,2-oxybis(1-Chloropropane)	2.154	1.955	1.665	1.637	1.597	1.579	1.751	12.4
Acetophenone	0.444	0.413	0.397	0.387	0.375	0.374	0.396	6.4
3+4-Methylphenols	1.327	1.285	1.159	1.109	1.031	1.058	1.140	10.9
n-Nitroso-di-n-propylamine	1.063	0.962	0.894	0.874	0.899	0.766	0.906	10.0
Nitrobenzene-d5	0.311	0.312	0.283	0.304	0.299	0.274	0.298	4.8
Hexachloroethane	0.607	0.547	0.489	0.490	0.469	0.460	0.504	10.8
Nitrobenzene	0.407	0.316	0.315	0.292	0.302	0.324	0.322	12.0
Isophorone	0.712	0.598	0.571	0.581	0.580	0.571	0.601	8.3
2-Nitrophenol	0.140	0.152	0.153	0.179	0.177	0.166	0.161	8.7
2,4-Dimethylphenol	0.260	0.261	0.258	0.250	0.255	0.266	0.259	2.3
bis(2-Chloroethoxy)methane	0.369	0.358	0.323	0.373	0.368	0.335	0.350	6.3
2,4-Dichlorophenol	0.243	0.259	0.255	0.276	0.267	0.245	0.259	4.7
Naphthalene	1.049	0.936	0.851	0.833	0.800	0.762	0.867	11.1
4-Chloroaniline	0.385	0.362	0.350	0.379	0.365	0.333	0.360	5.1
Hexachlorobutadiene	0.222	0.200	0.184	0.183	0.175	0.168	0.186	10.2
Caprolactam	0.080	0.073	0.073	0.080	0.069	0.074	0.075	5.4
4-Chloro-3-methylphenol	0.255	0.249	0.263	0.251	0.254	0.262	0.254	3.0
2-Methylnaphthalene	0.677	0.610	0.570	0.608	0.614	0.578	0.601	6.8
Hexachlorocyclopentadiene		0.146	0.201	0.260	0.271	0.284	0.245	24.7
2,4,6-Trichlorophenol	0.440	0.429	0.385	0.367	0.366	0.375	0.395	7.6
2-Fluorobiphenyl		1.492	1.162	1.264	1.193	1.101	1.206	13.4
2,4,5-Trichlorophenol	0.468	0.456	0.402	0.418	0.415	0.406	0.428	5.9
1,1-Biphenyl	1.830	1.776	1.425	1.390	1.429	1.444	1.525	12.6
2-Chloronaphthalene	1.434	1.341	1.095	1.159	1.160	1.157	1.201	11.3
2-Nitroaniline	0.291	0.350	0.325	0.317	0.331	0.348	0.330	6.3
Dimethylphthalate	1.815	1.523	1.364	1.241	1.265	1.350	1.408	14.3
Acenaphthylene	2.368	2.081	1.834	1.819	1.700	1.601	1.870	14.3
2,6-Dinitrotoluene	0.308	0.330	0.262	0.306	0.288	0.257	0.297	9.9
3-Nitroaniline	0.347	0.363	0.324	0.338	0.324	0.301	0.336	6.3

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date(s): 10/10/2015 10/10/2015

Calibration Time(s): 10:31 13:33

LAB FILE ID: RRF2.5 = BF082167.D RRF010 = BF082168.D RRF025 = BF082169.D
RRF040 = BF082170.D RRF050 = BF082171.D RRF060 = BF082172.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
Acenaphthene	1.400	1.177	1.066	1.116	1.075	1.014	1.123	12.0
2,4-Dinitrophenol		0.099	0.122	0.153	0.156	0.156	0.143	18.6
4-Nitrophenol		0.152	0.169	0.204	0.199	0.193	0.192	15.2
Dibenzofuran	1.833	1.734	1.526	1.525	1.432	1.318	1.541	11.8
2,4-Dinitrotoluene	0.354	0.427	0.368	0.376	0.350	0.356	0.371	7.0
Diethylphthalate		1.501	1.350	1.252	1.189	1.229	1.313	8.6
4-Chlorophenyl-phenylether		0.707	0.582	0.541	0.528	0.532	0.580	11.7
Fluorene	1.597	1.436	1.248	1.228	1.176	1.062	1.266	14.9
4-Nitroaniline	0.295	0.344	0.321	0.337	0.323	0.328	0.326	4.8
4,6-Dinitro-2-methylphenol		0.097	0.104	0.123	0.116	0.108	0.112	9.7
n-Nitrosodiphenylamine	0.732	0.655	0.571	0.588	0.538	0.514	0.599	12.3
2,4,6-Tribromophenol	0.199	0.202	0.186	0.176	0.170	0.182	0.188	6.6
4-Bromophenyl-phenylether	0.228	0.225	0.196	0.194	0.182	0.175	0.200	10.0
Hexachlorobenzene	0.265	0.231	0.196	0.214	0.206	0.205	0.216	11.2
Atrazine	0.238	0.198	0.198	0.171	0.166	0.179	0.190	13.1
Pentachlorophenol	0.079	0.106	0.105	0.123	0.125	0.119	0.111	14.6
Phenanthrene	1.237	1.081	0.976	0.916	0.884	0.831	0.980	14.0
Anthracene		1.203	0.978	1.039	0.999	0.966	1.010	10.7
Carbazole	1.089	1.013	0.878	0.890	0.866	0.859	0.922	10.0
Di-n-butylphthalate	1.389	1.294	1.156	1.117	1.047	0.961	1.137	13.8
Fluoranthene	1.275	1.145	1.067	1.067	0.972	0.894	1.053	12.3
Pyrene	1.379	1.201	1.131	1.137	1.100	1.068	1.187	9.4
Terphenyl-d14	0.946	0.801	0.689	0.736	0.708	0.674	0.755	12.4
Butylbenzylphthalate	0.605	0.562	0.513	0.510	0.504	0.494	0.542	8.9
3,3-Dichlorobenzidine	0.422	0.410	0.389	0.384	0.366	0.371	0.395	6.0
Benzo(a)anthracene	1.230	1.056	0.955	0.998	0.986	0.973	1.041	9.2
Chrysene	1.366	1.192	1.040	0.957	1.001	1.046	1.096	12.7
Bis(2-ethylhexyl)phthalate	0.882	0.784	0.716	0.764	0.744	0.740	0.773	7.0
Di-n-octyl phthalate	1.578	1.360	1.201	1.242	1.231	1.274	1.327	10.0
Benzo(b)fluoranthene	1.333	1.202	1.039	1.346	1.259	1.181	1.217	8.8
Benzo(k)fluoranthene	1.268	1.139	1.087	0.858	0.871	0.914	1.023	14.9
Benzo(a)pyrene	1.268	1.104	0.985	1.005	0.985	0.974	1.046	10.3
Indeno(1,2,3-cd)pyrene	1.058	0.965	0.822	0.775	0.793	0.796	0.872	12.2
Dibenzo(a,h)anthracene	0.971	0.937	0.817	0.815	0.795	0.808	0.857	8.1
Benzo(g,h,i)perylene	0.980	0.915	0.776	0.765	0.767	0.773	0.833	10.4
1,2,4,5-Tetrachlorobenzene	0.690	0.653	0.596	0.557	0.544	0.530	0.595	9.8

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date(s): 10/10/2015 10/10/2015

Calibration Time(s): 10:31 13:33

LAB FILE ID: RRF2.5 = BF082167.D RRF010 = BF082168.D RRF025 = BF082169.D
RRF040 = BF082170.D RRF050 = BF082171.D RRF060 = BF082172.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2,3,4,6-Tetrachlorophenol	0.385	0.382	0.355	0.320	0.322	0.329	0.350	7.8

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Mon Oct 12 01:46:21 2015
Response Via : Initial Calibration

Calibration Files
2.5 =BF082167.D 10 =BF082168.D 25 =BF082169.D 40 =BF082170.D 50 =BF082171.D 60 =BF082172.D 80 =BF082173.D

		Compound	2.5	10	25	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------								
2)		1,4-Dioxane	0.659	0.498	0.478	0.467	0.467	0.442	0.475	0.498	14.65
3)		Pyridine	0.958	1.073	1.184	1.137	1.204	1.260	1.289	1.158	9.84
4)		n-Nitrosodimet...		0.412	0.473	0.509	0.516	0.512	0.526	0.491	8.73
5)	S	2-Fluorophenol	0.982	1.037	1.008	1.031	0.962	0.918	0.999	0.991	4.19
6)		Aniline	1.509	1.689	1.696	1.722	1.667	1.679	1.676	1.663	4.21
7)	S	Phenol-d6	1.330	1.398	1.256	1.332	1.253	1.208	1.251	1.290	5.09
8)		2-Chlorophenol	1.339	1.331	1.178	1.181	1.160	1.171	1.108	1.210	7.37
9)		Benzaldehyde	0.615	0.707	0.705	0.711	0.666	0.613	0.591	0.659	7.79
10)	C	Phenol	1.622	1.529	1.404	1.591	1.461	1.299	1.502	1.487	7.47
11)		bis(2-Chloroet...	1.508	1.380	1.149	1.277	1.236	1.110	1.142	1.257	11.50
12)		1,3-Dichlorobe...	1.604	1.509	1.416	1.394	1.350	1.289	1.300	1.409	8.10
13)	C	1,4-Dichlorobe...	1.697	1.595	1.462	1.479	1.408	1.330	1.328	1.471	9.25
14)		1,2-Dichlorobe...	1.685	1.616	1.366	1.276	1.235	1.272	1.329	1.397	12.83
15)		Benzyl Alcohol	0.799	0.937	0.915	0.922	0.914	0.893	0.851	0.890	5.46
16)		2,2'-oxybis(1-...	2.154	1.955	1.665	1.637	1.597	1.579	1.669	1.751	12.44
17)		2-Methylphenol	1.024	0.994	0.958	0.946	0.927	0.925	0.922	0.957	4.07
18)		Hexachloroethane	0.607	0.547	0.489	0.490	0.469	0.460	0.462	0.504	10.82
19)	P	n-Nitroso-di-n...	1.063	0.962	0.894	0.874	0.899	0.766	0.883	0.906	9.98
20)		3+4-Methylphenols	1.327	1.285	1.159	1.109	1.031	1.058	1.011	1.140	10.90
21)	I	Naphthalene-d8	----------ISTD----------								
22)		Acetophenone	0.444	0.413	0.397	0.387	0.375	0.374	0.380	0.396	6.44
23)	S	Nitrobenzene-d5	0.311	0.312	0.283	0.304	0.299	0.274	0.302	0.298	4.75
24)		Nitrobenzene	0.407	0.316	0.315	0.292	0.302	0.324	0.302	0.322	11.98
25)		Isophorone	0.712	0.598	0.571	0.581	0.580	0.571	0.594	0.601	8.32
26)	C	2-Nitrophenol	0.140	0.152	0.153	0.179	0.177	0.166	0.159	0.161	8.73
27)		2,4-Dimethylph...	0.260	0.261	0.258	0.250	0.255	0.266	0.266	0.259	2.26
28)		bis(2-Chloroet...	0.369	0.358	0.323	0.373	0.368	0.335	0.322	0.350	6.34
29)	C	2,4-Dichloroph...	0.243	0.259	0.255	0.276	0.267	0.245	0.268	0.259	4.73
30)		1,2,4-Trichlor...	0.351	0.311	0.292	0.296	0.293	0.268	0.280	0.299	8.96
31)		Naphthalene	1.049	0.936	0.851	0.833	0.800	0.762	0.837	0.867	11.13
32)		Benzoic acid		0.145	0.160	0.169	0.176	0.186	0.208	0.174	12.50
33)		4-Chloroaniline	0.385	0.362	0.350	0.379	0.365	0.333	0.347	0.360	5.08
34)	C	Hexachlorobuta...	0.222	0.200	0.184	0.183	0.175	0.168	0.171	0.186	10.19
35)		Caprolactam	0.080	0.073	0.073	0.080	0.069	0.074	0.078	0.075	5.37
36)	C	4-Chloro-3-met...	0.255	0.249	0.263	0.251	0.254	0.262	0.241	0.254	3.01
37)		2-Methylnaphth...	0.677	0.610	0.570	0.608	0.614	0.578	0.550	0.601	6.84

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF101015.M

38)	I	Acenaphthene-d10	----------ISTD----------								
39)		1,2,4,5-Tetrac...	0.690	0.653	0.596	0.557	0.544	0.530	0.594	0.595	9.85
40)	P	Hexachlorocycl...		0.146	0.201	0.260	0.271	0.284	0.310	0.245	24.71
41)	S	2,4,6-Tribromo...	0.199	0.202	0.186	0.176	0.170	0.182	0.197	0.188	6.57
42)	C	2,4,6-Trichlor...	0.440	0.429	0.385	0.367	0.366	0.375	0.406	0.395	7.63
43)		2,4,5-Trichlor...	0.468	0.456	0.402	0.418	0.415	0.406	0.432	0.428	5.90
44)	S	2-Fluorobiphenyl		1.492	1.162	1.264	1.193	1.101	1.024	1.206	13.43
45)		1,1'-Biphenyl	1.830	1.776	1.425	1.390	1.429	1.444	1.381	1.525	12.56
46)		2-Chloronaphth...	1.434	1.341	1.095	1.159	1.160	1.157	1.058	1.201	11.33
47)		2-Nitroaniline	0.291	0.350	0.325	0.317	0.331	0.348	0.345	0.330	6.34
48)		Acenaphthylene	2.368	2.081	1.834	1.819	1.700	1.601	1.689	1.870	14.32
49)		Dimethylphthalate	1.815	1.523	1.364	1.241	1.265	1.350	1.301	1.408	14.31
50)		2,6-Dinitrotol...	0.308	0.330	0.262	0.306	0.288	0.257	0.328	0.297	9.87
51)	C	Acenaphthene	1.400	1.177	1.066	1.116	1.075	1.014	1.012	1.123	12.01
52)		3-Nitroaniline	0.347	0.363	0.324	0.338	0.324	0.301	0.352	0.336	6.30
53)	P	2,4-Dinitrophenol		0.099	0.122	0.153	0.156	0.156	0.170	0.143	18.65
54)		Dibenzofuran	1.833	1.734	1.526	1.525	1.432	1.318	1.423	1.541	11.79
55)	P	4-Nitrophenol		0.152	0.169	0.204	0.199	0.193	0.236	0.192	15.19
56)		2,4-Dinitrotol...	0.354	0.427	0.368	0.376	0.350	0.356	0.369	0.371	7.04
57)		Fluorene	1.597	1.436	1.248	1.228	1.176	1.062	1.116	1.266	14.85
58)		2,3,4,6-Tetrac...	0.385	0.382	0.355	0.320	0.322	0.329	0.354	0.350	7.77
59)		Diethylphthalate		1.501	1.350	1.252	1.189	1.229	1.356	1.313	8.65
60)		4-Chlorophenyl...		0.707	0.582	0.541	0.528	0.532	0.589	0.580	11.66
61)		4-Nitroaniline	0.295	0.344	0.321	0.337	0.323	0.328	0.331	0.326	4.81
62)		Azobenzene	1.518	1.426	1.258	1.193	1.158	1.157	1.284	1.285	10.81
63)	I	Phenanthrene-d10	----------ISTD----------								
64)		4,6-Dinitro-2-...		0.097	0.104	0.123	0.116	0.108	0.125	0.112	9.74
65)	c	n-Nitrosodiphe...	0.732	0.655	0.571	0.588	0.538	0.514	0.595	0.599	12.32
66)		4-Bromophenyl-...	0.228	0.225	0.196	0.194	0.182	0.175	0.201	0.200	9.98
67)		Hexachlorobenzene	0.265	0.231	0.196	0.214	0.206	0.205	0.198	0.216	11.24
68)		Atrazine	0.238	0.198	0.198	0.171	0.166	0.179	0.178	0.190	13.07
69)	C	Pentachlorophenol	0.079	0.106	0.105	0.123	0.125	0.119	0.122	0.111	14.56
70)		Phenanthrene	1.237	1.081	0.976	0.916	0.884	0.831	0.937	0.980	14.04
71)		Anthracene		1.203	0.978	1.039	0.999	0.966	0.877	1.010	10.72
72)		Carbazole	1.089	1.013	0.878	0.890	0.866	0.859	0.856	0.922	9.97
73)		Di-n-butylphth...	1.389	1.294	1.156	1.117	1.047	0.961	0.994	1.137	13.82
74)	C	Fluoranthene	1.275	1.145	1.067	1.067	0.972	0.894	0.952	1.053	12.29
75)	I	Chrysene-d12	----------ISTD----------								
76)		Benzidine	0.598	0.668	0.581	0.594	0.554	0.520	0.542	0.580	8.34
77)		Pyrene	1.379	1.201	1.131	1.137	1.100	1.068	1.292	1.187	9.43
78)	S	Terphenyl-d14	0.946	0.801	0.689	0.736	0.708	0.674	0.729	0.755	12.43
79)		Butylbenzylpht...	0.605	0.562	0.513	0.510	0.504	0.494	0.604	0.542	8.88
80)		Benzo(a)anthra...	1.230	1.056	0.955	0.998	0.986	0.973	1.086	1.041	9.19
81)		3,3'-Dichlorob...	0.422	0.410	0.389	0.384	0.366	0.371	0.423	0.395	5.99
82)		Chrysene	1.366	1.192	1.040	0.957	1.001	1.046	1.074	1.096	12.70

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF101015.M

83)		Bis(2-ethylhex...	0.882	0.784	0.716	0.764	0.744	0.740	0.780	0.773	6.96
84)	c	Di-n-octyl pht...	1.578	1.360	1.201	1.242	1.231	1.274	1.404	1.327	9.99
85)		Indeno(1,2,3-c...	1.058	0.965	0.822	0.775	0.793	0.796	0.894	0.872	12.19
86)	I	Perylene-d12	----------ISTD----------								
87)		Benzo(b)fluora...	1.333	1.202	1.039	1.346	1.259	1.181	1.157	1.217	8.80
88)		Benzo(k)fluora...	1.268	1.139	1.087	0.858	0.871	0.914	1.022	1.023	14.94
89)	C	Benzo(a)pyrene	1.268	1.104	0.985	1.005	0.985	0.974	1.000	1.046	10.25
90)		Dibenzo(a,h)an...	0.971	0.937	0.817	0.815	0.795	0.808	0.855	0.857	8.14
91)		Benzo(g,h,i)pe...	0.980	0.915	0.776	0.765	0.767	0.773	0.852	0.832	10.35

(#) = Out of Range

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/16/2015 11:49

Lab File ID: BF082320.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	0.991	1.006		1.5	
Benzaldehyde	0.659	0.805		22.2	
Phenol-d6	1.290	1.355		5.0	
Phenol	1.487	1.424		-4.2	20.0
bis(2-Chloroethyl)ether	1.257	1.202		-4.4	
2-Chlorophenol	1.210	1.225		1.2	
2-Methylphenol	0.957	1.015		6.1	
2,2-oxybis(1-Chloropropane)	1.751	1.617		-7.7	
Acetophenone	0.396	0.407		2.8	
3+4-Methylphenols	1.140	1.262		10.7	
n-Nitroso-di-n-propylamine	0.906	0.856	0.050	-5.5	
Nitrobenzene-d5	0.298	0.318		6.7	
Hexachloroethane	0.504	0.493		-2.2	
Nitrobenzene	0.322	0.304		-5.6	
Isophorone	0.601	0.595		-1.0	
2-Nitrophenol	0.161	0.177		9.9	20.0
2,4-Dimethylphenol	0.259	0.293		13.1	
bis(2-Chloroethoxy)methane	0.350	0.366		4.6	
2,4-Dichlorophenol	0.259	0.263		1.5	20.0
Naphthalene	0.867	0.825		-4.8	
4-Chloroaniline	0.360	0.345		-4.2	
Hexachlorobutadiene	0.186	0.182		-2.2	20.0
Caprolactam	0.075	0.088		17.3	
4-Chloro-3-methylphenol	0.254	0.295		16.1	20.0
2-Methylnaphthalene	0.601	0.637		6.0	
Hexachlorocyclopentadiene	0.245	0.182	0.050	-25.7	
2,4,6-Trichlorophenol	0.395	0.381		-3.5	20.0
2-Fluorobiphenyl	1.206	1.235		2.4	
2,4,5-Trichlorophenol	0.428	0.411		-4.0	
1,1-Biphenyl	1.525	1.408		-7.7	
2-Chloronaphthalene	1.201	1.152		-4.1	
2-Nitroaniline	0.330	0.369		11.8	
Dimethylphthalate	1.408	1.267		-10.0	
Acenaphthylene	1.870	1.812		-3.1	
2,6-Dinitrotoluene	0.297	0.317		6.7	
3-Nitroaniline	0.336	0.339		0.9	
Acenaphthene	1.123	1.121		-0.2	20.0
2,4-Dinitrophenol	0.143	0.155	0.050	8.4	
4-Nitrophenol	0.192	0.215	0.050	12.0	
Dibenzofuran	1.541	1.470		-4.6	
2,4-Dinitrotoluene	0.371	0.369		-0.5	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/16/2015 11:49

Lab File ID: BF082320.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.313	1.217		-7.3	
4-Chlorophenyl-phenylether	0.580	0.550		-5.2	
Fluorene	1.266	1.220		-3.6	
4-Nitroaniline	0.326	0.359		10.1	
4,6-Dinitro-2-methylphenol	0.112	0.111		-0.9	
n-Nitrosodiphenylamine	0.599	0.535		-10.7	20.0
2,4,6-Tribromophenol	0.188	0.183		-2.7	
4-Bromophenyl-phenylether	0.200	0.178		-11.0	
Hexachlorobenzene	0.216	0.204		-5.6	
Atrazine	0.190	0.186		-2.1	
Pentachlorophenol	0.111	0.114		2.7	20.0
Phenanthrene	0.980	0.902		-8.0	
Anthracene	1.010	1.024		1.4	
Carbazole	0.922	0.916		-0.7	
Di-n-butylphthalate	1.137	1.016		-10.6	
Fluoranthene	1.053	1.065		1.1	20.0
Pyrene	1.187	1.146		-3.5	
Terphenyl-d14	0.755	0.668		-11.5	
Butylbenzylphthalate	0.542	0.477		-12.0	
3,3-Dichlorobenzidine	0.395	0.370		-6.3	
Benzo(a)anthracene	1.041	0.978		-6.1	
Chrysene	1.096	0.941		-14.1	
Bis(2-ethylhexyl)phthalate	0.773	0.645		-16.6	
Di-n-octyl phthalate	1.327	1.086		-18.2	20.0
Benzo(b)fluoranthene	1.217	1.037		-14.8	
Benzo(k)fluoranthene	1.023	1.098		7.3	
Benzo(a)pyrene	1.046	0.998		-4.6	20.0
Indeno(1,2,3-cd)pyrene	0.872	0.856		-1.8	
Dibenzo(a,h)anthracene	0.857	0.858		0.1	
Benzo(g,h,i)perylene	0.833	0.846		1.6	
1,2,4,5-Tetrachlorobenzene	0.595	0.517		-13.1	
2,3,4,6-Tetrachlorophenol	0.350	0.362		3.4	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

Evaluate Continuing Calibration Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082320.D
Acq On : 16 Oct 2015 11:49
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 17 01:10:12 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	91	0.00
2		1,4-Dioxane	40.000	37.415	6.5	91	-0.07
3		Pyridine	40.000	44.654	-11.6	104	-0.05
4		n-Nitrosodimethylamine	40.000	43.061	-7.7	95	-0.06
5	S	2-Fluorophenol	80.000	81.221	-1.5	89	0.00
6		Aniline	40.000	40.917	-2.3	90	0.00
7	S	Phenol-d6	80.000	84.051	-5.1	93	0.00
8		2-Chlorophenol	40.000	40.504	-1.3	95	0.00
9		Benzaldehyde	40.000	48.887	-22.2	103	0.00
10	C	Phenol	40.000	38.313	4.2	82	0.01
11		bis(2-Chloroethyl)ether	40.000	38.236	4.4	86	0.00
12		1,3-Dichlorobenzene	40.000	41.021	-2.6	95	0.00
13	C	1,4-Dichlorobenzene	40.000	40.861	-2.2	93	0.00
14		1,2-Dichlorobenzene	40.000	36.918	7.7	92	0.00
15		Benzyl Alcohol	40.000	45.421	-13.6	100	0.01
16		2,2'-oxybis(1-Chloropropane	40.000	36.936	7.7	90	0.00
17		2-Methylphenol	40.000	42.429	-6.1	98	0.01
18		Hexachloroethane	40.000	39.133	2.2	92	0.00
19	P	n-Nitroso-di-n-propylamine	40.000	37.791	5.5	89	-0.01
20		3+4-Methylphenols	40.000	44.268	-10.7	104	0.01
21	I	Naphthalene-d8	20.000	20.000	0.0	93	0.00
22		Acetophenone	40.000	41.152	-2.9	98	0.00
23	S	Nitrobenzene-d5	80.000	85.488	-6.9	98	0.00
24		Nitrobenzene	40.000	37.708	5.7	97	0.00
25		Isophorone	40.000	39.621	0.9	96	0.00
26	C	2-Nitrophenol	40.000	43.960	-9.9	92	0.00
27		2,4-Dimethylphenol	40.000	45.195	-13.0	109	0.01
28		bis(2-Chloroethoxy)methane	40.000	41.888	-4.7	92	0.00
29	C	2,4-Dichlorophenol	40.000	40.653	-1.6	89	0.01
30		1,2,4-Trichlorobenzene	40.000	39.275	1.8	92	0.00
31		Naphthalene	40.000	38.063	4.8	92	0.00
32		Benzoic acid	40.000	36.232	9.4	87	0.01
33		4-Chloroaniline	40.000	38.317	4.2	85	0.00
34	C	Hexachlorobutadiene	40.000	39.059	2.4	93	0.00
35		Caprolactam	40.000	46.999	-17.5	103	0.00
36	C	4-Chloro-3-methylphenol	40.000	46.513	-16.3	109	0.01
37		2-Methylnaphthalene	40.000	42.380	-6.0	98	0.00
38	I	Acenaphthene-d10	20.000	20.000	0.0	98	0.00
39		1,2,4,5-Tetrachlorobenzene	40.000	34.746	13.1	91	0.00
40	P	Hexachlorocyclopentadiene	40.000	29.925	25.2#	69	0.00
41	S	2,4,6-Tribromophenol	80.000	78.182	2.3	102	0.01
42	C	2,4,6-Trichlorophenol	40.000	38.525	3.7	102	0.01
43		2,4,5-Trichlorophenol	40.000	38.408	4.0	97	0.00
44	S	2-Fluorobiphenyl	80.000	81.916	-2.4	96	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082320.D
Acq On : 16 Oct 2015 11:49
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 17 01:10:12 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45		1,1'-Biphenyl	40.000	36.934	7.7	100	0.01
46		2-Chloronaphthalene	40.000	38.371	4.1	98	0.00
47		2-Nitroaniline	40.000	44.752	-11.9	114	0.01
48		Acenaphthylene	40.000	38.751	3.1	98	0.00
49		Dimethylphthalate	40.000	35.996	10.0	100	0.00
50		2,6-Dinitrotoluene	40.000	42.625	-6.6	102	0.00
51	C	Acenaphthene	40.000	39.930	0.2	99	0.00
52		3-Nitroaniline	40.000	40.446	-1.1	99	0.00
53	P	2,4-Dinitrophenol	40.000	40.728	-1.8	100	0.00
54		Dibenzofuran	40.000	38.152	4.6	95	0.00
55	P	4-Nitrophenol	40.000	44.902	-12.3	104	0.01
56		2,4-Dinitrotoluene	40.000	39.714	0.7	96	0.00
57		Fluorene	40.000	38.552	3.6	98	0.00
58		2,3,4,6-Tetrachlorophenol	40.000	41.351	-3.4	111	0.01
59		Diethylphthalate	40.000	37.070	7.3	95	0.00
60		4-Chlorophenyl-phenylether	40.000	37.905	5.2	100	0.00
61		4-Nitroaniline	40.000	44.129	-10.3	105	0.00
62		Azobenzene	40.000	36.907	7.7	98	0.00
63	I	Phenanthrene-d10	20.000	20.000	0.0	107	0.00
64		4,6-Dinitro-2-methylphenol	40.000	39.469	1.3	96	0.00
65	c	n-Nitrosodiphenylamine	40.000	35.716	10.7	98	0.00
66		4-Bromophenyl-phenylether	40.000	35.647	10.9	99	0.00
67		Hexachlorobenzene	40.000	37.685	5.8	102	0.00
68		Atrazine	40.000	39.282	1.8	117	0.01
69	C	Pentachlorophenol	40.000	41.041	-2.6	100	0.00
70		Phenanthrene	40.000	36.812	8.0	106	0.00
71		Anthracene	40.000	40.540	-1.3	106	0.00
72		Carbazole	40.000	39.777	0.6	110	0.01
73		Di-n-butylphthalate	40.000	35.765	10.6	98	0.00
74	C	Fluoranthene	40.000	40.442	-1.1	107	0.01
75	I	Chrysene-d12	20.000	20.000	0.0	115	0.06
76		Benzidine	40.000	22.889	42.8#	65	0.01
77		Pyrene	40.000	38.623	3.4	116	0.01
78	S	Terphenyl-d14	80.000	70.807	11.5	105	0.00
79		Butylbenzylphthalate	40.000	35.195	12.0	108	0.02
80		Benzo(a)anthracene	40.000	37.612	6.0	113	0.06
81		3,3'-Dichlorobenzidine	40.000	37.473	6.3	111	0.06
82		Chrysene	40.000	34.344	14.1	114	0.06
83		Bis(2-ethylhexyl)phthalate	40.000	33.389	16.5	98	0.05
84	c	Di-n-octyl phthalate	40.000	32.746	18.1	101	0.13
85		Indeno(1,2,3-cd)pyrene	40.000	39.299	1.8	128	0.17
86	I	Perylene-d12	20.000	20.000	0.0	120	0.15
87		Benzo(b)fluoranthene	40.000	34.074	14.8	92	0.14

Evaluate Continuing Calibration Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082320.D
Acq On : 16 Oct 2015 11:49
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 17 01:10:12 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
88	Benzo(k)fluoranthene	40.000	42.931	-7.3	153	0.14
89 C	Benzo(a)pyrene	40.000	38.179	4.6	119	0.15
90	Dibenzo(a,h)anthracene	40.000	40.051	-0.1	126	0.18
91	Benzo(g,h,i)perylene	40.000	40.658	-1.6	132	0.18

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/19/2015 13:18

Lab File ID: BF082352.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	0.991	1.045		5.4	
Benzaldehyde	0.659	0.704		6.8	
Phenol-d6	1.290	1.310		1.5	
Phenol	1.487	1.471		-1.1	20.0
bis(2-Chloroethyl)ether	1.257	1.182		-6.0	
2-Chlorophenol	1.210	1.179		-2.6	
2-Methylphenol	0.957	0.923		-3.6	
2,2-oxybis(1-Chloropropane)	1.751	1.544		-11.8	
Acetophenone	0.396	0.391		-1.3	
3+4-Methylphenols	1.140	1.157		1.5	
n-Nitroso-di-n-propylamine	0.906	0.791	0.050	-12.7	
Nitrobenzene-d5	0.298	0.290		-2.7	
Hexachloroethane	0.504	0.485		-3.8	
Nitrobenzene	0.322	0.328		1.9	
Isophorone	0.601	0.598		-0.5	
2-Nitrophenol	0.161	0.165		2.5	20.0
2,4-Dimethylphenol	0.259	0.261		0.8	
bis(2-Chloroethoxy)methane	0.350	0.331		-5.4	
2,4-Dichlorophenol	0.259	0.277		6.9	20.0
Naphthalene	0.867	0.832		-4.0	
4-Chloroaniline	0.360	0.351		-2.5	
Hexachlorobutadiene	0.186	0.167		-10.2	20.0
Caprolactam	0.075	0.074		-1.3	
4-Chloro-3-methylphenol	0.254	0.251		-1.2	20.0
2-Methylnaphthalene	0.601	0.577		-4.0	
Hexachlorocyclopentadiene	0.245	0.199	0.050	-18.8	
2,4,6-Trichlorophenol	0.395	0.412		4.3	20.0
2-Fluorobiphenyl	1.206	1.067		-11.5	
2,4,5-Trichlorophenol	0.428	0.411		-4.0	
1,1-Biphenyl	1.525	1.452		-4.8	
2-Chloronaphthalene	1.201	1.081		-10.0	
2-Nitroaniline	0.330	0.338		2.4	
Dimethylphthalate	1.408	1.320		-6.3	
Acenaphthylene	1.870	1.733		-7.3	
2,6-Dinitrotoluene	0.297	0.332		11.8	
3-Nitroaniline	0.336	0.355		5.4	
Acenaphthene	1.123	1.039		-7.5	20.0
2,4-Dinitrophenol	0.143	0.148	0.050	3.5	
4-Nitrophenol	0.192	0.195	0.050	1.6	
Dibenzofuran	1.541	1.491		-3.2	
2,4-Dinitrotoluene	0.371	0.380		2.4	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/19/2015 13:18

Lab File ID: BF082352.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.313	1.375		4.7	
4-Chlorophenyl-phenylether	0.580	0.611		5.3	
Fluorene	1.266	1.261		-0.4	
4-Nitroaniline	0.326	0.340		4.3	
4,6-Dinitro-2-methylphenol	0.112	0.111		-0.9	
n-Nitrosodiphenylamine	0.599	0.602		0.5	20.0
2,4,6-Tribromophenol	0.188	0.157		-16.5	
4-Bromophenyl-phenylether	0.200	0.189		-5.5	
Hexachlorobenzene	0.216	0.182		-15.7	
Atrazine	0.190	0.162		-14.7	
Pentachlorophenol	0.111	0.109		-1.8	20.0
Phenanthrene	0.980	0.957		-2.3	
Anthracene	1.010	0.937		-7.2	
Carbazole	0.922	0.838		-9.1	
Di-n-butylphthalate	1.137	1.040		-8.5	
Fluoranthene	1.053	0.942		-10.5	20.0
Pyrene	1.187	1.186		-0.1	
Terphenyl-d14	0.755	0.639		-15.4	
Butylbenzylphthalate	0.542	0.538		-0.7	
3,3-Dichlorobenzidine	0.395	0.401		1.5	
Benzo(a)anthracene	1.041	0.954		-8.4	
Chrysene	1.096	0.986		-10.0	
Bis(2-ethylhexyl)phthalate	0.773	0.730		-5.6	
Di-n-octyl phthalate	1.327	1.305		-1.7	20.0
Benzo(b)fluoranthene	1.217	1.272		4.5	
Benzo(k)fluoranthene	1.023	0.850		-16.9	
Benzo(a)pyrene	1.046	0.985		-5.8	20.0
Indeno(1,2,3-cd)pyrene	0.872	0.813		-6.8	
Dibenzo(a,h)anthracene	0.857	0.877		2.3	
Benzo(g,h,i)perylene	0.833	0.855		2.6	
1,2,4,5-Tetrachlorobenzene	0.595	0.584		-1.8	
2,3,4,6-Tetrachlorophenol	0.350	0.331		-5.4	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\Data\BF101915\
Data File : BF082352.D
Acq On : 19 Oct 2015 13:18
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 01:57:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	146	-0.03
2		1,4-Dioxane	40.000	37.852	5.4	148	-0.08
3		Pyridine	40.000	44.272	-10.7	165	-0.09
4		n-Nitrosodimethylamine	40.000	40.793	-2.0	144	-0.08
5	S	2-Fluorophenol	80.000	84.341	-5.4	148	-0.03
6		Aniline	40.000	40.043	-0.1	141	-0.03
7	S	Phenol-d6	80.000	81.266	-1.6	144	-0.03
8		2-Chlorophenol	40.000	38.978	2.6	146	-0.03
9		Benzaldehyde	40.000	42.762	-6.9	145	-0.03
10	C	Phenol	40.000	39.568	1.1	135	-0.02
11		bis(2-Chloroethyl)ether	40.000	37.613	6.0	136	-0.03
12		1,3-Dichlorobenzene	40.000	39.722	0.7	147	-0.03
13	C	1,4-Dichlorobenzene	40.000	39.220	2.0	143	-0.03
14		1,2-Dichlorobenzene	40.000	34.022	14.9	136	-0.03
15		Benzyl Alcohol	40.000	41.912	-4.8	148	-0.02
16		2,2'-oxybis(1-Chloropropane	40.000	35.264	11.8	138	-0.03
17		2-Methylphenol	40.000	38.595	3.5	143	-0.02
18		Hexachloroethane	40.000	38.556	3.6	145	-0.03
19	P	n-Nitroso-di-n-propylamine	40.000	34.921	12.7	132	-0.03
20		3+4-Methylphenols	40.000	40.585	-1.5	153	-0.02
21	I	Naphthalene-d8	20.000	20.000	0.0	143	-0.03
22		Acetophenone	40.000	39.491	1.3	145	-0.03
23	S	Nitrobenzene-d5	80.000	77.791	2.8	137	-0.03
24		Nitrobenzene	40.000	40.643	-1.6	161	-0.02
25		Isophorone	40.000	39.776	0.6	147	-0.02
26	C	2-Nitrophenol	40.000	40.996	-2.5	132	-0.03
27		2,4-Dimethylphenol	40.000	40.233	-0.6	150	-0.02
28		bis(2-Chloroethoxy)methane	40.000	37.804	5.5	127	-0.03
29	C	2,4-Dichlorophenol	40.000	42.671	-6.7	144	-0.02
30		1,2,4-Trichlorobenzene	40.000	38.230	4.4	138	-0.03
31		Naphthalene	40.000	38.372	4.1	143	-0.03
32		Benzoic acid	40.000	30.946	22.6	114	-0.01
33		4-Chloroaniline	40.000	38.963	2.6	133	-0.03
34	C	Hexachlorobutadiene	40.000	35.779	10.6	131	-0.03
35		Caprolactam	40.000	39.086	2.3	132	-0.02
36	C	4-Chloro-3-methylphenol	40.000	39.601	1.0	143	-0.02
37		2-Methylnaphthalene	40.000	38.423	3.9	136	-0.03
38	I	Acenaphthene-d10	20.000	20.000	0.0	140	-0.03
39		1,2,4,5-Tetrachlorobenzene	40.000	39.286	1.8	147	-0.02
40	P	Hexachlorocyclopentadiene	40.000	32.057	19.9	107	-0.03
41	S	2,4,6-Tribromophenol	80.000	67.120	16.1	125	-0.02
42	C	2,4,6-Trichlorophenol	40.000	41.664	-4.2	157	-0.02
43		2,4,5-Trichlorophenol	40.000	38.446	3.9	138	-0.02
44	S	2-Fluorobiphenyl	80.000	70.765	11.5	118	-0.03

Data Path : U:\HPCHEM1\BNA F\Data\BF101915\
Data File : BF082352.D
Acq On : 19 Oct 2015 13:18
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 01:57:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45		1,1'-Biphenyl	40.000	38.077	4.8	146	-0.02
46		2-Chloronaphthalene	40.000	36.015	10.0	130	-0.03
47		2-Nitroaniline	40.000	41.042	-2.6	149	-0.02
48		Acenaphthylene	40.000	37.061	7.3	133	-0.03
49		Dimethylphthalate	40.000	37.481	6.3	149	-0.02
50		2,6-Dinitrotoluene	40.000	44.639	-11.6	152	-0.02
51	C	Acenaphthene	40.000	37.004	7.5	130	-0.02
52		3-Nitroaniline	40.000	42.245	-5.6	147	-0.02
53	P	2,4-Dinitrophenol	40.000	39.143	2.1	135	-0.02
54		Dibenzofuran	40.000	38.687	3.3	137	-0.02
55	P	4-Nitrophenol	40.000	41.575	-3.9	134	-0.02
56		2,4-Dinitrotoluene	40.000	40.929	-2.3	141	-0.02
57		Fluorene	40.000	39.837	0.4	144	-0.02
58		2,3,4,6-Tetrachlorophenol	40.000	37.900	5.3	145	-0.02
59		Diethylphthalate	40.000	41.906	-4.8	154	-0.02
60		4-Chlorophenyl-phenylether	40.000	42.164	-5.4	158	-0.02
61		4-Nitroaniline	40.000	41.797	-4.5	141	-0.02
62		Azobenzene	40.000	40.946	-2.4	154	-0.02
63	I	Phenanthrene-d10	20.000	20.000	0.0	151	-0.02
64		4,6-Dinitro-2-methylphenol	40.000	39.709	0.7	136	-0.02
65	c	n-Nitrosodiphenylamine	40.000	40.180	-0.4	154	-0.02
66		4-Bromophenyl-phenylether	40.000	37.718	5.7	147	-0.02
67		Hexachlorobenzene	40.000	33.626	15.9	128	-0.03
68		Atrazine	40.000	34.218	14.5	143	-0.02
69	C	Pentachlorophenol	40.000	39.261	1.8	134	-0.02
70		Phenanthrene	40.000	39.042	2.4	157	-0.02
71		Anthracene	40.000	37.108	7.2	136	-0.03
72		Carbazole	40.000	36.380	9.0	142	-0.02
73		Di-n-butylphthalate	40.000	36.586	8.5	140	-0.02
74	C	Fluoranthene	40.000	35.776	10.6	133	-0.02
75	I	Chrysene-d12	20.000	20.000	0.0	143	0.08
76		Benzidine	40.000	34.041	14.9	119	-0.01
77		Pyrene	40.000	39.960	0.1	150	-0.01
78	S	Terphenyl-d14	80.000	67.742	15.3	124	-0.01
79		Butylbenzylphthalate	40.000	39.711	0.7	151	0.02
80		Benzo(a)anthracene	40.000	36.685	8.3	137	0.07
81		3,3'-Dichlorobenzidine	40.000	40.606	-1.5	150	0.08
82		Chrysene	40.000	35.987	10.0	148	0.08
83		Bis(2-ethylhexyl)phthalate	40.000	37.795	5.5	137	0.08
84	c	Di-n-octyl phthalate	40.000	39.337	1.7	151	0.19
85		Indeno(1,2,3-cd)pyrene	40.000	37.335	6.7	151	0.26
86	I	Perylene-d12	20.000	20.000	0.0	143	0.23
87		Benzo(b)fluoranthene	40.000	41.830	-4.6	135	0.22

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\Data\BF101915\
Data File : BF082352.D
Acq On : 19 Oct 2015 13:18
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 01:57:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
88	Benzo(k)fluoranthene	40.000	33.256	16.9	141	0.22
89 C	Benzo(a)pyrene	40.000	37.670	5.8	140	0.23
90	Dibenzo(a,h)anthracene	40.000	40.927	-2.3	153	0.26
91	Benzo(g,h,i)perylene	40.000	41.070	-2.7	159	0.26

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/20/2015 01:13

Lab File ID: BF082374.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	0.991	0.956		-3.5	
Benzaldehyde	0.659	0.695		5.5	
Phenol-d6	1.290	1.237		-4.1	
Phenol	1.487	1.446		-2.8	20.0
bis(2-Chloroethyl)ether	1.257	1.145		-8.9	
2-Chlorophenol	1.210	1.168		-3.5	
2-Methylphenol	0.957	0.893		-6.7	
2,2-oxybis(1-Chloropropane)	1.751	1.500		-14.3	
Acetophenone	0.396	0.407		2.8	
3+4-Methylphenols	1.140	1.054		-7.5	
n-Nitroso-di-n-propylamine	0.906	0.759	0.050	-16.2	
Nitrobenzene-d5	0.298	0.287		-3.7	
Hexachloroethane	0.504	0.482		-4.4	
Nitrobenzene	0.322	0.344		6.8	
Isophorone	0.601	0.602		0.2	
2-Nitrophenol	0.161	0.166		3.1	20.0
2,4-Dimethylphenol	0.259	0.254		-1.9	
bis(2-Chloroethoxy)methane	0.350	0.334		-4.6	
2,4-Dichlorophenol	0.259	0.280		8.1	20.0
Naphthalene	0.867	0.823		-5.1	
4-Chloroaniline	0.360	0.358		-0.6	
Hexachlorobutadiene	0.186	0.167		-10.2	20.0
Caprolactam	0.075	0.082		9.3	
4-Chloro-3-methylphenol	0.254	0.264		3.9	20.0
2-Methylnaphthalene	0.601	0.589		-2.0	
Hexachlorocyclopentadiene	0.245	0.200	0.050	-18.4	
2,4,6-Trichlorophenol	0.395	0.392		-0.8	20.0
2-Fluorobiphenyl	1.206	1.032		-14.4	
2,4,5-Trichlorophenol	0.428	0.422		-1.4	
1,1-Biphenyl	1.525	1.439		-5.6	
2-Chloronaphthalene	1.201	1.091		-9.2	
2-Nitroaniline	0.330	0.328		-0.6	
Dimethylphthalate	1.408	1.318		-6.4	
Acenaphthylene	1.870	1.693		-9.5	
2,6-Dinitrotoluene	0.297	0.333		12.1	
3-Nitroaniline	0.336	0.353		5.1	
Acenaphthene	1.123	1.020		-9.2	20.0
2,4-Dinitrophenol	0.143	0.118	0.050	-17.5	
4-Nitrophenol	0.192	0.166	0.050	-13.5	
Dibenzofuran	1.541	1.426		-7.5	
2,4-Dinitrotoluene	0.371	0.365		-1.6	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG No.: G4046

Instrument ID: BNA_F Calibration Date/Time: 10/20/2015 01:13

Lab File ID: BF082374.D Init. Calib. Date(s): 10/10/2015 10/10/2015

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:31 13:33

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.313	1.359		3.5	
4-Chlorophenyl-phenylether	0.580	0.614		5.9	
Fluorene	1.266	1.186		-6.3	
4-Nitroaniline	0.326	0.332		1.8	
4,6-Dinitro-2-methylphenol	0.112	0.110		-1.8	
n-Nitrosodiphenylamine	0.599	0.589		-1.7	20.0
2,4,6-Tribromophenol	0.188	0.155		-17.6	
4-Bromophenyl-phenylether	0.200	0.192		-4.0	
Hexachlorobenzene	0.216	0.184		-14.8	
Atrazine	0.190	0.157		-17.4	
Pentachlorophenol	0.111	0.099		-10.8	20.0
Phenanthrene	0.980	0.969		-1.1	
Anthracene	1.010	0.945		-6.4	
Carbazole	0.922	0.856		-7.2	
Di-n-butylphthalate	1.137	1.044		-8.2	
Fluoranthene	1.053	0.979		-7.0	20.0
Pyrene	1.187	1.212		2.1	
Terphenyl-d14	0.755	0.703		-6.9	
Butylbenzylphthalate	0.542	0.558		3.0	
3,3-Dichlorobenzidine	0.395	0.384		-2.8	
Benzo(a)anthracene	1.041	1.039		-0.2	
Chrysene	1.096	1.060		-3.3	
Bis(2-ethylhexyl)phthalate	0.773	0.776		0.4	
Di-n-octyl phthalate	1.327	1.347		1.5	20.0
Benzo(b)fluoranthene	1.217	1.306		7.3	
Benzo(k)fluoranthene	1.023	0.808		-21.0	
Benzo(a)pyrene	1.046	0.986		-5.7	20.0
Indeno(1,2,3-cd)pyrene	0.872	0.895		2.6	
Dibenzo(a,h)anthracene	0.857	0.883		3.0	
Benzo(g,h,i)perylene	0.833	0.861		3.4	
1,2,4,5-Tetrachlorobenzene	0.595	0.582		-2.2	
2,3,4,6-Tetrachlorophenol	0.350	0.321		-8.3	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082374.D
Acq On : 20 Oct 2015 1:13
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 03:14:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	156	-0.03
2		1,4-Dioxane	40.000	36.134	9.7	150	-0.08
3		Pyridine	40.000	41.610	-4.0	165	-0.09
4		n-Nitrosodimethylamine	40.000	41.406	-3.5	155	-0.08
5	S	2-Fluorophenol	80.000	77.147	3.6	144	-0.03
6		Aniline	40.000	38.457	3.9	144	-0.03
7	S	Phenol-d6	80.000	76.740	4.1	144	-0.02
8		2-Chlorophenol	40.000	38.616	3.5	154	-0.03
9		Benzaldehyde	40.000	42.195	-5.5	152	-0.03
10	C	Phenol	40.000	38.914	2.7	141	-0.02
11		bis(2-Chloroethyl)ether	40.000	36.419	9.0	139	-0.03
12		1,3-Dichlorobenzene	40.000	38.799	3.0	152	-0.03
13	C	1,4-Dichlorobenzene	40.000	38.249	4.4	148	-0.03
14		1,2-Dichlorobenzene	40.000	33.270	16.8	142	-0.03
15		Benzyl Alcohol	40.000	39.330	1.7	148	-0.02
16		2,2'-oxybis(1-Chloropropane	40.000	34.262	14.3	142	-0.03
17		2-Methylphenol	40.000	37.322	6.7	147	-0.02
18		Hexachloroethane	40.000	38.291	4.3	153	-0.03
19	P	n-Nitroso-di-n-propylamine	40.000	33.535	16.2	135	-0.03
20		3+4-Methylphenols	40.000	36.998	7.5	148	-0.02
21	I	Naphthalene-d8	20.000	20.000	0.0	148	-0.03
22		Acetophenone	40.000	41.161	-2.9	156	-0.03
23	S	Nitrobenzene-d5	80.000	77.126	3.6	140	-0.03
24		Nitrobenzene	40.000	42.623	-6.6	175	-0.02
25		Isophorone	40.000	40.041	-0.1	153	-0.02
26	C	2-Nitrophenol	40.000	41.192	-3.0	137	-0.03
27		2,4-Dimethylphenol	40.000	39.180	2.1	151	-0.02
28		bis(2-Chloroethoxy)methane	40.000	38.232	4.4	133	-0.03
29	C	2,4-Dichlorophenol	40.000	43.155	-7.9	150	-0.02
30		1,2,4-Trichlorobenzene	40.000	39.110	2.2	146	-0.03
31		Naphthalene	40.000	37.960	5.1	146	-0.03
32		Benzoic acid	40.000	31.720	20.7	121	0.00
33		4-Chloroaniline	40.000	39.751	0.6	140	-0.02
34	C	Hexachlorobutadiene	40.000	35.803	10.5	135	-0.03
35		Caprolactam	40.000	43.731	-9.3	153	-0.01
36	C	4-Chloro-3-methylphenol	40.000	41.704	-4.3	156	-0.01
37		2-Methylnaphthalene	40.000	39.196	2.0	144	-0.03
38	I	Acenaphthene-d10	20.000	20.000	0.0	146	-0.03
39		1,2,4,5-Tetrachlorobenzene	40.000	39.146	2.1	153	-0.02
40	P	Hexachlorocyclopentadiene	40.000	32.153	19.6	113	-0.03
41	S	2,4,6-Tribromophenol	80.000	66.281	17.1	129	-0.02
42	C	2,4,6-Trichlorophenol	40.000	39.675	0.8	157	-0.02
43		2,4,5-Trichlorophenol	40.000	39.458	1.4	148	-0.02
44	S	2-Fluorobiphenyl	80.000	68.480	14.4	120	-0.03

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082374.D
Acq On : 20 Oct 2015 1:13
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 03:14:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45		1,1'-Biphenyl	40.000	37.746	5.6	152	-0.02
46		2-Chloronaphthalene	40.000	36.361	9.1	138	-0.03
47		2-Nitroaniline	40.000	39.753	0.6	151	-0.02
48		Acenaphthylene	40.000	36.201	9.5	136	-0.03
49		Dimethylphthalate	40.000	37.421	6.4	155	-0.02
50		2,6-Dinitrotoluene	40.000	44.879	-12.2	160	-0.02
51	C	Acenaphthene	40.000	36.349	9.1	134	-0.03
52		3-Nitroaniline	40.000	42.066	-5.2	153	-0.02
53	P	2,4-Dinitrophenol	40.000	32.503	18.7	113	-0.02
54		Dibenzofuran	40.000	37.010	7.5	137	-0.03
55	P	4-Nitrophenol	40.000	36.411	9.0	119	-0.01
56		2,4-Dinitrotoluene	40.000	39.316	1.7	142	-0.02
57		Fluorene	40.000	37.474	6.3	141	-0.02
58		2,3,4,6-Tetrachlorophenol	40.000	36.705	8.2	147	-0.02
59		Diethylphthalate	40.000	41.405	-3.5	159	-0.02
60		4-Chlorophenyl-phenylether	40.000	42.375	-5.9	166	-0.02
61		4-Nitroaniline	40.000	40.737	-1.8	144	-0.02
62		Azobenzene	40.000	40.365	-0.9	159	-0.02
63	I	Phenanthrene-d10	20.000	20.000	0.0	154	-0.02
64		4,6-Dinitro-2-methylphenol	40.000	39.035	2.4	137	-0.02
65	c	n-Nitrosodiphenylamine	40.000	39.357	1.6	155	-0.02
66		4-Bromophenyl-phenylether	40.000	38.365	4.1	153	-0.02
67		Hexachlorobenzene	40.000	34.075	14.8	133	-0.03
68		Atrazine	40.000	33.149	17.1	142	-0.02
69	C	Pentachlorophenol	40.000	35.499	11.3	124	-0.02
70		Phenanthrene	40.000	39.523	1.2	163	-0.02
71		Anthracene	40.000	37.423	6.4	140	-0.03
72		Carbazole	40.000	37.173	7.1	148	-0.01
73		Di-n-butylphthalate	40.000	36.731	8.2	144	-0.02
74	C	Fluoranthene	40.000	37.183	7.0	141	-0.02
75	I	Chrysene-d12	20.000	20.000	0.0	132	0.01
76		Benzidine	40.000	39.386	1.5	127	-0.02
77		Pyrene	40.000	40.851	-2.1	140	-0.02
78	S	Terphenyl-d14	80.000	74.494	6.9	126	-0.02
79		Butylbenzylphthalate	40.000	41.242	-3.1	144	-0.01
80		Benzo(a)anthracene	40.000	39.929	0.2	137	0.01
81		3,3'-Dichlorobenzidine	40.000	38.897	2.8	132	0.01
82		Chrysene	40.000	38.668	3.3	146	0.02
83		Bis(2-ethylhexyl)phthalate	40.000	40.164	-0.4	134	0.01
84	c	Di-n-octyl phthalate	40.000	40.608	-1.5	143	0.08
85		Indeno(1,2,3-cd)pyrene	40.000	41.096	-2.7	152	0.11
86	I	Perylene-d12	20.000	20.000	0.0	140	0.10
87		Benzo(b)fluoranthene	40.000	42.940	-7.3	136	0.09

Evaluate Continuing Calibration Report

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082374.D
Acq On : 20 Oct 2015 1:13
Operator : UM/IZ
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_F
LabSampleId :
SSTDCCC040

Quant Time: Oct 20 03:14:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
88	Benzo(k)fluoranthene	40.000	31.595	21.0	132	0.09
89 C	Benzo(a)pyrene	40.000	37.713	5.7	137	0.10
90	Dibenzo(a,h)anthracene	40.000	41.222	-3.1	152	0.11
91	Benzo(g,h,i)perylene	40.000	41.381	-3.5	157	0.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SAMPLE RAW DATA

Quantitation Report (LSC Reviewed)

Sample Results: **BF082336.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:24 PM

Quant Time: Oct 19 01:38:33 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.91	152	51040	20.00	ng	0.08
21) Naphthalene-d8	8.21	136	231886	20.00	ng	0.08
38) Acenaphthene-d10	9.95	164	128806	20.00	ng	0.07
63) Phenanthrene-d10	11.45	188	228686	20.00	ng	0.08
75) Chrysene-d12	14.15	240	196863	20.00	ng	0.08
86) Perylene-d12	15.70	264	207832	20.00	ng	0.11
System Monitoring Compounds						
5) 2-Fluorophenol	5.53	112	21465	8.49	ng	0.10
7) Phenol-d6	6.56	99	30725	9.34	ng	0.08
23) Nitrobenzene-d5	7.49	82	19171	5.55	ng	0.07
41) 2,4,6-Tribromophenol	10.74	330	11063	9.16	ng	0.06
44) 2-Fluorobiphenyl	9.27	172	54709	7.04	ng	0.06
78) Terphenyl-d14	13.04	244	62156	8.37	ng	0.08
Target Compounds						Qvalue
48) Acenaphthylene	9.82	152	134418	11.16	ng	97
51) Acenaphthene	9.99	154	42491	5.88	ng	98
54) Dibenzofuran	10.16	168	136062	13.71	ng	95
57) Fluorene	10.50	166	439902	53.95	ng	99
70) Phenanthrene	11.50	178	4931136	439.91	ng	93
71) Anthracene	11.54	178	2383337	206.34	ng	94
72) Carbazole	11.69	167	1238493	117.54	ng	98
74) Fluoranthene	12.70	202	5648570	469.18	ng	93
77) Pyrene	12.93	202	3816908	326.71	ng	95
80) Benzo(a)anthracene	14.14	228	1390751	135.78	ng	97
82) Chrysene	14.18	228	1191817	110.43	ng	96
85) Indeno(1,2,3-cd)pyrene	17.19	276	91646	10.68	ng	97
87) Benzo(b)fluoranthene	15.28	252	844350m	66.78	ng	
88) Benzo(k)fluoranthene	15.30	252	259949m	24.46	ng	
89) Benzo(a)pyrene	15.65	252	280585m	25.82	ng	
90) Dibenzo(a,h)anthracene	17.20	278	31301m	3.51	ng	
91) Benzo(g,h,i)perylene	17.64	276	60824	7.03	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (LSC Reviewed)

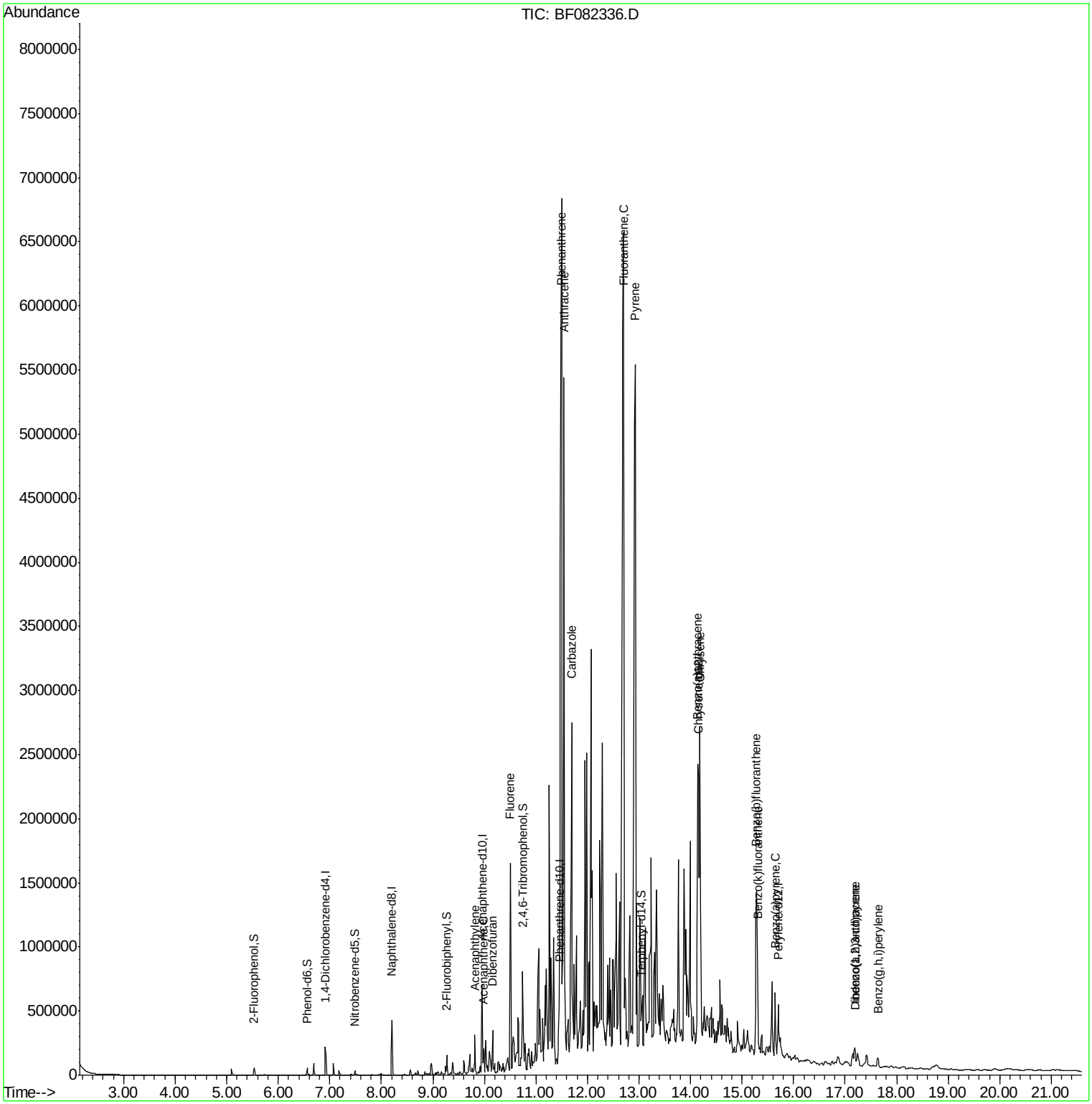
Sample Results: **BF082336.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 19 01:38:33 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:24 PM



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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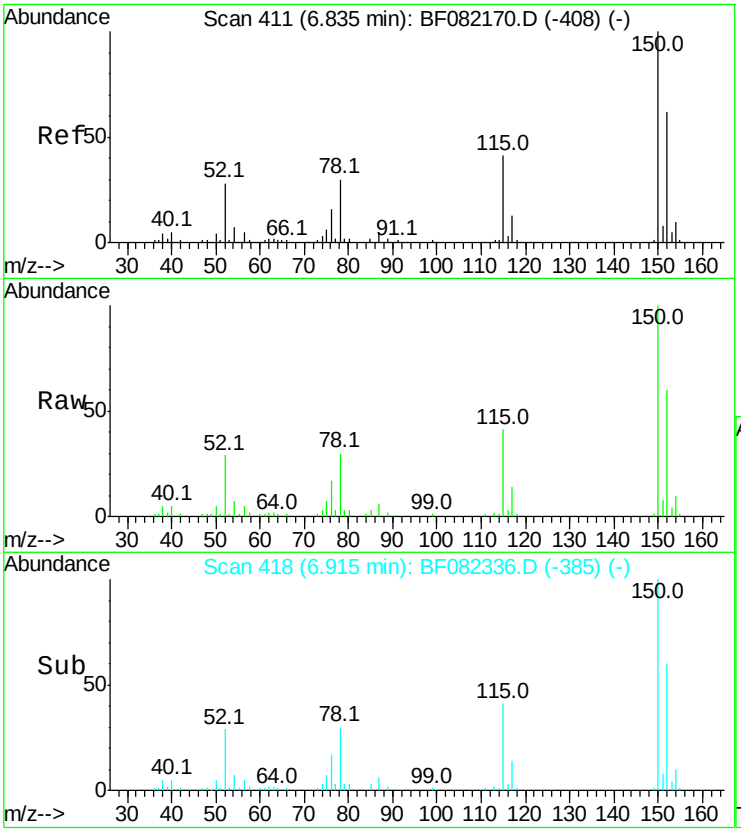
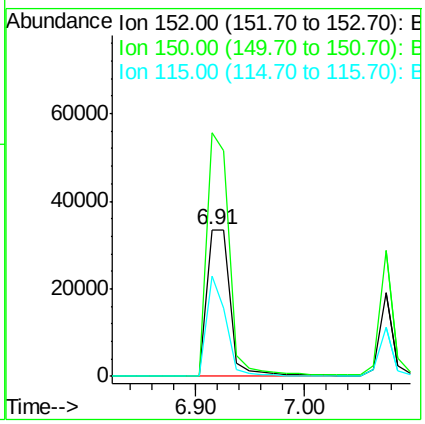
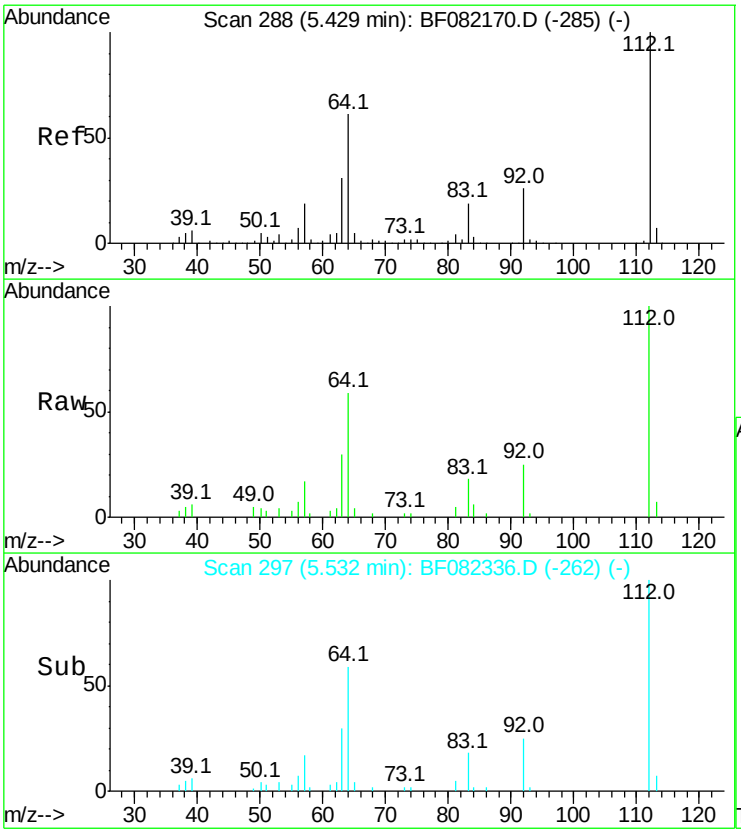


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.91 min Scan# 418
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:152 Resp: 51040

Ion	Ratio	Lower	Upper
152	100		
150	165.8	129.0	193.4
115	68.4	52.1	78.1

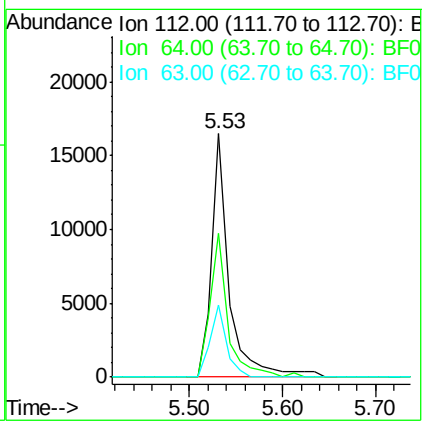


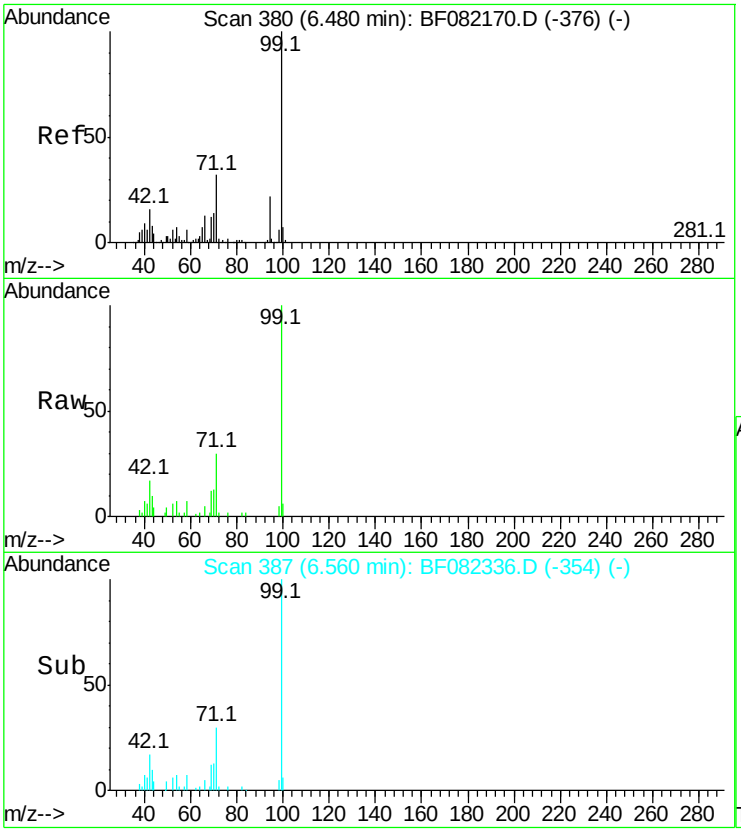


#5
2-Fluorophenol
Concen: 8.49 ng
RT: 5.53 min Scan# 297
Delta R.T. 0.10 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:112 Resp: 21465

Ion	Ratio	Lower	Upper
112	100		
64	58.8	48.6	73.0
63	29.5	25.1	37.7

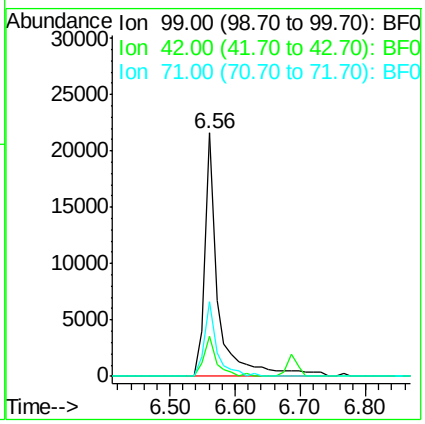




#7
Phenol-d6
Concen: 9.34 ng
RT: 6.56 min Scan# 387
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion: 99 Resp: 30725

Ion	Ratio	Lower	Upper
99	100		
42	16.5	13.2	19.8
71	30.4	25.6	38.4



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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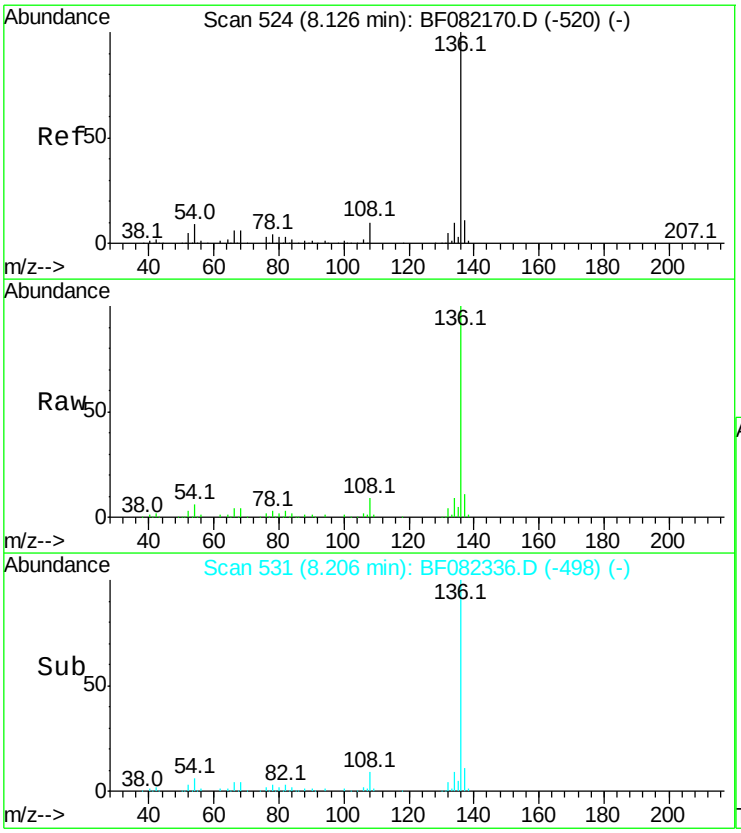
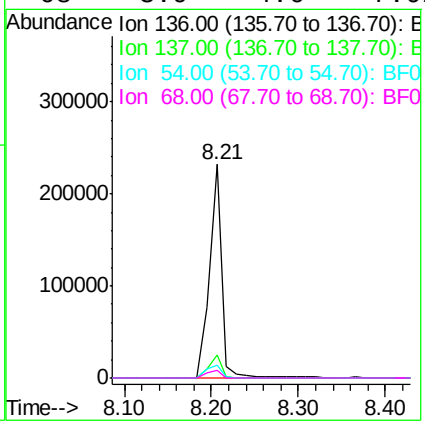


#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.21 min Scan# 531
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:136 Resp: 231886

Ion	Ratio	Lower	Upper
136	100		
137	10.7	9.0	13.6
54	6.3	7.5	11.3#
68	3.9	4.6	7.0#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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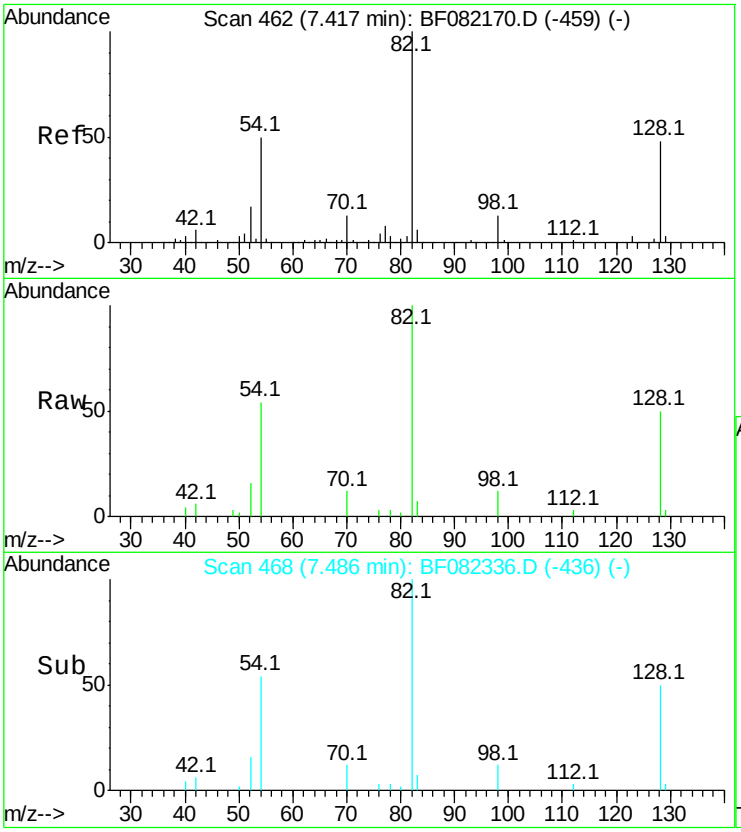
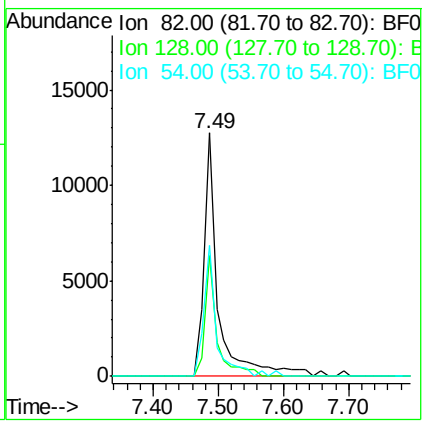
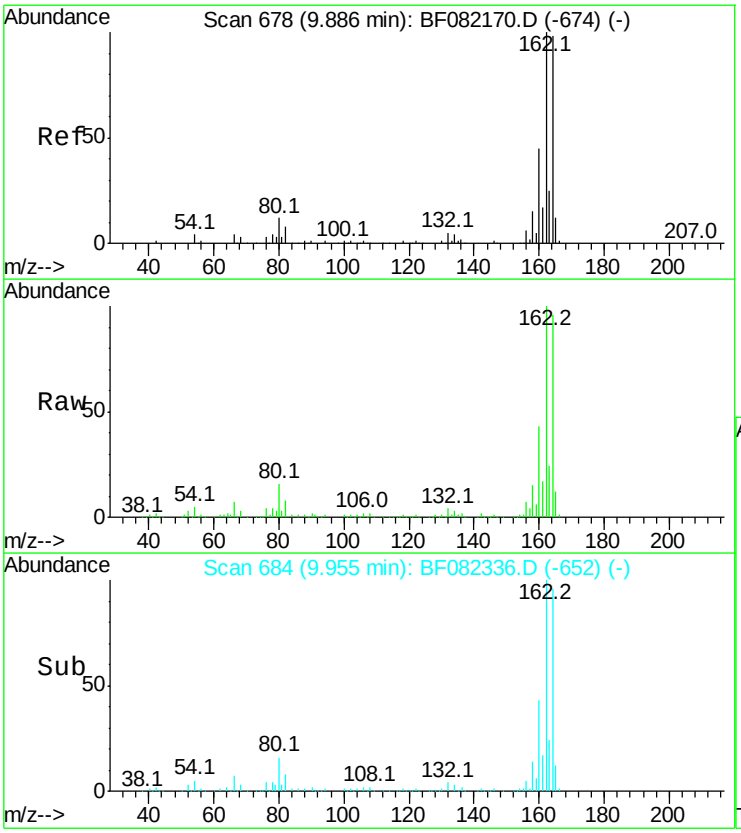


#23
Nitrobenzene-d5
Concen: 5.55 ng
RT: 7.49 min Scan# 468
Delta R.T. 0.07 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion: 82 Resp: 19171

Ion	Ratio	Lower	Upper
82	100		
128	49.8	38.7	58.1
54	53.8	40.1	60.1

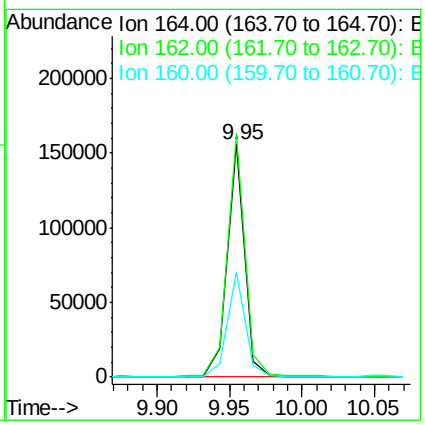




#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.95 min Scan# 684
Delta R.T. 0.07 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:164 Resp: 128806

Ion	Ratio	Lower	Upper
164	100		
162	104.3	81.6	122.4
160	45.1	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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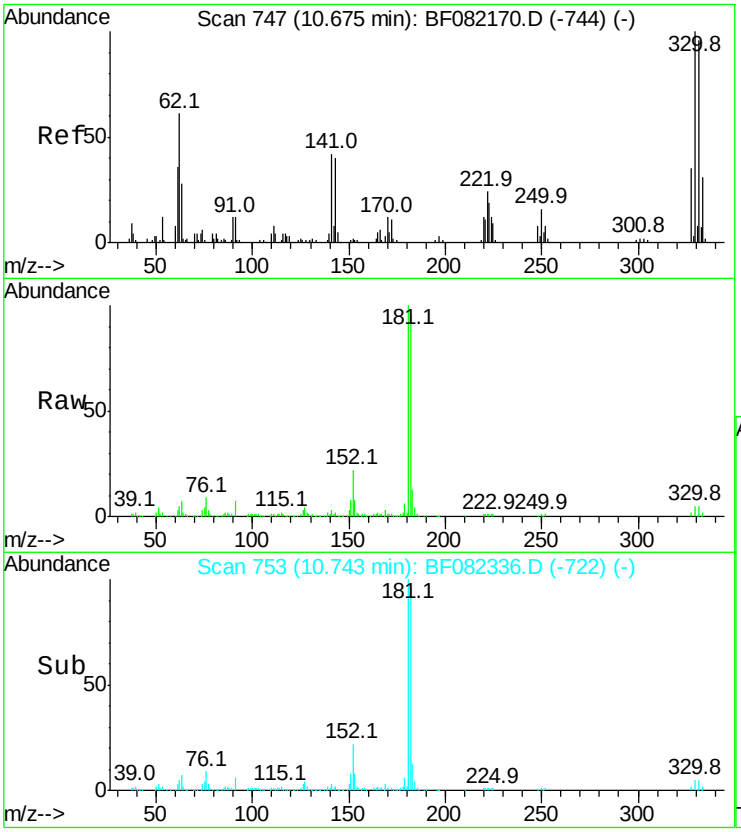
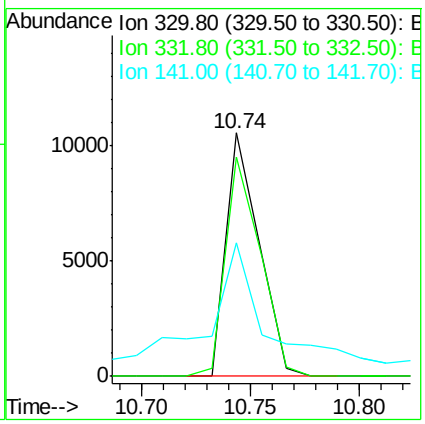
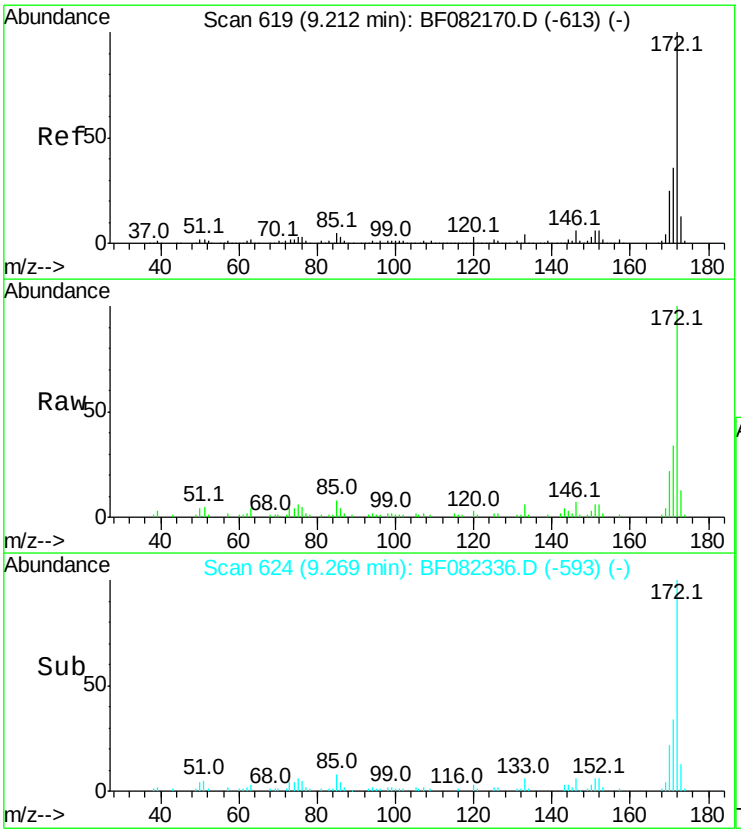


#41
2,4,6-Tribromophenol
Concen: 9.16 ng
RT: 10.74 min Scan# 753
Delta R.T. 0.06 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:330 Resp: 11063

Ion	Ratio	Lower	Upper
330	100		
332	95.8	77.1	115.7
141	75.7	29.8	44.8#

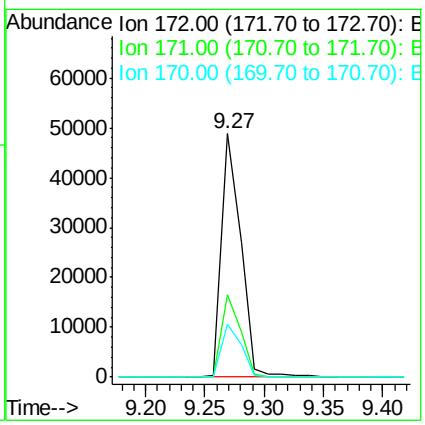




#44
2-Fluorobiphenyl
Concen: 7.04 ng
RT: 9.27 min Scan# 624
Delta R.T. 0.06 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:172 Resp: 54709

Ion	Ratio	Lower	Upper
172	100		
171	33.9	28.6	42.8
170	21.6	19.7	29.5



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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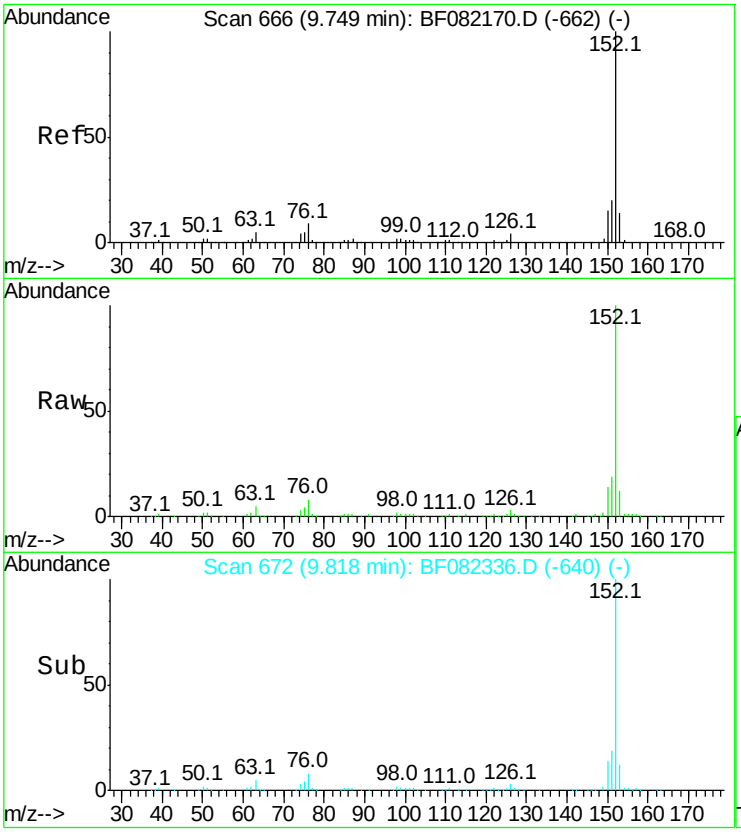
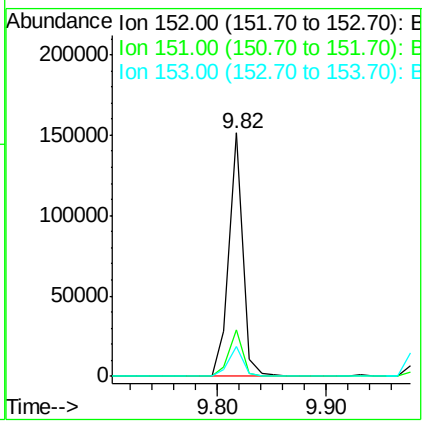
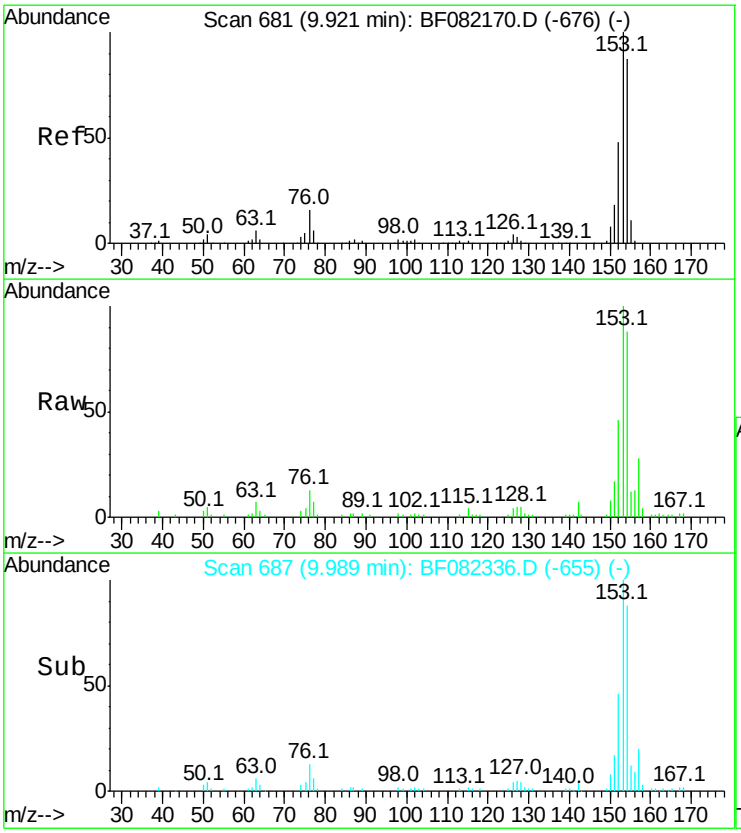


#48
Acenaphthylene
Concen: 11.16 ng
RT: 9.82 min Scan# 672
Delta R.T. 0.07 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:152 Resp: 134418

Ion	Ratio	Lower	Upper
152	100		
151	19.3	16.4	24.6
153	12.5	10.8	16.2

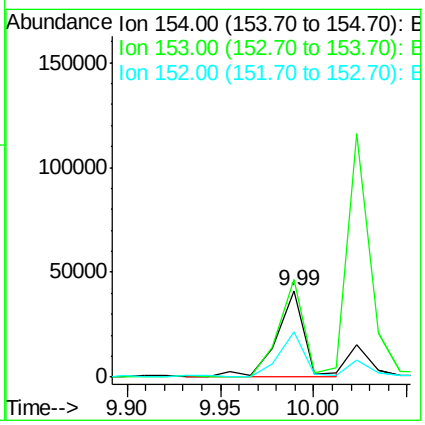


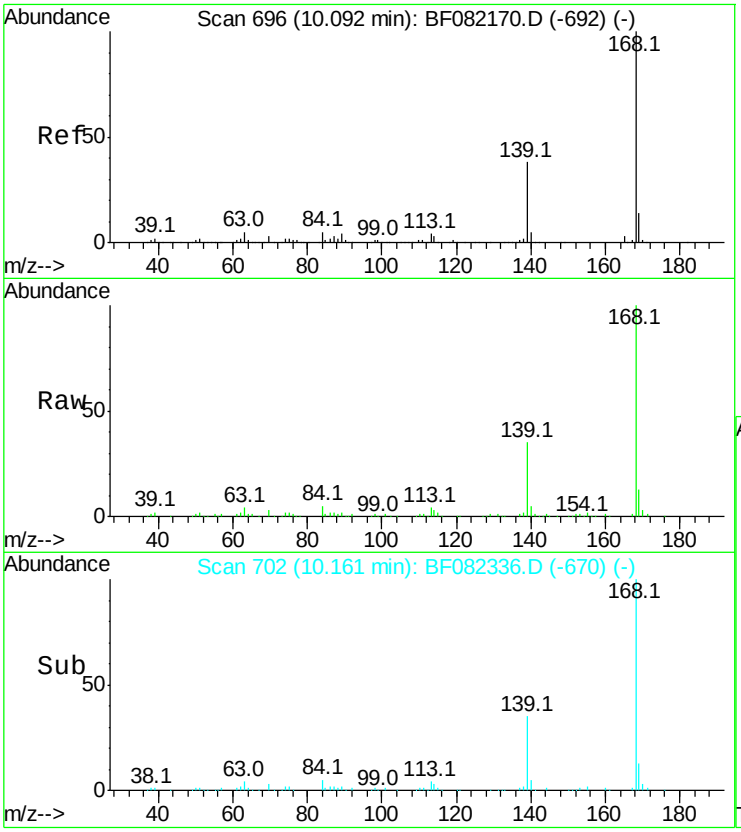


#51
Acenaphthene
Concen: 5.88 ng
RT: 9.99 min Scan# 687
Delta R.T. 0.07 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:154 Resp: 42491

Ion	Ratio	Lower	Upper
154	100		
153	113.9	91.4	137.2
152	52.1	44.3	66.5





#54
Dibenzofuran
Concen: 13.71 ng
RT: 10.16 min Scan# 702
Delta R.T. 0.07 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:168 Resp: 136062

Ion	Ratio	Lower	Upper
168	100		
139	34.6	31.0	46.6
169	13.5	10.9	16.3

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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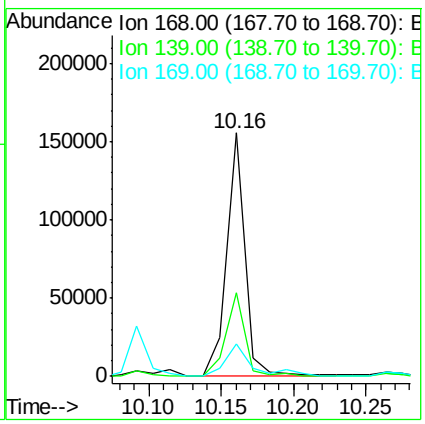
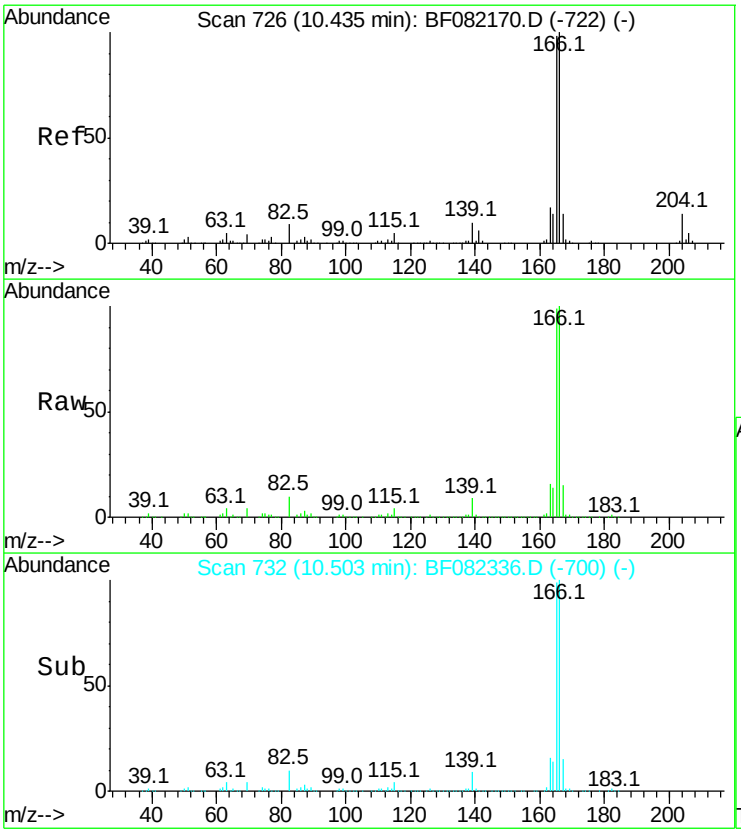
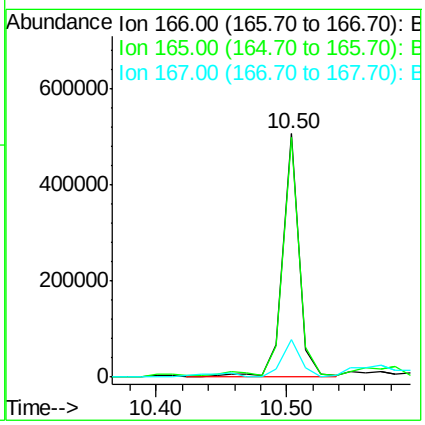




#57
Fluorene
Concen: 53.95 ng
RT: 10.50 min Scan# 732
Delta R.T. 0.07 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:166 Resp: 439902

Ion	Ratio	Lower	Upper
166	100		
165	98.6	78.3	117.5
167	15.4	10.8	16.2



Instrument :
BNA_F
ClientSampleId :
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Manual Integrations APPROVED
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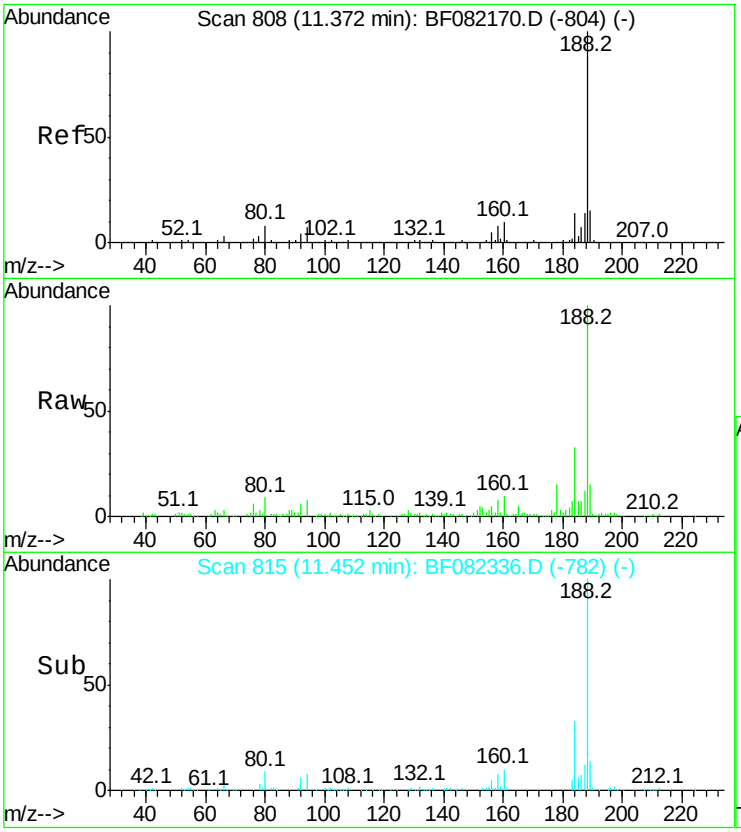
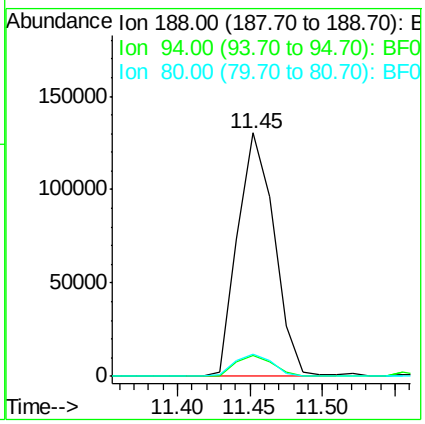
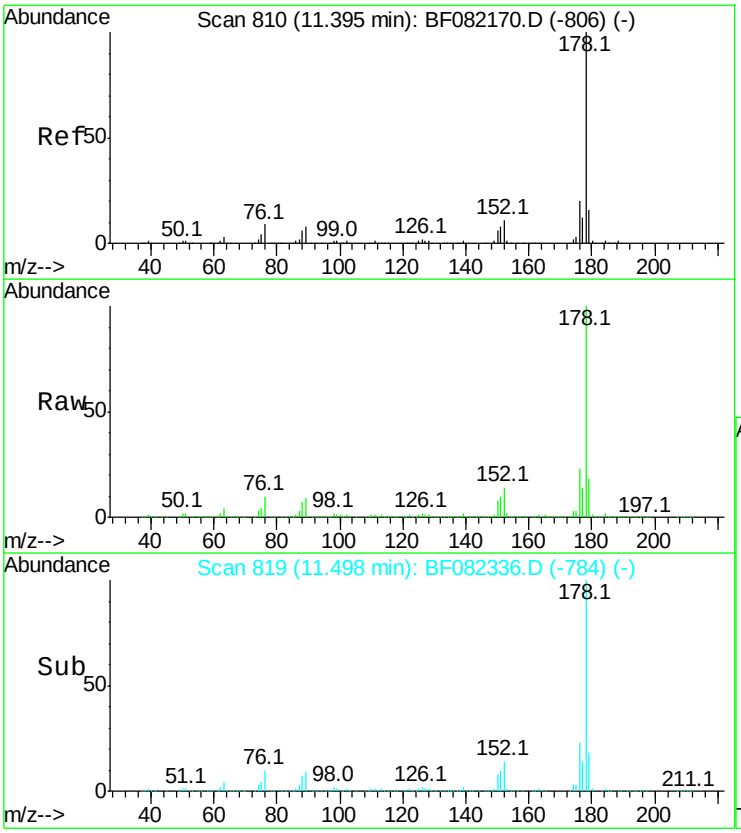


#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.45 min Scan# 815
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:188 Resp: 228686

Ion	Ratio	Lower	Upper
188	100		
94	8.4	5.8	8.6
80	9.1	6.4	9.6

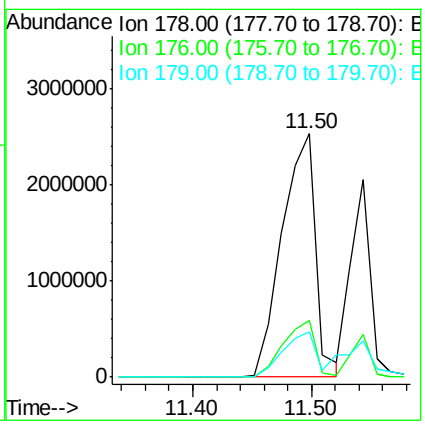




#70
Phenanthrene
Concen: 439.91 ng
RT: 11.50 min Scan# 819
Delta R.T. 0.10 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:178 Resp: 4931136

Ion	Ratio	Lower	Upper
178	100		
176	23.3	16.0	24.0
179	18.4	12.6	19.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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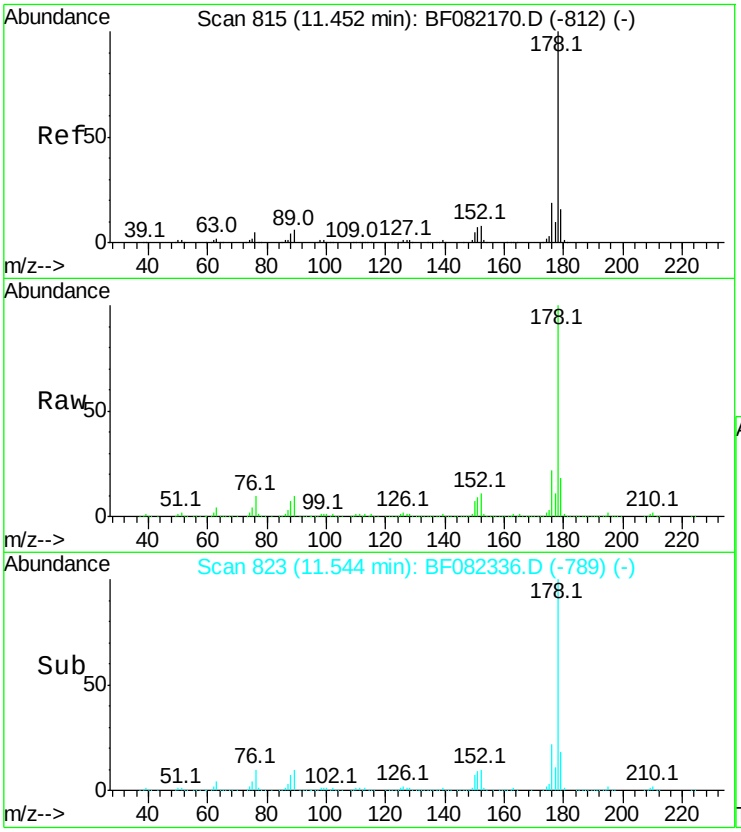
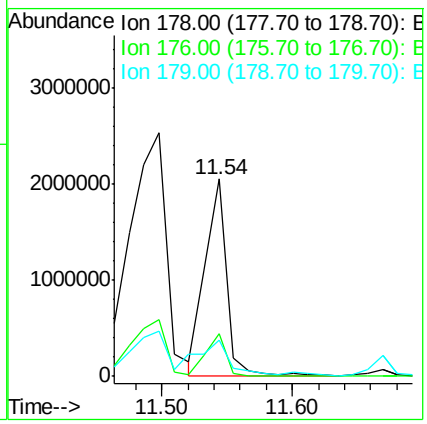
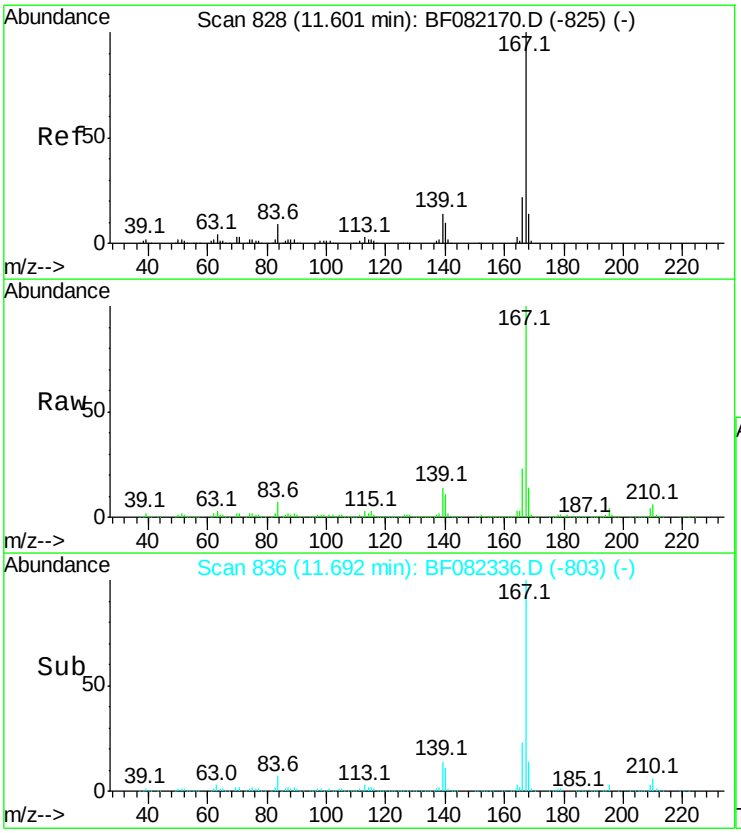


#71
Anthracene
Concen: 206.34 ng
RT: 11.54 min Scan# 823
Delta R.T. 0.09 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:178 Resp: 2383337

Ion	Ratio	Lower	Upper
178	100		
176	21.9	15.4	23.0
179	18.2	12.5	18.7

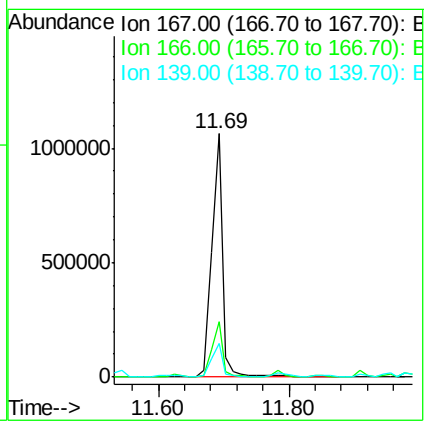


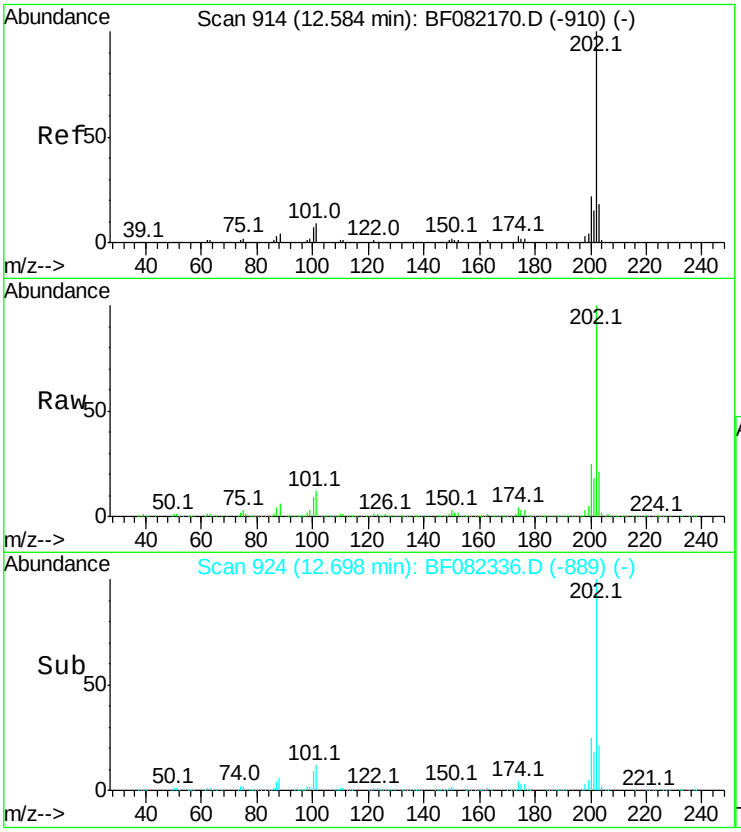


#72
Carbazole
Concen: 117.54 ng
RT: 11.69 min Scan# 836
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:167 Resp: 1238493

Ion	Ratio	Lower	Upper
167	100		
166	23.0	17.3	25.9
139	13.7	11.2	16.8





#74
Fluoranthene
Concen: 469.18 ng
RT: 12.70 min Scan# 924
Delta R.T. 0.10 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:202 Resp: 5648570

Ion	Ratio	Lower	Upper
202	100		
101	12.2	0.0	29.3
203	21.0	0.0	37.8

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

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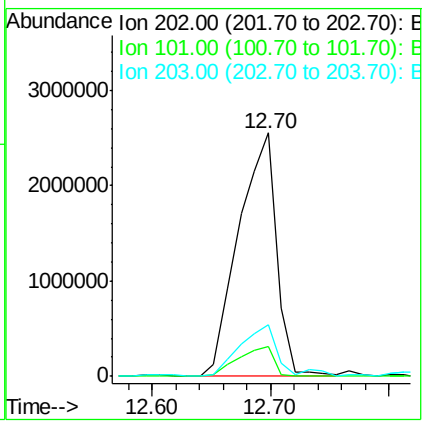
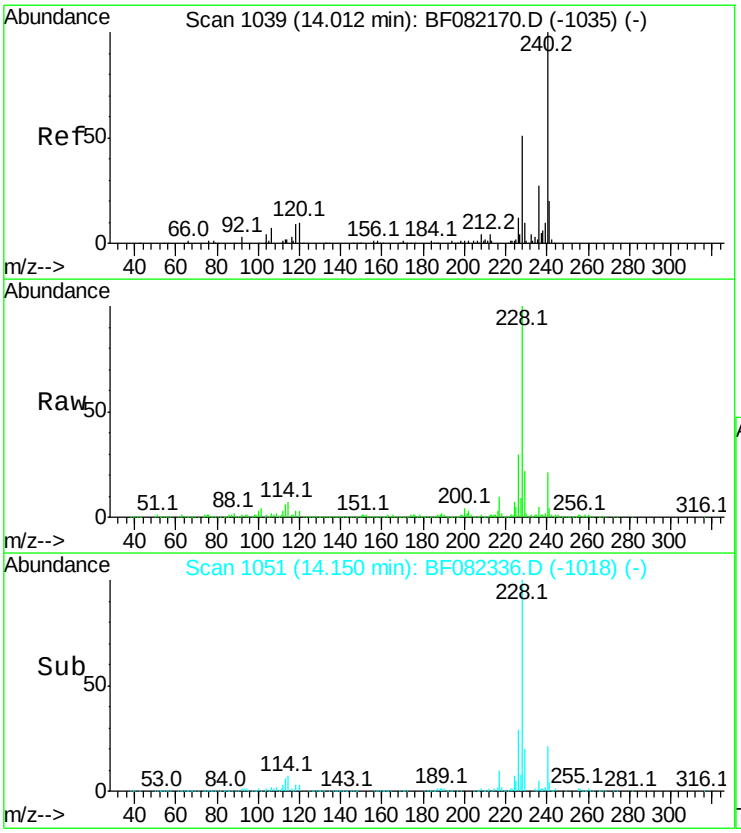
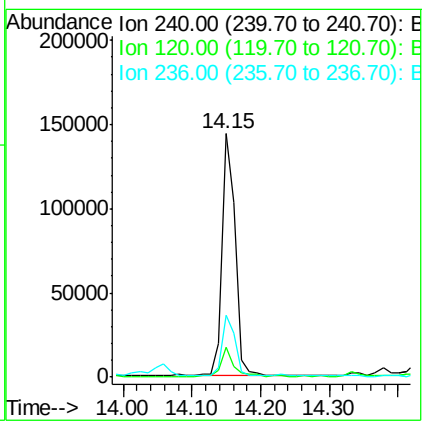




#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.15 min Scan# 1051
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

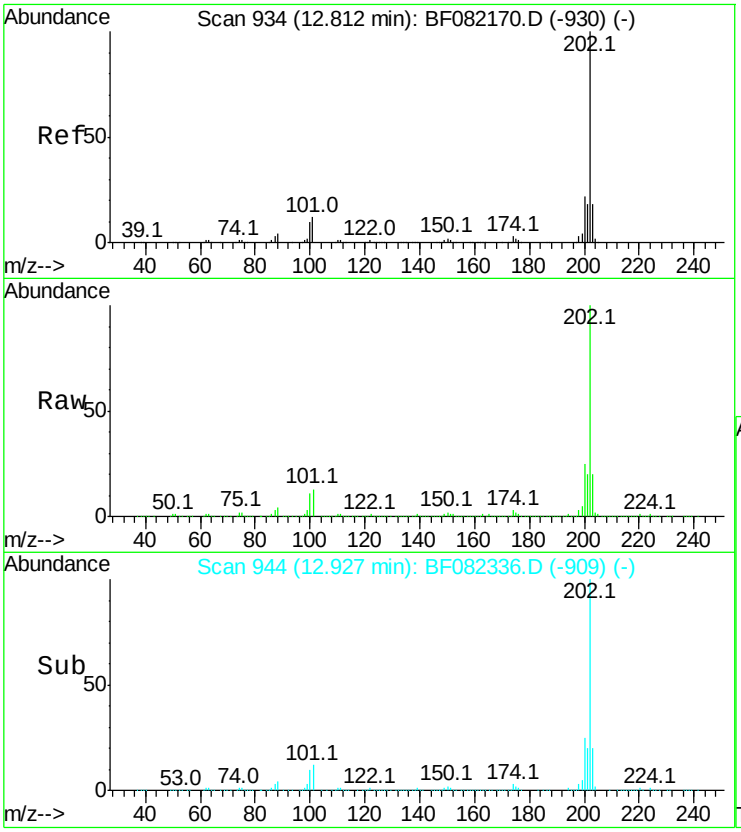
Tgt Ion:240 Resp: 196863

Ion	Ratio	Lower	Upper
240	100		
120	12.4	8.1	12.1#
236	25.5	21.3	31.9



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

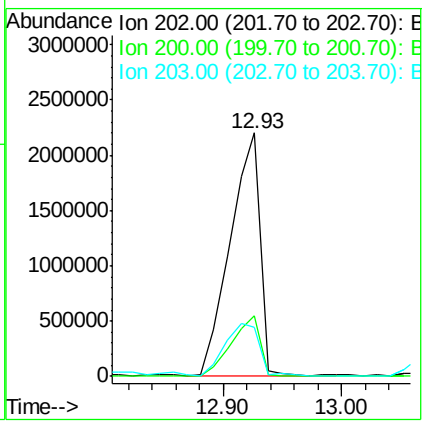
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:24 PM

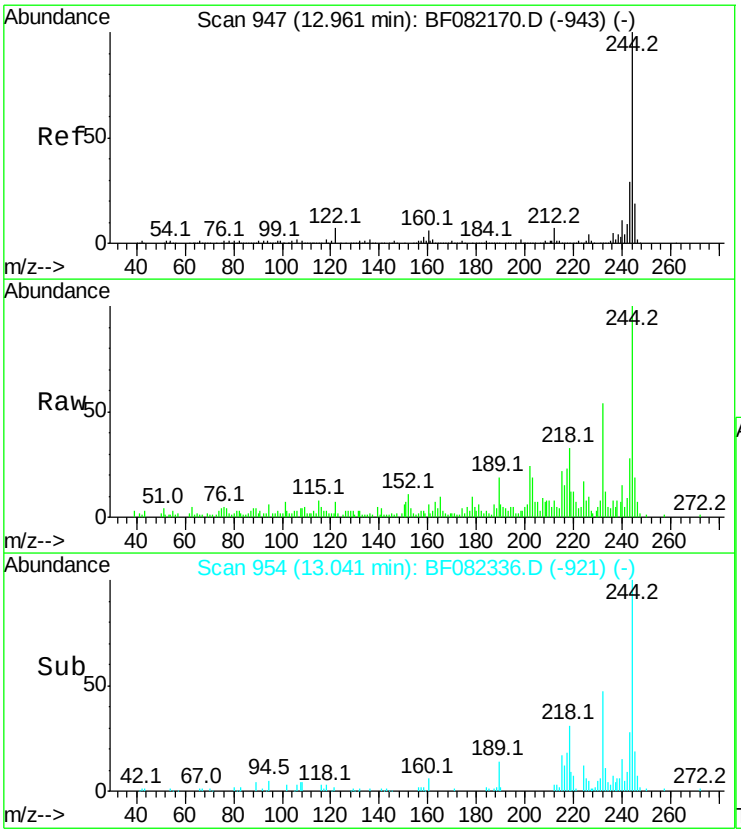


#77
Pyrene
Concen: 326.71 ng
RT: 12.93 min Scan# 944
Delta R.T. 0.10 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:202 Resp: 3816908

Ion	Ratio	Lower	Upper
202	100		
200	24.6	17.9	26.9
203	20.1	14.5	21.7

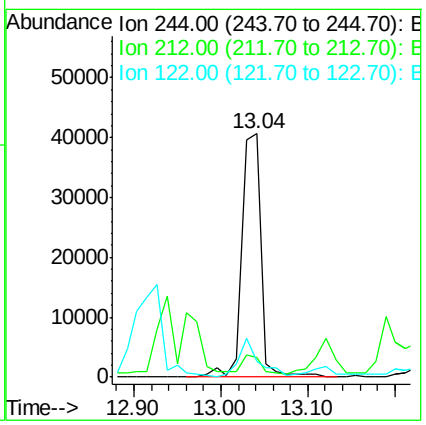


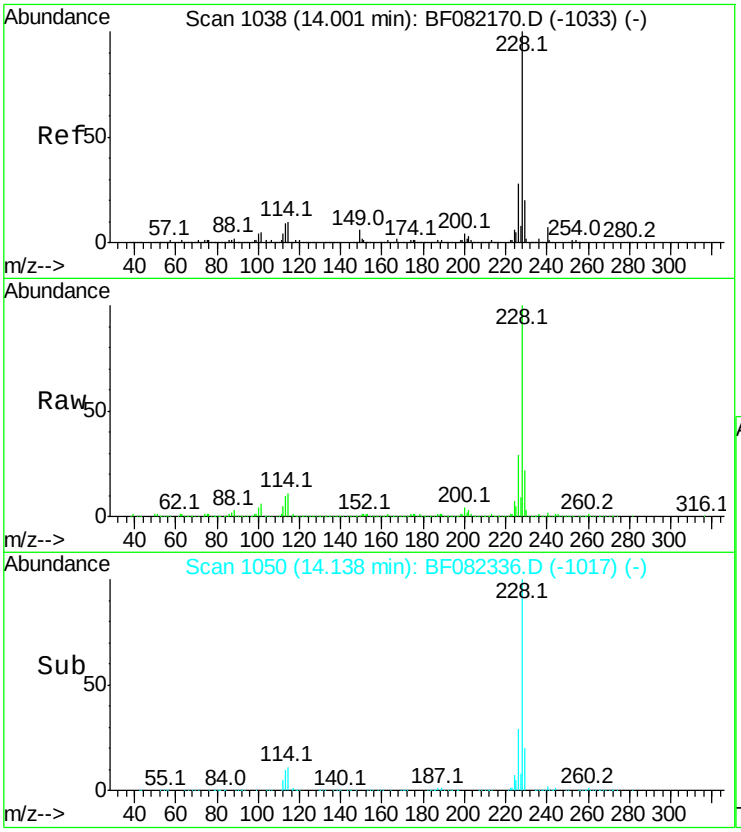


#78
Terphenyl-d14
Concen: 8.37 ng
RT: 13.04 min Scan# 954
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:244 Resp: 62156

Ion	Ratio	Lower	Upper
244	100		
212	8.1	5.8	8.6
122	6.7	5.9	8.9





#80
Benzo(a)anthracene
Concen: 135.78 ng
RT: 14.14 min Scan# 1050
Delta R.T. 0.08 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:228 Resp: 1390751

Ion	Ratio	Lower	Upper
228	100		
226	29.4	22.3	33.5
229	22.1	16.2	24.2

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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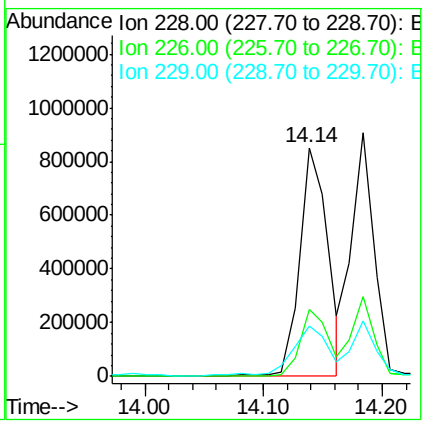
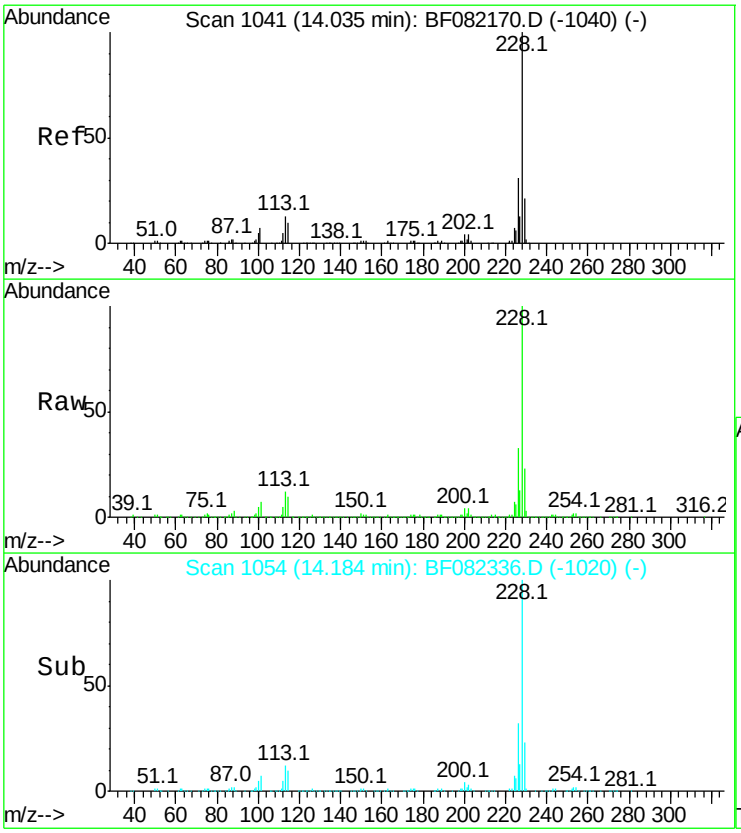
10/19/2015 5:32:24 PM

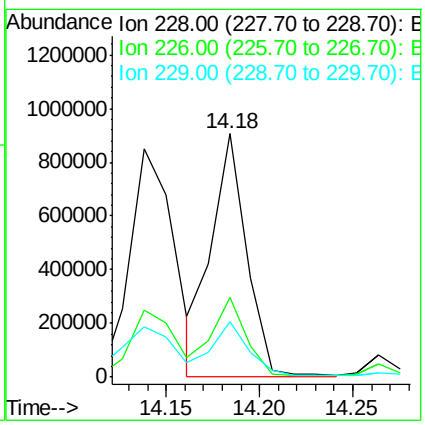


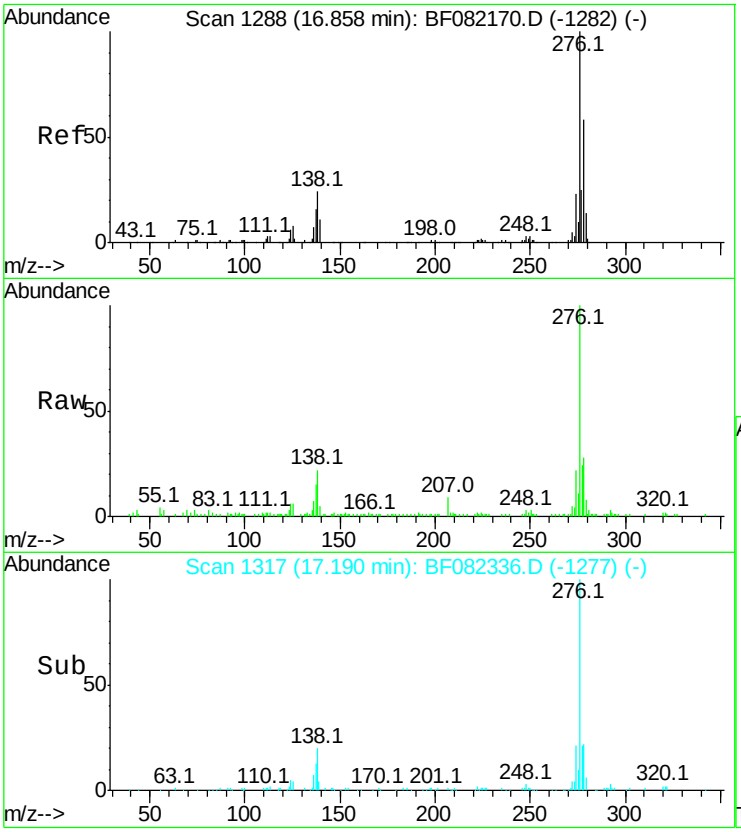


#82
Chrysene
Concen: 110.43 ng
RT: 14.18 min Scan# 1054
Delta R.T. 0.09 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:228 Resp: 1191817

Ion	Ratio	Lower	Upper
228	100		
226	32.5	24.4	36.6
229	23.0	16.3	24.5





#85
Indeno(1,2,3-cd)pyrene
Concen: 10.68 ng
RT: 17.19 min Scan# 1317
Delta R.T. 0.16 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:276 Resp: 91646

Ion	Ratio	Lower	Upper
276	100		
138	24.2	19.7	29.5
277	22.4	20.1	30.1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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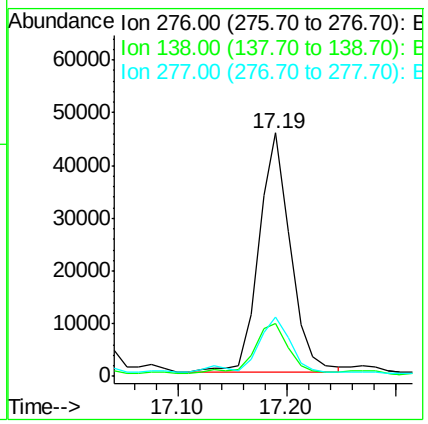
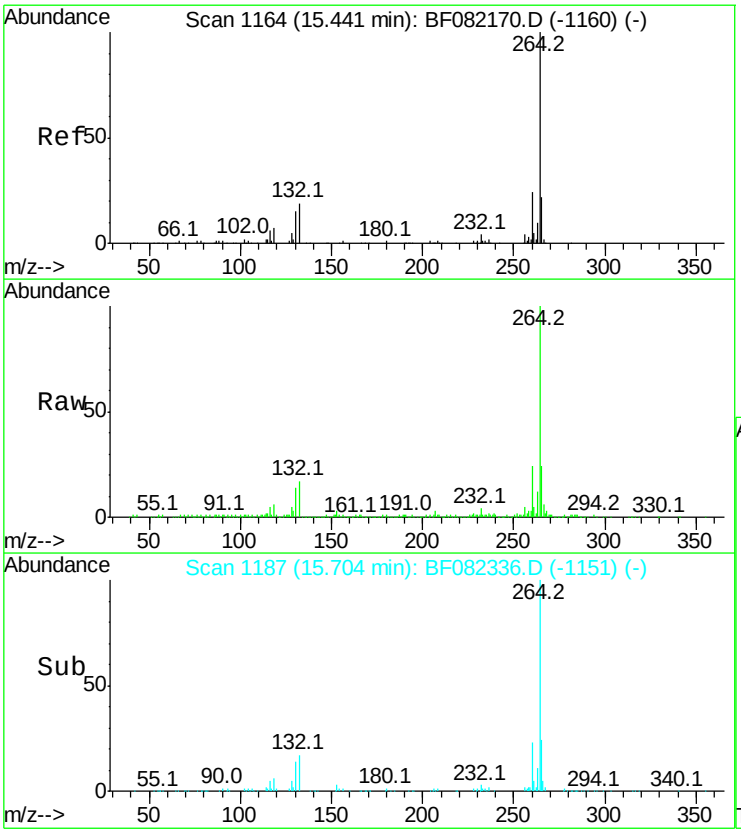
10/19/2015 5:32:24 PM

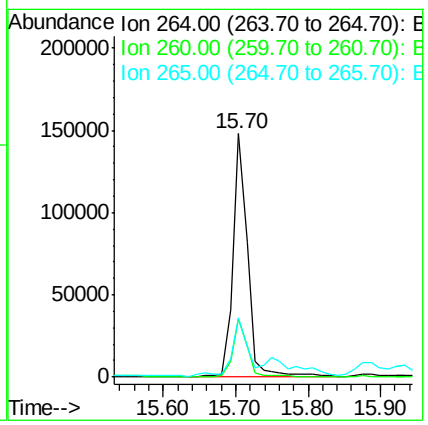


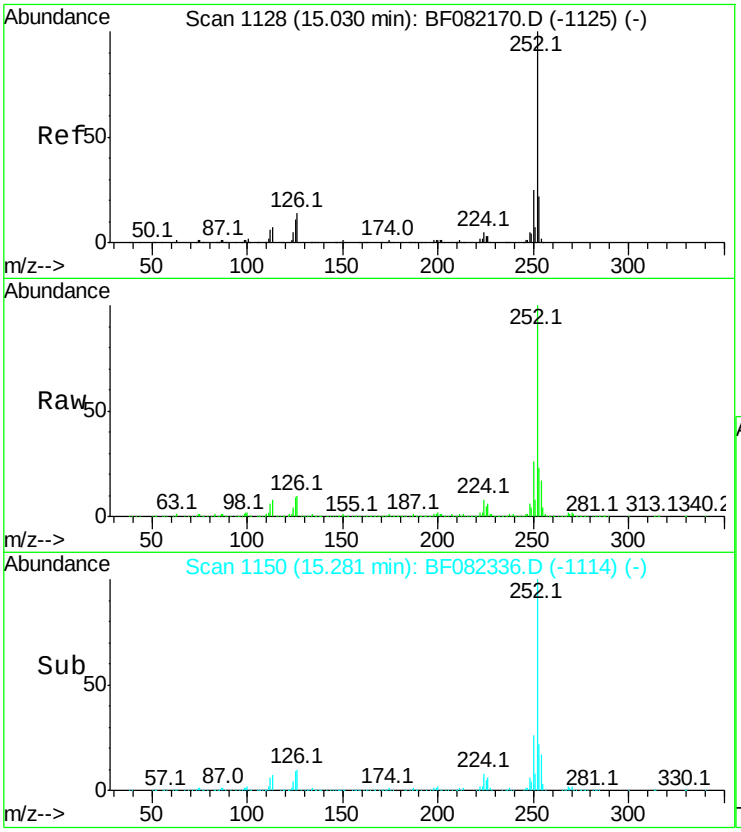


#86
Perylene-d12
Concen: 20.00 ng
RT: 15.70 min Scan# 1187
Delta R.T. 0.11 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:264 Resp: 207832

Ion	Ratio	Lower	Upper
264	100		
260	23.8	19.0	28.6
265	24.2	17.3	25.9

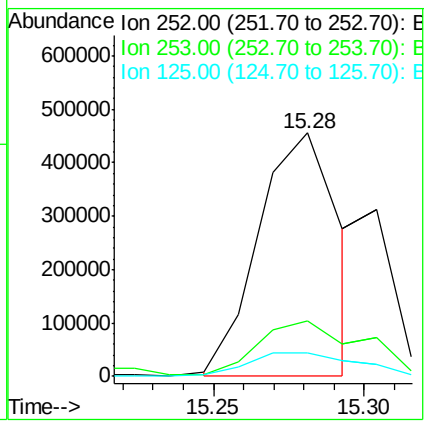




#87
Benzo(b)fluoranthene
Concen: 66.78 ng m
RT: 15.28 min Scan# 1150
Delta R.T. 0.11 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:252 Resp: 844350

Ion	Ratio	Lower	Upper
252	100		
253	22.7	18.0	27.0
125	9.4	8.6	12.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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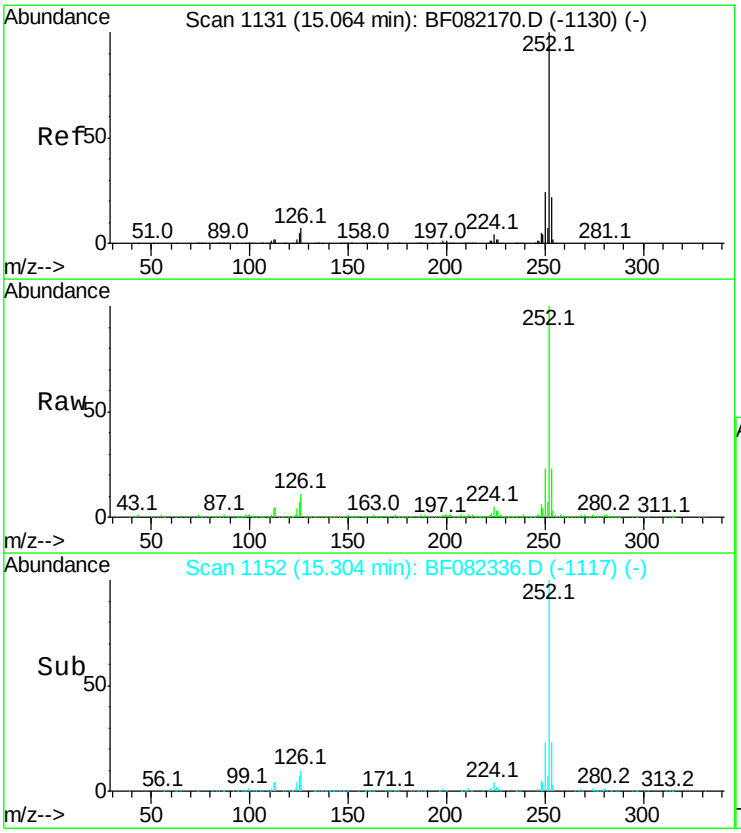
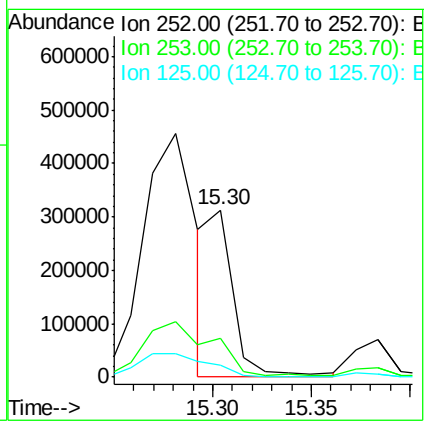
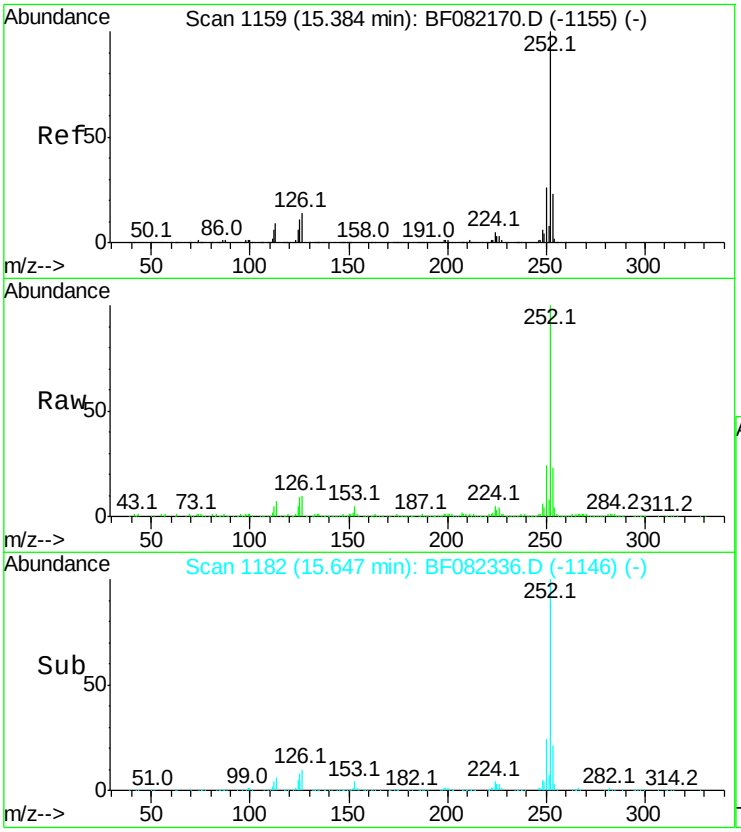


#88
Benzo(k)fluoranthene
Concen: 24.46 ng m
RT: 15.30 min Scan# 1152
Delta R.T. 0.10 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:252 Resp: 259949

Ion	Ratio	Lower	Upper
252	100		
253	23.3	17.8	26.6
125	7.0	6.7	10.1





#89
Benzo(a)pyrene
Concen: 25.82 ng m
RT: 15.65 min Scan# 1182
Delta R.T. 0.11 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:252 Resp: 280585

Ion	Ratio	Lower	Upper
252	100		
253	23.0	18.2	27.2
125	8.6	8.9	13.3#

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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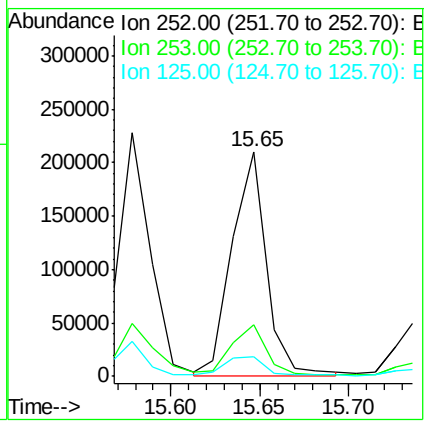
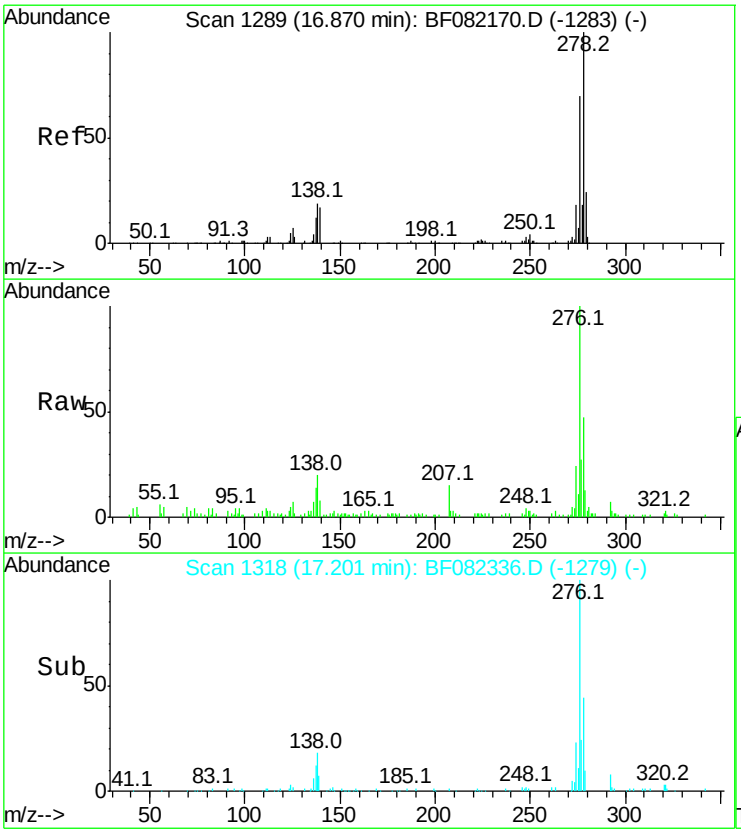
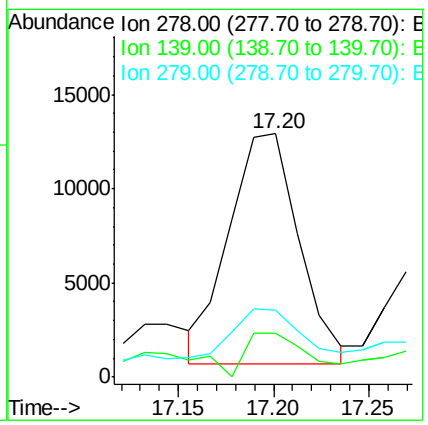


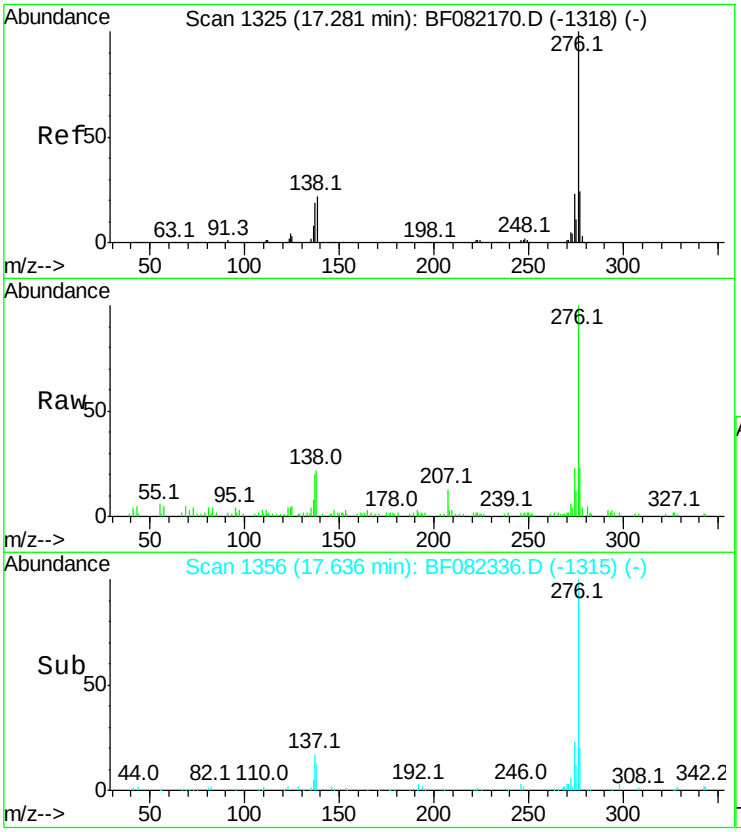


#90
Dibenzo(a,h)anthracene
Concen: 3.51 ng m
RT: 17.20 min Scan# 1318
Delta R.T. 0.15 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:278 Resp: 31301

Ion	Ratio	Lower	Upper
278	100		
139	17.9	13.3	19.9
279	27.6	18.9	28.3

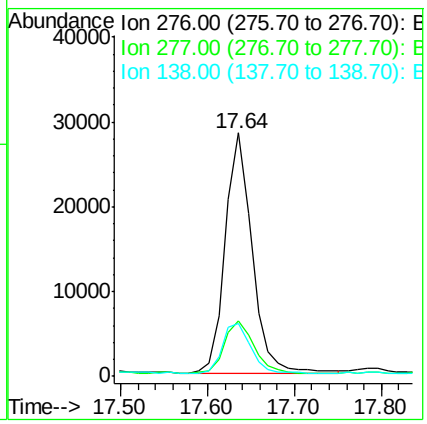




#91
Benzo(g,h,i)perylene
Concen: 7.03 ng
RT: 17.64 min Scan# 1356
Delta R.T. 0.17 min
Lab File: BF082336.D
Acq: 16 Oct 2015 20:12

Tgt Ion:276 Resp: 60824

Ion	Ratio	Lower	Upper
276	100		
277	22.8	18.8	28.2
138	21.9	17.4	26.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:24 PM

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.915	417	418	421	rBV	222353	281858	1.98%	0.210%
2	8.206	529	531	533	rBV	429011	437561	3.07%	0.325%
3	9.269	623	624	627	rVB	151192	162536	1.14%	0.121%
4	9.600	650	653	657	rBV	108857	177216	1.24%	0.132%
5	9.715	657	663	665	rBV3	159344	247779	1.74%	0.184%
6	9.818	669	672	674	rVB	293968	282791	1.98%	0.210%
7	9.955	682	684	685	rBV	685904	580405	4.07%	0.431%
8	9.989	685	687	688	rVB	183404	178370	1.25%	0.133%
9	10.023	688	690	691	rBV	249903	225996	1.59%	0.168%
10	10.103	695	697	700	rVB3	153624	293989	2.06%	0.219%
11	10.161	700	702	704	rBV	320964	314026	2.20%	0.233%
12	10.446	722	727	730	rBV4	118338	317920	2.23%	0.236%
13	10.503	730	732	734	rBV	1614903	1474870	10.35%	1.096%
14	10.561	734	737	740	rBV3	255707	563941	3.96%	0.419%
15	10.629	740	743	744	rVV3	78866	183036	1.28%	0.136%
16	10.652	744	745	747	rVB	379428	483399	3.39%	0.359%
17	10.743	747	753	755	rBV	738008	1092251	7.66%	0.812%
18	10.789	755	757	759	rVB2	207991	221438	1.55%	0.165%
19	10.869	761	764	766	rBV3	159534	301805	2.12%	0.224%
20	10.995	771	775	776	rBV3	155588	199195	1.40%	0.148%
21	11.052	776	780	781	rBV2	878690	1377567	9.66%	1.024%
22	11.075	781	782	784	rVV	372492	366457	2.57%	0.272%
23	11.132	785	787	788	rVB2	342168	303083	2.13%	0.225%
24	11.201	788	793	796	rBV2	729135	1693598	11.88%	1.259%
25	11.258	796	798	800	rVV	2105961	2456018	17.23%	1.826%
26	11.292	800	801	803	rVV	751610	759656	5.33%	0.565%
27	11.338	803	805	809	rVB	987931	1513950	10.62%	1.125%
28	11.498	812	819	820	rBV	6753486	13396198	93.98%	9.957%
29	11.544	820	823	825	rVV	5260970	6497108	45.58%	4.829%
30	11.624	827	830	832	rVB4	262244	462470	3.24%	0.344%
31	11.692	832	836	839	rBV2	2572137	3861459	27.09%	2.870%
32	11.738	839	840	842	rVV	661551	680659	4.77%	0.506%
33	11.784	842	844	846	rVB2	882833	1072667	7.52%	0.797%
34	11.864	846	851	853	rBV2	373272	744961	5.23%	0.554%

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

35	11.909	853	855	856	rBV	299929	279991	1.96%	0.208%
36	11.955	856	859	860	rVV	2233055	2665271	18.70%	1.981%
37	11.978	860	861	863	rVB	2329061	3102789	21.77%	2.306%
38	12.035	863	866	867	rBV	706295	1080553	7.58%	0.803%
39	12.069	867	869	873	rVB2	3137208	4879299	34.23%	3.627%
40	12.126	873	874	875	rBV	387994	397112	2.79%	0.295%
41	12.161	875	877	878	rVV2	305558	425500	2.98%	0.316%
42	12.241	882	884	886	rVV	1584385	2065716	14.49%	1.535%
43	12.286	886	888	894	rVB2	2368414	3077621	21.59%	2.288%
44	12.389	894	897	898	rBV	636439	661317	4.64%	0.492%
45	12.424	898	900	901	rVV	653188	611716	4.29%	0.455%
46	12.446	901	902	904	rVB2	442316	400999	2.81%	0.298%
47	12.504	904	907	908	rBV	679079	1048460	7.36%	0.779%
48	12.561	908	912	913	rVV2	1299057	2079219	14.59%	1.545%
49	12.618	913	917	919	rVB	1111955	1736361	12.18%	1.291%
50	12.698	919	924	926	rBV	6336318	14254995	100.00%	10.596%
51	12.732	926	927	929	rVB	483149	440766	3.09%	0.328%
52	12.824	932	935	937	rBV	1024502	1301439	9.13%	0.967%
53	12.927	939	944	945	rVV2	5230675	11322813	79.43%	8.416%
54	12.949	945	946	949	rVB	1122077	966706	6.78%	0.719%
55	13.018	949	952	954	rBV	1000110	1254359	8.80%	0.932%
56	13.064	954	956	958	rVB2	396362	477006	3.35%	0.355%
57	13.121	958	961	963	rBV2	928532	1659055	11.64%	1.233%
58	13.235	969	971	972	rVB	1407963	1464177	10.27%	1.088%
59	13.304	974	977	978	rVV	671653	895210	6.28%	0.665%
60	13.338	978	980	984	rVV2	1159179	1927800	13.52%	1.433%
61	13.395	984	985	987	rVV2	354805	302508	2.12%	0.225%
62	13.429	987	988	990	rVV	316428	440557	3.09%	0.327%
63	13.464	990	991	995	rVB2	435304	584983	4.10%	0.435%
64	13.532	995	997	1001	rVB3	109622	270118	1.89%	0.201%
65	13.647	1003	1007	1008	rBV3	166086	449710	3.15%	0.334%
66	13.669	1008	1009	1013	rVB3	260962	327827	2.30%	0.244%
67	13.761	1015	1017	1019	rVV	1420057	1816384	12.74%	1.350%
68	13.818	1019	1022	1024	rVV3	96180	175215	1.23%	0.130%
69	13.875	1024	1027	1029	rVV	1351185	1917006	13.45%	1.425%
70	13.909	1029	1030	1031	rVV	884366	750069	5.26%	0.558%
71	13.932	1031	1032	1035	rVV2	526252	940608	6.60%	0.699%

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

72	13.989	1035	1037	1041	rVV2	1572288	1957472	13.73%	1.455%
73	14.058	1041	1043	1046	rVV	209445	305306	2.14%	0.227%
74	14.138	1046	1050	1052	rVV	2182025	4441902	31.16%	3.302%
75	14.184	1052	1054	1058	rVV	2481296	3584574	25.15%	2.664%
76	14.264	1058	1061	1062	rVV3	299045	483902	3.39%	0.360%
77	14.321	1064	1066	1070	rVV5	230320	667506	4.68%	0.496%
78	14.401	1070	1073	1074	rVV2	297812	533667	3.74%	0.397%
79	14.435	1074	1076	1079	rVV2	216094	465160	3.26%	0.346%
80	14.527	1082	1084	1085	rVV	197377	232578	1.63%	0.173%
81	14.572	1085	1088	1089	rVV	524094	703172	4.93%	0.523%
82	14.607	1089	1091	1094	rVV3	333950	643833	4.52%	0.479%
83	14.675	1094	1097	1098	rVV2	174412	336201	2.36%	0.250%
84	14.710	1098	1100	1104	rVV2	231917	450865	3.16%	0.335%
85	14.790	1106	1107	1110	rVB	171095	181415	1.27%	0.135%
86	14.915	1114	1118	1123	rBV2	242686	461232	3.24%	0.343%
87	15.041	1126	1129	1130	rVV	163119	235352	1.65%	0.175%
88	15.110	1130	1135	1139	rVB3	172769	436983	3.07%	0.325%
89	15.281	1146	1150	1154	rBV	1275913	2898027	20.33%	2.154%
90	15.384	1157	1159	1160	rVB	142625	181458	1.27%	0.135%
91	15.475	1164	1167	1170	rBV2	66864	158899	1.11%	0.118%
92	15.578	1173	1176	1179	rVB	578813	798192	5.60%	0.593%
93	15.647	1179	1182	1184	rBV	495737	682211	4.79%	0.507%
94	15.704	1184	1187	1193	rVB2	397914	789365	5.54%	0.587%
95	16.870	1285	1289	1296	rVB5	63109	201381	1.41%	0.150%
96	17.144	1310	1313	1315	rBV	102144	217133	1.52%	0.161%
97	17.190	1315	1317	1319	rVV2	140904	258832	1.82%	0.192%
98	17.247	1319	1322	1326	rVB	98110	230215	1.61%	0.171%
99	17.418	1334	1337	1340	rVB2	83503	166697	1.17%	0.124%
100	17.636	1353	1356	1362	rVB	78804	175834	1.23%	0.131%

Sum of corrected areas: 134536832

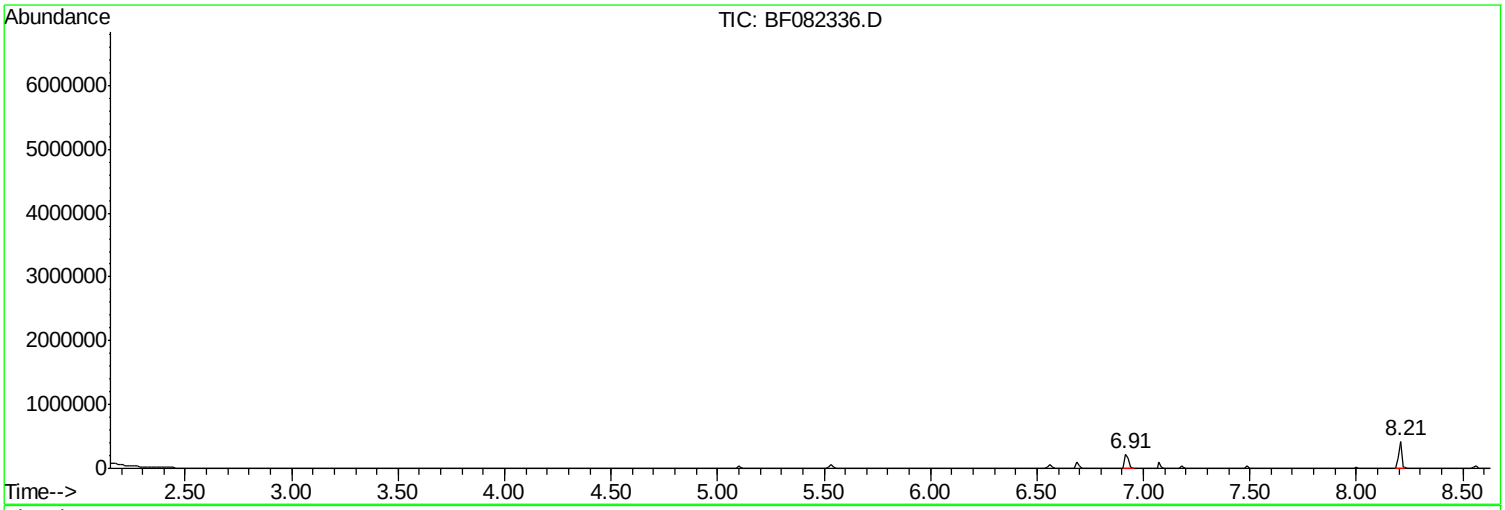
Sample Results: **BF082336.D**

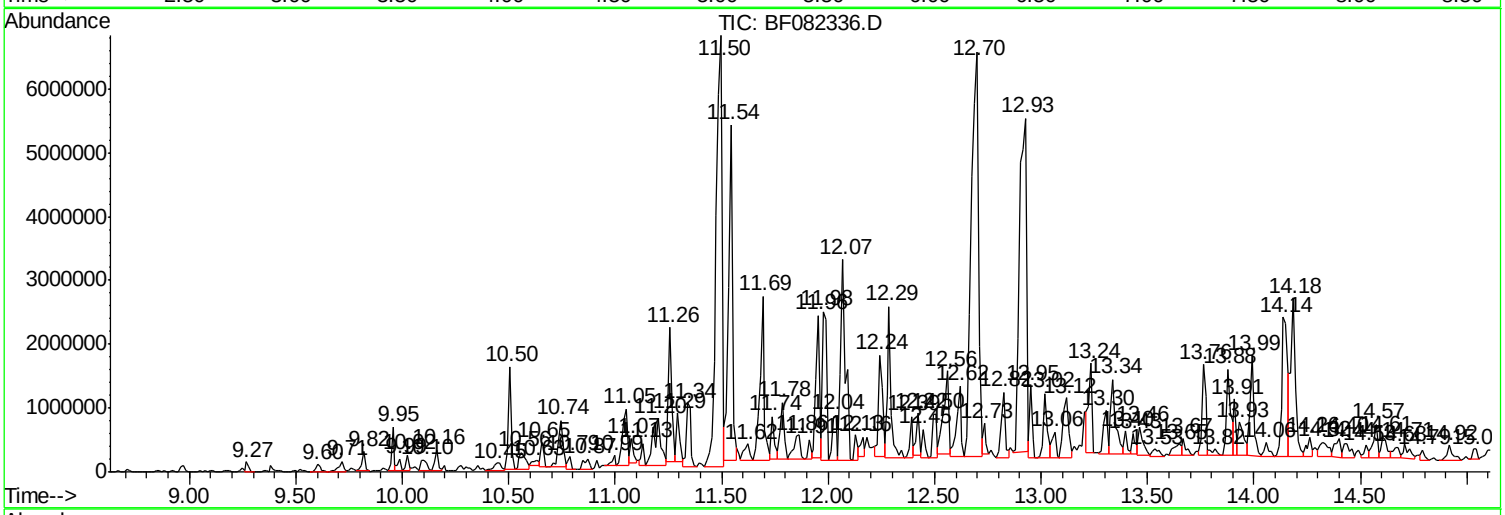
Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

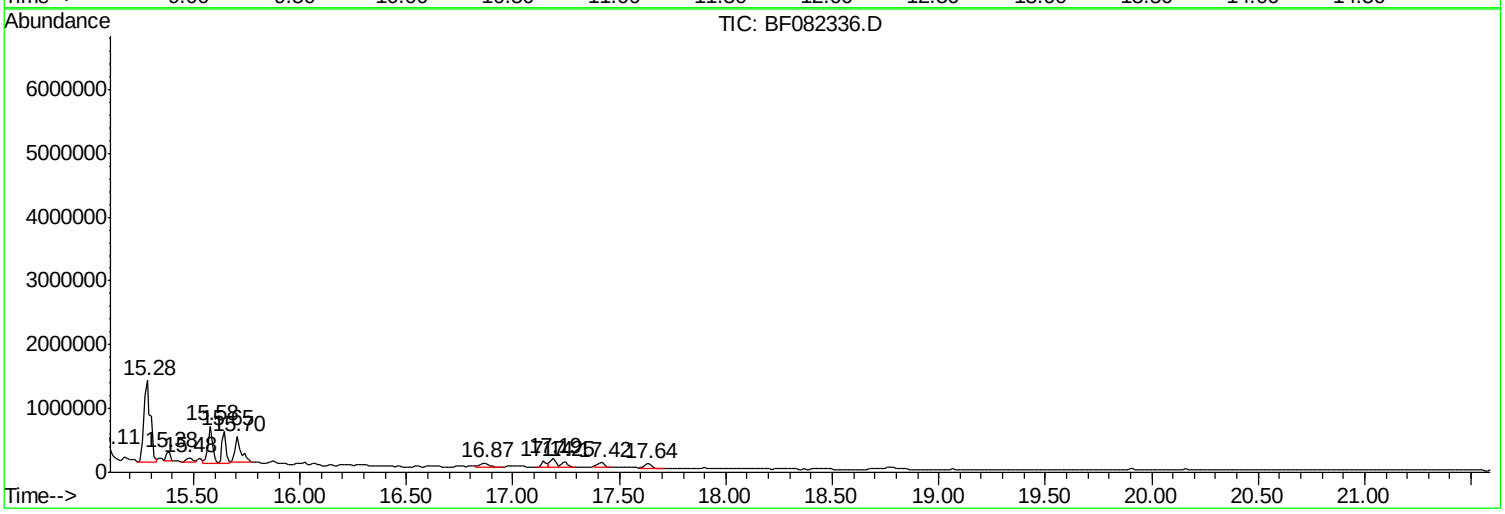
Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902







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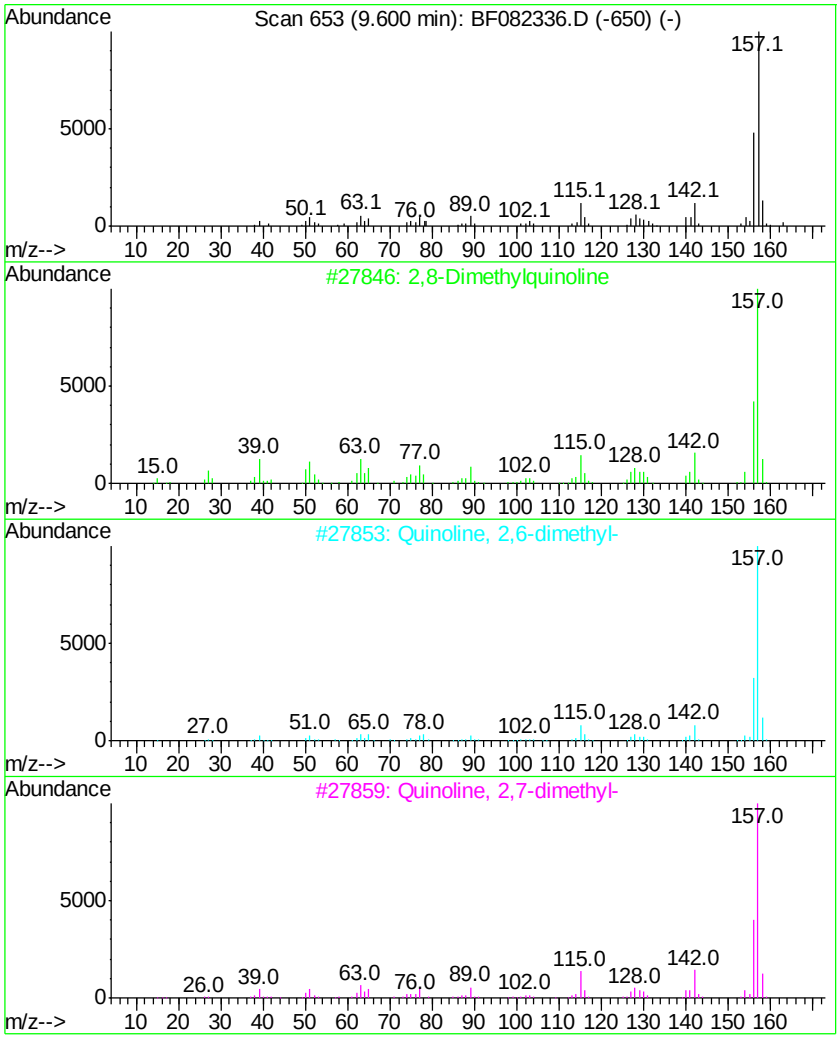
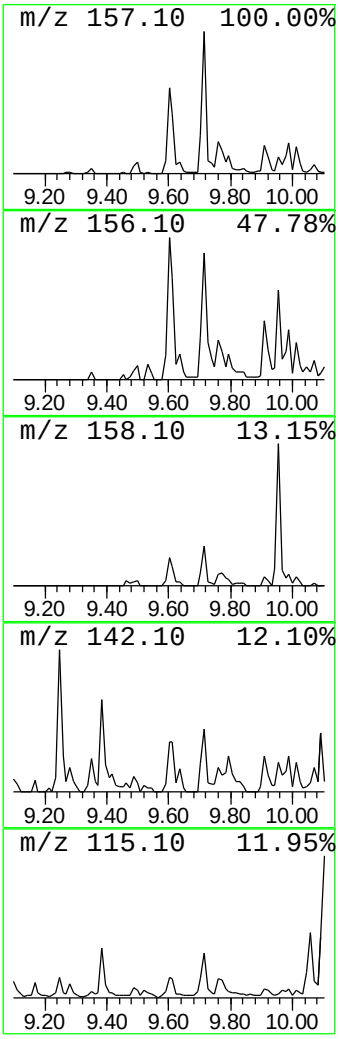
****

Peak Number 1 2,8-Dimethylquinoline Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.60	6.11 ng	177216	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,8-Dimethylquinoline	157	C11H11N	001463-17-8	97
2	Quinoline, 2,6-dimethyl-	157	C11H11N	000877-43-0	97
3	Quinoline, 2,7-dimethyl-	157	C11H11N	000093-37-8	96
4	Quinoline, 4,8-dimethyl-	157	C11H11N	013362-80-6	81
5	1H-Pyrrole, 1-(4-methylphenyl)-	157	C11H11N	000827-60-1	80





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Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
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ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

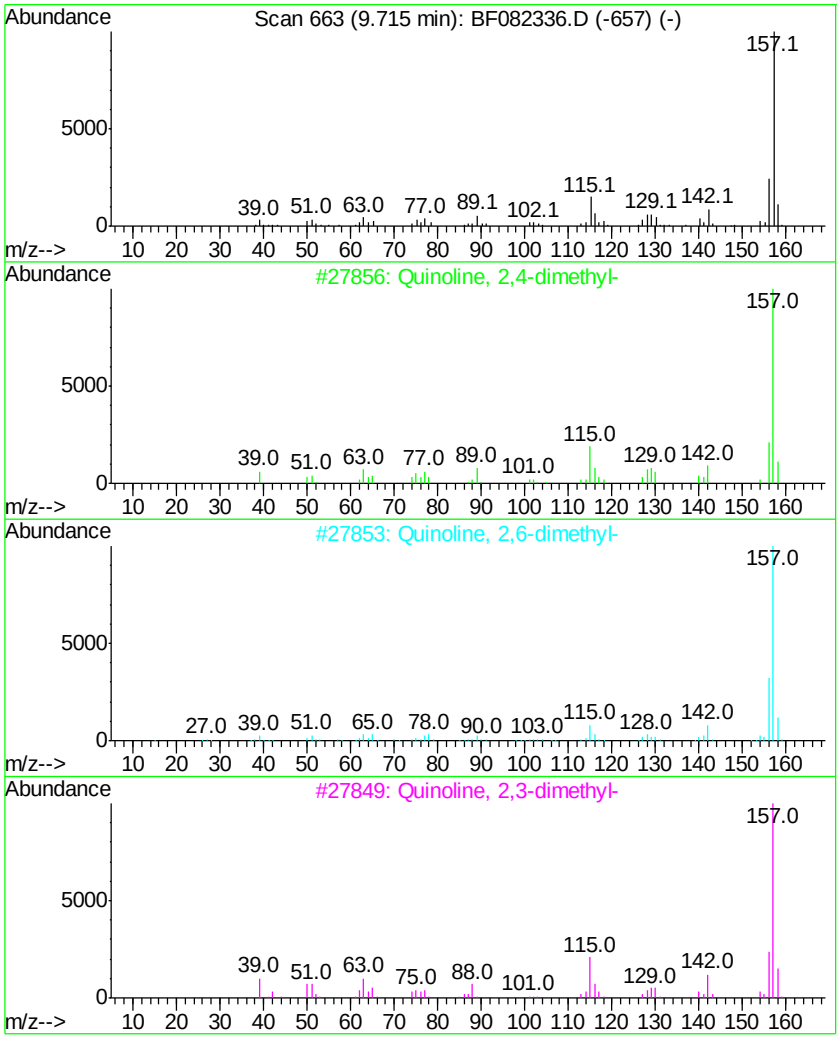
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

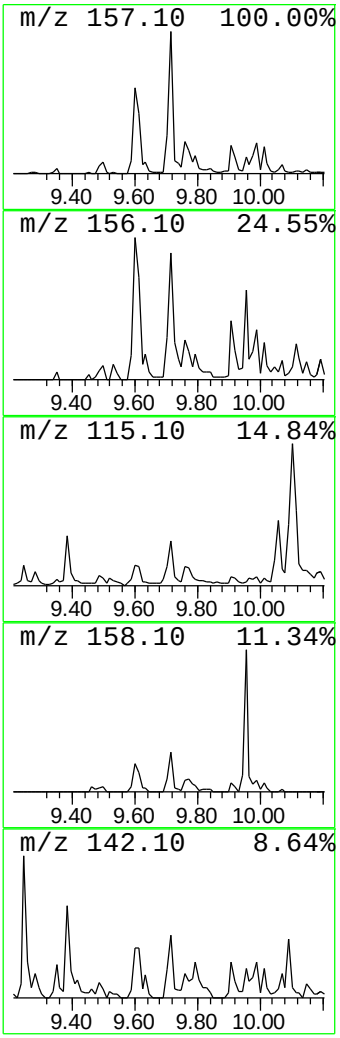
****

Peak Number 2 Quinoline, 2,4-dimethyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.71	8.54 ng	247779	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Quinoline, 2,4-dimethyl-	157	C11H11N	001198-37-4	95
2	Quinoline, 2,6-dimethyl-	157	C11H11N	000877-43-0	91
3	Quinoline, 2,3-dimethyl-	157	C11H11N	001721-89-7	91
4	Quinoline, 2,7-dimethyl-	157	C11H11N	000093-37-8	86
5	Quinoline, 4,8-dimethyl-	157	C11H11N	013362-80-6	56





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Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
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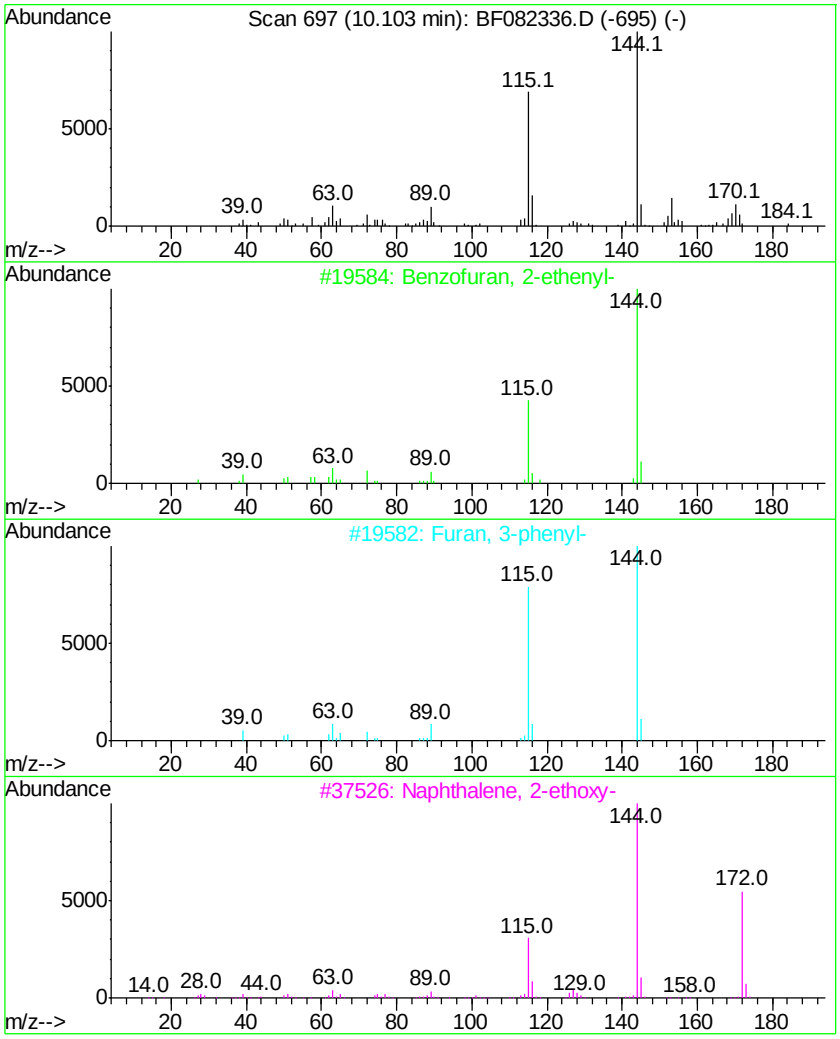
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

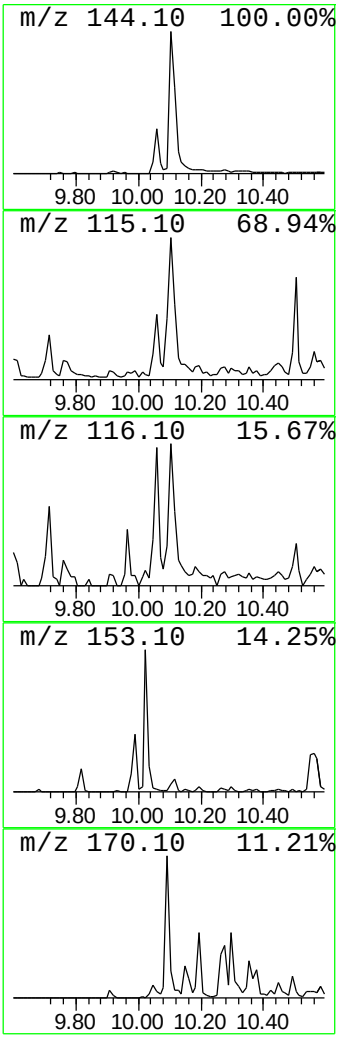
****

Peak Number 3 Benzofuran, 2-ethenyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.10	10.13 ng	293989	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzofuran, 2-ethenyl-	144	C10H8O	007522-79-4	87
2	Furan, 3-phenyl-	144	C10H8O	013679-41-9	87
3	Naphthalene, 2-ethoxy-	172	C12H12O	000093-18-5	83
4	1-Naphthalenol	144	C10H8O	000090-15-3	81
5	Cinnoline, 3-methyl-	144	C9H8N2	017372-78-0	80





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Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

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ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
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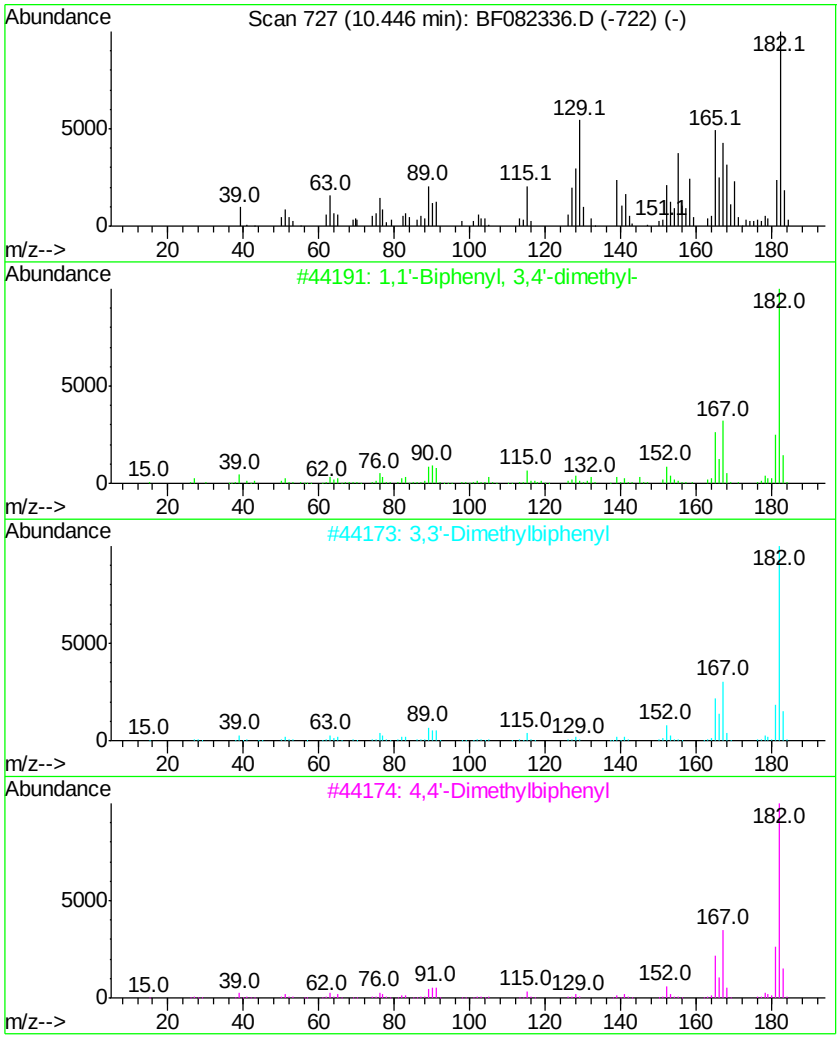
TIC Integration Parameters: LSCINT.P

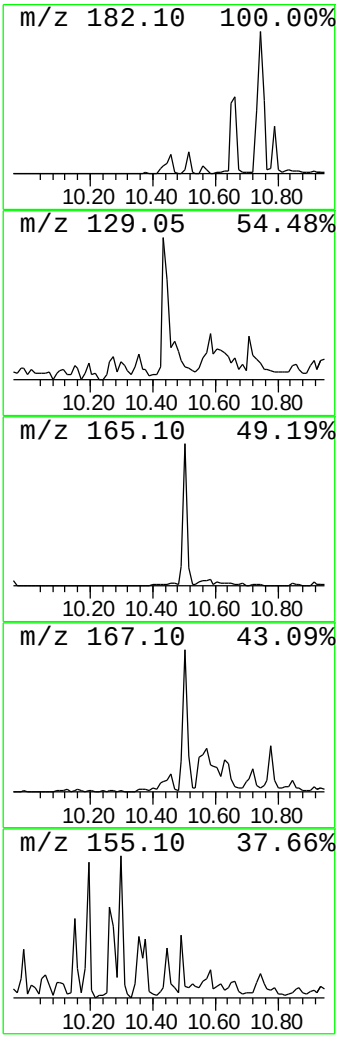
****

Peak Number 4 1,1'-Biphenyl, 3,4'-dimethyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.45	10.96 ng	317920	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,1'-Biphenyl, 3,4'-dimethyl-	182	C14H14	007383-90-6	64
2	3,3'-Dimethylbiphenyl	182	C14H14	000612-75-9	64
3	4,4'-Dimethylbiphenyl	182	C14H14	000613-33-2	46
4	1,4-Methanonaphthalene,1,4-dihyd...	182	C14H14	007350-72-3	46
5	Phenanthrene, 1,2,3,4-tetrahydro-	182	C14H14	001013-08-7	38





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Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

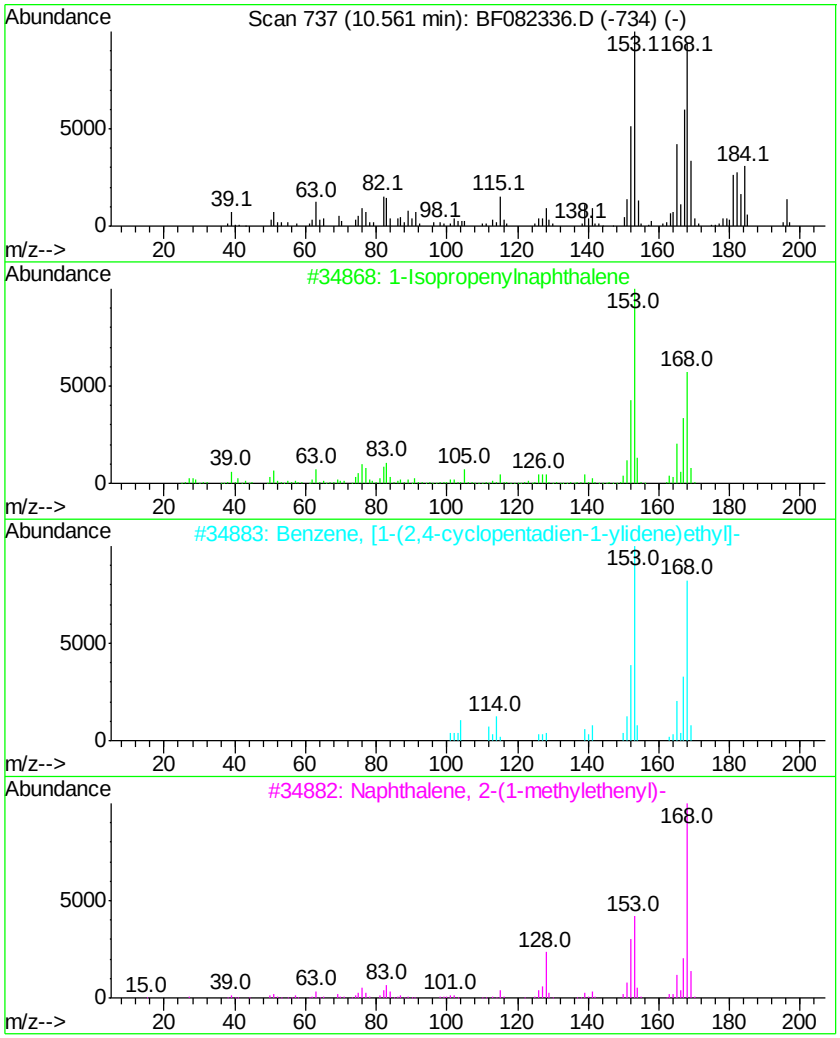
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

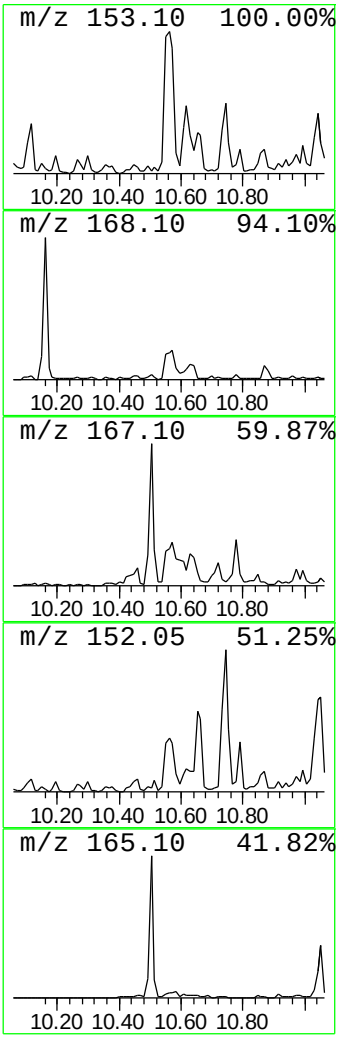
****

Peak Number 5 1-Isopropenylnaphthalene Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.56	19.43 ng	563941	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Isopropenylnaphthalene	168	C13H12	001855-47-6	92
2	Benzene, [1-(2,4-cyclopentadien-...	168	C13H12	002320-32-3	53
3	Naphthalene, 2-(1-methylethenyl)-	168	C13H12	003710-23-4	49
4	Naphthalene, 1-(2-propenyl)-	168	C13H12	002489-86-3	46
5	1,1'-Biphenyl, 4-methyl-	168	C13H12	000644-08-6	42





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Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

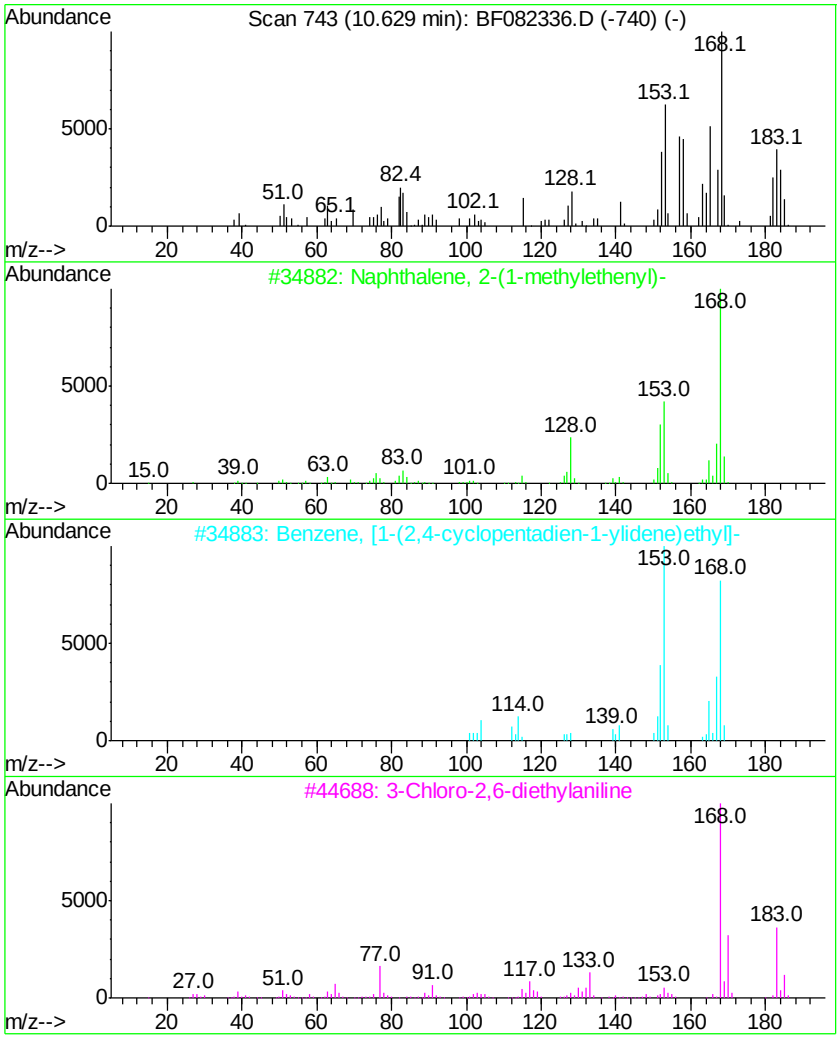
Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

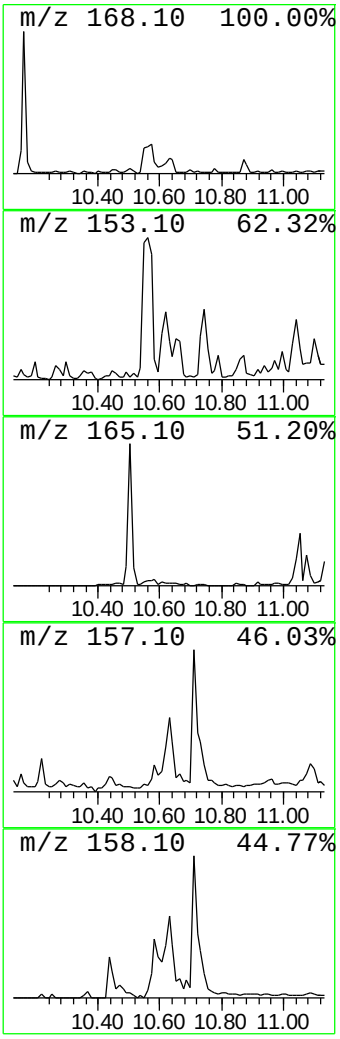
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 6 Naphthalene, 2-(1-methyleth... Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.63	6.31 ng	183036	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2-(1-methylethenyl)-	168	C13H12	003710-23-4	50
2	Benzene, [1-(2,4-cyclopentadien-...	168	C13H12	002320-32-3	27
3	3-Chloro-2,6-diethylaniline	183	C10H14ClN	067330-62-5	22
4	1,1'-Biphenyl, 2-methyl-	168	C13H12	000643-58-3	18
5	4-Methoxy-2-methyl-1-(methylthio...	168	C9H12OS	022583-04-6	14





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Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

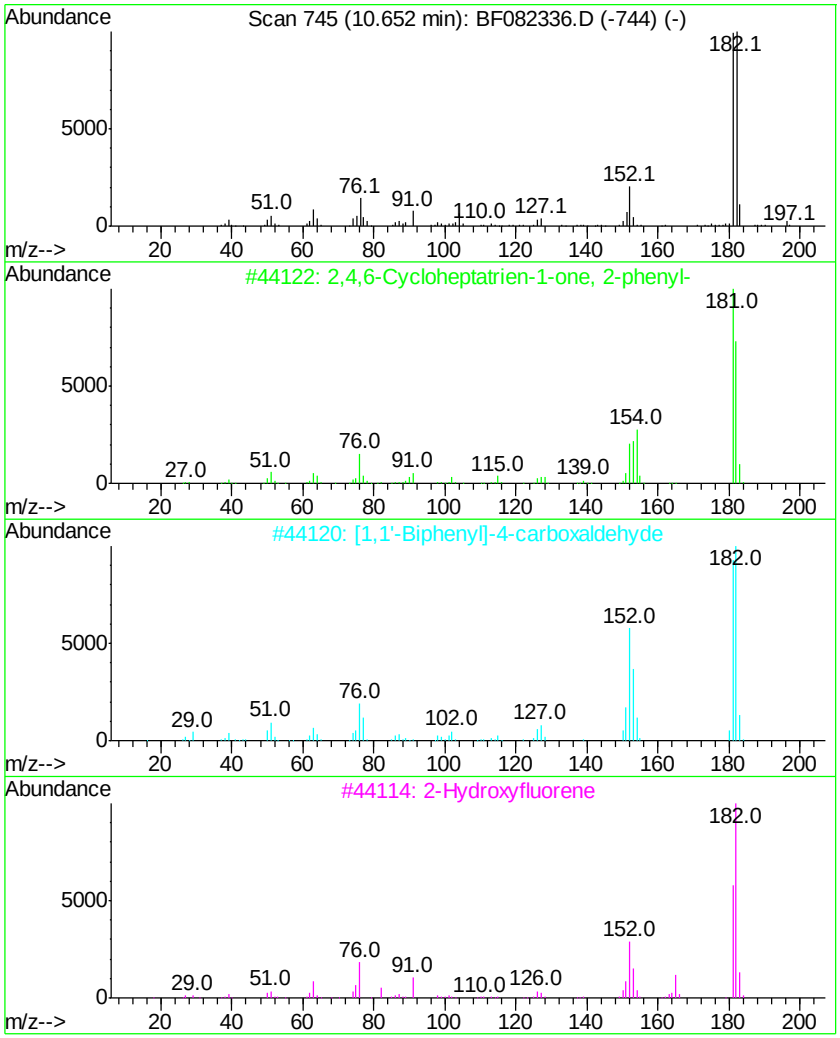
Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

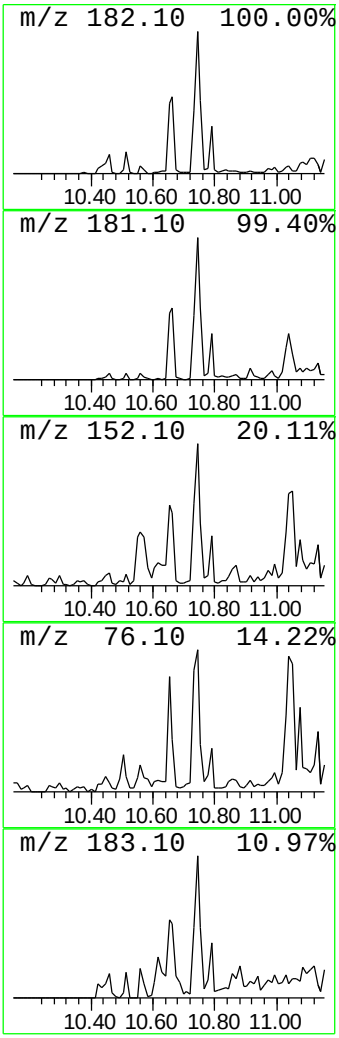
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 7 2,4,6-Cycloheptatrien-1-one... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.65	16.66 ng	483399	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,4,6-Cycloheptatrien-1-one, 2-p...	182	C13H10O	014562-09-5	91
2	[1,1'-Biphenyl]-4-carboxaldehyde	182	C13H10O	003218-36-8	78
3	2-Hydroxyfluorene	182	C13H10O	002443-58-5	68
4	Dibenzofuran, 4-methyl-	182	C13H10O	007320-53-8	64
5	9H-Xanthene	182	C13H10O	000092-83-1	64





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Misc :
ALS Vial : 18 Sample Multiplier: 1

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ClientSampleId :
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****

Peak Number 8 Phenanthrene, 2-methyl- Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.98	4.63 ng	3102790	Phenanthrene-d10	11.45

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenanthrene, 2-methyl-	192	C15H12	002531-84-2	98
2	Phenanthrene, 1-methyl-	192	C15H12	000832-69-9	97
3	Anthracene, 2-methyl-	192	C15H12	000613-12-7	96
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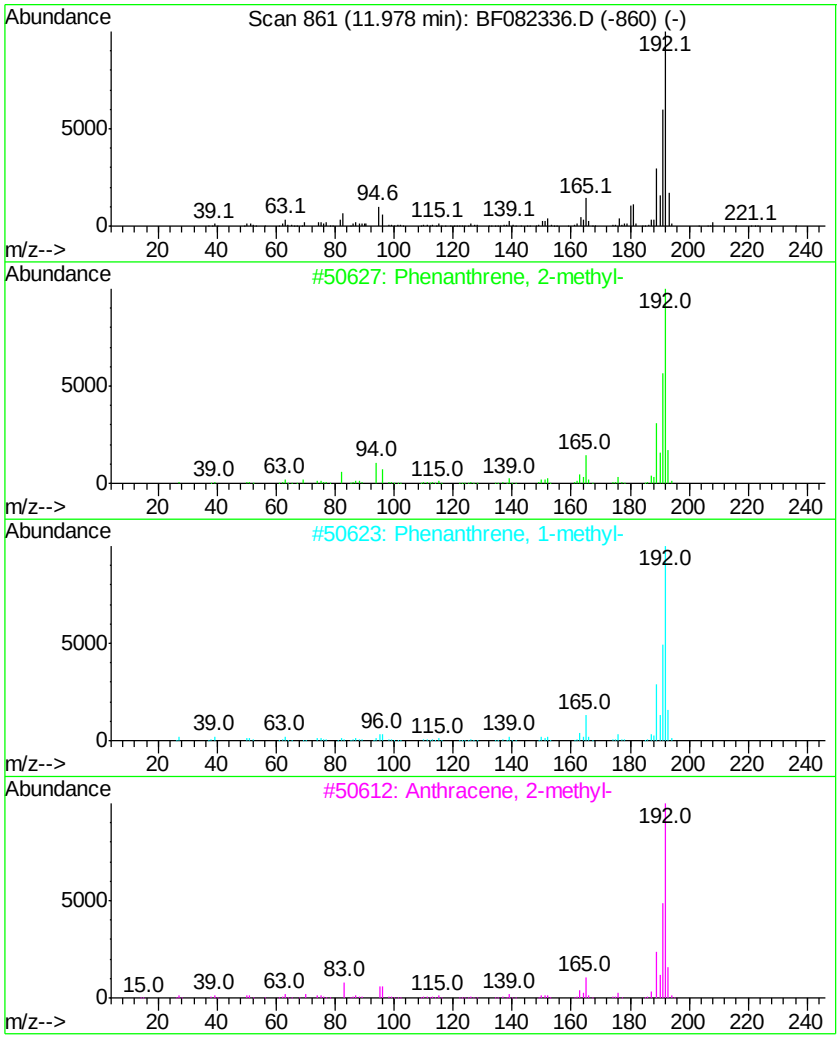

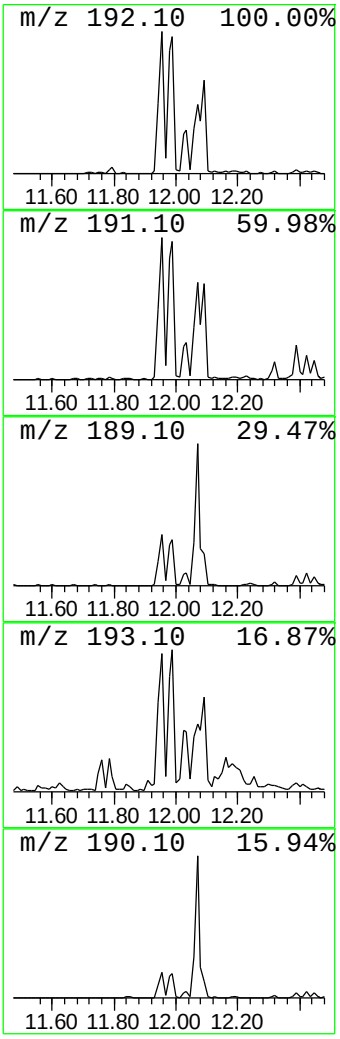

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ALS Vial : 18 Sample Multiplier: 1

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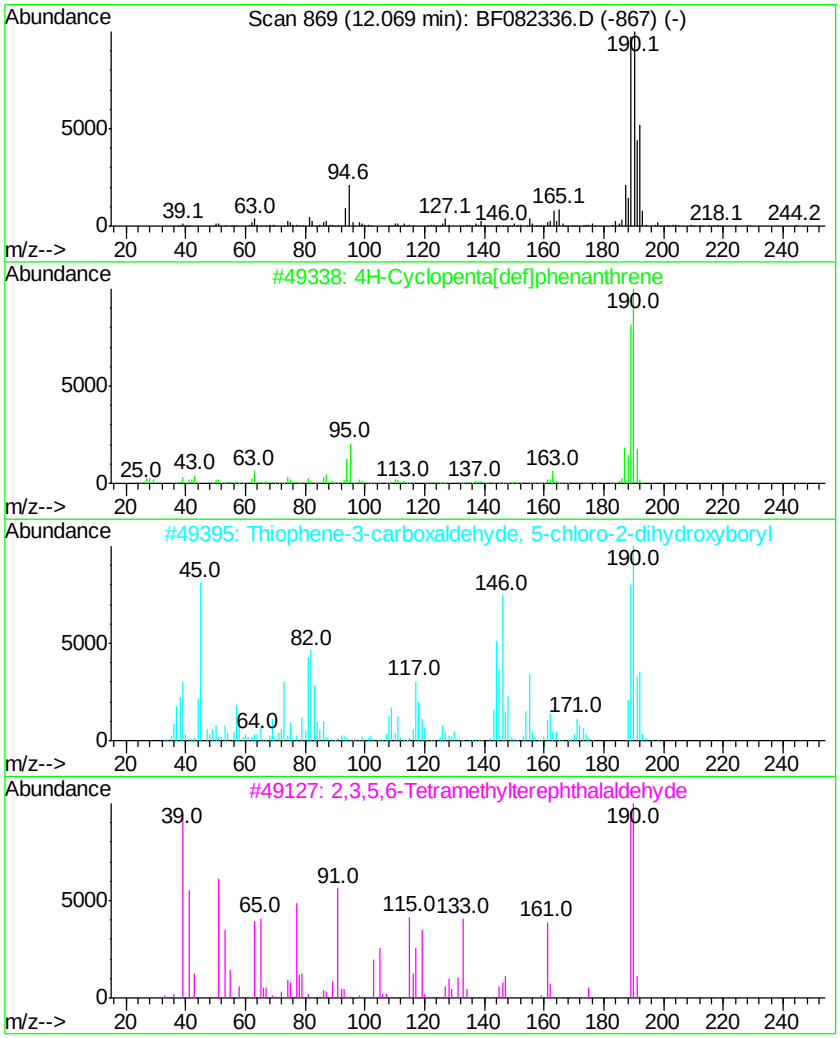
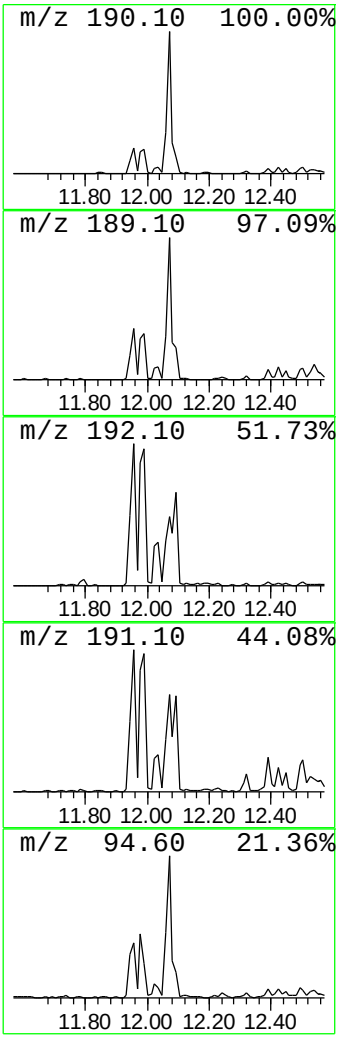
****
Peak Number 9 4H-Cyclopenta[def]phenanthrene Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.07	7.28 ng	4879300	Phenanthrene-d10	11.45

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4H-Cyclopenta[def]phenanthrene	190	C15H10	000203-64-5	58
2	Thiophene-3-carboxaldehyde, 5-ch...	190	C5H4BClO3S	036155-87-0	53
3	2,3,5,6-Tetramethylterephthalald...	190	C12H14O2	007072-01-7	43
4	6H-Cyclobuta[jk]phenanthrene	190	C15H10	083469-43-6	42
5	5H-Dibenzo[a,d]cycloheptene	192	C15H12	000256-81-5	18





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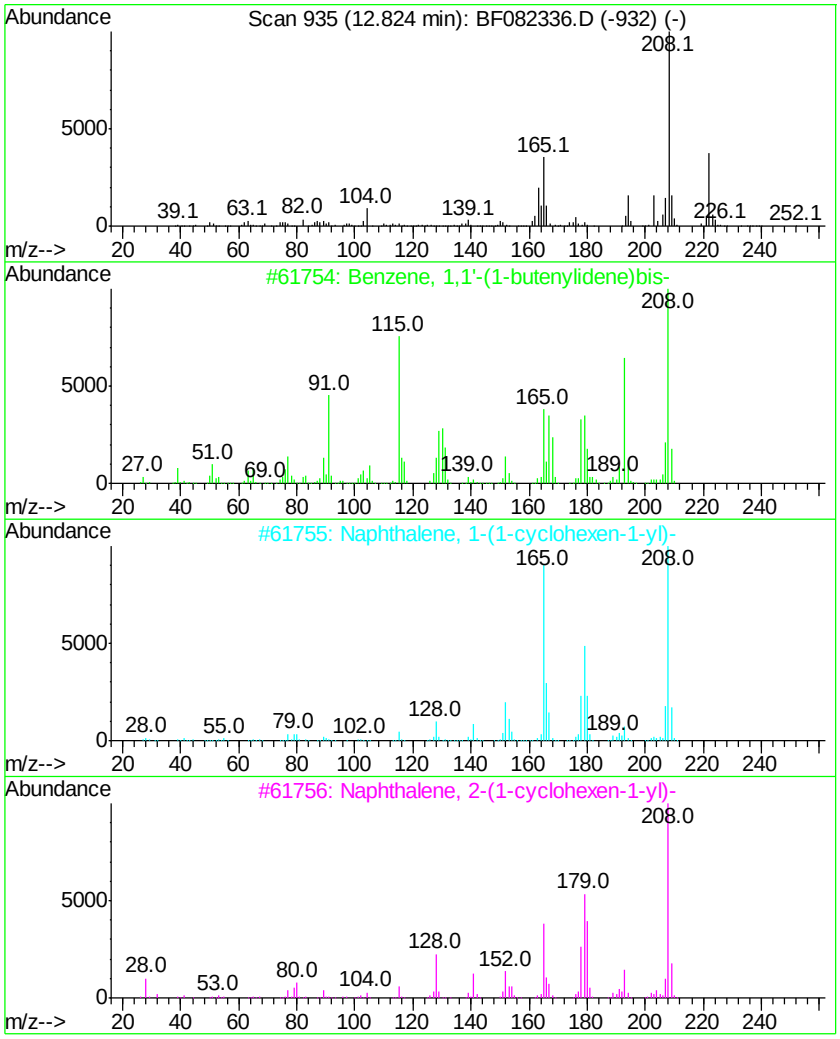
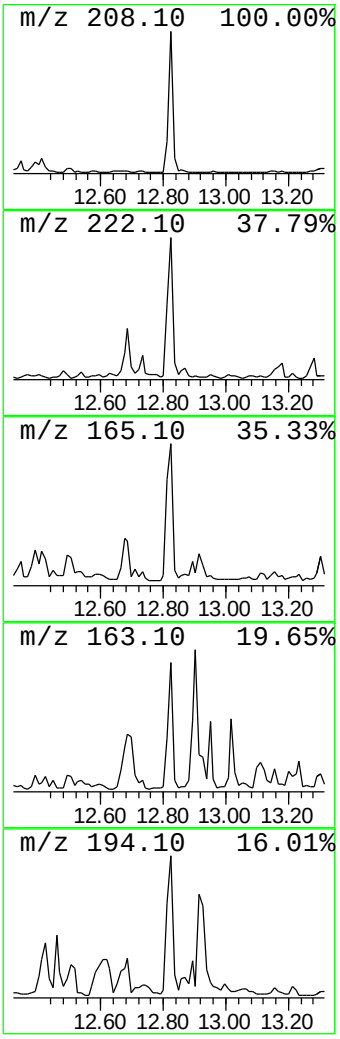
Peak Number 10 Benzene, 1,1'-(1-butenylide... Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.82	5.86 ng	1301440	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,1'-(1-butenylidene)bis-	208	C16H16	001726-14-3	52
2	Naphthalene, 1-(1-cyclohexen-1-yl)-	208	C16H16	040358-51-8	50
3	Naphthalene, 2-(1-cyclohexen-1-yl)-	208	C16H16	054607-03-3	50
4	Benzene, 1,1'-(2-methyl-1-propen...	208	C16H16	000781-33-9	50
5	Phenanthrene, 4-methoxy-	208	C15H12O	015638-06-9	50





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Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

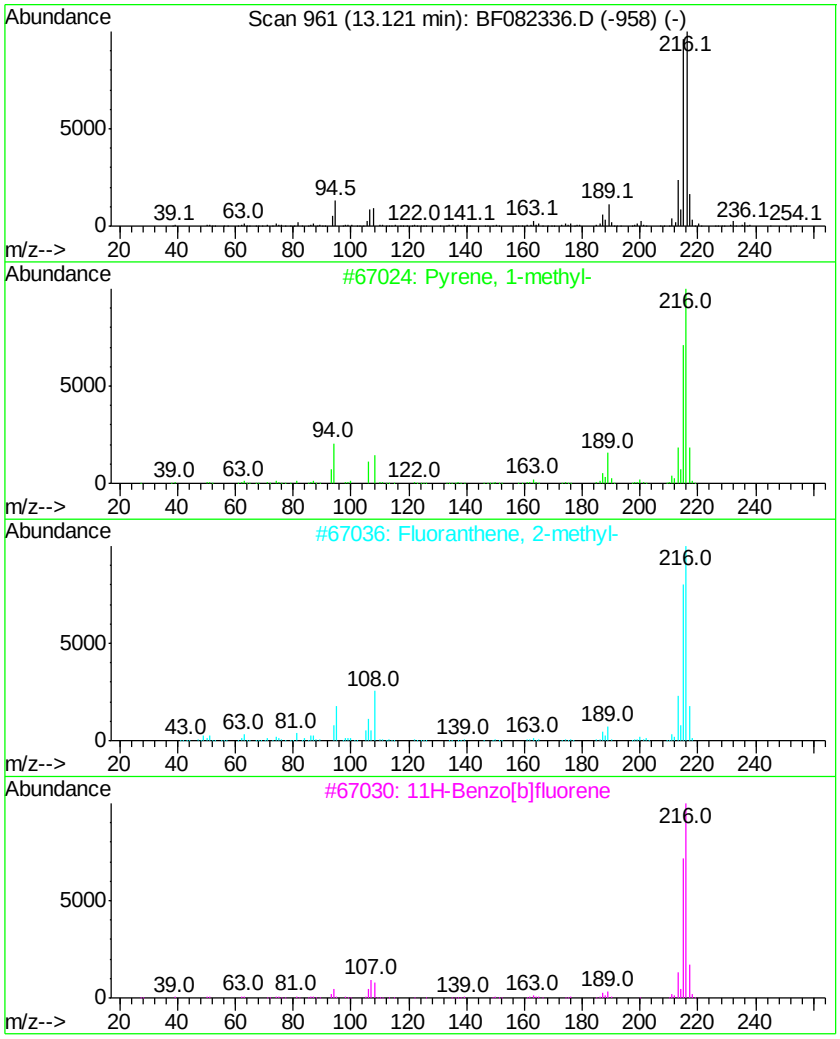
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

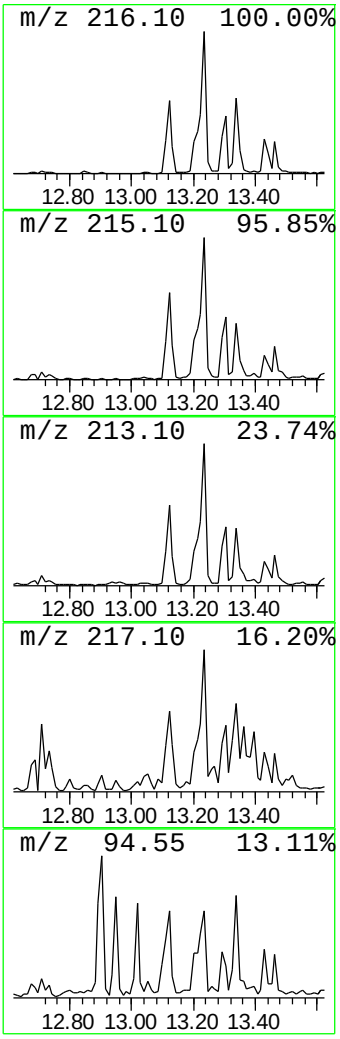
****

Peak Number 11 Pyrene, 1-methyl- Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.12	7.47 ng	1659060	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pyrene, 1-methyl-	216	C17H12	002381-21-7	96
2	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	91
3	11H-Benzo[b]fluorene	216	C17H12	000243-17-4	90
4	Pyrene, 2-methyl-	216	C17H12	003442-78-2	89
5	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	83





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

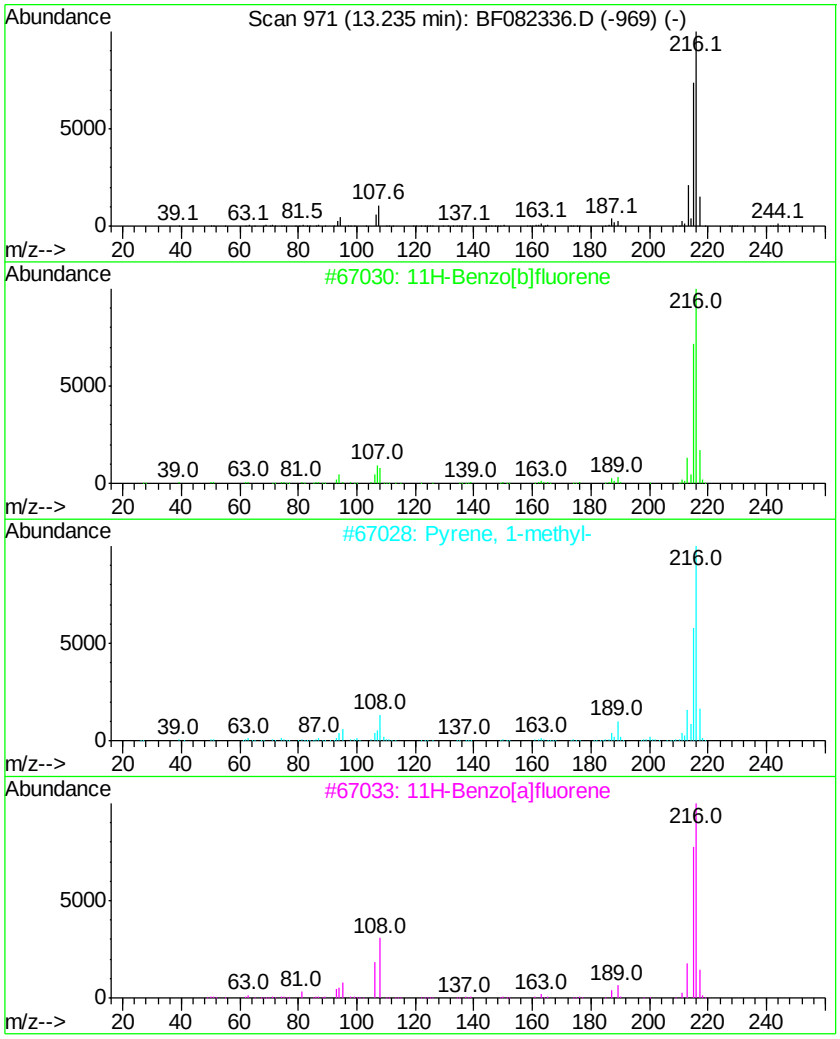
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

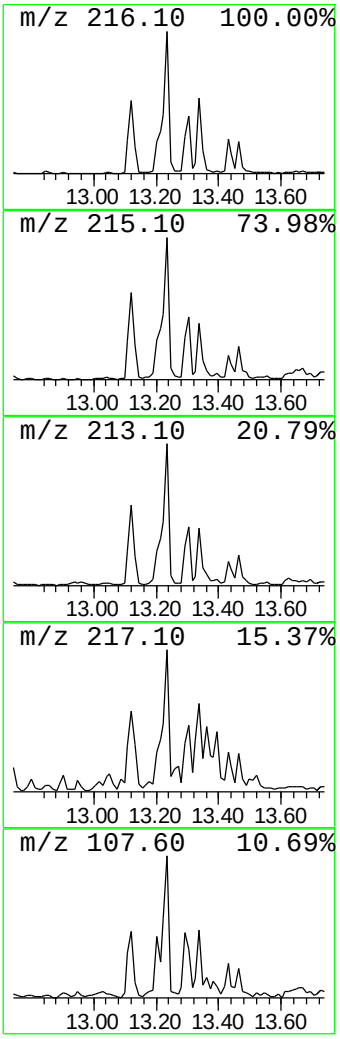
****

Peak Number 12 11H-Benzo[b]fluorene Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.24	6.59 ng	1464180	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Benzo[b]fluorene	216	C17H12	000243-17-4	96
2	Pyrene, 1-methyl-	216	C17H12	002381-21-7	91
3	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	87
4	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	83
5	trans-p-(Trifluoromethyl)cinnami...	216	C10H7F3O2	016642-92-5	64





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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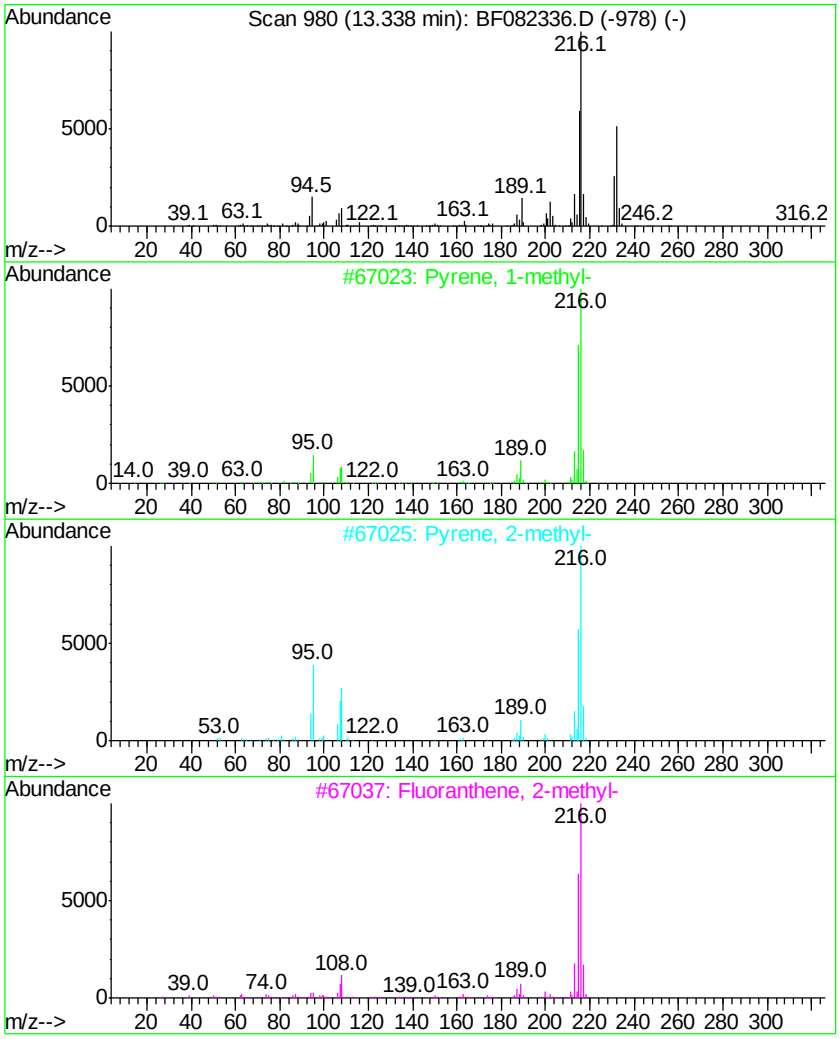
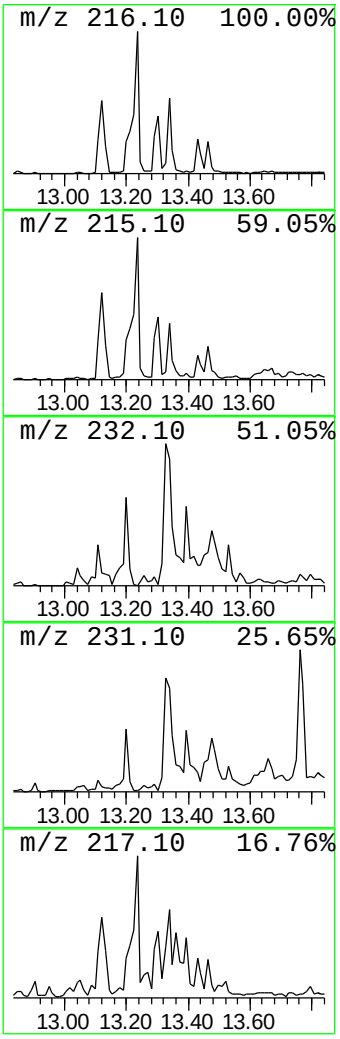
Peak Number 13 Pyrene, 2-methyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.34	8.68 ng	1927800	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pyrene, 1-methyl-	216	C17H12	002381-21-7	93
2	Pyrene, 2-methyl-	216	C17H12	003442-78-2	91
3	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	90
4	Pyrene, 4-methyl-	216	C17H12	003353-12-6	87
5	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	60





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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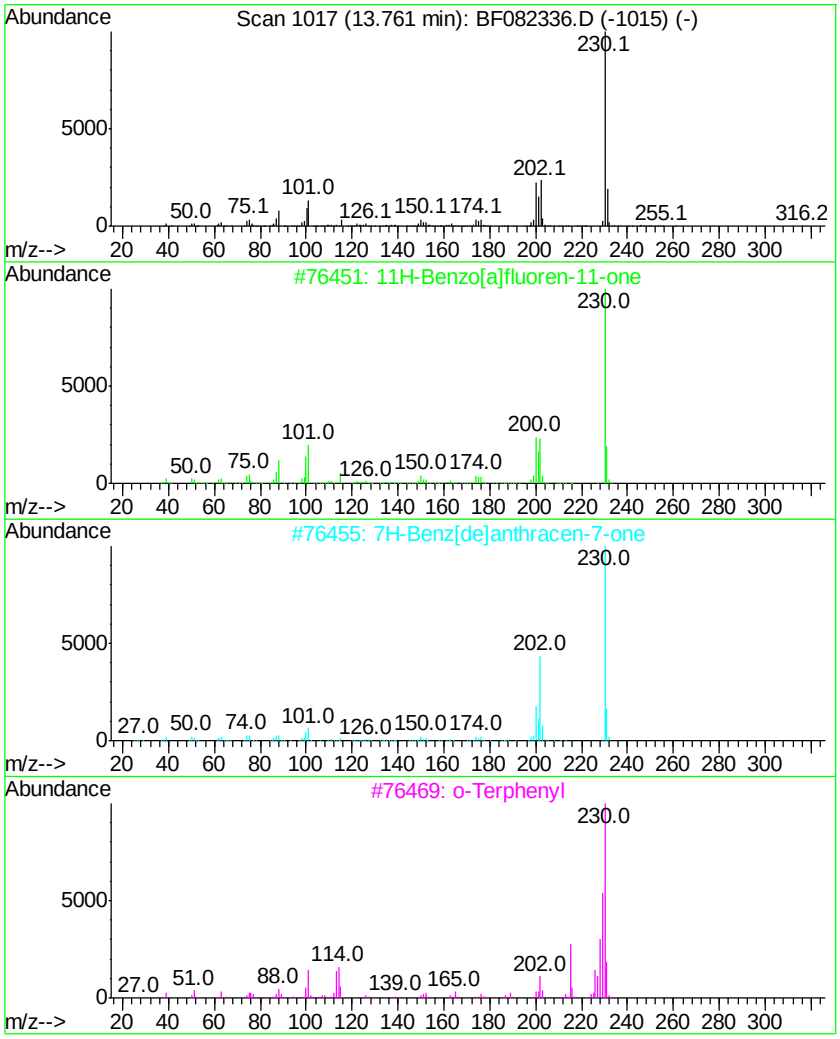
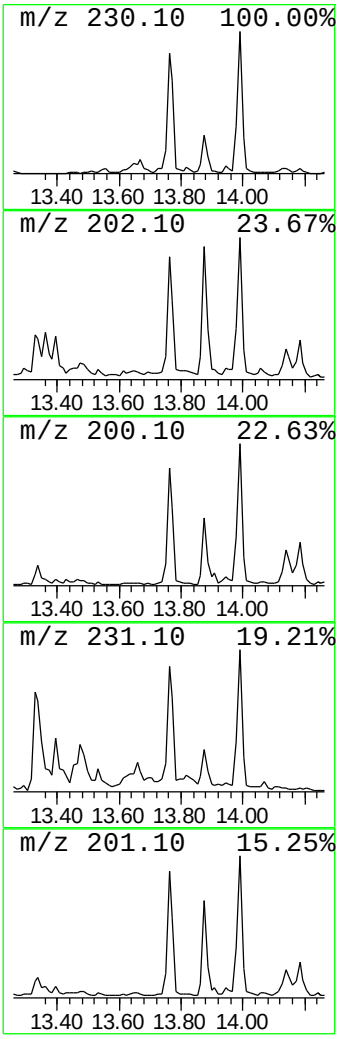
Peak Number 14 11H-Benzo[a]fluoren-11-one Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.76	8.18 ng	1816380	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Benzo[a]fluoren-11-one	230	C17H10O	000479-79-8	97
2	7H-Benz[de]anthracen-7-one	230	C17H10O	000082-05-3	91
3	o-Terphenyl	230	C18H14	000084-15-1	64
4	4-Methoxy-2-(p-methoxyphenyl)-6-...	230	C13H14N2O2	063896-93-5	53
5	Pyrene, 1,3-dimethyl-	230	C18H14	064401-21-4	53





Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

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Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On    : 16 Oct 2015  20:12
Operator  : UM/IZ
Sample    : G4046-01 10X
Misc      :
ALS Vial  : 18   Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
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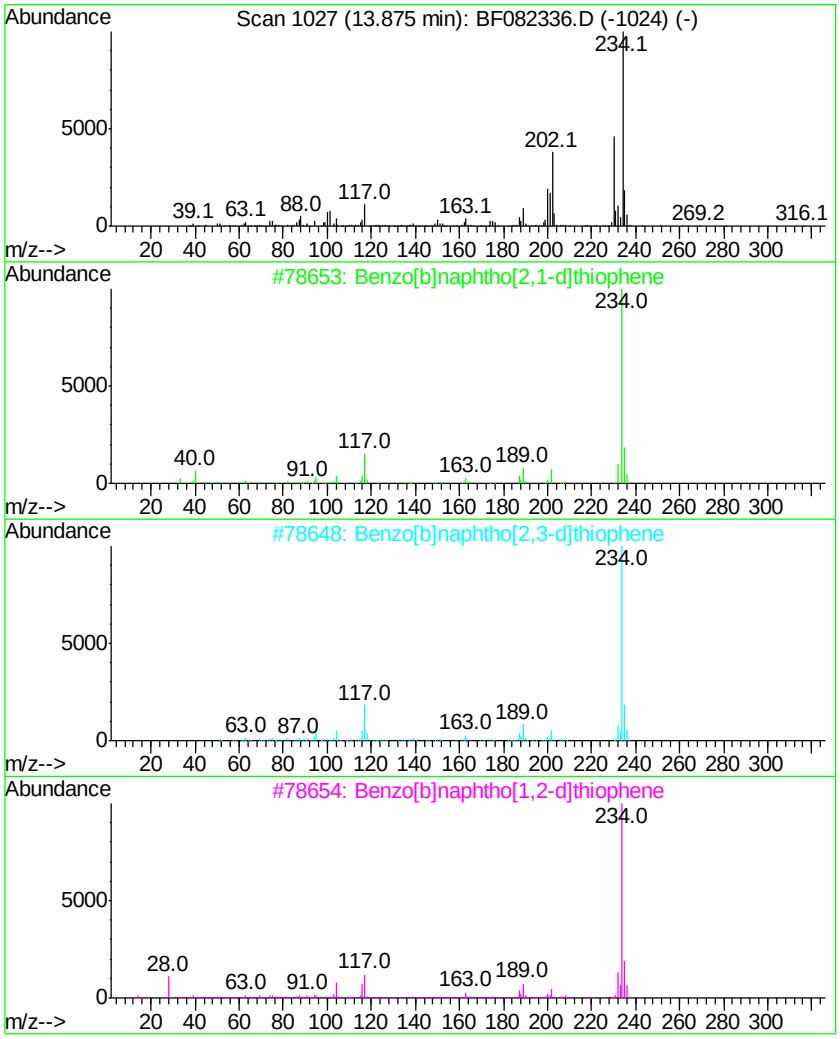
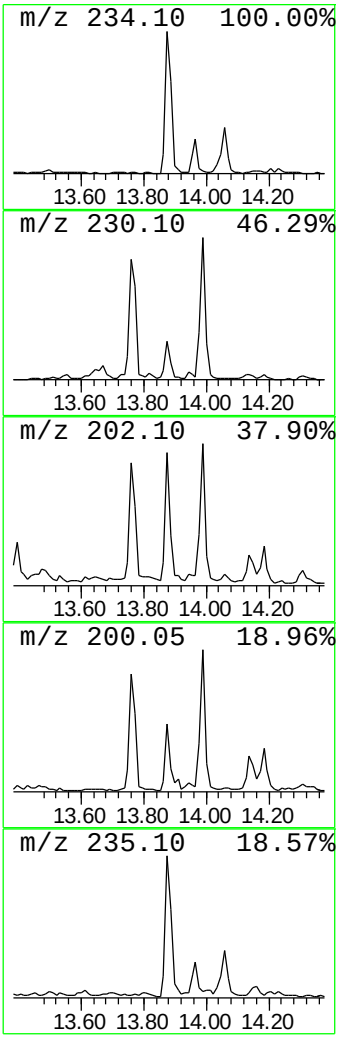
Peak Number 15 Benzo[b]naphtho[2,1-d]thiop... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.88	8.63 ng	1917010	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzo[b]naphtho[2,1-d]thiophene	234	C16H10S	000239-35-0	91
2	Benzo[b]naphtho[2,3-d]thiophene	234	C16H10S	000243-46-9	58
3	Benzo[b]naphtho[1,2-d]thiophene	234	C16H10S	000205-43-6	55
4	Anthra[1,9a,9-cd;5,10a,10-c'd']d...	234	C14H6N2O2	000201-91-2	35
5	2-Pentafluorophenylimidazole	234	C9H3F5N2	081654-41-3	32





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Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On    : 16 Oct 2015  20:12
Operator  : UM/IZ
Sample    : G4046-01 10X
Misc      :
ALS Vial  : 18   Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
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Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

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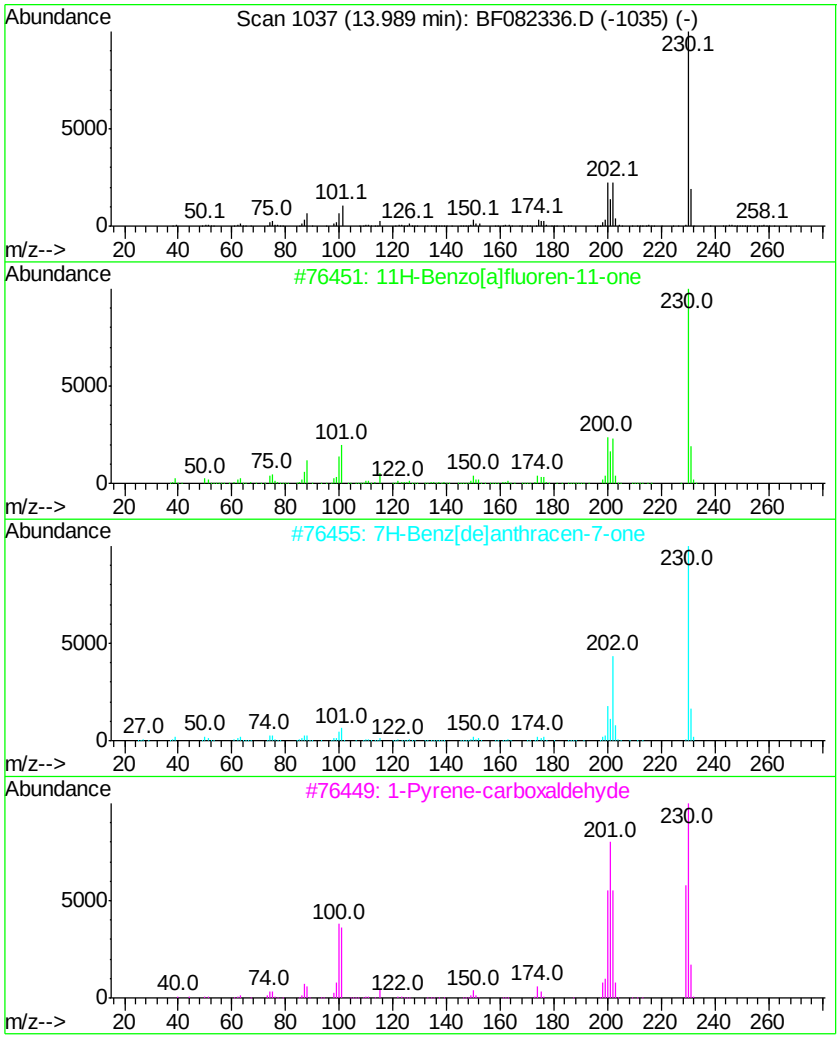
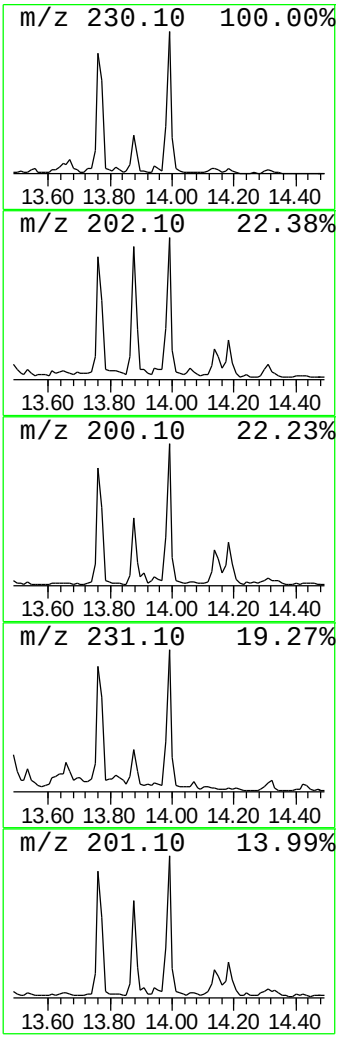
Peak Number 16 7H-Benz[de]anthracen-7-one Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.99	8.81 ng	1957470	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Benzo[a]fluoren-11-one	230	C17H10O	000479-79-8	96
2	7H-Benz[de]anthracen-7-one	230	C17H10O	000082-05-3	91
3	1-Pyrene-carboxaldehyde	230	C17H10O	003029-19-4	72
4	Dibenzo[c,h][2,6]naphthyridine	230	C16H10N2	000218-30-4	59
5	o-Terphenyl	230	C18H14	000084-15-1	58





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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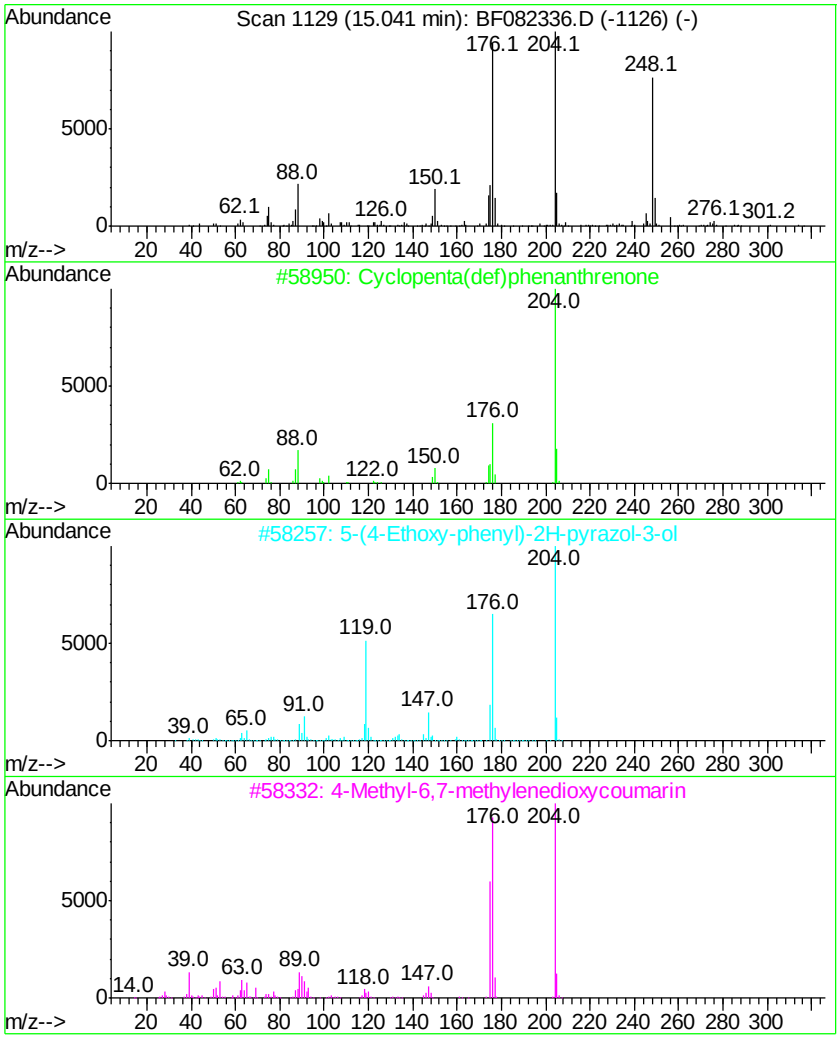
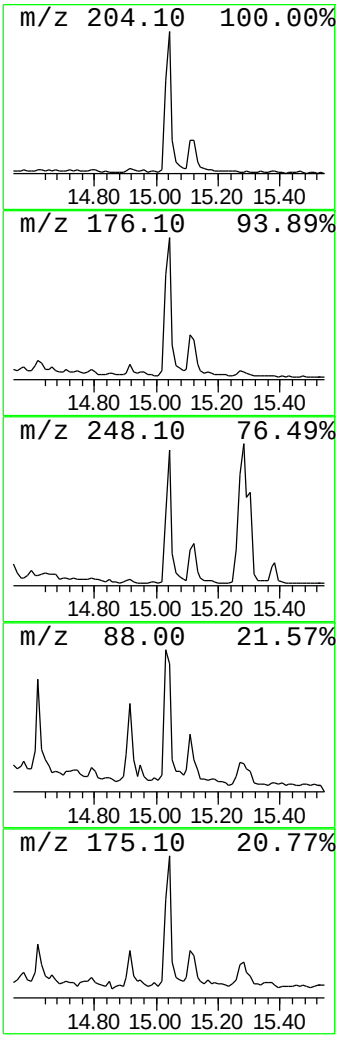
Peak Number 17 Cyclopenta(def)phenanthrenone Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.04	5.96 ng	235352	Perylene-d12	15.70

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopenta(def)phenanthrenone	204	C15H8O	005737-13-3	83
2	5-(4-Ethoxy-phenyl)-2H-pyrazol-3-ol	204	C11H12N2O2	1000278-26-8	49
3	4-Methyl-6,7-methylenedioxycoumarin	204	C11H8O4	015071-04-2	37
4	3,4-Biphenyldicarbonitrile	204	C14H8N2	004128-63-6	27
5	[1,1'-Biphenyl]-4,4'-dicarbonitrile	204	C14H8N2	001591-30-6	25





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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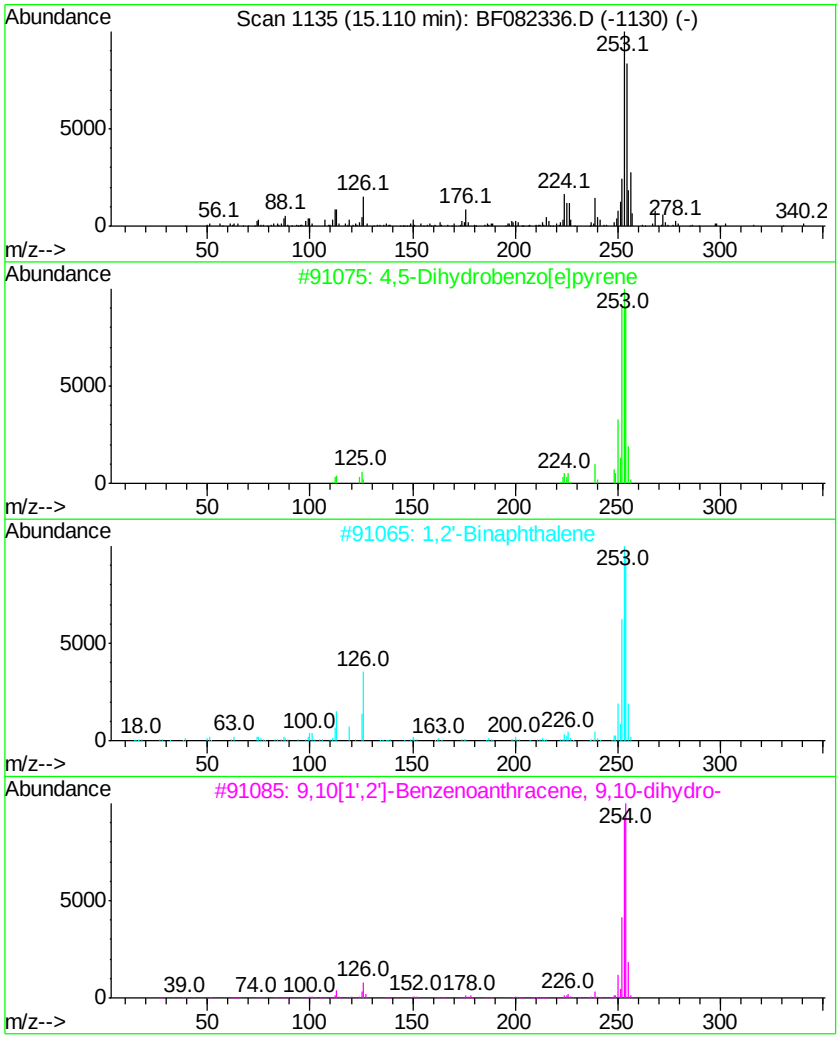
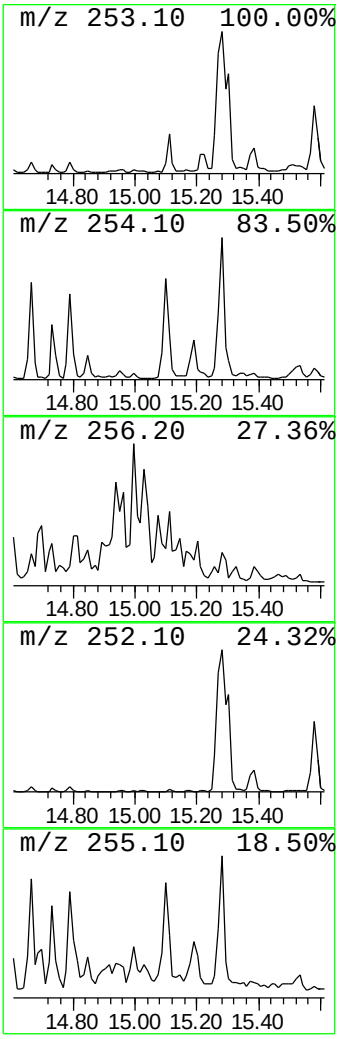
Peak Number 18 4,5-Dihydrobenzo[e]pyrene Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.11	11.07 ng	436983	Perylene-d12	15.70

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4,5-Dihydrobenzo[e]pyrene	254	C20H14	095676-42-9	76
2	1,2'-Binaphthalene	254	C20H14	004325-74-0	64
3	9,10[1',2']-Benzenoanthracene, 9...	254	C20H14	000477-75-8	64
4	1,1'-Binaphthalene	254	C20H14	000604-53-5	60
5	9H-Fluorene, 9-(phenylmethylene)-	254	C20H14	001836-87-9	59





Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\DATA\BF101715\
Data File : BF082336.D
Acq On : 16 Oct 2015 20:12
Operator : UM/IZ
Sample : G4046-01 10X
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
2,8-Dimethylquino...	9.60	6.1	ng	177216	3	9.95	580405	20.0
Quinoline, 2,4-di...	9.71	8.5	ng	247779	3	9.95	580405	20.0
Benzofuran, 2-eth...	10.10	10.1	ng	293989	3	9.95	580405	20.0
1,1'-Biphenyl, 3,...	10.45	11.0	ng	317920	3	9.95	580405	20.0
1-Isopropenylnaph...	10.56	19.4	ng	563941	3	9.95	580405	20.0
Naphthalene, 2-(1...	10.63	6.3	ng	183036	3	9.95	580405	20.0
2,4,6-Cycloheptat...	10.65	16.7	ng	483399	3	9.95	580405	20.0
Phenanthrene, 2-m...	11.98	4.6	ng	3102790	4	11.45	13396200	20.0
4H-Cyclopenta[def...	12.07	7.3	ng	4879300	4	11.45	13396200	20.0
Benzene, 1,1'-(1-...	12.82	5.9	ng	1301440	5	14.15	4441900	20.0
Pyrene, 1-methyl-	13.12	7.5	ng	1659060	5	14.15	4441900	20.0
11H-Benzo[b]fluorene	13.24	6.6	ng	1464180	5	14.15	4441900	20.0
Pyrene, 2-methyl-	13.34	8.7	ng	1927800	5	14.15	4441900	20.0
11H-Benzo[a]fluor...	13.76	8.2	ng	1816380	5	14.15	4441900	20.0
Benzo[b]naphtho[2...	13.88	8.6	ng	1917010	5	14.15	4441900	20.0
7H-Benz[de]anthra...	13.99	8.8	ng	1957470	5	14.15	4441900	20.0
Cyclopenta(def)ph...	15.04	6.0	ng	235352	6	15.70	789365	20.0
4,5-Dihydrobenzo[...	15.11	11.1	ng	436983	6	15.70	789365	20.0

Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082386.D
Acq On : 20 Oct 2015 6:56
Operator : UM/IZ
Sample : G4046-01DL 50X
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 20 08:43:48 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:06 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	93624	20.00	ng	-0.03
21) Naphthalene-d8	8.09	136	383235	20.00	ng	-0.03
38) Acenaphthene-d10	9.85	164	190593	20.00	ng	-0.03
63) Phenanthrene-d10	11.35	188	328926	20.00	ng	-0.02
75) Chrysene-d12	14.01	240	250015	20.00	ng	0.00
86) Perylene-d12	15.52	264	231804	20.00	ng	0.08
System Monitoring Compounds						
5) 2-Fluorophenol	5.41	112	6108	1.32	ng	-0.02
7) Phenol-d6	6.45	99	9502	1.57	ng	-0.03
23) Nitrobenzene-d5	7.37	82	4488	0.79	ng	-0.05
41) 2,4,6-Tribromophenol	10.64	330	2553	1.43	ng	-0.03
44) 2-Fluorobiphenyl	9.17	172	18878	1.64	ng	-0.05
78) Terphenyl-d14	12.93	244	18814	1.99	ng	-0.03
Target Compounds						Qvalue
54) Dibenzofuran	10.06	168	47793	3.25	ng	93
57) Fluorene	10.40	166	162545	13.47	ng	99
70) Phenanthrene	11.38	178	2555297	158.49	ng	98
71) Anthracene	11.43	178	1175473	70.75	ng	99
72) Carbazole	11.58	167	413985	27.32	ng	99
74) Fluoranthene	12.57	202	2293938	132.47	ng	95
77) Pyrene	12.80	202	1563483	105.38	ng	99
80) Benzo(a)anthracene	14.00	228	436901	33.59	ng	98
82) Chrysene	14.05	228	395560	28.86	ng	99
85) Indeno(1,2,3-cd)pyrene	16.94	276	28570	2.62	ng	96
87) Benzo(b)fluoranthene	15.10	252	205788m	14.59	ng	
88) Benzo(k)fluoranthene	15.11	252	108633m	9.16	ng	
89) Benzo(a)pyrene	15.45	252	74012	6.11	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

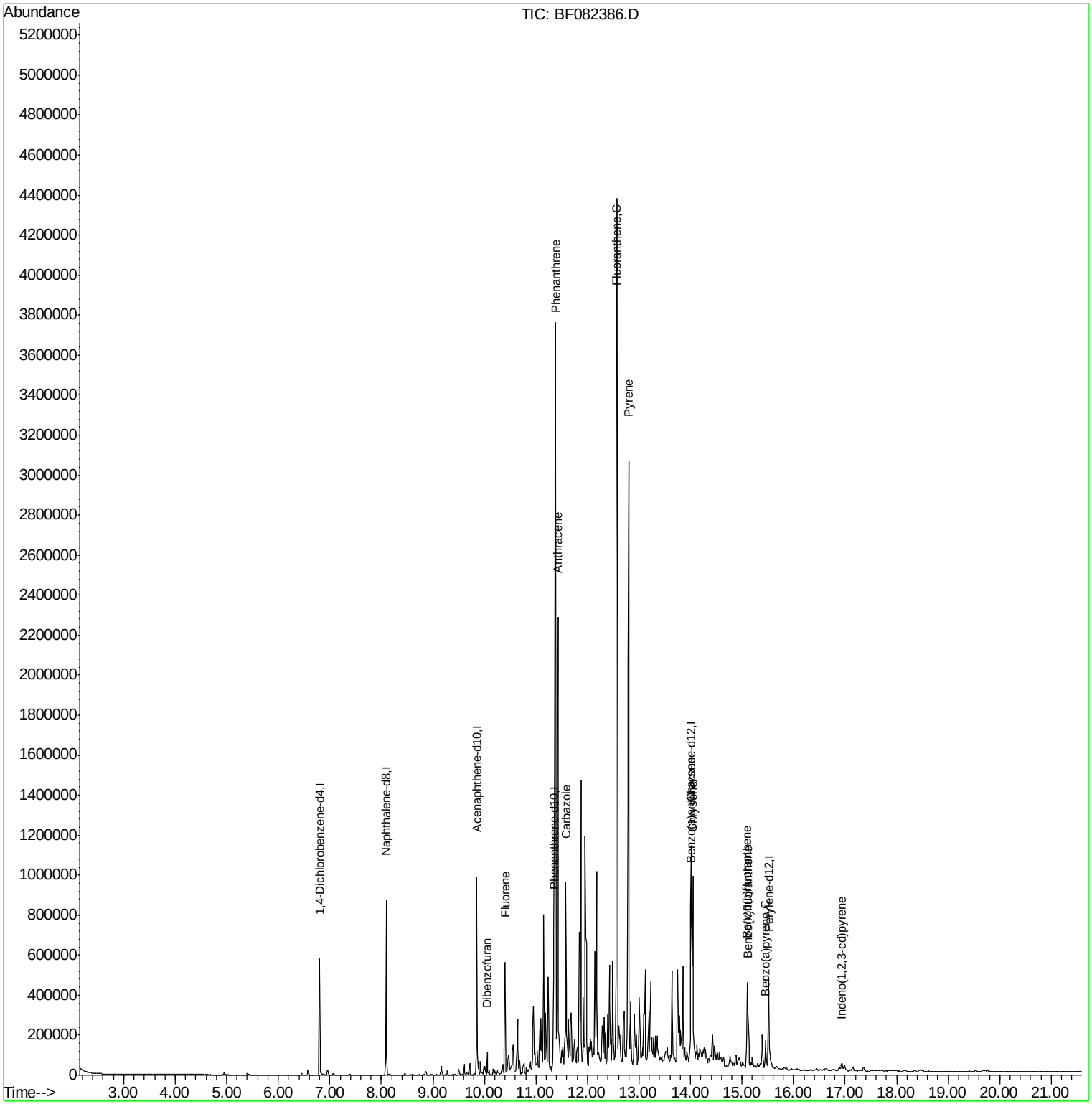
Sample Results: **BF082386.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082386.D
Acq On : 20 Oct 2015 6:56
Operator : UM/IZ
Sample : G4046-01DL 50X
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 20 08:43:48 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:06 PM



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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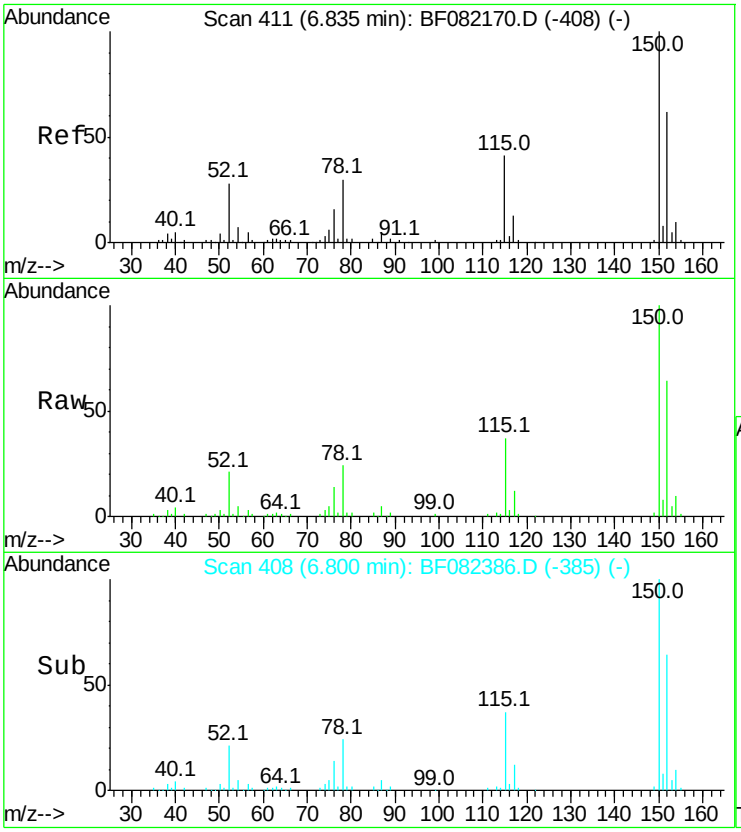
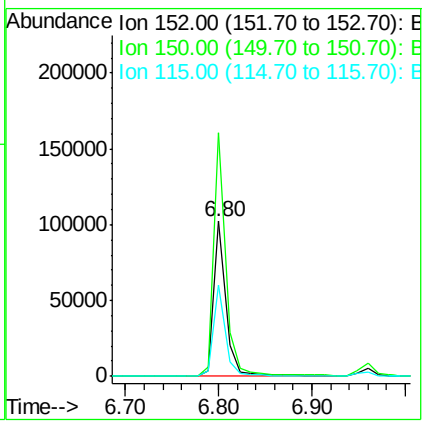
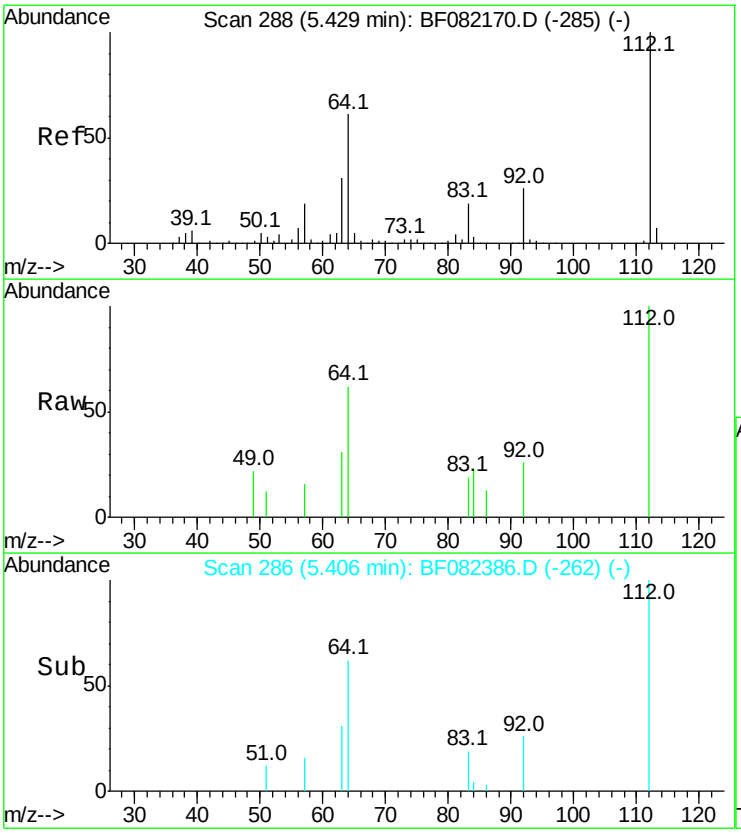


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:152 Resp: 93624

Ion	Ratio	Lower	Upper
152	100		
150	157.3	129.0	193.4
115	58.7	52.1	78.1

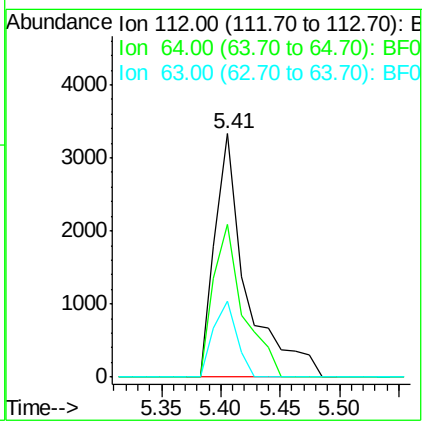




#5
2-Fluorophenol
Concen: 1.32 ng
RT: 5.41 min Scan# 286
Delta R.T. -0.02 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:112 Resp: 6108

Ion	Ratio	Lower	Upper
112	100		
64	62.5	48.6	73.0
63	31.1	25.1	37.7



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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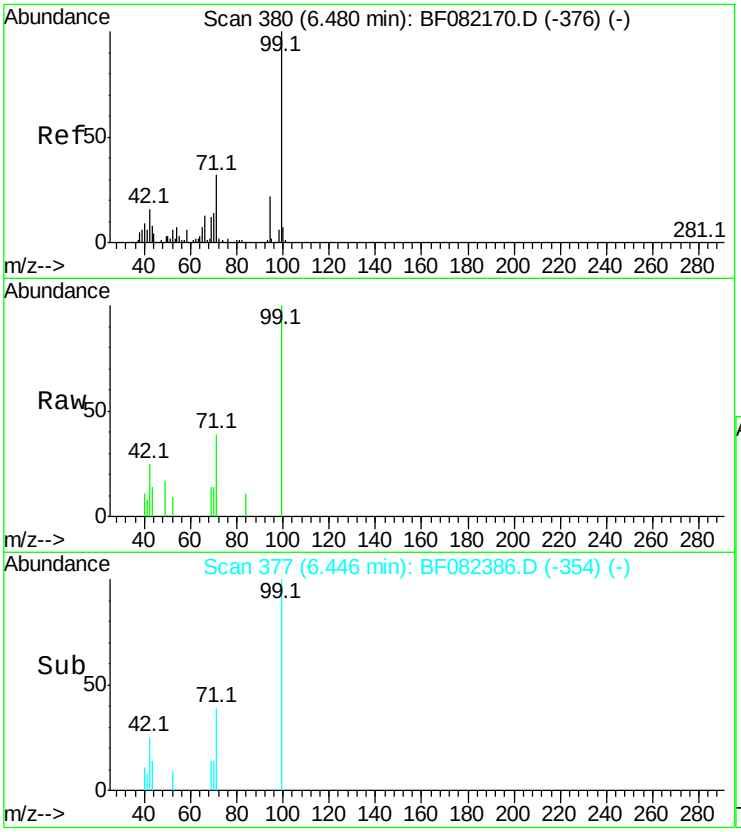
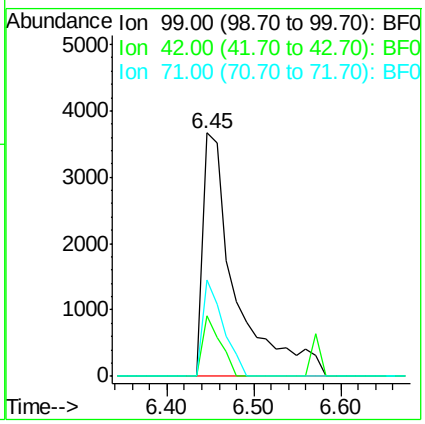
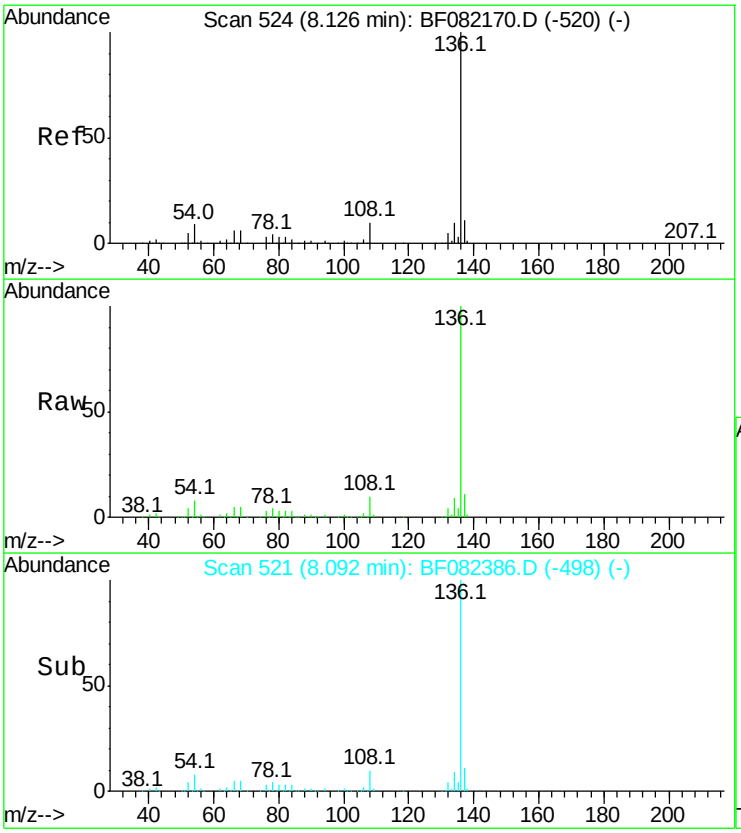


#7
Phenol-d6
Concen: 1.57 ng
RT: 6.45 min Scan# 377
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion: 99 Resp: 9502

Ion	Ratio	Lower	Upper
99	100		
42	24.8	13.2	19.8#
71	39.4	25.6	38.4#

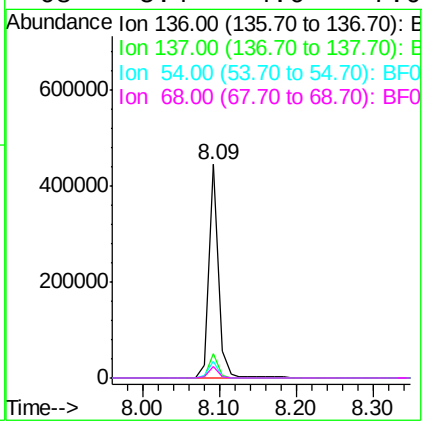




#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:136 Resp: 383235

Ion	Ratio	Lower	Upper
136	100		
137	11.1	9.0	13.6
54	8.0	7.5	11.3
68	5.4	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
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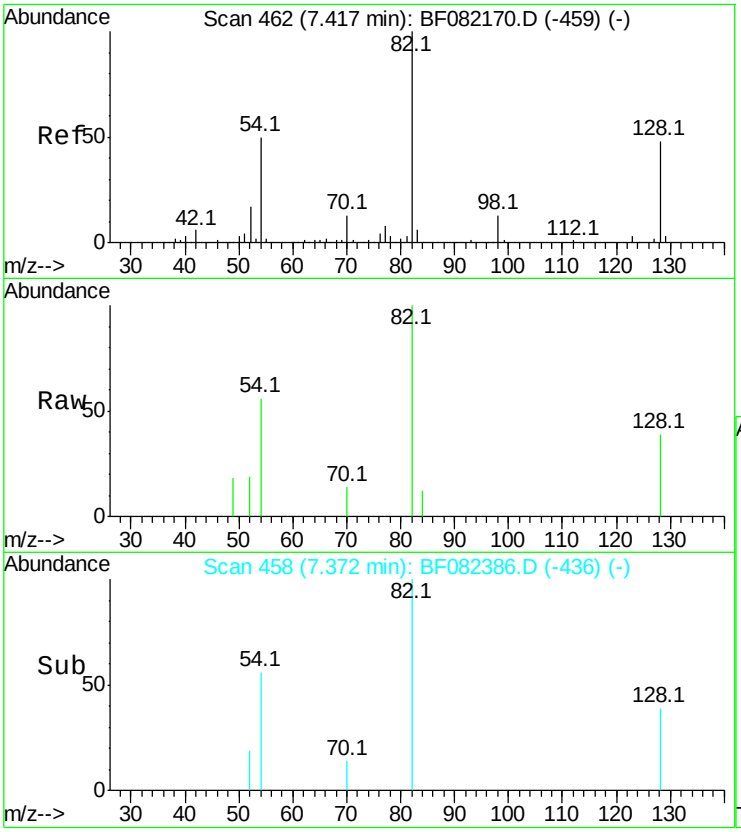
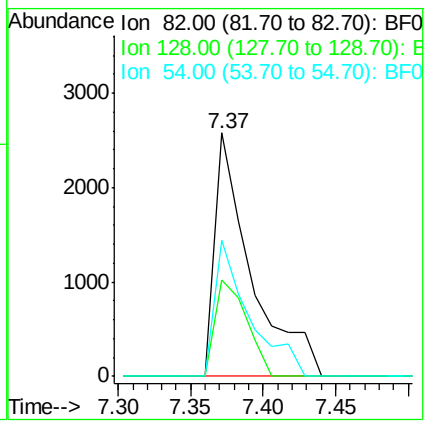
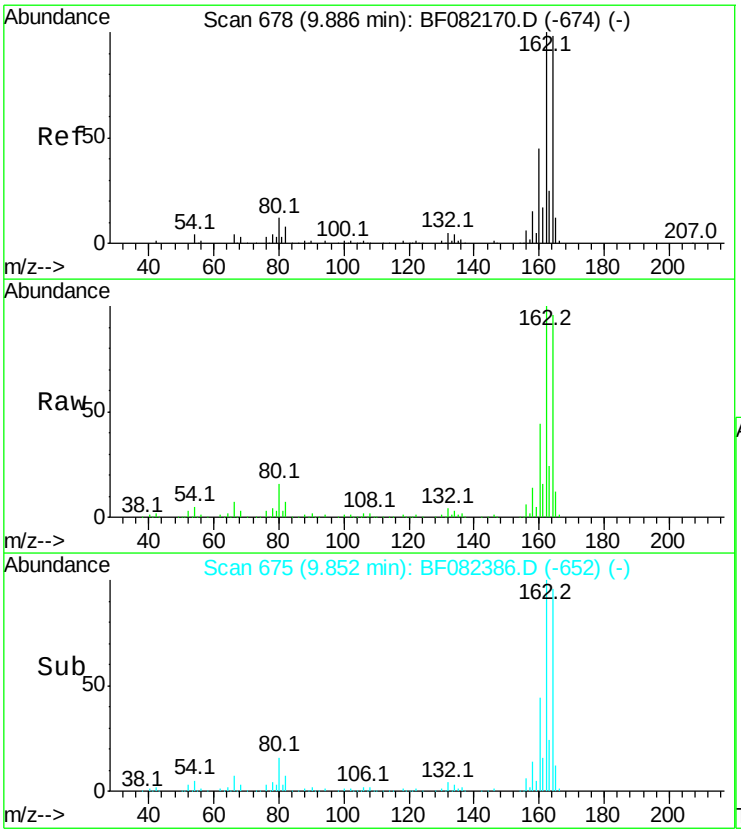


#23
Nitrobenzene-d5
Concen: 0.79 ng
RT: 7.37 min Scan# 458
Delta R.T. -0.05 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion: 82 Resp: 4488

Ion	Ratio	Lower	Upper
82	100		
128	39.5	38.7	58.1
54	56.0	40.1	60.1

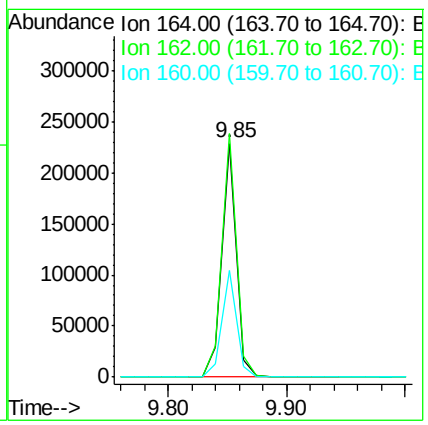




#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:164 Resp: 190593

Ion	Ratio	Lower	Upper
164	100		
162	104.3	81.6	122.4
160	45.6	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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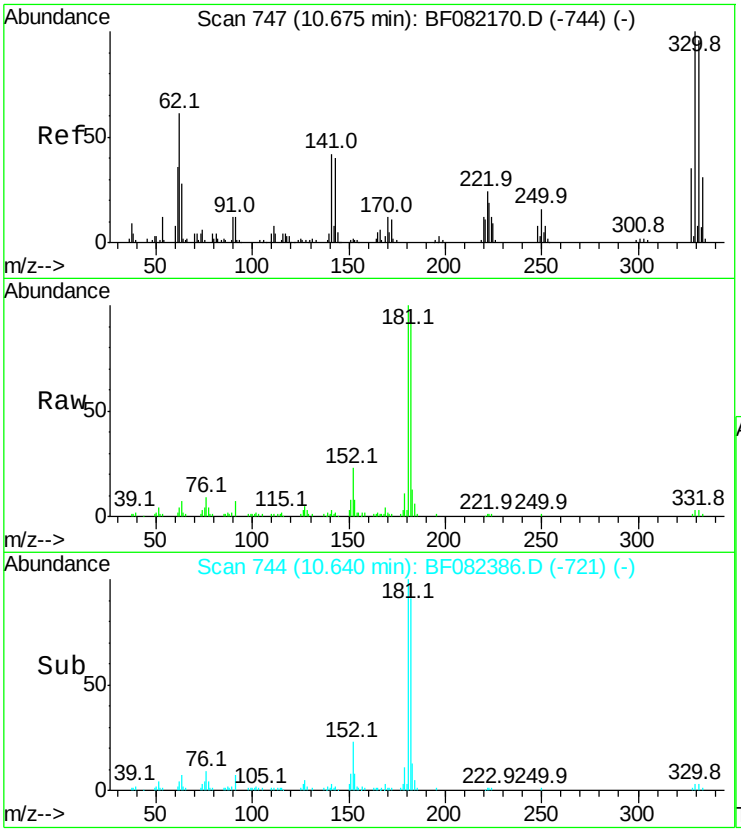
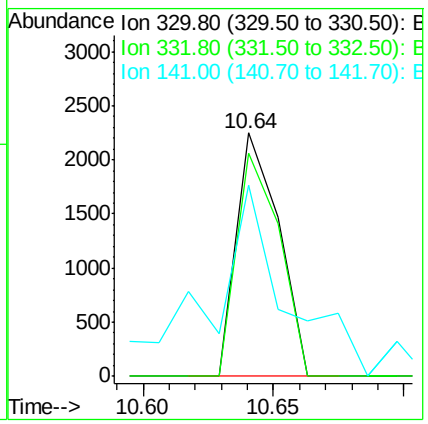
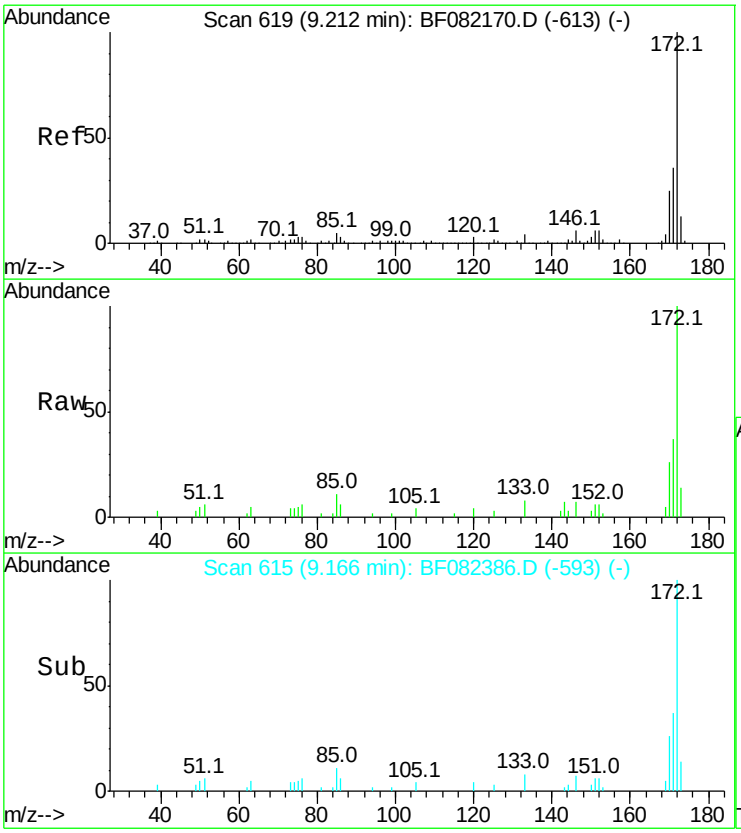


#41
2,4,6-Tribromophenol
Concen: 1.43 ng
RT: 10.64 min Scan# 744
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:330 Resp: 2553

Ion	Ratio	Lower	Upper
330	100		
332	93.2	77.1	115.7
141	150.8	29.8	44.8#

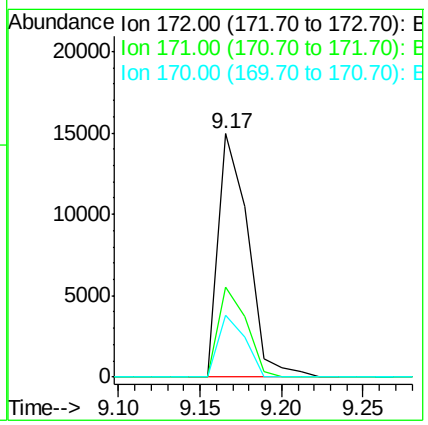




#44
2-Fluorobiphenyl
Concen: 1.64 ng
RT: 9.17 min Scan# 615
Delta R.T. -0.05 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:172 Resp: 18878

Ion	Ratio	Lower	Upper
172	100		
171	36.7	28.6	42.8
170	25.6	19.7	29.5



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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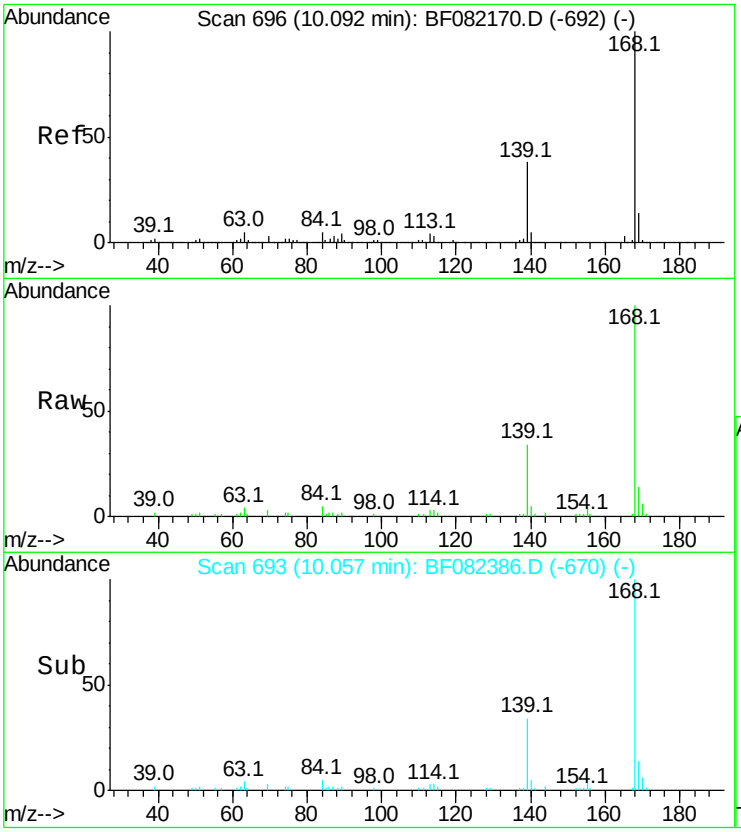
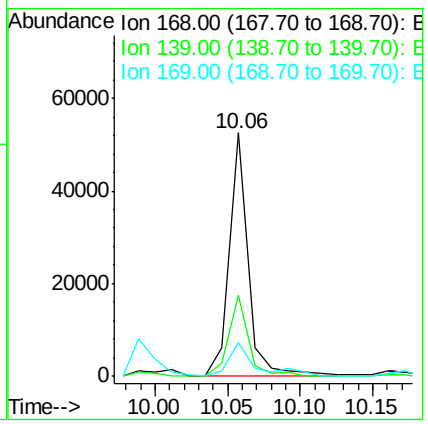
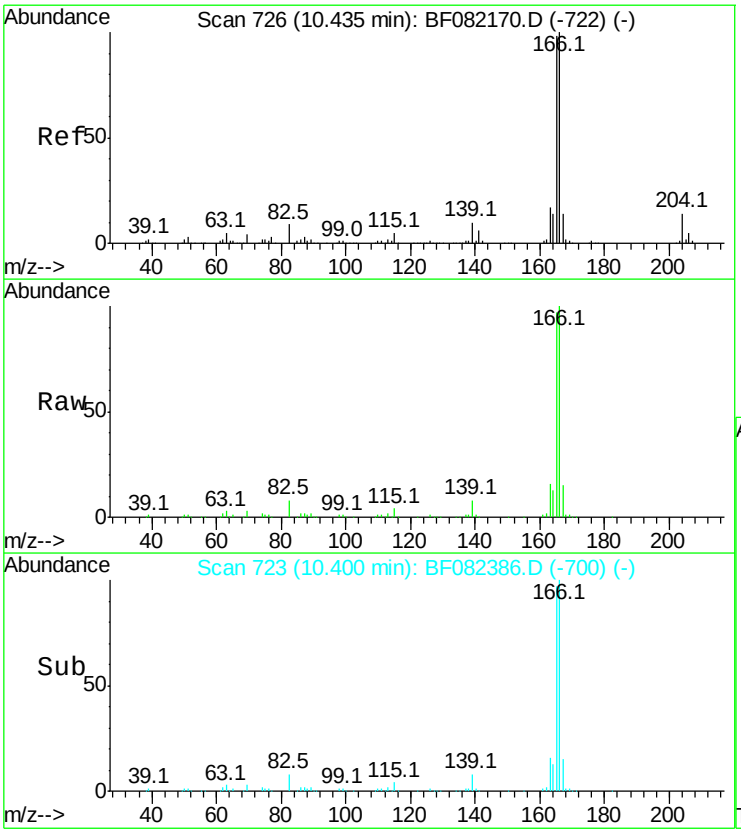


#54
Dibenzofuran
Concen: 3.25 ng
RT: 10.06 min Scan# 693
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:168 Resp: 47793

Ion	Ratio	Lower	Upper
168	100		
139	33.5	31.0	46.6
169	14.0	10.9	16.3

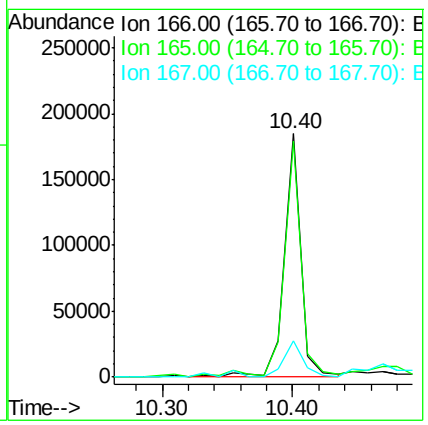




#57
Fluorene
Concen: 13.47 ng
RT: 10.40 min Scan# 723
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:166 Resp: 162545

Ion	Ratio	Lower	Upper
166	100		
165	96.8	78.3	117.5
167	14.7	10.8	16.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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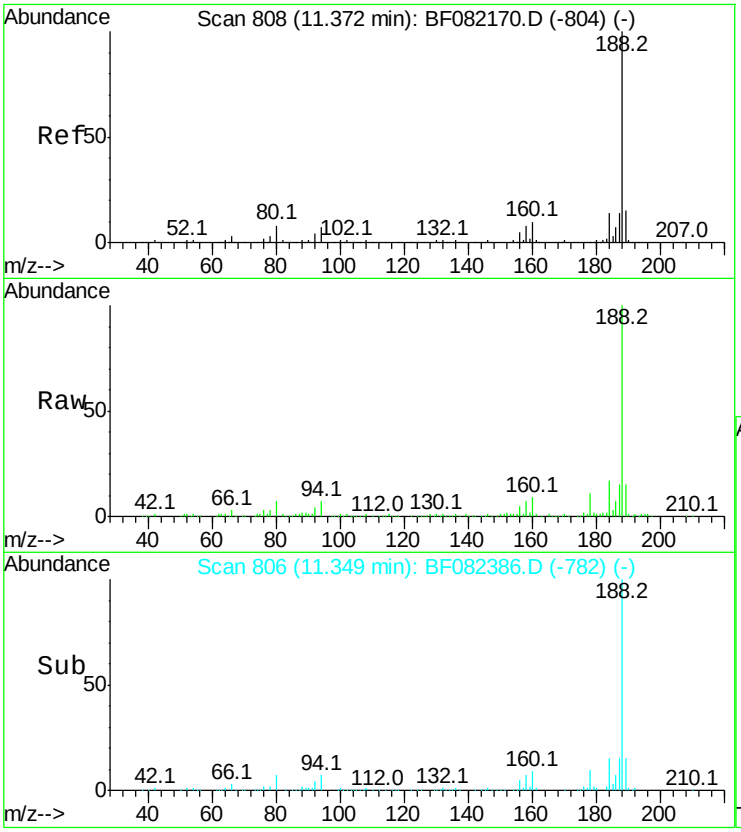
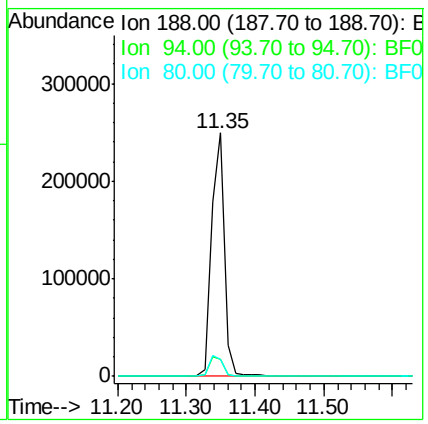
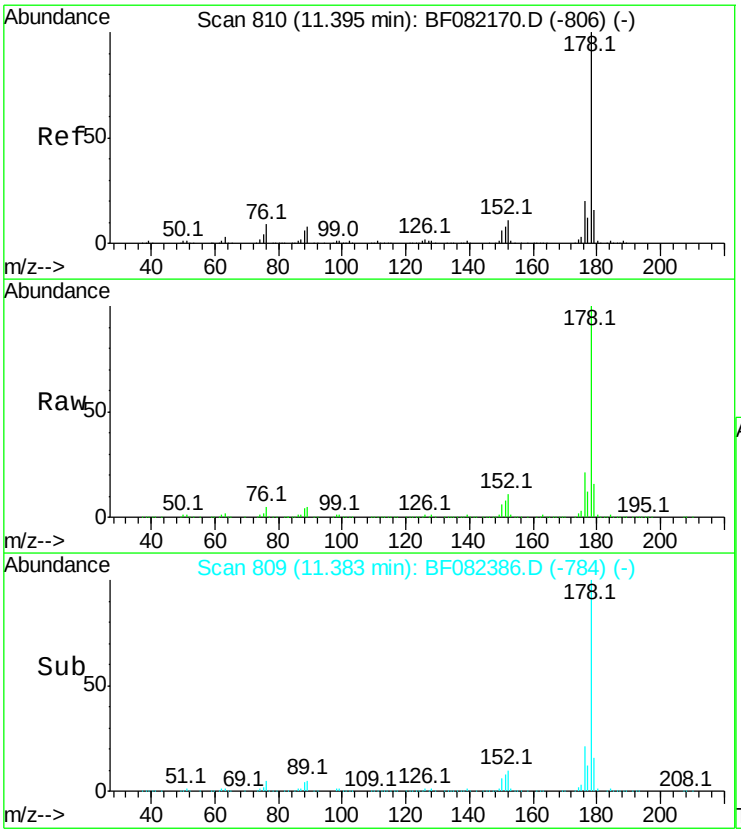


#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.35 min Scan# 806
Delta R.T. -0.02 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:188 Resp: 328926

Ion	Ratio	Lower	Upper
188	100		
94	7.0	5.8	8.6
80	7.2	6.4	9.6

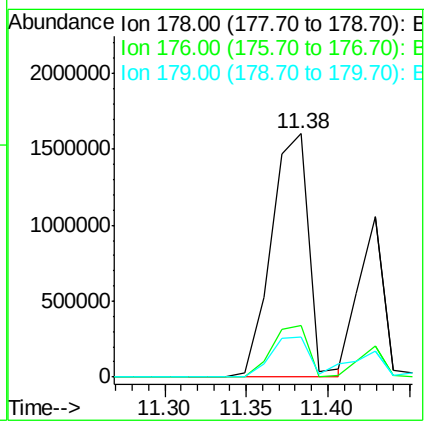




#70
Phenanthrene
Concen: 158.49 ng
RT: 11.38 min Scan# 809
Delta R.T. -0.01 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:178 Resp: 2555297

Ion	Ratio	Lower	Upper
178	100		
176	21.4	16.0	24.0
179	16.4	12.6	19.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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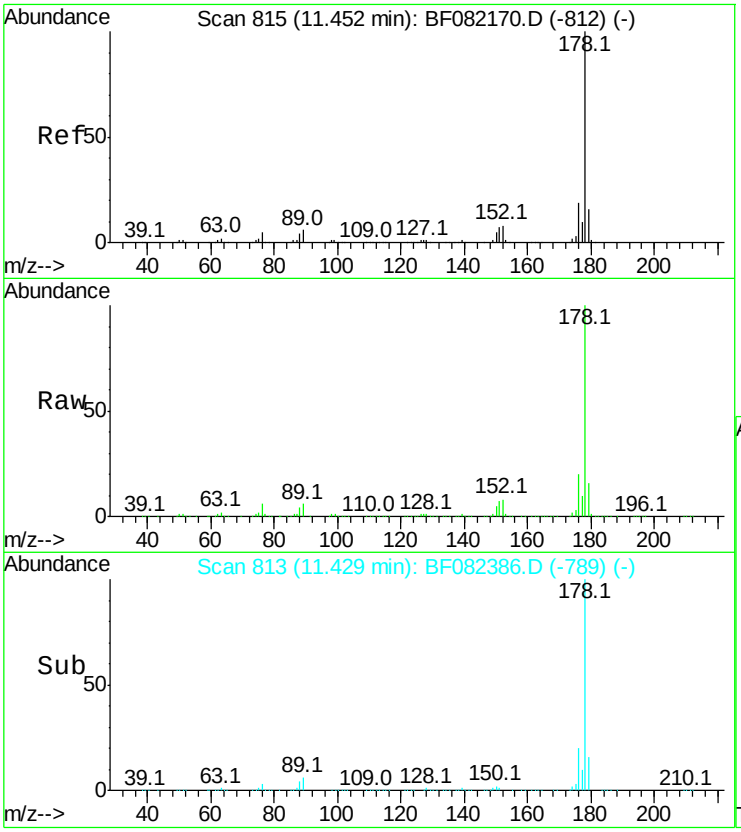
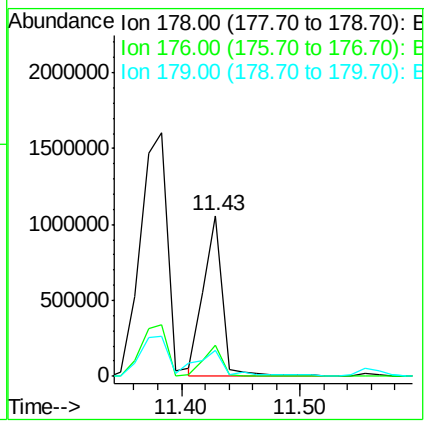
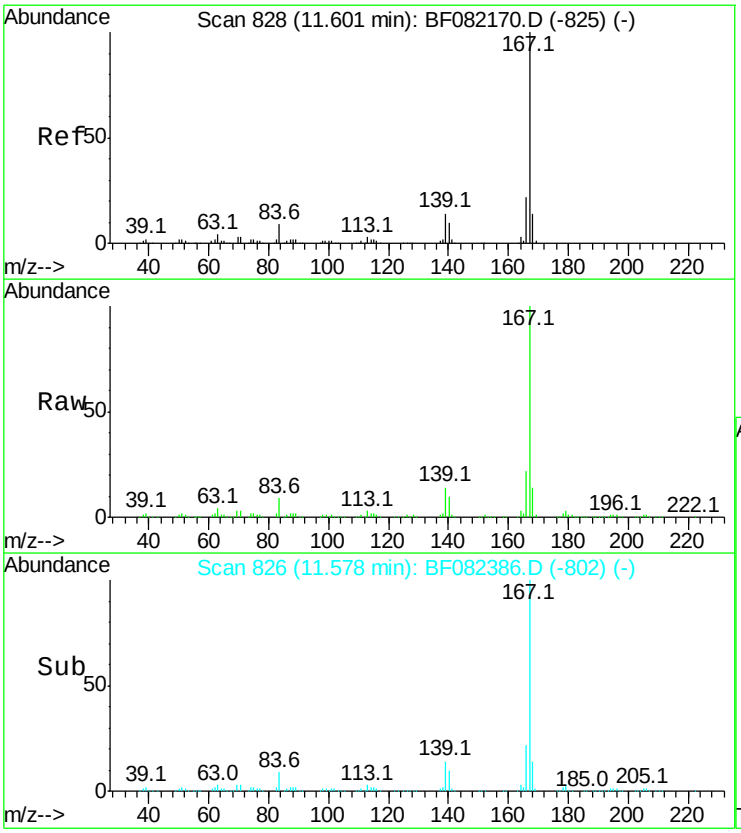


#71
Anthracene
Concen: 70.75 ng
RT: 11.43 min Scan# 813
Delta R.T. -0.02 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:178 Resp: 1175473

Ion	Ratio	Lower	Upper
178	100		
176	19.5	15.4	23.0
179	16.0	12.5	18.7

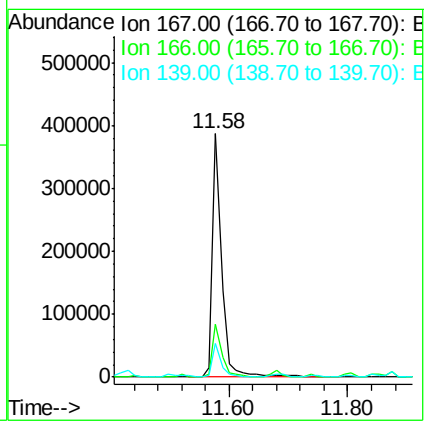


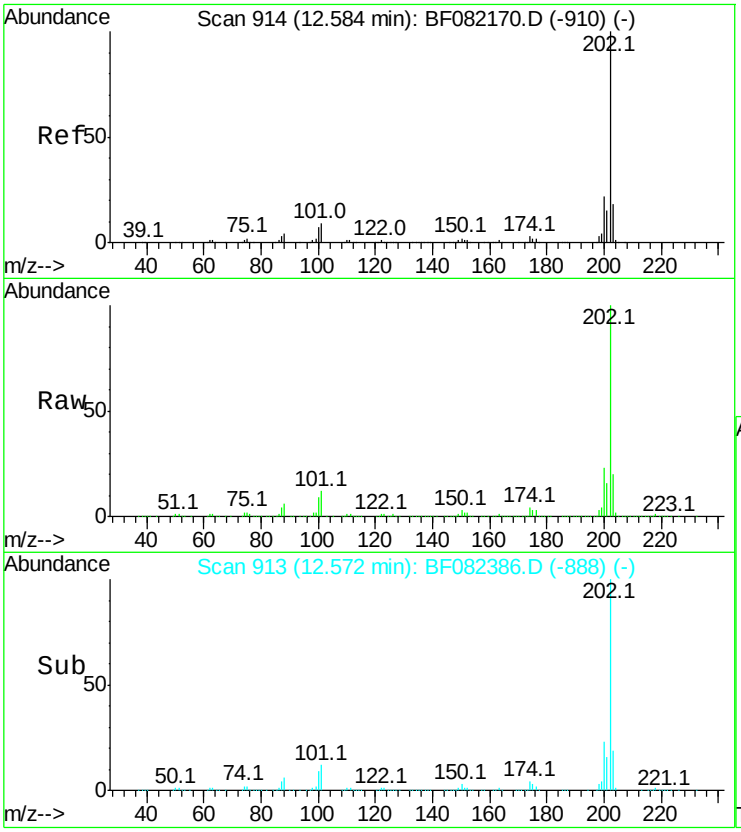


#72
Carbazole
Concen: 27.32 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:167 Resp: 413985

Ion	Ratio	Lower	Upper
167	100		
166	21.9	17.3	25.9
139	13.7	11.2	16.8





#74
Fluoranthene
Concen: 132.47 ng
RT: 12.57 min Scan# 913
Delta R.T. -0.01 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:202 Resp: 2293938

Ion	Ratio	Lower	Upper
202	100		
101	12.1	0.0	29.3
203	19.5	0.0	37.8

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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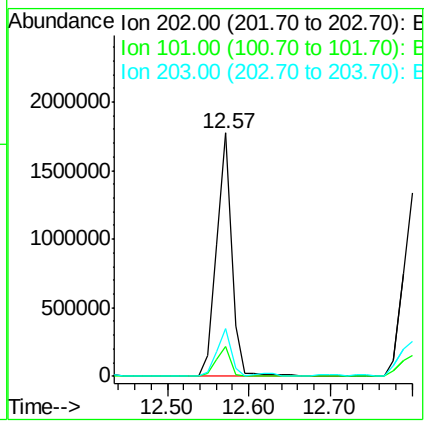
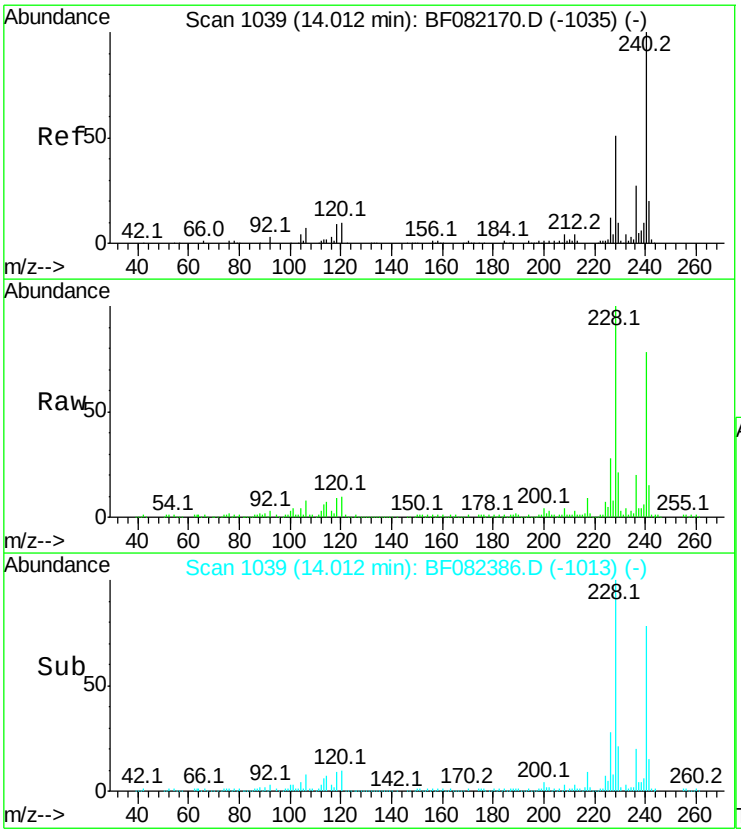
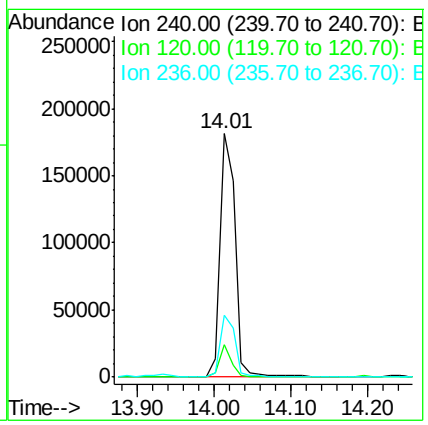


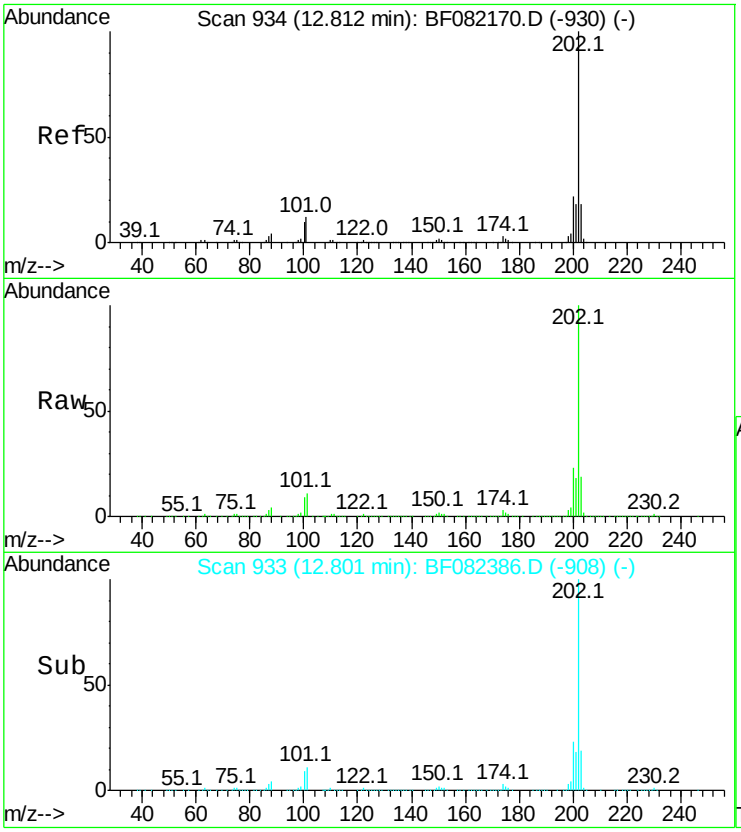


#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.01 min Scan# 1039
Delta R.T. -0.00 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:240 Resp: 250015

Ion	Ratio	Lower	Upper
240	100		
120	13.1	8.1	12.1#
236	25.5	21.3	31.9





#77
Pyrene
Concen: 105.38 ng
RT: 12.80 min Scan# 933
Delta R.T. -0.01 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:202 Resp: 1563483

Ion	Ratio	Lower	Upper
202	100		
200	22.5	17.9	26.9
203	19.0	14.5	21.7

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

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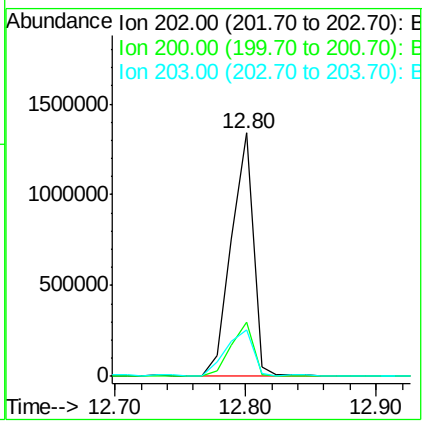
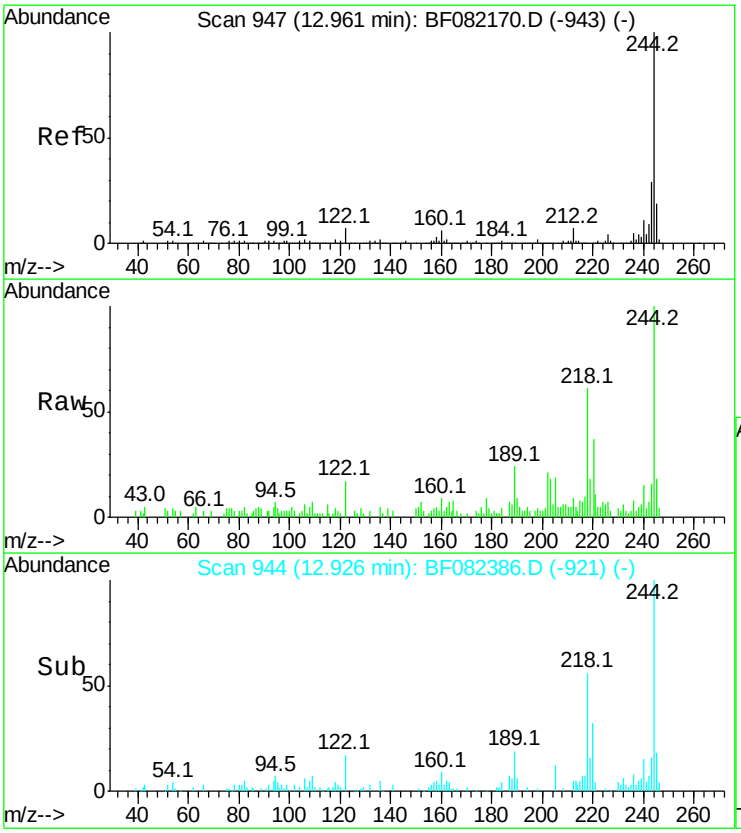
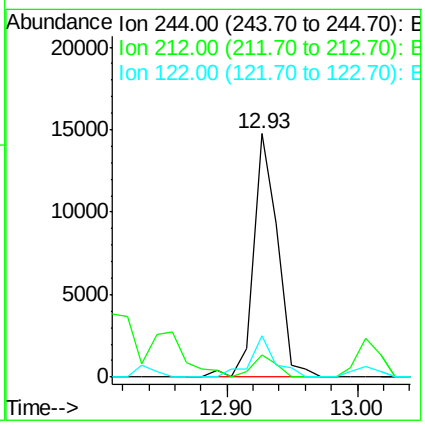


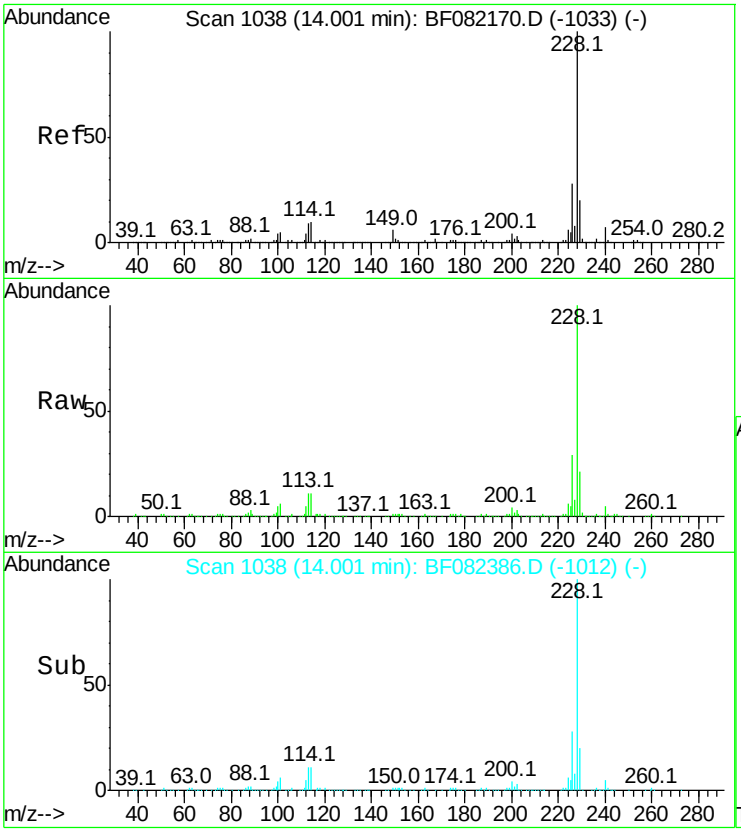


#78
Terphenyl-d14
Concen: 1.99 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:244 Resp: 18814

Ion	Ratio	Lower	Upper
244	100		
212	9.1	5.8	8.6#
122	17.0	5.9	8.9#





#80
Benzo(a)anthracene
Concen: 33.59 ng
RT: 14.00 min Scan# 1038
Delta R.T. -0.00 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:228 Resp: 436901

Ion	Ratio	Lower	Upper
228	100		
226	28.7	22.3	33.5
229	21.1	16.2	24.2

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

Manual Integrations APPROVED
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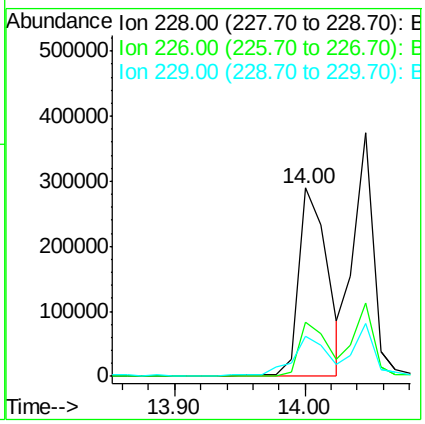
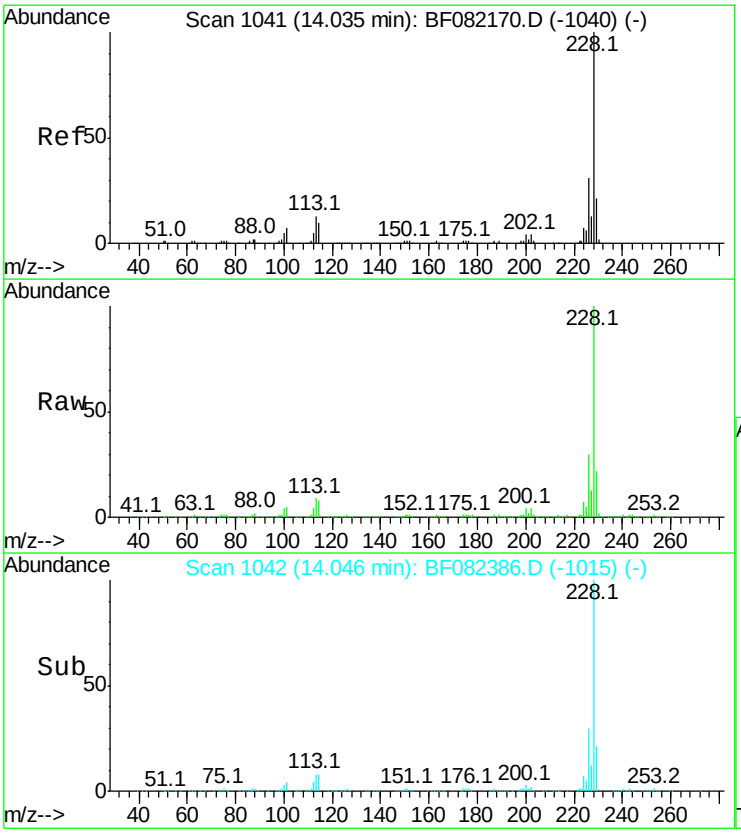
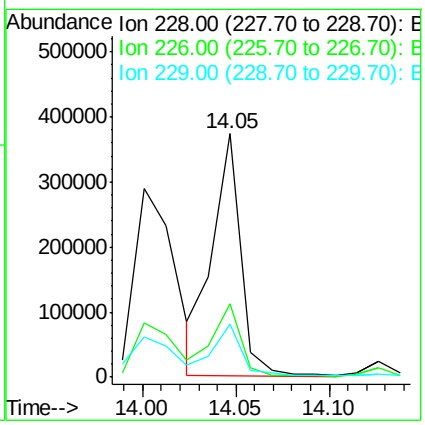


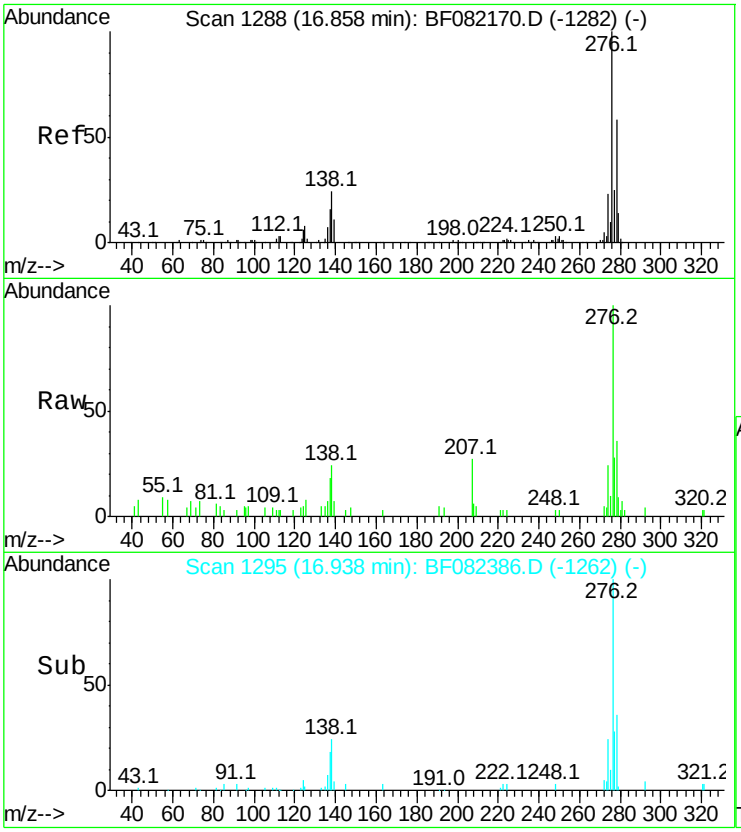


#82
Chrysene
Concen: 28.86 ng
RT: 14.05 min Scan# 1042
Delta R.T. 0.01 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:228 Resp: 395560

Ion	Ratio	Lower	Upper
228	100		
226	30.4	24.4	36.6
229	21.7	16.3	24.5





#85
Indeno(1,2,3-cd)pyrene
Concen: 2.62 ng
RT: 16.94 min Scan# 1295
Delta R.T. 0.08 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:276 Resp: 28570

Ion	Ratio	Lower	Upper
276	100		
138	28.7	19.7	29.5
277	24.9	20.1	30.1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

Manual Integrations APPROVED
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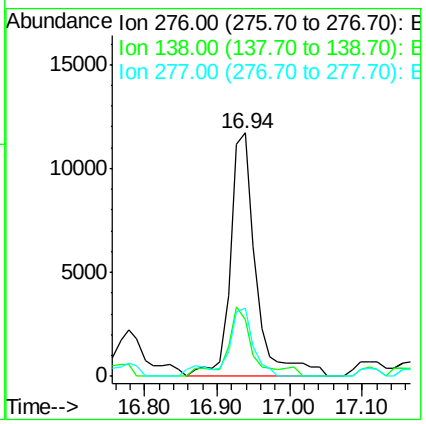
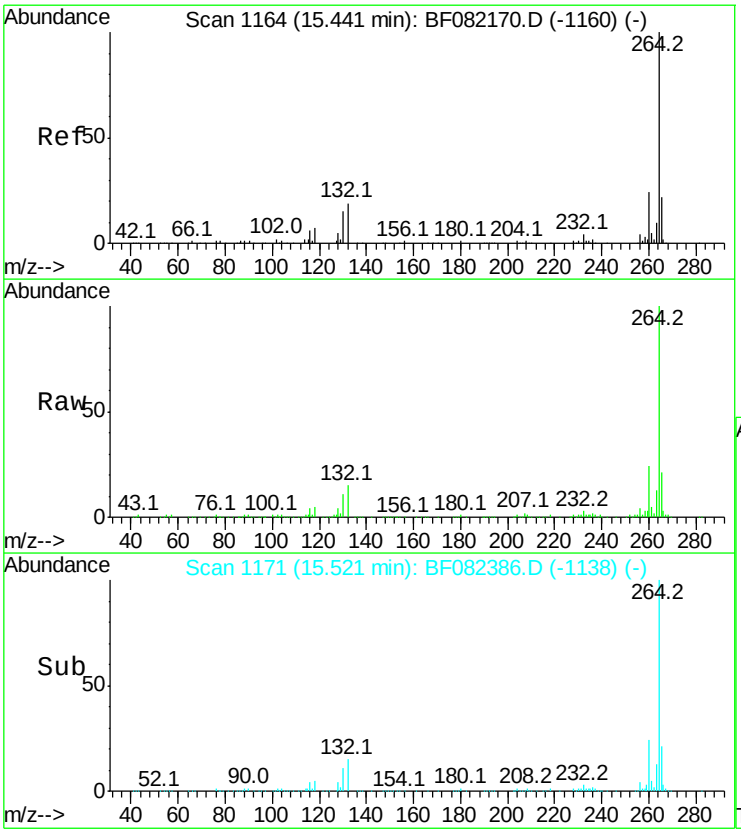
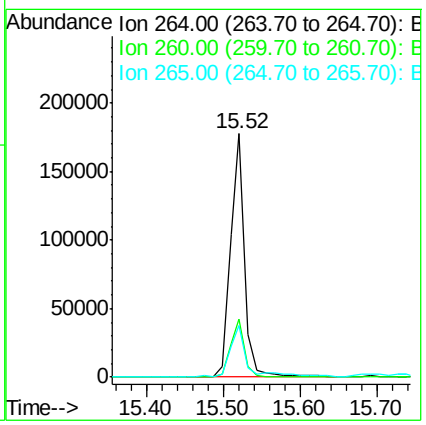


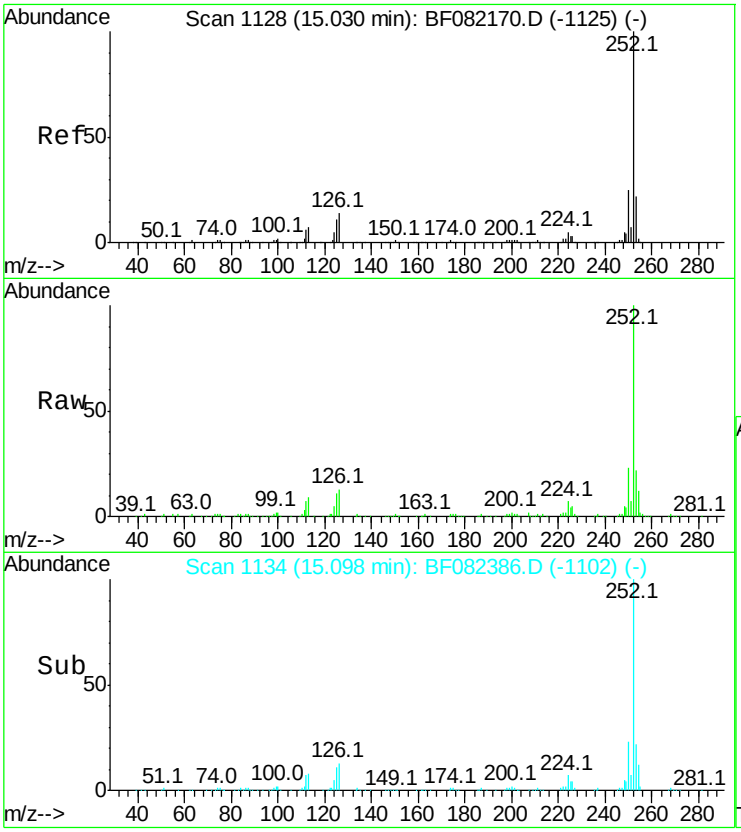


#86
Perylene-d12
Concen: 20.00 ng
RT: 15.52 min Scan# 1171
Delta R.T. 0.08 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:264 Resp: 231804

Ion	Ratio	Lower	Upper
264	100		
260	23.9	19.0	28.6
265	21.1	17.3	25.9





#87
Benzo(b)fluoranthene
Concen: 14.59 ng m
RT: 15.10 min Scan# 1134
Delta R.T. 0.07 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:252 Resp: 205788

Ion	Ratio	Lower	Upper
252	100		
253	22.0	18.0	27.0
125	11.0	8.6	12.8

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

Manual Integrations APPROVED
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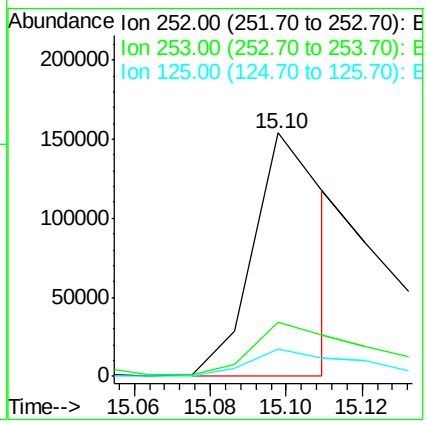
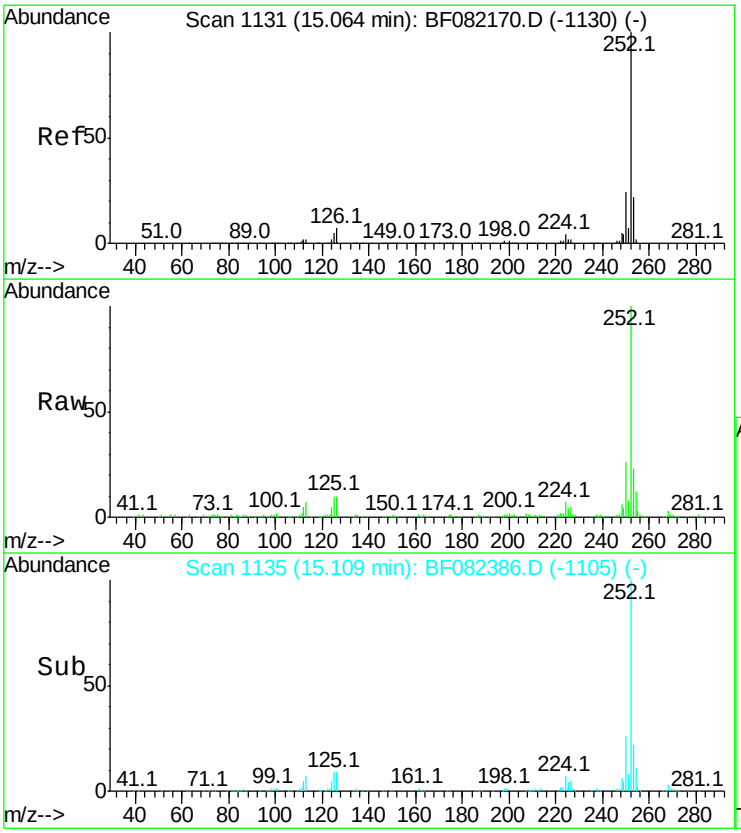
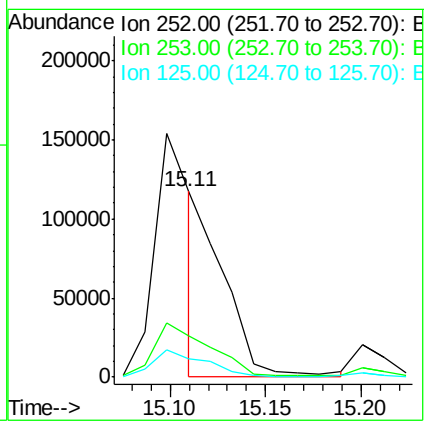


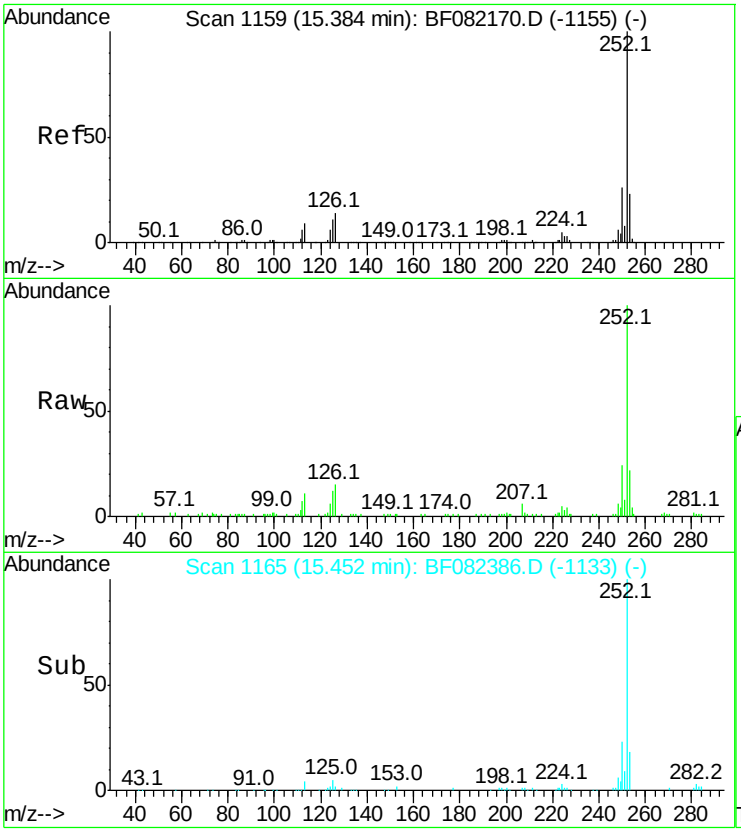


#88
Benzo(k)fluoranthene
Concen: 9.16 ng m
RT: 15.11 min Scan# 1135
Delta R.T. 0.05 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:252 Resp: 108633

Ion	Ratio	Lower	Upper
252	100		
253	22.6	17.8	26.6
125	9.7	6.7	10.1

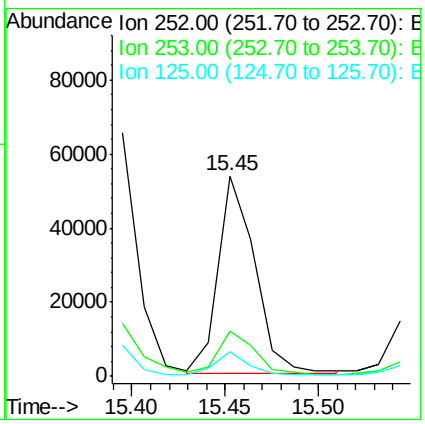




#89
Benzo(a)pyrene
Concen: 6.11 ng
RT: 15.45 min Scan# 1165
Delta R.T. 0.07 min
Lab File: BF082386.D
Acq: 20 Oct 2015 6:56

Tgt Ion:252 Resp: 74012

Ion	Ratio	Lower	Upper
252	100		
253	22.3	18.2	27.2
125	12.4	8.9	13.3



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL

Manual Integrations APPROVED
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Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082387.D
Acq On : 20 Oct 2015 7:25
Operator : UM/IZ
Sample : G4046-01DL2 250X
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 20 08:50:46 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:08 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	83299	20.00	ng	-0.03
21) Naphthalene-d8	8.09	136	346134	20.00	ng	-0.03
38) Acenaphthene-d10	9.85	164	165438	20.00	ng	-0.03
63) Phenanthrene-d10	11.34	188	283576	20.00	ng	-0.03
75) Chrysene-d12	14.01	240	223607	20.00	ng	0.00
86) Perylene-d12	15.51	264	213886	20.00	ng	0.07
System Monitoring Compounds						
5) 2-Fluorophenol	0.00	112	0	0.00	ng	
7) Phenol-d6	6.48	99	441	0.08	ng	0.00
23) Nitrobenzene-d5	0.00	82	0	0.00	ng	
41) 2,4,6-Tribromophenol	10.64	330	209	0.13	ng	-0.03
44) 2-Fluorobiphenyl	9.17	172	3324	0.33	ng	-0.04
78) Terphenyl-d14	12.93	244	3151	0.37	ng	-0.03
Target Compounds						Qvalue
57) Fluorene	10.40	166	29073	2.78	ng	97
70) Phenanthrene	11.36	178	544328	39.16	ng	99
71) Anthracene	11.42	178	241879	16.89	ng	99
72) Carbazole	11.58	167	82678	6.33	ng	97
74) Fluoranthene	12.56	202	612463	41.03	ng	98
77) Pyrene	12.79	202	318173	23.98	ng	97
80) Benzo(a)anthracene	14.00	228	76511	6.58	ng	99
82) Chrysene	14.04	228	80225m	6.54	ng	
87) Benzo(b)fluoranthene	15.09	252	39036m	3.00	ng	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

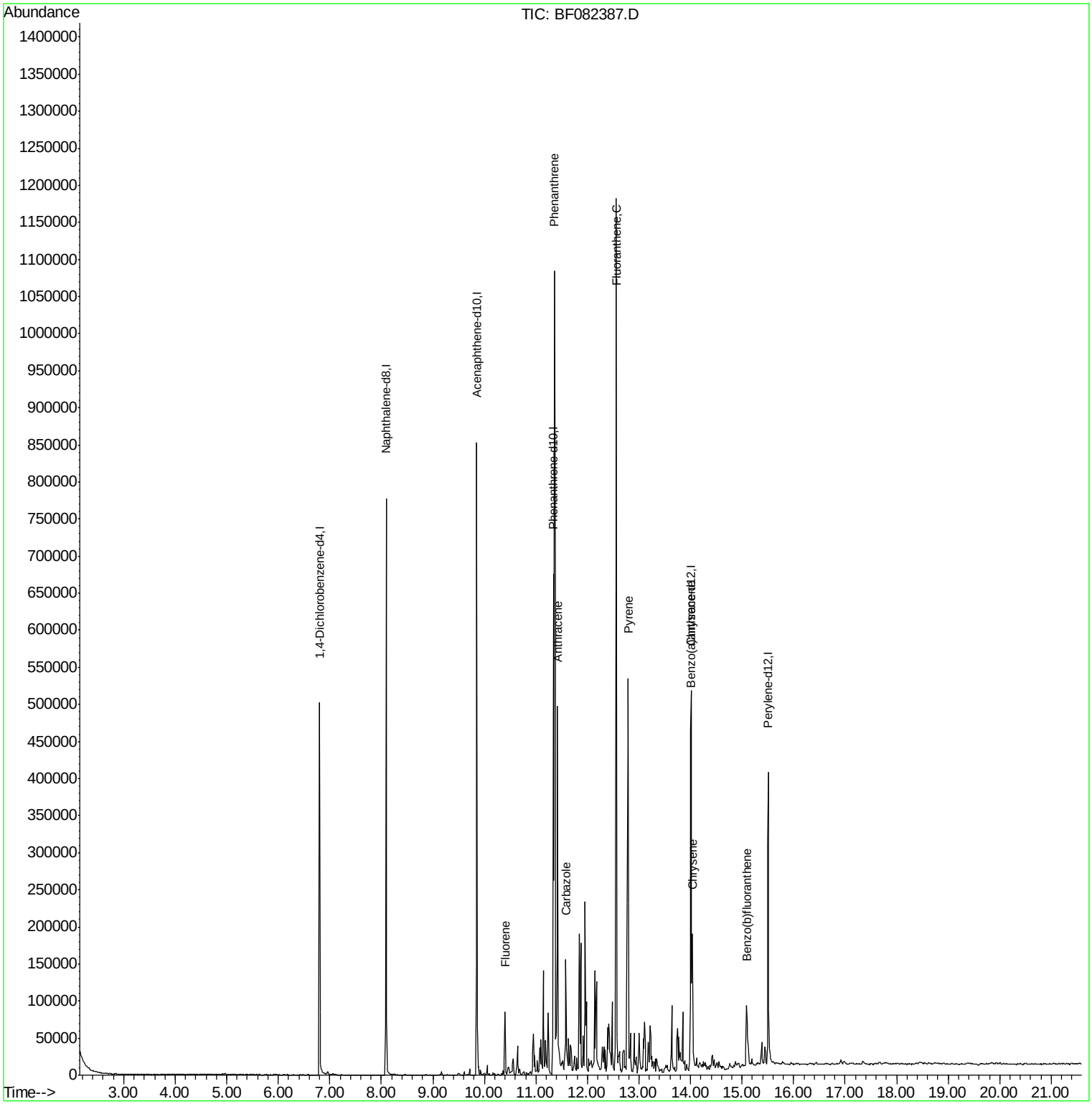
Sample Results: **BF082387.D**

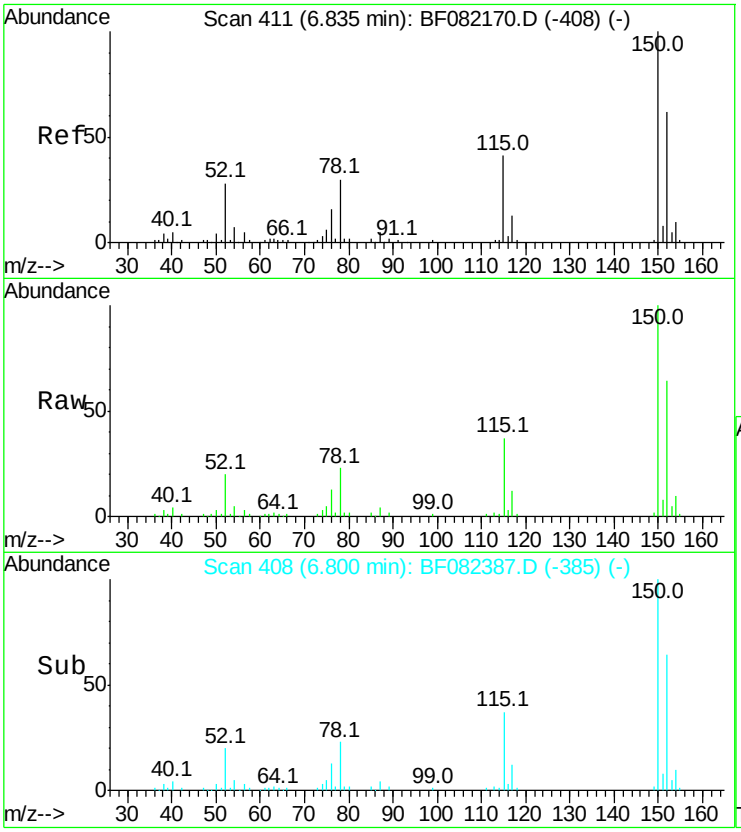
Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082387.D
Acq On : 20 Oct 2015 7:25
Operator : UM/IZ
Sample : G4046-01DL2 250X
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 20 08:50:46 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:08 PM

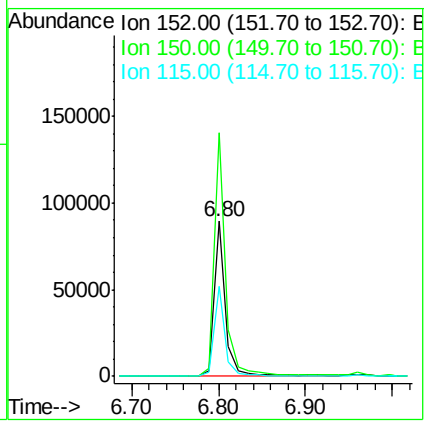




#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:152 Resp: 83299

Ion	Ratio	Lower	Upper
152	100		
150	157.2	129.0	193.4
115	57.8	52.1	78.1



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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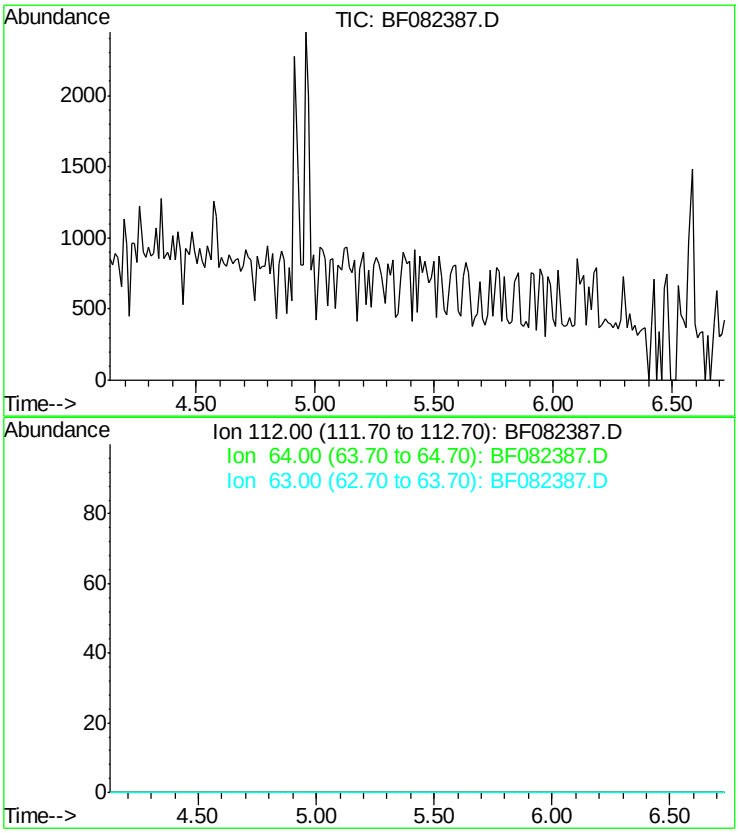
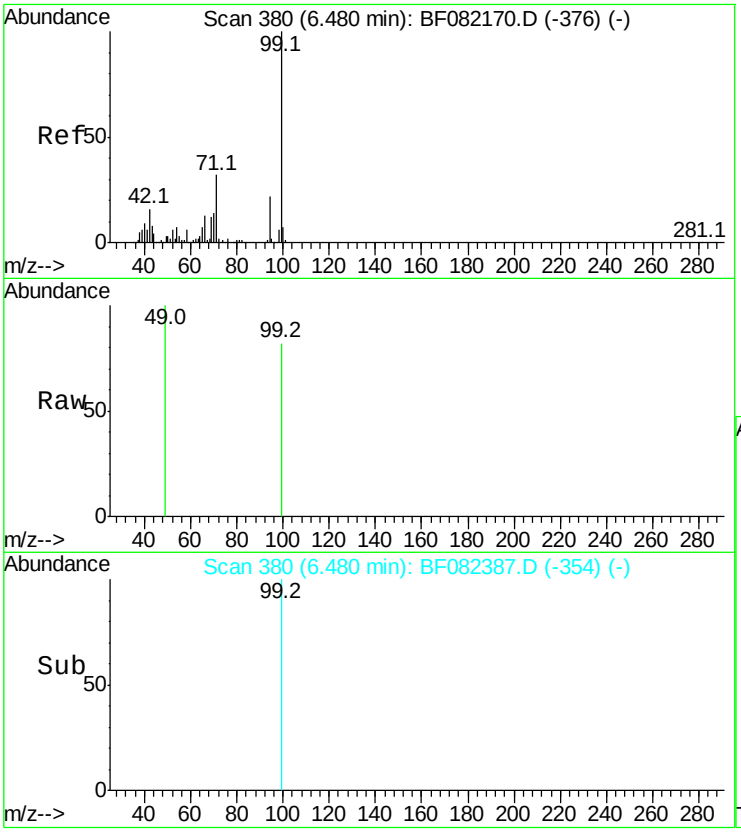


#5
2-Fluorophenol
Concen: 0.00 ng
Expected RT: 5.43 min

Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion: 112

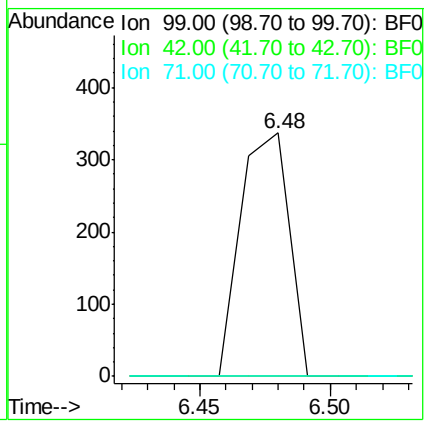
Sig	Exp Ratio
112	100
64	60.8
63	31.4



#7
Phenol-d6
Concen: 0.08 ng
RT: 6.48 min Scan# 380
Delta R.T. -0.00 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion: 99 Resp: 441

Ion	Ratio	Lower	Upper
99	100		
42	0.0	13.2	19.8#
71	0.0	25.6	38.4#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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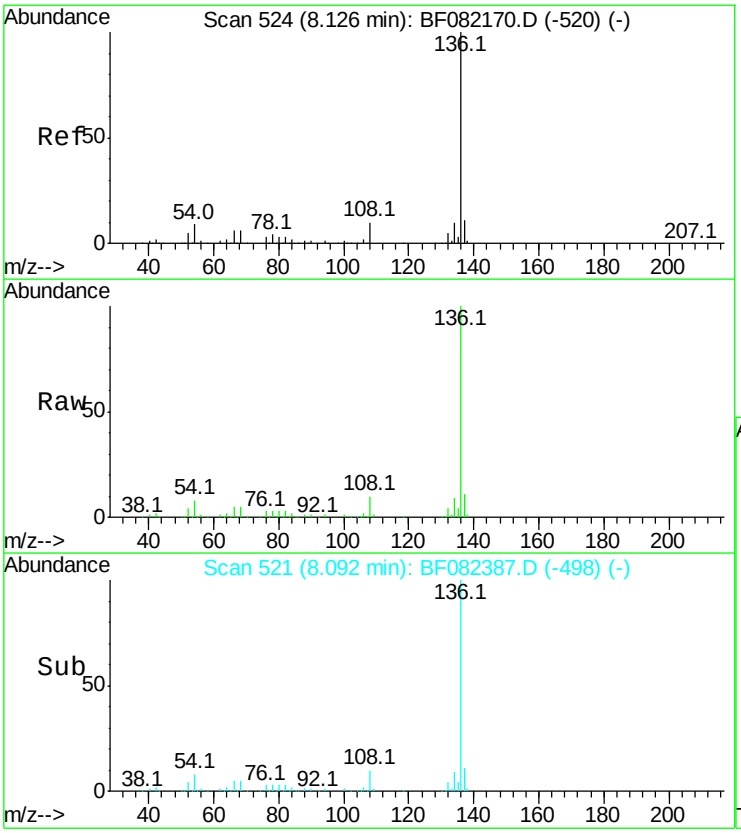
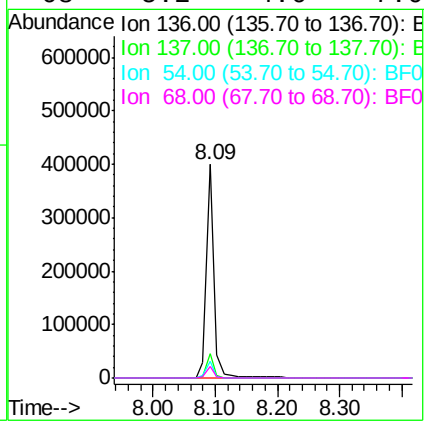


#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:136 Resp: 346134

Ion	Ratio	Lower	Upper
136	100		
137	11.2	9.0	13.6
54	7.7	7.5	11.3
68	5.2	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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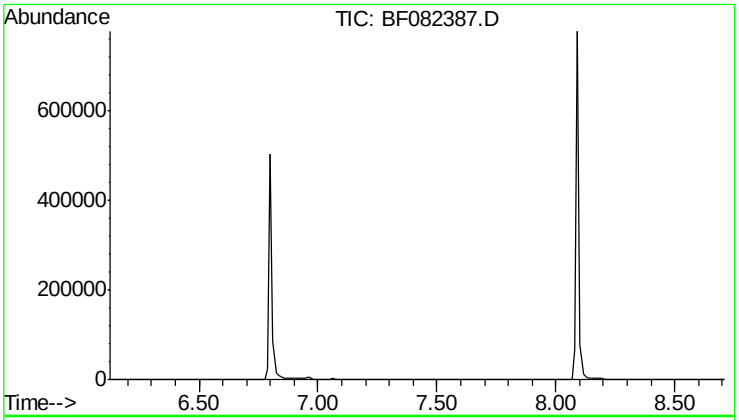
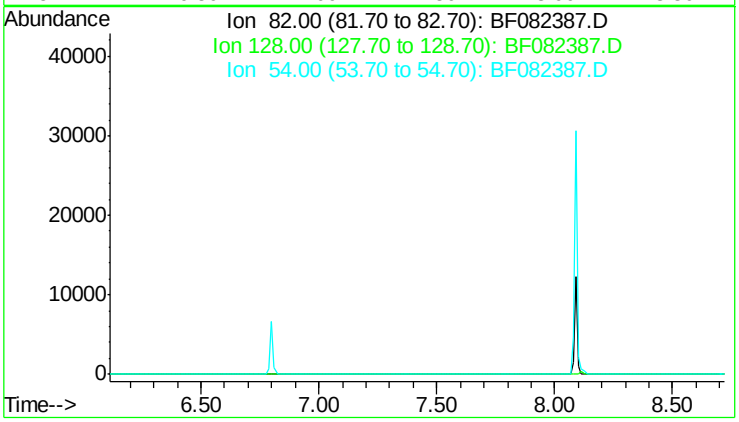


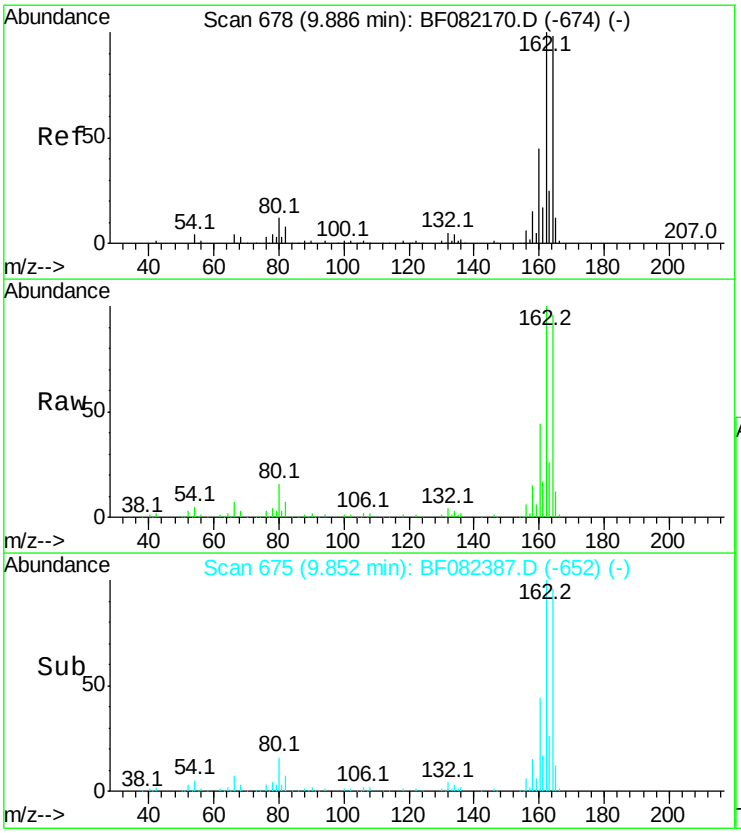


#23
Nitrobenzene-d5
Concen: 0.00 ng
Expected RT: 7.42 min

Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion: 82

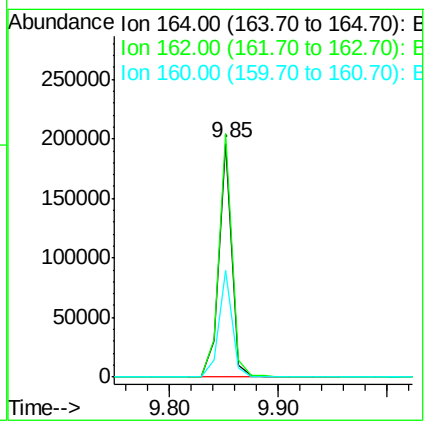
Sig	Exp Ratio
82	100
128	48.4
54	50.1



#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:164 Resp: 165438

Ion	Ratio	Lower	Upper
164	100		
162	104.3	81.6	122.4
160	45.8	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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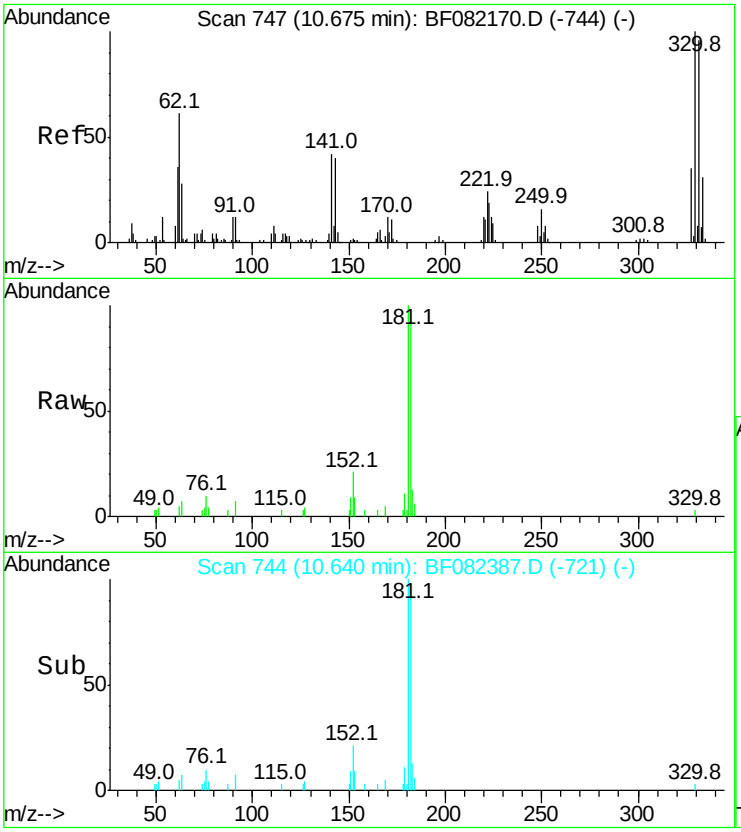
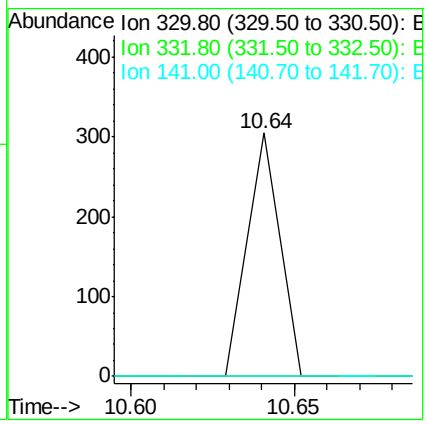
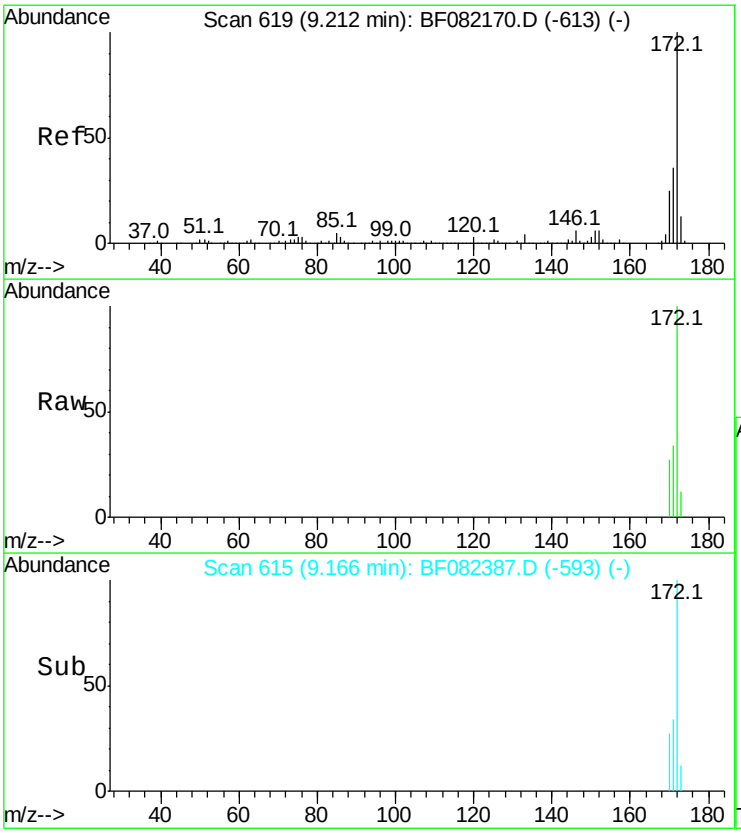


#41
2,4,6-Tribromophenol
Concen: 0.13 ng
RT: 10.64 min Scan# 744
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:330 Resp: 209

Ion	Ratio	Lower	Upper
330	100		
332	0.0	77.1	115.7#
141	0.0	29.8	44.8#

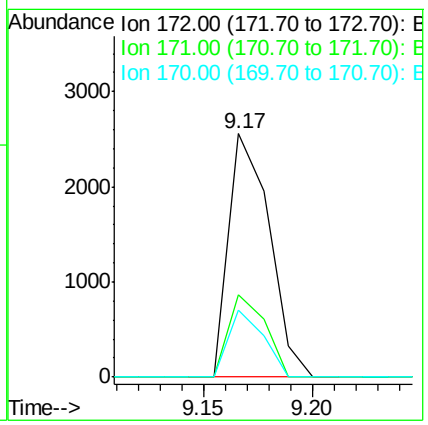


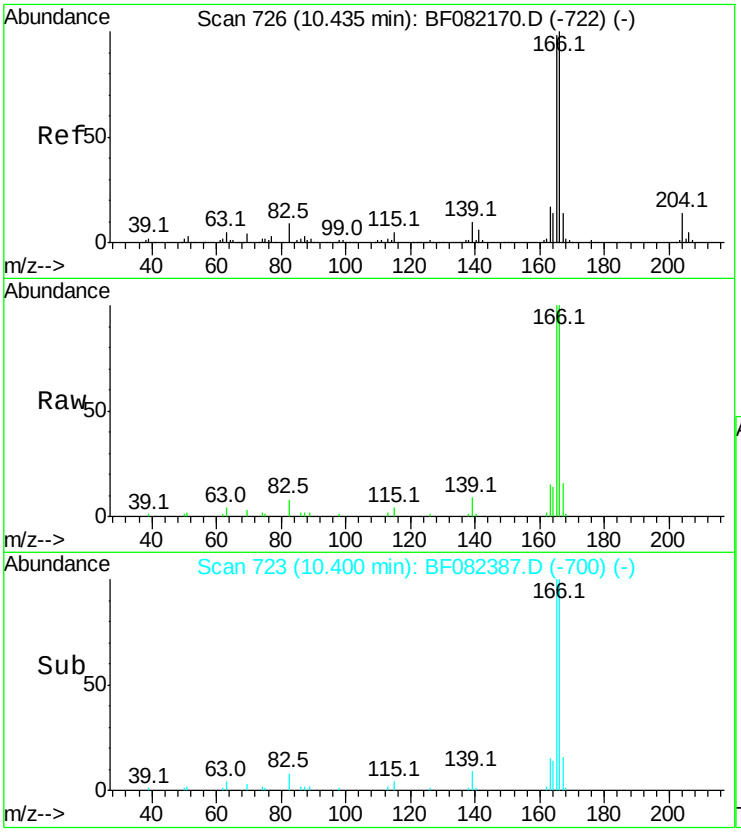


#44
2-Fluorobiphenyl
Concen: 0.33 ng
RT: 9.17 min Scan# 615
Delta R.T. -0.04 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:172 Resp: 3324

Ion	Ratio	Lower	Upper
172	100		
171	34.1	28.6	42.8
170	27.5	19.7	29.5





#57
Fluorene
Concen: 2.78 ng
RT: 10.40 min Scan# 723
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:166 Resp: 29073

Ion	Ratio	Lower	Upper
166	100		
165	100.0	78.3	117.5
167	15.8	10.8	16.2

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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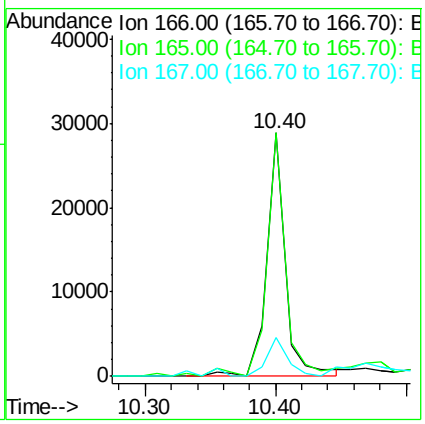
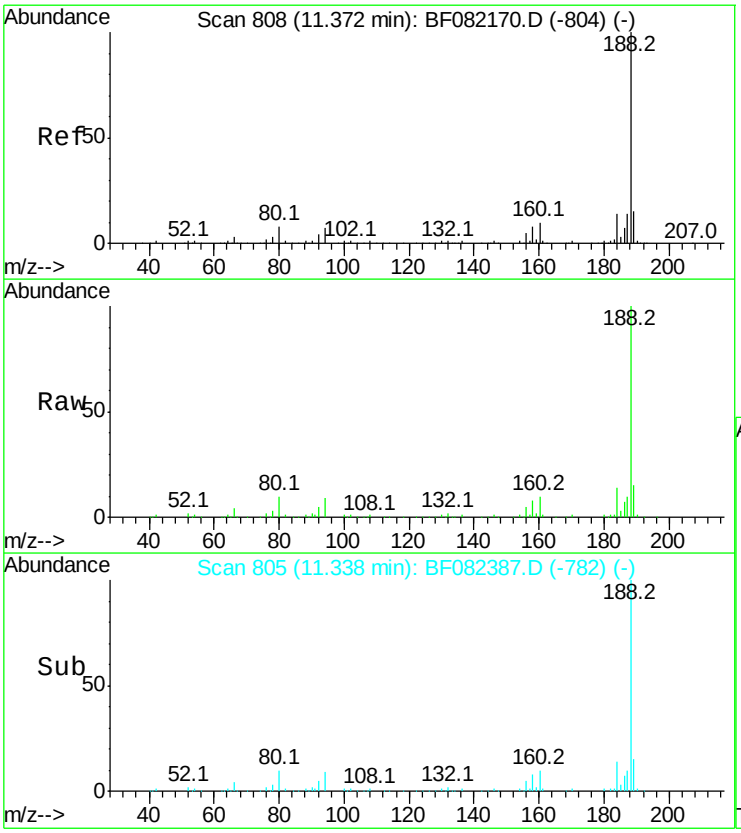
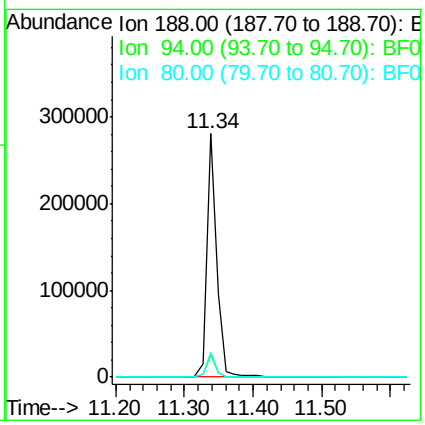




#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:188 Resp: 283576

Ion	Ratio	Lower	Upper
188	100		
94	9.3	5.8	8.6#
80	10.4	6.4	9.6#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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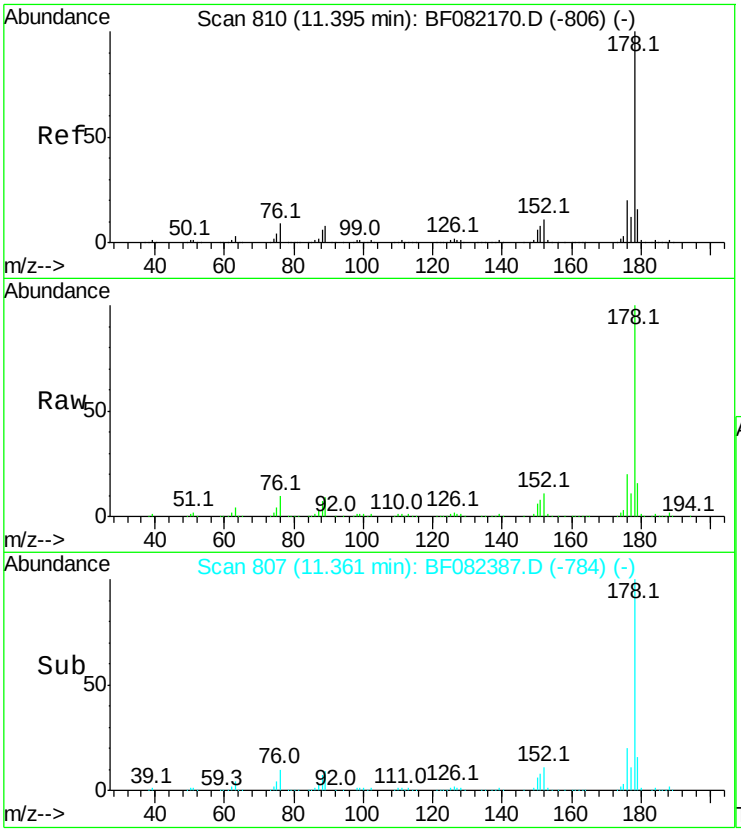
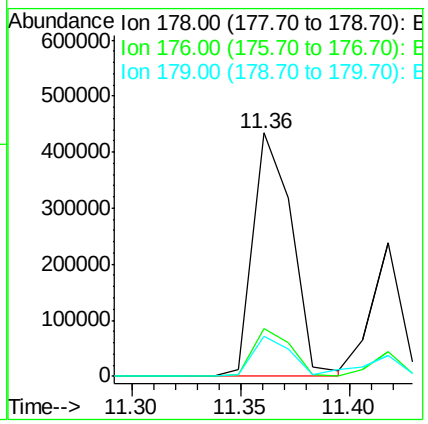
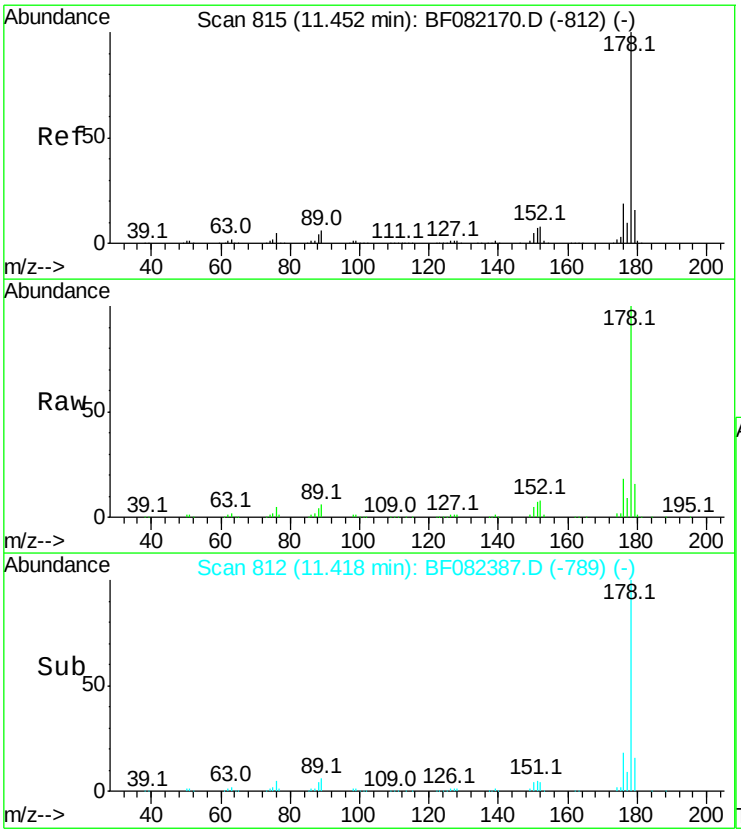


#70
Phenanthrene
Concen: 39.16 ng
RT: 11.36 min Scan# 807
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:178 Resp: 544328

Ion	Ratio	Lower	Upper
178	100		
176	19.8	16.0	24.0
179	16.3	12.6	19.0

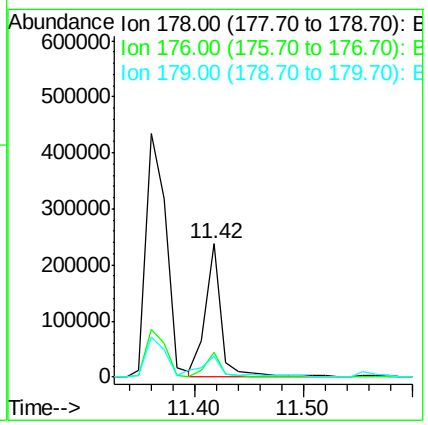


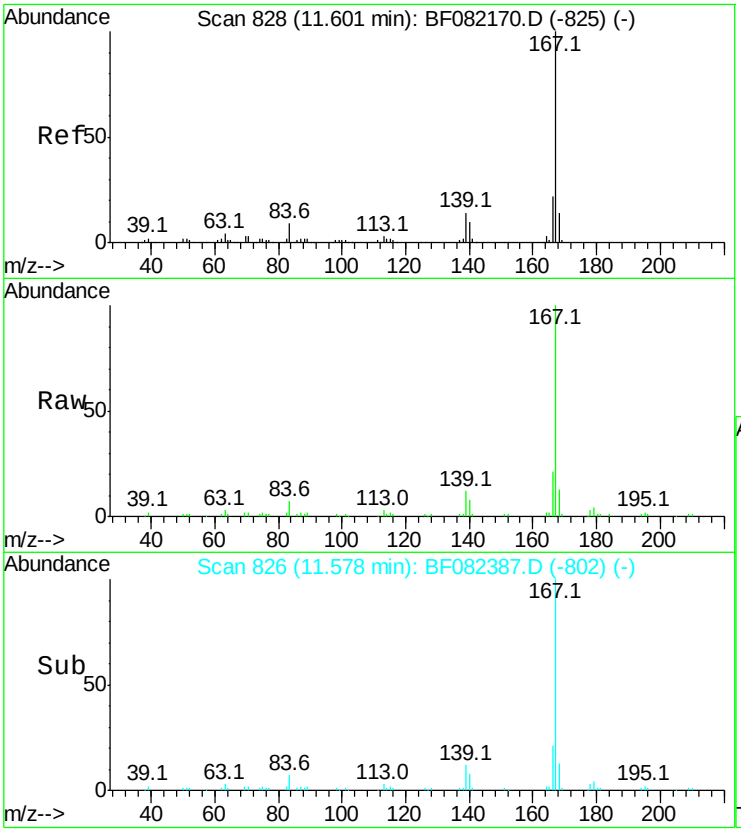


#71
Anthracene
Concen: 16.89 ng
RT: 11.42 min Scan# 812
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:178 Resp: 241879

Ion	Ratio	Lower	Upper
178	100		
176	18.4	15.4	23.0
179	15.8	12.5	18.7

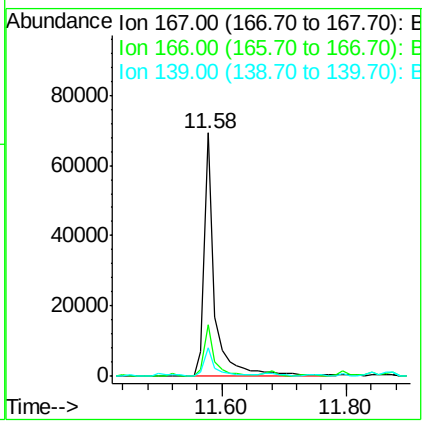




#72
Carbazole
Concen: 6.33 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:167 Resp: 82678

Ion	Ratio	Lower	Upper
167	100		
166	21.2	17.3	25.9
139	11.8	11.2	16.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

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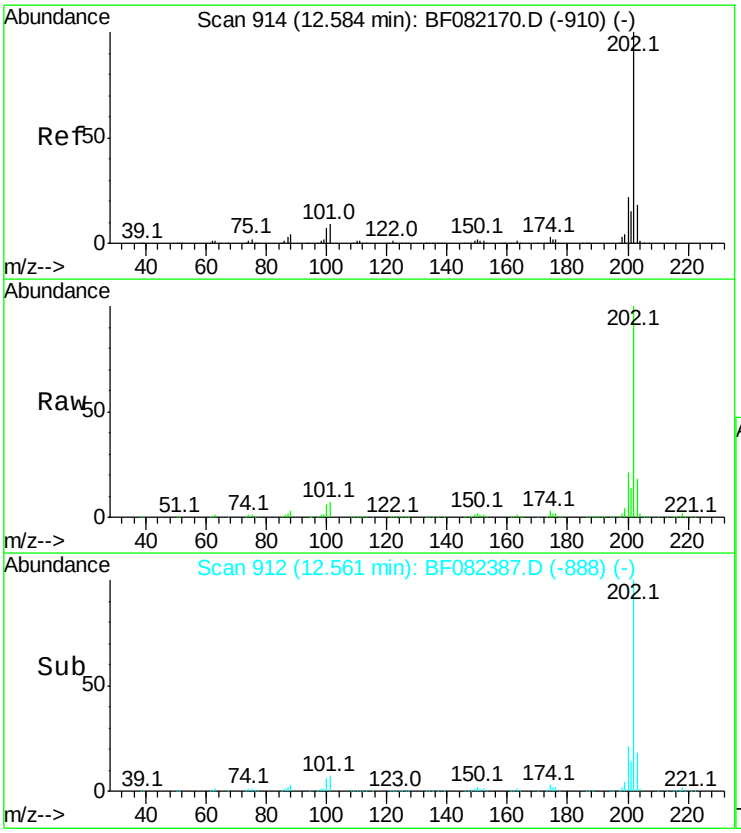
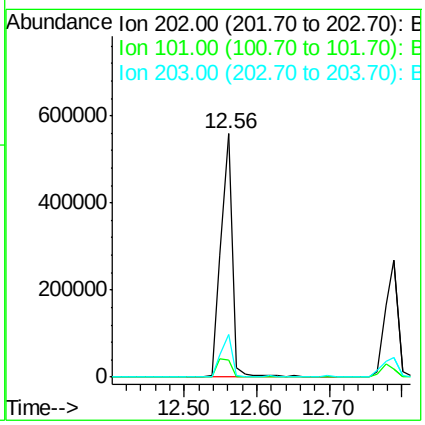
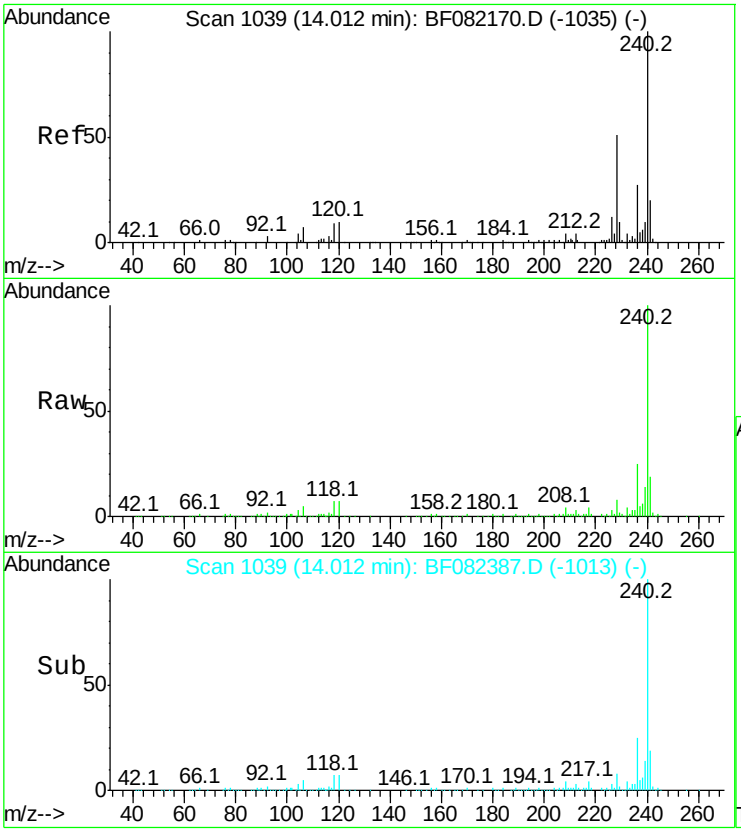


#74
Fluoranthene
Concen: 41.03 ng
RT: 12.56 min Scan# 912
Delta R.T. -0.02 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:202 Resp: 612463

Ion	Ratio	Lower	Upper
202	100		
101	7.2	0.0	29.3
203	17.8	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.01 min Scan# 1039
Delta R.T. -0.00 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:240 Resp: 223607

Ion	Ratio	Lower	Upper
240	100		
120	6.8	8.1	12.1#
236	25.1	21.3	31.9

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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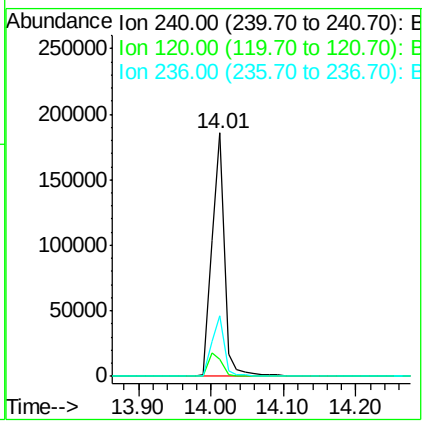
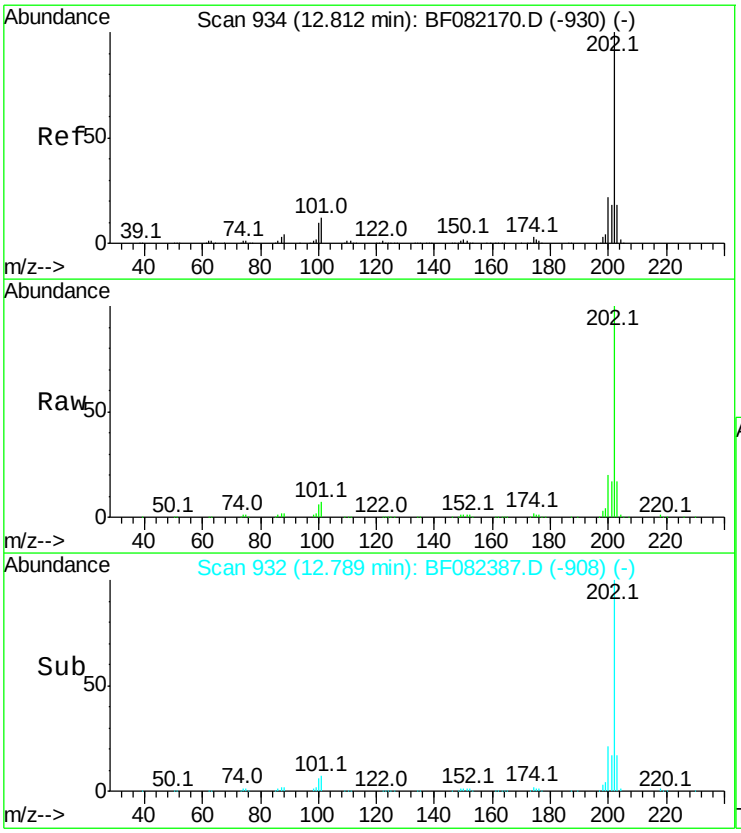
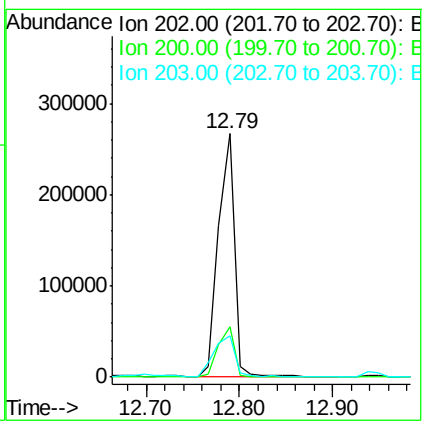




#77
Pyrene
Concen: 23.98 ng
RT: 12.79 min Scan# 932
Delta R.T. -0.02 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:202 Resp: 318173

Ion	Ratio	Lower	Upper
202	100		
200	20.5	17.9	26.9
203	17.1	14.5	21.7



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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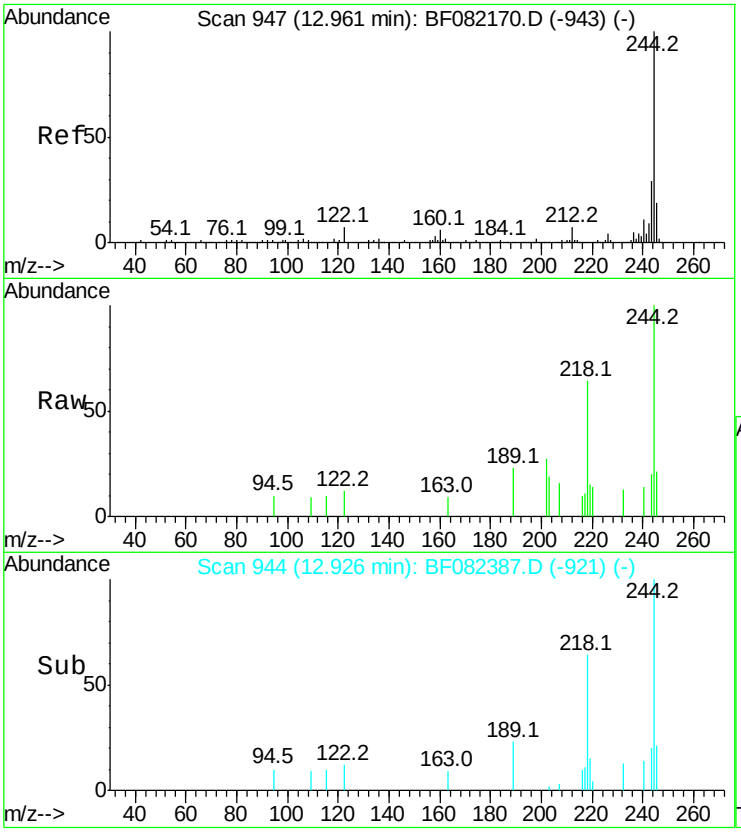
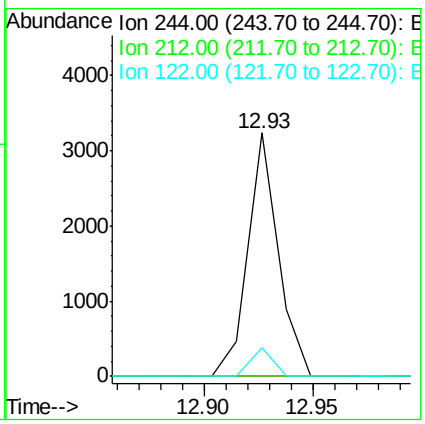
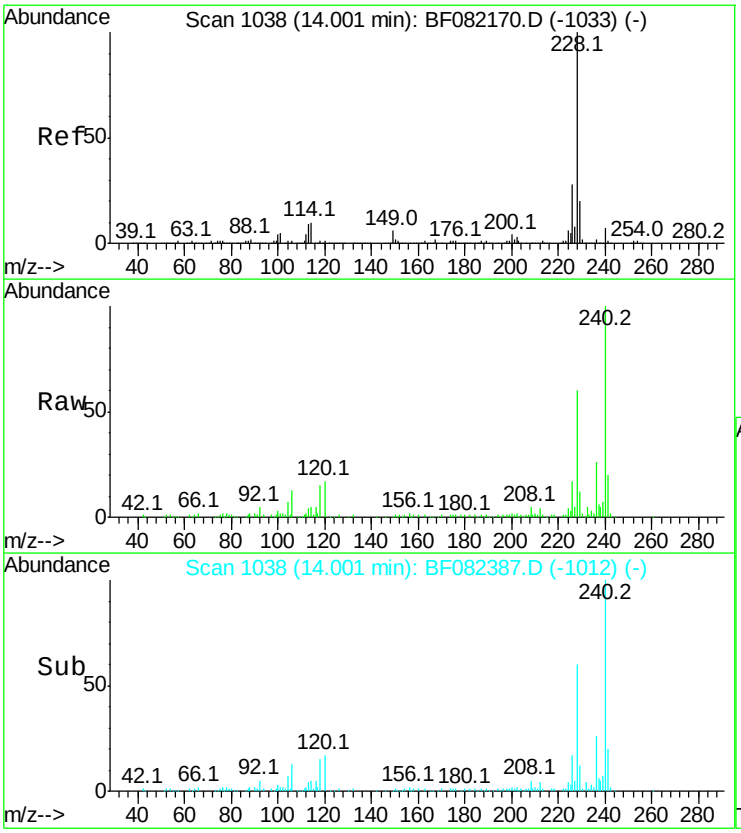


#78
Terphenyl-d14
Concen: 0.37 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:244 Resp: 3151

Ion	Ratio	Lower	Upper
244	100		
212	0.0	5.8	8.6#
122	11.6	5.9	8.9#

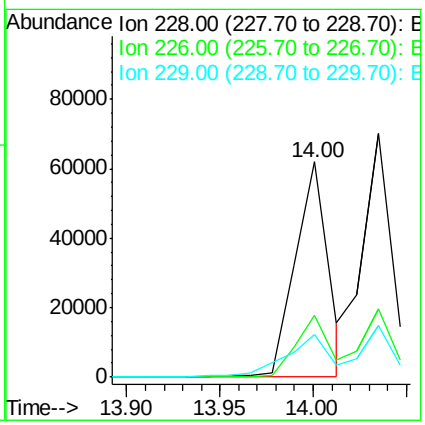


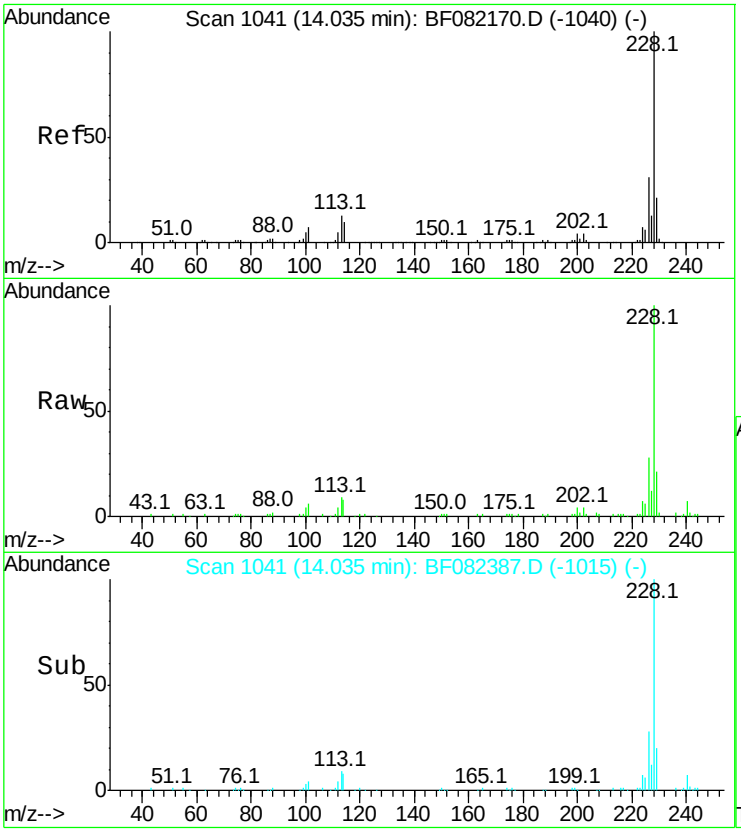


#80
Benzo(a)anthracene
Concen: 6.58 ng
RT: 14.00 min Scan# 1038
Delta R.T. -0.00 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:228 Resp: 76511

Ion	Ratio	Lower	Upper
228	100		
226	28.6	22.3	33.5
229	19.9	16.2	24.2





#82
Chrysene
Concen: 6.54 ng m
RT: 14.04 min Scan# 1041
Delta R.T. -0.00 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:228 Resp: 80225

Ion	Ratio	Lower	Upper
228	100		
226	28.2	24.4	36.6
229	21.0	16.3	24.5

Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

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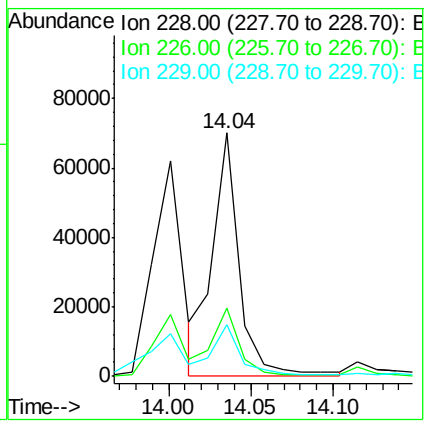
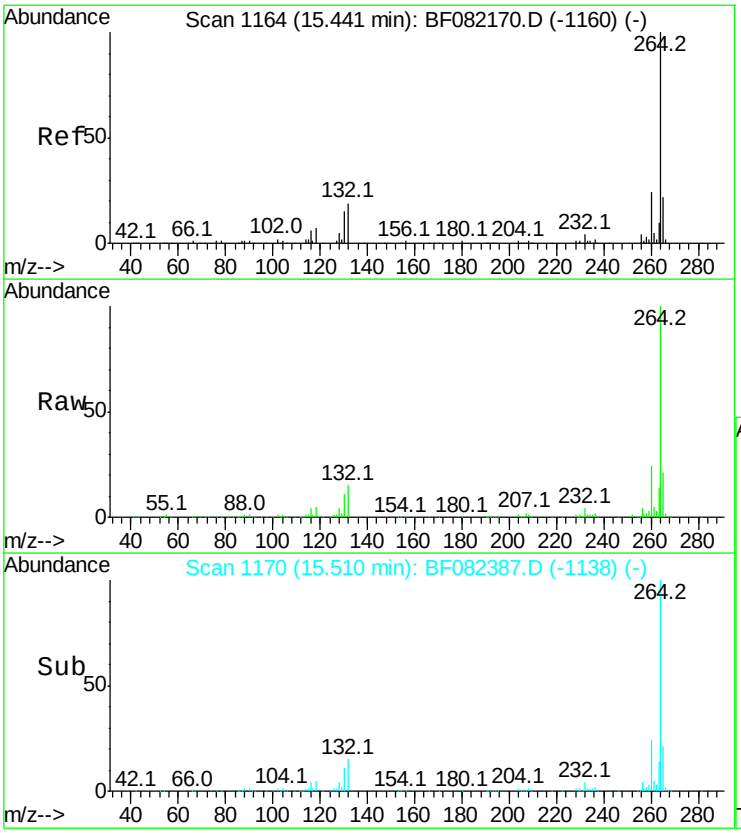
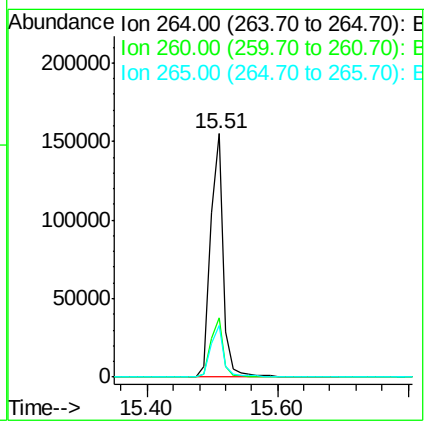


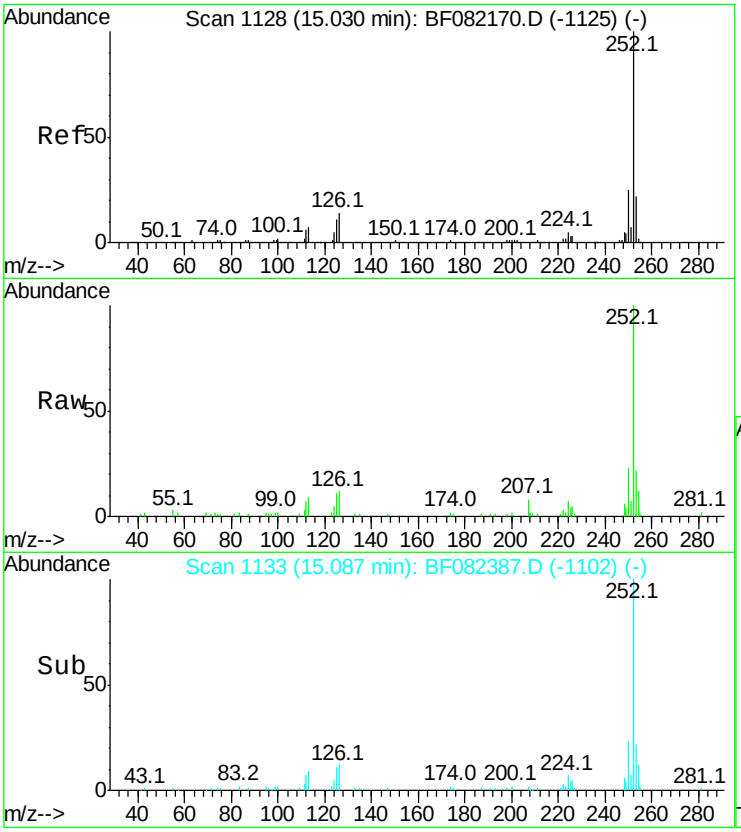


#86
Perylene-d12
Concen: 20.00 ng
RT: 15.51 min Scan# 1170
Delta R.T. 0.07 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:264 Resp: 213886

Ion	Ratio	Lower	Upper
264	100		
260	24.4	19.0	28.6
265	21.4	17.3	25.9

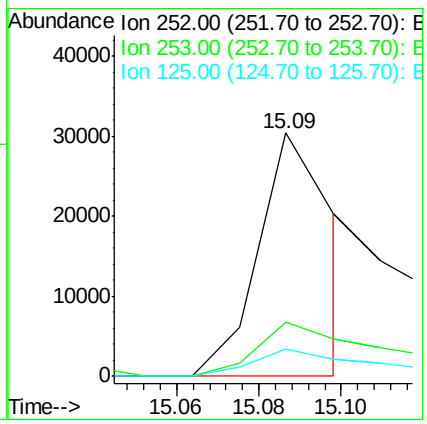




#87
Benzo(b)fluoranthene
Concen: 3.00 ng m
RT: 15.09 min Scan# 1133
Delta R.T. 0.06 min
Lab File: BF082387.D
Acq: 20 Oct 2015 7:25

Tgt Ion:252 Resp: 39036

Ion	Ratio	Lower	Upper
252	100		
253	22.3	18.0	27.0
125	11.4	8.6	12.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCK902DL2

Manual Integrations APPROVED
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Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 19 02:11:07 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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10/19/2015 5:32:26 PM

7 A B C D E F G H I J K

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.93	152	52994m	20.00	ng	0.09
21) Naphthalene-d8	8.21	136	243928m	20.00	ng	0.08
38) Acenaphthene-d10	9.95	164	130707m	20.00	ng	0.07
63) Phenanthrene-d10	11.45	188	216214m	20.00	ng	0.08
75) Chrysene-d12	14.18	240	201193m	20.00	ng	0.17
86) Perylene-d12	15.77	264	207898m	20.00	ng	0.33
System Monitoring Compounds						
5) 2-Fluorophenol	5.53	112	19749	7.52	ng	0.10
7) Phenol-d6	6.56	99	26821	7.85	ng	0.08
23) Nitrobenzene-d5	7.49	82	17075m	4.70	ng	0.07
41) 2,4,6-Tribromophenol	10.75	330	9803m	8.00	ng	0.08
44) 2-Fluorobiphenyl	9.27	172	48739m	6.18	ng	0.06
78) Terphenyl-d14	13.04	244	53751m	7.08	ng	0.08
Target Compounds						Qvalue
27) 2,4-Dimethylphenol	8.00	122	14915m	4.72	ng	
31) Naphthalene	8.23	128	79793m	7.55	ng	
37) 2-Methylnaphthalene	8.91	142	142122m	19.39	ng	
45) 1,1'-Biphenyl	9.37	154	111541m	11.19	ng	
48) Acenaphthylene	9.82	152	93142m	7.62	ng	
51) Acenaphthene	9.99	154	482090m	65.70	ng	
54) Dibenzofuran	10.17	168	1089074m	108.11	ng	
57) Fluorene	10.51	166	1336857m	161.57	ng	
70) Phenanthrene	11.51	178	6305255m	594.94	ng	
71) Anthracene	11.54	178	2023838m	185.32	ng	
72) Carbazole	11.69	167	1247157m	125.19	ng	
74) Fluoranthene	12.71	202	5953325m	523.02	ng	
77) Pyrene	12.93	202	4010573m	335.90	ng	
80) Benzo(a)anthracene	14.17	228	1625626m	155.29	ng	
82) Chrysene	14.22	228	1483214m	134.47	ng	
85) Indeno(1,2,3-cd)pyrene	17.26	276	147091m	16.78	ng	
87) Benzo(b)fluoranthene	15.34	252	1026529m	81.16	ng	
88) Benzo(k)fluoranthene	15.35	252	417733m	39.29	ng	
89) Benzo(a)pyrene	15.70	252	342768m	31.53	ng	
90) Dibenzo(a,h)anthracene	17.27	278	46104m	5.18	ng	
91) Benzo(g,h,i)perylene	17.70	276	100077m	11.56	ng	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (LSC Reviewed)

Sample Results: **BF082337.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 19 02:11:07 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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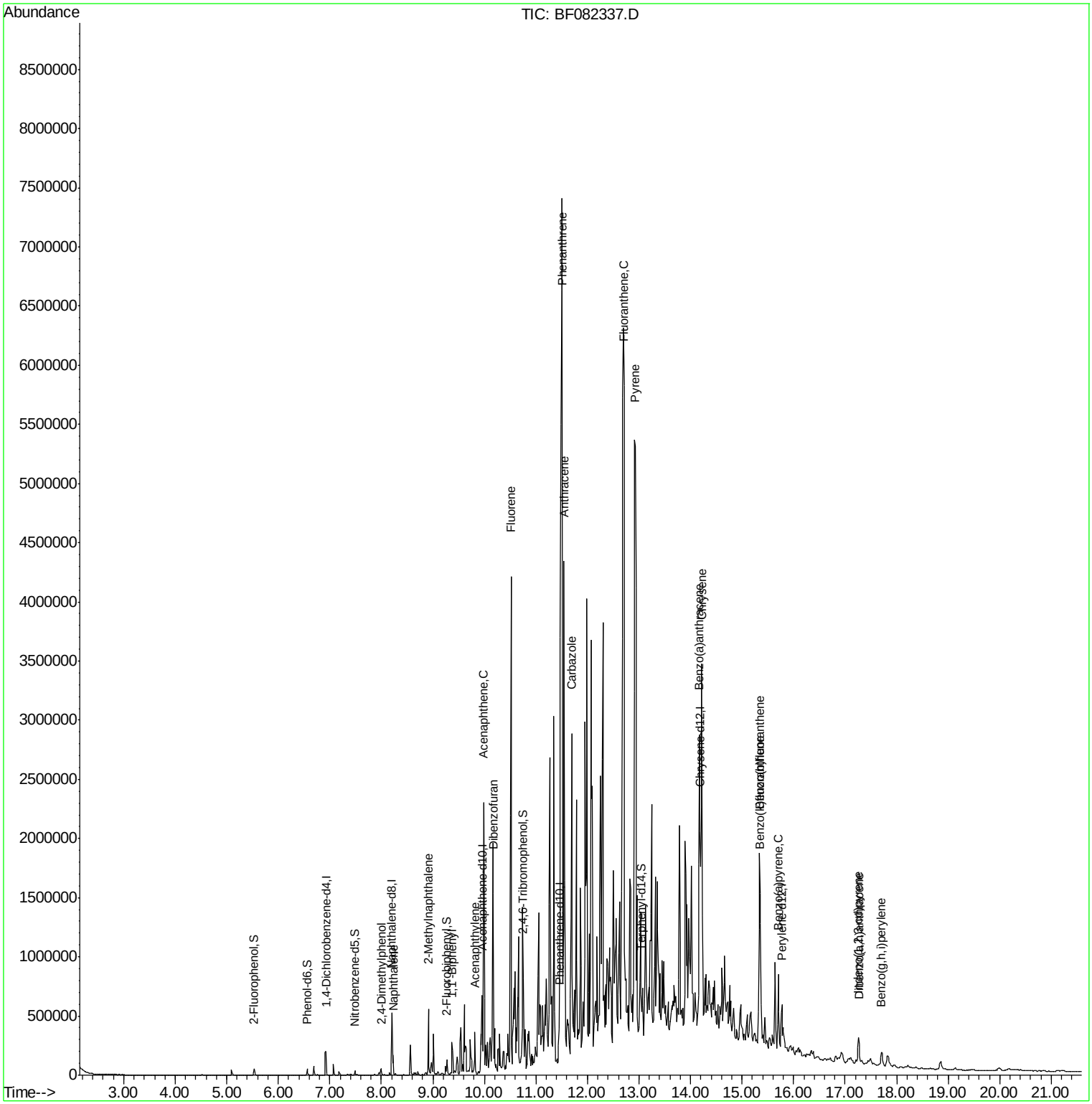
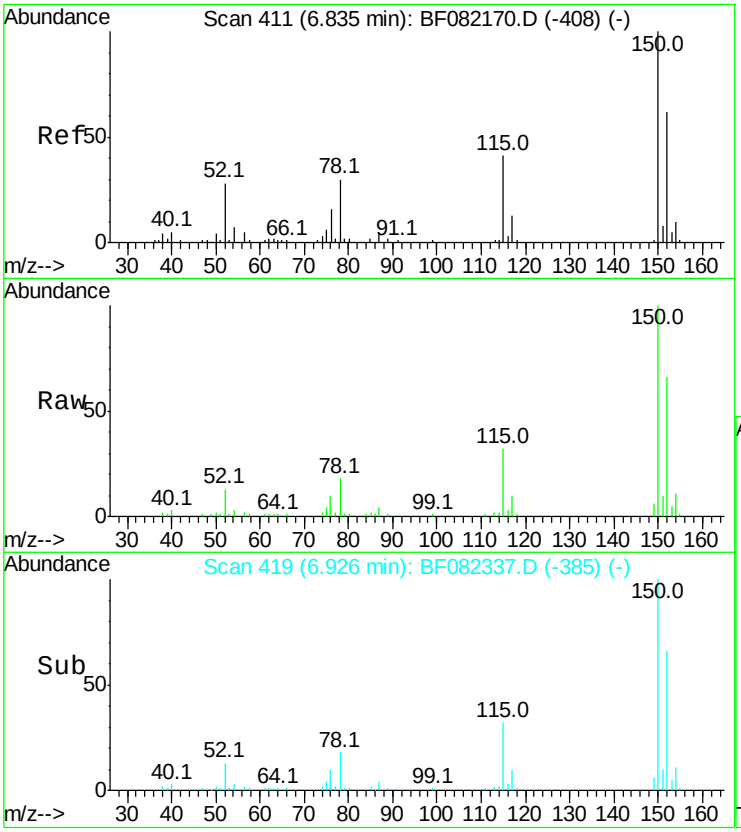
10/19/2015 5:32:26 PM



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

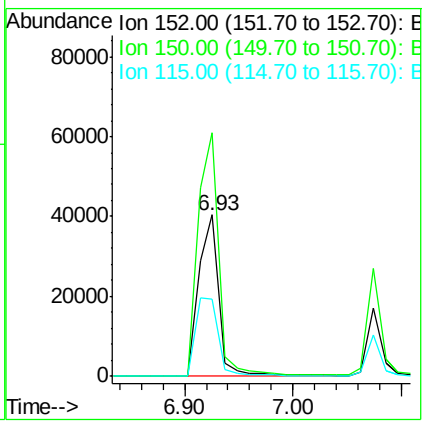
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:26 PM

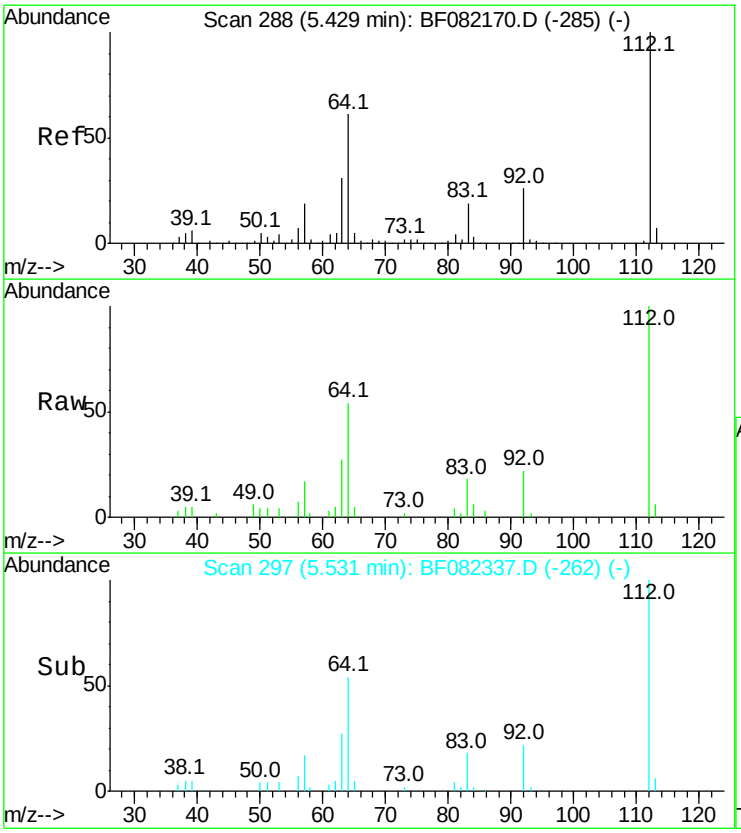


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng m
RT: 6.93 min Scan# 419
Delta R.T. 0.09 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:152 Resp: 52994

Ion	Ratio	Lower	Upper
152	100		
150	151.1	129.0	193.4
115	47.8	52.1	78.1#

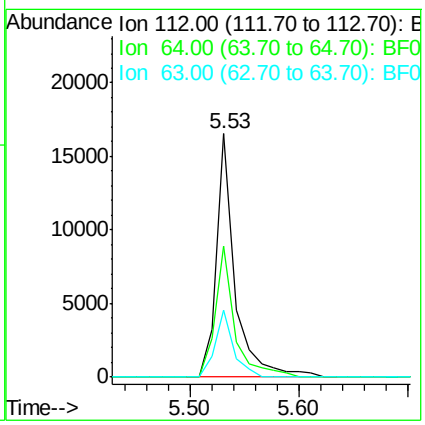


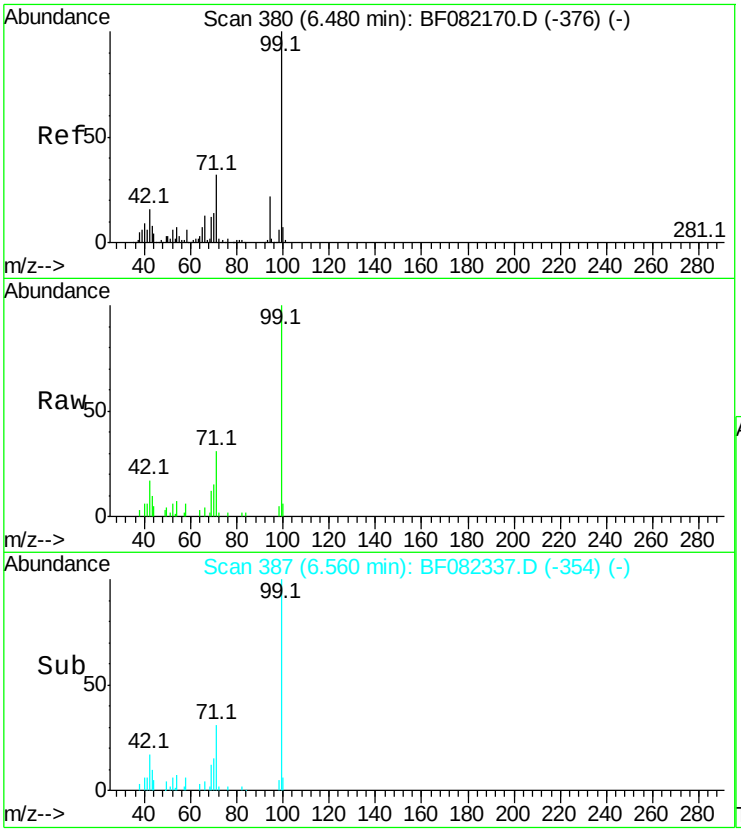


#5
2-Fluorophenol
Concen: 7.52 ng
RT: 5.53 min Scan# 297
Delta R.T. 0.10 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:112 Resp: 19749

Ion	Ratio	Lower	Upper
112	100		
64	53.8	48.6	73.0
63	27.5	25.1	37.7

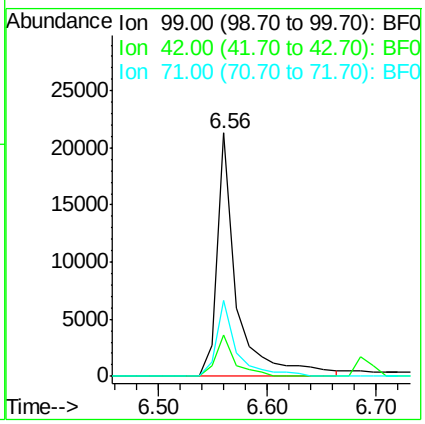




#7
Phenol-d6
Concen: 7.85 ng
RT: 6.56 min Scan# 387
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion: 99 Resp: 26821

Ion	Ratio	Lower	Upper
99	100		
42	16.8	13.2	19.8
71	31.1	25.6	38.4



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

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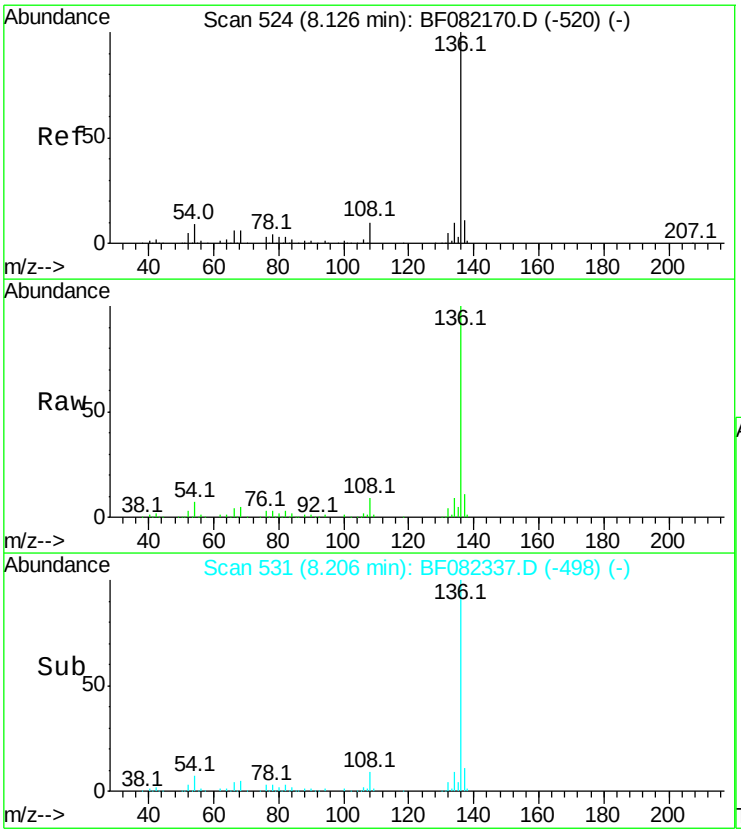
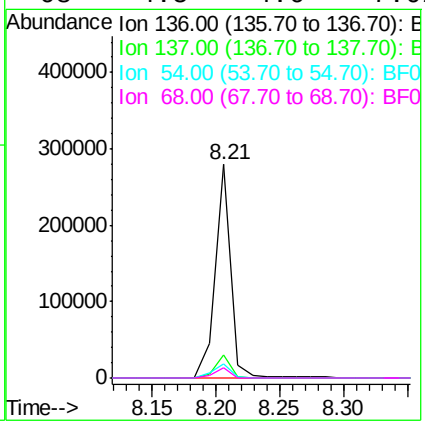


#21
Naphthalene-d8
Concen: 20.00 ng m
RT: 8.21 min Scan# 531
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:136 Resp: 243928

Ion	Ratio	Lower	Upper
136	100		
137	10.6	9.0	13.6
54	6.6	7.5	11.3#
68	4.5	4.6	7.0#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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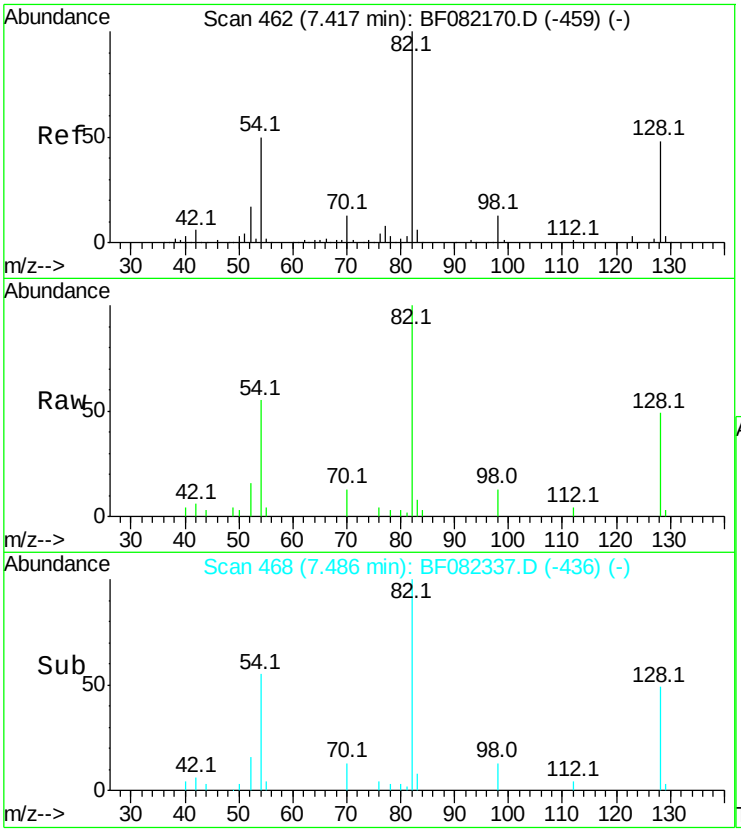
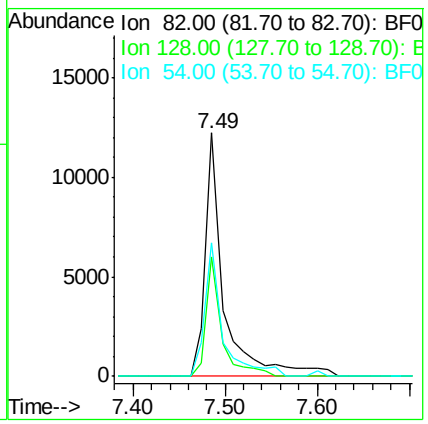
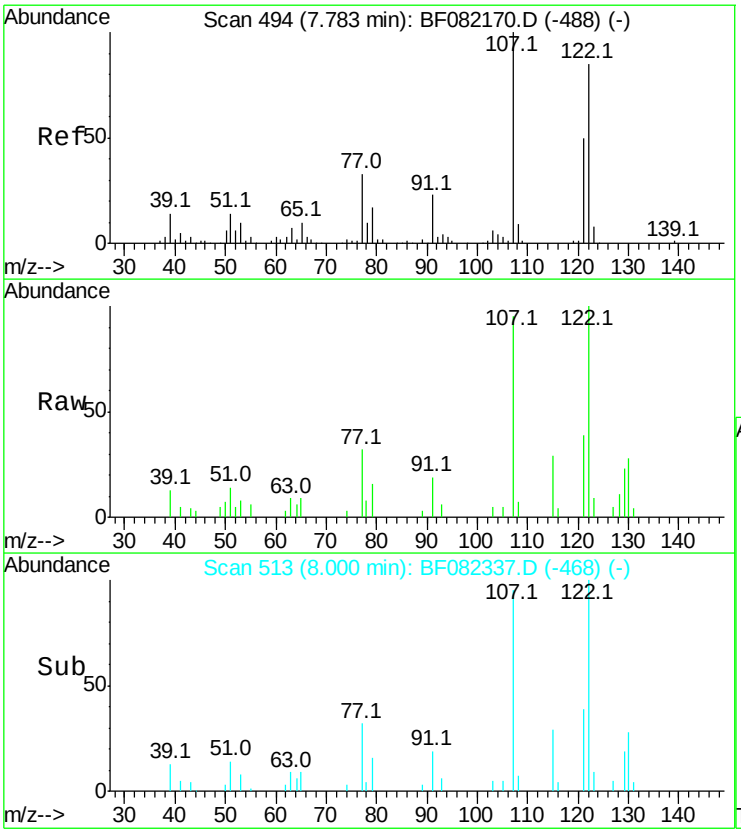


#23
Nitrobenzene-d5
Concen: 4.70 ng m
RT: 7.49 min Scan# 468
Delta R.T. 0.07 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion: 82 Resp: 17075

Ion	Ratio	Lower	Upper
82	100		
128	49.1	38.7	58.1
54	54.6	40.1	60.1

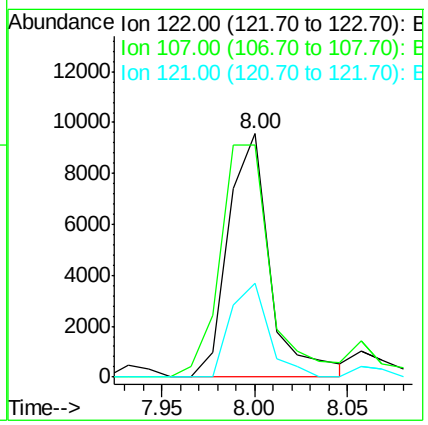




#27
2,4-Dimethylphenol
Concen: 4.72 ng m
RT: 8.00 min Scan# 513
Delta R.T. 0.22 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:122 Resp: 14915

Ion	Ratio	Lower	Upper
122	100		
107	95.4	94.0	141.0
121	38.6	46.8	70.2#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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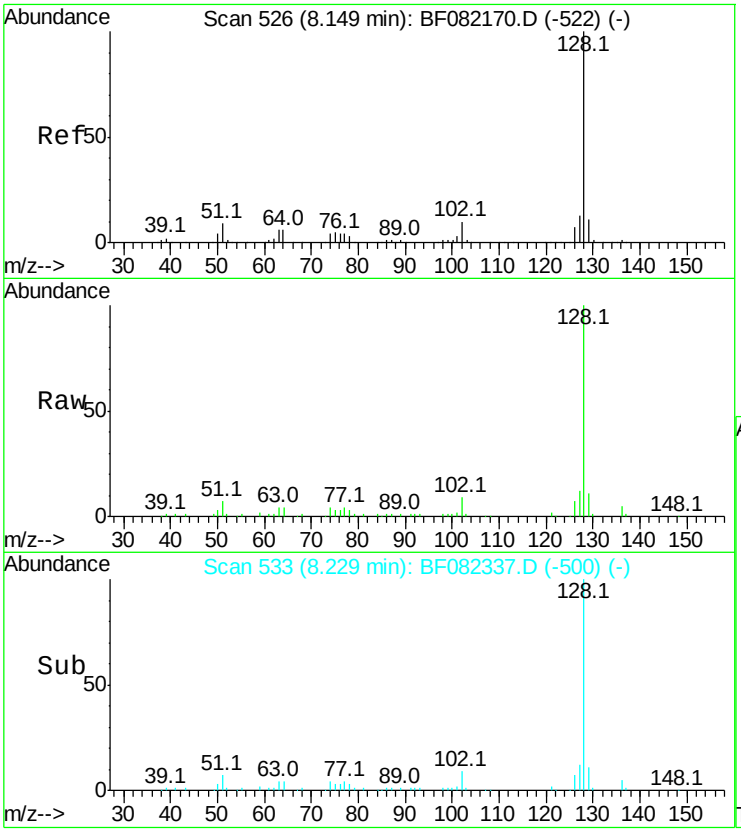
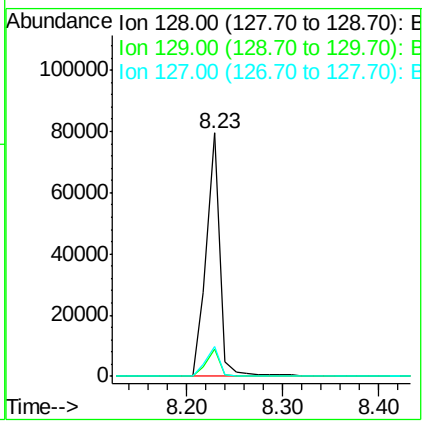
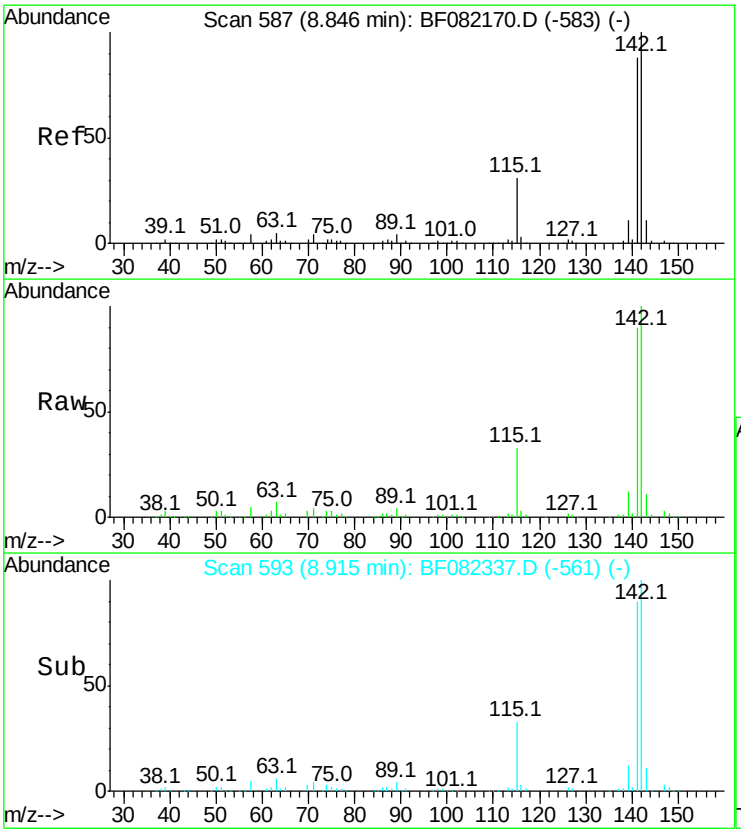


#31
Naphthalene
Concen: 7.55 ng m
RT: 8.23 min Scan# 533
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:128 Resp: 79793

Ion	Ratio	Lower	Upper
128	100		
129	11.0	9.1	13.7
127	12.3	10.7	16.1

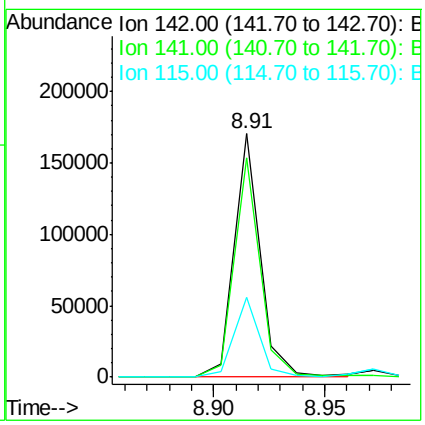




#37
2-Methylnaphthalene
Concen: 19.39 ng m
RT: 8.91 min Scan# 593
Delta R.T. 0.07 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:142 Resp: 142122

Ion	Ratio	Lower	Upper
142	100		
141	89.8	70.4	105.6
115	32.9	24.6	37.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

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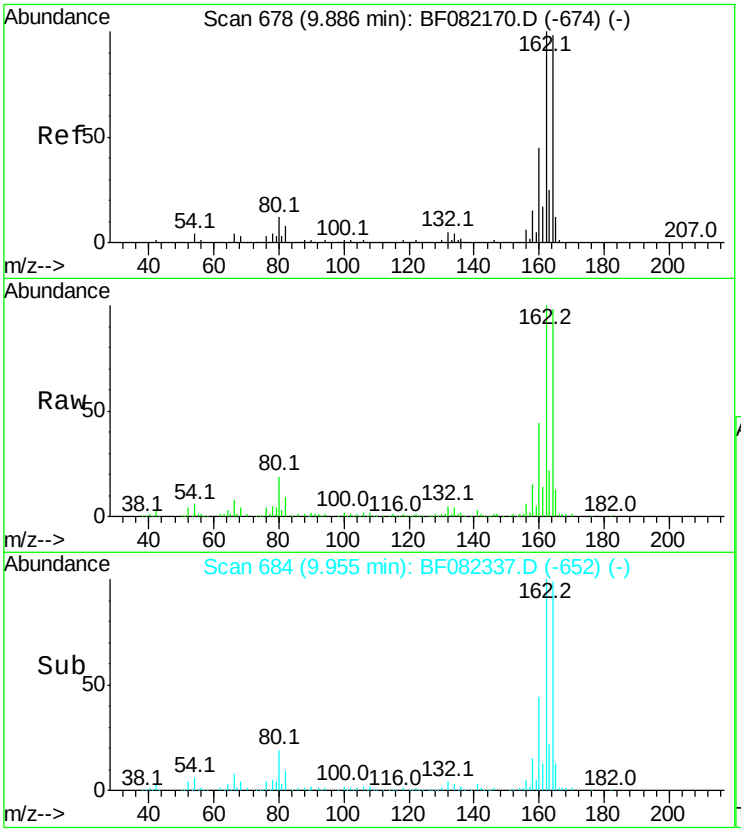
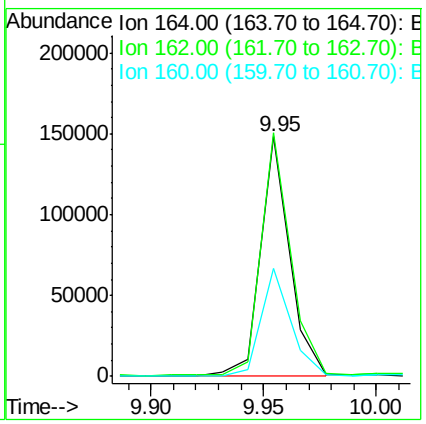
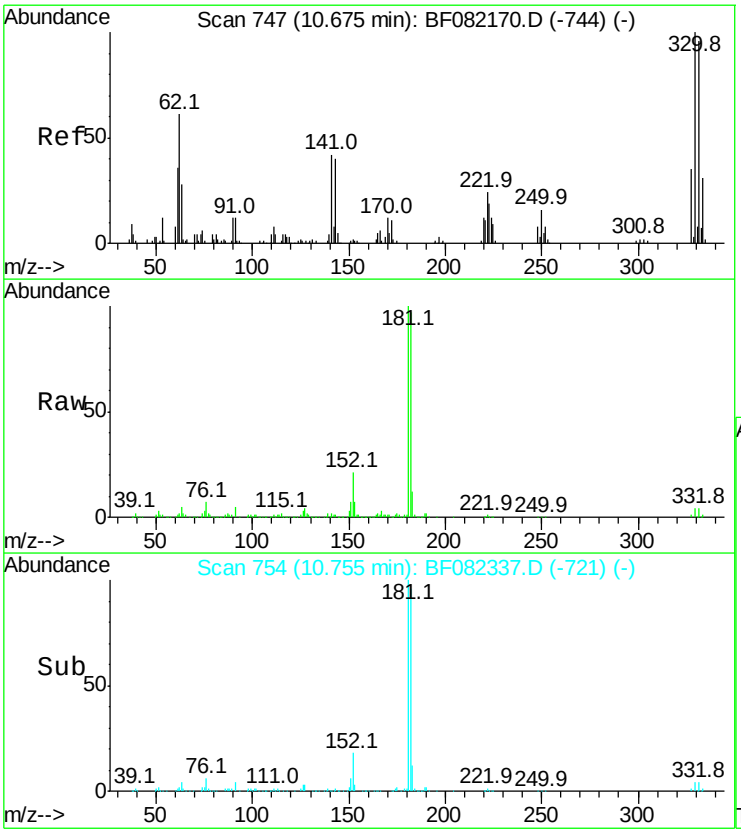


#38
Acenaphthene-d10
Concen: 20.00 ng m
RT: 9.95 min Scan# 684
Delta R.T. 0.07 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:164 Resp: 130707

Ion	Ratio	Lower	Upper
164	100		
162	101.7	81.6	122.4
160	45.1	36.4	54.6

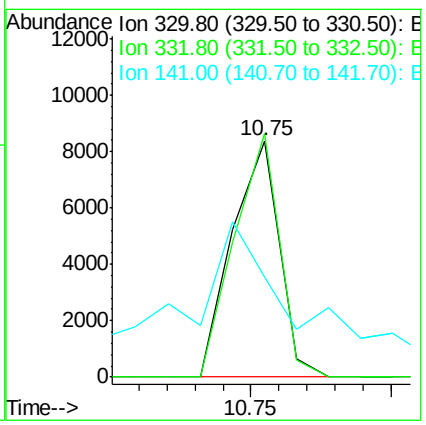




#41
2,4,6-Tribromophenol
Concen: 8.00 ng m
RT: 10.75 min Scan# 754
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:330 Resp: 9803

Ion	Ratio	Lower	Upper
330	100		
332	0.0	77.1	115.7#
141	0.0	29.8	44.8#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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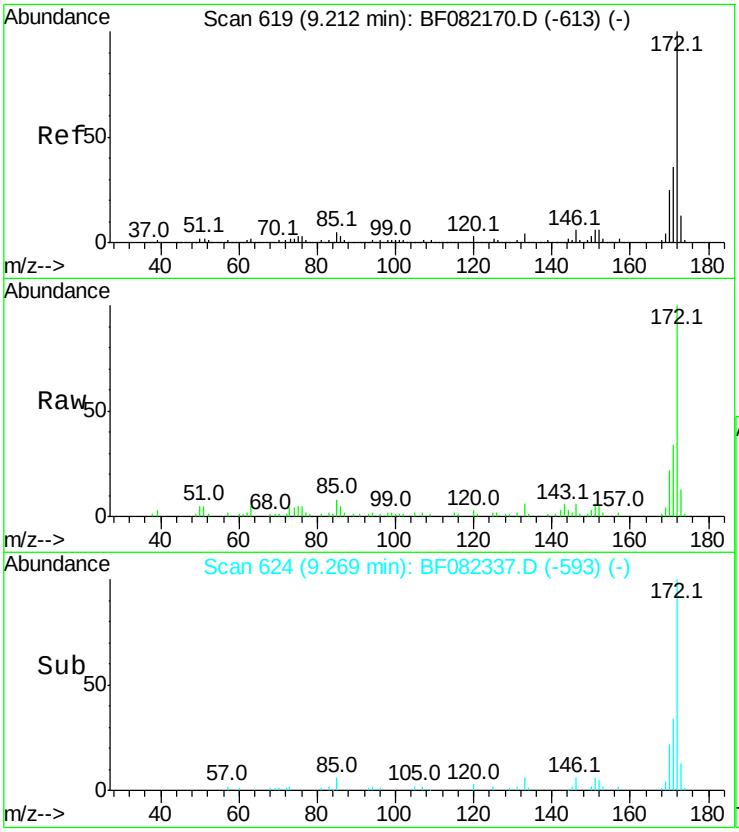
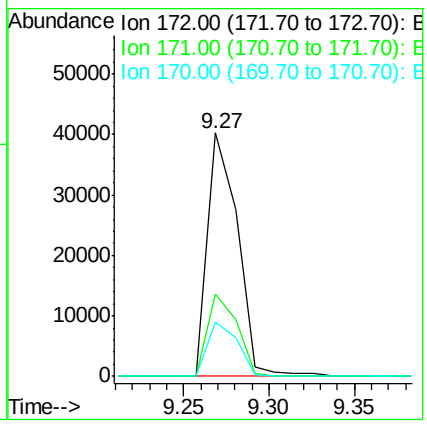
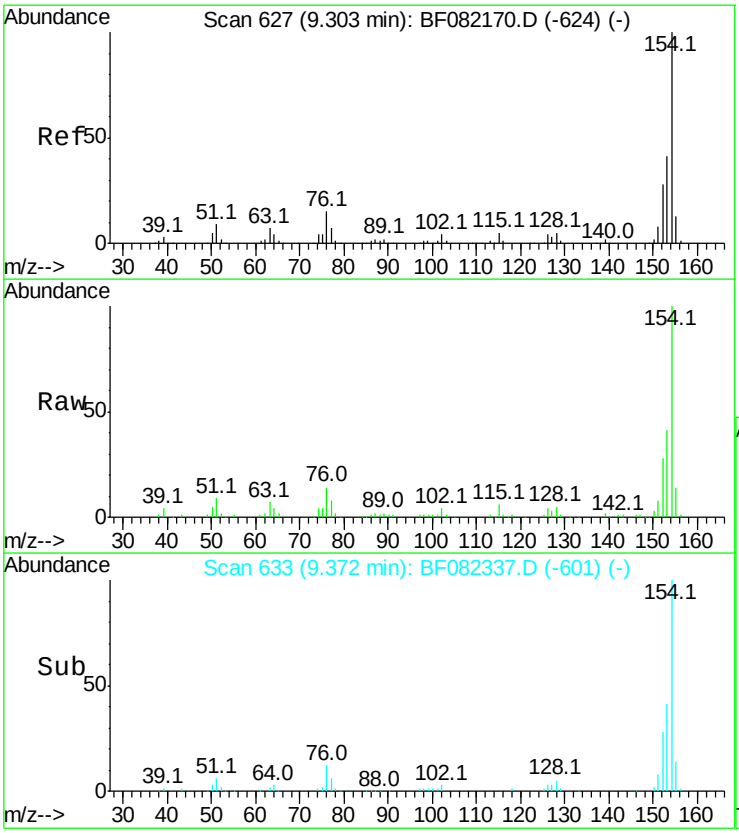


#44
2-Fluorobiphenyl
Concen: 6.18 ng m
RT: 9.27 min Scan# 624
Delta R.T. 0.06 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:172 Resp: 48739

Ion	Ratio	Lower	Upper
172	100		
171	33.9	28.6	42.8
170	22.1	19.7	29.5

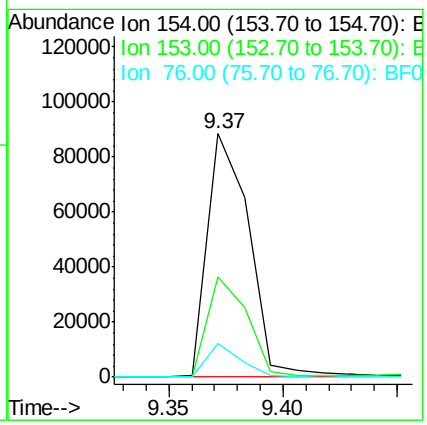




#45
1,1'-Biphenyl
Concen: 11.19 ng m
RT: 9.37 min Scan# 633
Delta R.T. 0.07 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:154 Resp: 111541

Ion	Ratio	Lower	Upper
154	100		
153	41.1	20.6	60.6
76	13.8	0.0	35.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

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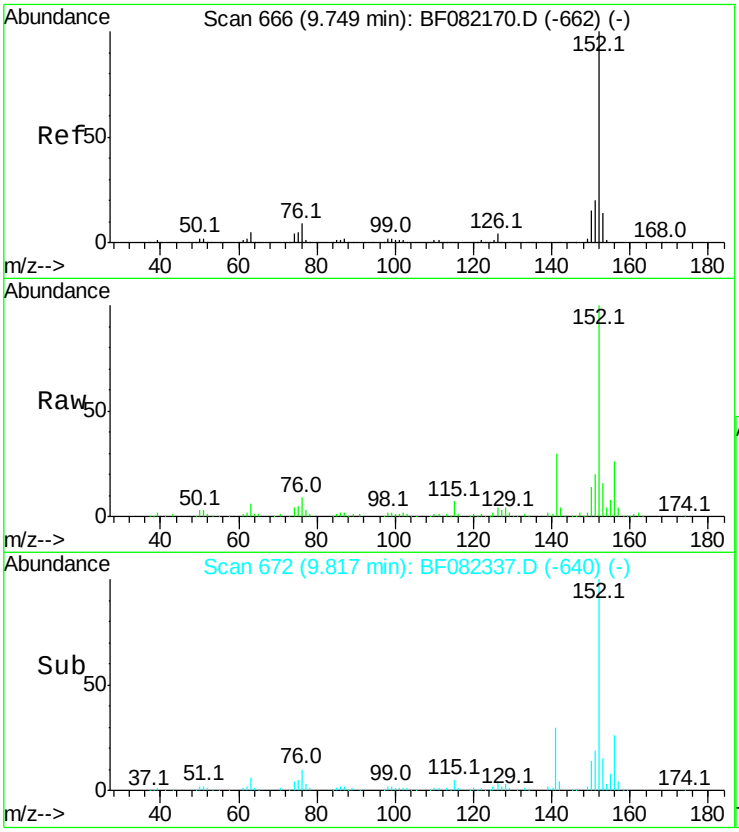
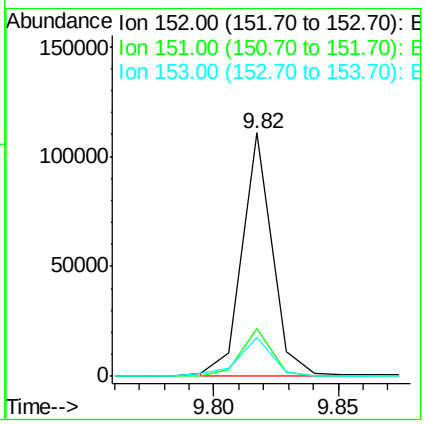
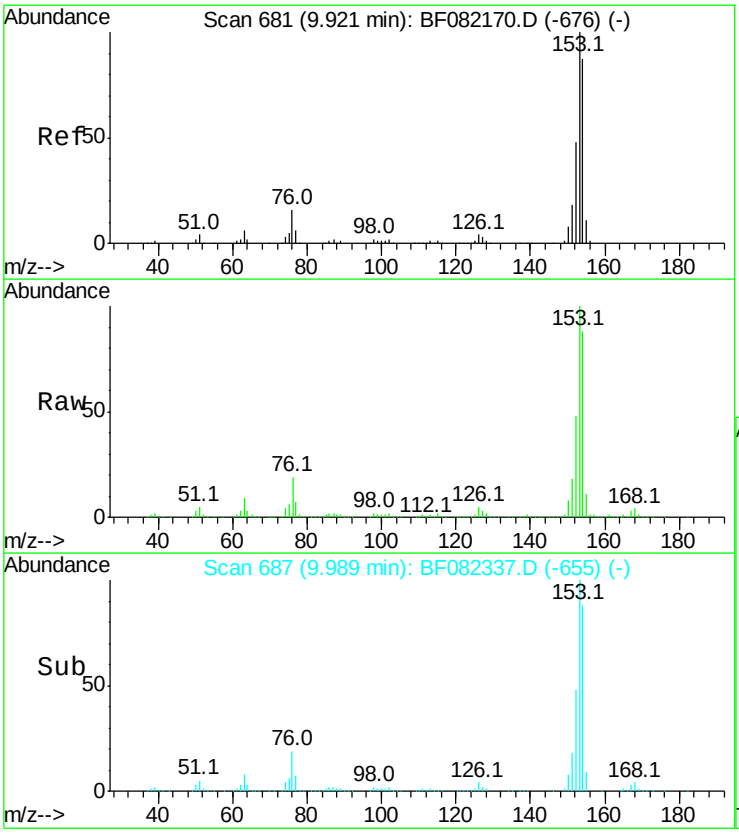


#48
Acenaphthylene
Concen: 7.62 ng m
RT: 9.82 min Scan# 672
Delta R.T. 0.07 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:152 Resp: 93142

Ion	Ratio	Lower	Upper
152	100		
151	19.8	16.4	24.6
153	16.1	10.8	16.2

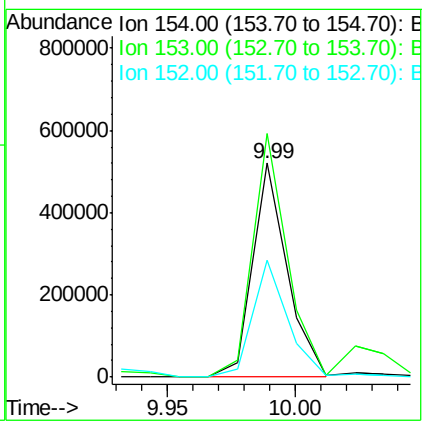




#51
Acenaphthene
Concen: 65.70 ng m
RT: 9.99 min Scan# 687
Delta R.T. 0.07 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:154 Resp: 482090

Ion	Ratio	Lower	Upper
154	100		
153	114.0	91.4	137.2
152	54.8	44.3	66.5



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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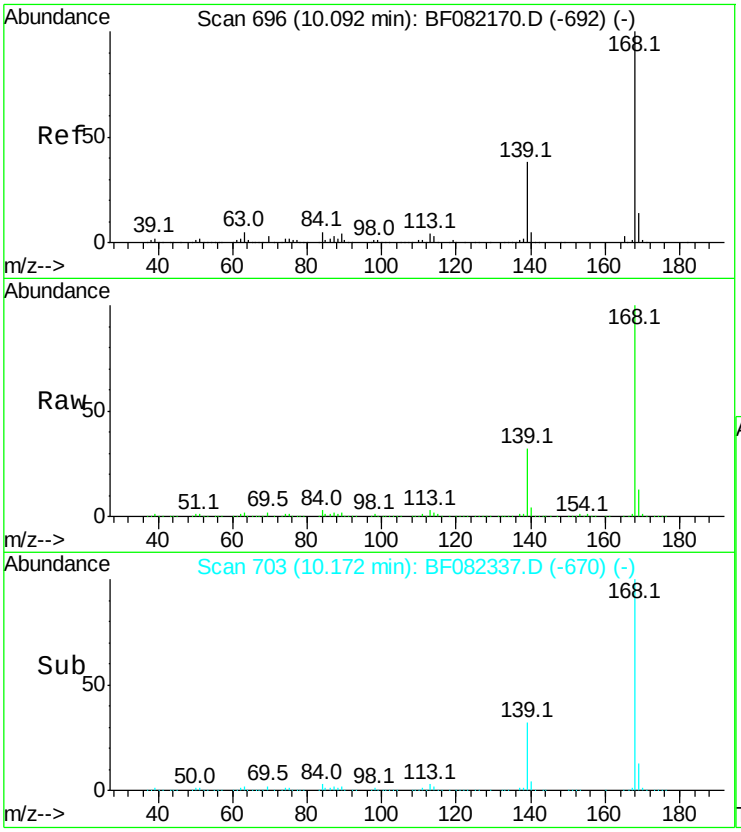
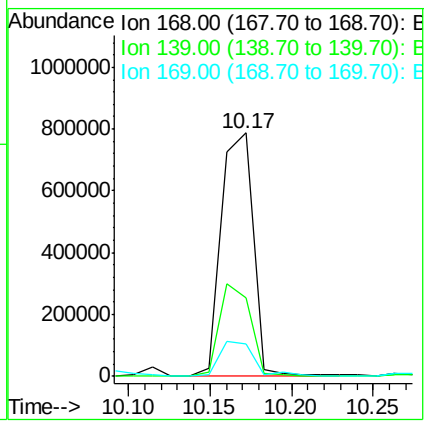
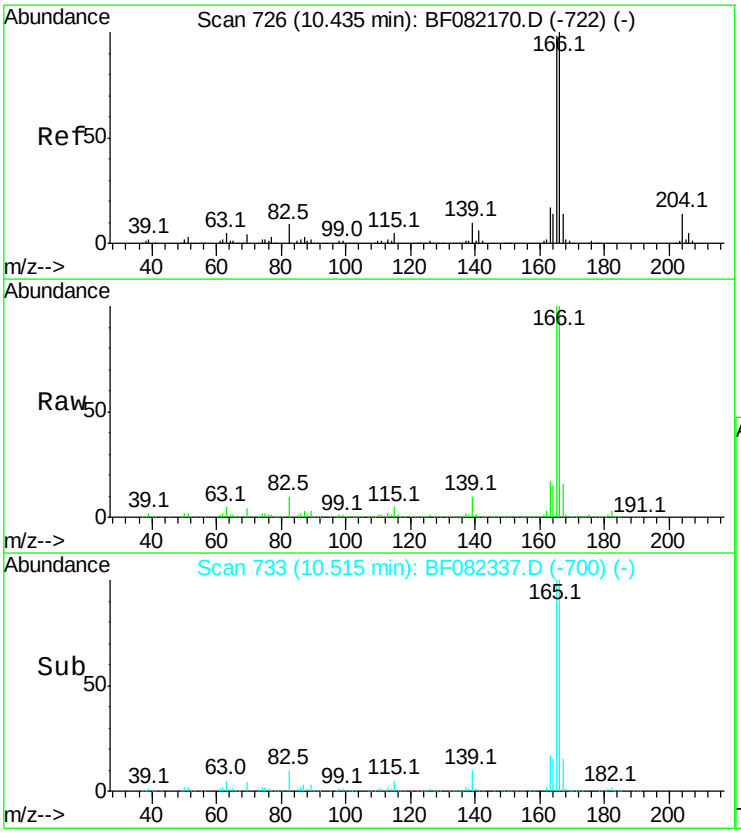


#54
Dibenzofuran
Concen: 108.11 ng m
RT: 10.17 min Scan# 703
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:168 Resp: 1089074

Ion	Ratio	Lower	Upper
168	100		
139	32.2	31.0	46.6
169	13.1	10.9	16.3

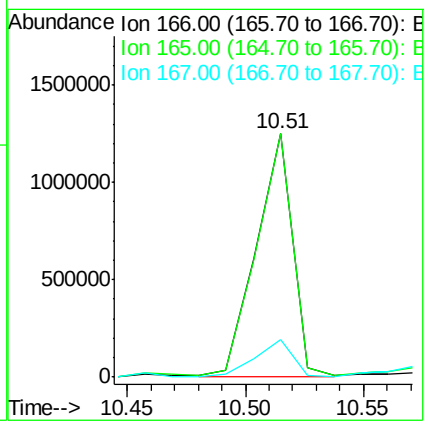




#57
Fluorene
Concen: 161.57 ng m
RT: 10.51 min Scan# 733
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:166 Resp: 1336857

Ion	Ratio	Lower	Upper
166	100		
165	100.1	78.3	117.5
167	15.6	10.8	16.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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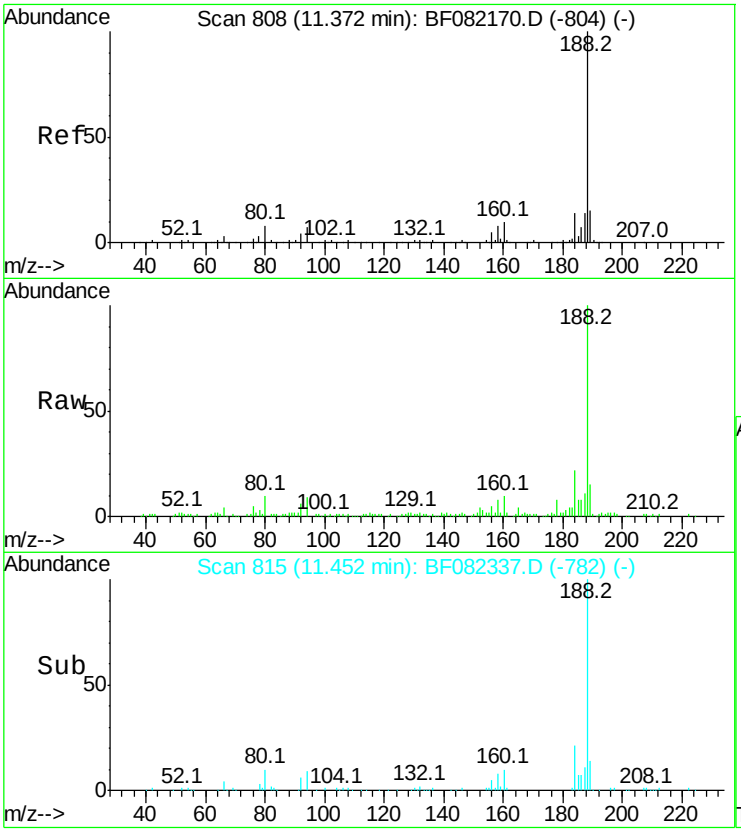
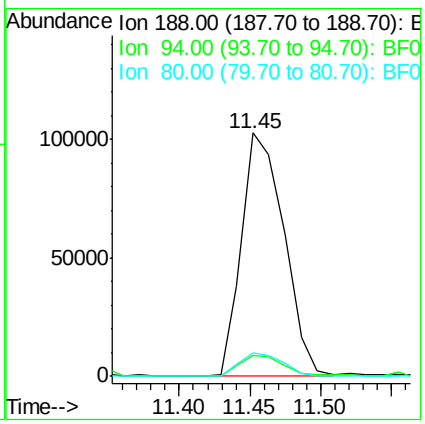
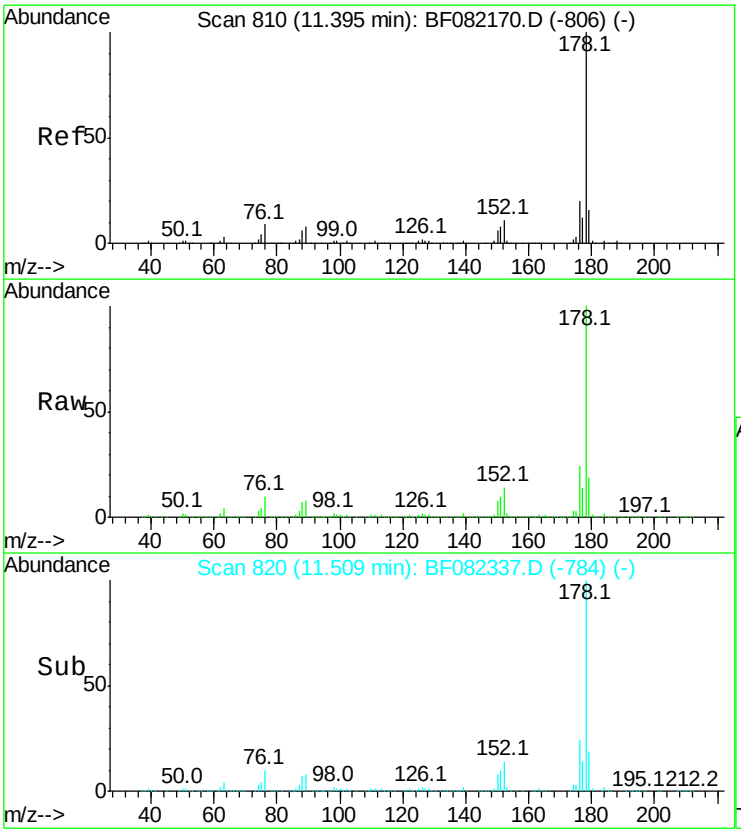


#63
Phenanthrene-d10
Concen: 20.00 ng m
RT: 11.45 min Scan# 815
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:188 Resp: 216214

Ion	Ratio	Lower	Upper
188	100		
94	8.6	5.8	8.6
80	9.7	6.4	9.6#

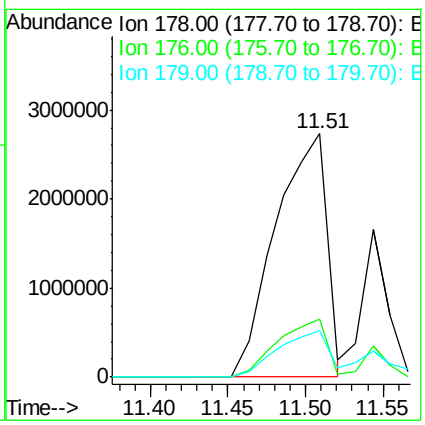




#70
Phenanthrene
Concen: 594.94 ng m
RT: 11.51 min Scan# 820
Delta R.T. 0.11 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:178 Resp: 6305255

Ion	Ratio	Lower	Upper
178	100		
176	24.1	16.0	24.0#
179	19.1	12.6	19.0#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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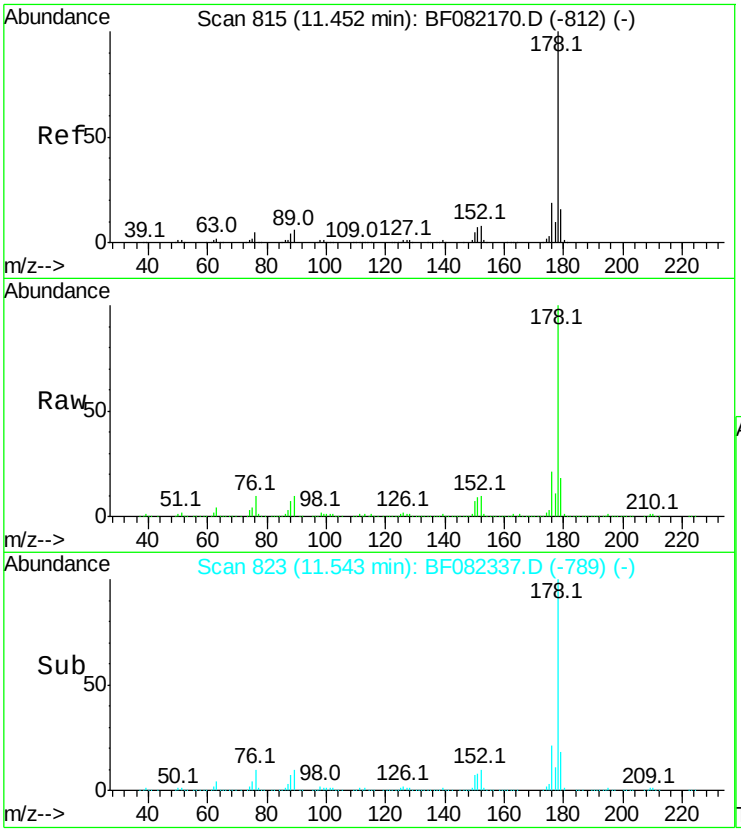
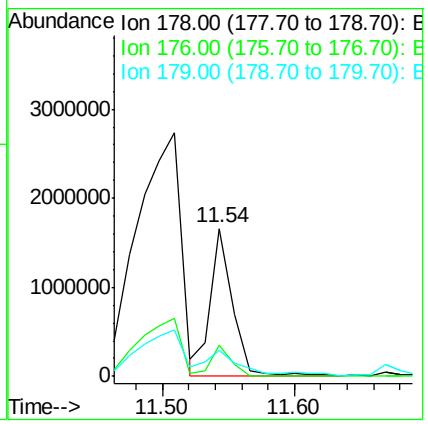
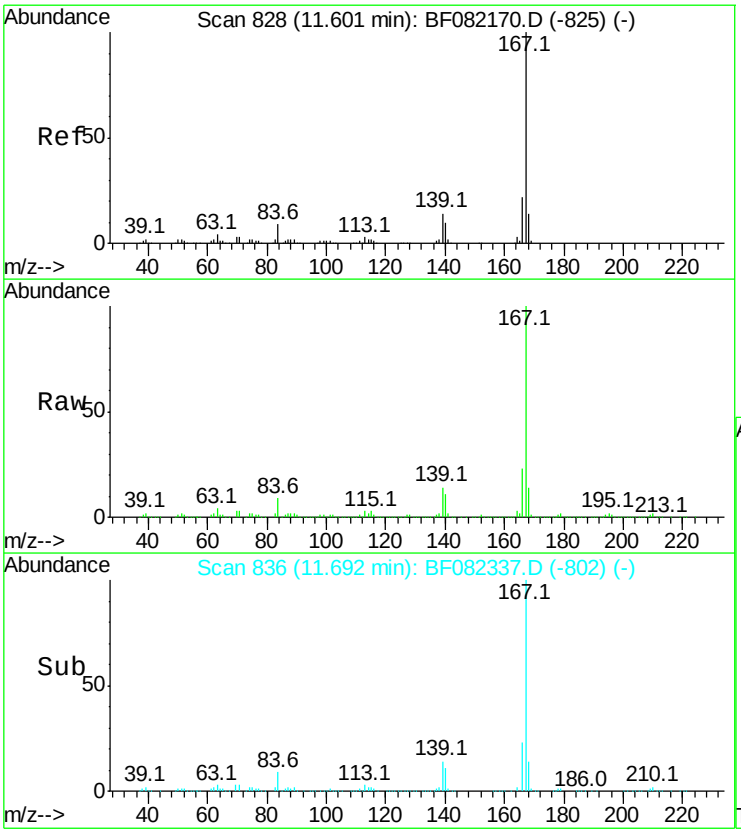


#71
Anthracene
Concen: 185.32 ng m
RT: 11.54 min Scan# 823
Delta R.T. 0.09 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:178 Resp: 2023838

Ion	Ratio	Lower	Upper
178	100		
176	20.8	15.4	23.0
179	17.9	12.5	18.7

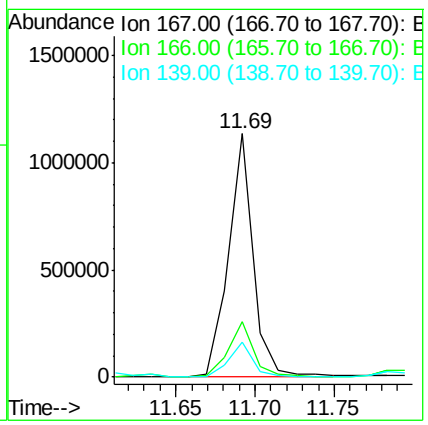




#72
Carbazole
Concen: 125.19 ng m
RT: 11.69 min Scan# 836
Delta R.T. 0.09 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:167 Resp: 1247157

Ion	Ratio	Lower	Upper
167	100		
166	22.9	17.3	25.9
139	14.2	11.2	16.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

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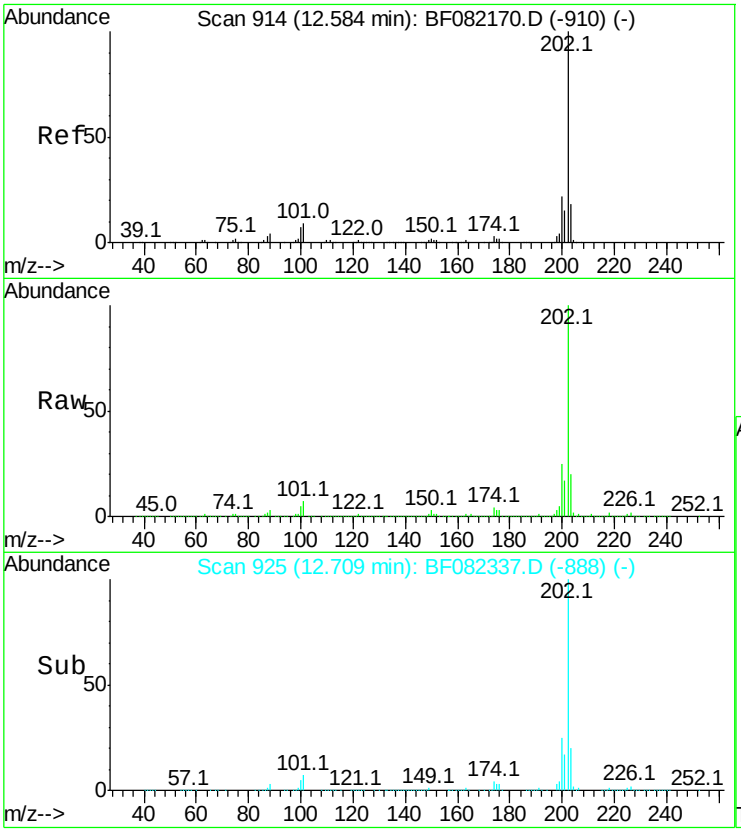
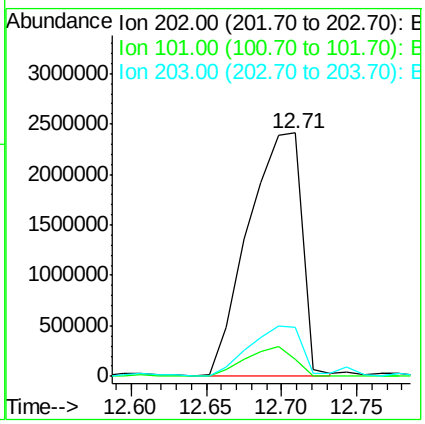
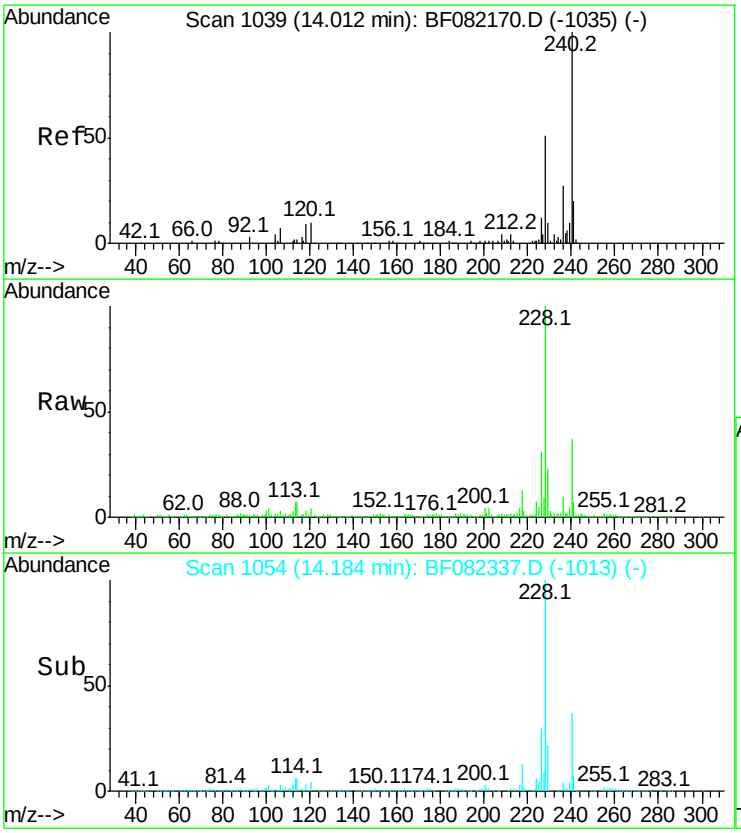


#74
Fluoranthene
Concen: 523.02 ng m
RT: 12.71 min Scan# 925
Delta R.T. 0.13 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:202 Resp: 5953325

Ion	Ratio	Lower	Upper
202	100		
101	7.0	0.0	29.3
203	20.3	0.0	37.8

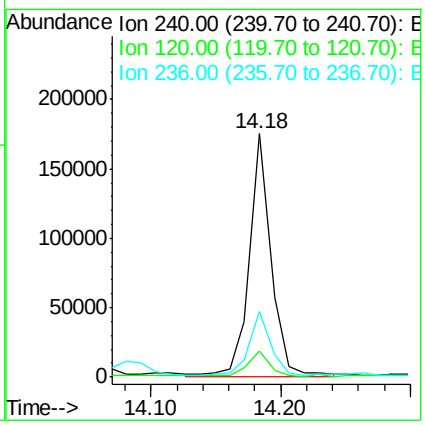


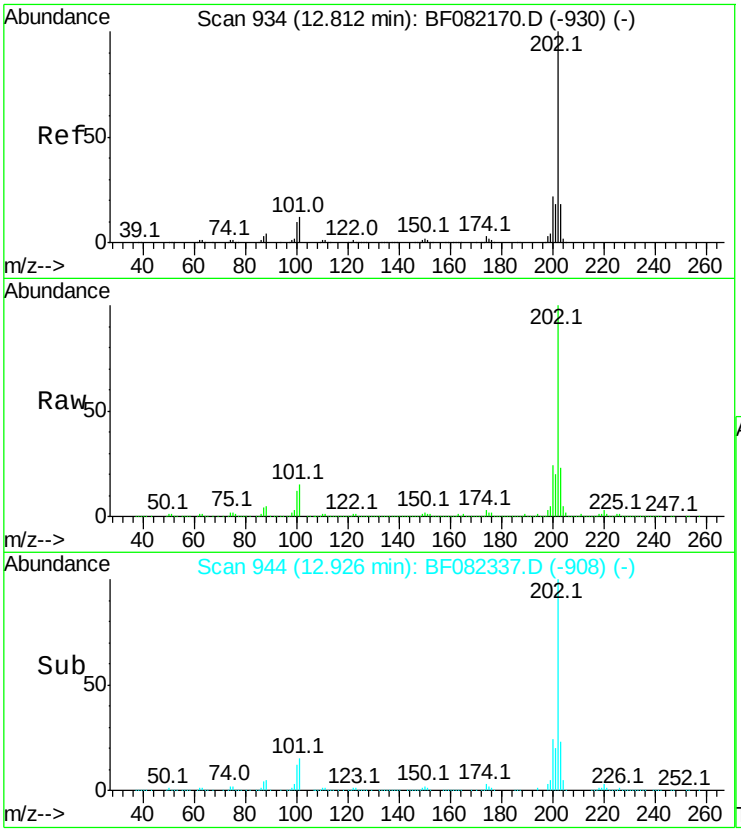


#75
Chrysene-d12
Concen: 20.00 ng m
RT: 14.18 min Scan# 1054
Delta R.T. 0.17 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:240 Resp: 201193

Ion	Ratio	Lower	Upper
240	100		
120	10.8	8.1	12.1
236	27.0	21.3	31.9





#77
Pyrene
Concen: 335.90 ng m
RT: 12.93 min Scan# 944
Delta R.T. 0.11 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:202 Resp: 4010573

Ion	Ratio	Lower	Upper
202	100		
200	24.4	17.9	26.9
203	23.3	14.5	21.7#

Instrument :
BNA_F
ClientSampleId :
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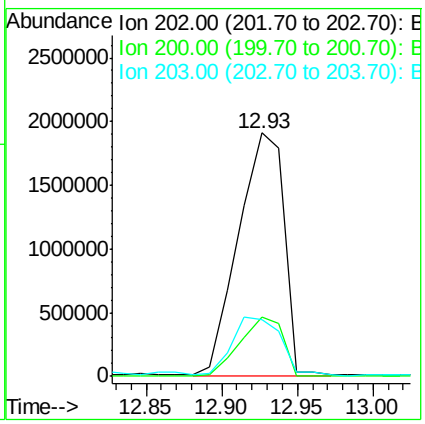
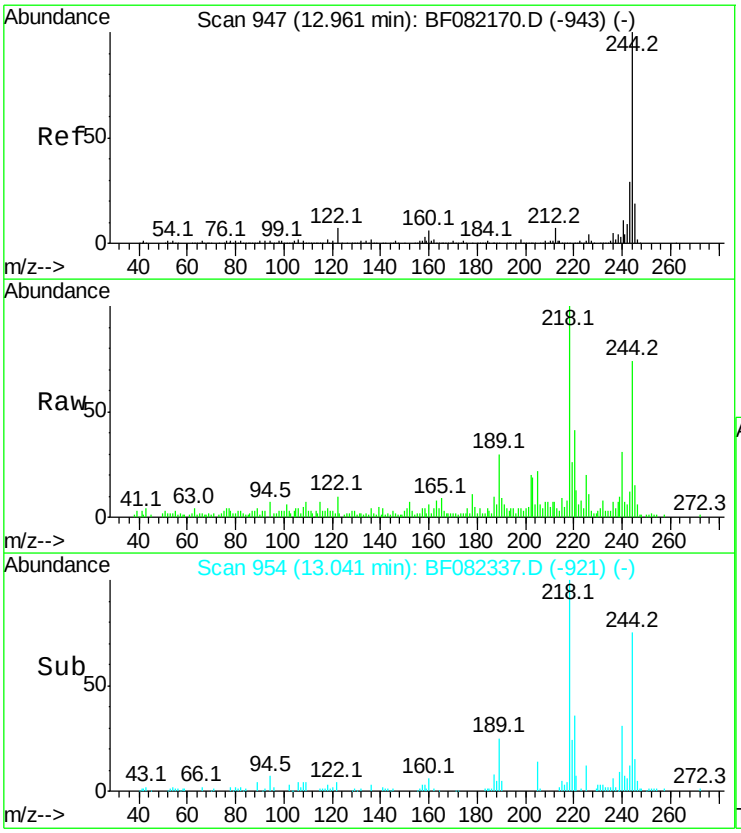
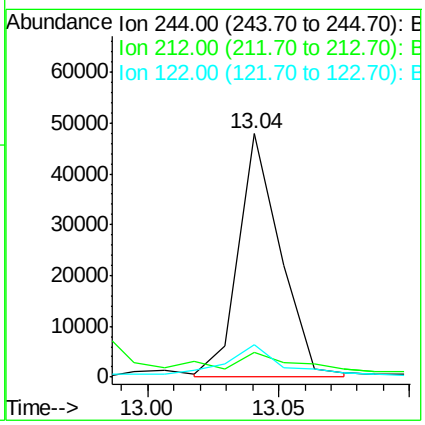


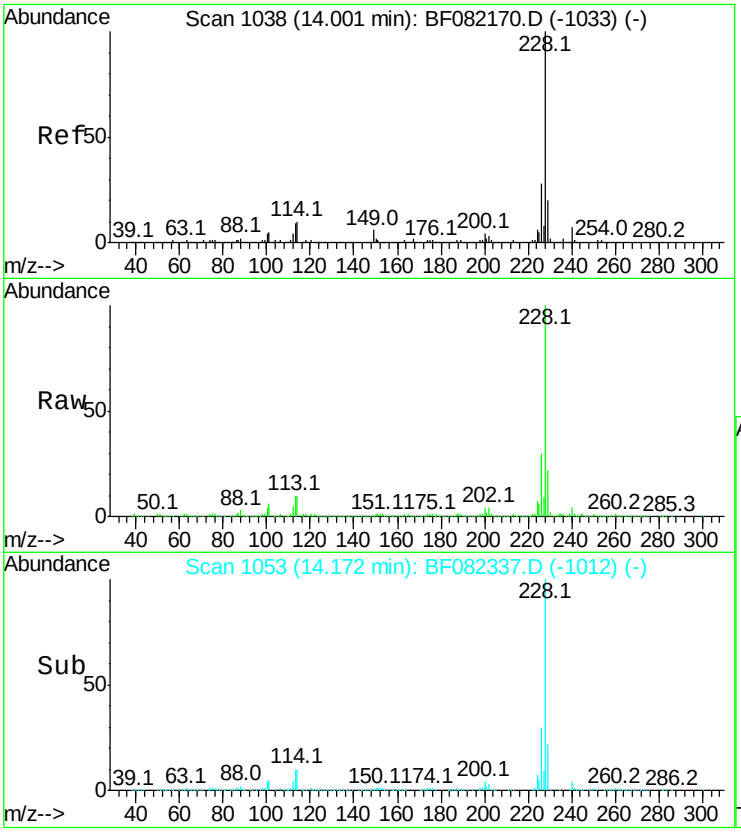


#78
Terphenyl-d14
Concen: 7.08 ng m
RT: 13.04 min Scan# 954
Delta R.T. 0.08 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:244 Resp: 53751

Ion	Ratio	Lower	Upper
244	100		
212	10.0	5.8	8.6#
122	13.5	5.9	8.9#





#80
Benzo(a)anthracene
Concen: 155.29 ng m
RT: 14.17 min Scan# 1053
Delta R.T. 0.17 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:228 Resp: 1625626

Ion	Ratio	Lower	Upper
228	100		
226	30.0	22.3	33.5
229	22.3	16.2	24.2

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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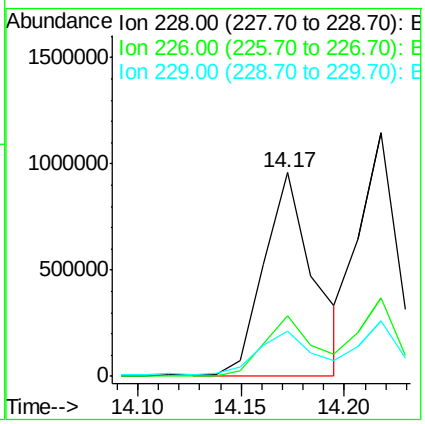
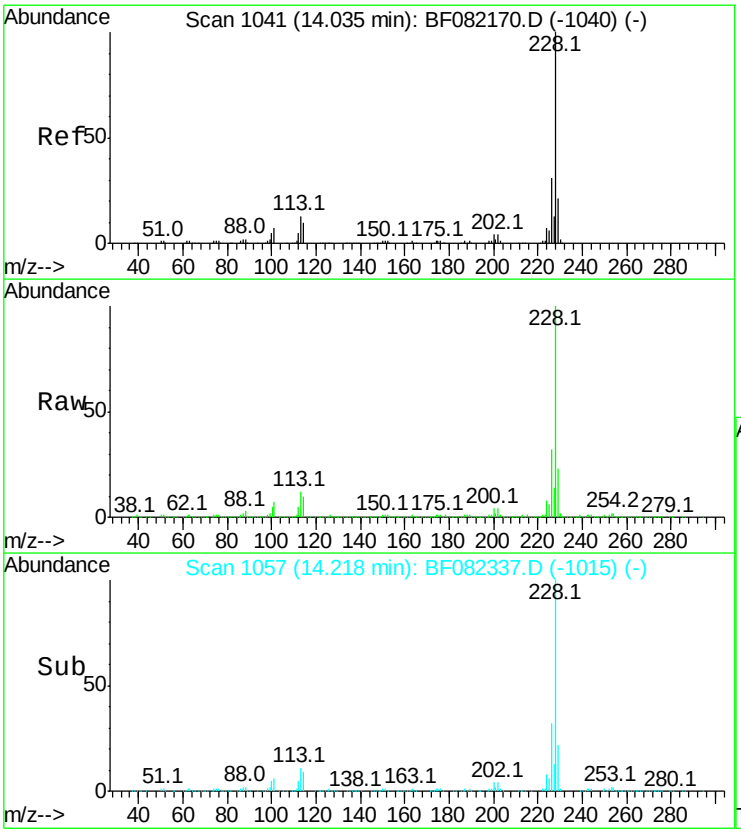
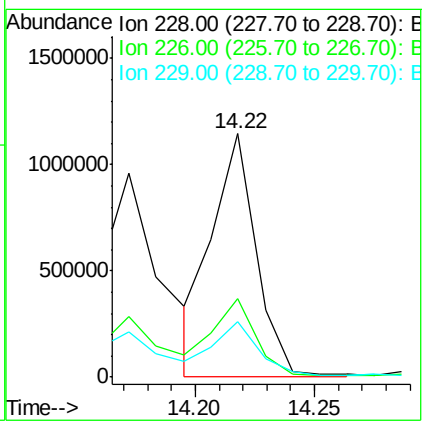


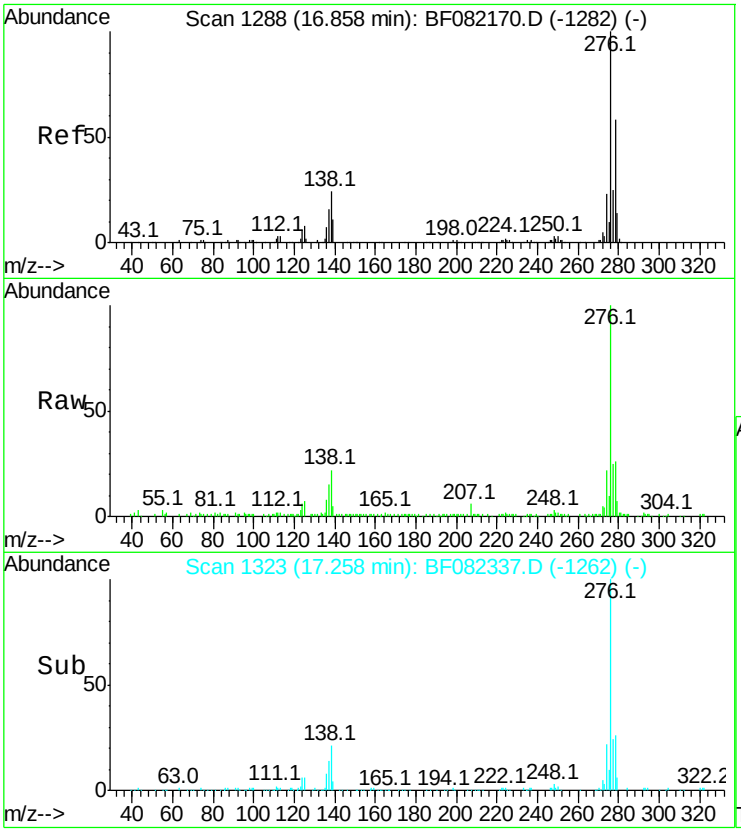


#82
Chrysene
Concen: 134.47 ng m
RT: 14.22 min Scan# 1057
Delta R.T. 0.18 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:228 Resp: 1483214

Ion	Ratio	Lower	Upper
228	100		
226	32.5	24.4	36.6
229	22.6	16.3	24.5





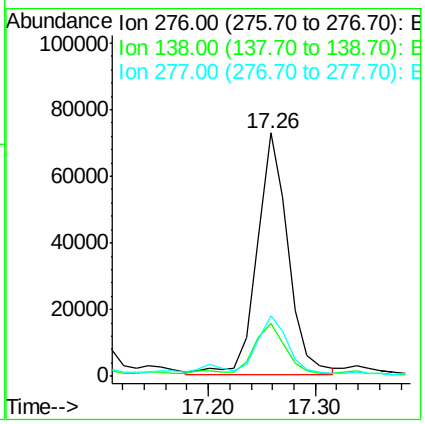
#85
Indeno(1,2,3-cd)pyrene
Concen: 16.78 ng m
RT: 17.26 min Scan# 1323
Delta R.T. 0.40 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

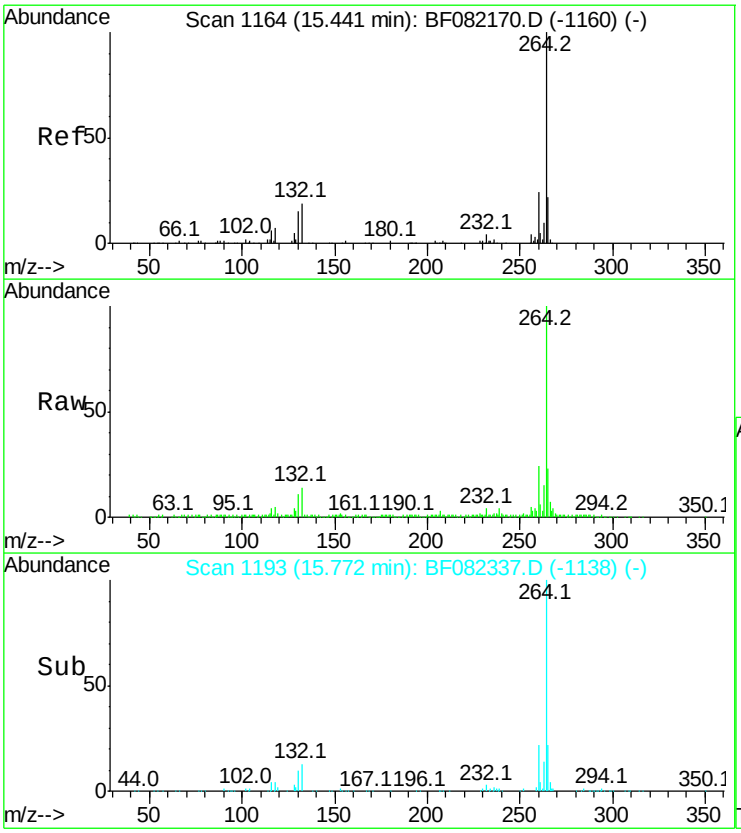
Tgt Ion:276 Resp: 147091

Ion	Ratio	Lower	Upper
276	100		
138	14.8	19.7	29.5#
277	16.5	20.1	30.1#

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:26 PM

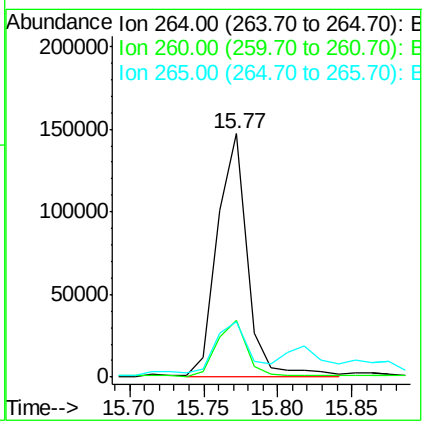


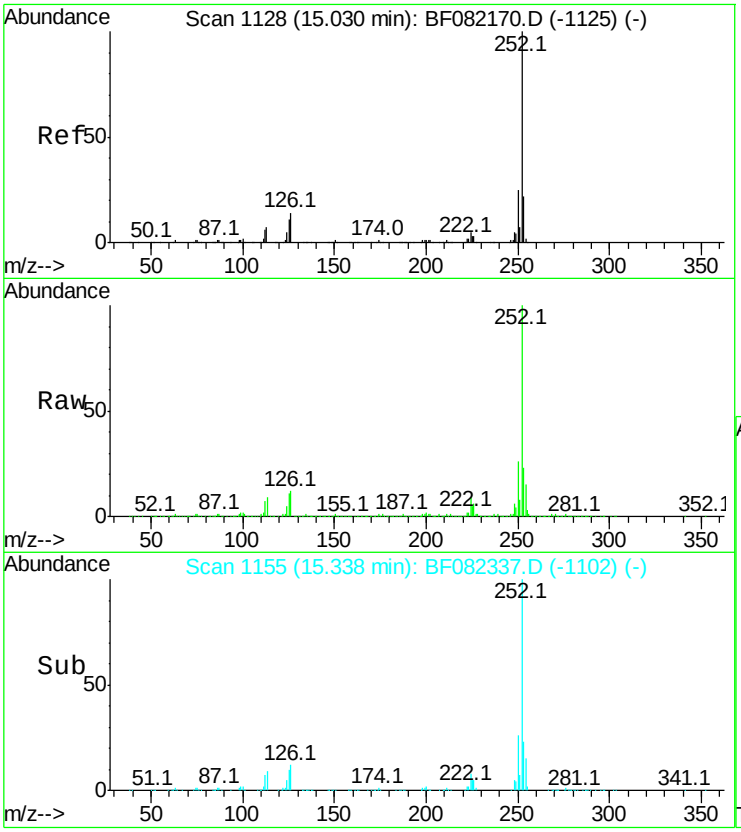


#86
Perylene-d12
Concen: 20.00 ng m
RT: 15.77 min Scan# 1193
Delta R.T. 0.33 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:264 Resp: 207898

Ion	Ratio	Lower	Upper
264	100		
260	23.6	19.0	28.6
265	22.7	17.3	25.9

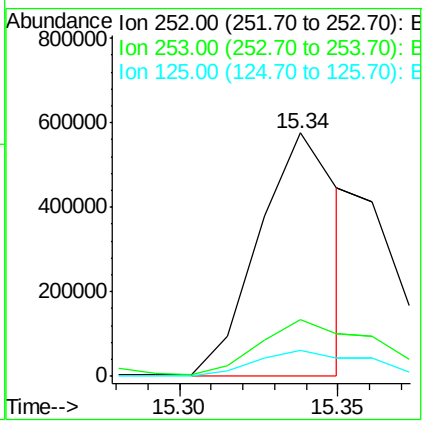




#87
Benzo(b)fluoranthene
Concen: 81.16 ng m
RT: 15.34 min Scan# 1155
Delta R.T. 0.31 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

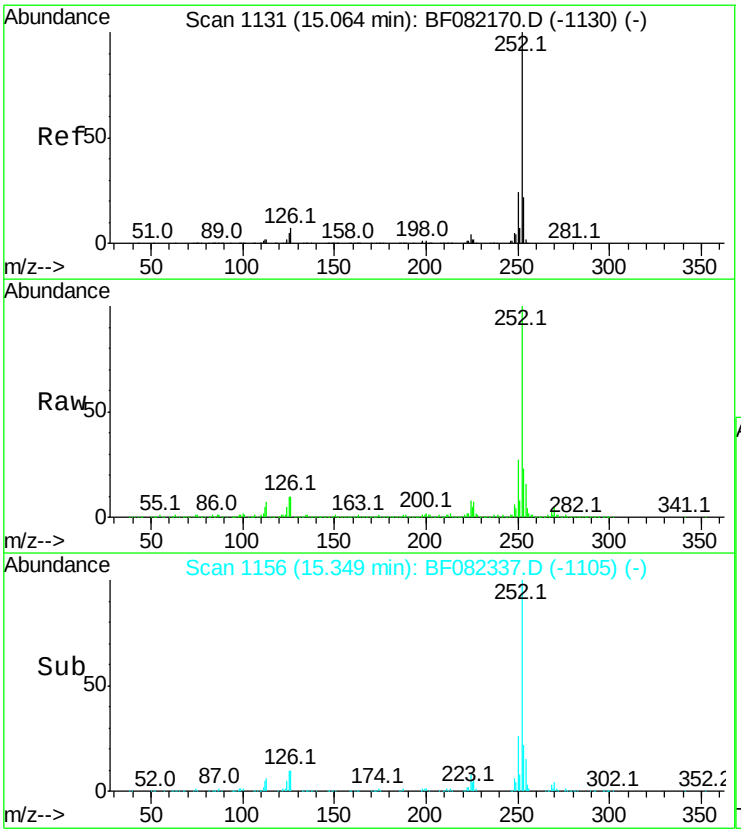
Tgt Ion:252 Resp: 1026529

Ion	Ratio	Lower	Upper
252	100		
253	23.5	18.0	27.0
125	10.5	8.6	12.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

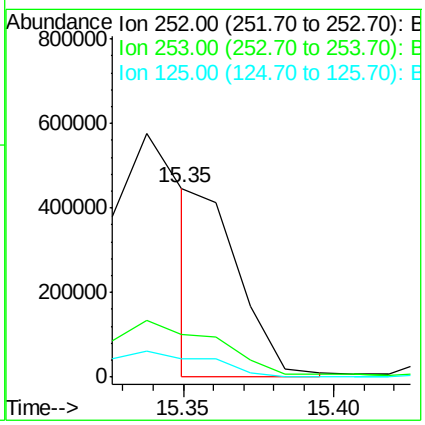
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:26 PM

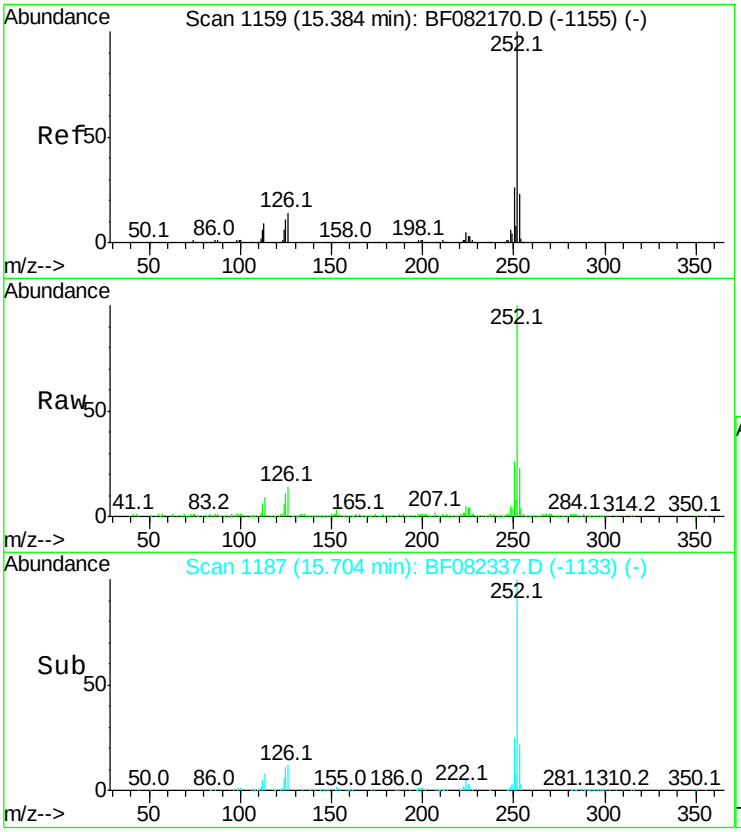


#88
Benzo(k)fluoranthene
Concen: 39.29 ng m
RT: 15.35 min Scan# 1156
Delta R.T. 0.29 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:252 Resp: 417733

Ion	Ratio	Lower	Upper
252	100		
253	22.7	17.8	26.6
125	9.7	6.7	10.1

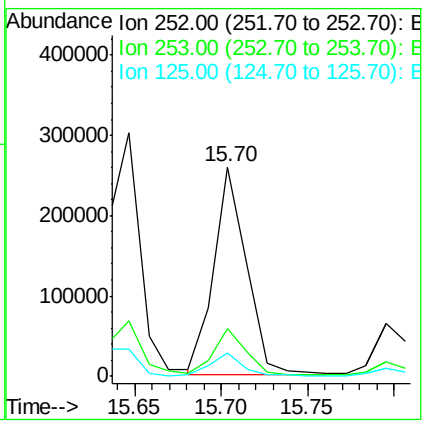




#89
Benzo(a)pyrene
Concen: 31.53 ng m
RT: 15.70 min Scan# 1187
Delta R.T. 0.32 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

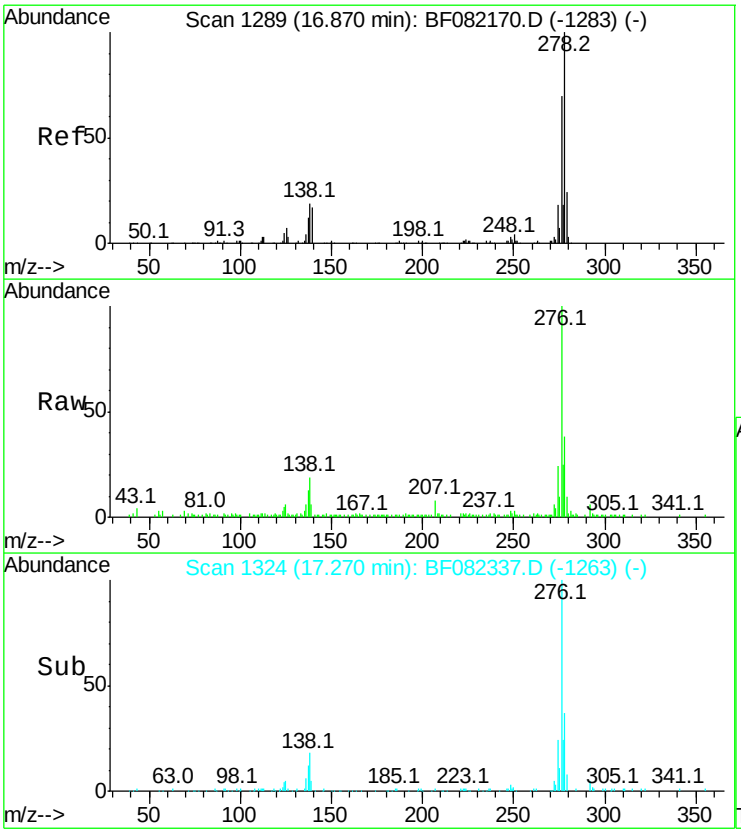
Tgt Ion:252 Resp: 342768

Ion	Ratio	Lower	Upper
252	100		
253	23.0	18.2	27.2
125	11.0	8.9	13.3



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

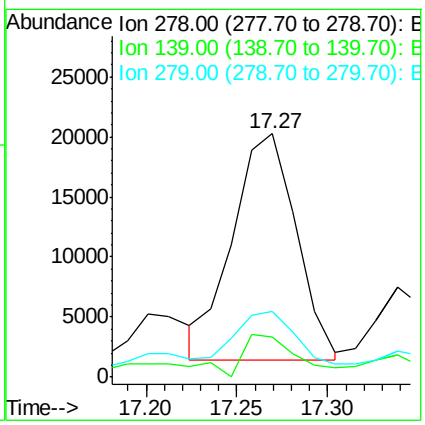
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:26 PM

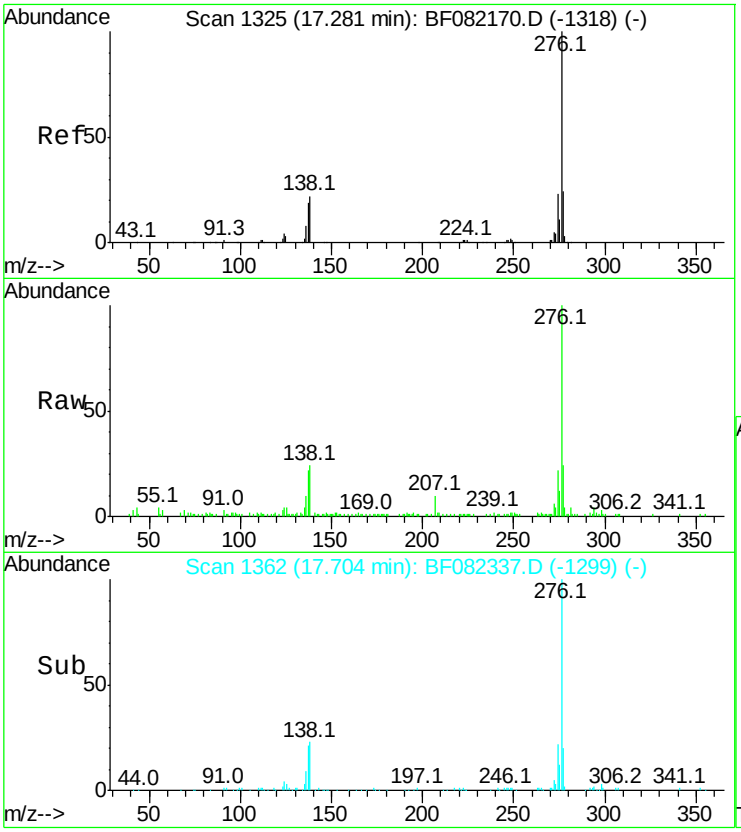


#90
Dibenzo(a,h)anthracene
Concen: 5.18 ng m
RT: 17.27 min Scan# 1324
Delta R.T. 0.40 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:278 Resp: 46104

Ion	Ratio	Lower	Upper
278	100		
139	16.7	13.3	19.9
279	27.1	18.9	28.3

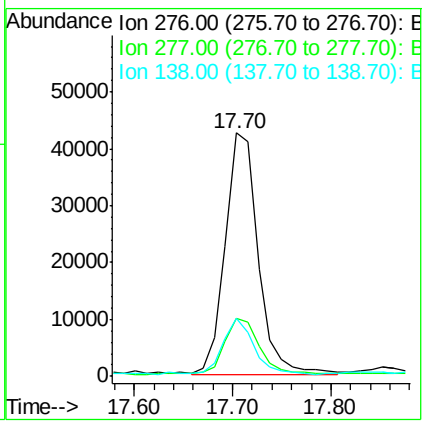




#91
Benzo(g,h,i)perylene
Concen: 11.56 ng m
RT: 17.70 min Scan# 1362
Delta R.T. 0.42 min
Lab File: BF082337.D
Acq: 16 Oct 2015 20:41

Tgt Ion:276 Resp: 100077

Ion	Ratio	Lower	Upper
276	100		
277	23.8	18.8	28.2
138	24.0	17.4	26.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:26 PM

LSC Area Percent Report

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	8.206	529	531	535	rBV2	523593	614266	3.55%	0.293%
2	8.915	591	593	595	rBV	557338	468191	2.70%	0.223%
3	9.017	600	602	604	rVB	338271	359960	2.08%	0.171%
4	9.372	632	633	636	rVV	269234	351796	2.03%	0.168%
5	9.543	645	648	650	rBV	398668	554698	3.20%	0.264%
6	9.612	652	654	655	rVV	584735	601280	3.47%	0.286%
7	9.635	655	656	659	rVV	230457	328002	1.89%	0.156%
8	9.726	662	664	667	rVV2	287693	412011	2.38%	0.196%
9	9.817	669	672	674	rVB	343712	348724	2.01%	0.166%
10	9.955	680	684	685	rBV2	637914	911686	5.27%	0.434%
11	9.989	685	687	689	rVV	2259084	2115950	12.22%	1.008%
12	10.115	695	698	700	rVV2	266227	486785	2.81%	0.232%
13	10.160	700	702	704	rVV	1913731	2580804	14.91%	1.229%
14	10.378	717	721	723	rVB3	157786	356459	2.06%	0.170%
15	10.458	725	728	730	rBV2	299057	469230	2.71%	0.223%
16	10.515	730	733	735	rVV	4146926	4566923	26.38%	2.175%
17	10.572	735	738	739	rVV	667829	1148841	6.64%	0.547%
18	10.595	739	740	741	rVV	801147	626873	3.62%	0.299%
19	10.663	741	746	748	rVV3	1101718	1947933	11.25%	0.928%
20	10.743	748	753	755	rVV	1340888	1809092	10.45%	0.862%
21	10.789	755	757	759	rVB2	327916	362954	2.10%	0.173%
22	10.869	761	764	767	rVB3	300147	627384	3.62%	0.299%
23	10.995	771	775	777	rVV3	150472	323578	1.87%	0.154%
24	11.052	777	780	781	rVV2	1279492	1691701	9.77%	0.806%
25	11.075	781	782	784	rVV2	502901	781267	4.51%	0.372%
26	11.132	784	787	789	rVV2	496149	815322	4.71%	0.388%
27	11.178	789	791	792	rVV2	497337	745672	4.31%	0.355%
28	11.200	792	793	796	rVV	718175	988803	5.71%	0.471%
29	11.269	796	799	804	rVV2	2579806	5151157	29.76%	2.453%
30	11.349	804	806	810	rVV	2929414	2974185	17.18%	1.416%
31	11.509	812	820	821	rBV	7307485	17309634	100.00%	8.244%
32	11.543	821	823	827	rVV	4225716	5224615	30.18%	2.488%
33	11.612	827	829	833	rVV3	353916	957933	5.53%	0.456%
34	11.692	833	836	839	rVV	2765192	3953575	22.84%	1.883%

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

35	11.749	839	841	842	rVV	594888	815153	4.71%	0.388%
36	11.783	842	844	846	rVV2	2204666	2589160	14.96%	1.233%
37	11.818	846	847	848	rVV	262956	326993	1.89%	0.156%
38	11.863	848	851	853	rVV2	1450753	2264051	13.08%	1.078%
39	11.921	853	856	857	rVV2	487047	946325	5.47%	0.451%
40	11.955	857	859	860	rVV	2851464	3539618	20.45%	1.686%
41	11.989	860	862	864	rVV	3894377	4016602	23.20%	1.913%
42	12.035	864	866	867	rVV	1053971	1252174	7.23%	0.596%
43	12.069	867	869	873	rVV2	3535566	6312520	36.47%	3.006%
44	12.161	873	877	878	rVV3	488629	1292569	7.47%	0.616%
45	12.183	878	879	881	rVV	1023396	1118062	6.46%	0.532%
46	12.252	881	885	886	rVV	2381078	3548246	20.50%	1.690%
47	12.298	886	889	890	rVV2	3672194	5202057	30.05%	2.478%
48	12.321	890	891	892	rVV	519806	527400	3.05%	0.251%
49	12.355	892	894	895	rVV	617067	965026	5.58%	0.460%
50	12.378	895	896	899	rVV2	831323	1912465	11.05%	0.911%
51	12.423	899	900	905	rVV3	920435	2090941	12.08%	0.996%
52	12.503	905	907	909	rVV	1569099	2337186	13.50%	1.113%
53	12.561	909	912	914	rVV3	1162031	2454096	14.18%	1.169%
54	12.618	914	917	919	rVV2	1304596	2513925	14.52%	1.197%
55	12.698	919	924	927	rVV	6144798	16626172	96.05%	7.918%
56	12.743	927	928	930	rVV	641895	932869	5.39%	0.444%
57	12.778	930	931	933	rVV2	417762	597420	3.45%	0.285%
58	12.823	933	935	938	rVV2	1485829	2796128	16.15%	1.332%
59	12.869	938	939	940	rVV	504322	532720	3.08%	0.254%
60	12.915	940	943	946	rVV3	5192685	12700434	73.37%	6.049%
61	13.029	950	953	955	rVV	1196765	1975206	11.41%	0.941%
62	13.064	955	956	959	rVV	551399	861006	4.97%	0.410%
63	13.132	959	962	965	rVV3	1245350	2770994	16.01%	1.320%
64	13.189	965	967	968	rVV	554068	952848	5.50%	0.454%
65	13.246	968	972	974	rVV	2091230	3940762	22.77%	1.877%
66	13.315	974	978	979	rVV2	1474902	2261231	13.06%	1.077%
67	13.349	979	981	985	rVV2	1434660	3302624	19.08%	1.573%
68	13.406	985	986	988	rVV	659105	850656	4.91%	0.405%
69	13.452	988	990	991	rVV	768136	1115272	6.44%	0.531%
70	13.475	991	992	994	rVV2	757447	1152121	6.66%	0.549%
71	13.566	998	1000	1002	rVV	407608	727596	4.20%	0.347%

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

72	13.635	1002	1006	1007	rVV4	373499	1037483	5.99%	0.494%
73	13.681	1009	1010	1012	rVV2	545365	935764	5.41%	0.446%
74	13.784	1015	1019	1021	rVV	1893783	2972841	17.17%	1.416%
75	13.852	1023	1025	1026	rVV	340075	597533	3.45%	0.285%
76	13.898	1026	1029	1033	rVV2	1756155	4288542	24.78%	2.042%
77	13.966	1033	1035	1037	rVV2	1101937	2291000	13.24%	1.091%
78	14.024	1037	1040	1043	rVV2	1536829	3300362	19.07%	1.572%
79	14.081	1043	1045	1049	rVV2	463555	1315851	7.60%	0.627%
80	14.172	1049	1053	1055	rVV2	2640248	5667315	32.74%	2.699%
81	14.218	1055	1057	1060	rVV	3236442	4813073	27.81%	2.292%
82	14.298	1060	1064	1065	rVV2	606269	1445793	8.35%	0.689%
83	14.355	1067	1069	1073	rVV4	550032	1640752	9.48%	0.781%
84	14.435	1075	1076	1077	rVV	494774	544986	3.15%	0.260%
85	14.469	1077	1079	1083	rVV2	546173	1301908	7.52%	0.620%
86	14.527	1083	1084	1086	rVV	341398	514416	2.97%	0.245%
87	14.572	1086	1088	1089	rVV	326159	568870	3.29%	0.271%
88	14.607	1089	1091	1093	rVV	652895	1183367	6.84%	0.564%
89	14.664	1093	1096	1098	rVV2	747247	1559647	9.01%	0.743%
90	14.721	1099	1101	1102	rVV2	358600	600514	3.47%	0.286%
91	14.755	1102	1104	1108	rVV2	497213	1088114	6.29%	0.518%
92	14.835	1108	1111	1114	rVV2	294058	633460	3.66%	0.302%
93	14.972	1119	1123	1128	rVV2	316696	828867	4.79%	0.395%
94	15.098	1131	1134	1136	rVV3	229482	369281	2.13%	0.176%
95	15.167	1136	1140	1144	rVB4	246521	717227	4.14%	0.342%
96	15.338	1151	1155	1160	rBV	1604502	3808963	22.00%	1.814%
97	15.647	1179	1182	1185	rVB	725405	1065865	6.16%	0.508%
98	15.704	1185	1187	1190	rBV	626030	822180	4.75%	0.392%
99	15.772	1190	1193	1194	rVV2	360972	591607	3.42%	0.282%
100	17.258	1320	1323	1327	rBV2	201050	373764	2.16%	0.178%

Sum of corrected areas: 209967257

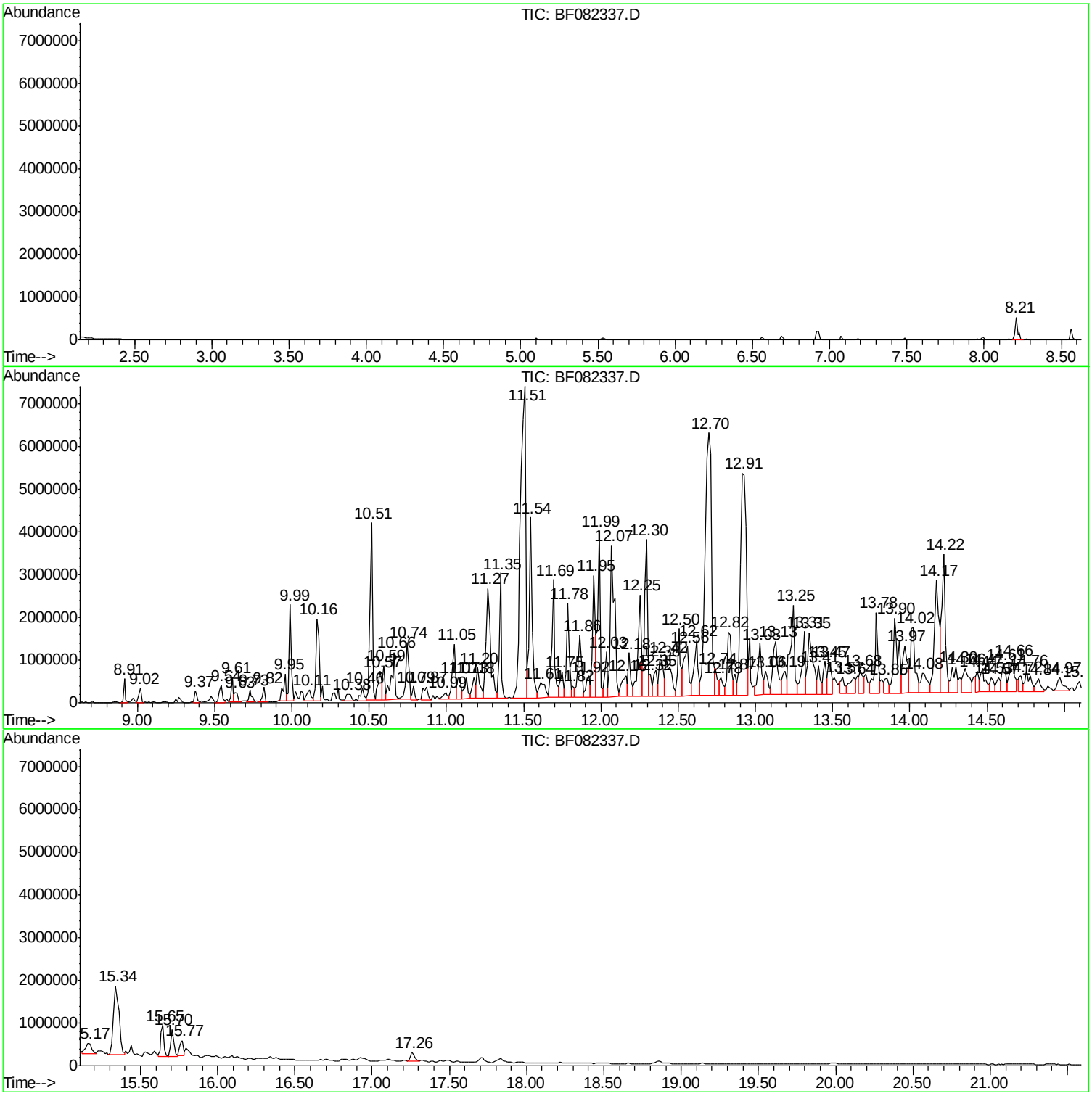
Sample Results: **BF082337.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58



Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

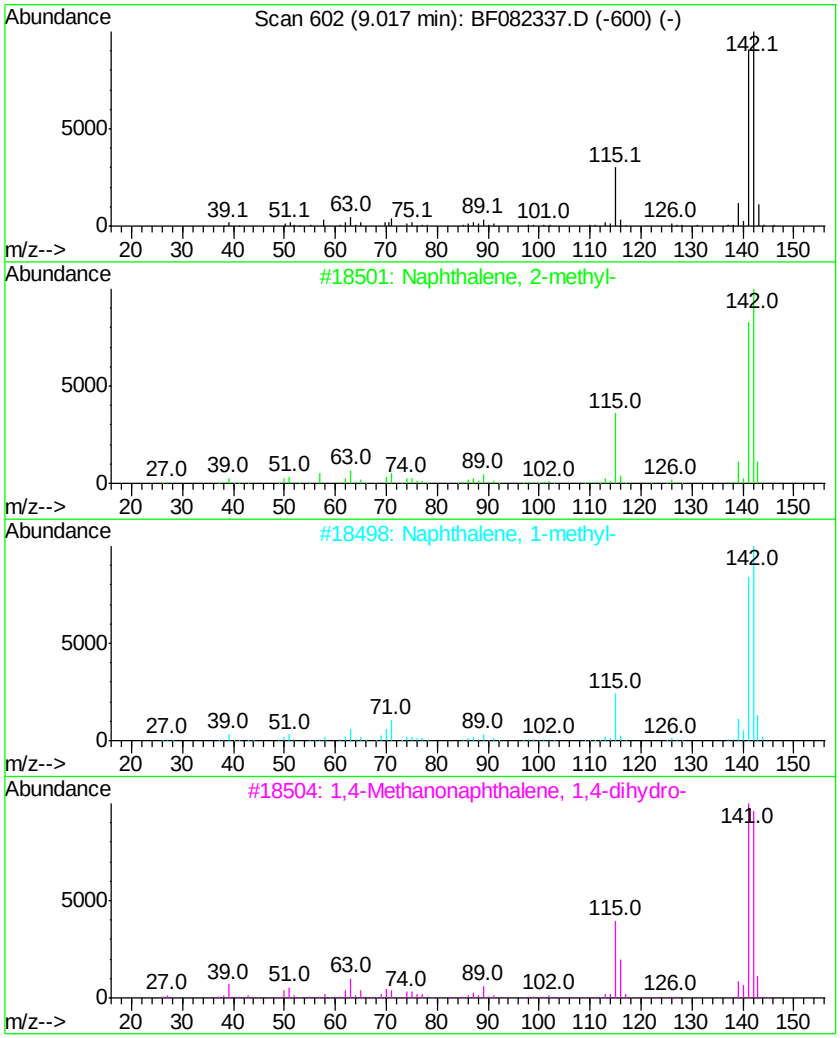
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

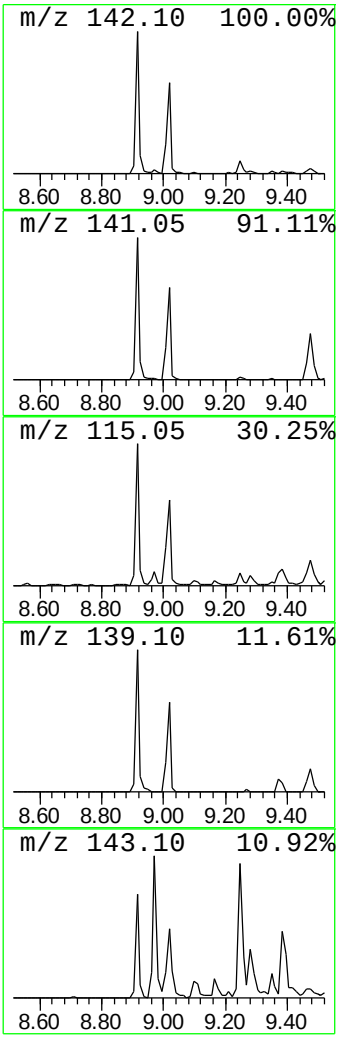
****

Peak Number 1 Naphthalene, 1-methyl- Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.02	11.72 ng	359960	Naphthalene-d8	8.21

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2-methyl-	142	C11H10	000091-57-6	95
2	Naphthalene, 1-methyl-	142	C11H10	000090-12-0	94
3	1,4-Methanonaphthalene, 1,4-dihy...	142	C11H10	004453-90-1	91
4	Benzocycloheptatriene	142	C11H10	000264-09-5	91
5	1H-Indene, 1-ethylidene-	142	C11H10	002471-83-2	64





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
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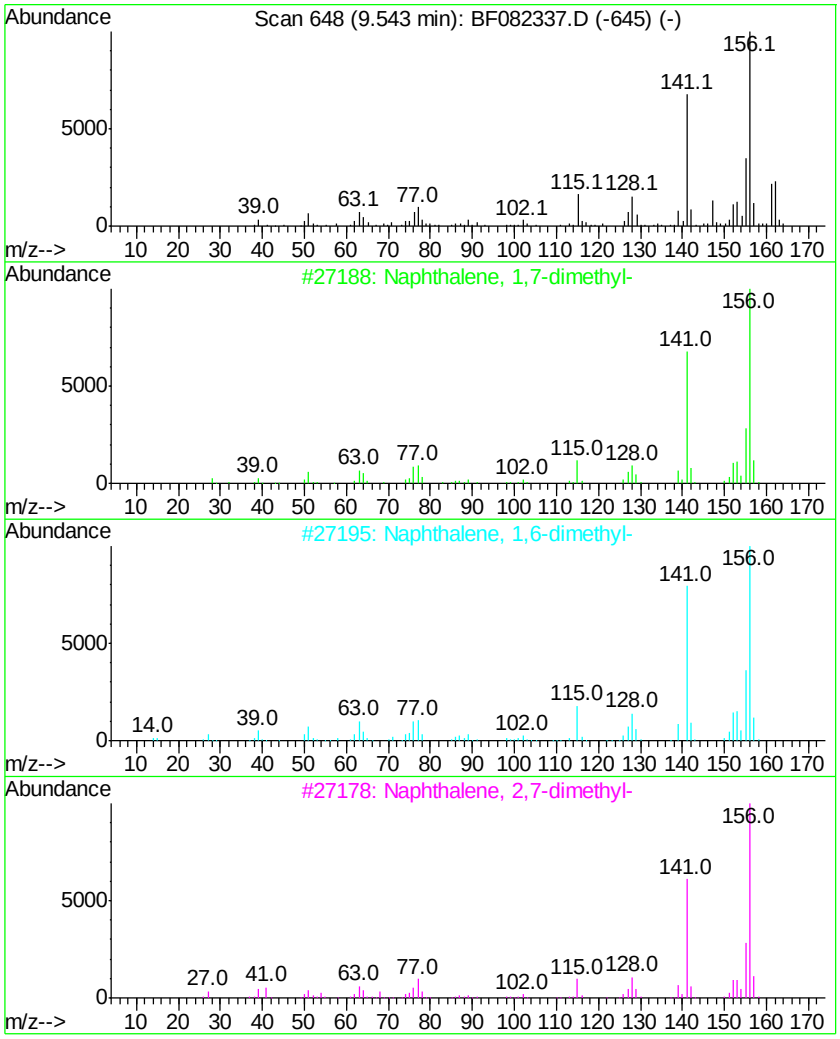
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

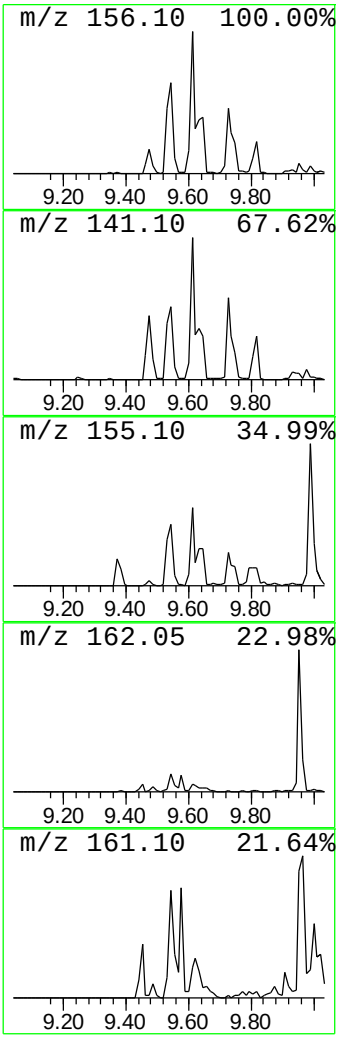
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Naphthalene, 1,7-dimethyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.54	12.17 ng	554698	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	96
2	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	96
3	Naphthalene, 2,7-dimethyl-	156	C12H12	000582-16-1	96
4	Naphthalene, 2,6-dimethyl-	156	C12H12	000581-42-0	96
5	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	96





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Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

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ClientSampleId :
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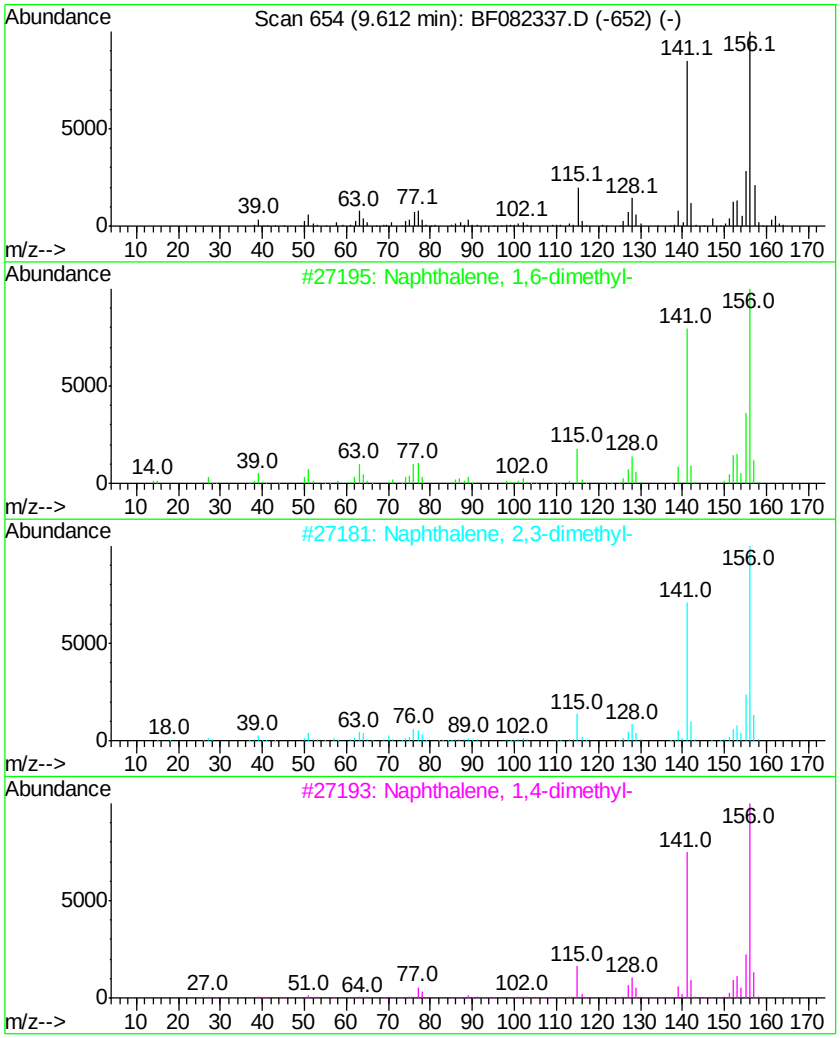
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

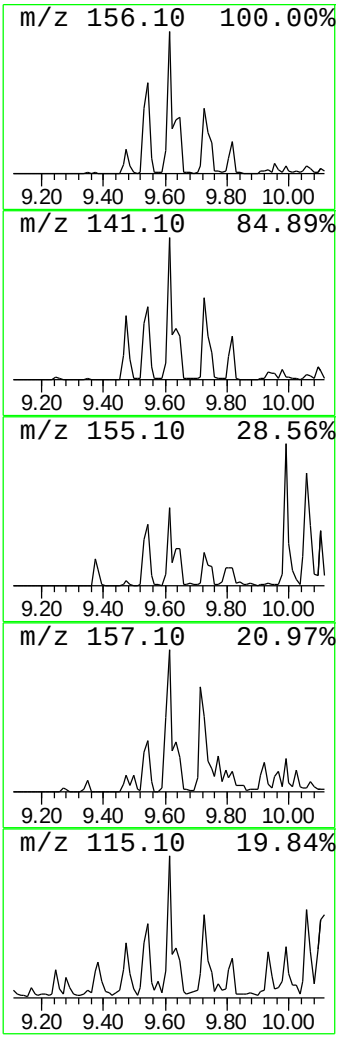
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Naphthalene, 1,6-dimethyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.61	13.19 ng	601280	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	96
2	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	96
3	Naphthalene, 1,4-dimethyl-	156	C12H12	000571-58-4	96
4	Naphthalene, 1,3-dimethyl-	156	C12H12	000575-41-7	95
5	Naphthalene, 1,5-dimethyl-	156	C12H12	000571-61-9	95





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ClientSampleId :
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

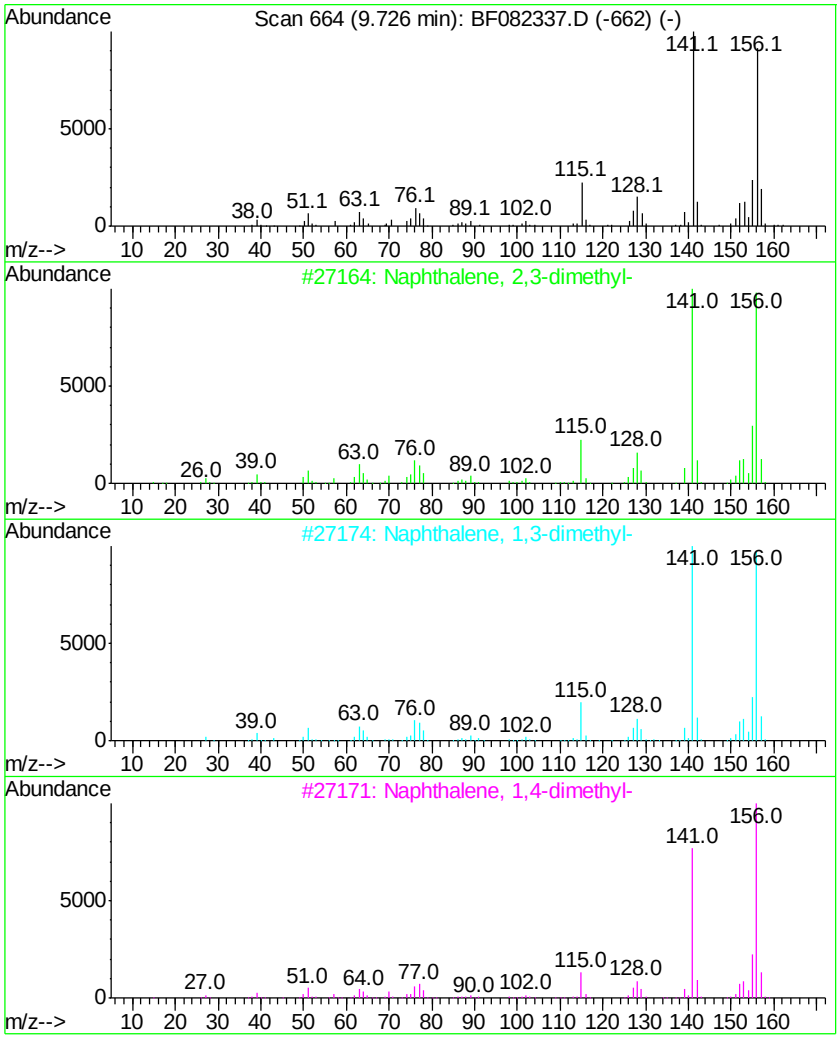
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

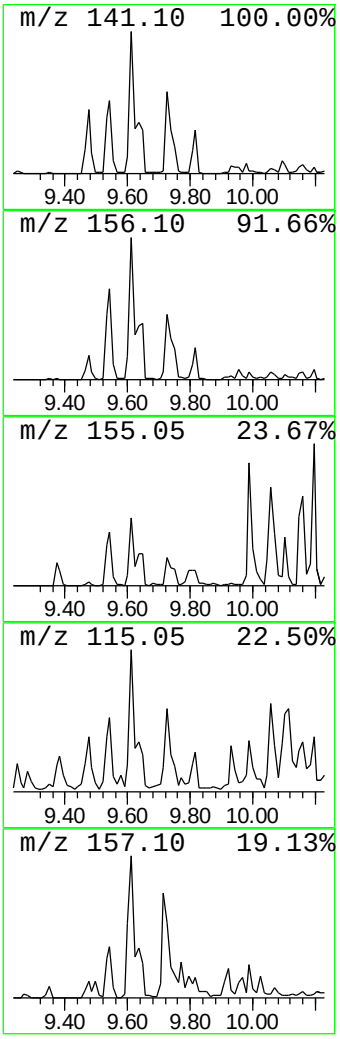
****

Peak Number 4 Naphthalene, 2,3-dimethyl- Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.73	9.04 ng	412011	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	98
2	Naphthalene, 1,3-dimethyl-	156	C12H12	000575-41-7	96
3	Naphthalene, 1,4-dimethyl-	156	C12H12	000571-58-4	95
4	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	95
5	Naphthalene, 1,5-dimethyl-	156	C12H12	000571-61-9	95





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Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
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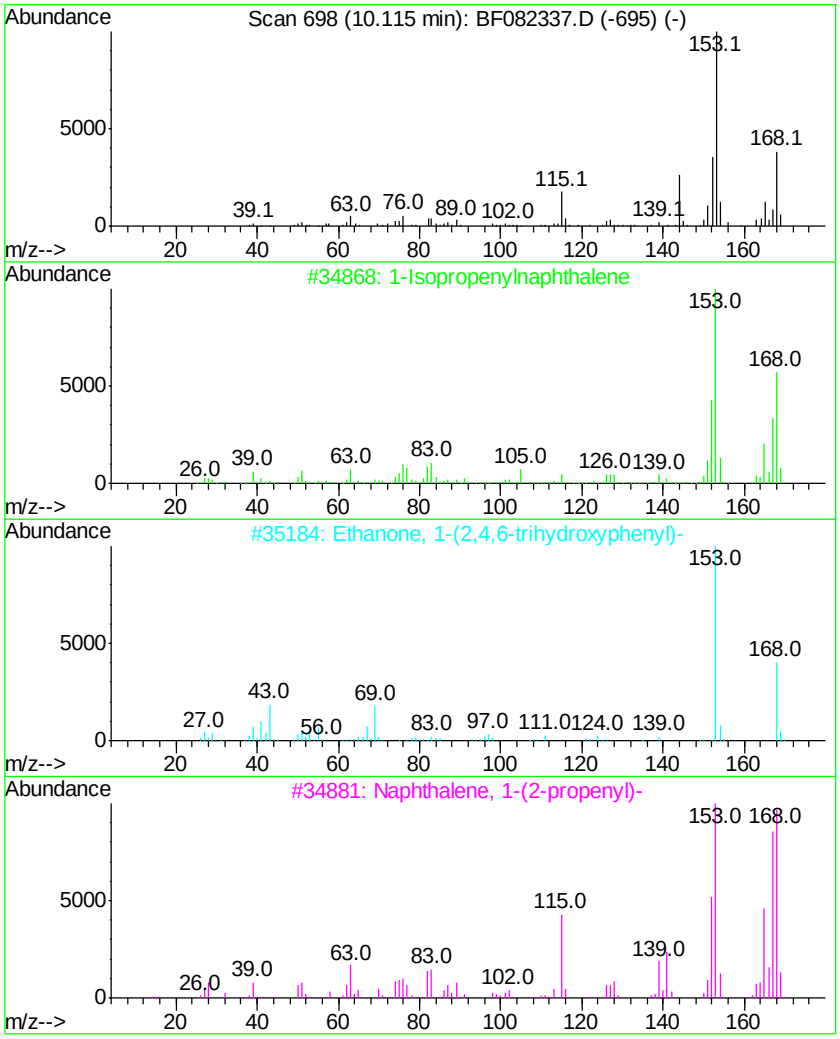
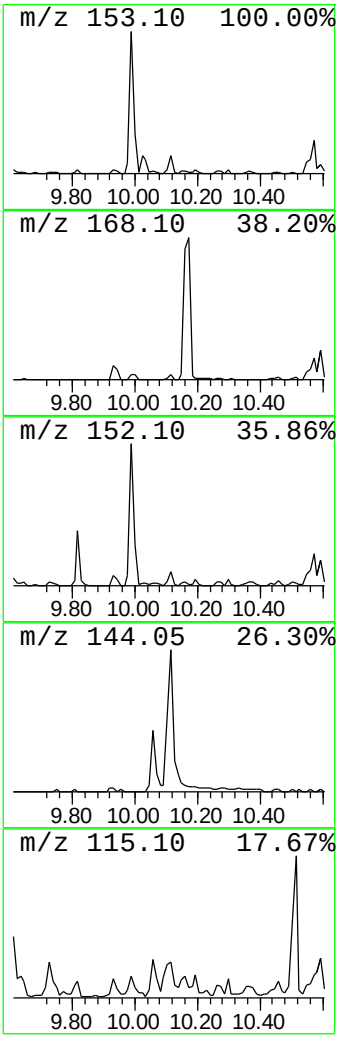
Peak Number 5 1-Isopropenylnaphthalene Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.11	10.68 ng	486785	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Isopropenylnaphthalene	168	C13H12	001855-47-6	60
2	Ethanone, 1-(2,4,6-trihydroxyphe...	168	C8H8O4	000480-66-0	52
3	Naphthalene, 1-(2-propenyl)-	168	C13H12	002489-86-3	50
4	Acetophenone, 3'-fluoro-4'-methoxy-	168	C9H9FO2	000455-91-4	50
5	Ethanone, 1-(2,3,4-trihydroxyphe...	168	C8H8O4	000528-21-2	50





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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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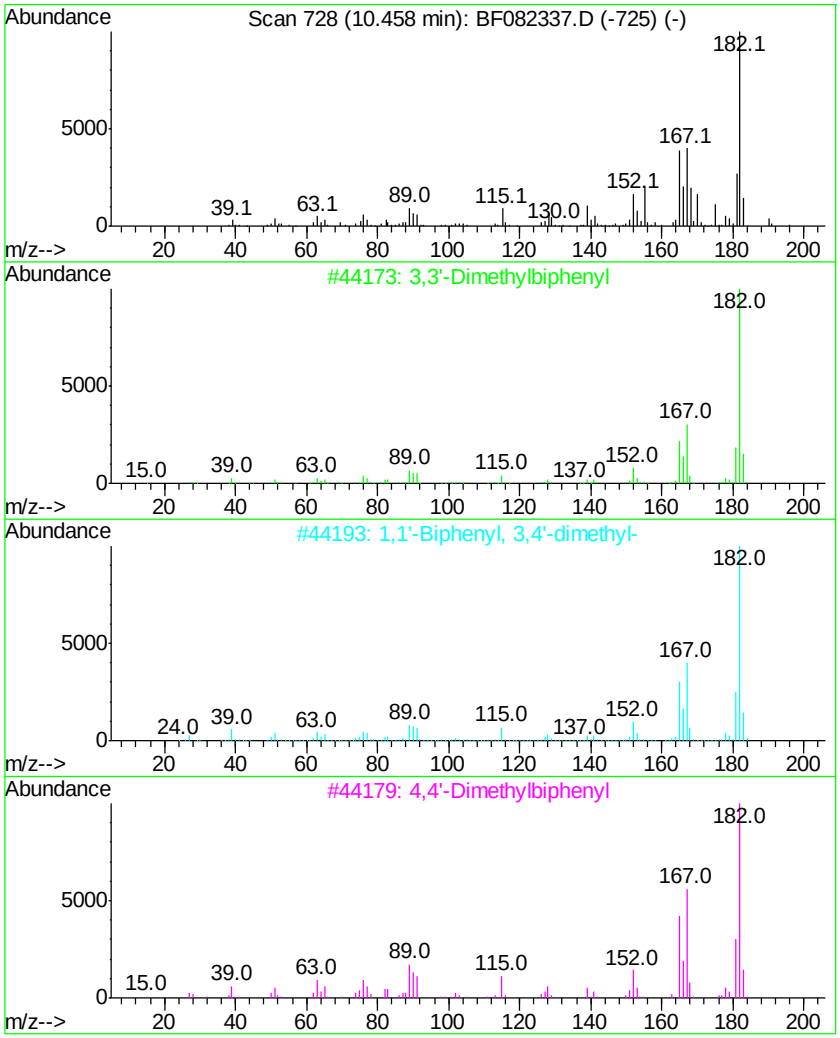
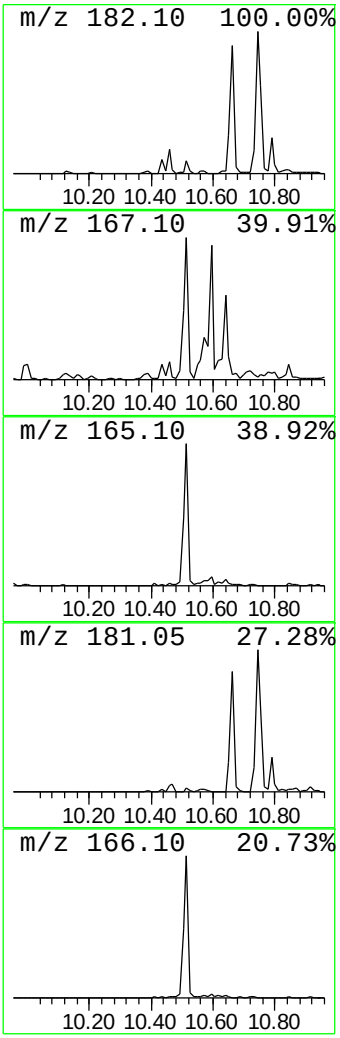
Peak Number 6 3,3'-Dimethylbiphenyl Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.46	10.29 ng	469230	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3,3'-Dimethylbiphenyl	182	C14H14	000612-75-9	95
2	1,1'-Biphenyl, 3,4'-dimethyl-	182	C14H14	007383-90-6	93
3	4,4'-Dimethylbiphenyl	182	C14H14	000613-33-2	76
4	1,4-Methanonaphthalene,1,4-dihyd...	182	C14H14	007350-72-3	70
5	3-Ethyl-1,2-dihydro-6-methyl-5-n...	182	C8H10N2O3	1000241-09-2	53





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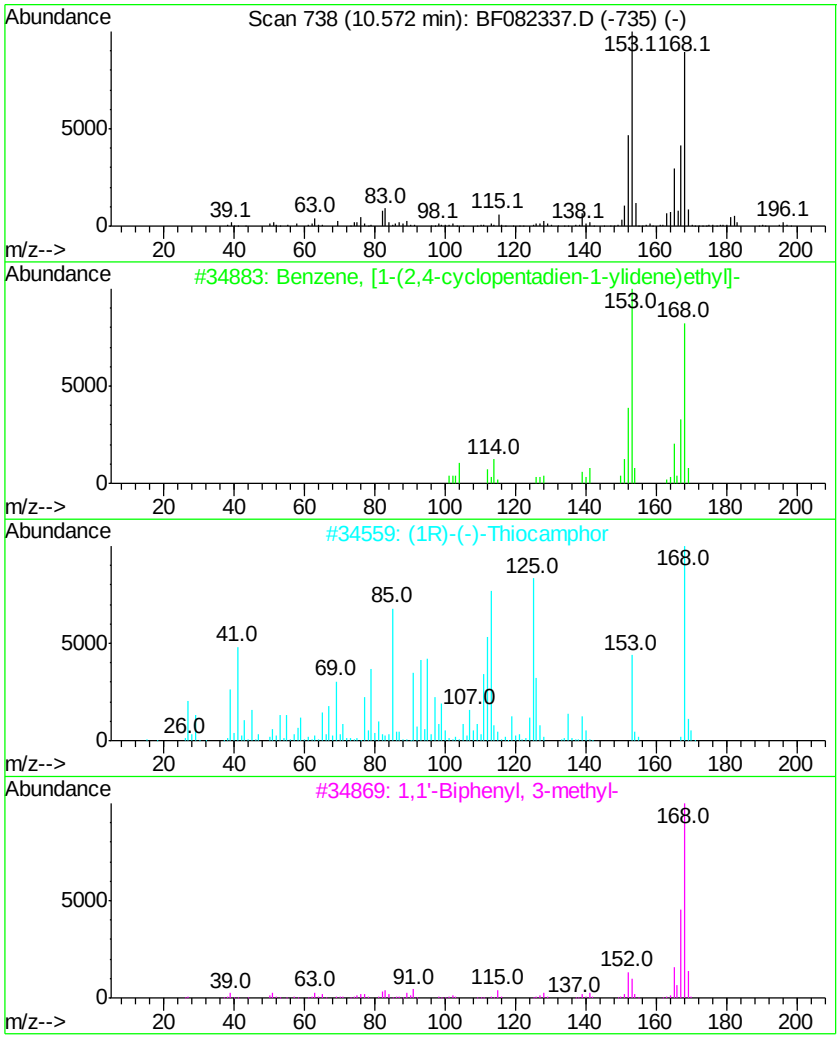
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

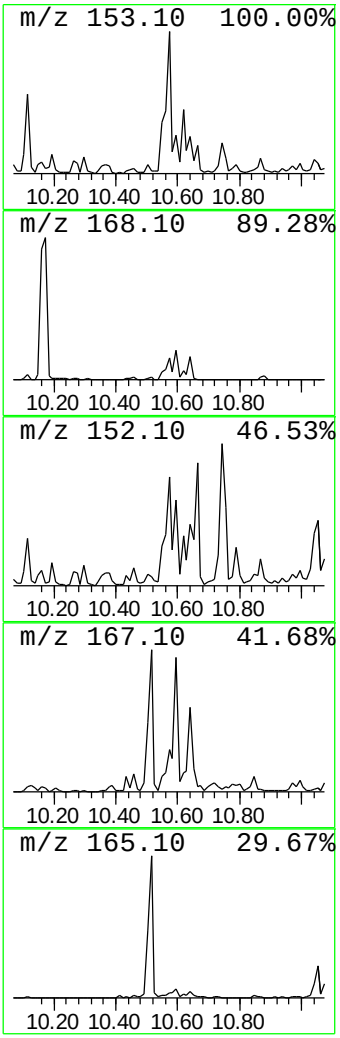
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 7 Benzene, [1-(2,4-cyclopenta... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.57	25.20 ng	1148840	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, [1-(2,4-cyclopentadien-...	168	C13H12	002320-32-3	87
2	(1R)-(-)-Thiocamphor	168	C10H16S	053402-10-1	49
3	1,1'-Biphenyl, 3-methyl-	168	C13H12	000643-93-6	47
4	1-Isopropenylnaphthalene	168	C13H12	001855-47-6	45
5	1-Methoxy-2-methyl-4-(methylthio...	168	C9H12OS	050390-78-8	43





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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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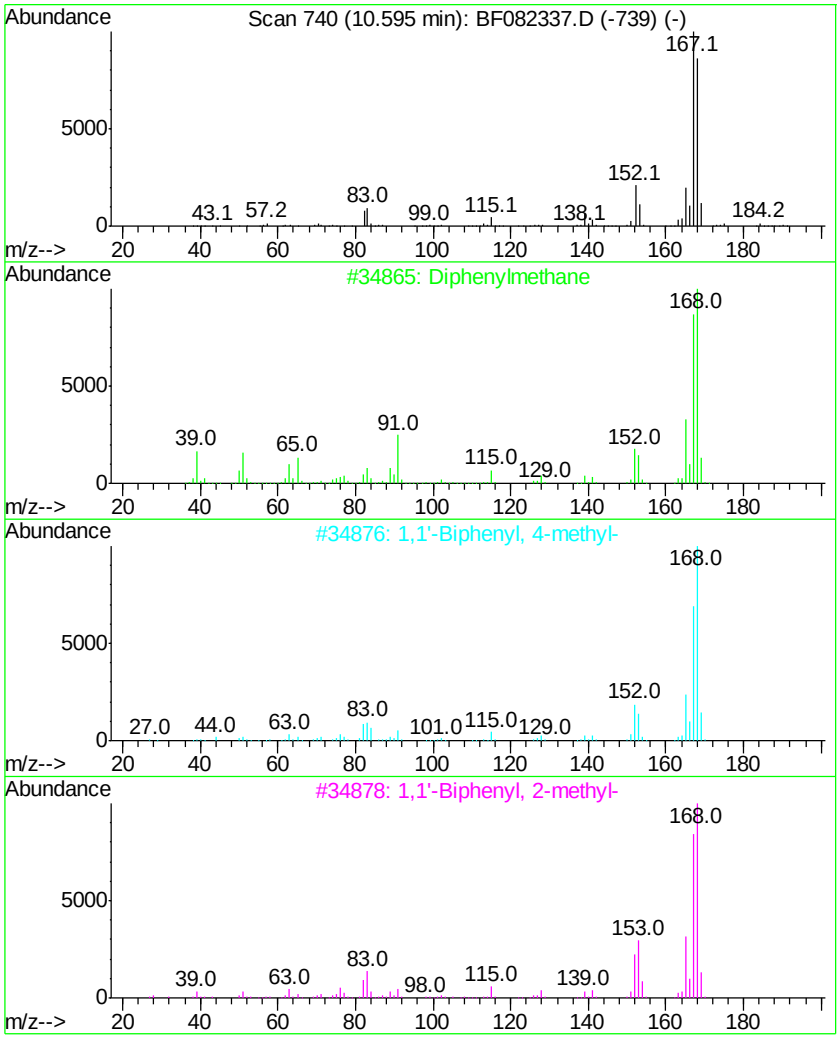
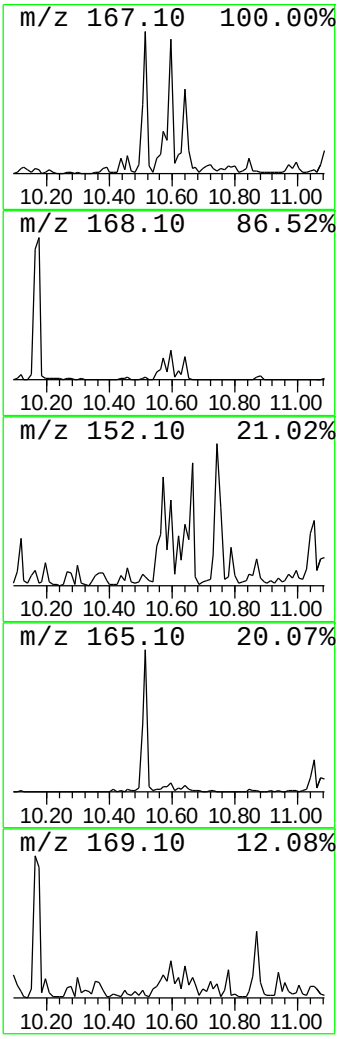
Peak Number 8 Diphenylmethane Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.59	13.75 ng	626873	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Diphenylmethane	168	C13H12	000101-81-5	83
2	1,1'-Biphenyl, 4-methyl-	168	C13H12	000644-08-6	76
3	1,1'-Biphenyl, 2-methyl-	168	C13H12	000643-58-3	70
4	1-Hydroxyphosphindoline 1-oxide	168	C8H9O2P	052427-49-3	59
5	1,1'-Biphenyl, 3-methyl-	168	C13H12	000643-93-6	58





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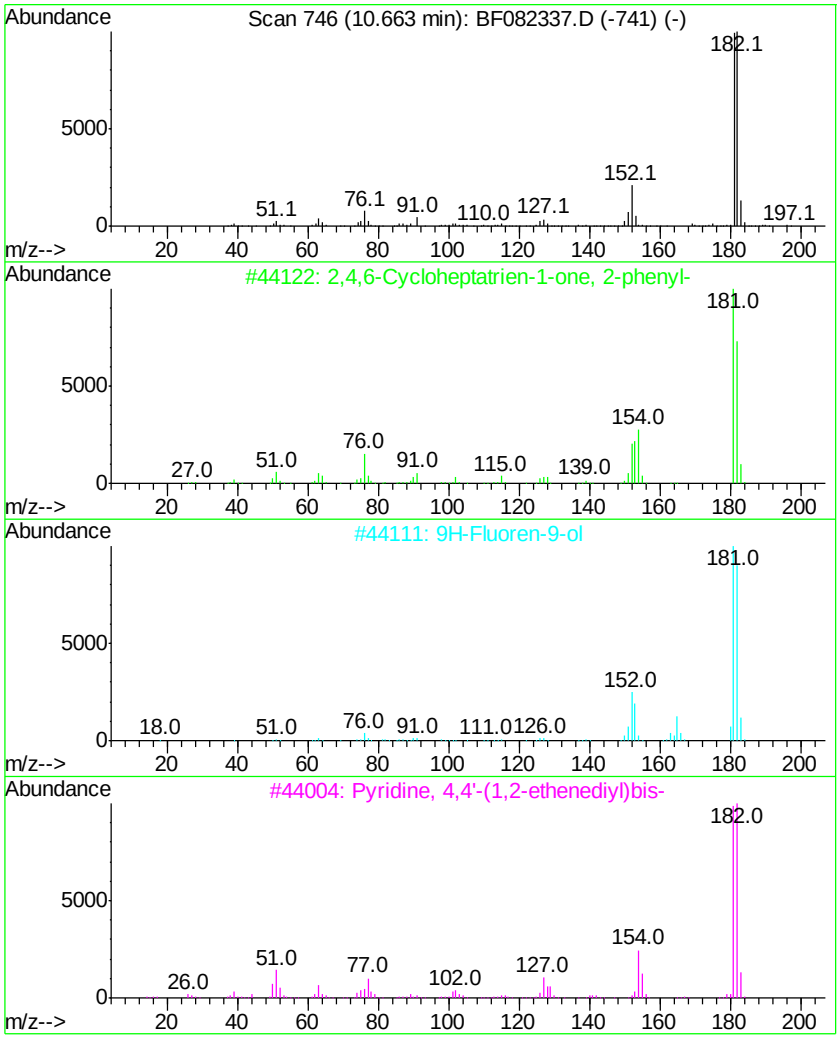
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

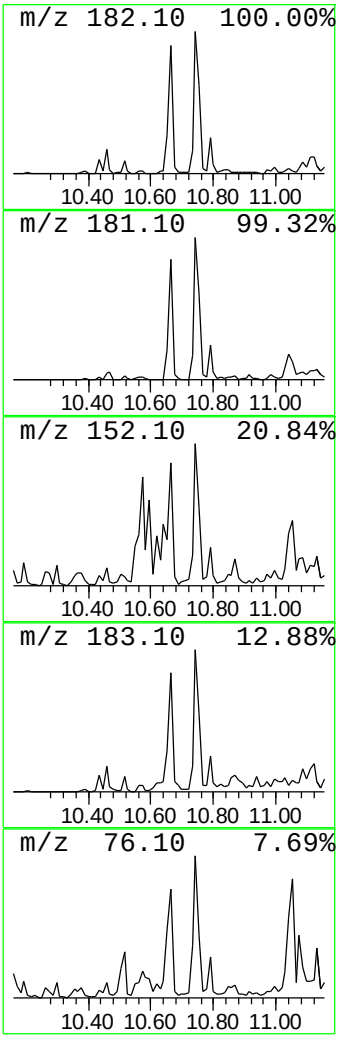
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 9 2,4,6-Cycloheptatrien-1-one... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.66	42.73 ng	1947930	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,4,6-Cycloheptatrien-1-one, 2-p...	182	C13H10O	014562-09-5	86
2	9H-Fluoren-9-ol	182	C13H10O	001689-64-1	78
3	Pyridine, 4,4'-(1,2-ethenediyl)bis-	182	C12H10N2	001135-32-6	72
4	[1,1'-Biphenyl]-4-carboxaldehyde	182	C13H10O	003218-36-8	64
5	9H-Xanthene	182	C13H10O	000092-83-1	60





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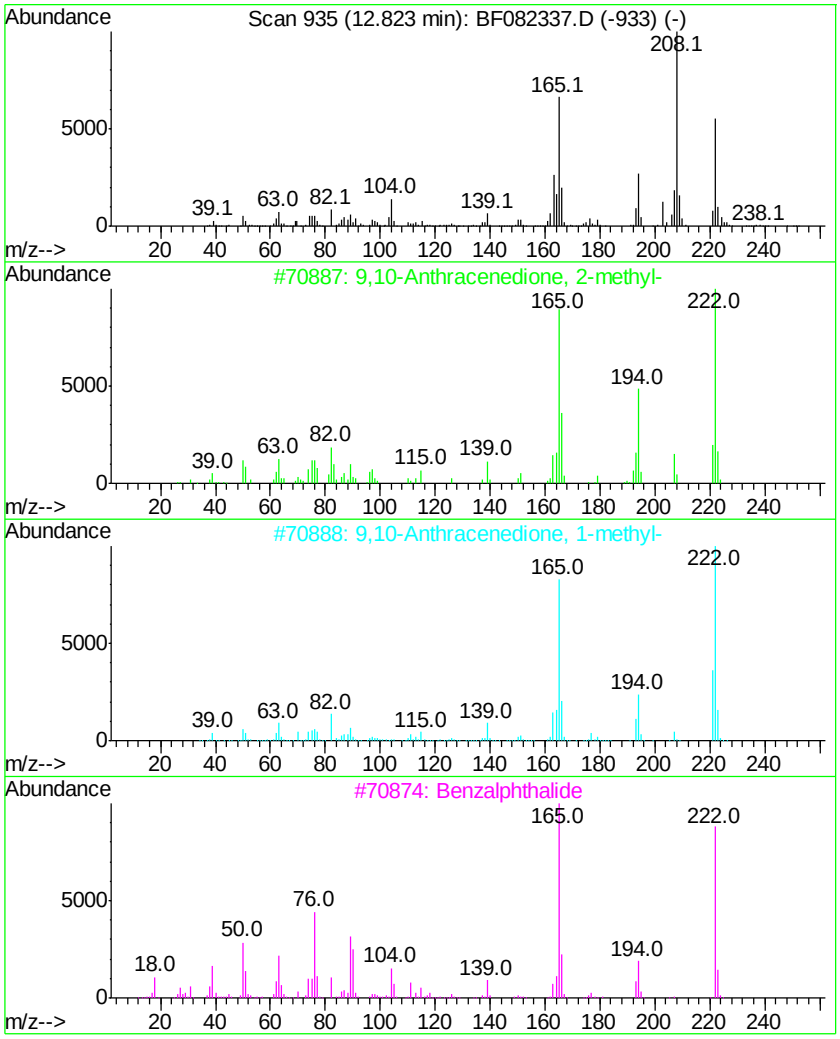
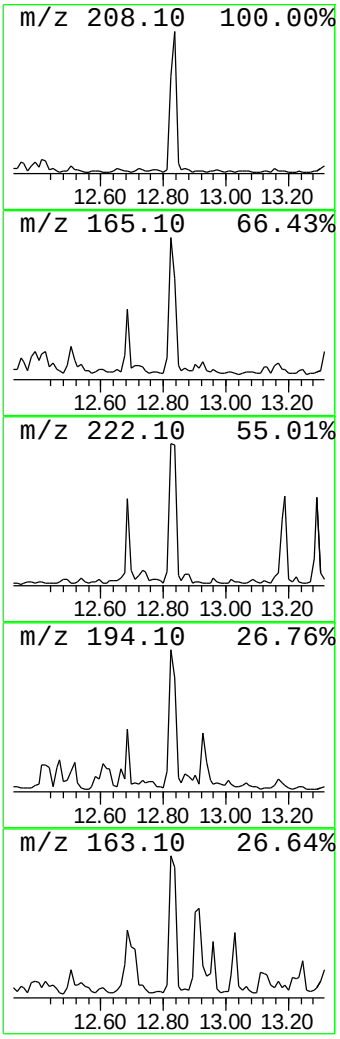
Peak Number 10 9,10-Anthracenedione, 2-met... Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.82	9.87 ng	2796130	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	9,10-Anthracenedione, 2-methyl-	222	C15H10O2	000084-54-8	70
2	9,10-Anthracenedione, 1-methyl-	222	C15H10O2	000954-07-4	60
3	Benzalphthalide	222	C15H10O2	000575-61-1	50
4	Phenindione	222	C15H10O2	000083-12-5	43
5	9H-Fluorene, 9-propyl-	208	C16H16	004037-45-0	43





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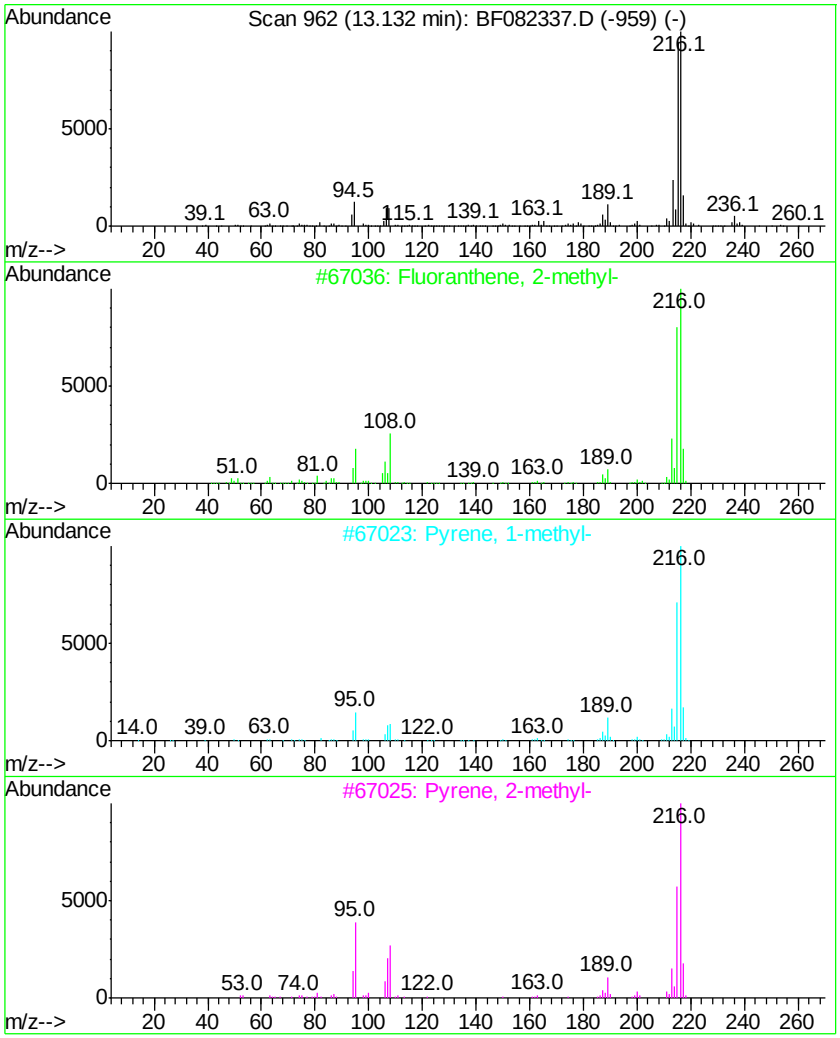
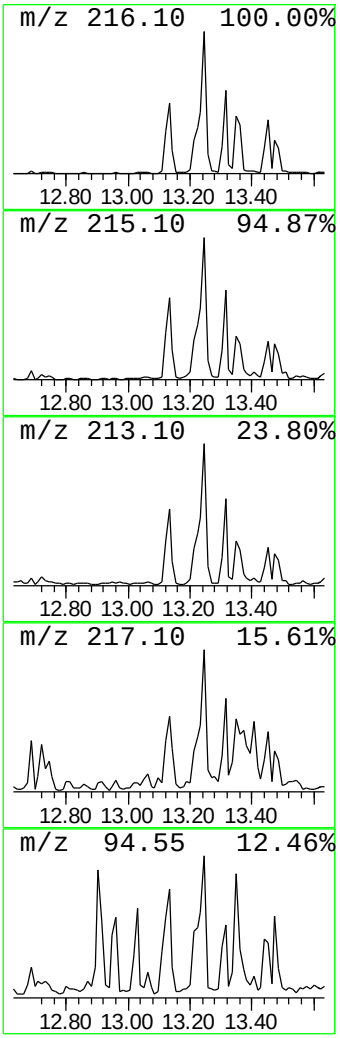
Peak Number 11 Fluoranthene, 2-methyl- Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.13	9.78 ng	2770990	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	96
2	Pyrene, 1-methyl-	216	C17H12	002381-21-7	96
3	Pyrene, 2-methyl-	216	C17H12	003442-78-2	89
4	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	87
5	11H-Benzo[b]fluorene	216	C17H12	000243-17-4	87





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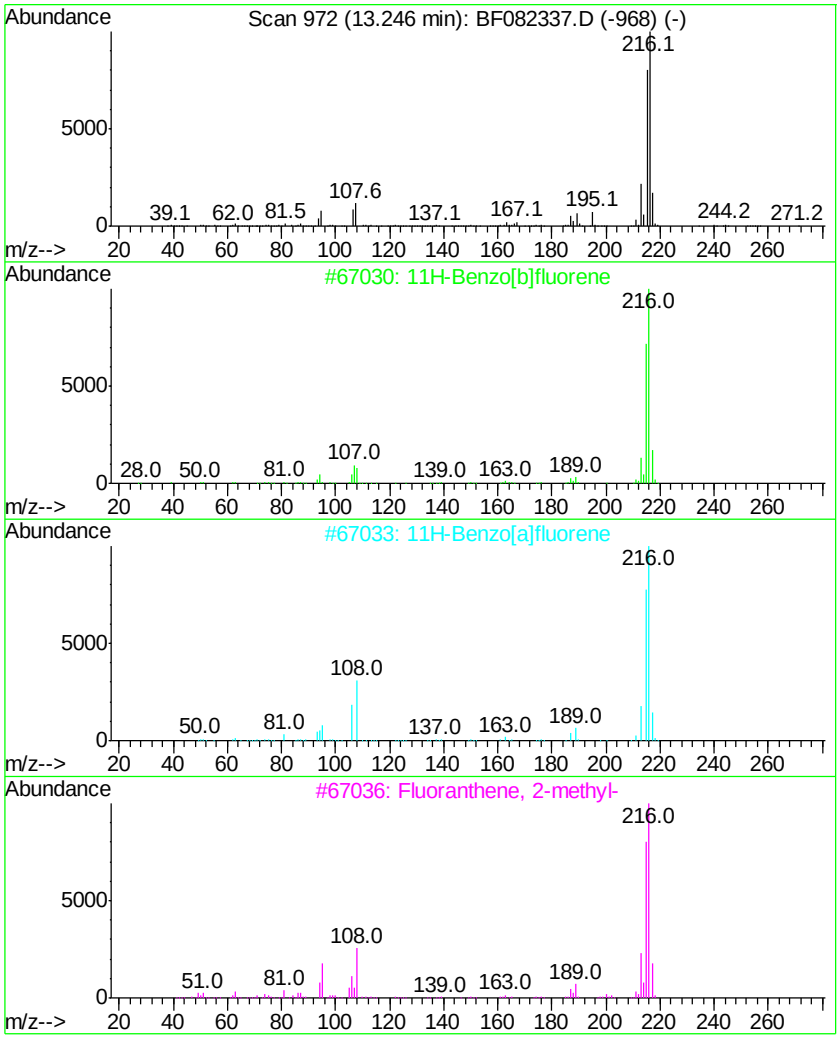
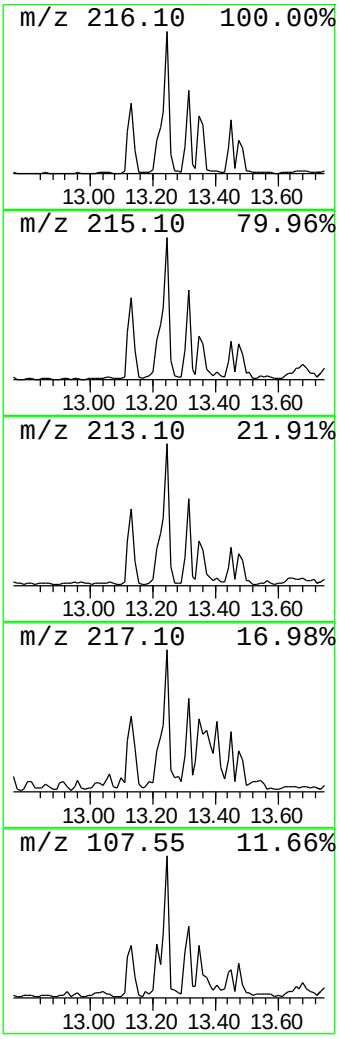
Peak Number 12 11H-Benzo[b]fluorene Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.25	13.91 ng	3940760	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Benzo[b]fluorene	216	C17H12	000243-17-4	93
2	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	93
3	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	91
4	Pyrene, 1-methyl-	216	C17H12	002381-21-7	90
5	7H-Benzo[c]fluorene	216	C17H12	000205-12-9	87





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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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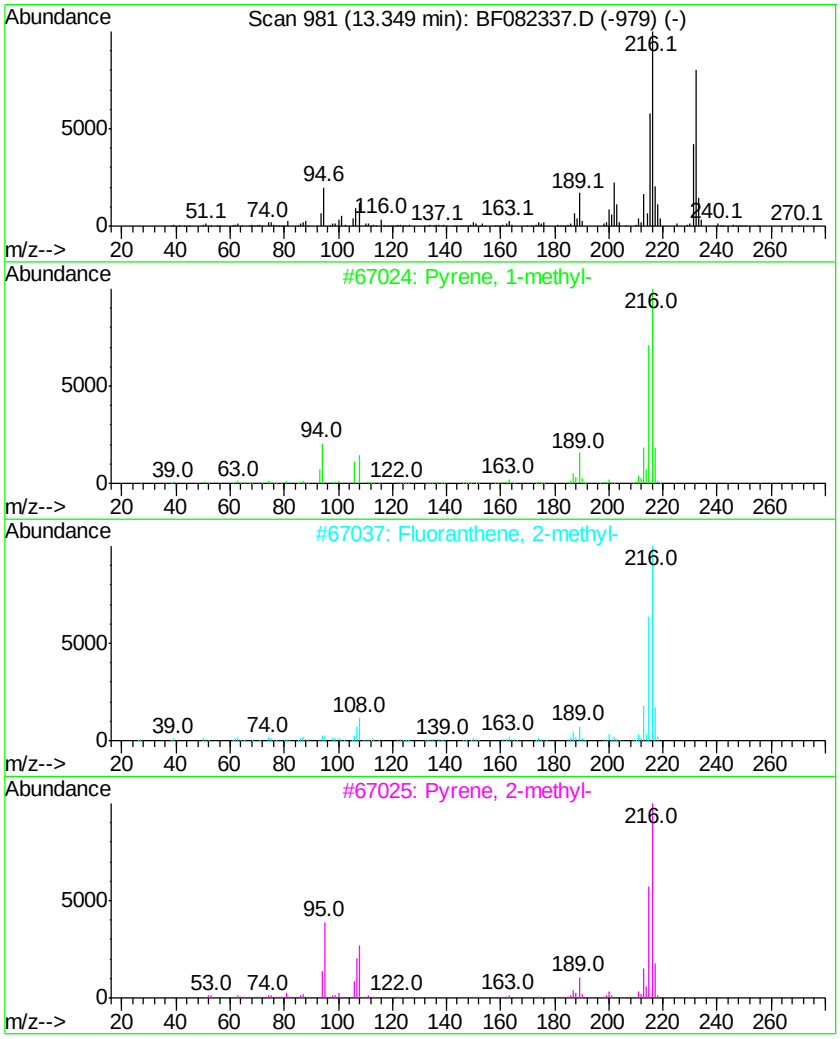
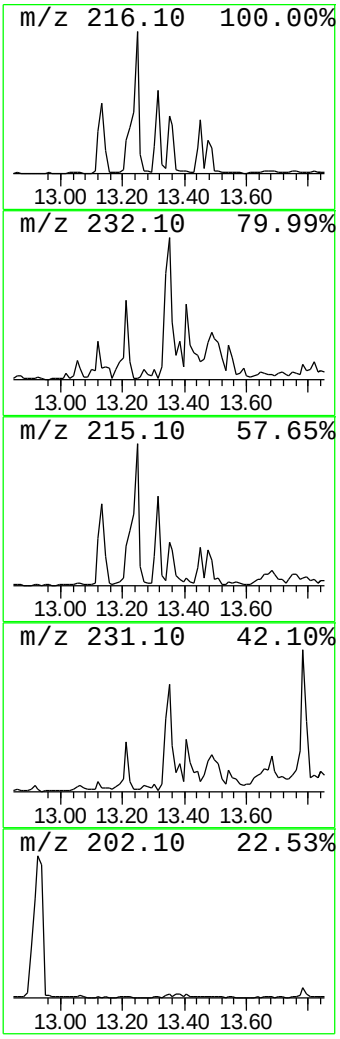
Peak Number 13 Pyrene, 1-methyl- Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.35	11.66 ng	3302620	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pyrene, 1-methyl-	216	C17H12	002381-21-7	96
2	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	89
3	Pyrene, 2-methyl-	216	C17H12	003442-78-2	64
4	Pyrene, 4-methyl-	216	C17H12	003353-12-6	42
5	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	41





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

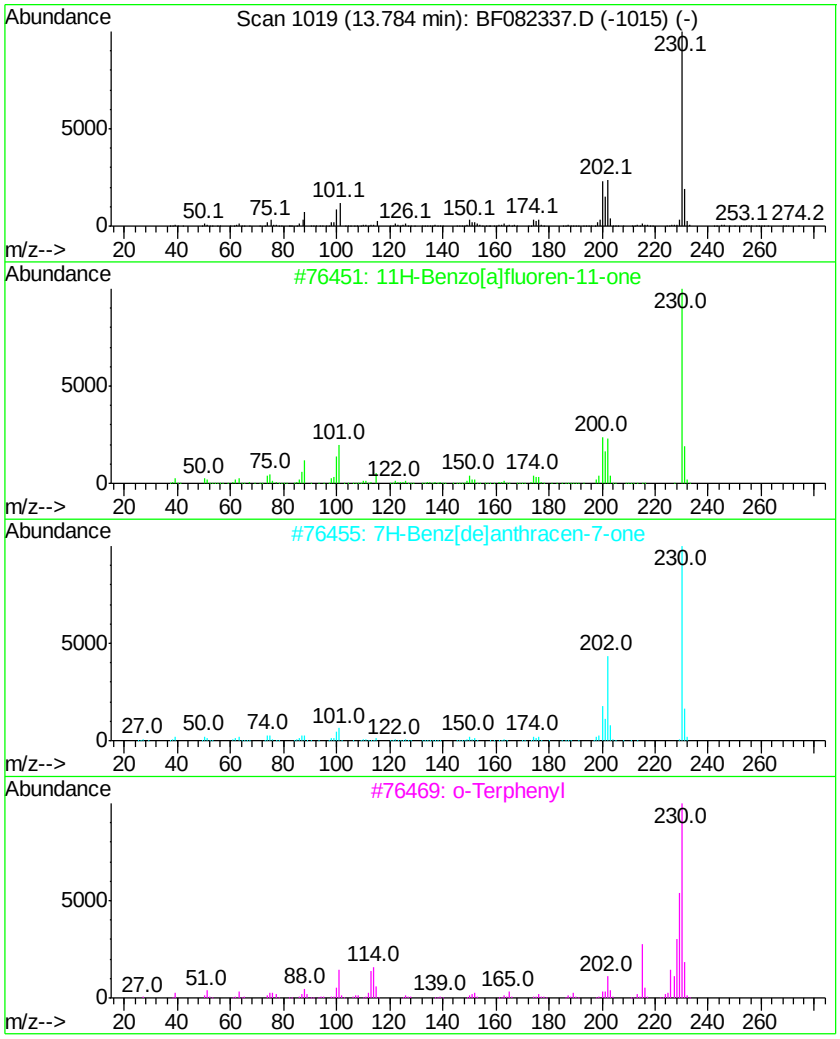
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

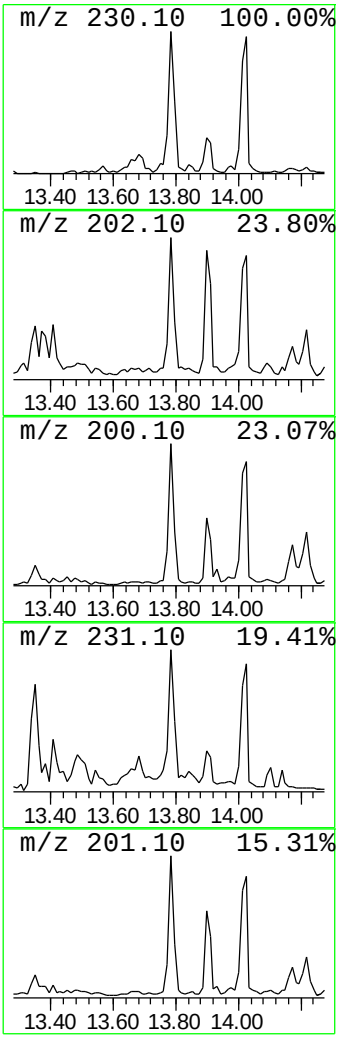
****

Peak Number 14 11H-Benzo[a]fluoren-11-one Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.78	10.49 ng	2972840	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Benzo[a]fluoren-11-one	230	C17H10O	000479-79-8	97
2	7H-Benz[de]anthracen-7-one	230	C17H10O	000082-05-3	90
3	o-Terphenyl	230	C18H14	000084-15-1	64
4	4-Methoxy-2-(p-methoxyphenyl)-6-...	230	C13H14N2O2	063896-93-5	53
5	p-Terphenyl	230	C18H14	000092-94-4	53





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

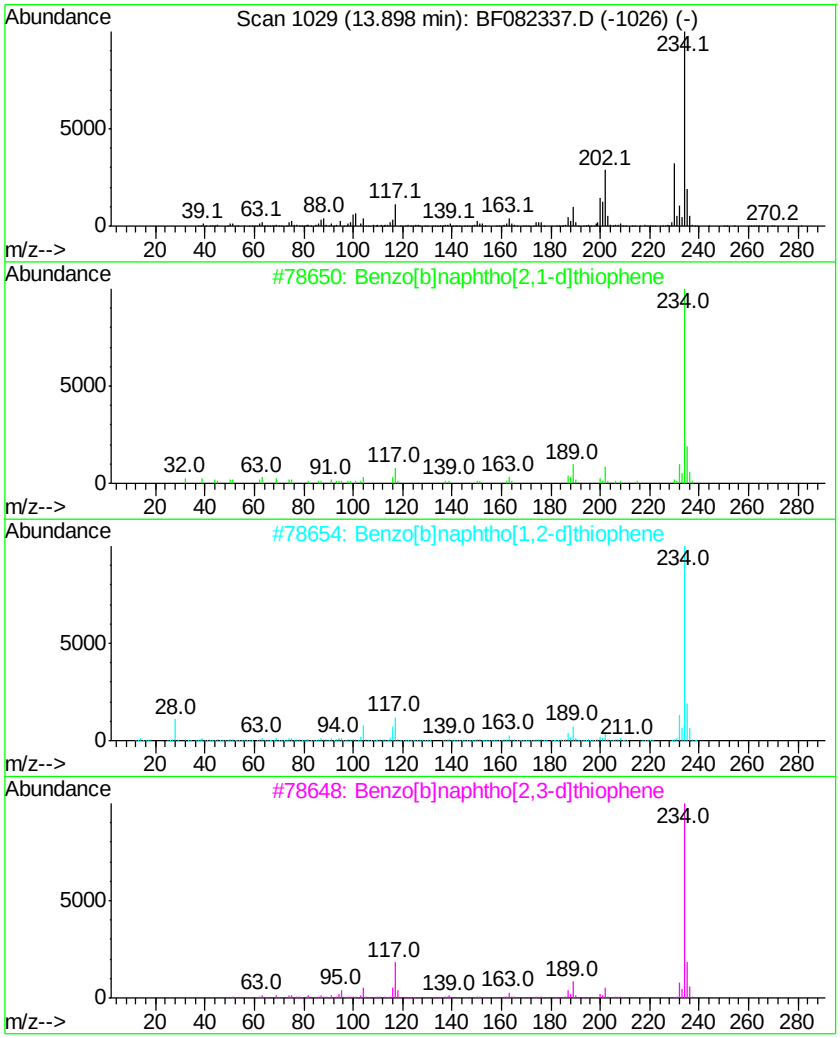
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

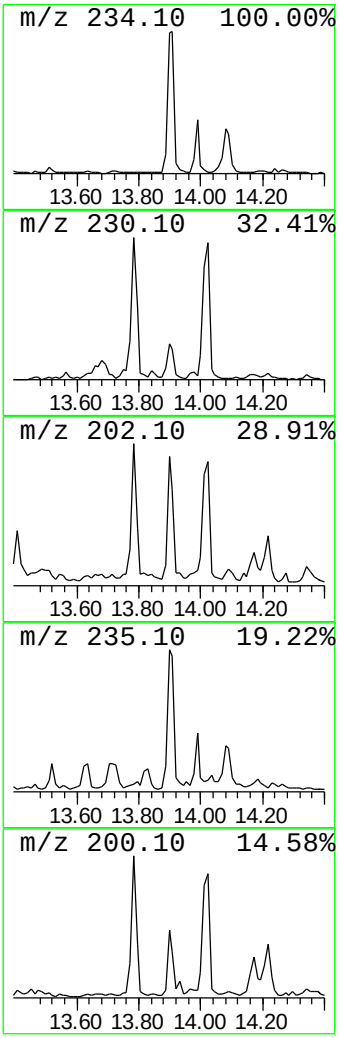
****

Peak Number 15 Benzo[b]naphtho[2,1-d]thiop... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.90	15.13 ng	4288540	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzo[b]naphtho[2,1-d]thiophene	234	C16H10S	000239-35-0	94
2	Benzo[b]naphtho[1,2-d]thiophene	234	C16H10S	000205-43-6	64
3	Benzo[b]naphtho[2,3-d]thiophene	234	C16H10S	000243-46-9	58
4	2-Amino-6-t-butyl-3-cyano-4,5,6,...	234	C13H18N2S	042159-76-2	46
5	Anthra[1,9a,9-cd;5,10a,10-c'd']d...	234	C14H6N2O2	000201-91-2	43





Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

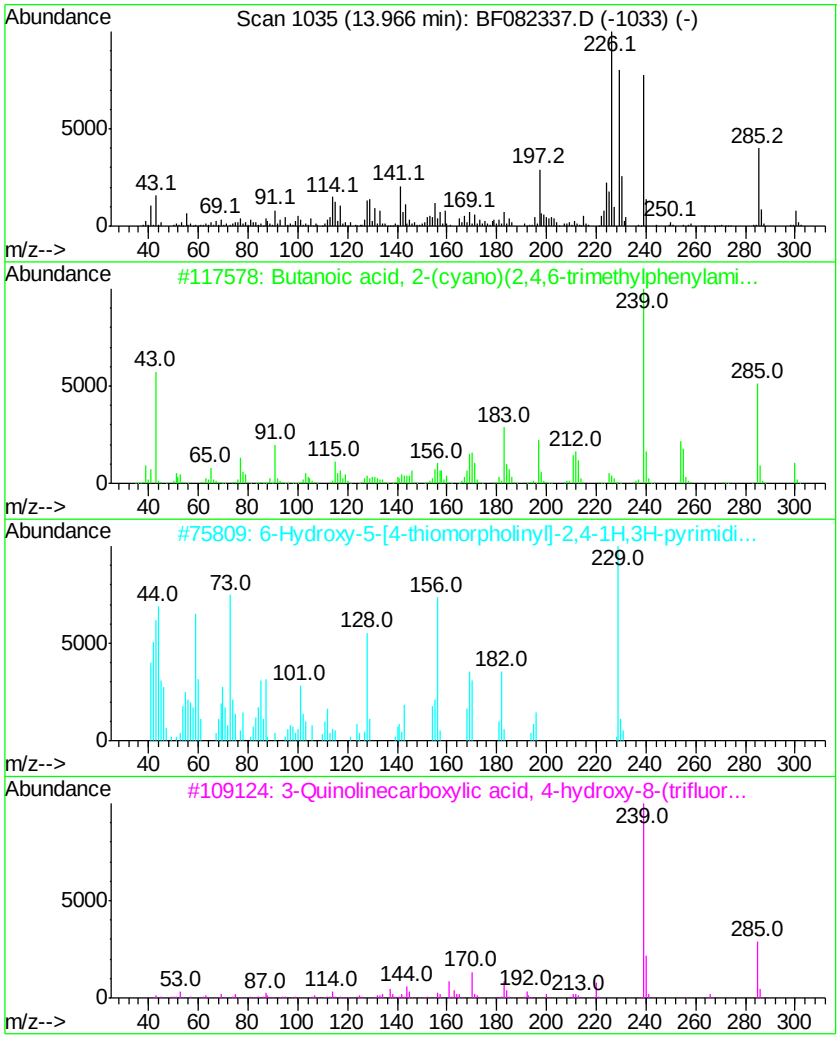
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

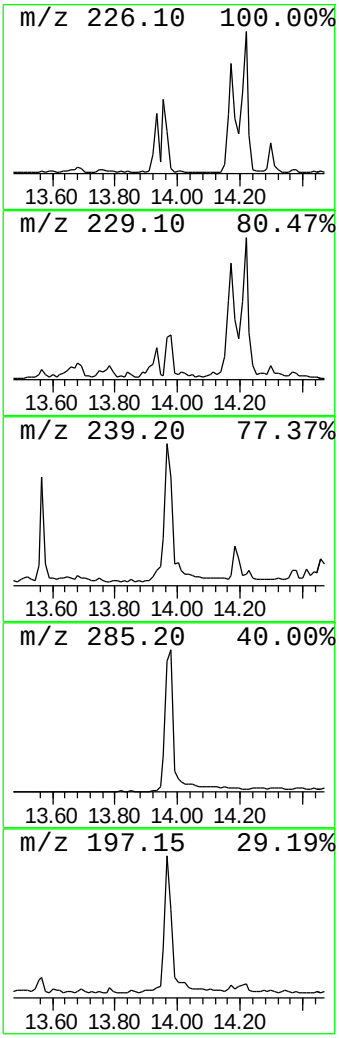
****

Peak Number 16 unknown13.97 Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.97	8.08 ng	2291000	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butanoic acid, 2-(cyano)(2,4,6-t...	300	C17H20N2O3	1000267-71-7	30
2	6-Hydroxy-5-[4-thiomorpholinyl]-...	229	C8H11N3O3S	1000212-11-4	25
3	3-Quinolinecarboxylic acid, 4-hy...	285	C13H10F3NO3	023851-84-5	22
4	Benz[c]acridine	229	C17H11N	000225-51-4	15
5	7-Chloro-2-phenazinamine	229	C12H8ClN3	023677-11-4	11





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Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On    : 16 Oct 2015  20:41
Operator  : UM/IZ
Sample    : G4046-02 10X
Misc      :
ALS Vial  : 19   Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
```

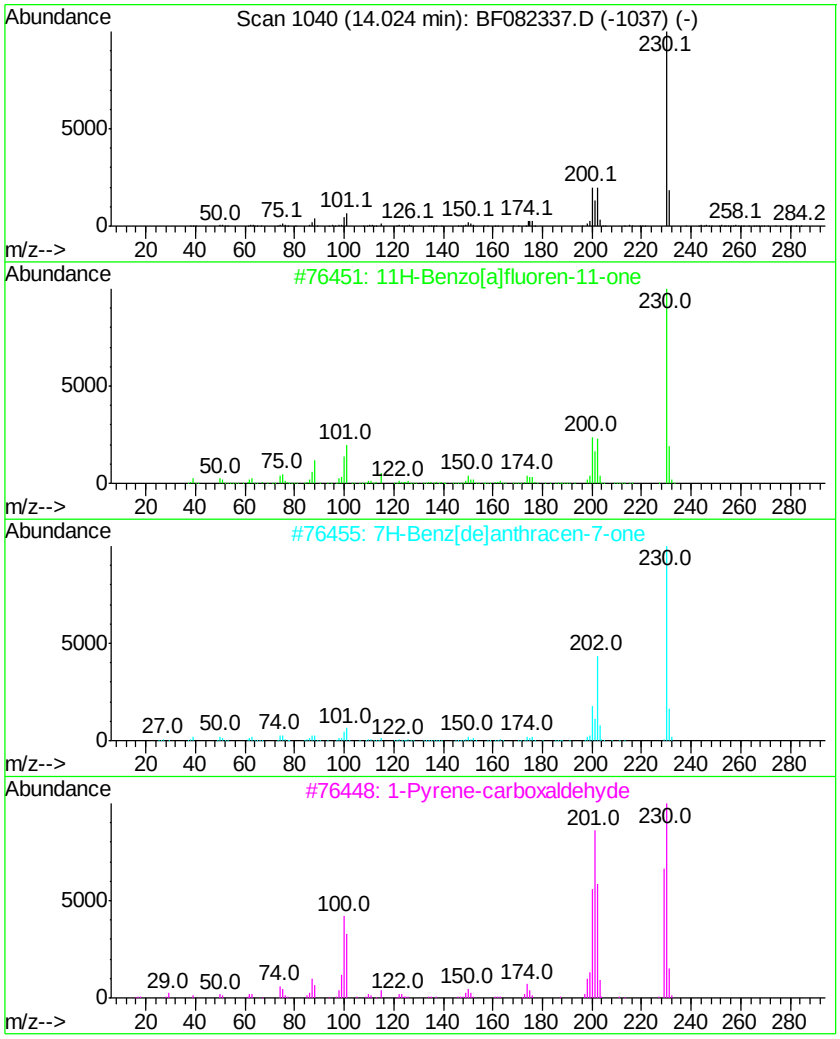
Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

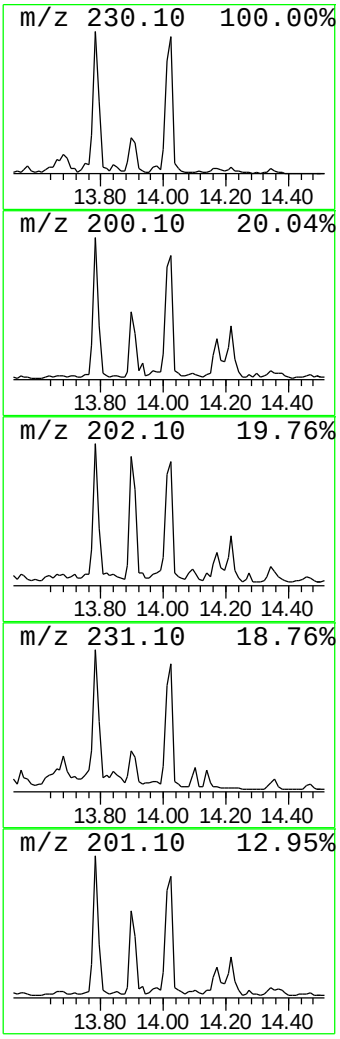
****

Peak Number 17 7H-Benz[de]anthracen-7-one Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.02	11.65 ng	3300360	Chrysene-d12	14.18

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Benzo[a]fluoren-11-one	230	C17H10O	000479-79-8	97
2	7H-Benz[de]anthracen-7-one	230	C17H10O	000082-05-3	87
3	1-Pyrene-carboxaldehyde	230	C17H10O	003029-19-4	72
4	4-Isothiazolecarbonitrile, 3,5-b...	230	C8H10N2S3	024135-13-5	59
5	o-Terphenyl	230	C18H14	000084-15-1	53





Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

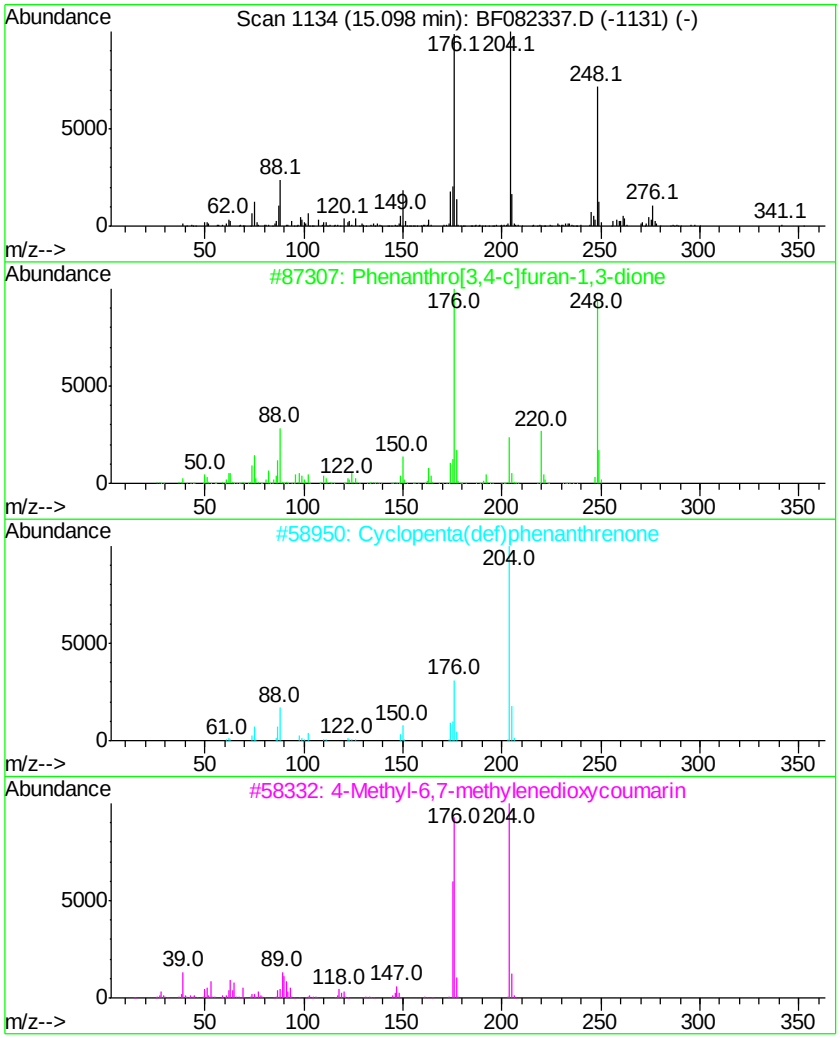
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

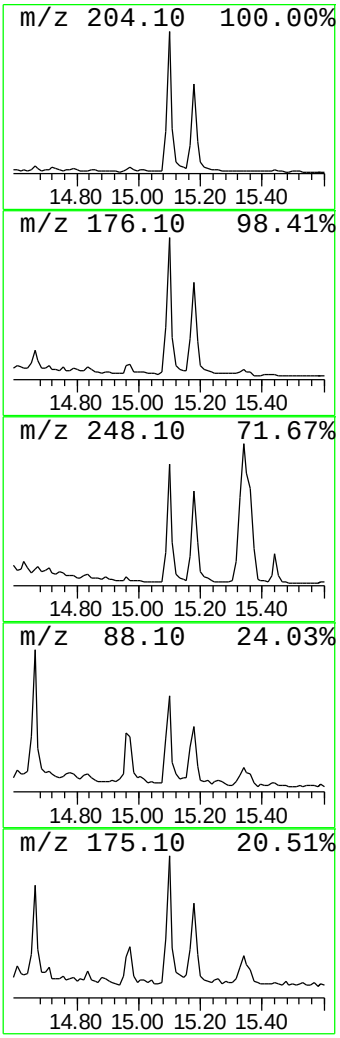
****

Peak Number 18 Phenanthro[3,4-c]furan-1,3-... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.10	12.48 ng	369281	Perylene-d12	15.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenanthro[3,4-c]furan-1,3-dione	248	C16H8O3	005723-54-6	60
2	Cyclopenta(def)phenanthrenone	204	C15H8O	005737-13-3	46
3	4-Methyl-6,7-methylenedioxycoumarin	204	C11H8O4	015071-04-2	38
4	3,4-Biphenyldicarbonitrile	204	C14H8N2	004128-63-6	27
5	9-Amino-6-fluorolepidine	176	C10H9FN2	064993-16-4	25





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Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082337.D
Acq On    : 16 Oct 2015  20:41
Operator  : UM/IZ
Sample    : G4046-02 10X
Misc      :
ALS Vial  : 19   Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
```

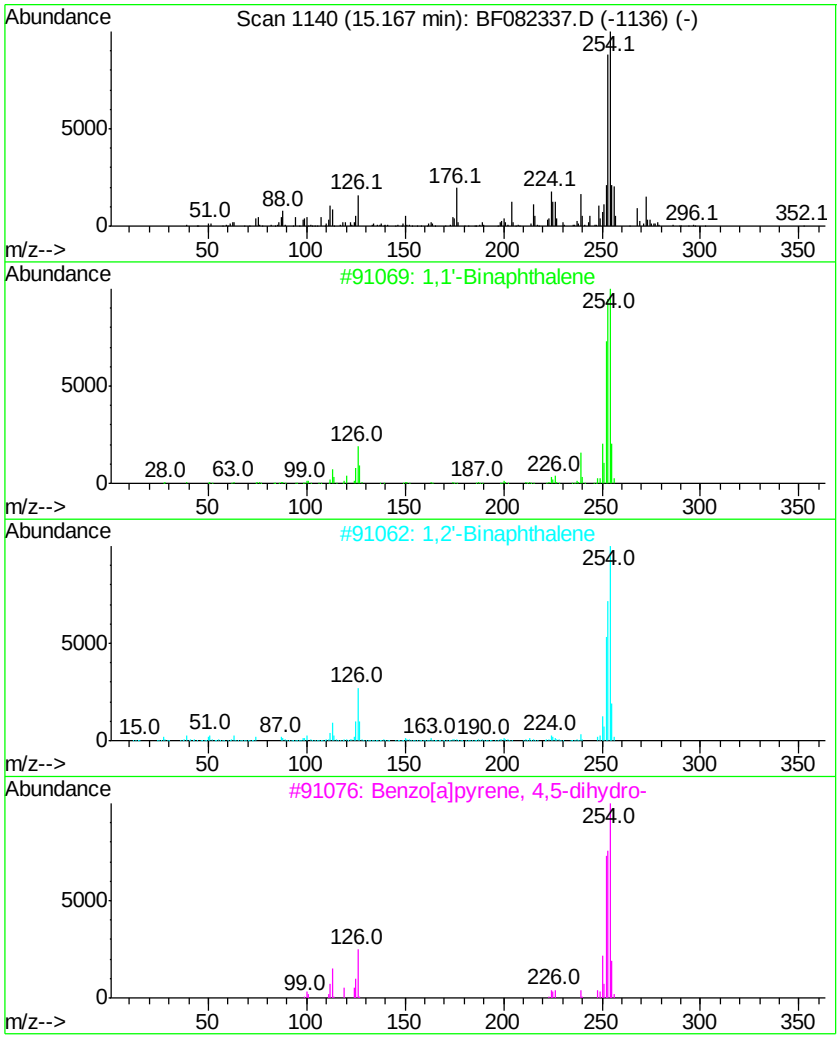
Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

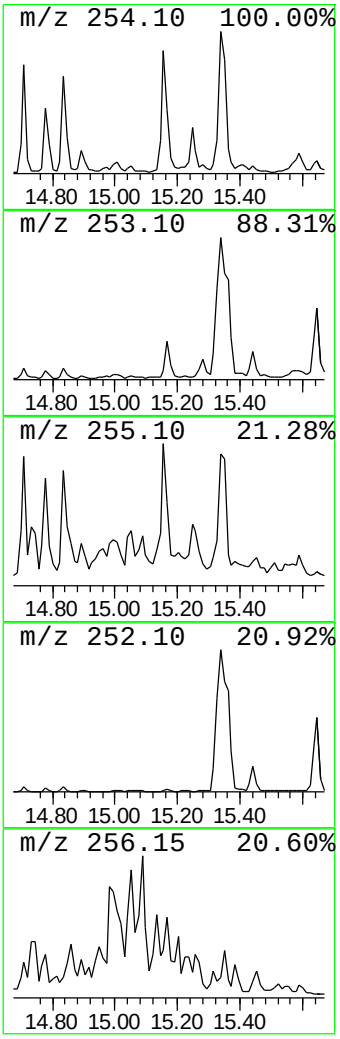
****

Peak Number 19 1,1'-Binaphthalene Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.17	24.25 ng	717227	Perylene-d12	15.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,1'-Binaphthalene	254	C20H14	000604-53-5	70
2	1,2'-Binaphthalene	254	C20H14	004325-74-0	64
3	Benzo[a]pyrene, 4,5-dihydro-	254	C20H14	057652-66-1	64
4	1H-Indene, 1,1'-(1,2-ethanediyli...	254	C20H14	072088-04-1	62
5	9H-Fluorene, 9-(phenylmethylene)-	254	C20H14	001836-87-9	58





Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\DATA\BF101715\
Data File : BF082337.D
Acq On : 16 Oct 2015 20:41
Operator : UM/IZ
Sample : G4046-02 10X
Misc :
ALS Vial : 19 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Naphthalene, 1-me...	9.02	11.7	ng	359960	2	8.21	614266	20.0
Naphthalene, 1,7-...	9.54	12.2	ng	554698	3	9.95	911686	20.0
Naphthalene, 1,6-...	9.61	13.2	ng	601280	3	9.95	911686	20.0
Naphthalene, 2,3-...	9.73	9.0	ng	412011	3	9.95	911686	20.0
1-Isopropenylnaph...	10.11	10.7	ng	486785	3	9.95	911686	20.0
3,3'-Dimethylbiph...	10.46	10.3	ng	469230	3	9.95	911686	20.0
Benzene, [1-(2,4-...	10.57	25.2	ng	1148840	3	9.95	911686	20.0
Diphenylmethane	10.59	13.8	ng	626873	3	9.95	911686	20.0
2,4,6-Cycloheptat...	10.66	42.7	ng	1947930	3	9.95	911686	20.0
9,10-Anthracenedi...	12.82	9.9	ng	2796130	5	14.18	5667320	20.0
Fluoranthene, 2-m...	13.13	9.8	ng	2770990	5	14.18	5667320	20.0
11H-Benzo[b]fluorene	13.25	13.9	ng	3940760	5	14.18	5667320	20.0
Pyrene, 1-methyl-	13.35	11.7	ng	3302620	5	14.18	5667320	20.0
11H-Benzo[a]fluor...	13.78	10.5	ng	2972840	5	14.18	5667320	20.0
Benzo[b]naphtho[2...	13.90	15.1	ng	4288540	5	14.18	5667320	20.0
unknown13.97	13.97	8.1	ng	2291000	5	14.18	5667320	20.0
7H-Benz[de]anthra...	14.02	11.7	ng	3300360	5	14.18	5667320	20.0
Phenanthro[3,4-c]...	15.10	12.5	ng	369281	6	15.77	591607	20.0
1,1'-Binaphthalene	15.17	24.3	ng	717227	6	15.77	591607	20.0

Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082388.D
Acq On : 20 Oct 2015 7:53
Operator : UM/IZ
Sample : G4046-02DL 50X
Misc :
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 20 13:13:02 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:29:22 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	87643	20.00	ng	-0.03
21) Naphthalene-d8	8.09	136	363932	20.00	ng	-0.03
38) Acenaphthene-d10	9.85	164	183232	20.00	ng	-0.03
63) Phenanthrene-d10	11.35	188	293126	20.00	ng	-0.02
75) Chrysene-d12	14.01	240	226533	20.00	ng	0.00
86) Perylene-d12	15.51	264	225265	20.00	ng	0.07
System Monitoring Compounds						
5) 2-Fluorophenol	5.41	112	5163	1.19	ng	-0.02
7) Phenol-d6	6.45	99	8056	1.43	ng	-0.03
23) Nitrobenzene-d5	7.37	82	4367	0.81	ng	-0.05
41) 2,4,6-Tribromophenol	10.64	330	2029	1.18	ng	-0.03
44) 2-Fluorobiphenyl	9.17	172	16272	1.47	ng	-0.04
78) Terphenyl-d14	12.93	244	15205	1.78	ng	-0.03
Target Compounds						Qvalue
37) 2-Methylnaphthalene	8.81	142	47952	4.38	ng	98
45) 1,1'-Biphenyl	9.27	154	41010	2.94	ng	98
51) Acenaphthene	9.89	154	200738	19.51	ng	97
54) Dibenzofuran	10.06	168	439449	31.12	ng	97
57) Fluorene	10.40	166	517841	44.64	ng	98
70) Phenanthrene	11.38	178	2932176	204.08	ng	95
71) Anthracene	11.42	178	784913	53.01	ng	98
72) Carbazole	11.58	167	424041	31.40	ng	99
74) Fluoranthene	12.57	202	2169521	140.59	ng	96
77) Pyrene	12.80	202	1487296	110.63	ng	99
80) Benzo(a)anthracene	14.00	228	399358	33.88	ng	99
82) Chrysene	14.04	228	517372m	41.66	ng	
85) Indeno(1,2,3-cd)pyrene	16.92	276	35944m	3.64	ng	
87) Benzo(b)fluoranthene	15.09	252	331028m	24.15	ng	
88) Benzo(k)fluoranthene	15.11	252	74694m	6.48	ng	
89) Benzo(a)pyrene	15.44	252	91219	7.74	ng	98
91) Benzo(g,h,i)perylene	17.35	276	27086	2.89	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Sample Results: **BF082388.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082388.D
Acq On : 20 Oct 2015 7:53
Operator : UM/IZ
Sample : G4046-02DL 50X
Misc :
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 20 13:13:02 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

Manual Integrations APPROVED
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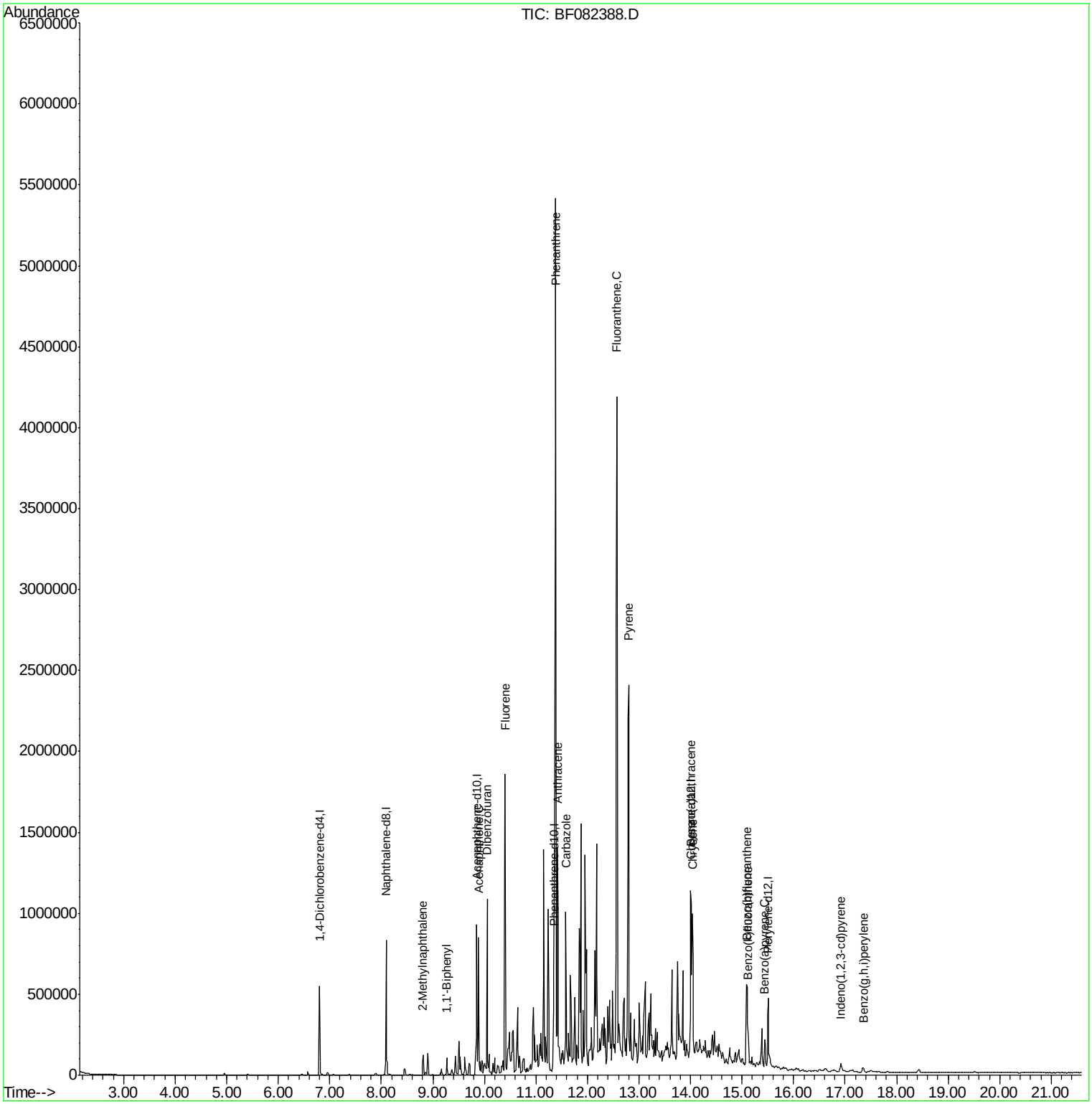
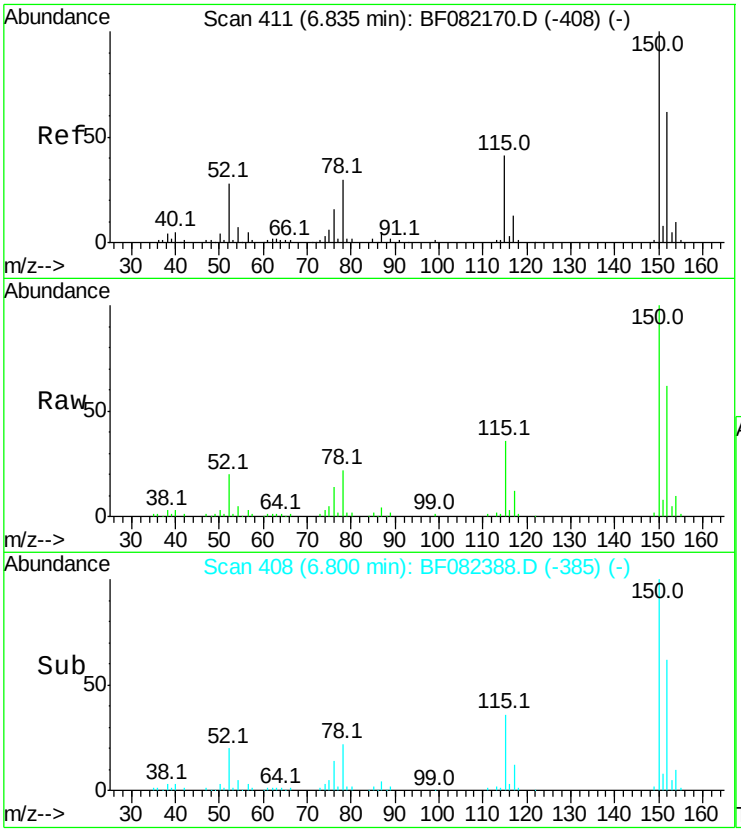
10/20/2015 6:29:22 PM



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

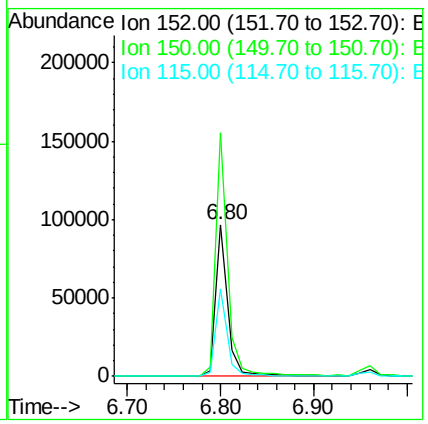
Manual Integrations APPROVED
MMdadoda
10/20/2015 6:29:22 PM

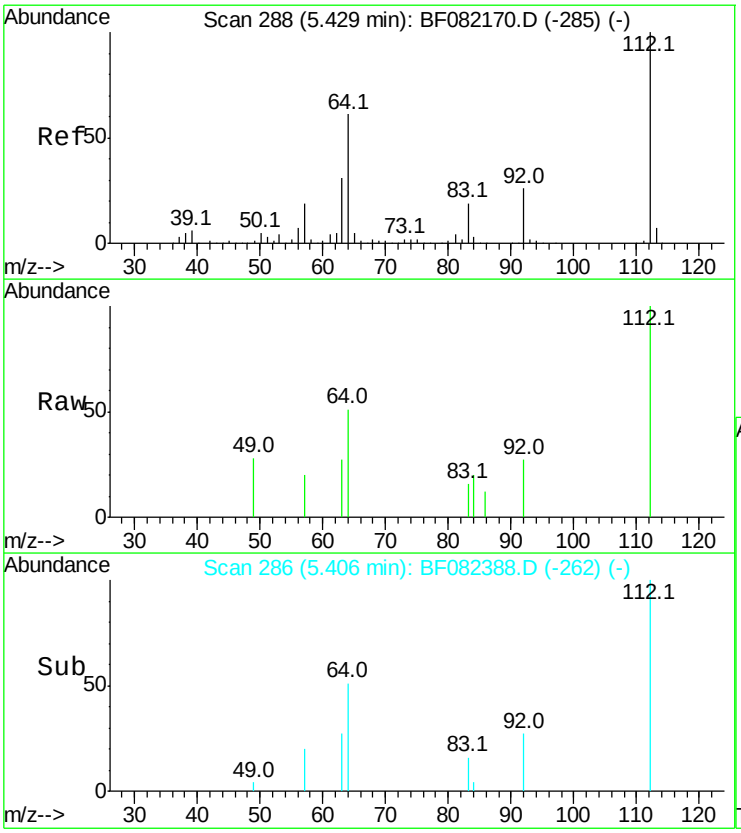


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:152 Resp: 87643

Ion	Ratio	Lower	Upper
152	100		
150	160.3	129.0	193.4
115	57.9	52.1	78.1

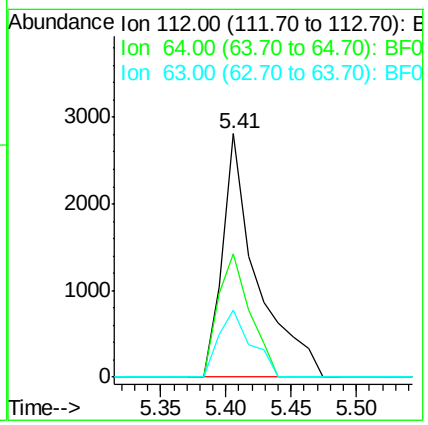




#5
2-Fluorophenol
Concen: 1.19 ng
RT: 5.41 min Scan# 286
Delta R.T. -0.02 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

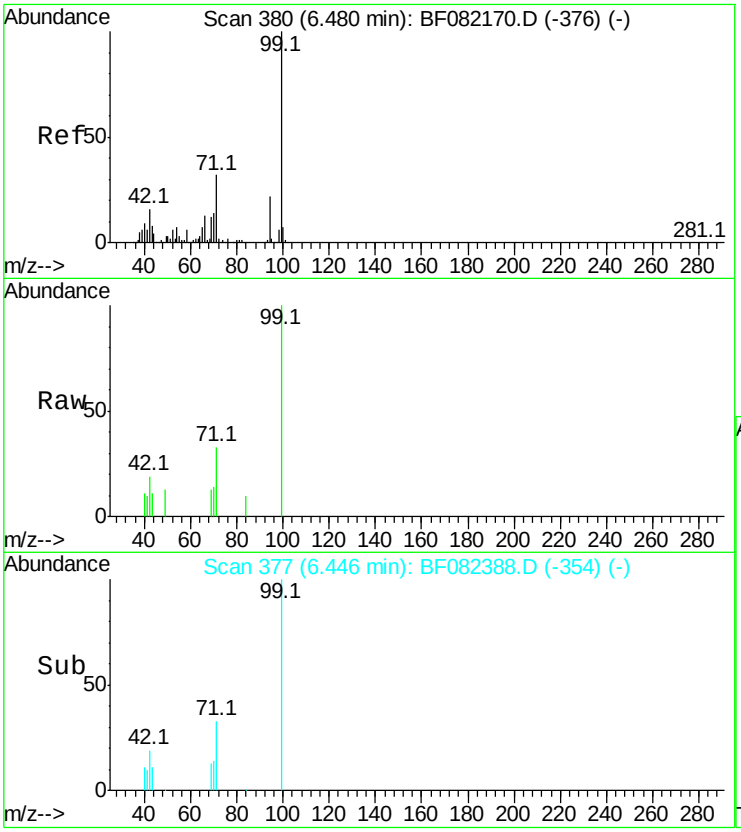
Tgt Ion:112 Resp: 5163

Ion	Ratio	Lower	Upper
112	100		
64	50.7	48.6	73.0
63	27.3	25.1	37.7



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

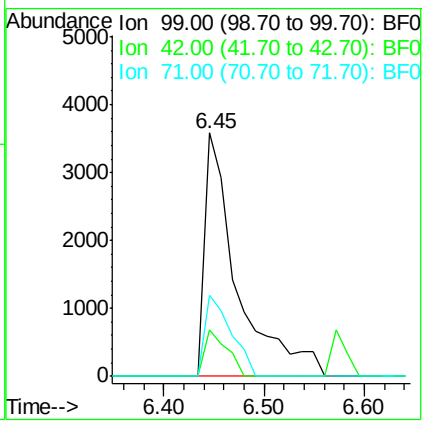
Manual Integrations APPROVED
MMdadoda
10/20/2015 6:29:22 PM

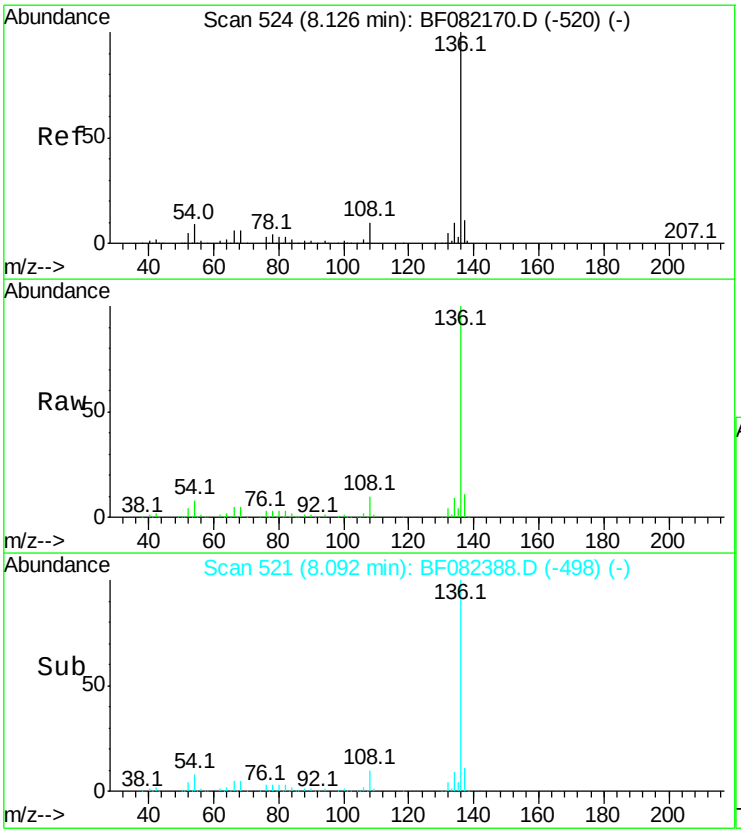


#7
Phenol-d6
Concen: 1.43 ng
RT: 6.45 min Scan# 377
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion: 99 Resp: 8056

Ion	Ratio	Lower	Upper
99	100		
42	18.9	13.2	19.8
71	33.3	25.6	38.4

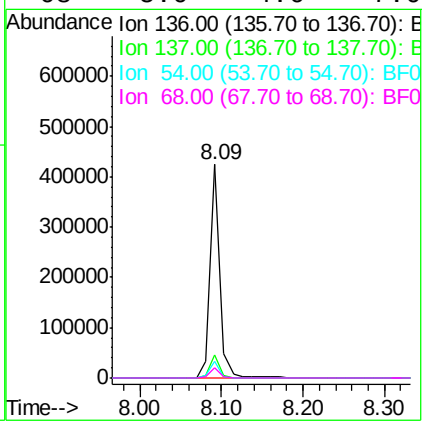




#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:136 Resp: 363932

Ion	Ratio	Lower	Upper
136	100		
137	10.9	9.0	13.6
54	7.9	7.5	11.3
68	5.0	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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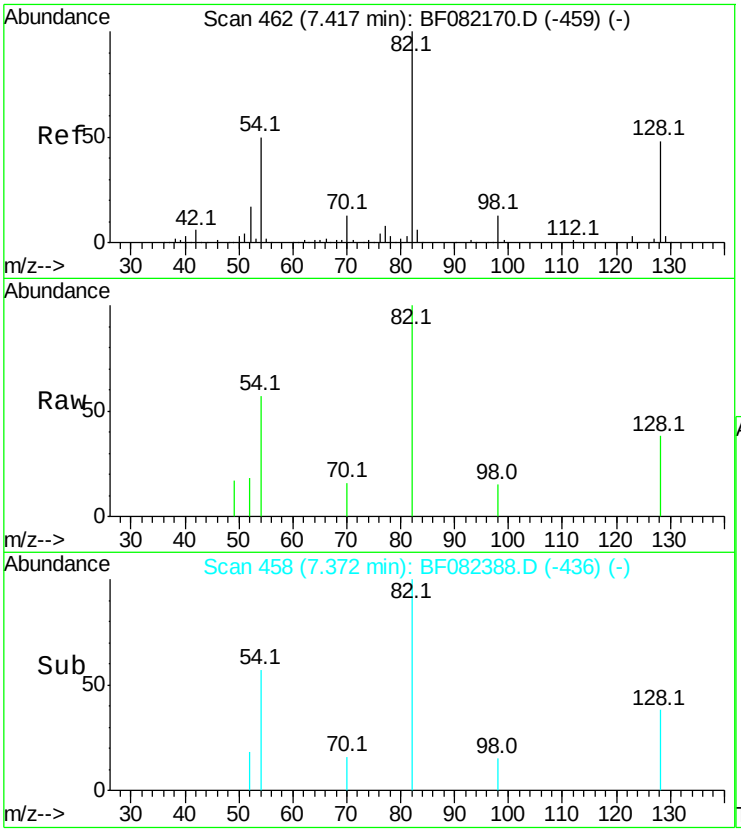
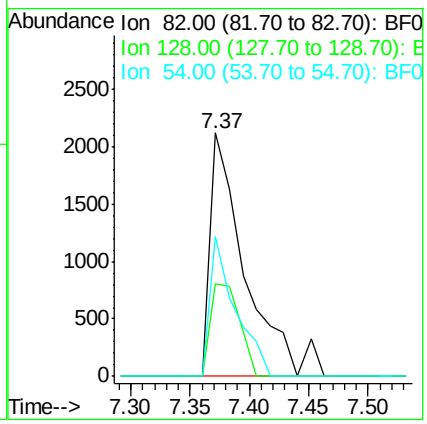
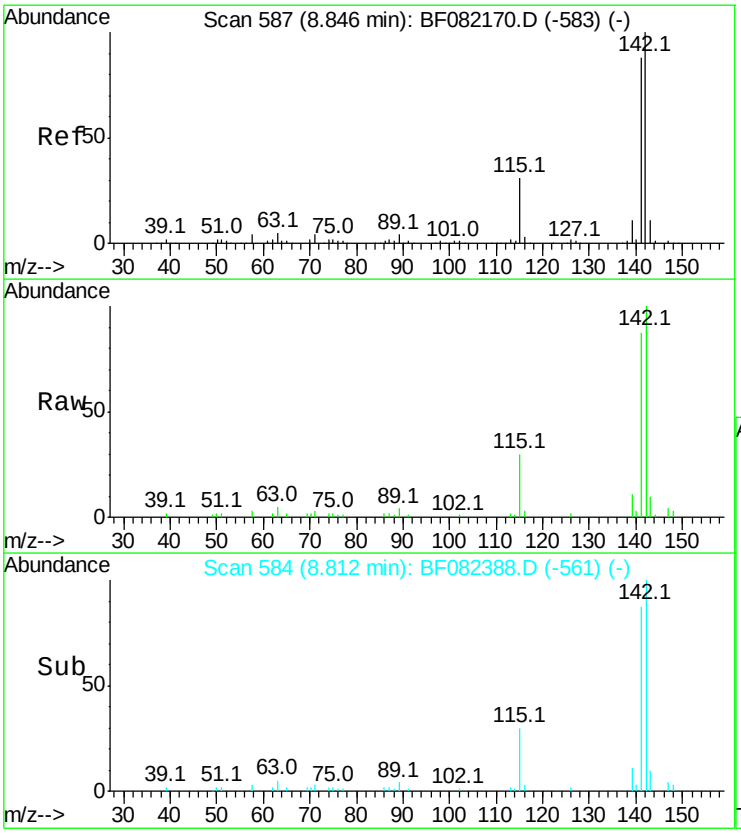


#23
Nitrobenzene-d5
Concen: 0.81 ng
RT: 7.37 min Scan# 458
Delta R.T. -0.05 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion: 82 Resp: 4367

Ion	Ratio	Lower	Upper
82	100		
128	37.8	38.7	58.1#
54	57.5	40.1	60.1

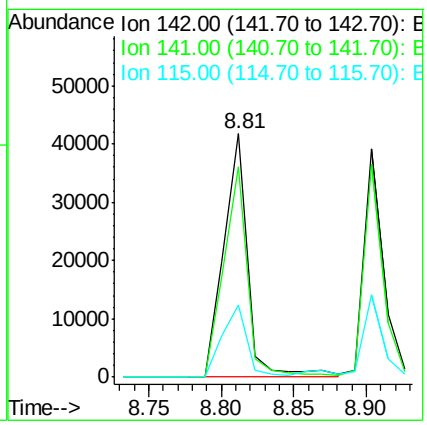




#37
2-Methylnaphthalene
Concen: 4.38 ng
RT: 8.81 min Scan# 584
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:142 Resp: 47952

Ion	Ratio	Lower	Upper
142	100		
141	86.6	70.4	105.6
115	29.8	24.6	37.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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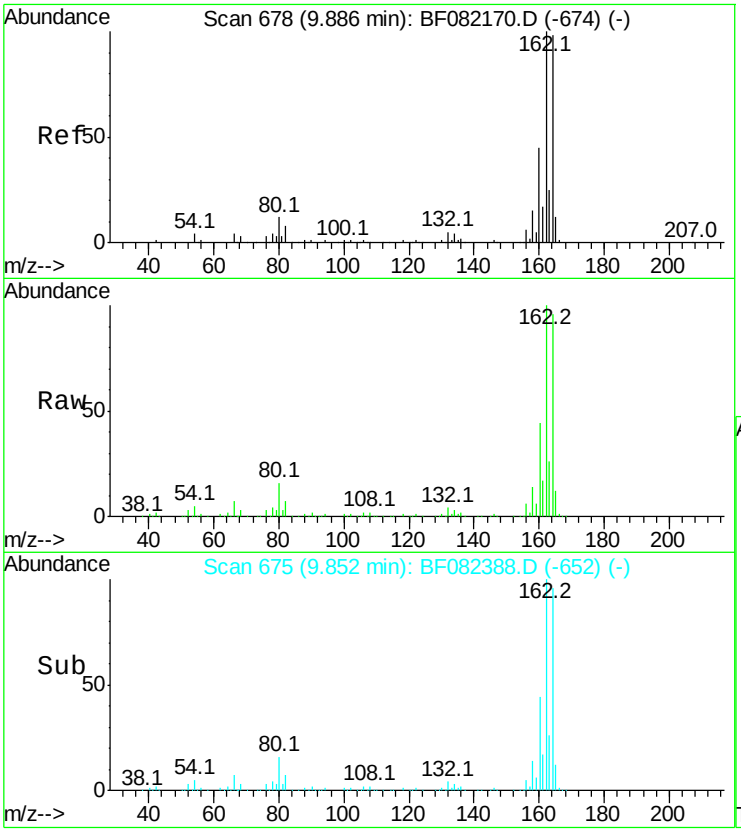
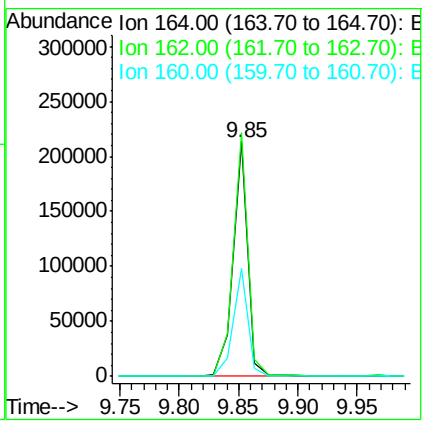
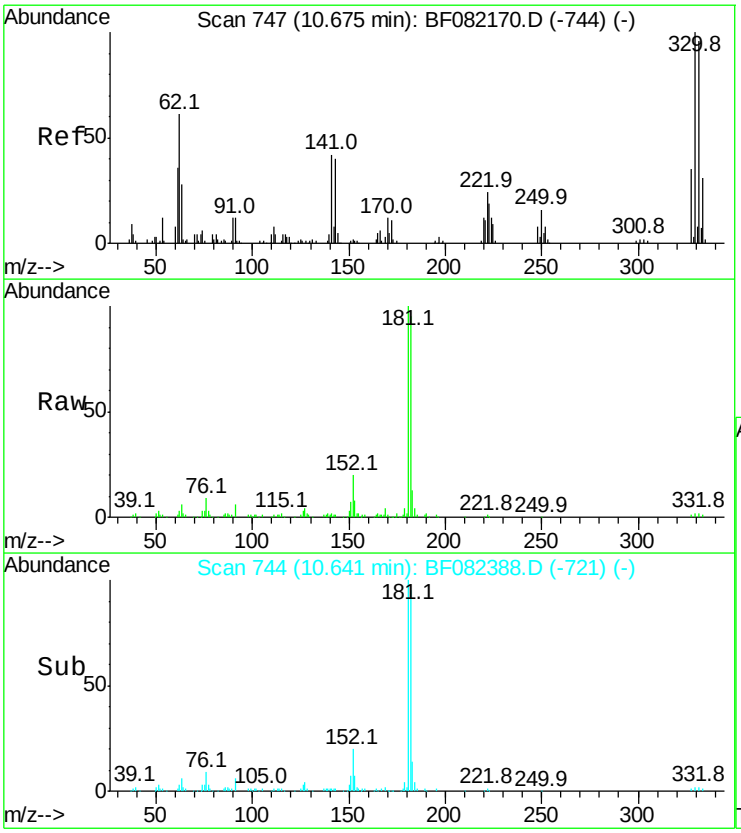


#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:164 Resp: 183232

Ion	Ratio	Lower	Upper
164	100		
162	103.9	81.6	122.4
160	45.9	36.4	54.6

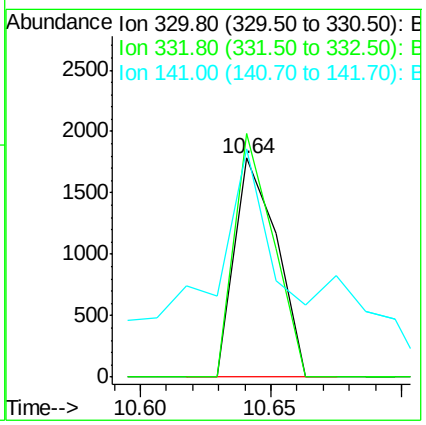




#41
2,4,6-Tribromophenol
Concen: 1.18 ng
RT: 10.64 min Scan# 744
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:330 Resp: 2029

Ion	Ratio	Lower	Upper
330	100		
332	102.5	77.1	115.7
141	251.1	29.8	44.8#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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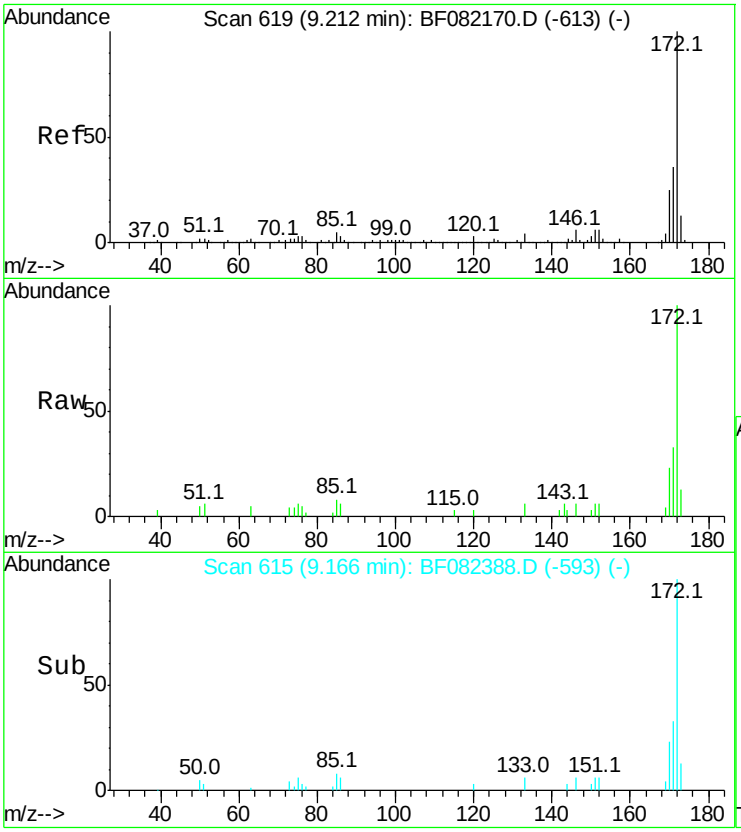
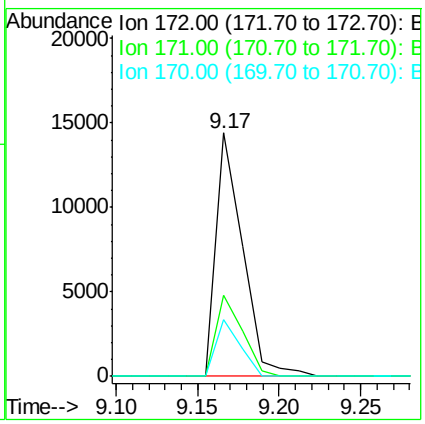
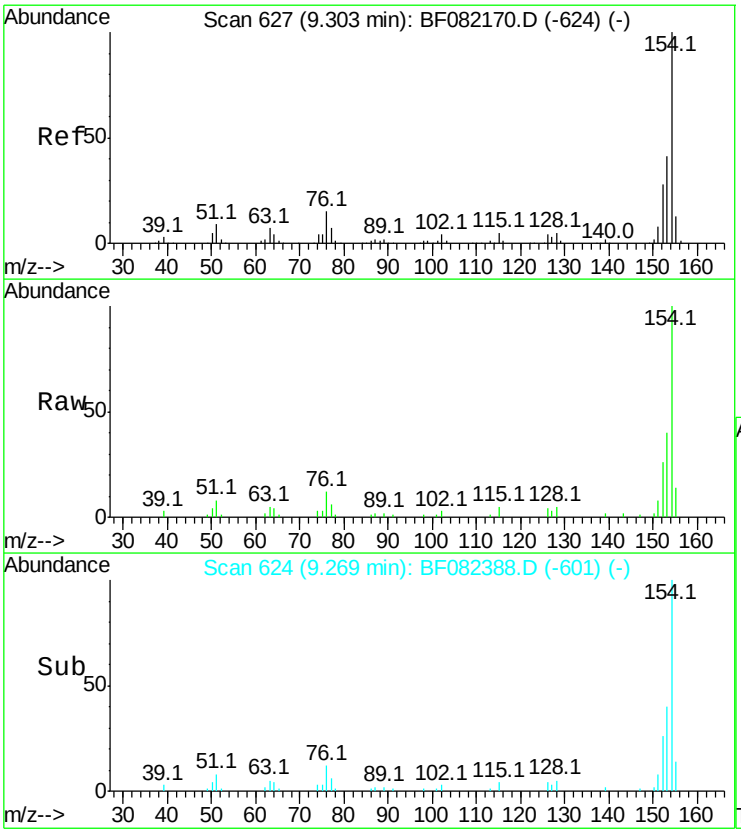


#44
2-Fluorobiphenyl
Concen: 1.47 ng
RT: 9.17 min Scan# 615
Delta R.T. -0.04 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:172 Resp: 16272

Ion	Ratio	Lower	Upper
172	100		
171	33.5	28.6	42.8
170	23.0	19.7	29.5

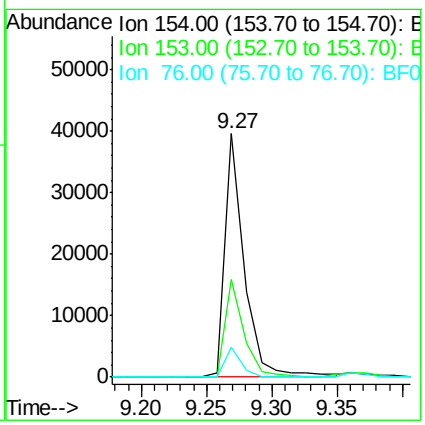




#45
1,1'-Biphenyl
Concen: 2.94 ng
RT: 9.27 min Scan# 624
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:154 Resp: 41010

Ion	Ratio	Lower	Upper
154	100		
153	40.3	20.6	60.6
76	12.3	0.0	35.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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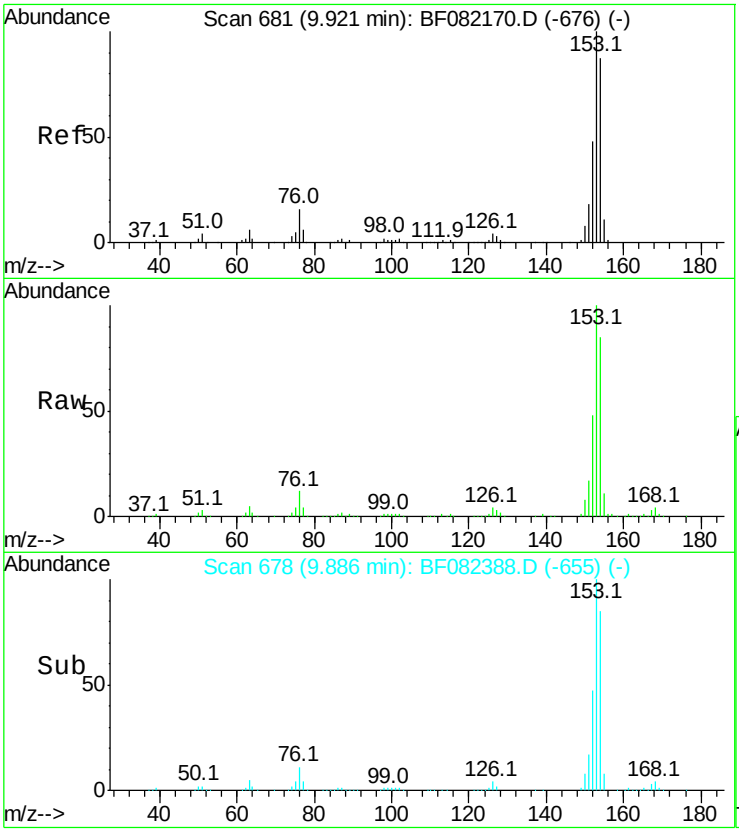
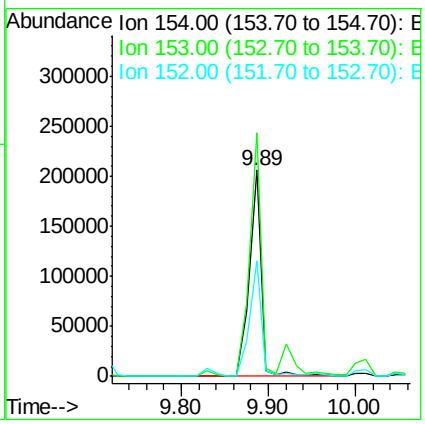
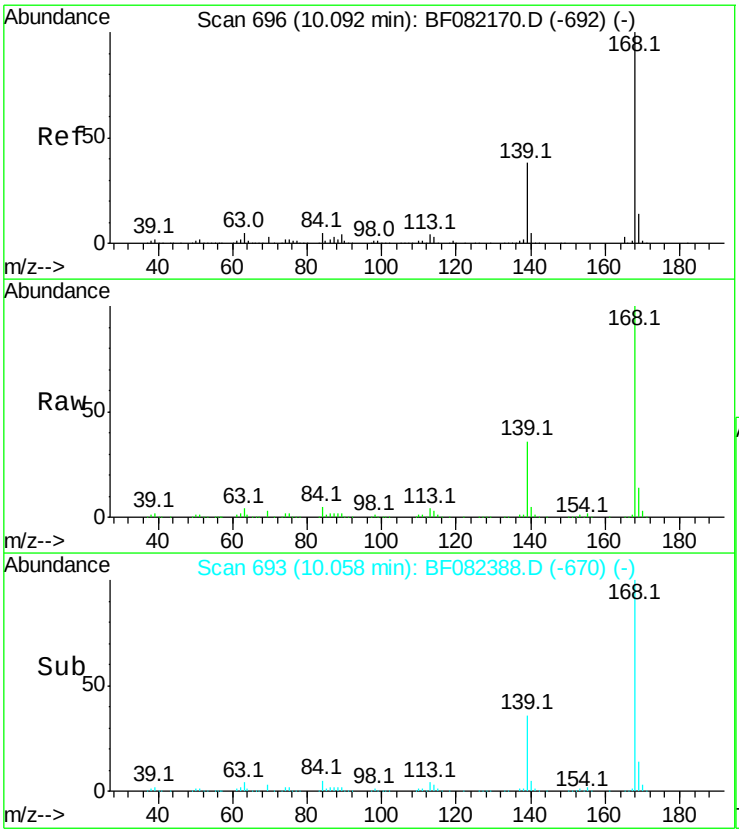


#51
Acenaphthene
Concen: 19.51 ng
RT: 9.89 min Scan# 678
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:154 Resp: 200738

Ion	Ratio	Lower	Upper
154	100		
153	118.0	91.4	137.2
152	56.0	44.3	66.5

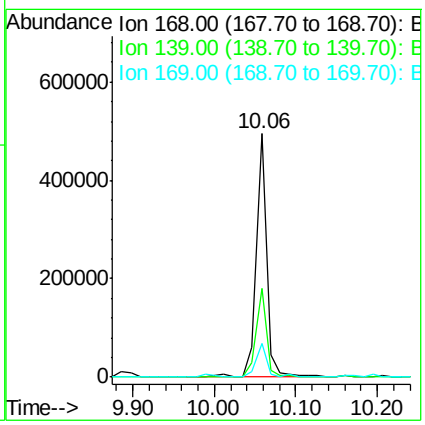




#54
Dibenzofuran
Concen: 31.12 ng
RT: 10.06 min Scan# 693
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:168 Resp: 439449

Ion	Ratio	Lower	Upper
168	100		
139	36.4	31.0	46.6
169	13.8	10.9	16.3



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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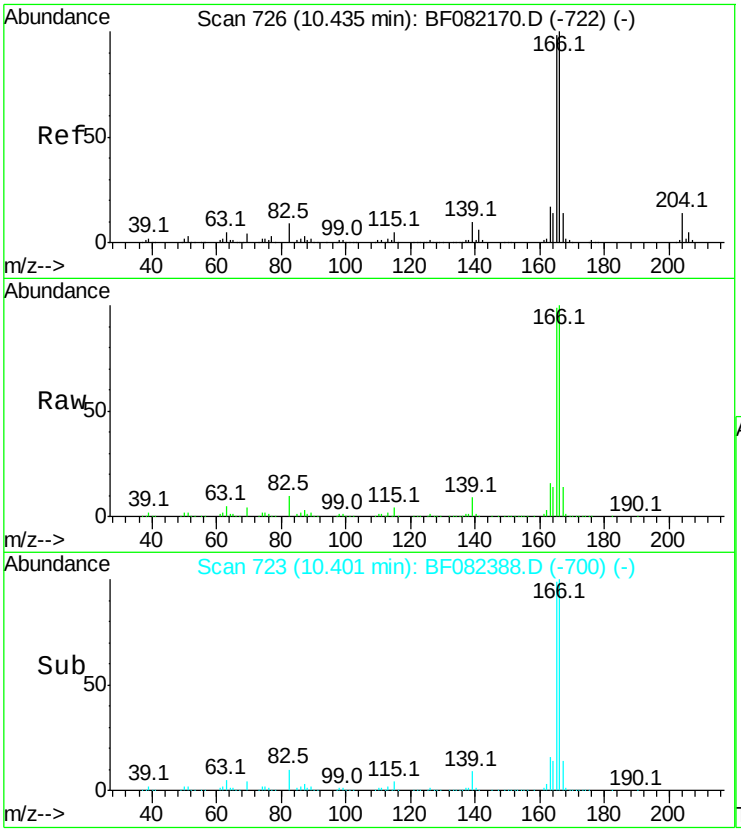
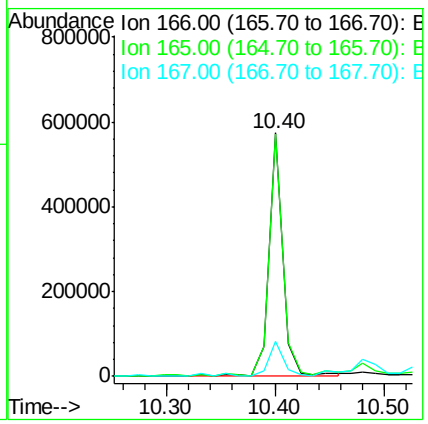
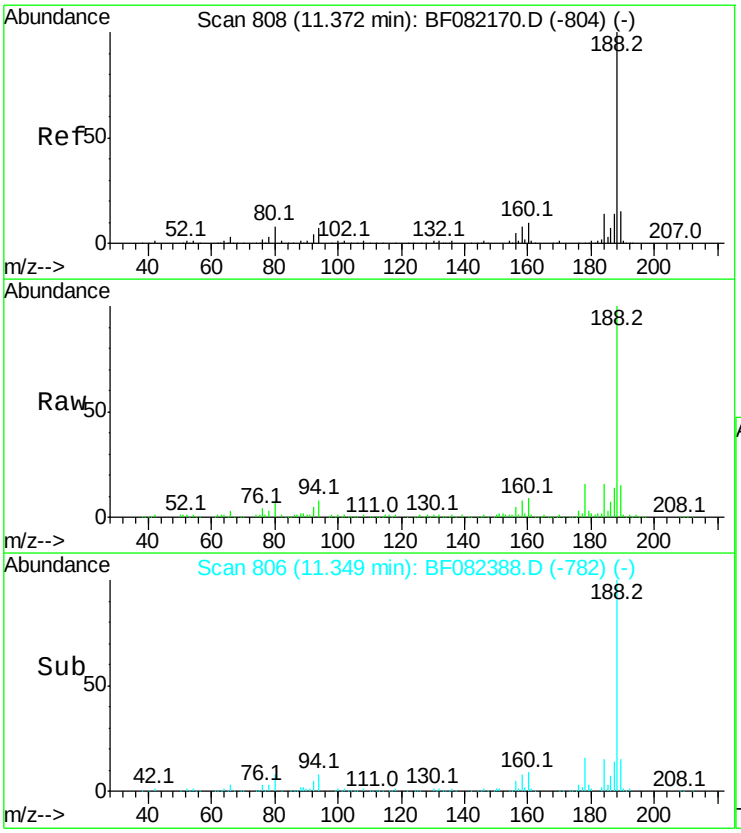


#57
Fluorene
Concen: 44.64 ng
RT: 10.40 min Scan# 723
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:166 Resp: 517841

Ion	Ratio	Lower	Upper
166	100		
165	99.5	78.3	117.5
167	14.1	10.8	16.2

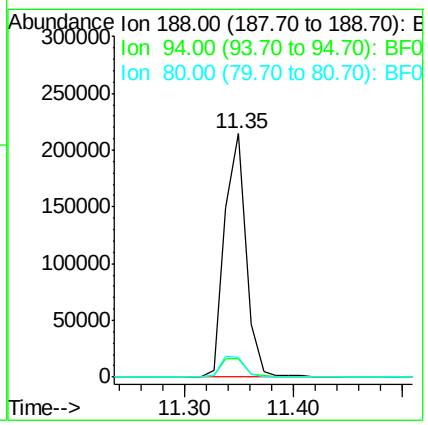




#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.35 min Scan# 806
Delta R.T. -0.02 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:188 Resp: 293126

Ion	Ratio	Lower	Upper
188	100		
94	7.6	5.8	8.6
80	8.1	6.4	9.6



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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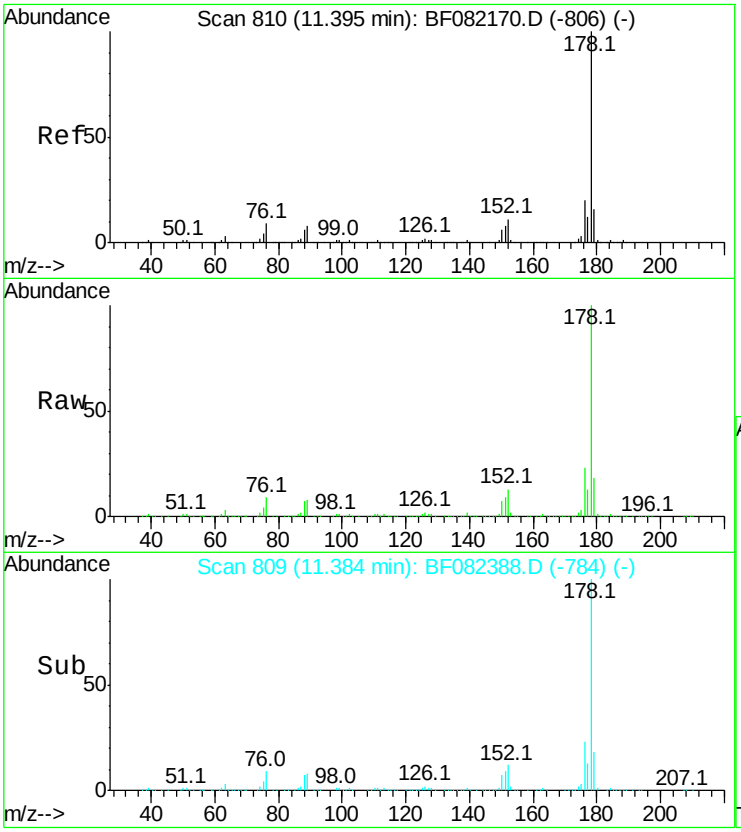
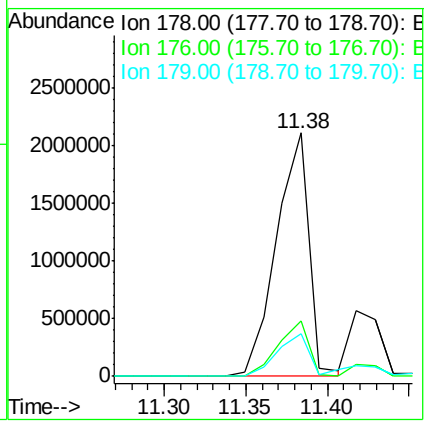
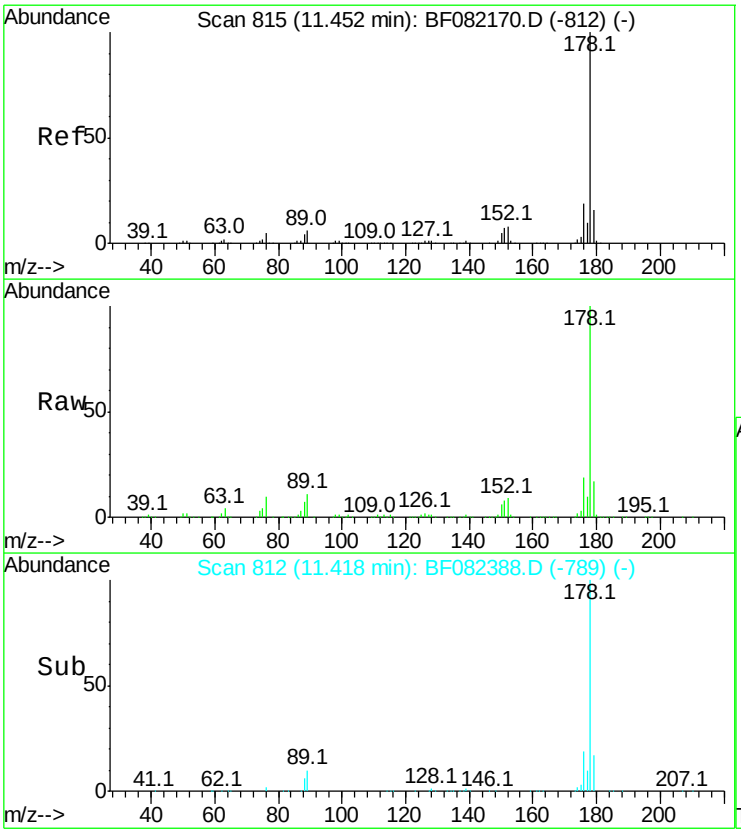


#70
Phenanthrene
Concen: 204.08 ng
RT: 11.38 min Scan# 809
Delta R.T. -0.01 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:178 Resp: 2932176

Ion	Ratio	Lower	Upper
178	100		
176	22.7	16.0	24.0
179	17.7	12.6	19.0

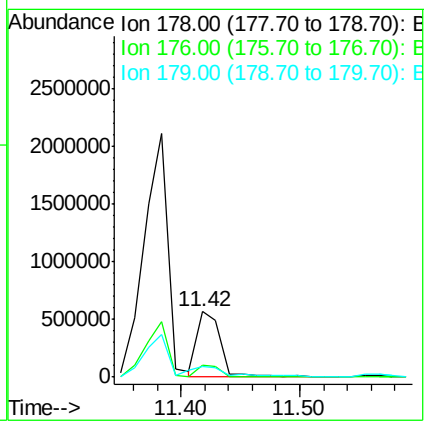


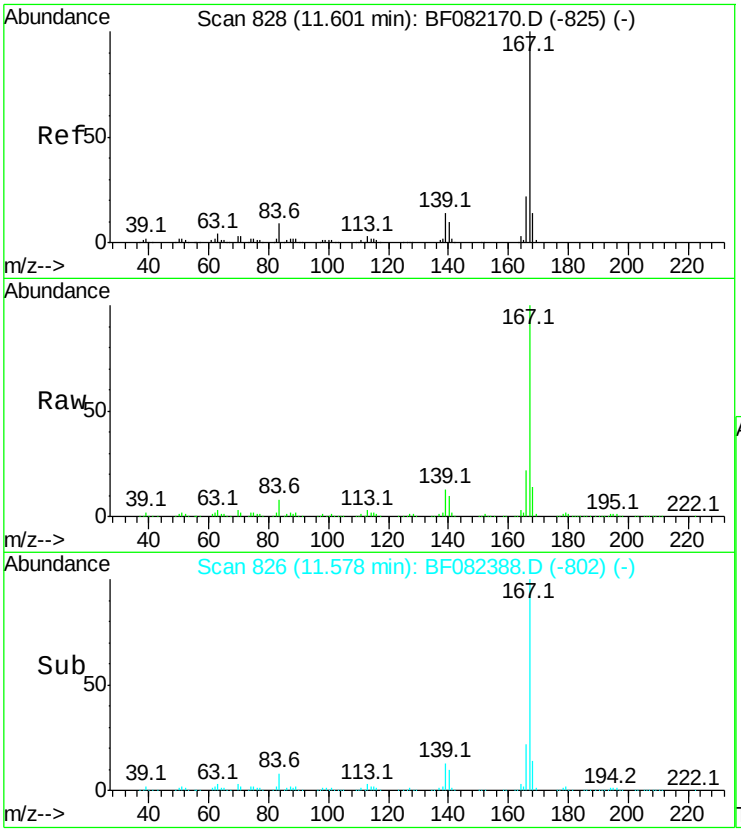


#71
Anthracene
Concen: 53.01 ng
RT: 11.42 min Scan# 812
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:178 Resp: 784913

Ion	Ratio	Lower	Upper
178	100		
176	19.0	15.4	23.0
179	17.2	12.5	18.7

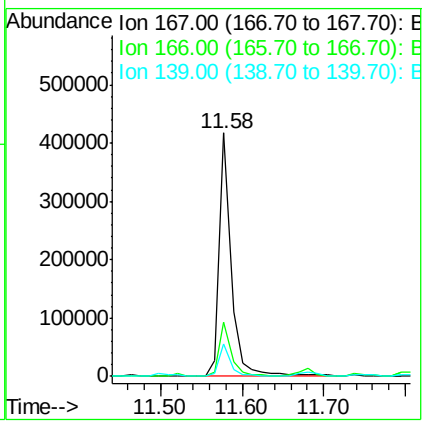




#72
Carbazole
Concen: 31.40 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:167 Resp: 424041

Ion	Ratio	Lower	Upper
167	100		
166	22.1	17.3	25.9
139	13.2	11.2	16.8



Instrument :
BNA_F
ClientSampleId :
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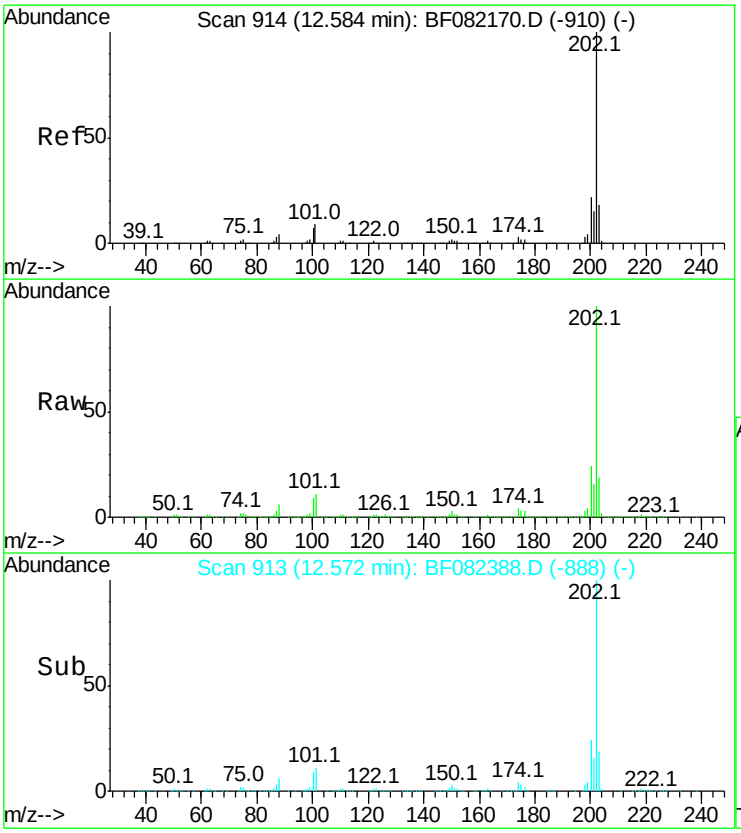
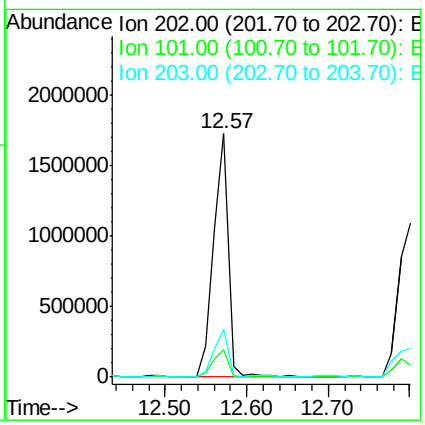
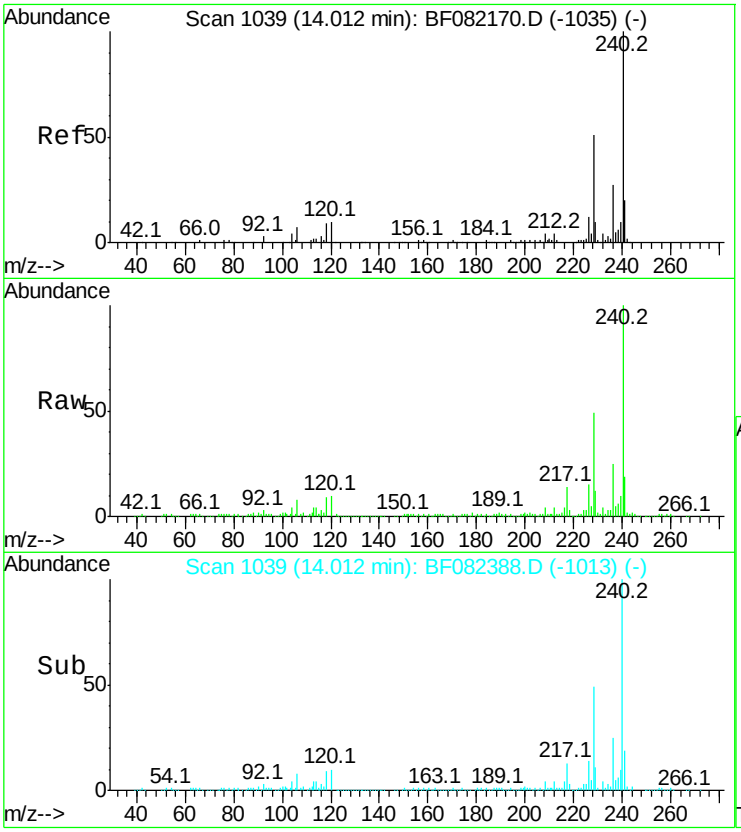


#74
Fluoranthene
Concen: 140.59 ng
RT: 12.57 min Scan# 913
Delta R.T. -0.01 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:202 Resp: 2169521

Ion	Ratio	Lower	Upper
202	100		
101	11.1	0.0	29.3
203	19.4	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.01 min Scan# 1039
Delta R.T. 0.00 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:240 Resp: 226533

Ion	Ratio	Lower	Upper
240	100		
120	10.1	8.1	12.1
236	25.3	21.3	31.9

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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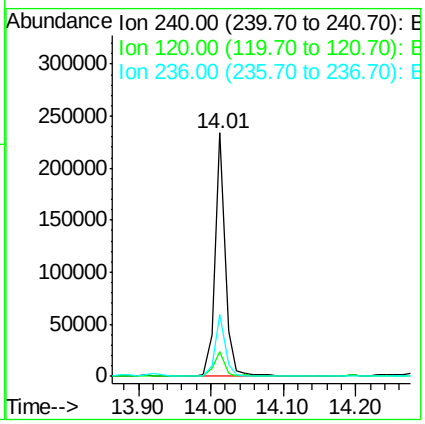
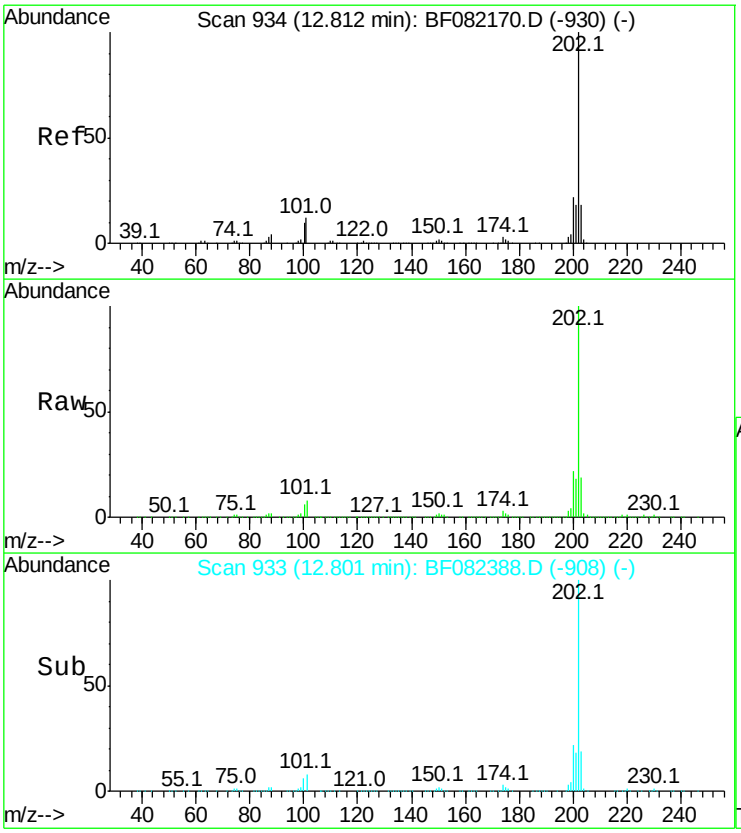
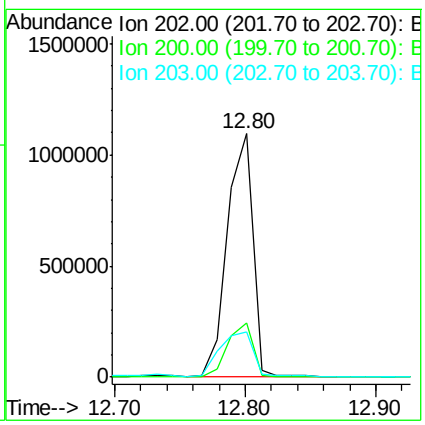




#77
Pyrene
Concen: 110.63 ng
RT: 12.80 min Scan# 933
Delta R.T. -0.01 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:202 Resp: 1487296

Ion	Ratio	Lower	Upper
202	100		
200	22.1	17.9	26.9
203	18.7	14.5	21.7



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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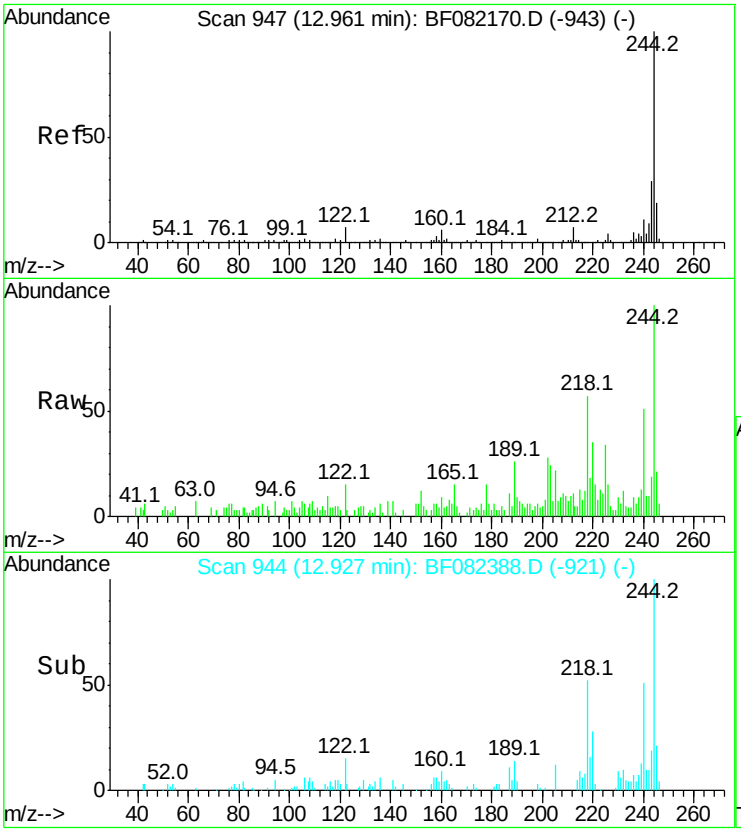
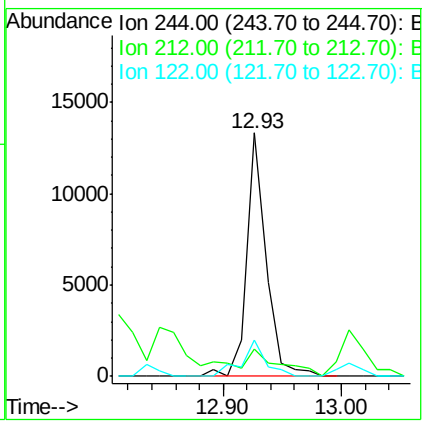
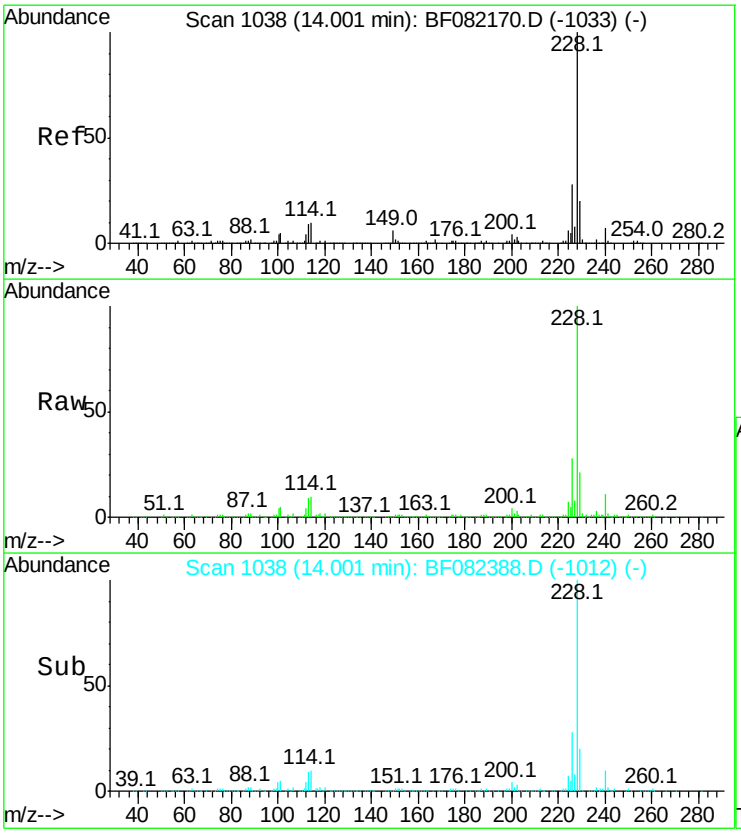


#78
Terphenyl-d14
Concen: 1.78 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:244 Resp: 15205

Ion	Ratio	Lower	Upper
244	100		
212	11.4	5.8	8.6#
122	14.8	5.9	8.9#

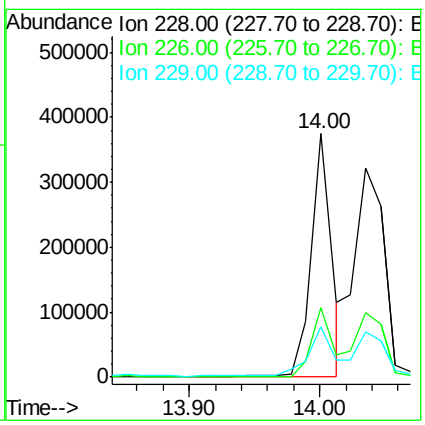


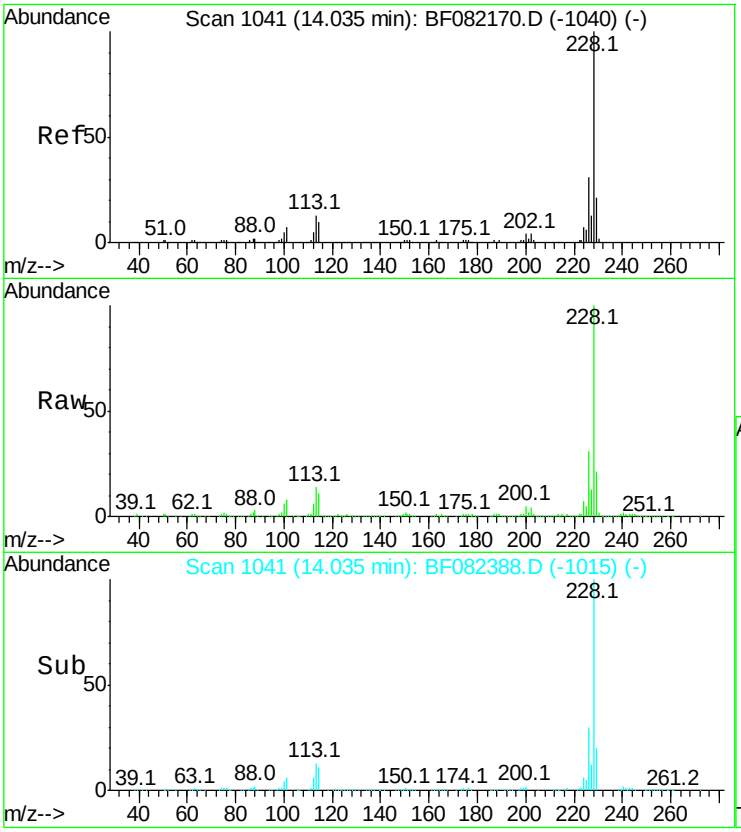


#80
Benzo(a)anthracene
Concen: 33.88 ng
RT: 14.00 min Scan# 1038
Delta R.T. 0.00 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:228 Resp: 399358

Ion	Ratio	Lower	Upper
228	100		
226	28.4	22.3	33.5
229	20.7	16.2	24.2





#82
Chrysene
Concen: 41.66 ng m
RT: 14.04 min Scan# 1041
Delta R.T. 0.00 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:228 Resp: 517372

Ion	Ratio	Lower	Upper
228	100		
226	30.8	24.4	36.6
229	21.3	16.3	24.5

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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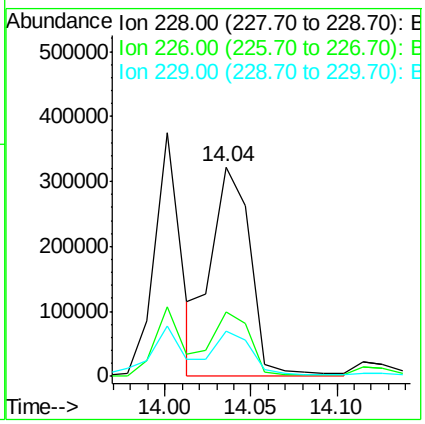
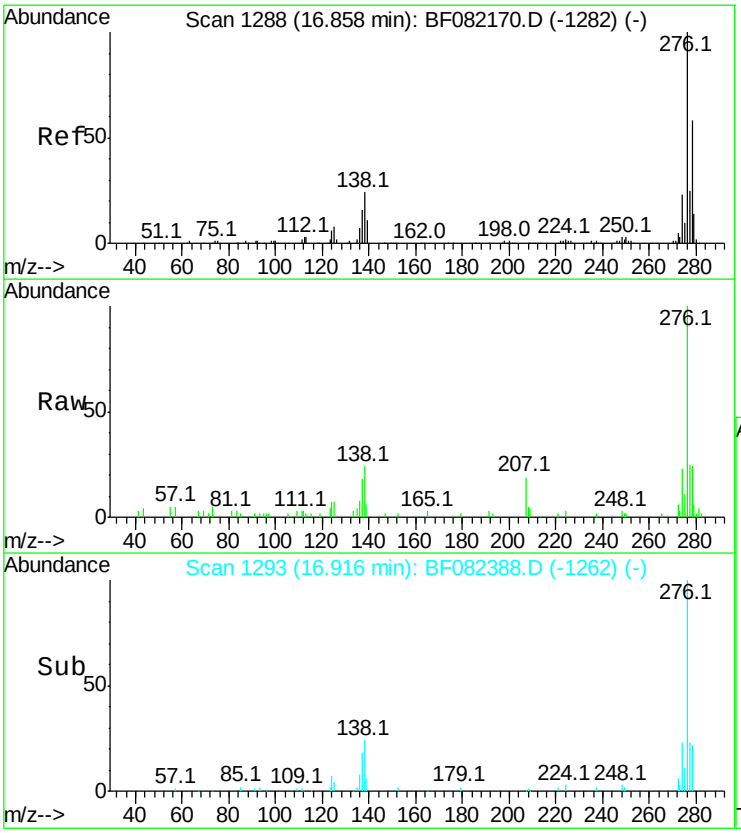
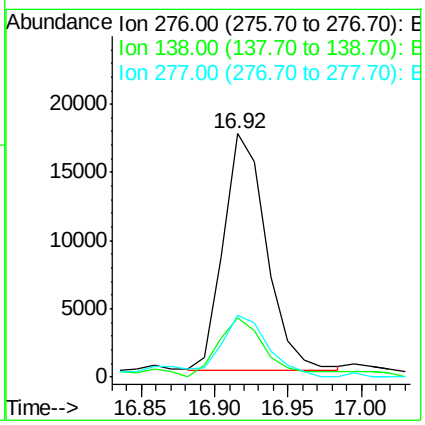


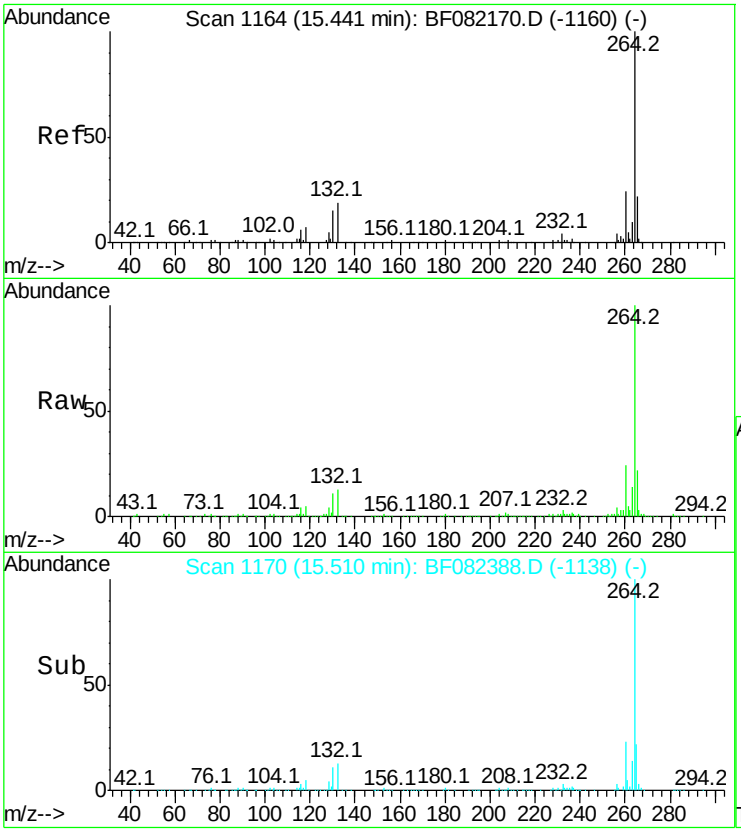


#85
Indeno(1,2,3-cd)pyrene
Concen: 3.64 ng m
RT: 16.92 min Scan# 1293
Delta R.T. 0.06 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:276 Resp: 35944

Ion	Ratio	Lower	Upper
276	100		
138	7.3	19.7	29.5#
277	7.9	20.1	30.1#

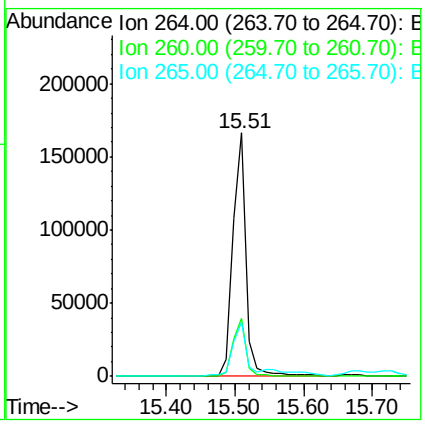




#86
Pervlene-d12
Concen: 20.00 ng
RT: 15.51 min Scan# 1170
Delta R.T. 0.07 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:264 Resp: 225265

Ion	Ratio	Lower	Upper
264	100		
260	23.7	19.0	28.6
265	22.1	17.3	25.9



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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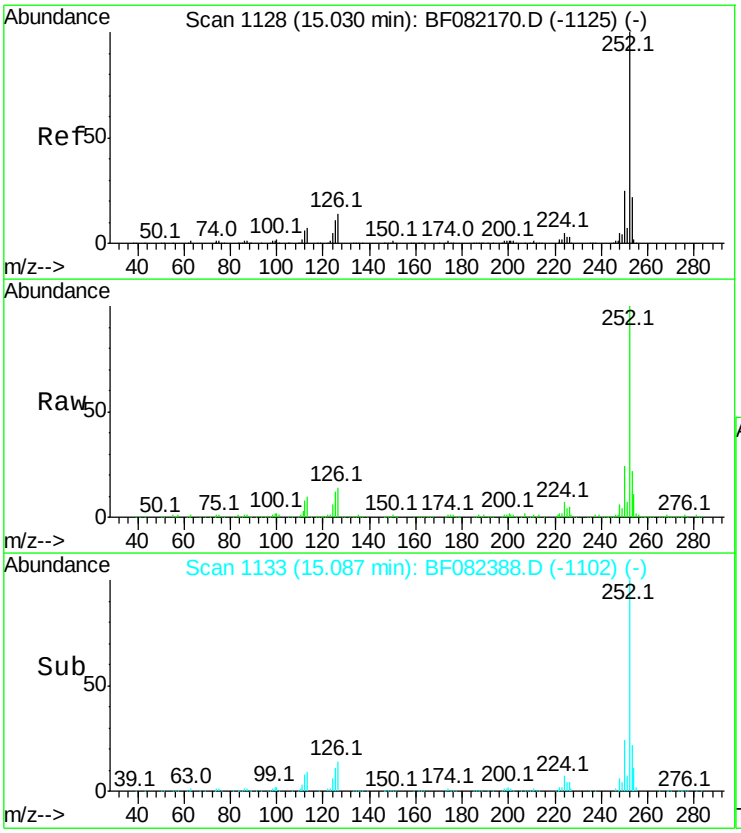
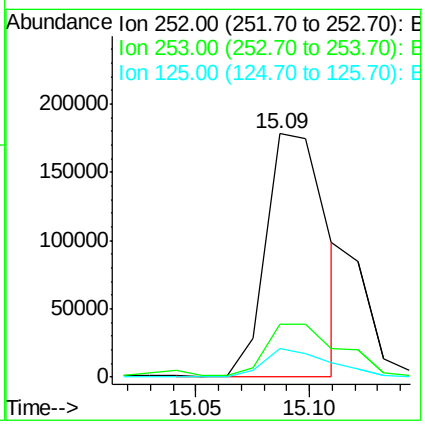
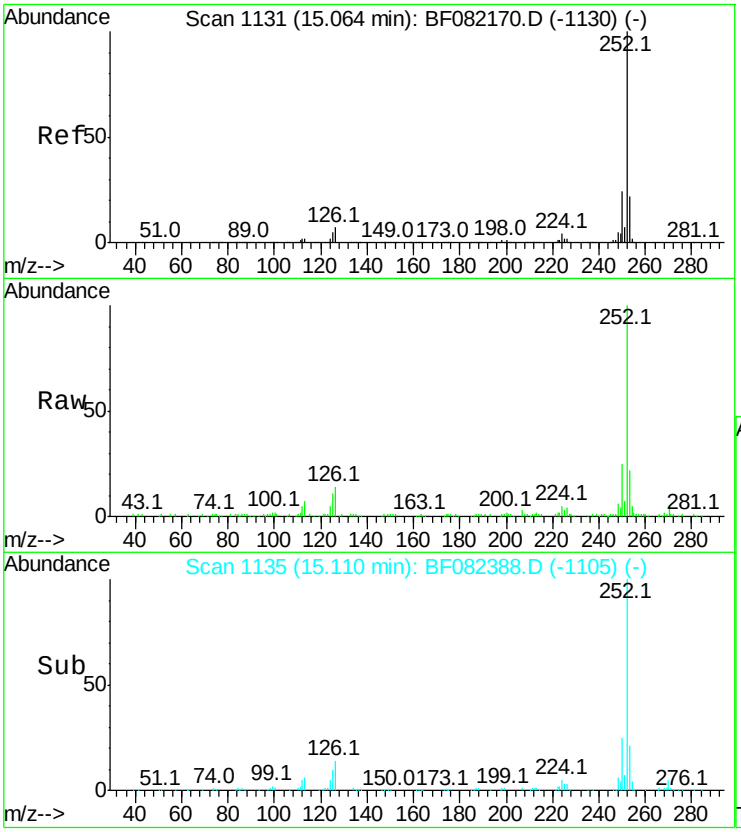


#87
Benzo(b)fluoranthene
Concen: 24.15 ng m
RT: 15.09 min Scan# 1133
Delta R.T. 0.06 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:252 Resp: 331028

Ion	Ratio	Lower	Upper
252	100		
253	21.8	18.0	27.0
125	11.6	8.6	12.8





#88
Benzo(k)fluoranthene
Concen: 6.48 ng m
RT: 15.11 min Scan# 1135
Delta R.T. 0.05 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:252 Resp: 74694

Ion	Ratio	Lower	Upper
252	100		
253	21.7	17.8	26.6
125	10.8	6.7	10.1#

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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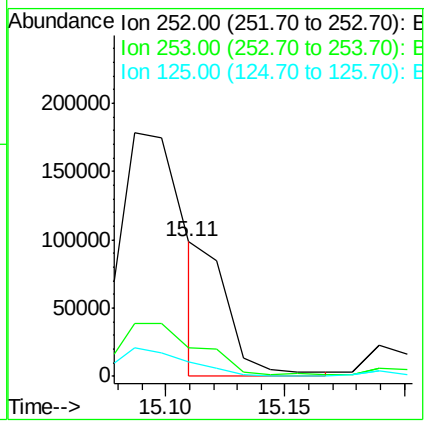
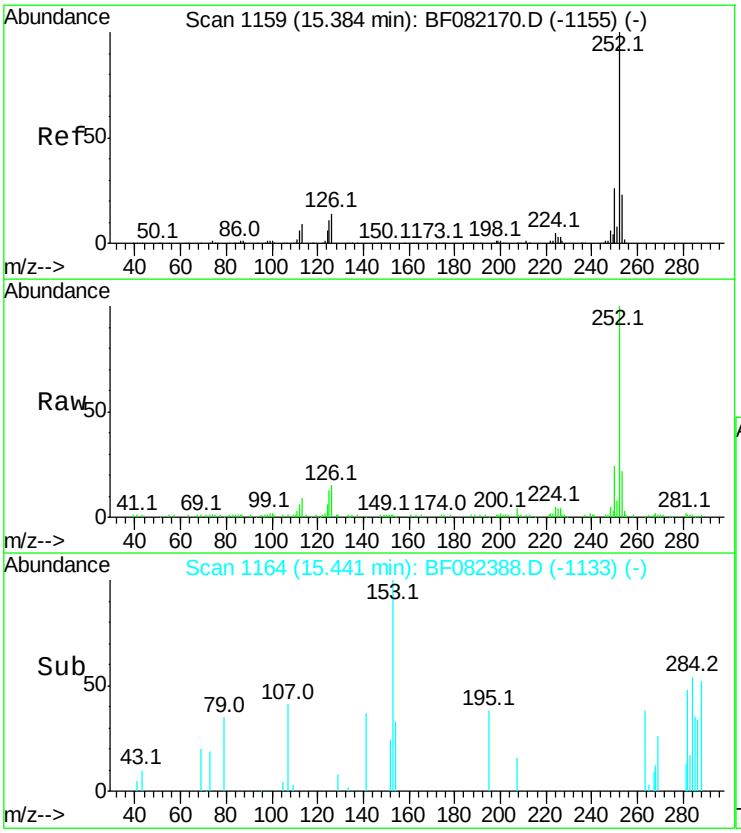
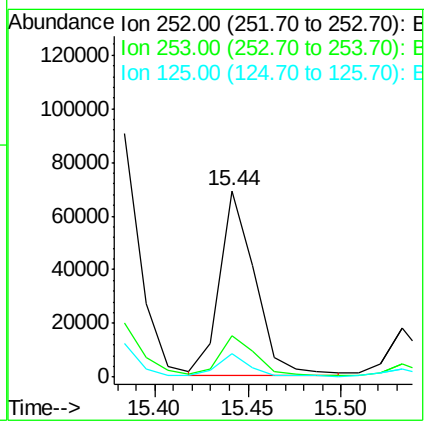


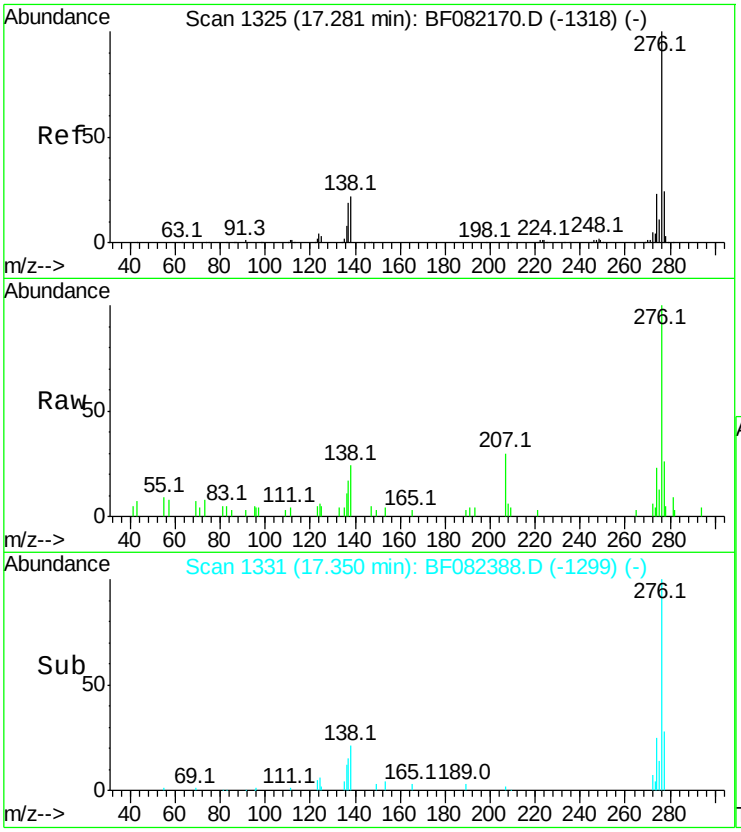


#89
Benzo(a)pyrene
Concen: 7.74 ng
RT: 15.44 min Scan# 1164
Delta R.T. 0.06 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:252 Resp: 91219

Ion	Ratio	Lower	Upper
252	100		
253	22.3	18.2	27.2
125	12.7	8.9	13.3

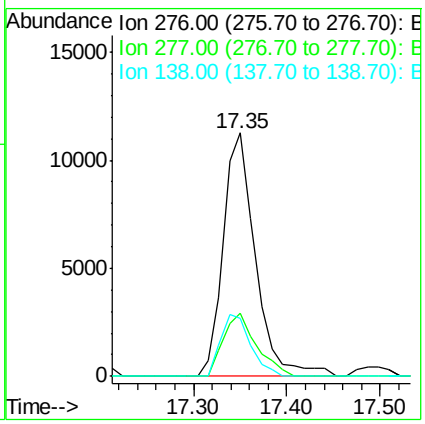




#91
Benzo(g,h,i)perylene
Concen: 2.89 ng
RT: 17.35 min Scan# 1331
Delta R.T. 0.07 min
Lab File: BF082388.D
Acq: 20 Oct 2015 7:53

Tgt Ion:276 Resp: 27086

Ion	Ratio	Lower	Upper
276	100		
277	26.2	18.8	28.2
138	23.8	17.4	26.2



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL

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Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082389.D
Acq On : 20 Oct 2015 8:22
Operator : UM/IZ
Sample : G4046-02DL2 250X
Misc :
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Oct 20 13:15:56 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	84210	20.00 ng	-0.03
21) Naphthalene-d8	8.09	136	350338	20.00 ng	-0.03
38) Acenaphthene-d10	9.85	164	174525	20.00 ng	-0.03
63) Phenanthrene-d10	11.34	188	301600	20.00 ng	-0.03
75) Chrysene-d12	14.02	240	231620	20.00 ng	0.01
86) Perylene-d12	15.54	264	215371	20.00 ng	0.10
System Monitoring Compounds					
5) 2-Fluorophenol	0.00	112	0	0.00 ng	
7) Phenol-d6	6.47	99	224	0.04 ng	-0.01
23) Nitrobenzene-d5	0.00	82	0	0.00 ng	
41) 2,4,6-Tribromophenol	0.00	330	0	0.00 ng	
44) 2-Fluorobiphenyl	9.18	172	2898	0.28 ng	-0.03
78) Terphenyl-d14	12.93	244	2942	0.34 ng	-0.03
Target Compounds					Qvalue
51) Acenaphthene	9.89	154	38828	3.96 ng	97
54) Dibenzofuran	10.06	168	84452	6.28 ng	95
57) Fluorene	10.40	166	115013	10.41 ng	99
70) Phenanthrene	11.37	178	833857	56.40 ng	99
71) Anthracene	11.42	178	200413	13.16 ng	98
72) Carbazole	11.58	167	95612	6.88 ng	97
74) Fluoranthene	12.56	202	614532	38.70 ng	98
77) Pyrene	12.79	202	363317	26.43 ng	98
80) Benzo(a)anthracene	14.01	228	88982	7.38 ng	99
82) Chrysene	14.05	228	116765m	9.20 ng	
87) Benzo(b)fluoranthene	15.12	252	63817m	4.87 ng	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sample Results: **BF082389.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082389.D
Acq On : 20 Oct 2015 8:22
Operator : UM/IZ
Sample : G4046-02DL2 250X
Misc :
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Oct 20 13:15:56 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
MMdadoda
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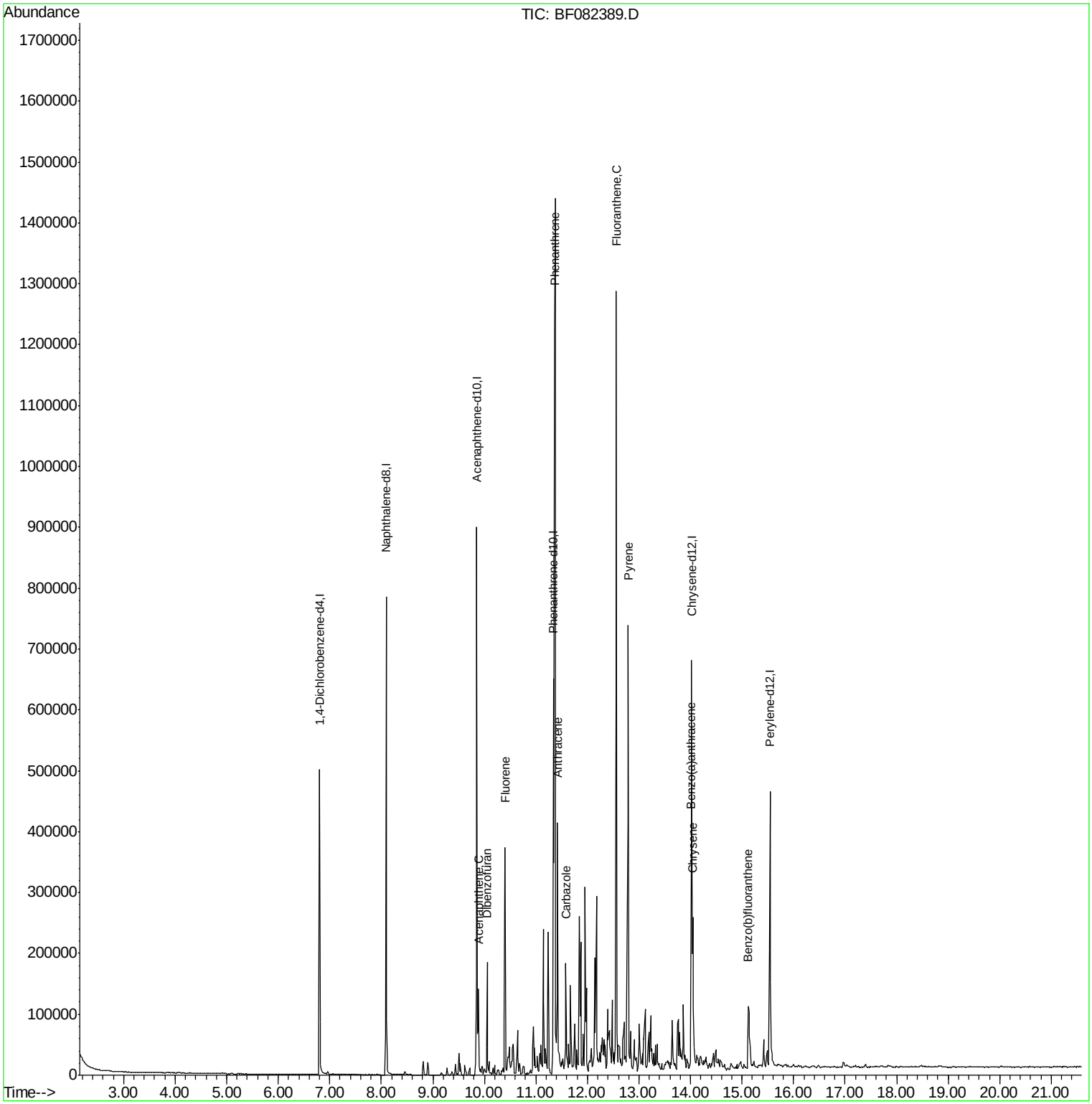
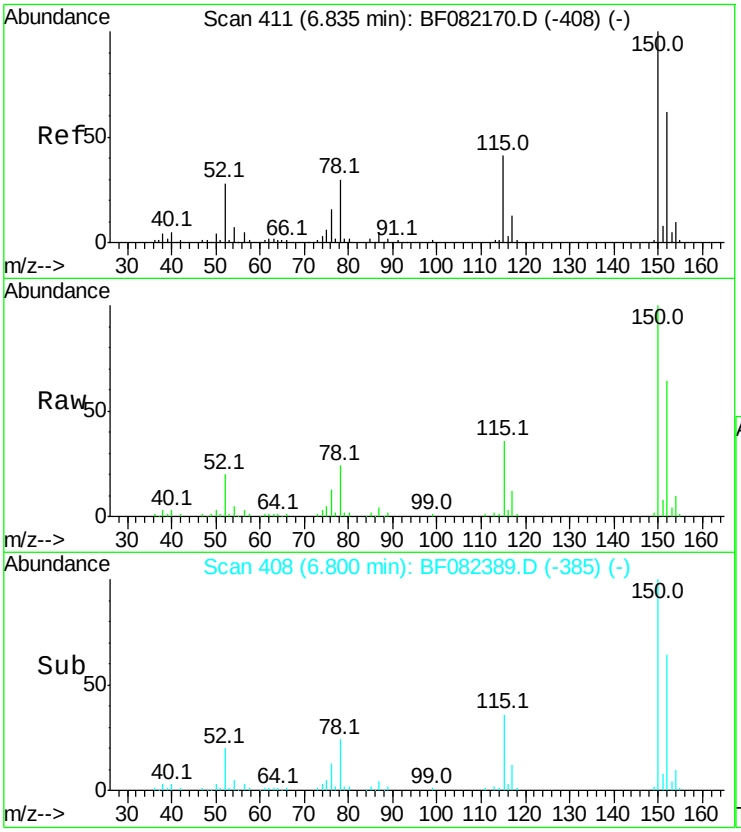


Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

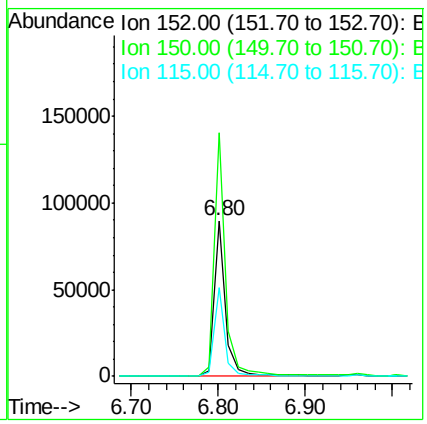
Manual Integrations APPROVED
MMdadoda
10/20/2015 6:26:12 PM

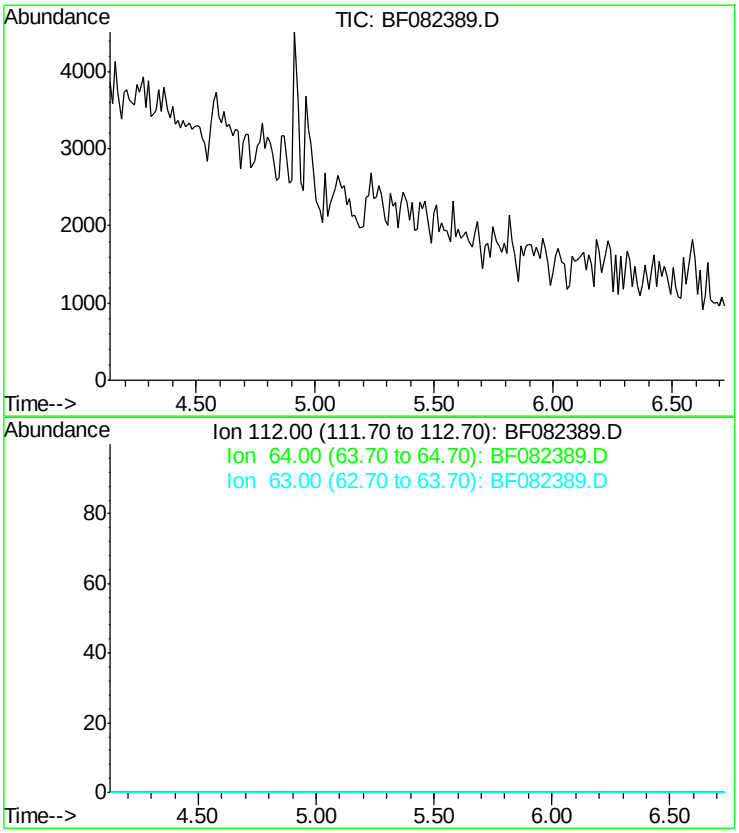


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:152 Resp: 84210

Ion	Ratio	Lower	Upper
152	100		
150	156.7	129.0	193.4
115	57.1	52.1	78.1



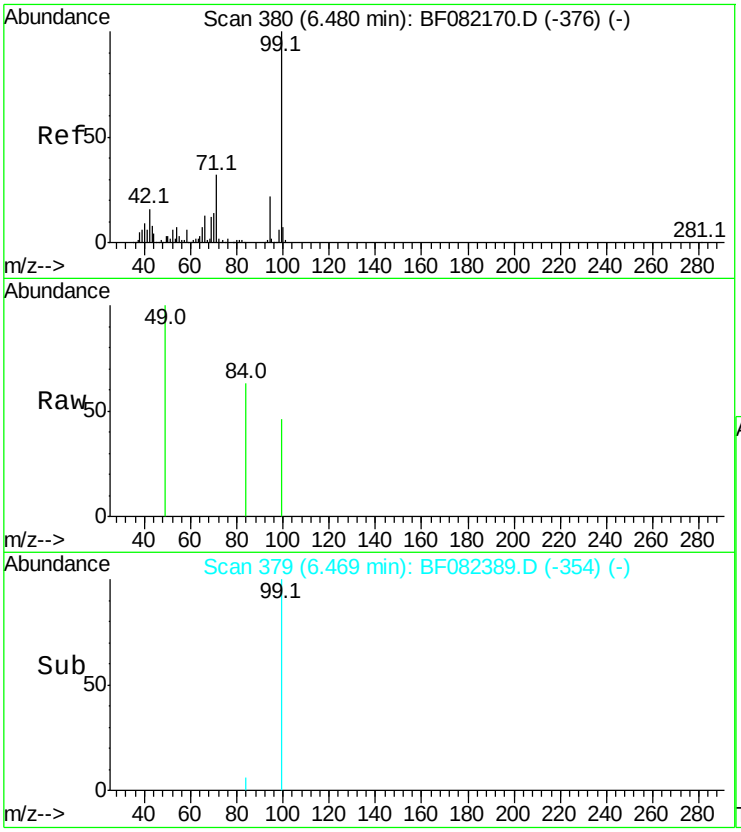


#5
2-Fluorophenol
Concen: 0.00 ng
Expected RT: 5.43 min

Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion: 112

Sig	Exp Ratio
112	100
64	60.8
63	31.4



#7
Phenol-d6
Concen: 0.04 ng
RT: 6.47 min Scan# 379
Delta R.T. -0.01 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion: 99 Resp: 224

Ion	Ratio	Lower	Upper
99	100		
42	0.0	13.2	19.8#
71	0.0	25.6	38.4#

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

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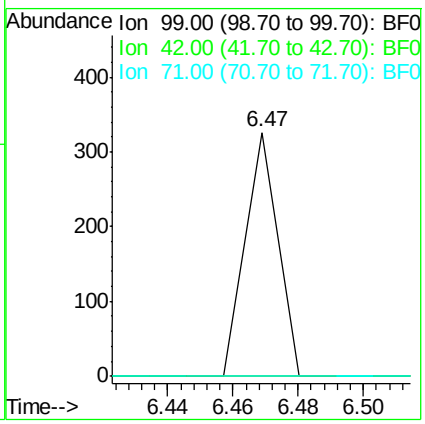
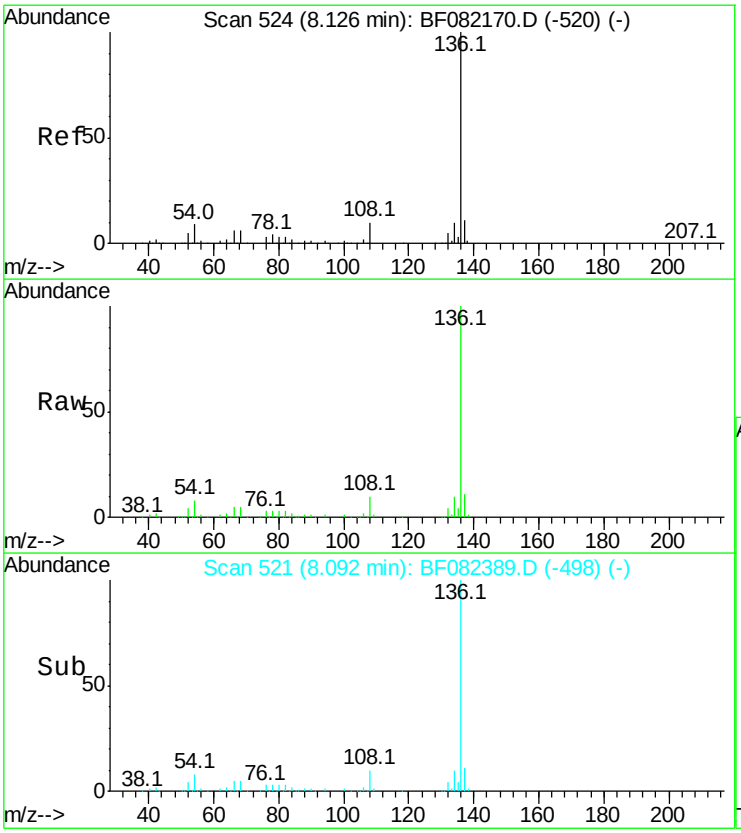
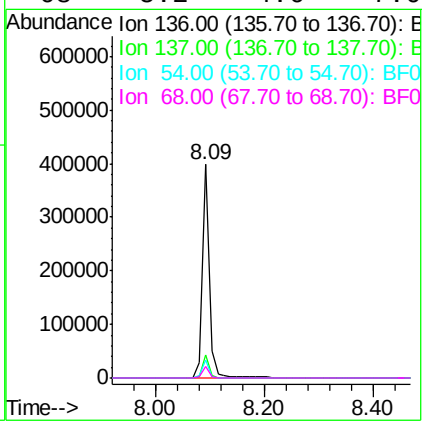




#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:136 Resp: 350338

Ion	Ratio	Lower	Upper
136	100		
137	11.1	9.0	13.6
54	8.1	7.5	11.3
68	5.2	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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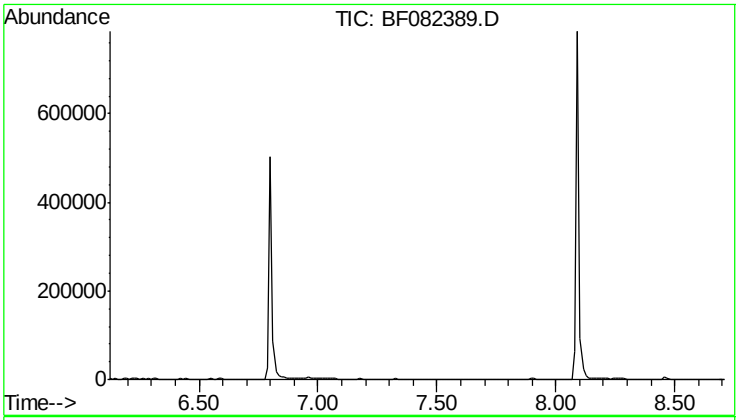
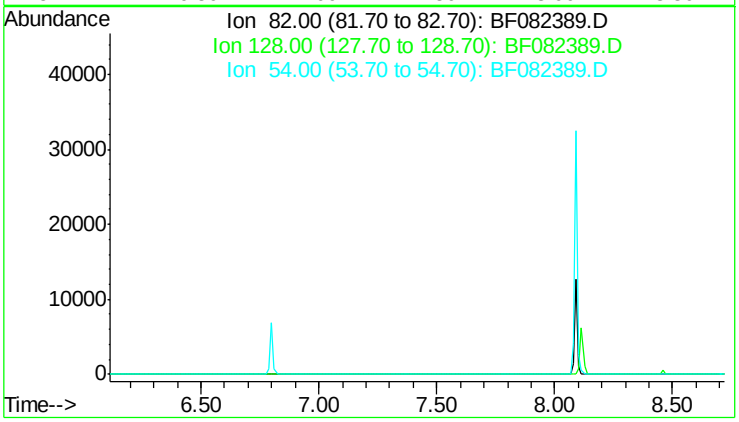


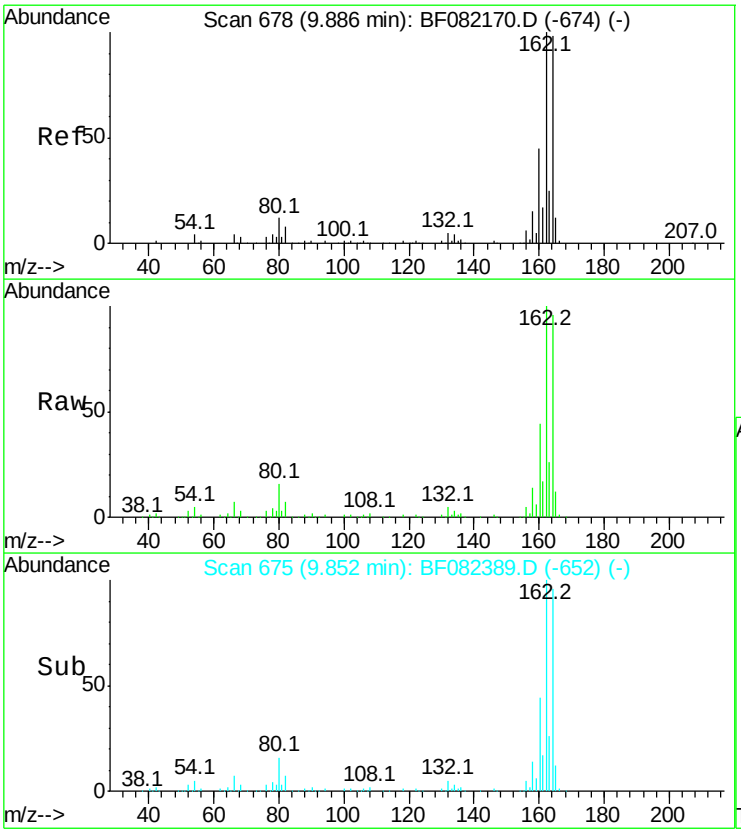


#23
Nitrobenzene-d5
Concen: 0.00 ng
Expected RT: 7.42 min

Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion: 82

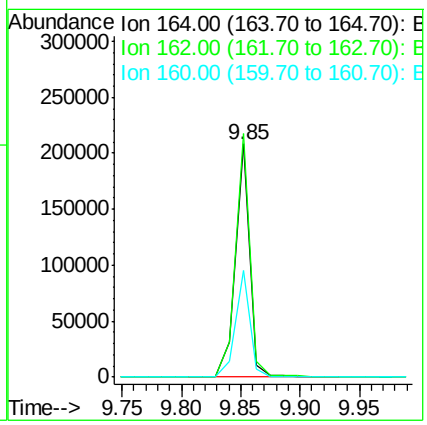
Sig	Exp Ratio
82	100
128	48.4
54	50.1



#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:164 Resp: 174525

Ion	Ratio	Lower	Upper
164	100		
162	104.5	81.6	122.4
160	45.7	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

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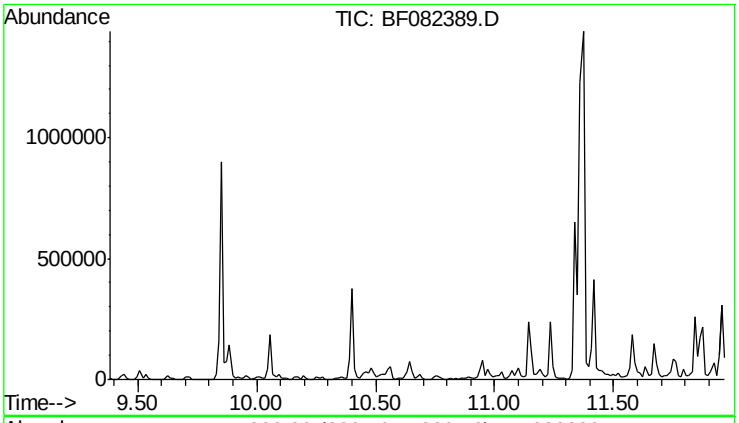
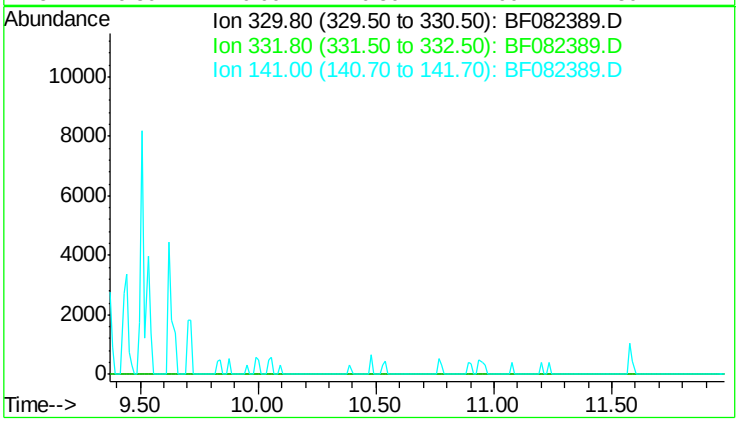


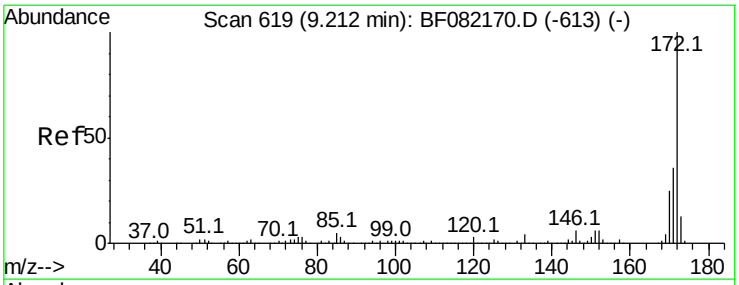


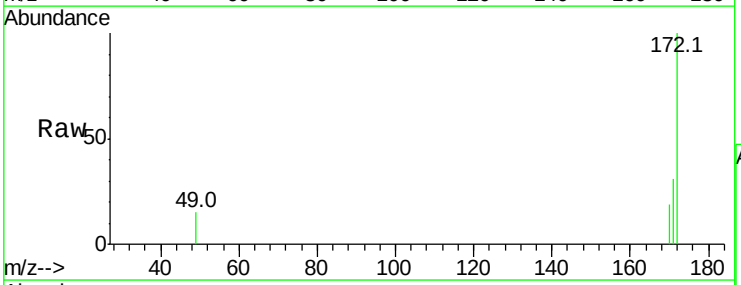
#41
2,4,6-Tribromophenol
Concen: 0.00 ng
Expected RT: 10.67 min

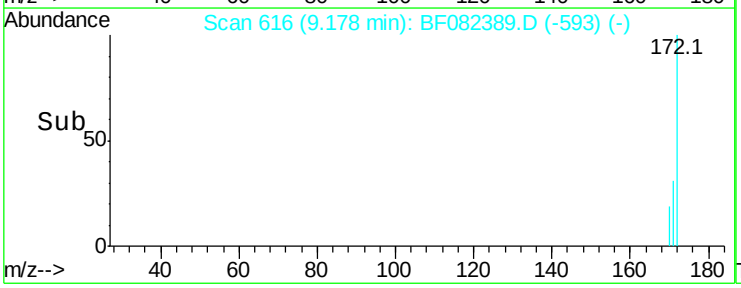
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion: 330

Sig	Exp Ratio
330	100
332	96.4
141	37.3



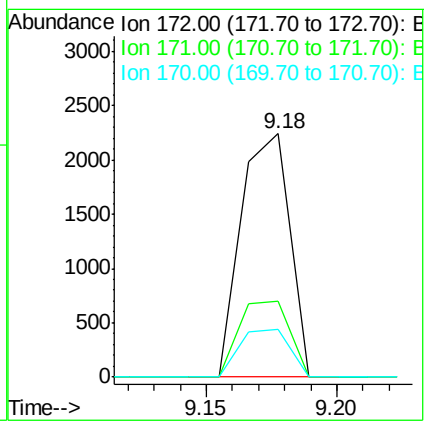




#44
2-Fluorobiphenyl
Concen: 0.28 ng
RT: 9.18 min Scan# 616
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:172 Resp: 2898

Ion	Ratio	Lower	Upper
172	100		
171	31.3	28.6	42.8
170	19.4	19.7	29.5#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

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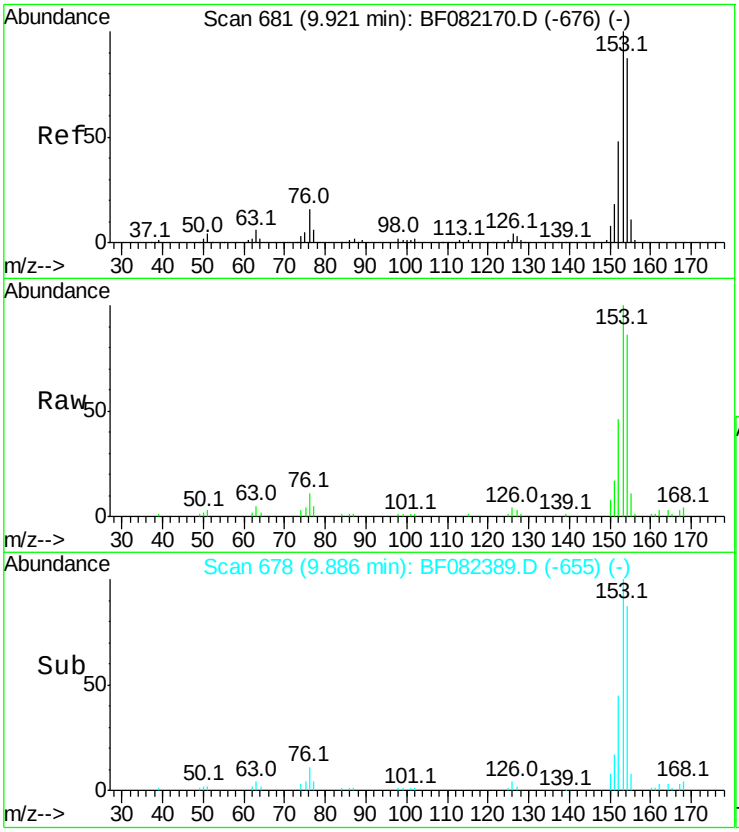
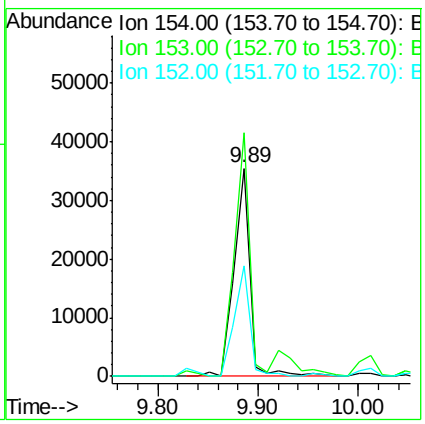
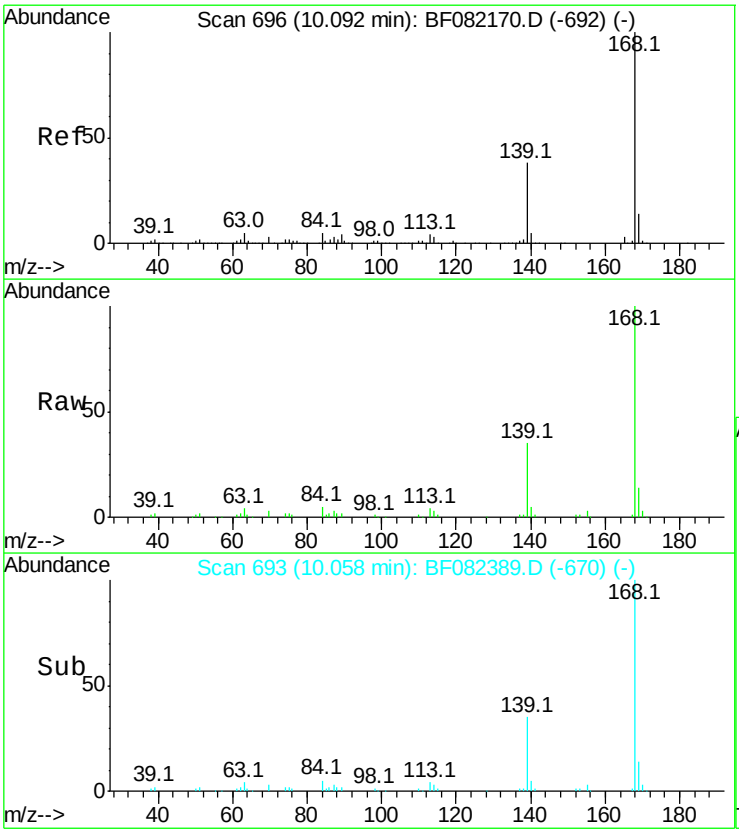


#51
Acenaphthene
Concen: 3.96 ng
RT: 9.89 min Scan# 678
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:154 Resp: 38828

Ion	Ratio	Lower	Upper
154	100		
153	116.9	91.4	137.2
152	53.2	44.3	66.5

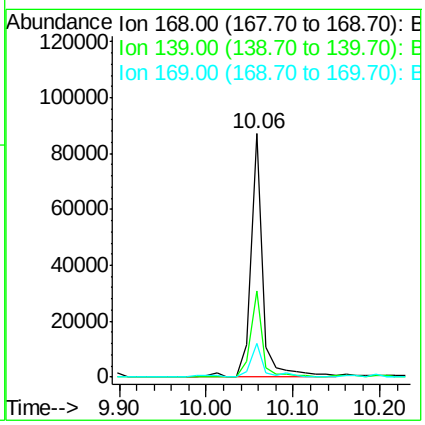


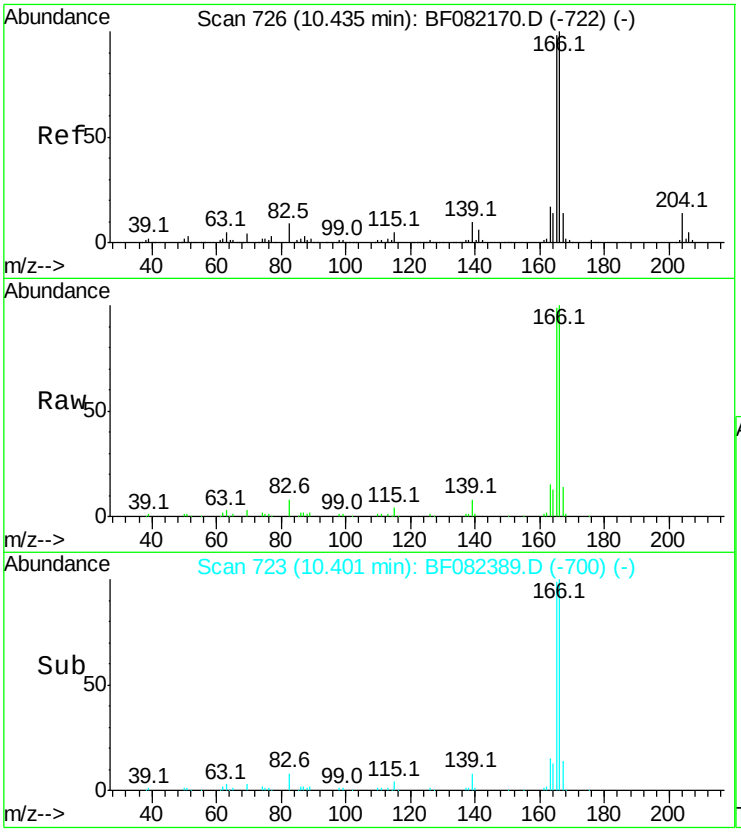


#54
Dibenzofuran
Concen: 6.28 ng
RT: 10.06 min Scan# 693
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:168 Resp: 84452

Ion	Ratio	Lower	Upper
168	100		
139	35.1	31.0	46.6
169	13.9	10.9	16.3





#57
Fluorene
Concen: 10.41 ng
RT: 10.40 min Scan# 723
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:166 Resp: 115013

Ion	Ratio	Lower	Upper
166	100		
165	98.6	78.3	117.5
167	13.9	10.8	16.2

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
MMdadoda
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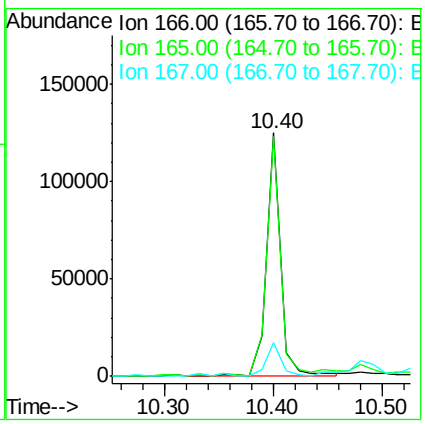
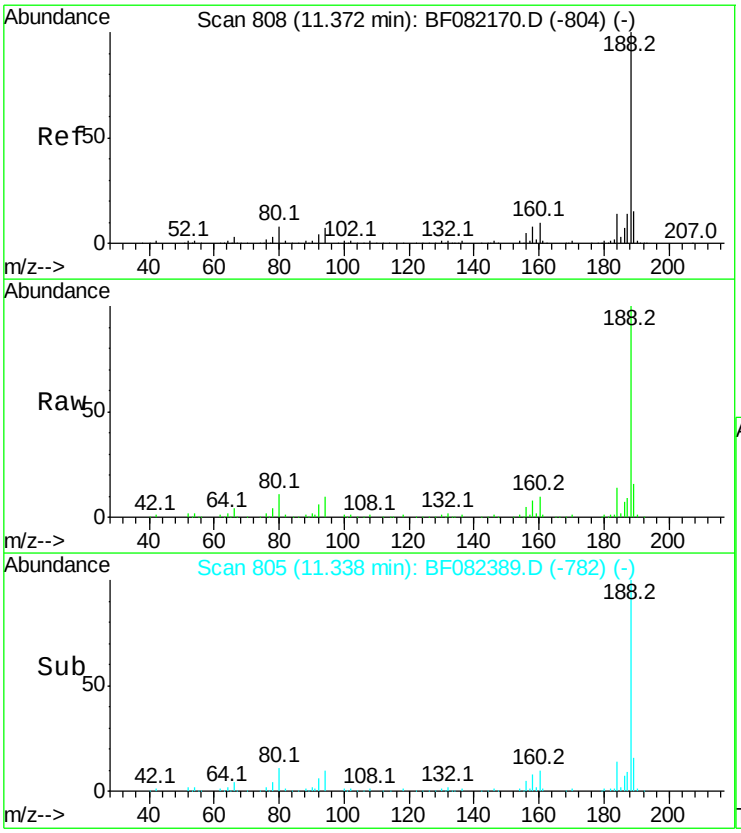
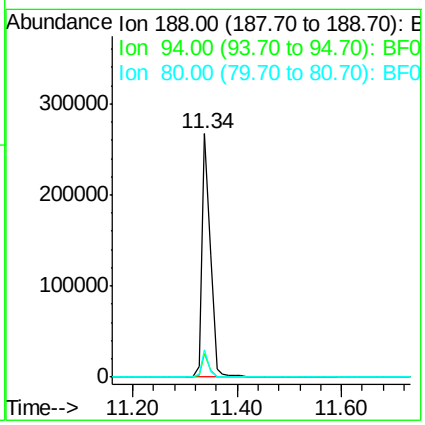




#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:188 Resp: 301600

Ion	Ratio	Lower	Upper
188	100		
94	9.8	5.8	8.6#
80	11.0	6.4	9.6#



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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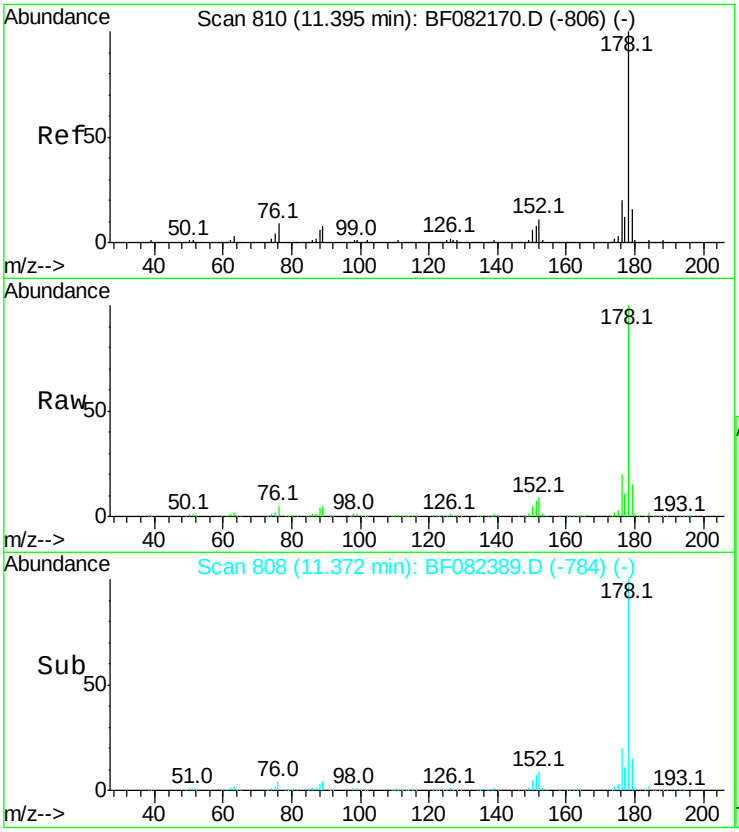
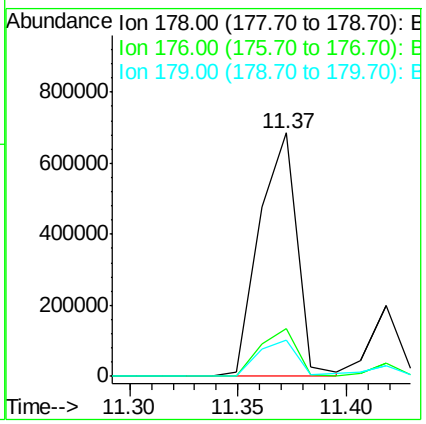
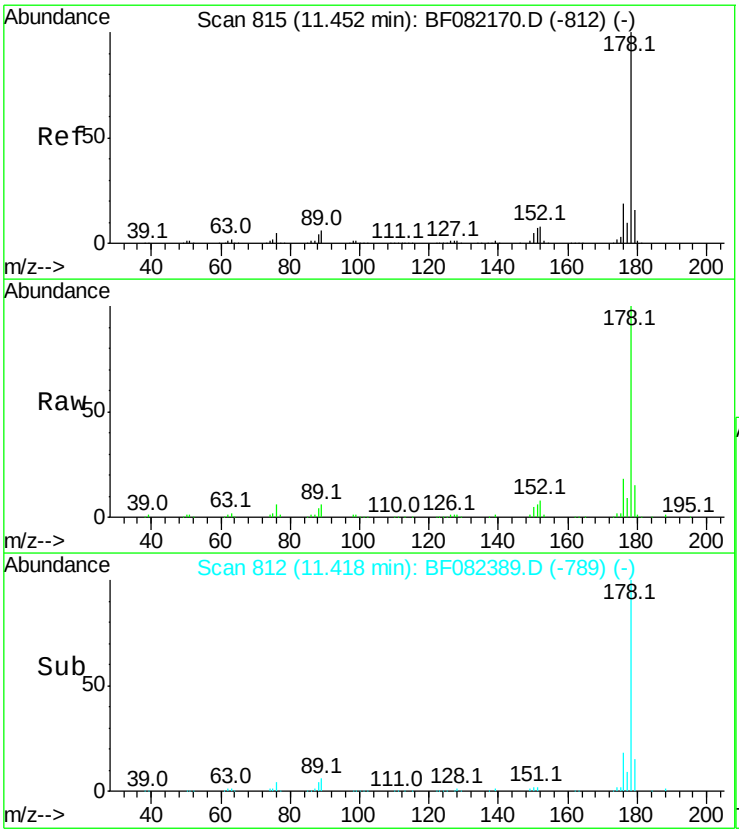


#70
Phenanthrene
Concen: 56.40 ng
RT: 11.37 min Scan# 808
Delta R.T. -0.02 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:178 Resp: 833857

Ion	Ratio	Lower	Upper
178	100		
176	19.5	16.0	24.0
179	14.9	12.6	19.0

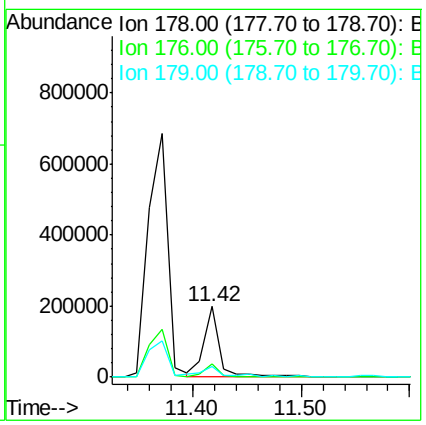


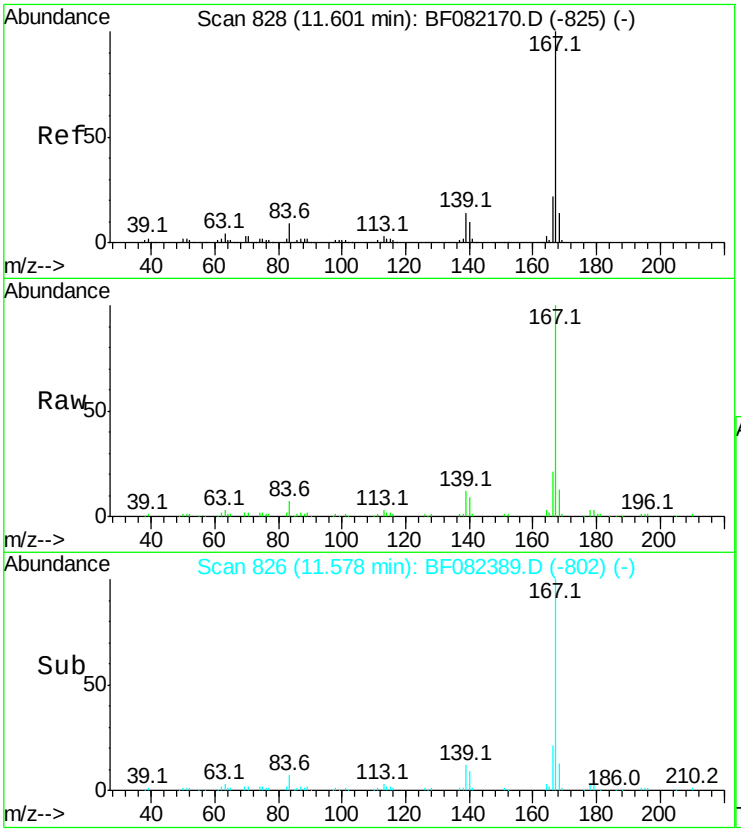


#71
Anthracene
Concen: 13.16 ng
RT: 11.42 min Scan# 812
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:178 Resp: 200413

Ion	Ratio	Lower	Upper
178	100		
176	18.0	15.4	23.0
179	15.0	12.5	18.7

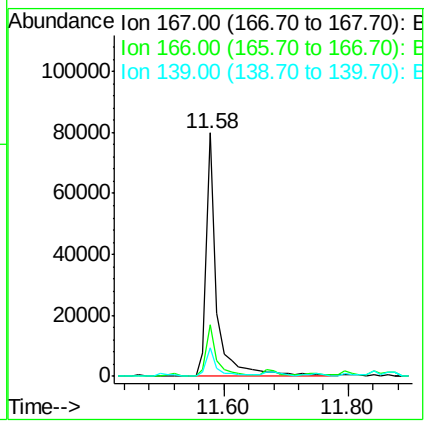




#72
Carbazole
Concen: 6.88 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:167 Resp: 95612

Ion	Ratio	Lower	Upper
167	100		
166	21.1	17.3	25.9
139	11.8	11.2	16.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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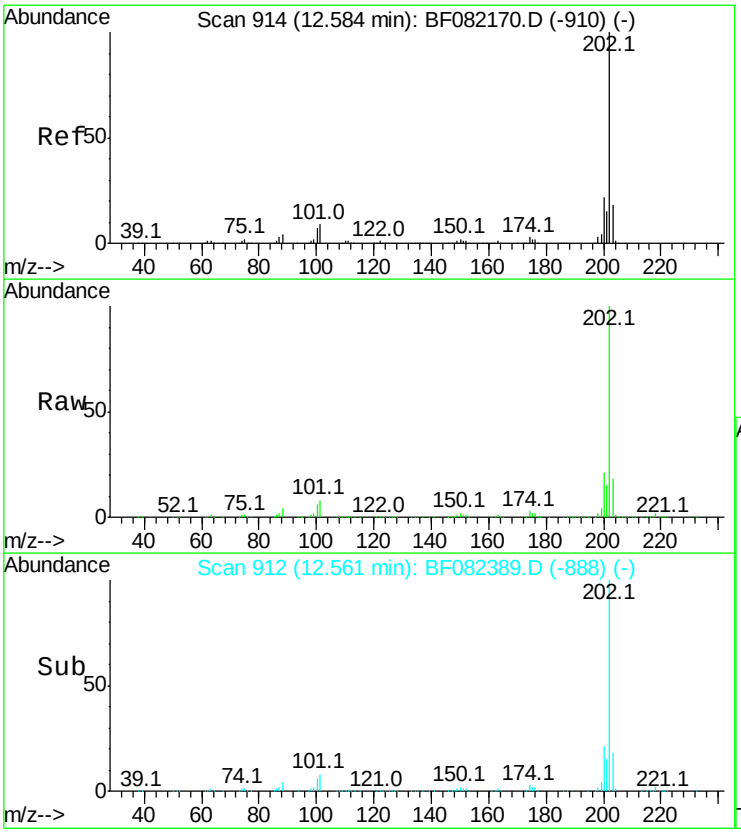
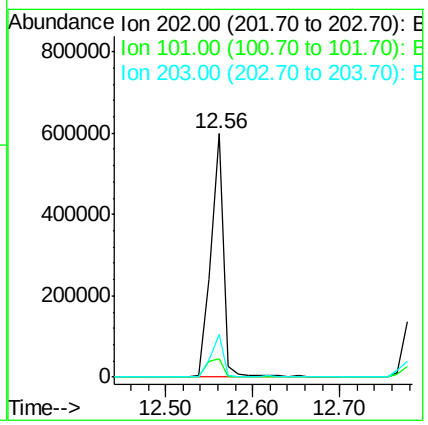
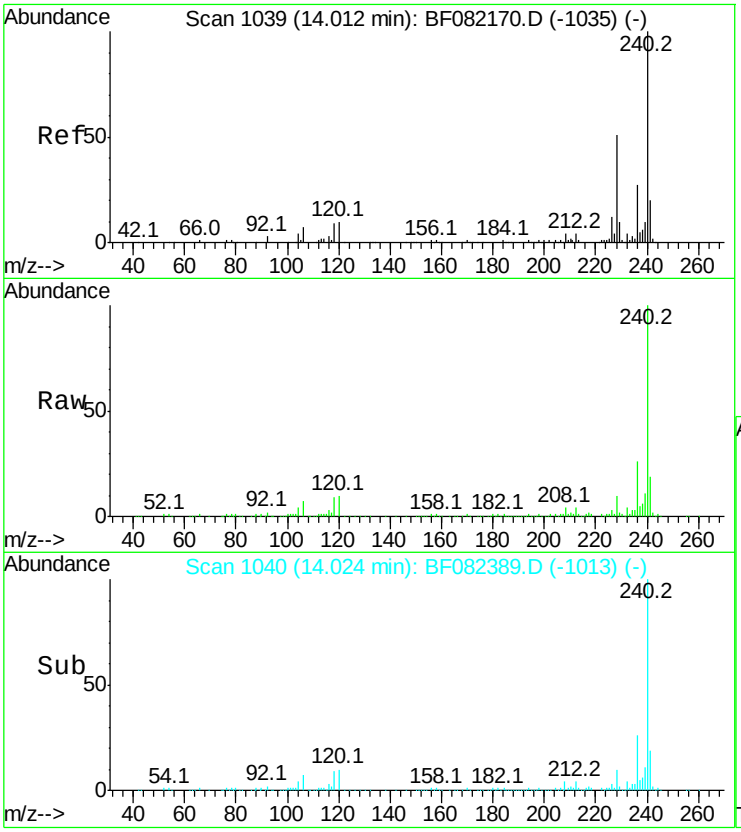


#74
Fluoranthene
Concen: 38.70 ng
RT: 12.56 min Scan# 912
Delta R.T. -0.02 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:202 Resp: 614532

Ion	Ratio	Lower	Upper
202	100		
101	7.8	0.0	29.3
203	17.7	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.02 min Scan# 1040
Delta R.T. 0.01 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:240 Resp: 231620

Ion	Ratio	Lower	Upper
240	100		
120	9.8	8.1	12.1
236	25.9	21.3	31.9

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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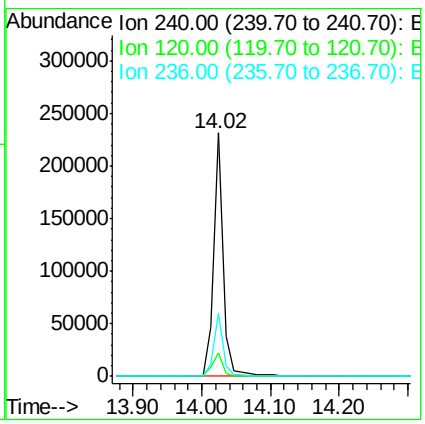
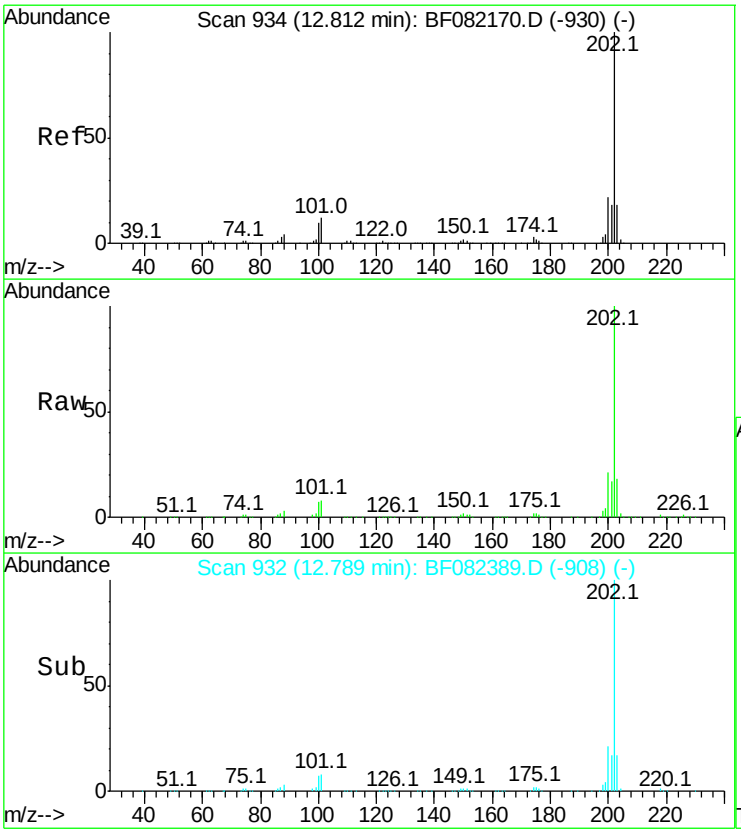
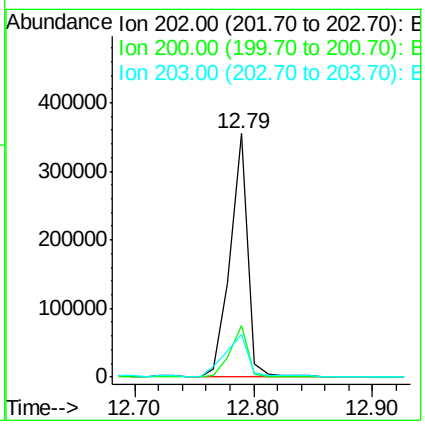




#77
Pyrene
Concen: 26.43 ng
RT: 12.79 min Scan# 932
Delta R.T. -0.02 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:202 Resp: 363317

Ion	Ratio	Lower	Upper
202	100		
200	21.0	17.9	26.9
203	17.5	14.5	21.7



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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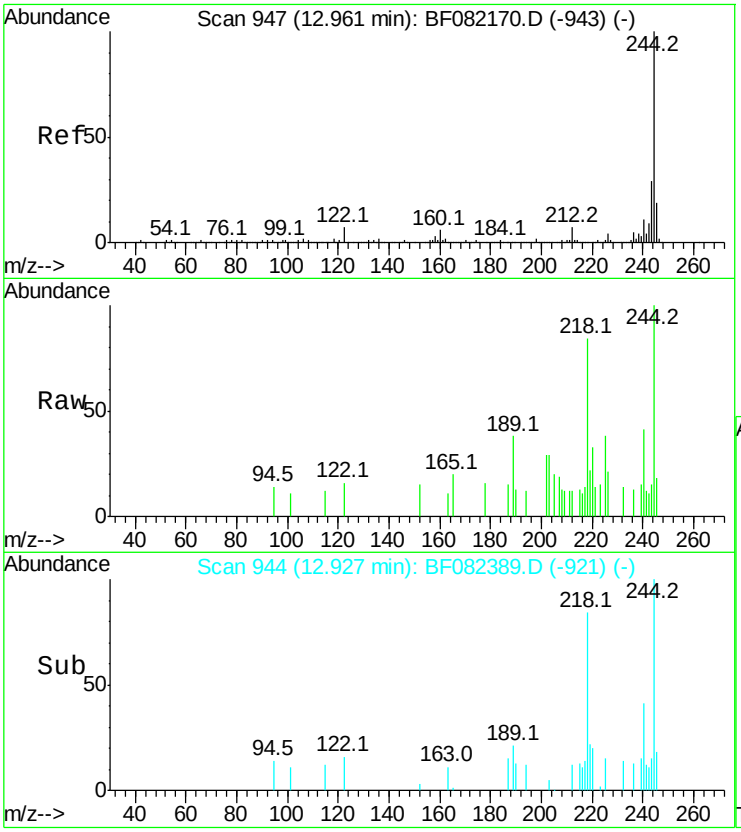
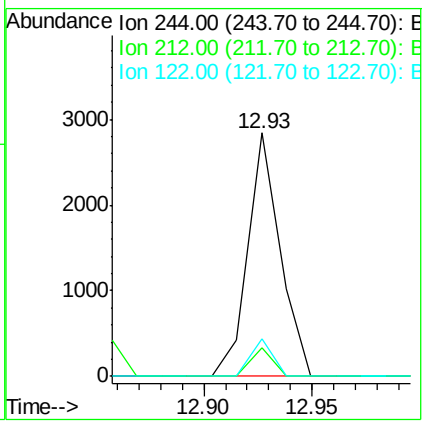
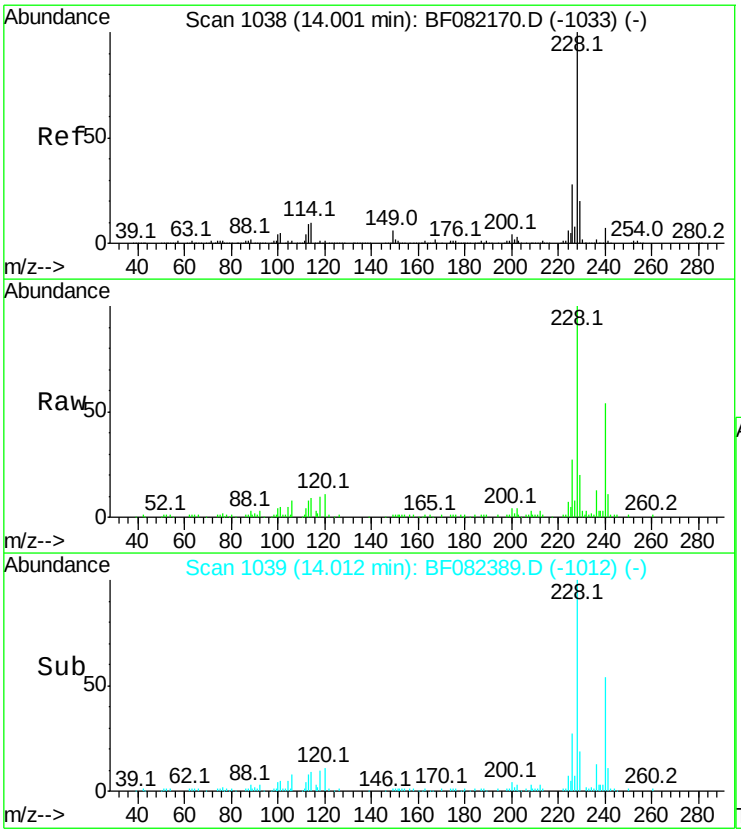


#78
Terphenyl-d14
Concen: 0.34 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:244 Resp: 2942

Ion	Ratio	Lower	Upper
244	100		
212	11.6	5.8	8.6#
122	15.7	5.9	8.9#

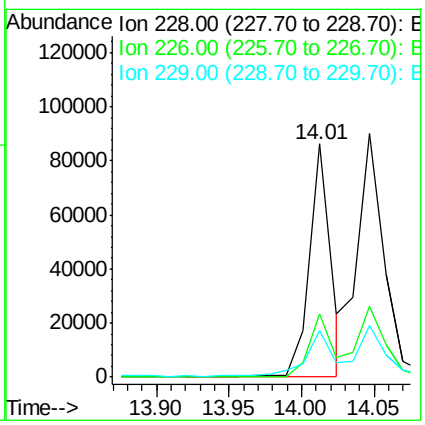


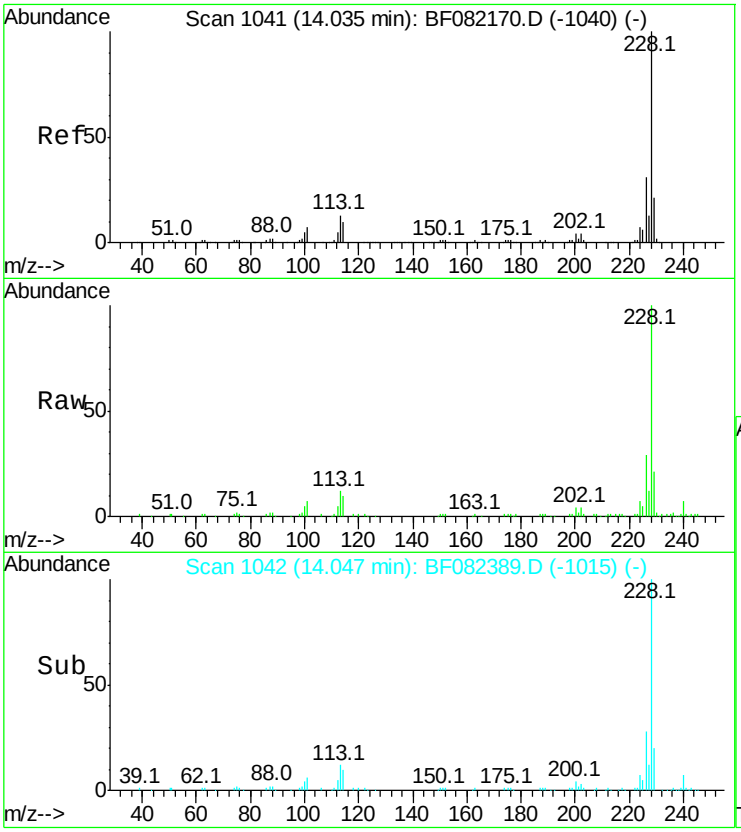


#80
Benzo(a)anthracene
Concen: 7.38 ng
RT: 14.01 min Scan# 1039
Delta R.T. 0.01 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:228 Resp: 88982

Ion	Ratio	Lower	Upper
228	100		
226	27.3	22.3	33.5
229	19.7	16.2	24.2





#82
Chrysene
Concen: 9.20 ng m
RT: 14.05 min Scan# 1042
Delta R.T. 0.01 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:228 Resp: 116765

Ion	Ratio	Lower	Upper
228	100		
226	29.0	24.4	36.6
229	21.1	16.3	24.5

Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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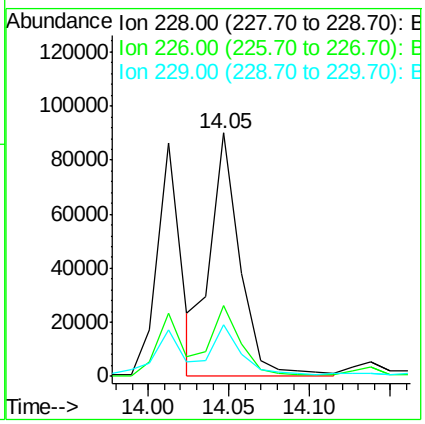
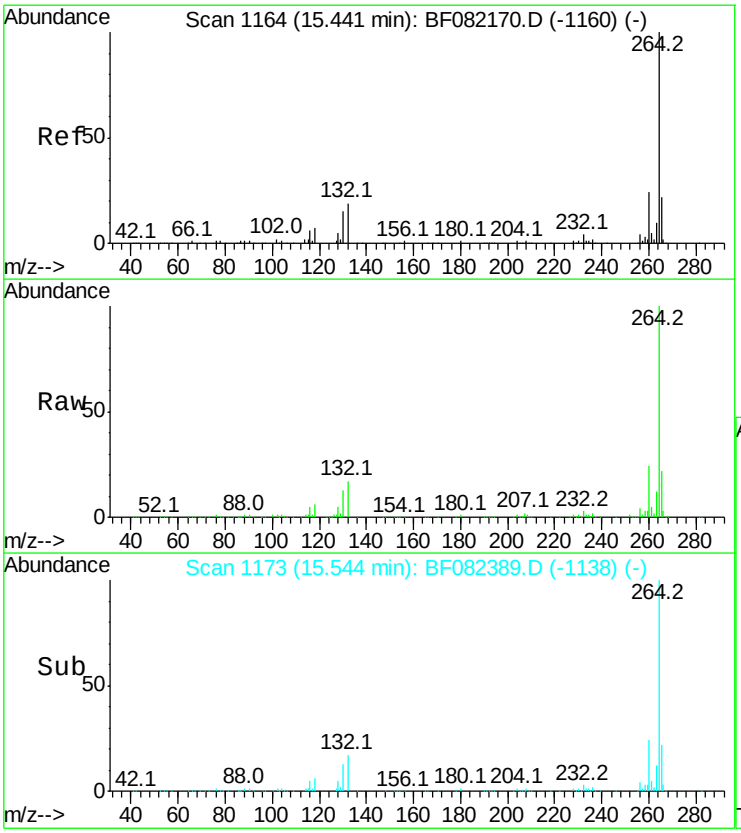
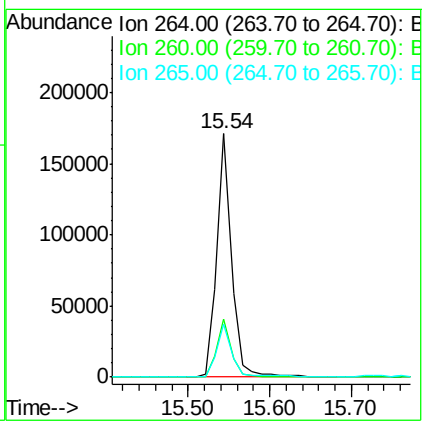


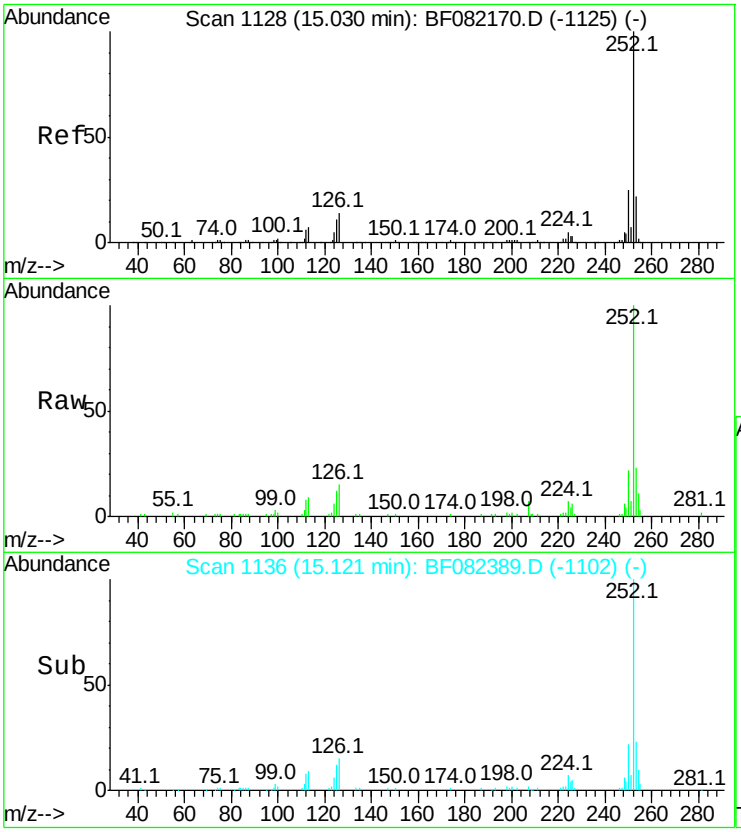


#86
Perylene-d12
Concen: 20.00 ng
RT: 15.54 min Scan# 1173
Delta R.T. 0.10 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:264 Resp: 215371

Ion	Ratio	Lower	Upper
264	100		
260	23.9	19.0	28.6
265	21.7	17.3	25.9

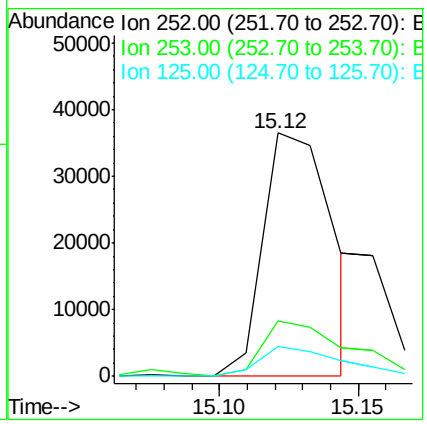




#87
Benzo(b)fluoranthene
Concen: 4.87 ng m
RT: 15.12 min Scan# 1136
Delta R.T. 0.09 min
Lab File: BF082389.D
Acq: 20 Oct 2015 8:22

Tgt Ion:252 Resp: 63817

Ion	Ratio	Lower	Upper
252	100		
253	22.8	18.0	27.0
125	12.4	8.6	12.8



Instrument :
BNA_F
ClientSampleId :
GOODLUCK58DL2

Manual Integrations APPROVED
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Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 19 02:55:18 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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10/19/2015 5:32:30 PM

7 A B C D E F G H I J K

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.93	152	51432m	20.00 ng	0.09
21) Naphthalene-d8	8.21	136	234368m	20.00 ng	0.08
38) Acenaphthene-d10	9.95	164	129589m	20.00 ng	0.07
63) Phenanthrene-d10	11.45	188	198676m	20.00 ng	0.08
75) Chrysene-d12	14.15	240	187743m	20.00 ng	0.08
86) Perylene-d12	15.69	264	200069m	20.00 ng	0.10
System Monitoring Compounds					
5) 2-Fluorophenol	5.53	112	18788	7.37 ng	0.10
7) Phenol-d6	6.56	99	28281	8.53 ng	0.08
23) Nitrobenzene-d5	7.49	82	14617m	4.19 ng	0.07
41) 2,4,6-Tribromophenol	10.75	330	9341m	7.69 ng	0.07
44) 2-Fluorobiphenyl	9.27	172	46355m	5.93 ng	0.06
78) Terphenyl-d14	13.04	244	55112m	7.78 ng	0.08
Target Compounds					Qvalue
31) Naphthalene	8.23	128	159647m	15.71 ng	
37) 2-Methylnaphthalene	8.91	142	187813m	26.67 ng	
45) 1,1'-Biphenyl	9.37	154	111118m	11.24 ng	
48) Acenaphthylene	9.82	152	132326m	10.92 ng	
51) Acenaphthene	10.00	154	936425m	128.72 ng	
54) Dibenzofuran	10.17	168	1536360m	153.82 ng	
57) Fluorene	10.51	166	1469872m	179.18 ng	
70) Phenanthrene	11.52	178	9484043m	973.88 ng	
71) Anthracene	11.55	178	1414965m	141.00 ng	
72) Carbazole	11.69	167	1648779m	180.11 ng	
74) Fluoranthene	12.71	202	7362201m	703.89 ng	
77) Pyrene	12.94	202	5114144m	459.01 ng	
80) Benzo(a)anthracene	14.14	228	1517297m	155.33 ng	
82) Chrysene	14.18	228	1596645m	155.12 ng	
85) Indeno(1,2,3-cd)pyrene	17.17	276	134276m	16.41 ng	
87) Benzo(b)fluoranthene	15.26	252	843423m	69.29 ng	
88) Benzo(k)fluoranthene	15.27	252	400215m	39.12 ng	
89) Benzo(a)pyrene	15.62	252	331717m	31.71 ng	
90) Dibenzo(a,h)anthracene	17.18	278	35362m	4.13 ng	
91) Benzo(g,h,i)perylene	17.61	276	94126m	11.30 ng	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (LSC Reviewed)

Sample Results: **BF082339.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 19 02:55:18 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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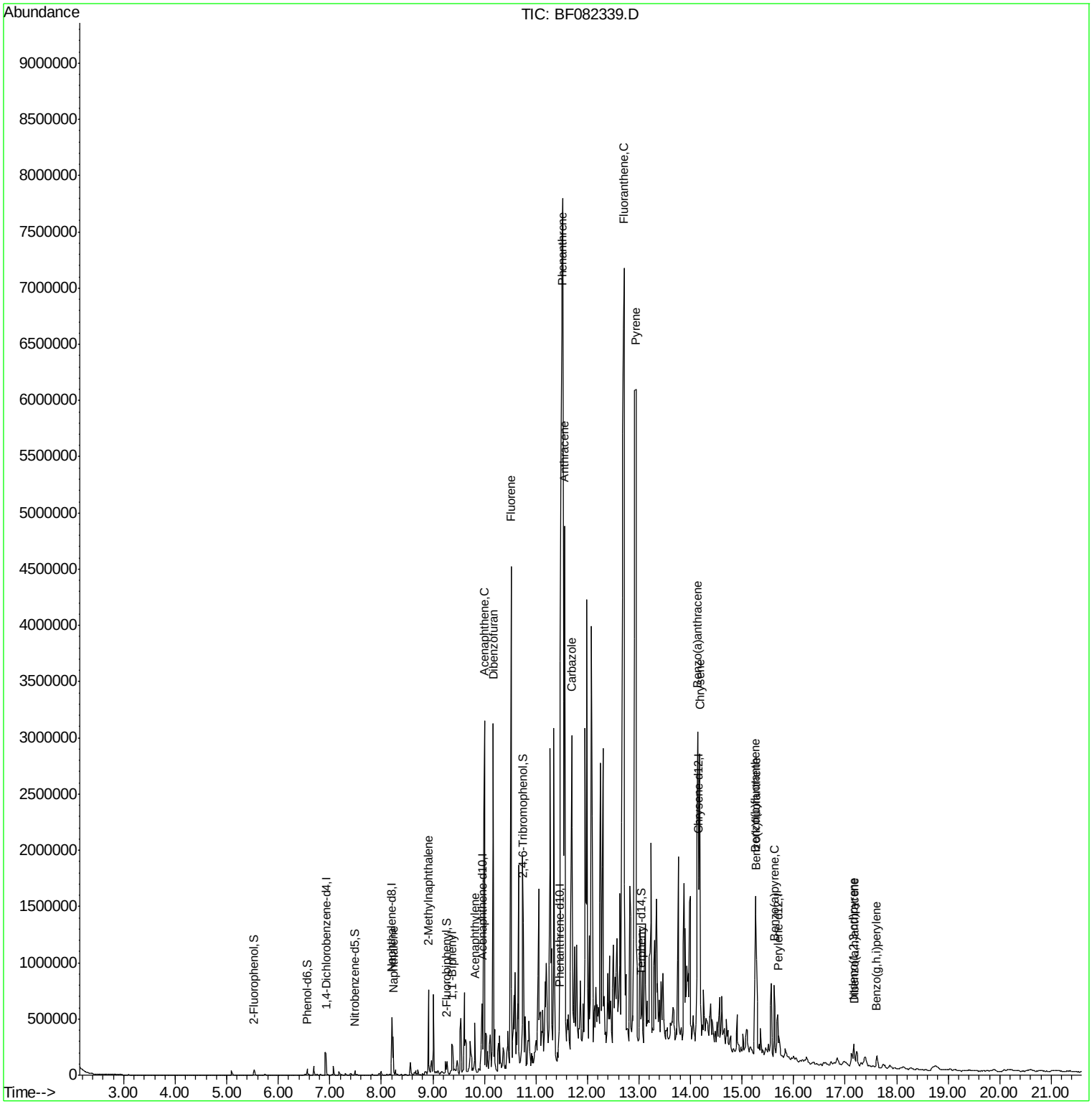
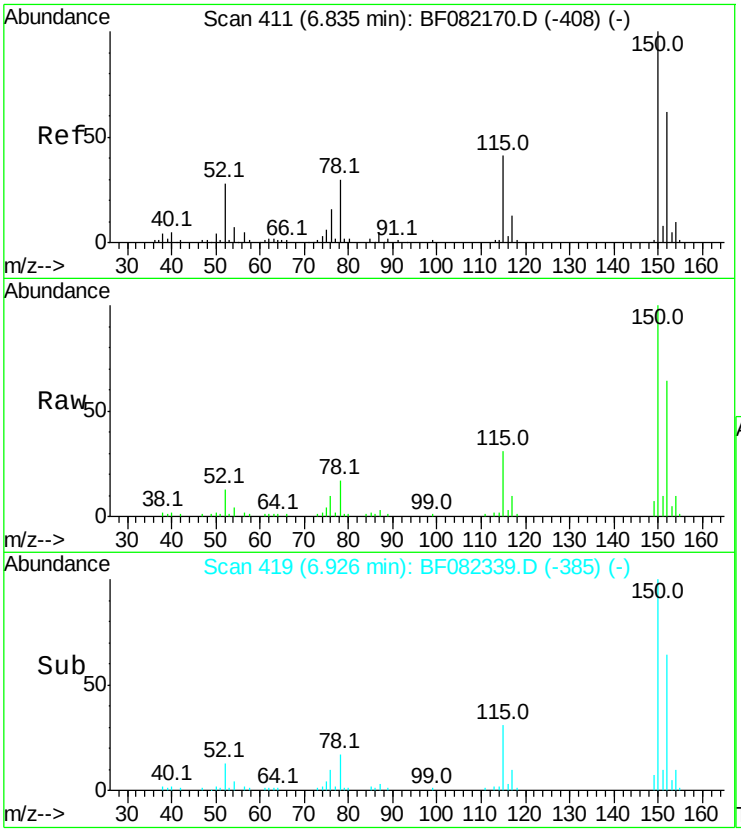
10/19/2015 5:32:30 PM



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

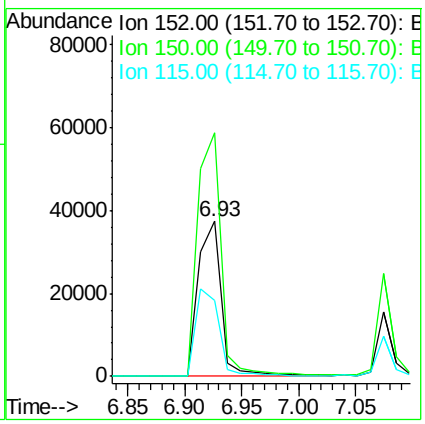
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:30 PM

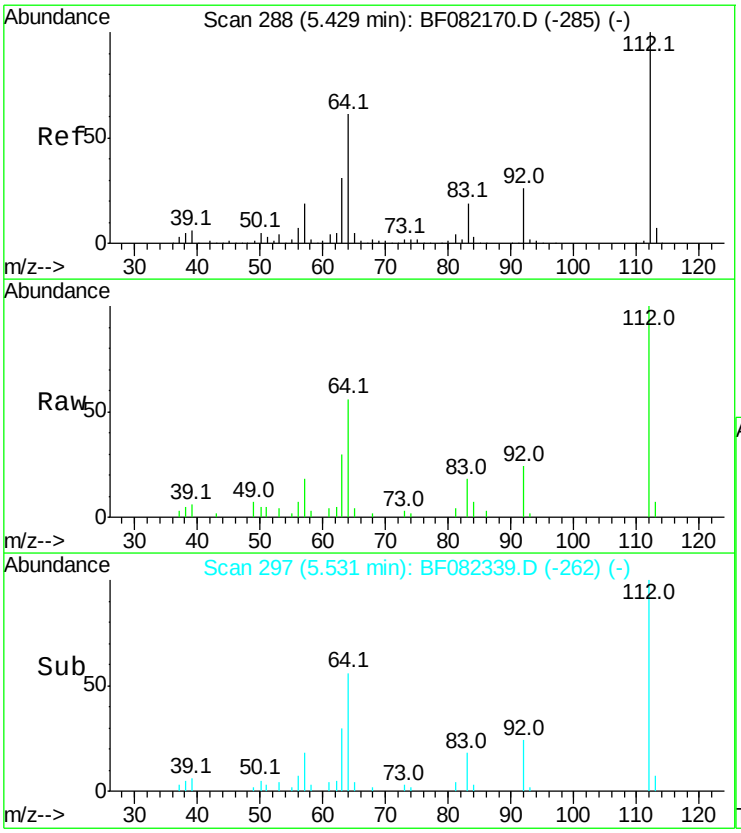


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng m
RT: 6.93 min Scan# 419
Delta R.T. 0.09 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:152 Resp: 51432

Ion	Ratio	Lower	Upper
152	100		
150	156.9	129.0	193.4
115	49.1	52.1	78.1#

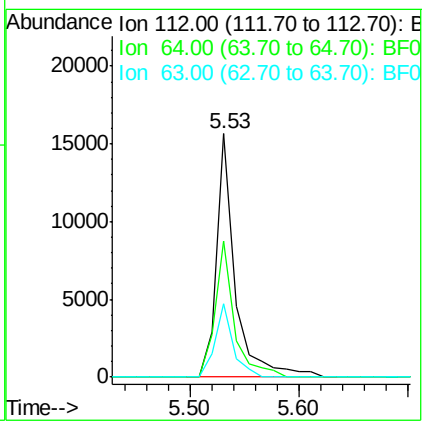




#5
2-Fluorophenol
Concen: 7.37 ng
RT: 5.53 min Scan# 297
Delta R.T. 0.10 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

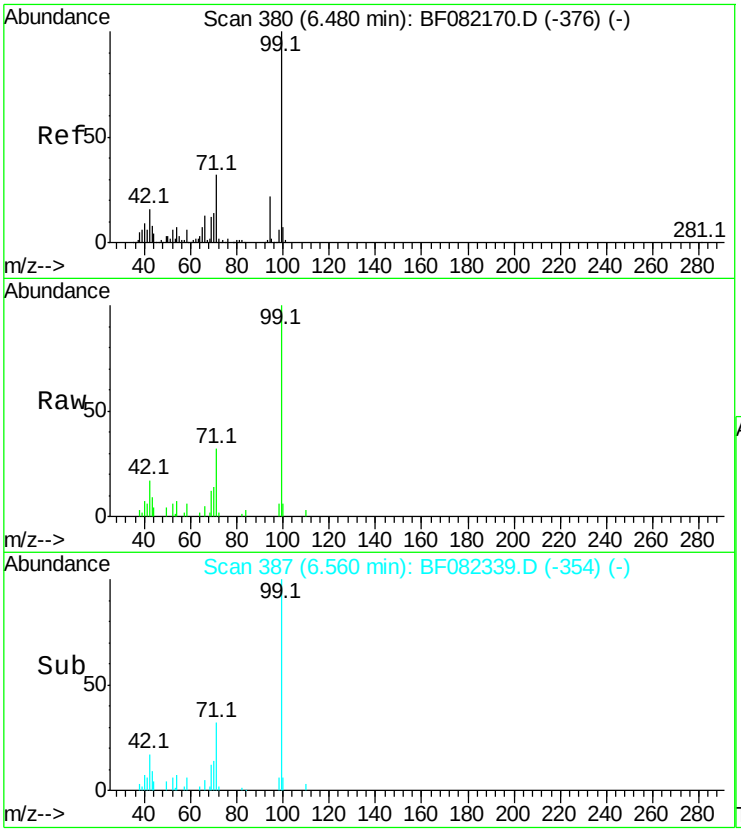
Tgt Ion:112 Resp: 18788

Ion	Ratio	Lower	Upper
112	100		
64	56.1	48.6	73.0
63	30.3	25.1	37.7



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

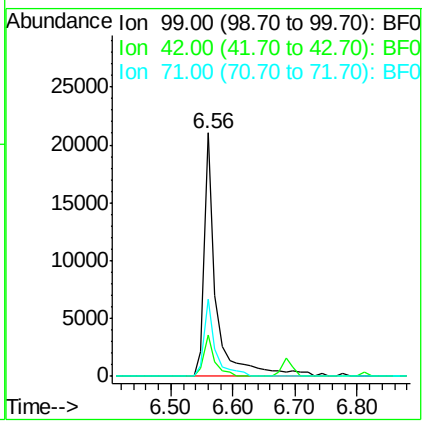
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:30 PM

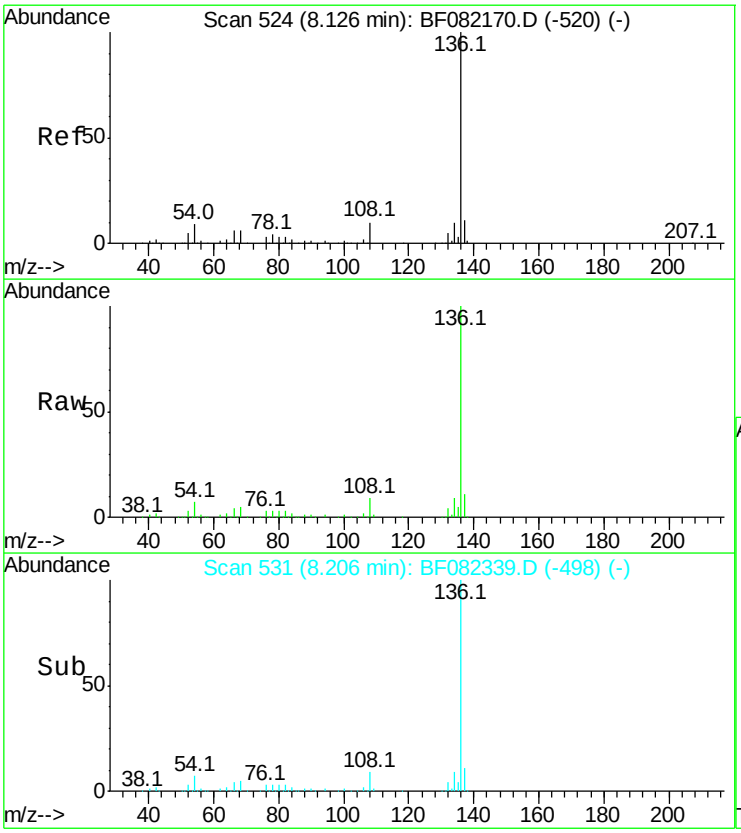


#7
Phenol-d6
Concen: 8.53 ng
RT: 6.56 min Scan# 387
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion: 99 Resp: 28281

Ion	Ratio	Lower	Upper
99	100		
42	17.0	13.2	19.8
71	31.7	25.6	38.4

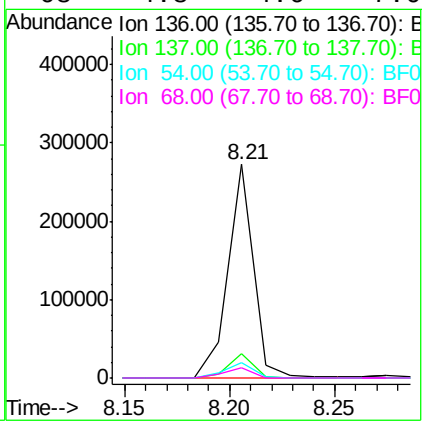




#21
Naphthalene-d8
Concen: 20.00 ng m
RT: 8.21 min Scan# 531
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:136 Resp: 234368

Ion	Ratio	Lower	Upper
136	100		
137	11.1	9.0	13.6
54	6.9	7.5	11.3#
68	4.8	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
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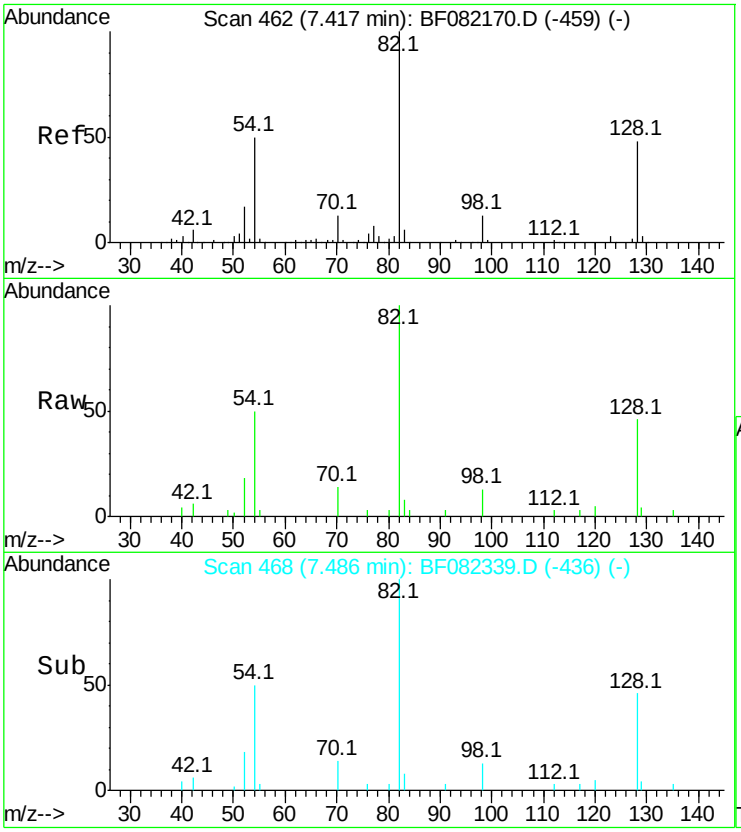
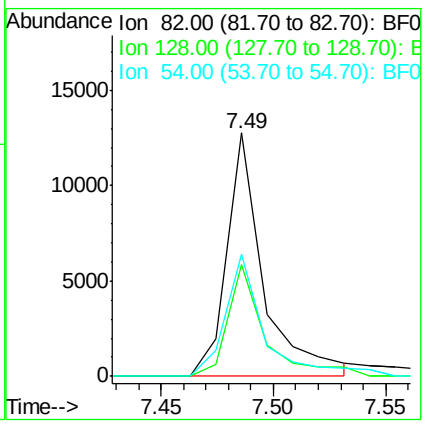
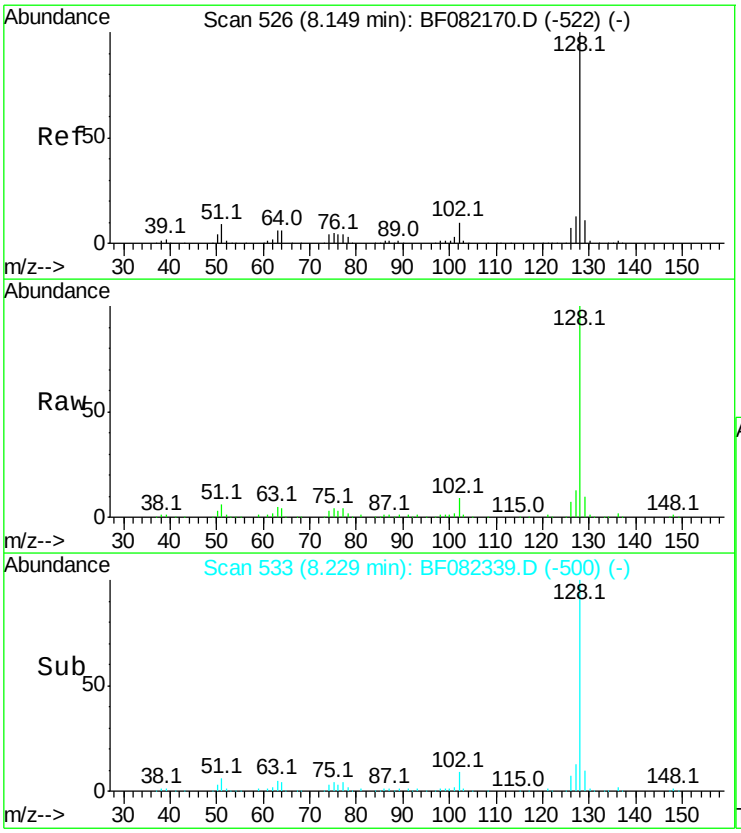


#23
Nitrobenzene-d5
Concen: 4.19 ng m
RT: 7.49 min Scan# 468
Delta R.T. 0.07 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion: 82 Resp: 14617

Ion	Ratio	Lower	Upper
82	100		
128	46.0	38.7	58.1
54	49.9	40.1	60.1

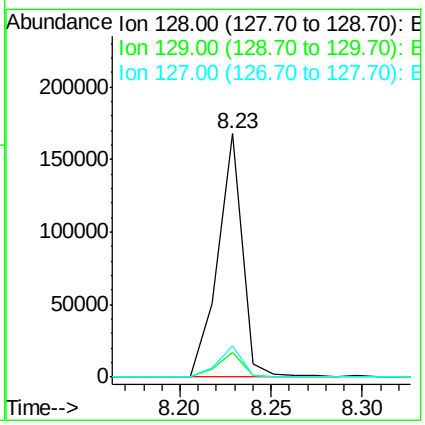




#31
Naphthalene
Concen: 15.71 ng m
RT: 8.23 min Scan# 533
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:128 Resp: 159647

Ion	Ratio	Lower	Upper
128	100		
129	10.4	9.1	13.7
127	12.6	10.7	16.1



Instrument :
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ClientSampleId :
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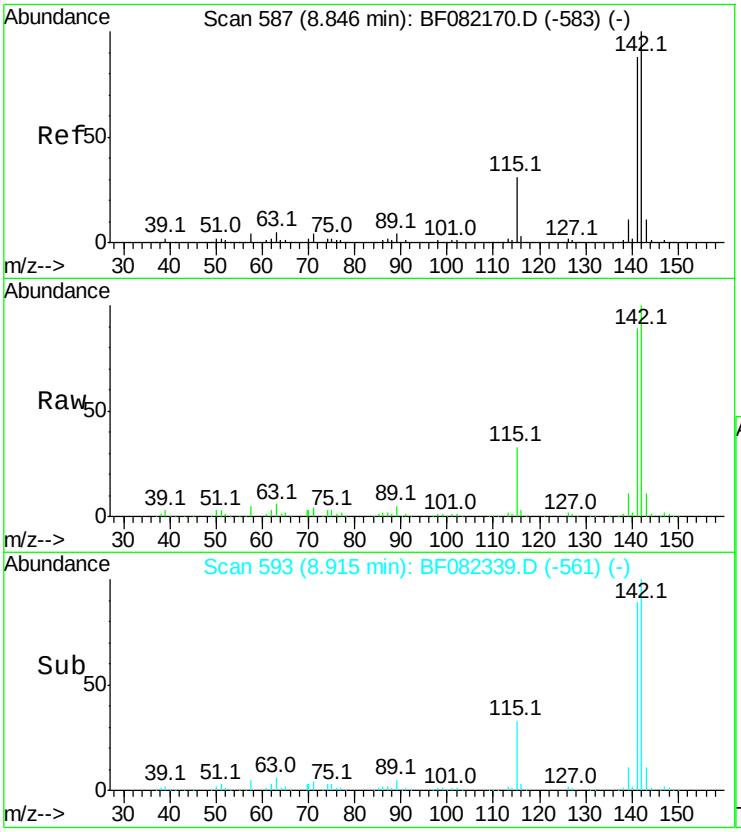
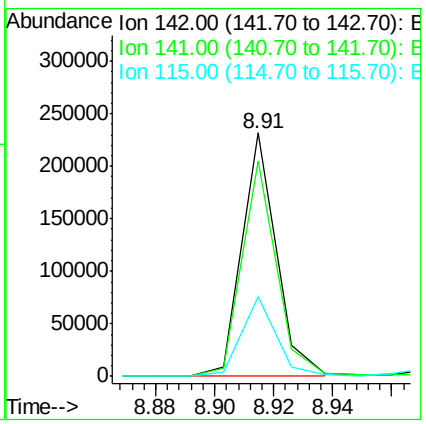
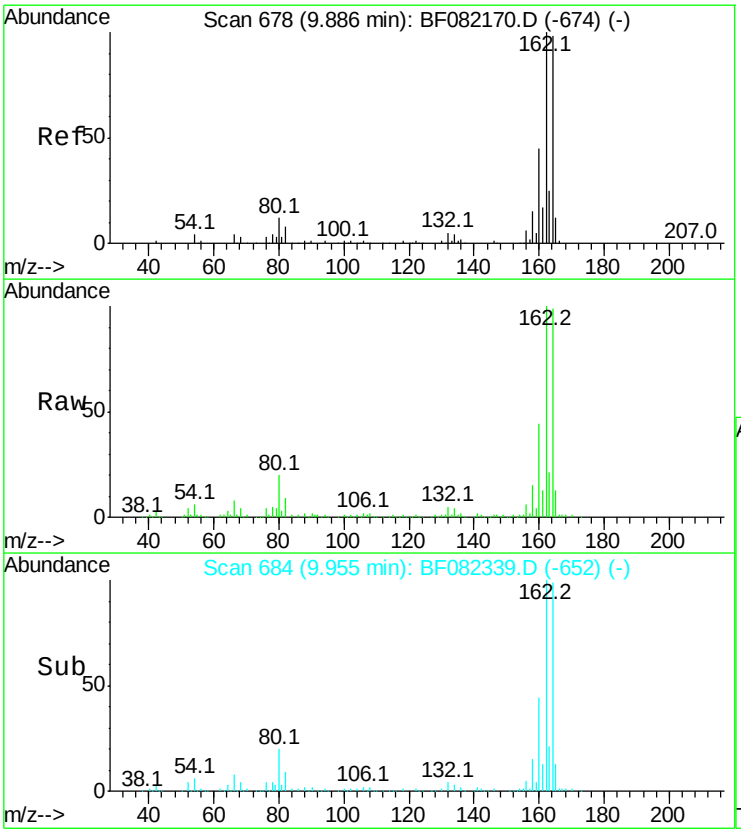


#37
2-Methylnaphthalene
Concen: 26.67 ng m
RT: 8.91 min Scan# 593
Delta R.T. 0.07 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:142 Resp: 187813

Ion	Ratio	Lower	Upper
142	100		
141	88.7	70.4	105.6
115	33.0	24.6	37.0

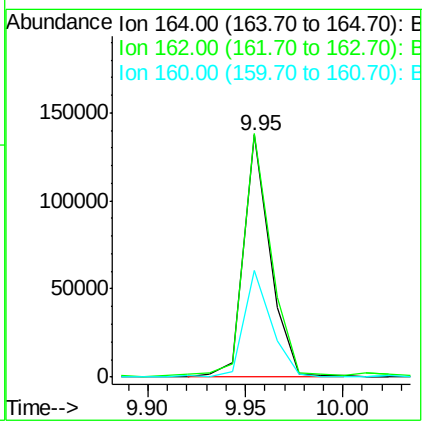




#38
Acenaphthene-d10
Concen: 20.00 ng m
RT: 9.95 min Scan# 684
Delta R.T. 0.07 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:164 Resp: 129589

Ion	Ratio	Lower	Upper
164	100		
162	100.7	81.6	122.4
160	44.3	36.4	54.6



Instrument :
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ClientSampleId :
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Manual Integrations APPROVED
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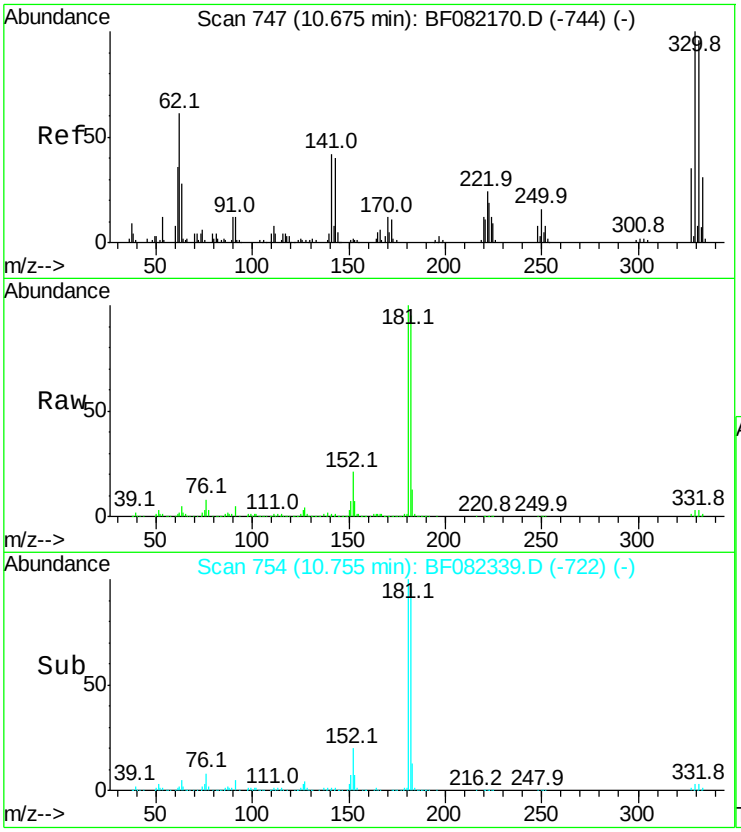
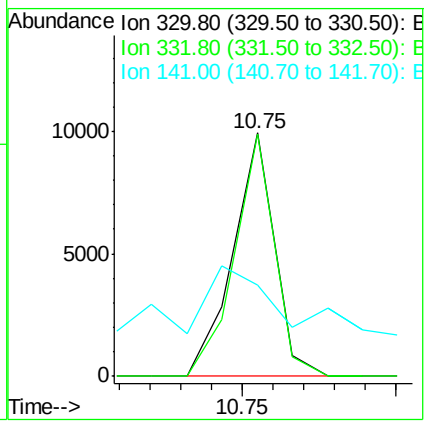
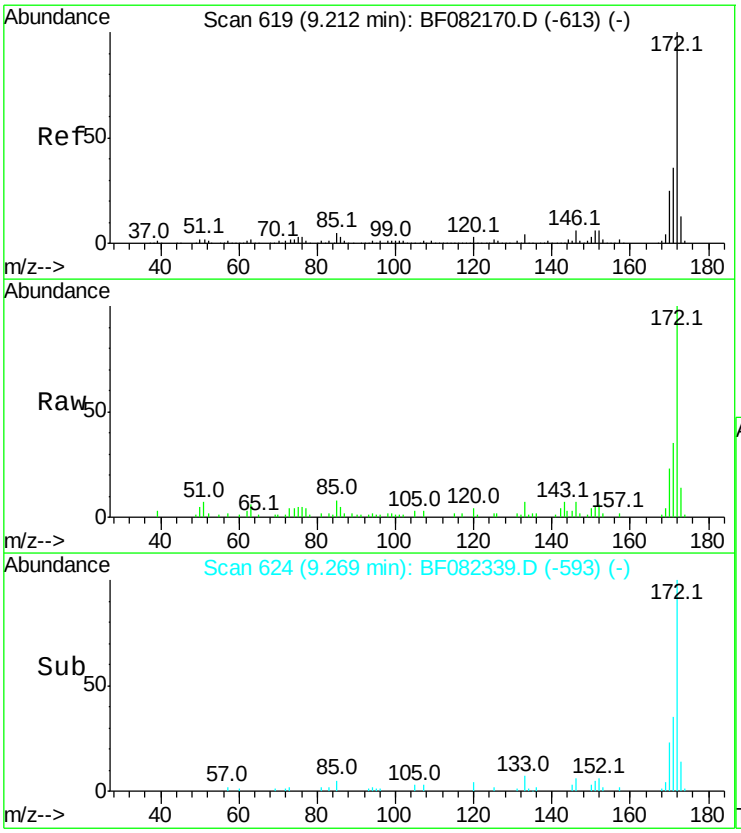


#41
2,4,6-Tribromophenol
Concen: 7.69 ng m
RT: 10.75 min Scan# 754
Delta R.T. 0.07 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:330 Resp: 9341

Ion	Ratio	Lower	Upper
330	100		
332	0.0	77.1	115.7#
141	0.0	29.8	44.8#

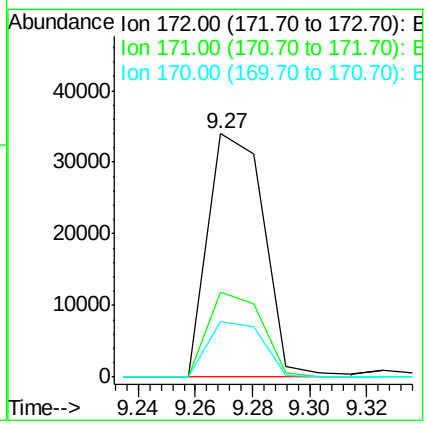




#44
2-Fluorobiphenyl
Concen: 5.93 ng m
RT: 9.27 min Scan# 624
Delta R.T. 0.06 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:172 Resp: 46355

Ion	Ratio	Lower	Upper
172	100		
171	34.7	28.6	42.8
170	23.0	19.7	29.5



Instrument :
BNA_F
ClientSampleId :
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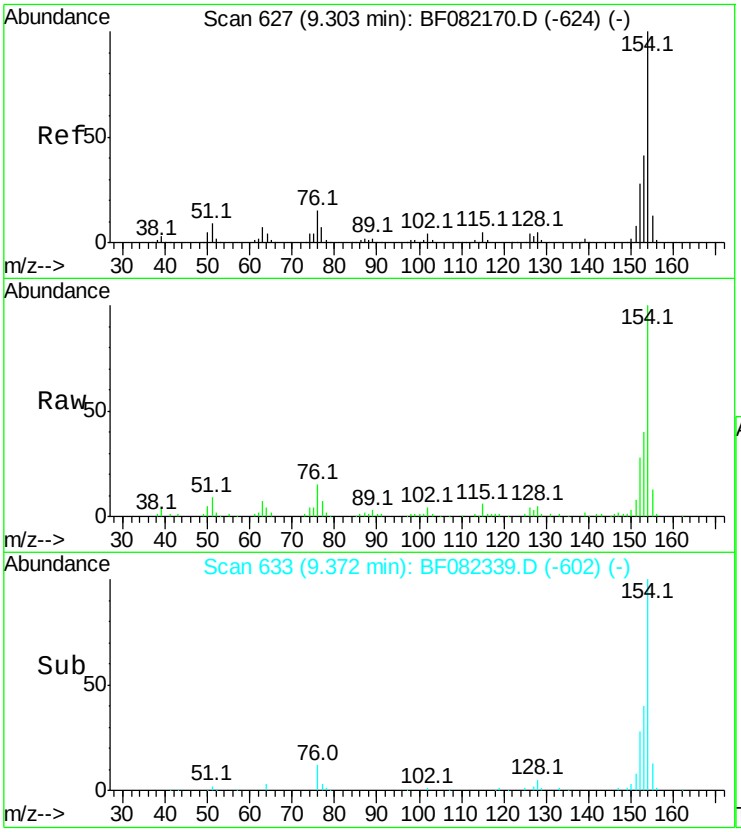
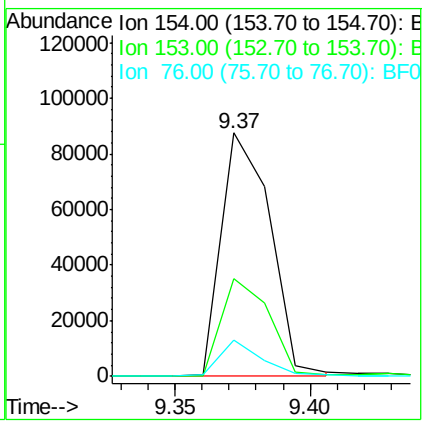
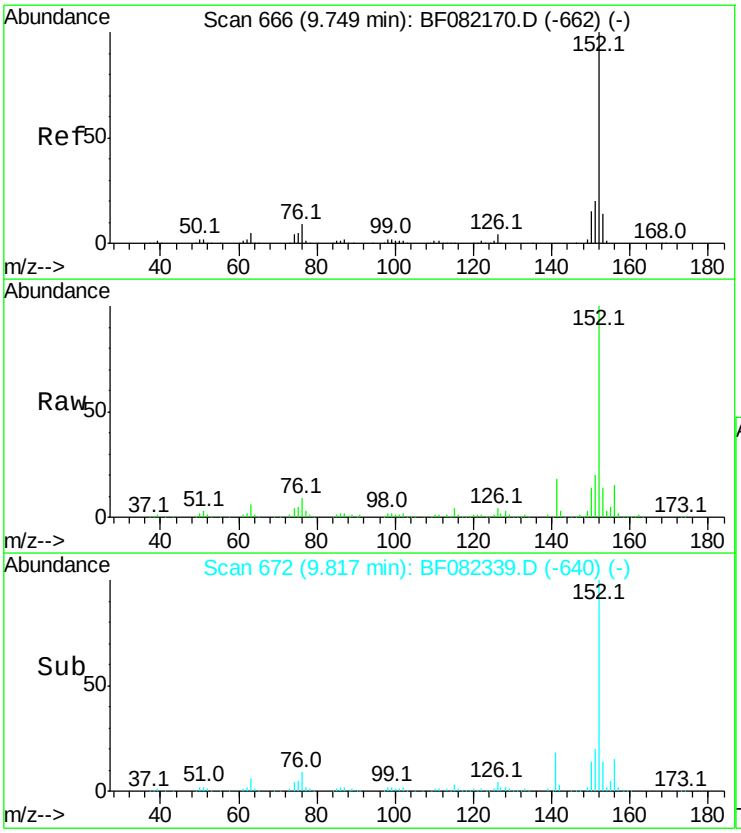


#45
1,1'-Biphenyl
Concen: 11.24 ng m
RT: 9.37 min Scan# 633
Delta R.T. 0.06 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:154 Resp: 111118

Ion	Ratio	Lower	Upper
154	100		
153	39.9	20.6	60.6
76	15.1	0.0	35.2

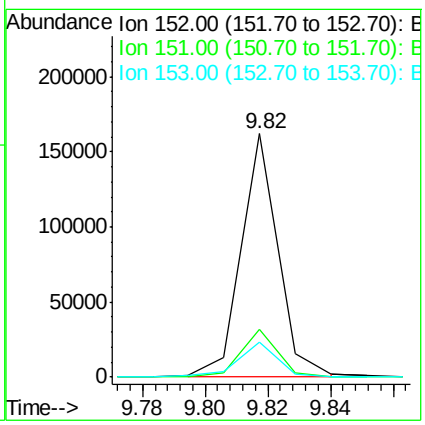




#48
Acenaphthylene
Concen: 10.92 ng m
RT: 9.82 min Scan# 672
Delta R.T. 0.07 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:152 Resp: 132326

Ion	Ratio	Lower	Upper
152	100		
151	19.8	16.4	24.6
153	14.4	10.8	16.2



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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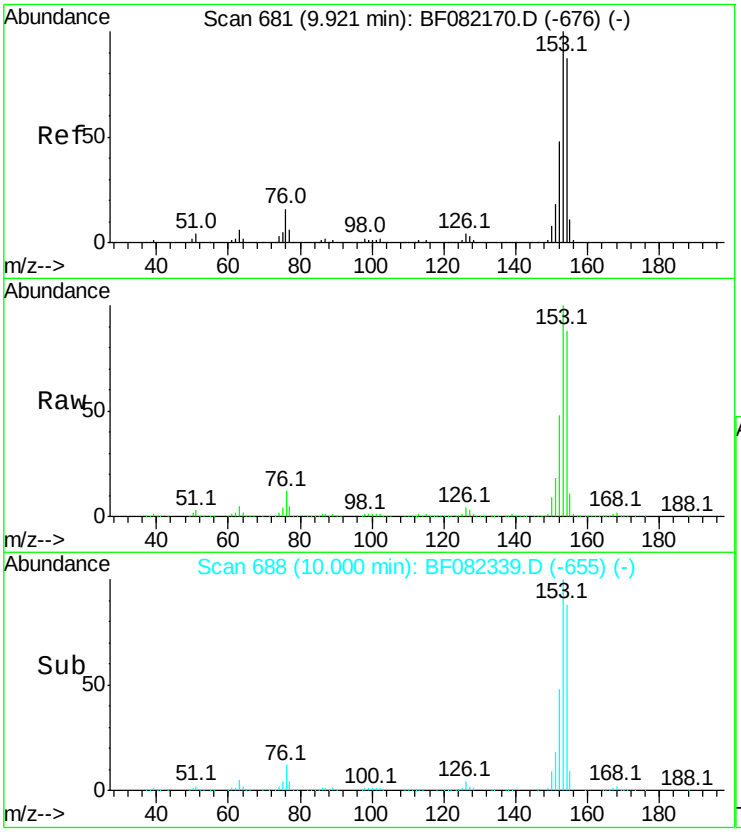
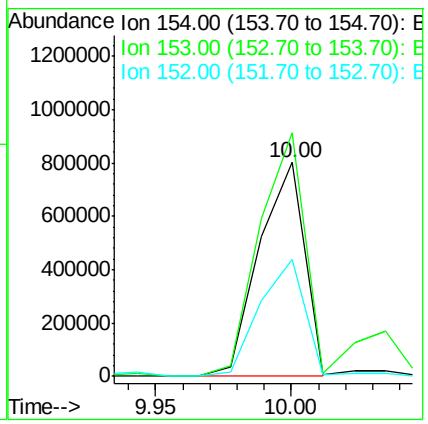
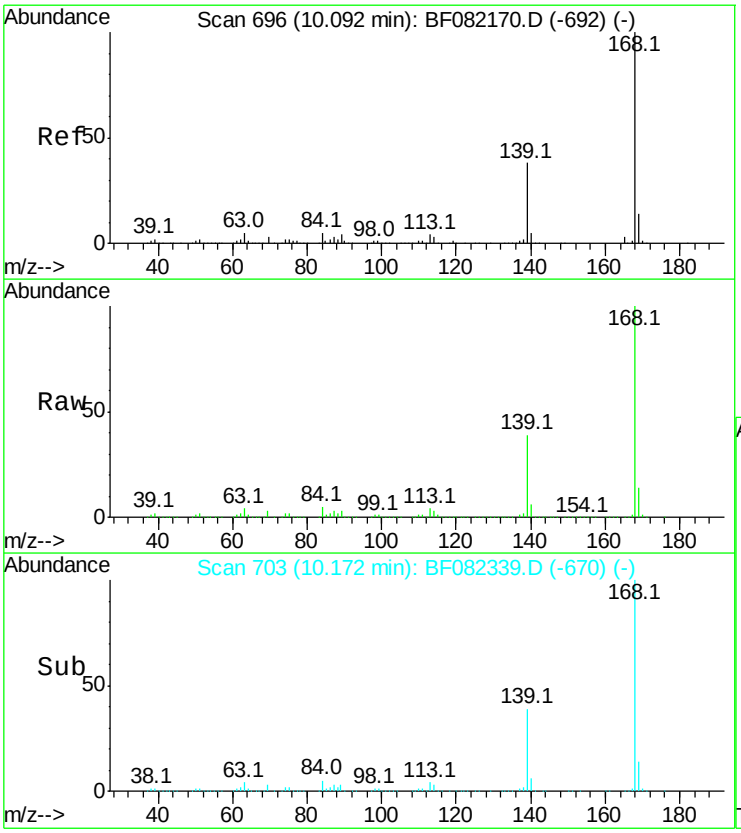


#51
Acenaphthene
Concen: 128.72 ng m
RT: 10.00 min Scan# 688
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:154 Resp: 936425

Ion	Ratio	Lower	Upper
154	100		
153	113.8	91.4	137.2
152	54.7	44.3	66.5

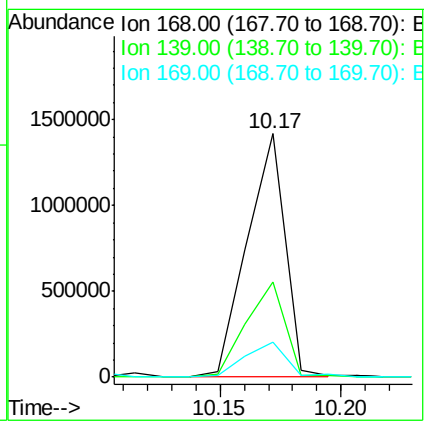




#54
Dibenzofuran
Concen: 153.82 ng m
RT: 10.17 min Scan# 703
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:168 Resp: 1536360

Ion	Ratio	Lower	Upper
168	100		
139	39.3	31.0	46.6
169	14.2	10.9	16.3



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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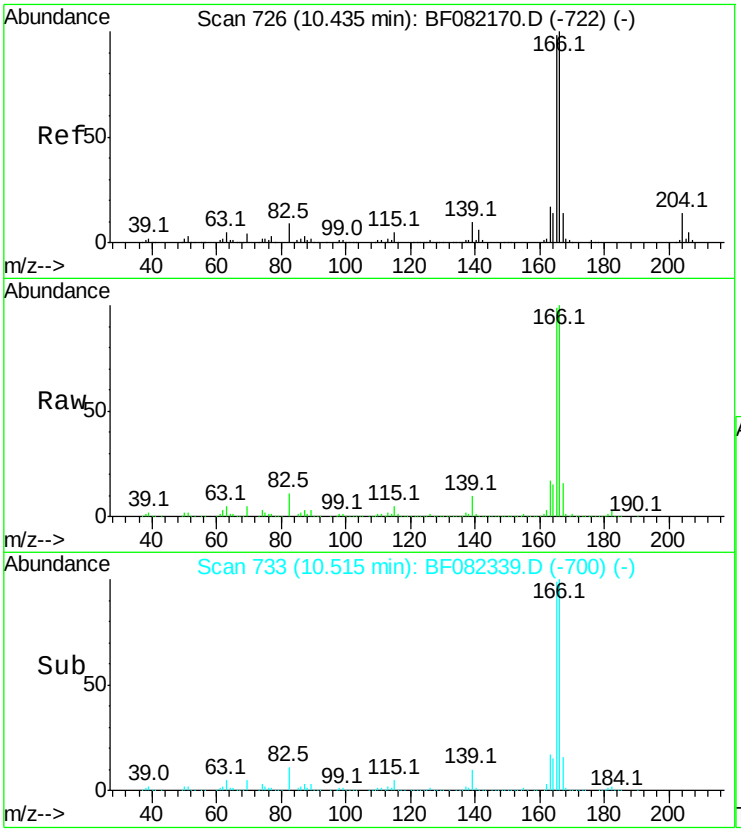
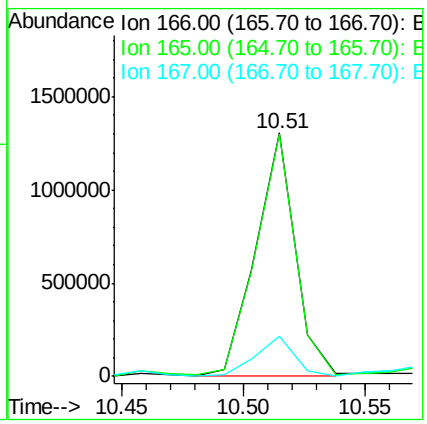
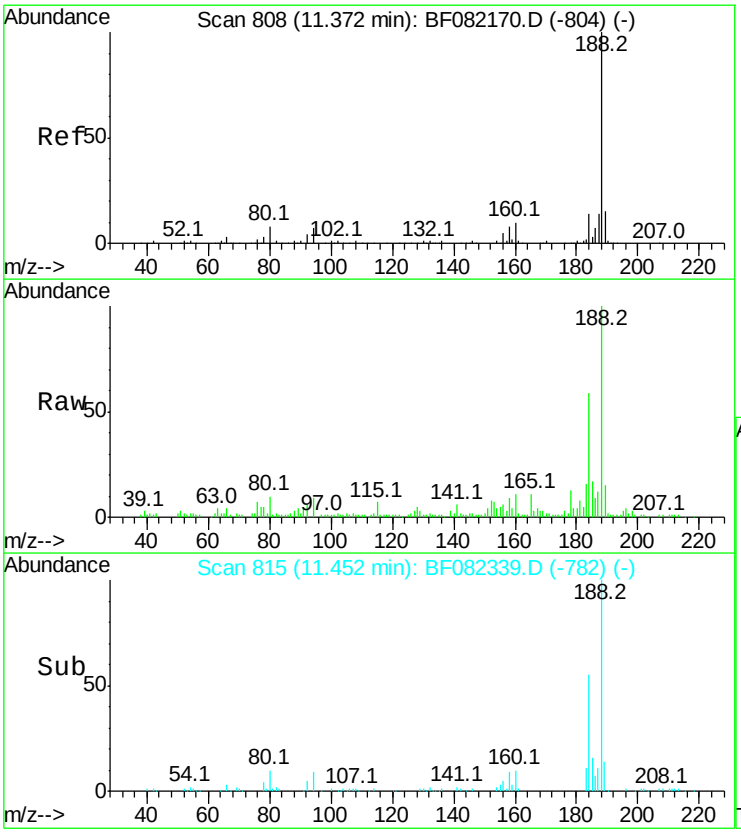


#57
Fluorene
Concen: 179.18 ng m
RT: 10.51 min Scan# 733
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:166 Resp: 1469872

Ion	Ratio	Lower	Upper
166	100		
165	99.5	78.3	117.5
167	16.3	10.8	16.2#

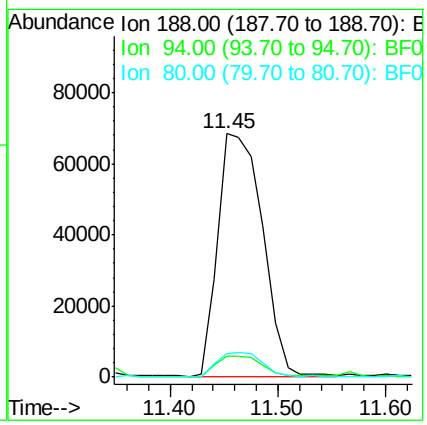




#63
Phenanthrene-d10
Concen: 20.00 ng m
RT: 11.45 min Scan# 815
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:188 Resp: 198676

Ion	Ratio	Lower	Upper
188	100		
94	8.6	5.8	8.6
80	9.8	6.4	9.6#



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

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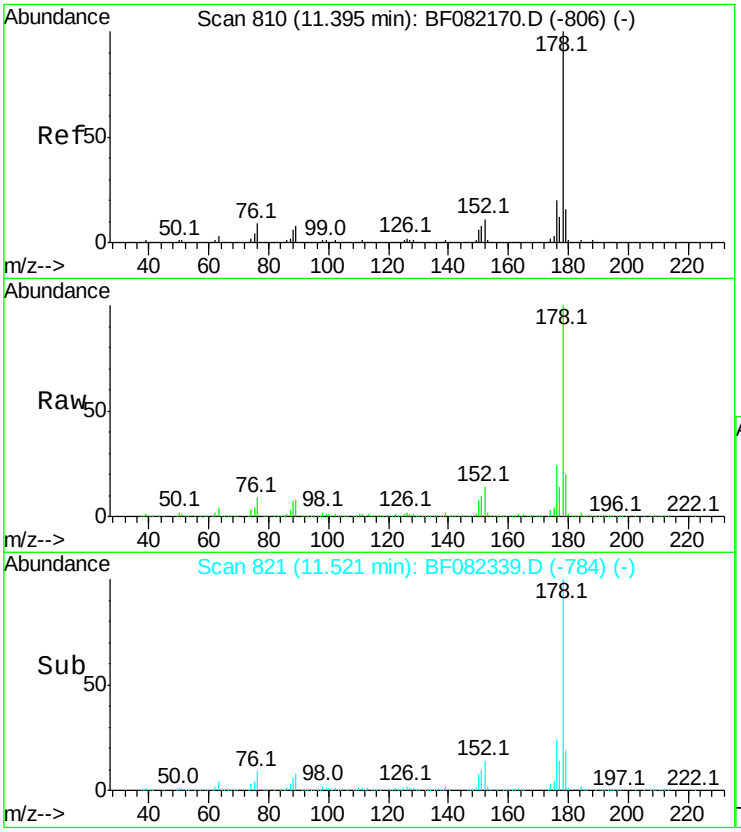
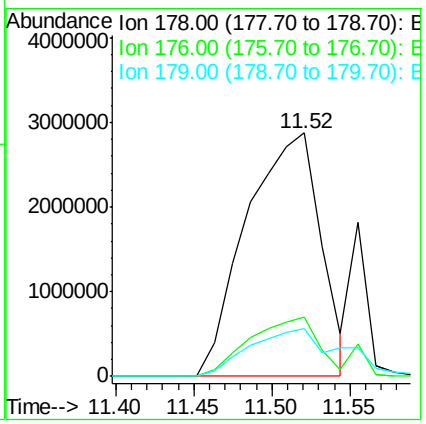
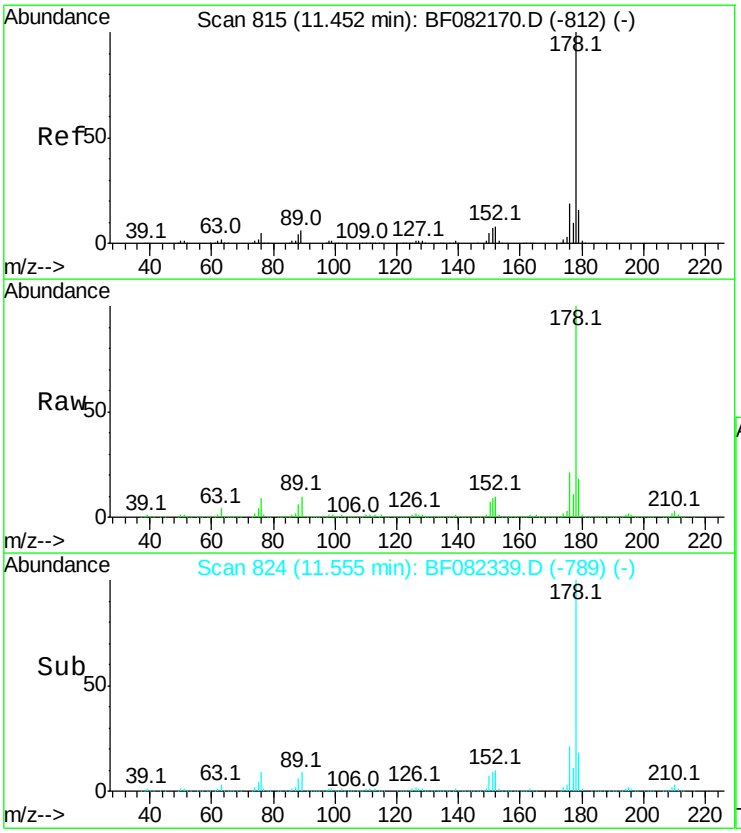


#70
Phenanthrene
Concen: 973.88 ng m
RT: 11.52 min Scan# 821
Delta R.T. 0.13 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:178 Resp: 9484043

Ion	Ratio	Lower	Upper
178	100		
176	24.4	16.0	24.0#
179	19.6	12.6	19.0#

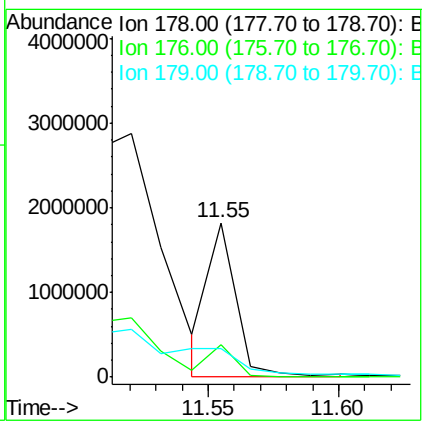




#71
Anthracene
Concen: 141.00 ng m
RT: 11.55 min Scan# 824
Delta R.T. 0.10 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:178 Resp: 1414965

Ion	Ratio	Lower	Upper
178	100		
176	21.4	15.4	23.0
179	18.4	12.5	18.7



Instrument :
BNA_F
ClientSampleId :
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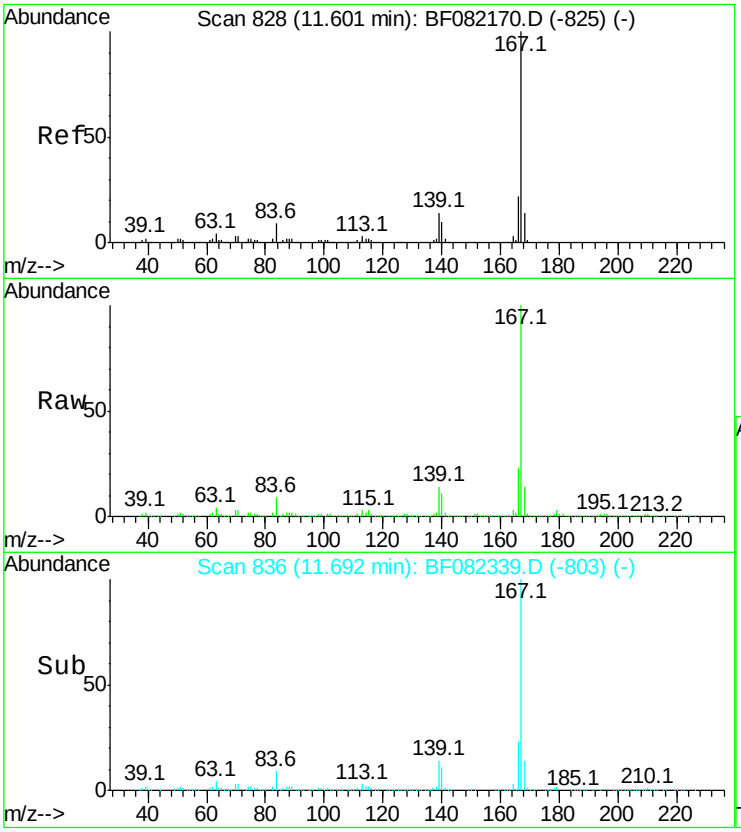
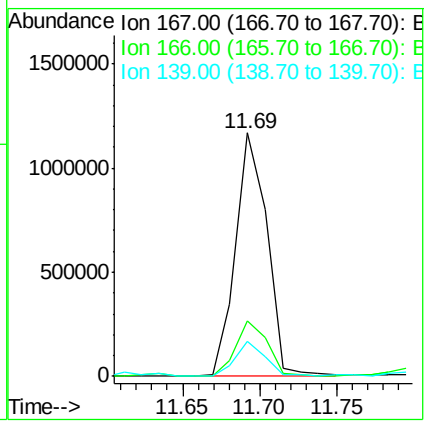
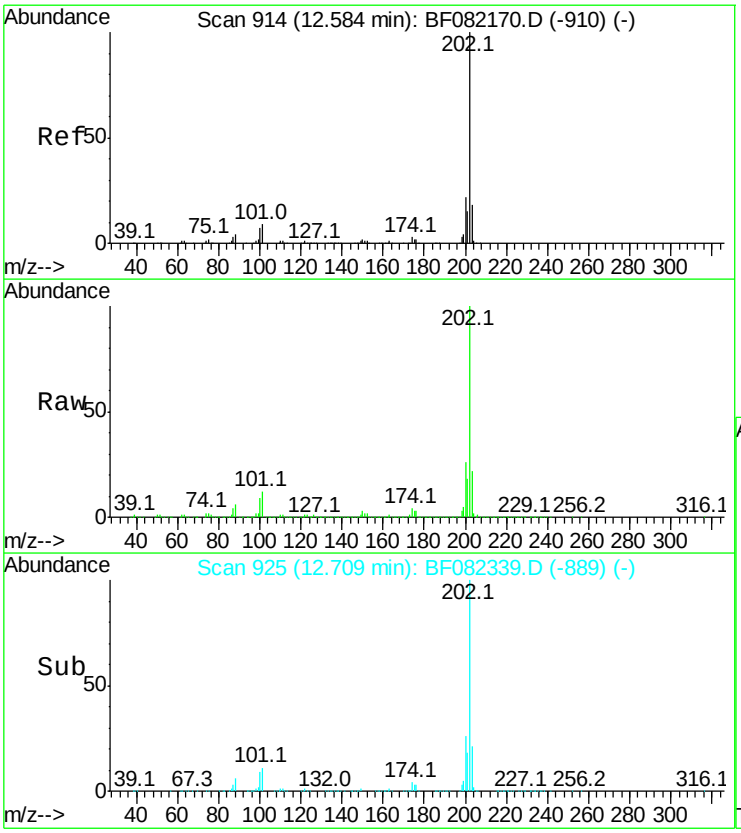


#72
Carbazole
Concen: 180.11 ng m
RT: 11.69 min Scan# 836
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:167 Resp: 1648779

Ion	Ratio	Lower	Upper
167	100		
166	23.0	17.3	25.9
139	14.4	11.2	16.8

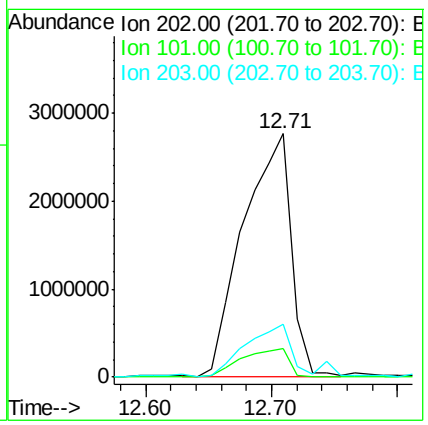


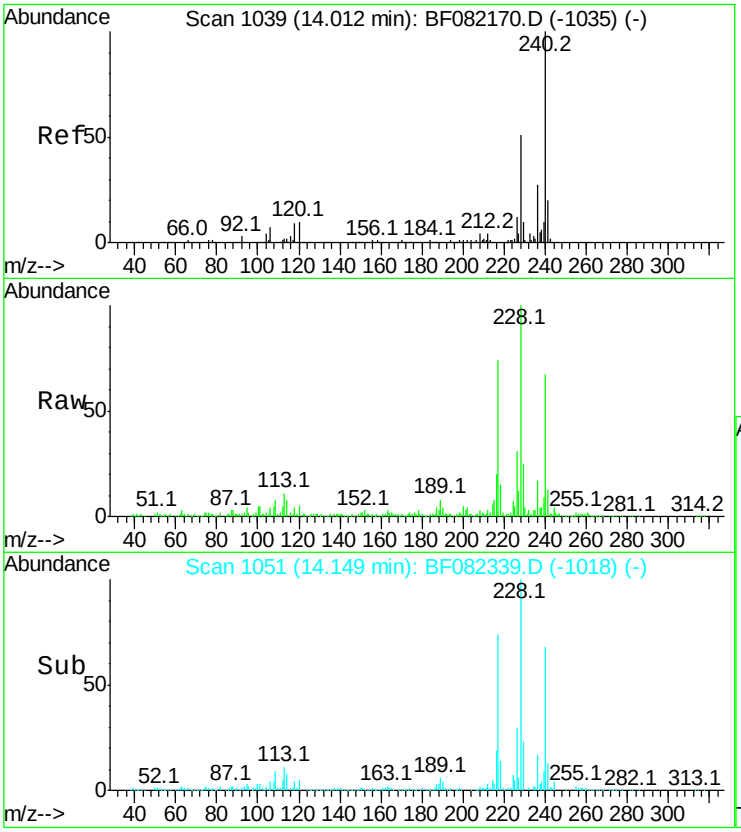


#74
Fluoranthene
Concen: 703.89 ng m
RT: 12.71 min Scan# 925
Delta R.T. 0.11 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:202 Resp: 7362201

Ion	Ratio	Lower	Upper
202	100		
101	11.5	0.0	29.3
203	21.7	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng m
RT: 14.15 min Scan# 1051
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:240 Resp: 187743

Ion	Ratio	Lower	Upper
240	100		
120	7.4	8.1	12.1#
236	26.1	21.3	31.9

Instrument :
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ClientSampleId :
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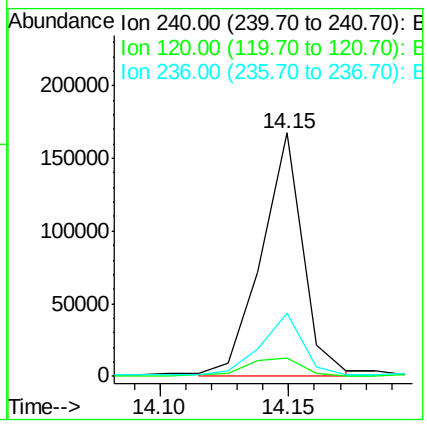
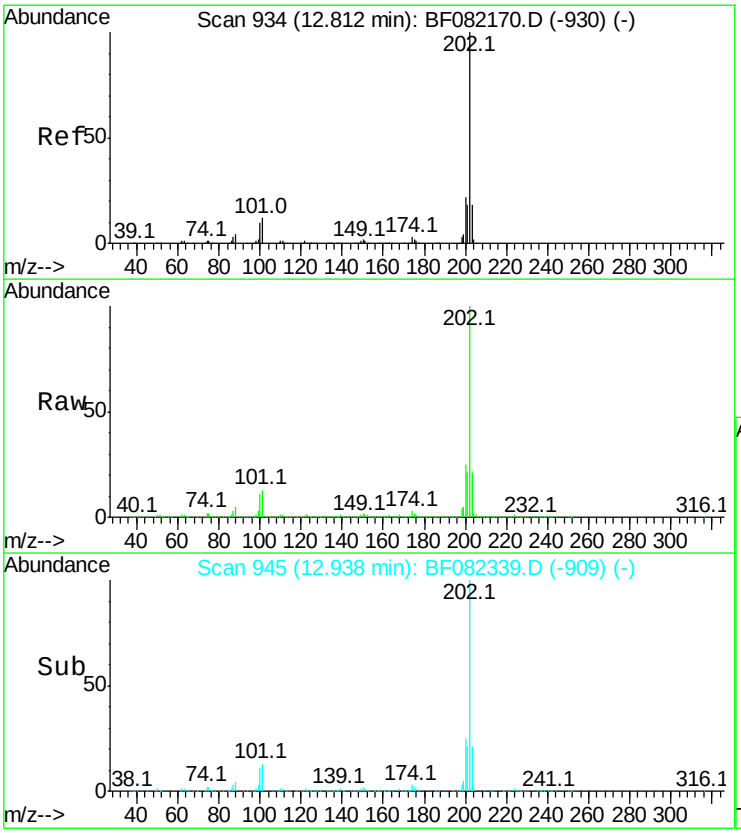
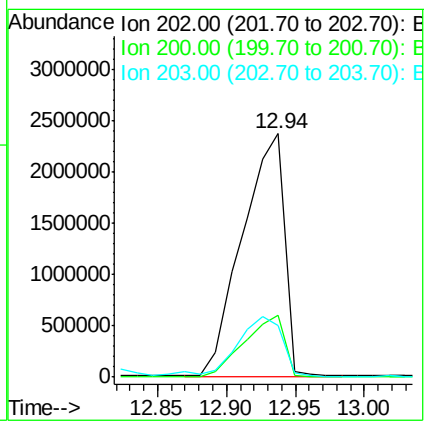




#77
Pyrene
Concen: 459.01 ng m
RT: 12.94 min Scan# 945
Delta R.T. 0.11 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:202 Resp: 5114144

Ion	Ratio	Lower	Upper
202	100		
200	25.5	17.9	26.9
203	21.0	14.5	21.7



Instrument :
BNA_F
ClientSampleId :
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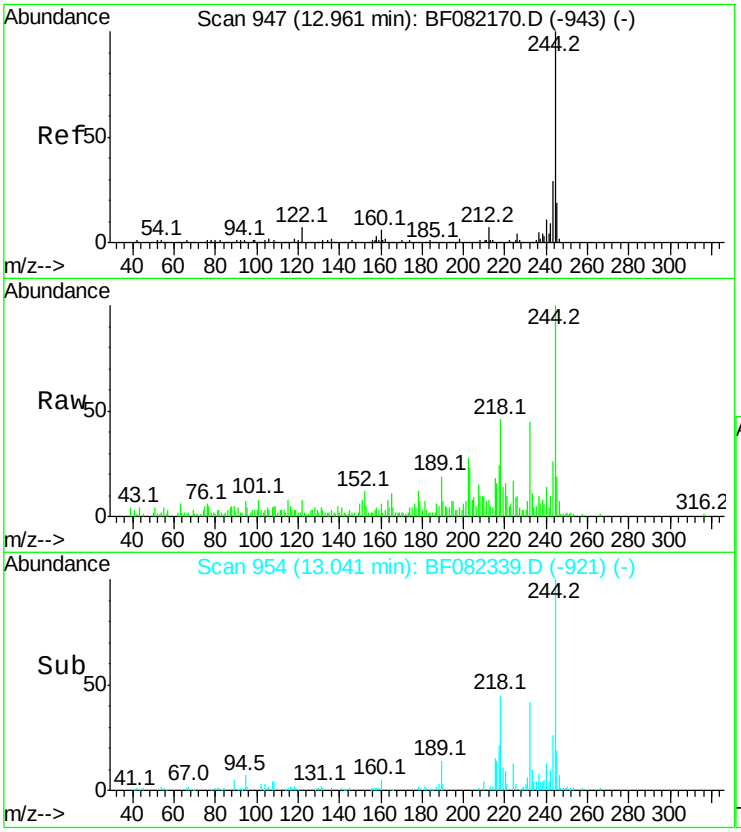
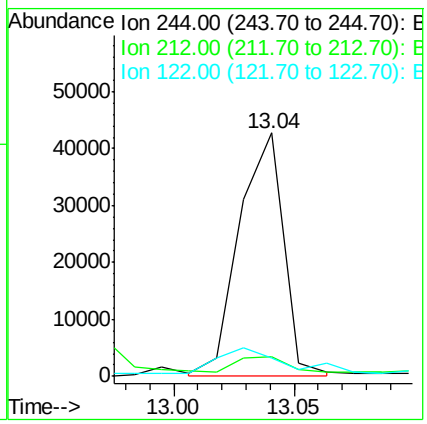
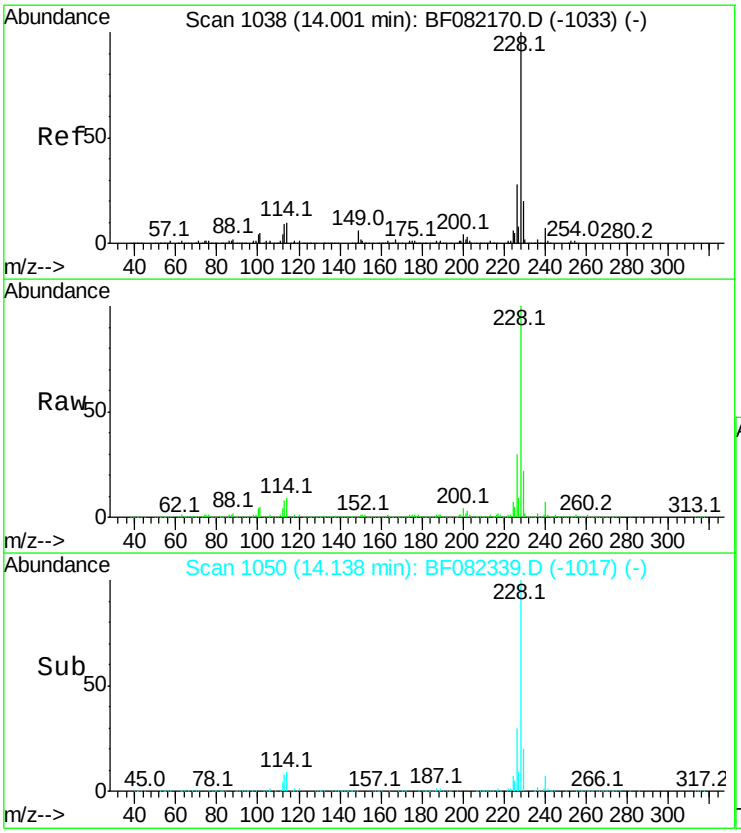


#78
Terphenyl-d14
Concen: 7.78 ng m
RT: 13.04 min Scan# 954
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:244 Resp: 55112

Ion	Ratio	Lower	Upper
244	100		
212	7.8	5.8	8.6
122	7.7	5.9	8.9

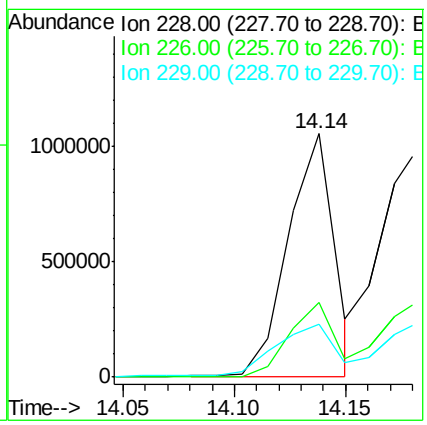


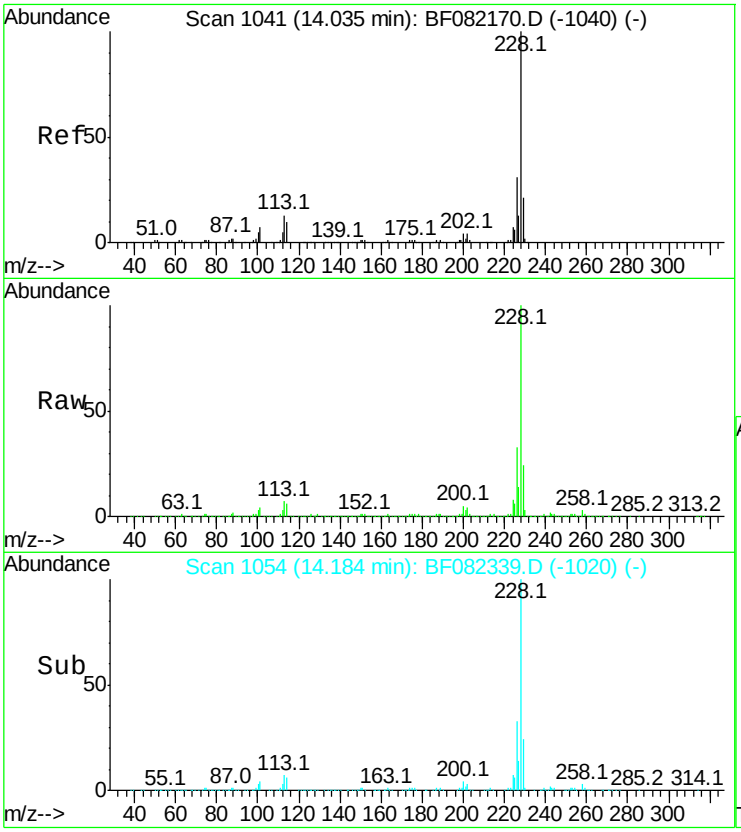


#80
Benzo(a)anthracene
Concen: 155.33 ng m
RT: 14.14 min Scan# 1050
Delta R.T. 0.08 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:228 Resp: 1517297

Ion	Ratio	Lower	Upper
228	100		
226	30.4	22.3	33.5
229	21.8	16.2	24.2





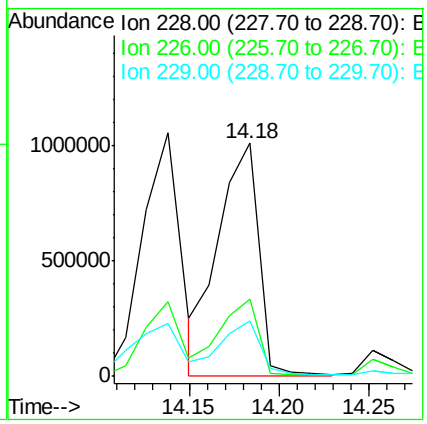
#82
Chrysene
Concen: 155.12 ng m
RT: 14.18 min Scan# 1054
Delta R.T. 0.09 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

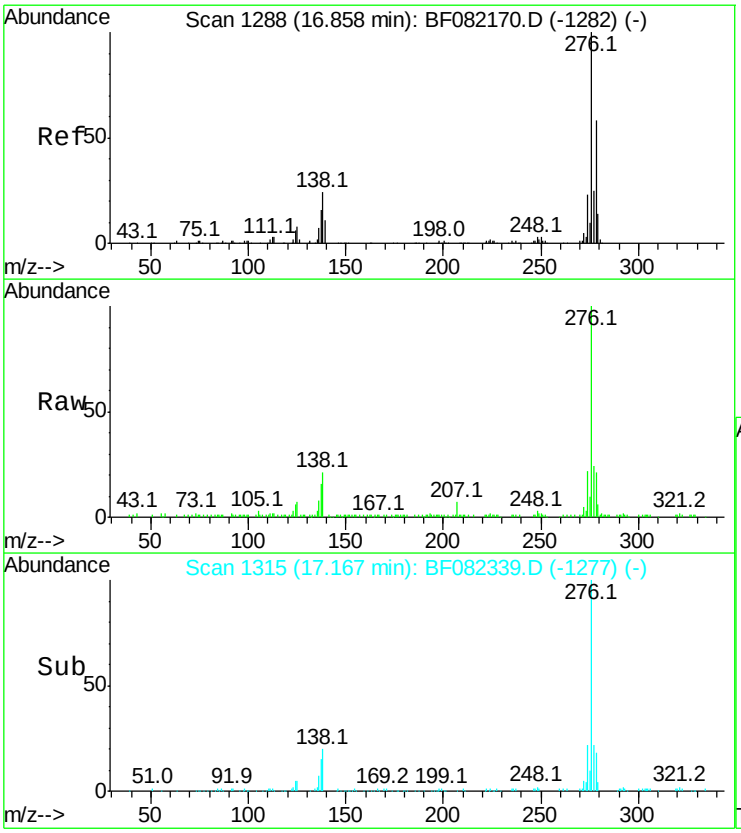
Tgt Ion:228 Resp: 1596645

Ion	Ratio	Lower	Upper
228	100		
226	33.0	24.4	36.6
229	24.1	16.3	24.5

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:30 PM

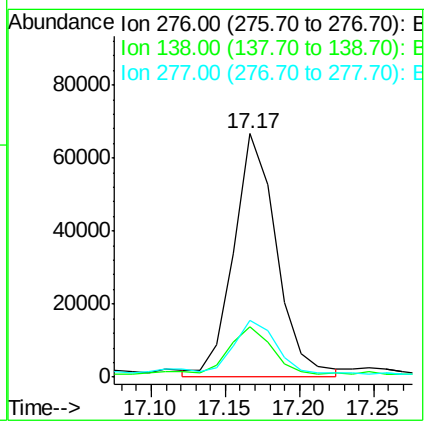


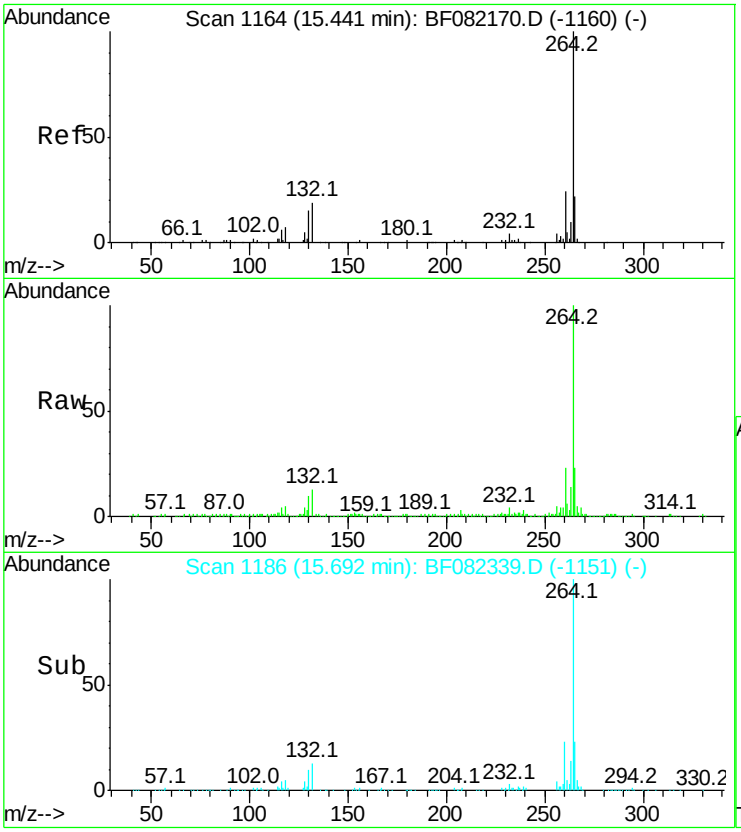


#85
Indeno(1,2,3-cd)pyrene
Concen: 16.41 ng m
RT: 17.17 min Scan# 1315
Delta R.T. 0.14 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:276 Resp: 134276

Ion	Ratio	Lower	Upper
276	100		
138	0.0	19.7	29.5#
277	0.0	20.1	30.1#

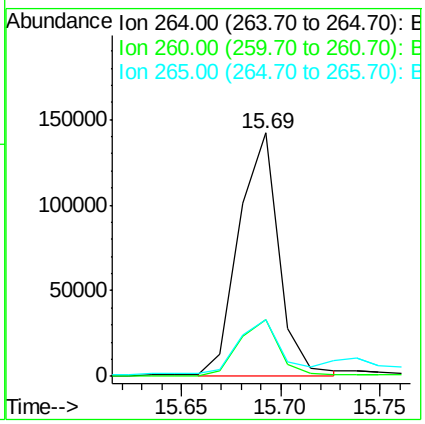




#86
Pervlene-d12
Concen: 20.00 ng m
RT: 15.69 min Scan# 1186
Delta R.T. 0.10 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

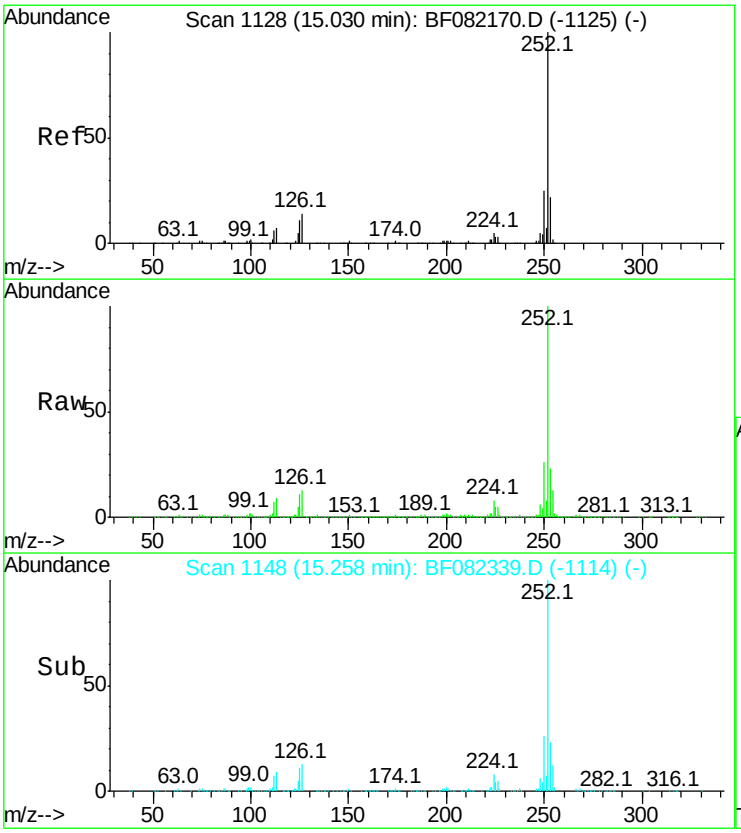
Tgt Ion:264 Resp: 200069

Ion	Ratio	Lower	Upper
264	100		
260	23.3	19.0	28.6
265	23.2	17.3	25.9



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

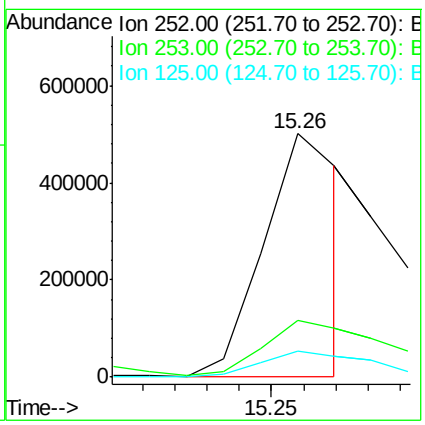
Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:30 PM

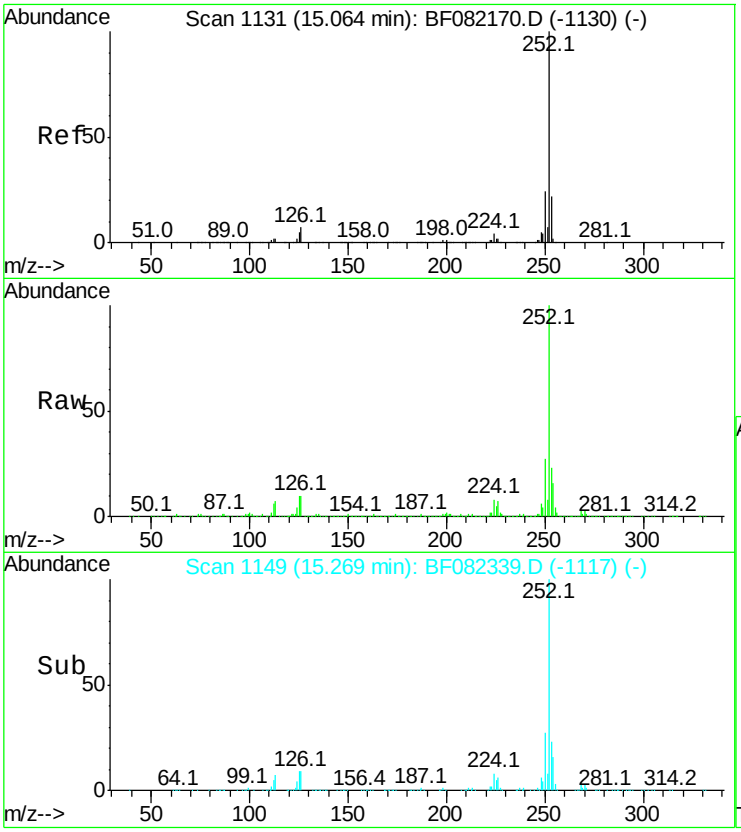


#87
Benzo(b)fluoranthene
Concen: 69.29 ng m
RT: 15.26 min Scan# 1148
Delta R.T. 0.09 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:252 Resp: 843423

Ion	Ratio	Lower	Upper
252	100		
253	23.0	18.0	27.0
125	10.8	8.6	12.8





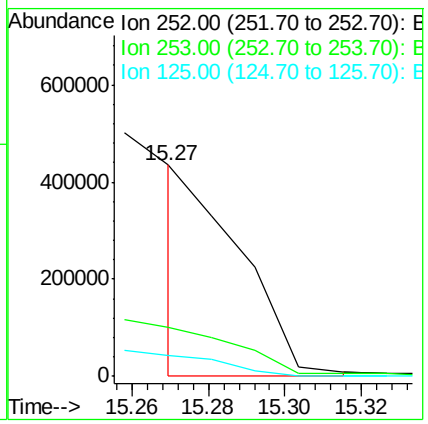
#88
Benzo(k)fluoranthene
Concen: 39.12 ng m
RT: 15.27 min Scan# 1149
Delta R.T. 0.07 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

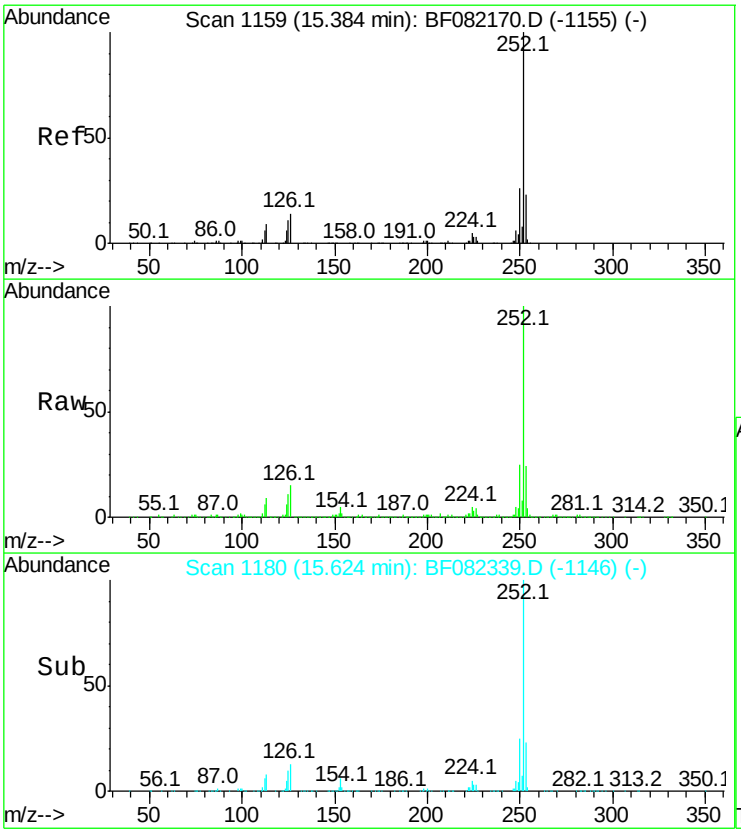
Tgt Ion:252 Resp: 400215

Ion	Ratio	Lower	Upper
252	100		
253	23.2	17.8	26.6
125	9.8	6.7	10.1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:30 PM

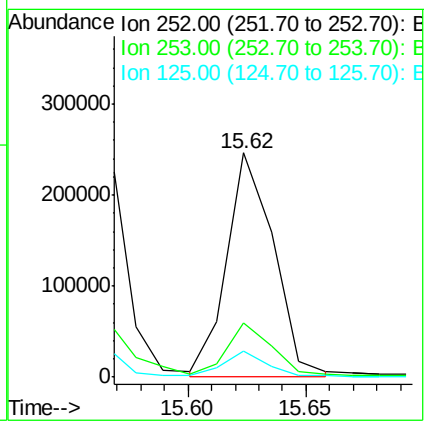


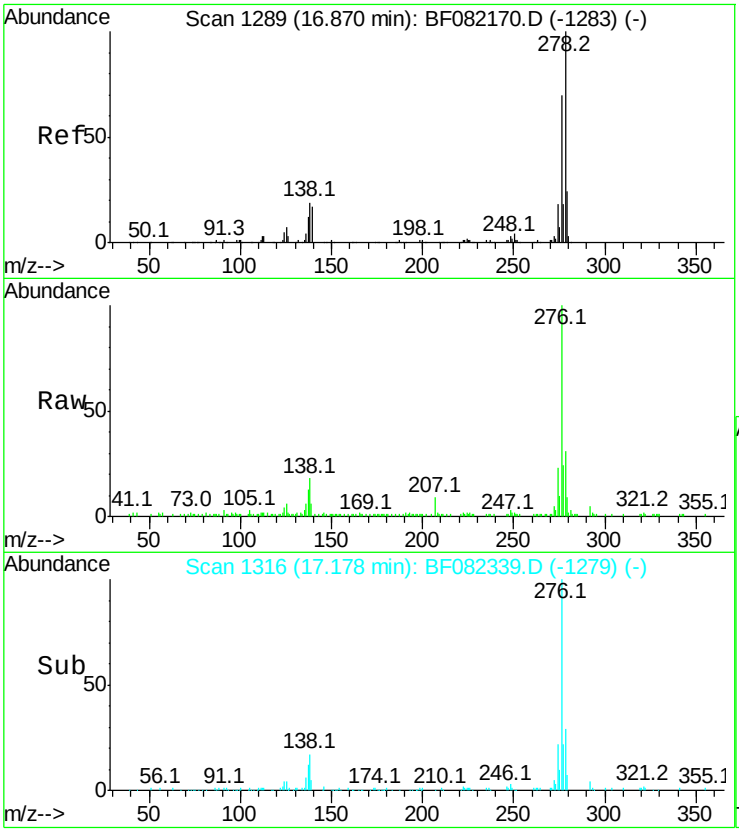


#89
Benzo(a)pyrene
Concen: 31.71 ng m
RT: 15.62 min Scan# 1180
Delta R.T. 0.09 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:252 Resp: 331717

Ion	Ratio	Lower	Upper
252	100		
253	23.9	18.2	27.2
125	11.4	8.9	13.3





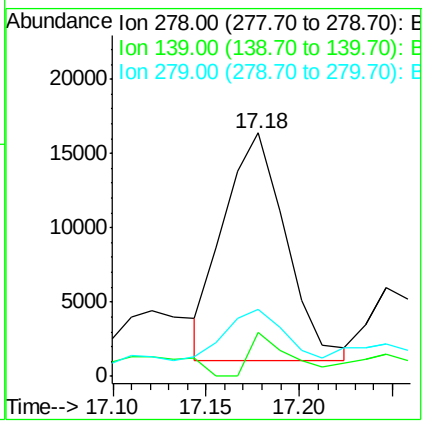
#90
Dibenzo(a,h)anthracene
Concen: 4.13 ng m
RT: 17.18 min Scan# 1316
Delta R.T. 0.13 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

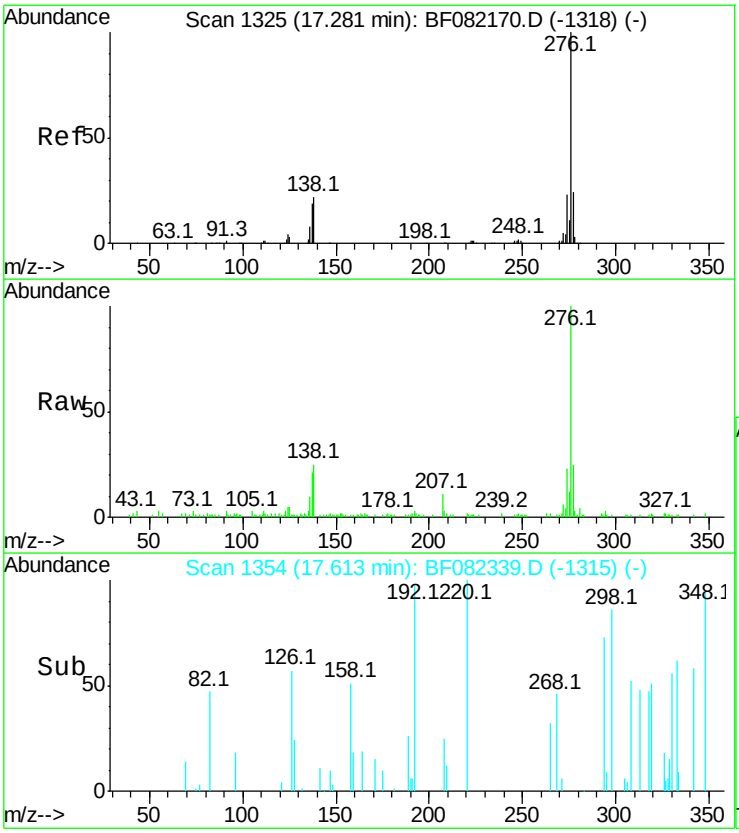
Tgt Ion:278 Resp: 35362

Ion	Ratio	Lower	Upper
278	100		
139	17.9	13.3	19.9
279	27.5	18.9	28.3

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:30 PM

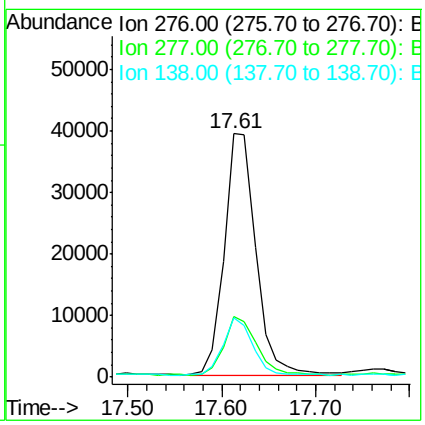




#91
Benzo(g,h,i)perylene
Concen: 11.30 ng m
RT: 17.61 min Scan# 1354
Delta R.T. 0.15 min
Lab File: BF082339.D
Acq: 16 Oct 2015 21:39

Tgt Ion:276 Resp: 94126

Ion	Ratio	Lower	Upper
276	100		
277	25.1	18.8	28.2
138	24.5	17.4	26.2



LSC Area Percent Report

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.914	416	418	421	rBV	203080	284796	1.11%	0.130%
2	8.206	529	531	535	rBV2	517325	786041	3.07%	0.359%
3	8.915	591	593	595	rBV	753078	621937	2.43%	0.284%
4	9.017	599	602	604	rVB	702665	662399	2.59%	0.302%
5	9.372	631	633	636	rVV2	259972	420675	1.64%	0.192%
6	9.543	645	648	650	rBV	493034	709074	2.77%	0.324%
7	9.612	650	654	655	rBV	710626	777295	3.04%	0.355%
8	9.635	655	656	658	rVV2	292341	377660	1.47%	0.172%
9	9.726	658	664	667	rVV3	267611	531853	2.08%	0.243%
10	9.817	669	672	674	rVB	430655	402723	1.57%	0.184%
11	9.955	680	684	686	rBV2	591591	1006045	3.93%	0.459%
12	10.000	686	688	689	rVV	3110295	3731298	14.57%	1.703%
13	10.023	689	690	692	rVV	333441	458864	1.79%	0.209%
14	10.115	695	698	700	rVV2	310218	528381	2.06%	0.241%
15	10.172	700	703	704	rVV	3077334	3704657	14.47%	1.691%
16	10.195	704	705	710	rVB	374462	343832	1.34%	0.157%
17	10.275	710	712	713	rBV	245147	326384	1.27%	0.149%
18	10.366	717	720	723	rVB2	190590	391363	1.53%	0.179%
19	10.458	725	728	730	rVV2	332520	571560	2.23%	0.261%
20	10.515	730	733	735	rVV	4466547	5092364	19.89%	2.324%
21	10.572	735	738	739	rVV	650841	1080571	4.22%	0.493%
22	10.595	739	740	741	rVV	853073	672470	2.63%	0.307%
23	10.663	741	746	748	rVV2	1808642	2408050	9.40%	1.099%
24	10.743	748	753	755	rVV	1876928	2714118	10.60%	1.239%
25	10.789	755	757	759	rVV2	449205	507716	1.98%	0.232%
26	10.869	761	764	767	rVV3	407891	732423	2.86%	0.334%
27	11.006	771	776	777	rVV5	229767	613791	2.40%	0.280%
28	11.052	777	780	781	rVV	1581391	2130151	8.32%	0.972%
29	11.086	781	783	784	rVV	479848	775201	3.03%	0.354%
30	11.132	784	787	789	rVV2	499964	962220	3.76%	0.439%
31	11.200	789	793	796	rVV3	910618	2479714	9.68%	1.132%
32	11.280	796	800	804	rVV2	2820908	5704629	22.28%	2.603%
33	11.349	804	806	811	rVV	2996890	3414265	13.33%	1.558%
34	11.521	813	821	823	rVV	7704562	25605654	100.00%	11.686%

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

35	11.555	823	824	826	rVV	4785575	3986592	15.57%	1.819%
36	11.635	827	831	833	rVV4	440854	1191317	4.65%	0.544%
37	11.692	833	836	839	rVV2	2918227	5776507	22.56%	2.636%
38	11.749	839	841	843	rVV2	1042756	1591323	6.21%	0.726%
39	11.795	843	845	847	rVV3	1057373	1783940	6.97%	0.814%
40	11.863	847	851	854	rVV2	733226	1828077	7.14%	0.834%
41	11.921	854	856	857	rVV	525146	752940	2.94%	0.344%
42	11.955	857	859	861	rVV	2975646	4624538	18.06%	2.111%
43	11.989	861	862	864	rVV	4122476	3431657	13.40%	1.566%
44	12.035	864	866	867	rVV	1130126	1398539	5.46%	0.638%
45	12.081	867	870	873	rVV2	3879276	7296156	28.49%	3.330%
46	12.138	873	875	876	rVV	504921	861952	3.37%	0.393%
47	12.161	876	877	878	rVV	669553	706256	2.76%	0.322%
48	12.183	878	879	881	rVV2	514064	953716	3.72%	0.435%
49	12.252	883	885	886	rVV	2659099	3102289	12.12%	1.416%
50	12.298	886	889	890	rVV	2789682	3866319	15.10%	1.765%
51	12.355	892	894	895	rVV	259163	464237	1.81%	0.212%
52	12.389	895	897	899	rVV3	785096	1327103	5.18%	0.606%
53	12.423	899	900	901	rVV	932821	897176	3.50%	0.409%
54	12.503	905	907	908	rVV	1027925	1470446	5.74%	0.671%
55	12.538	908	910	911	rVV	743223	1243303	4.86%	0.567%
56	12.572	911	913	914	rVV2	1084735	1578879	6.17%	0.721%
57	12.629	914	918	920	rVV	1485367	3001543	11.72%	1.370%
58	12.709	920	925	927	rVV	7041503	18835044	73.56%	8.596%
59	12.766	929	930	933	rVV3	281219	655825	2.56%	0.299%
60	12.823	933	935	938	rVV2	1546172	2533571	9.89%	1.156%
61	12.938	938	945	949	rVV2	5956073	17564024	68.59%	8.016%
62	13.018	949	952	954	rVV	1164716	2002487	7.82%	0.914%
63	13.063	954	956	958	rVV	786534	1072302	4.19%	0.489%
64	13.121	958	961	963	rVV2	1195482	2377563	9.29%	1.085%
65	13.235	967	971	972	rVV	1916164	3553678	13.88%	1.622%
66	13.304	975	977	978	rVV	1046360	1515397	5.92%	0.692%
67	13.338	978	980	983	rVV3	1410656	2671453	10.43%	1.219%
68	13.395	983	985	986	rVV	508609	786922	3.07%	0.359%
69	13.429	986	988	989	rVV	675034	866168	3.38%	0.395%
70	13.464	989	991	995	rVV2	746604	1535842	6.00%	0.701%
71	13.544	995	998	1000	rVV4	265012	730538	2.85%	0.333%

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

72	13.658	1002	1008	1012	rVV4	434654	1973287	7.71%	0.901%
73	13.726	1012	1014	1015	rVV	246191	418060	1.63%	0.191%
74	13.761	1015	1017	1019	rVV	1771889	2164335	8.45%	0.988%
75	13.818	1019	1022	1024	rVV3	251759	644658	2.52%	0.294%
76	13.875	1024	1027	1028	rVV	1528953	2189011	8.55%	0.999%
77	13.932	1030	1032	1035	rVV3	795479	2294731	8.96%	1.047%
78	13.989	1035	1037	1039	rVV	1413866	2257429	8.82%	1.030%
79	14.046	1040	1042	1046	rVV	348552	912291	3.56%	0.416%
80	14.138	1046	1050	1052	rVV2	2868423	6068247	23.70%	2.769%
81	14.184	1052	1054	1056	rVV	2672361	3948878	15.42%	1.802%
82	14.252	1059	1060	1063	rVV	568746	920148	3.59%	0.420%
83	14.298	1063	1064	1069	rVV5	315758	1068784	4.17%	0.488%
84	14.389	1069	1072	1073	rVV2	449404	878391	3.43%	0.401%
85	14.412	1073	1074	1078	rVV2	302937	709956	2.77%	0.324%
86	14.481	1078	1080	1081	rVV	194607	301155	1.18%	0.137%
87	14.515	1081	1083	1084	rVV	275156	364665	1.42%	0.166%
88	14.561	1084	1087	1088	rVV	494515	817691	3.19%	0.373%
89	14.607	1088	1091	1093	rVV3	501235	981950	3.83%	0.448%
90	14.652	1093	1095	1097	rVV2	219984	445740	1.74%	0.203%
91	14.698	1097	1099	1103	rVV2	298846	658959	2.57%	0.301%
92	14.778	1103	1106	1109	rVB3	149655	317042	1.24%	0.145%
93	14.904	1114	1117	1119	rBV	325941	455837	1.78%	0.208%
94	15.087	1130	1133	1137	rVB3	203030	491174	1.92%	0.224%
95	15.258	1145	1148	1153	rBV	1403066	3319166	12.96%	1.515%
96	15.567	1172	1175	1178	rVB	654501	982165	3.84%	0.448%
97	15.624	1178	1180	1183	rBV2	633063	917691	3.58%	0.419%
98	15.692	1183	1186	1187	rBV2	343074	564119	2.20%	0.257%
99	17.167	1313	1315	1318	rVV2	193573	394170	1.54%	0.180%
100	18.756	1445	1454	1467	rBV6	39636	289740	1.13%	0.132%

Sum of corrected areas: 219115263

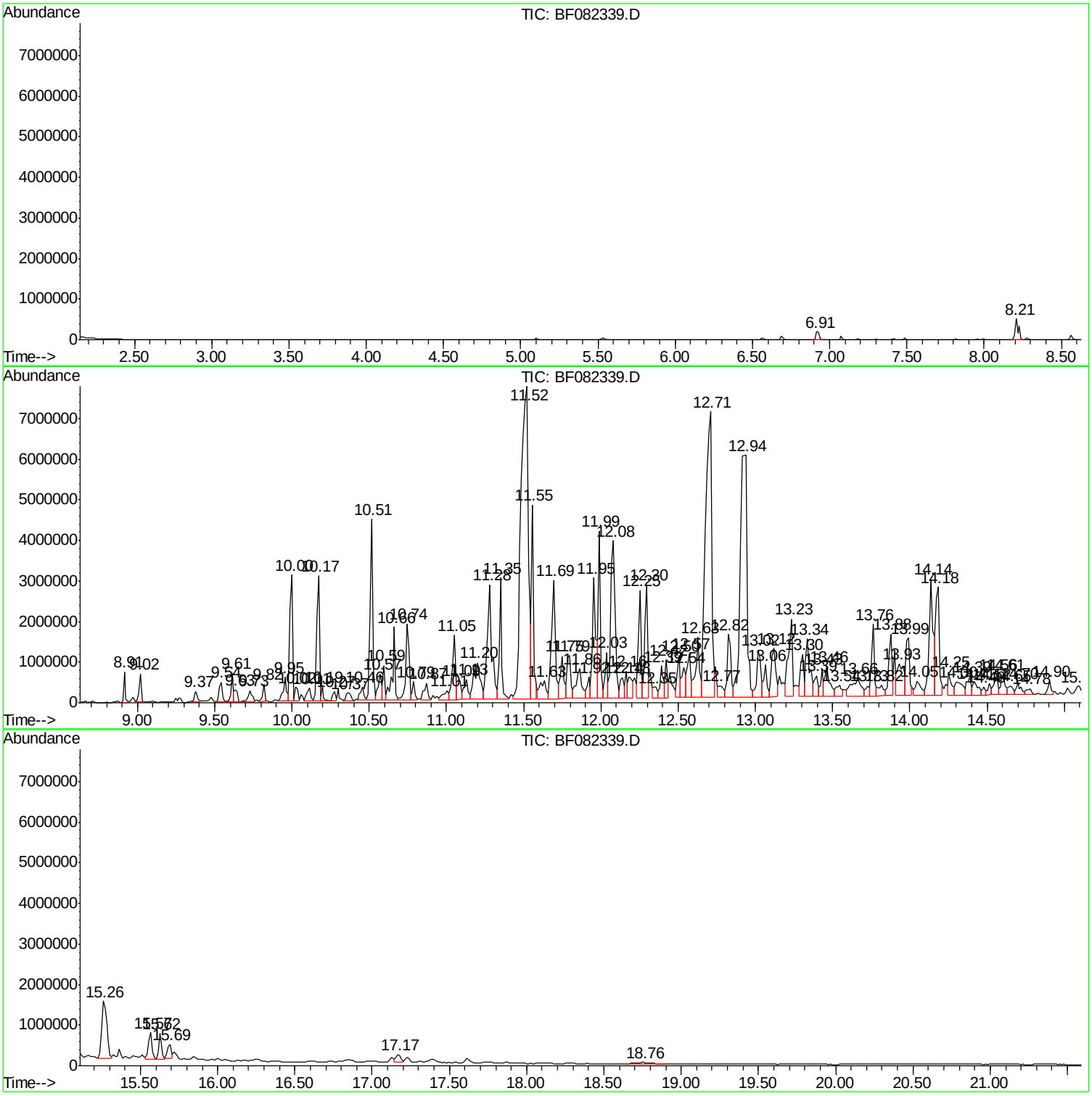
Sample Results: **BF082339.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



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Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
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ClientSampleId :
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Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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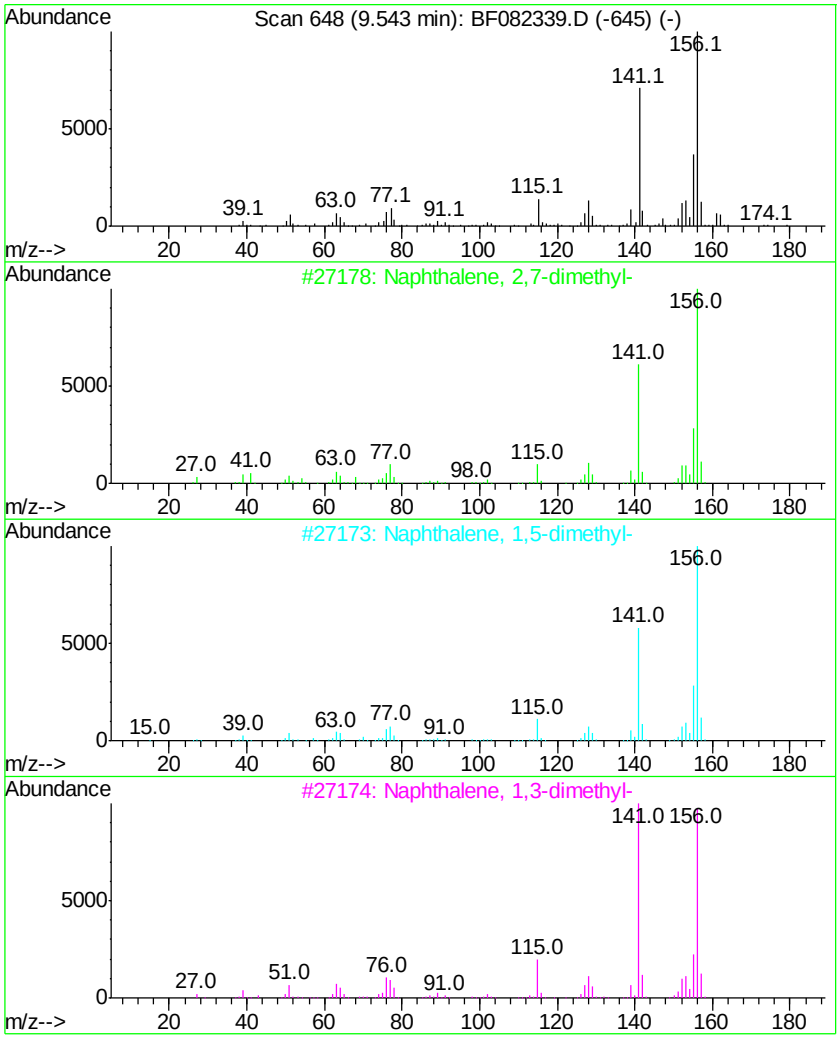
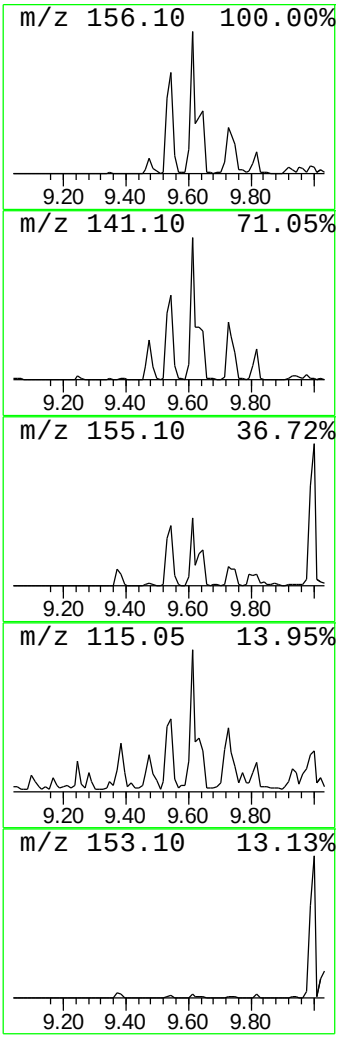
Peak Number 2 Naphthalene, 2,7-dimethyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.54	14.10 ng	709074	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2,7-dimethyl-	156	C12H12	000582-16-1	97
2	Naphthalene, 1,5-dimethyl-	156	C12H12	000571-61-9	97
3	Naphthalene, 1,3-dimethyl-	156	C12H12	000575-41-7	96
4	Naphthalene, 2,6-dimethyl-	156	C12H12	000581-42-0	96
5	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	96





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Instrument :
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ClientSampleId :
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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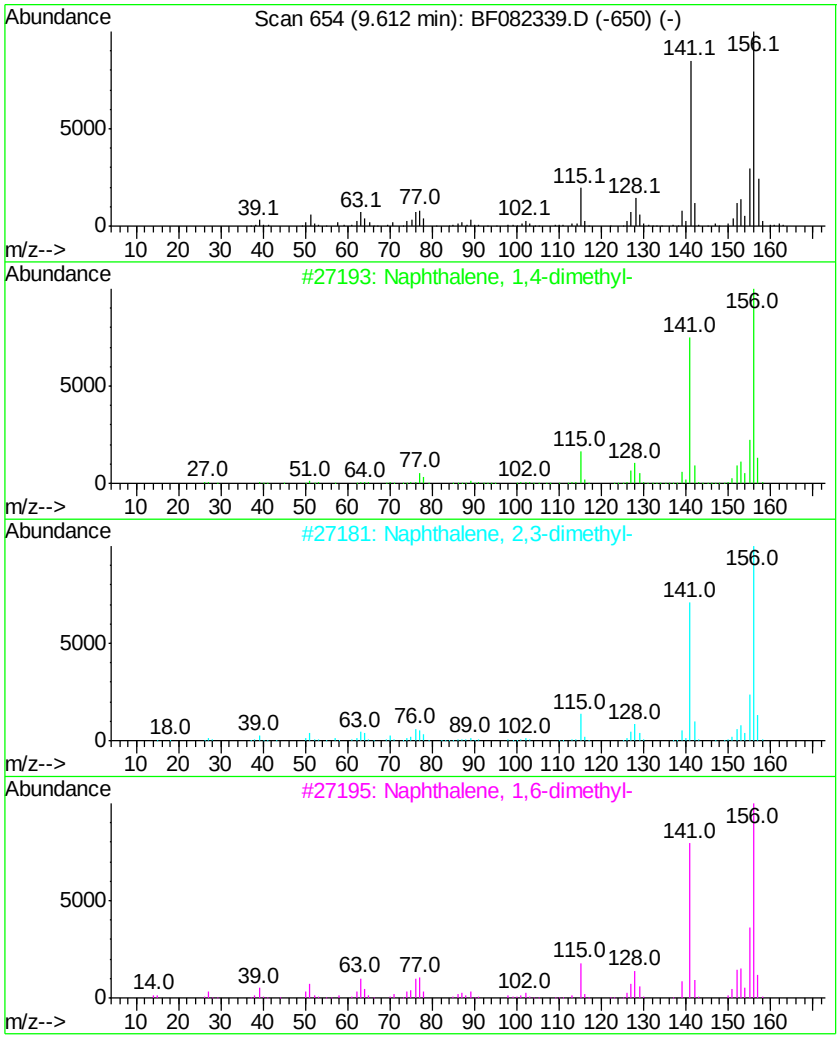
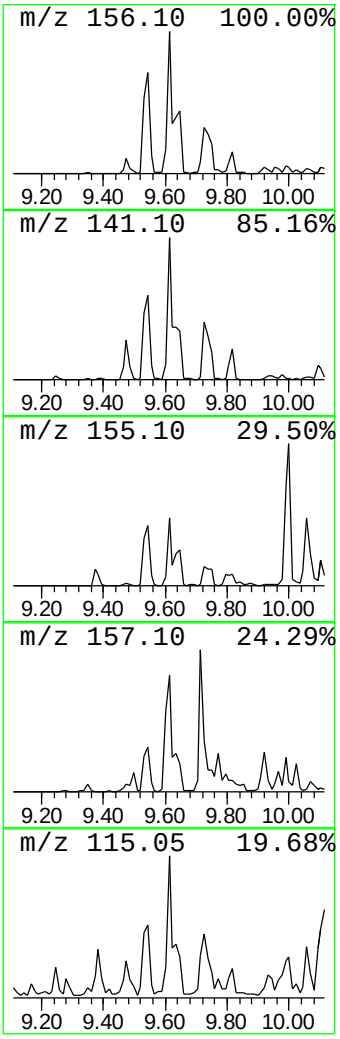
Peak Number 3 Naphthalene, 1,4-dimethyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.61	15.45 ng	777295	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,4-dimethyl-	156	C12H12	000571-58-4	96
2	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	96
3	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	96
4	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	95
5	Naphthalene, 1,3-dimethyl-	156	C12H12	000575-41-7	95





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Sample : G4046-04 10X
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Instrument :
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ClientSampleId :
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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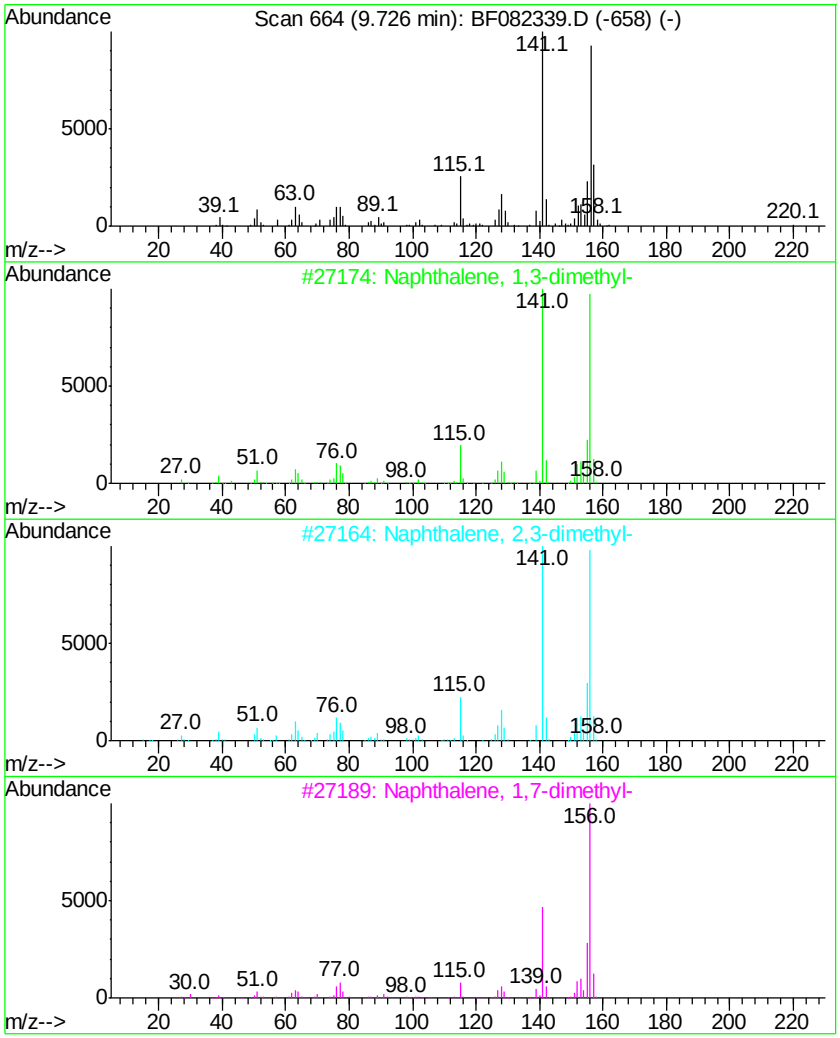
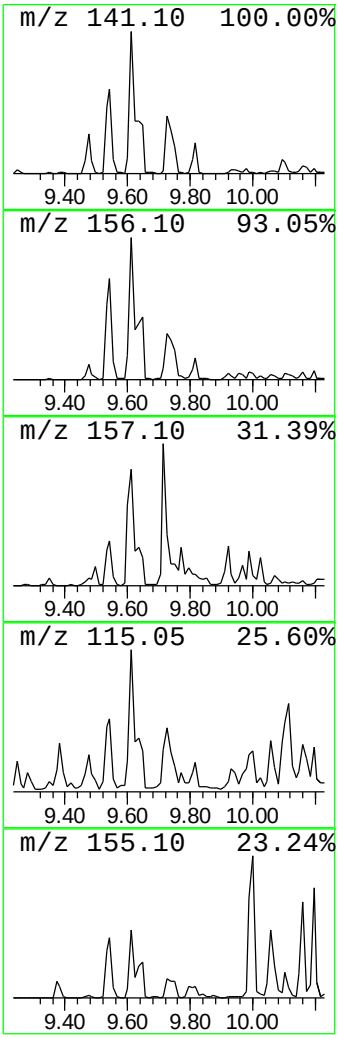
Peak Number 4 Naphthalene, 1,3-dimethyl- Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.73	10.57 ng	531853	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,3-dimethyl-	156	C12H12	000575-41-7	97
2	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	97
3	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	96
4	Naphthalene, 1,2-dimethyl-	156	C12H12	000573-98-8	96
5	Naphthalene, 1,8-dimethyl-	156	C12H12	000569-41-5	95





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Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
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ClientSampleId :
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Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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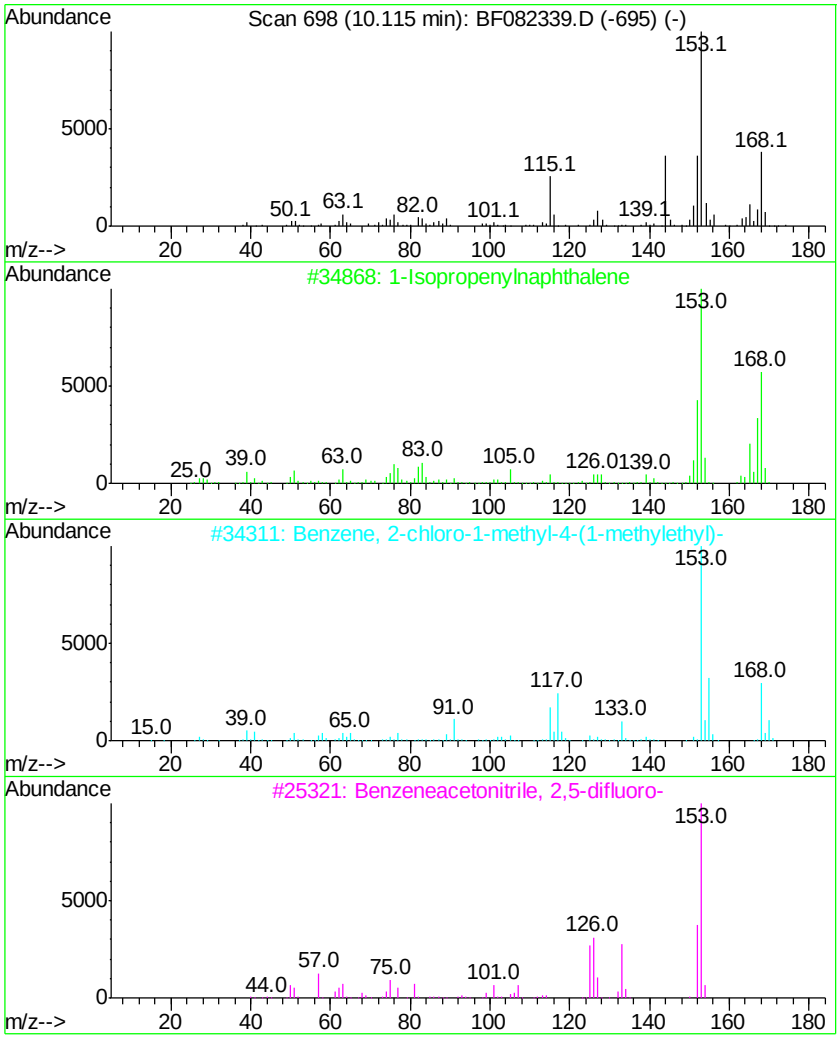
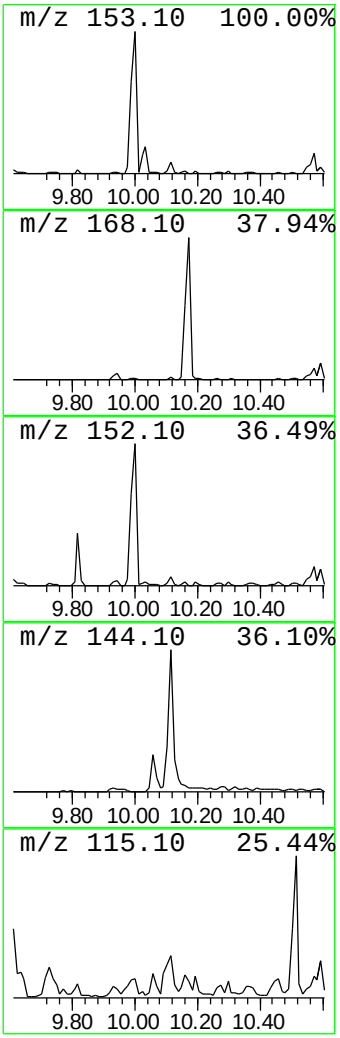
Peak Number 5 1-Isopropenylnaphthalene Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.11	10.50 ng	528381	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Isopropenylnaphthalene	168	C13H12	001855-47-6	62
2	Benzene, 2-chloro-1-methyl-4-(1-...	168	C10H13Cl	004395-79-3	52
3	Benzeneacetonitrile, 2,5-difluoro-	153	C8H5F2N	069584-87-8	46
4	Ethanone, 1-(2,4,6-trihydroxyphe...	168	C8H8O4	000480-66-0	46
5	Ethanone, 1-(2,3,4-trihydroxyphe...	168	C8H8O4	000528-21-2	43





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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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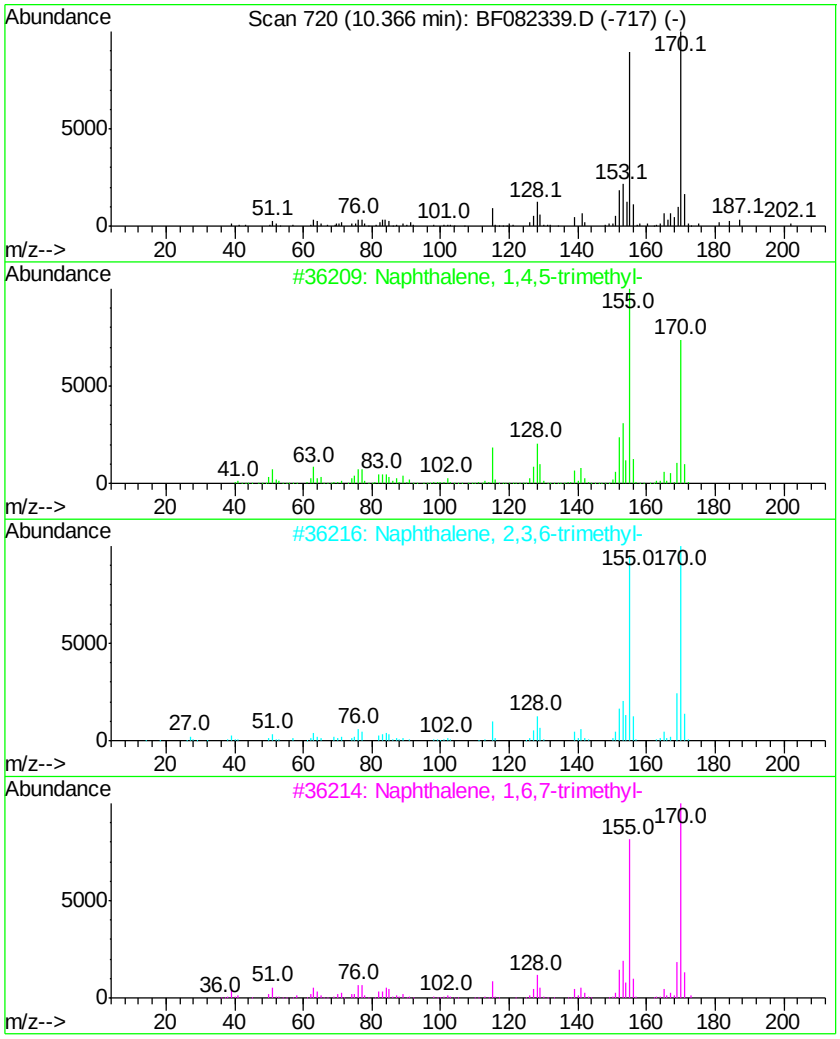
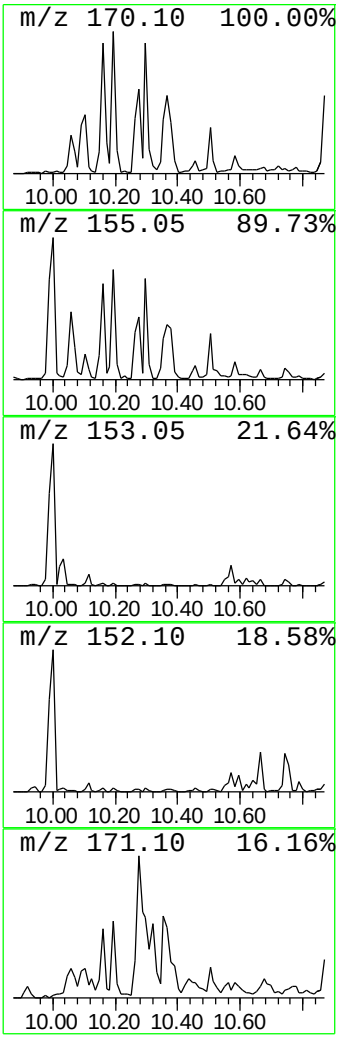
Peak Number 6 Naphthalene, 1,4,5-trimethyl- Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.37	7.78 ng	391363	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,4,5-trimethyl-	170	C13H14	002131-41-1	95
2	Naphthalene, 2,3,6-trimethyl-	170	C13H14	000829-26-5	93
3	Naphthalene, 1,6,7-trimethyl-	170	C13H14	002245-38-7	93
4	Naphthalene, 1,4,6-trimethyl-	170	C13H14	002131-42-2	93
5	Azulene, 4,6,8-trimethyl-	170	C13H14	000941-81-1	91





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ClientSampleId :
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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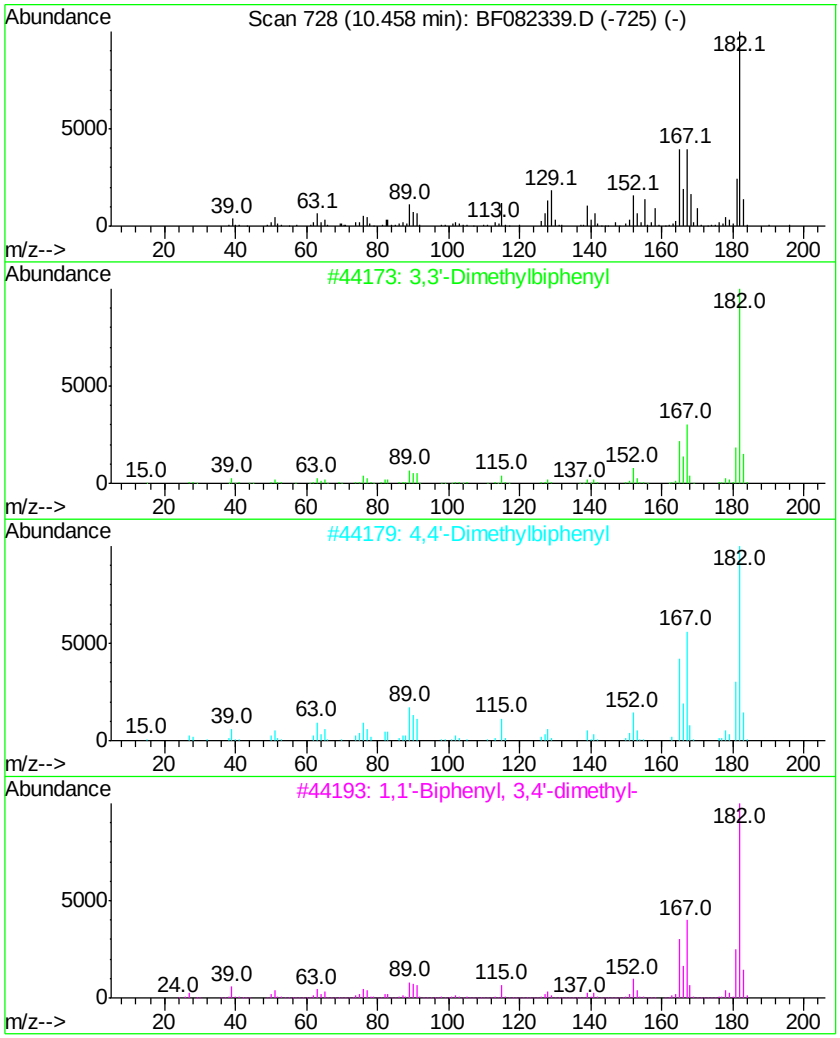
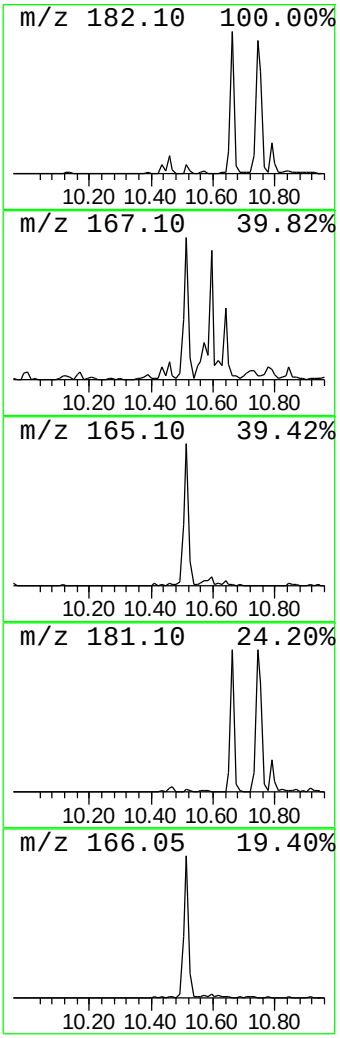
Peak Number 7 3,3'-Dimethylbiphenyl Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.46	11.36 ng	571560	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3,3'-Dimethylbiphenyl	182	C14H14	000612-75-9	96
2	4,4'-Dimethylbiphenyl	182	C14H14	000613-33-2	93
3	1,1'-Biphenyl, 3,4'-dimethyl-	182	C14H14	007383-90-6	91
4	1,4-Methanonaphthalene,1,4-dihyd...	182	C14H14	007350-72-3	76
5	3-Ethyl-1,2-dihydro-6-methyl-5-n...	182	C8H10N2O3	1000241-09-2	59





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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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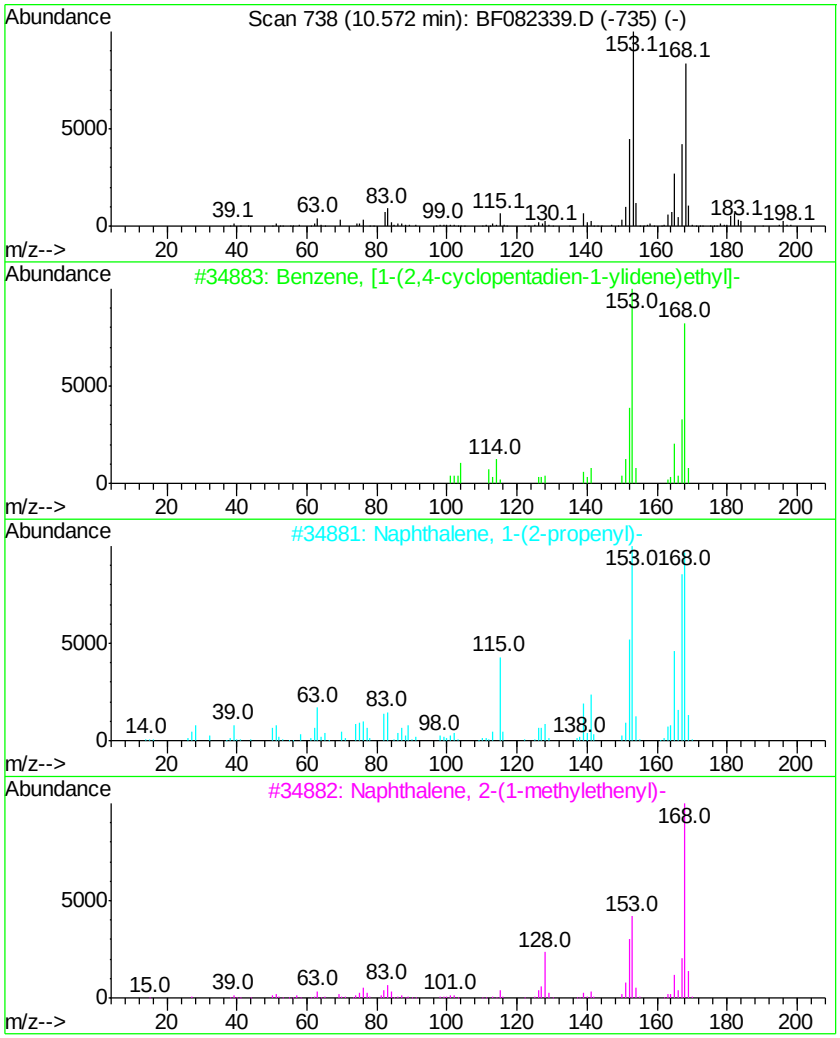
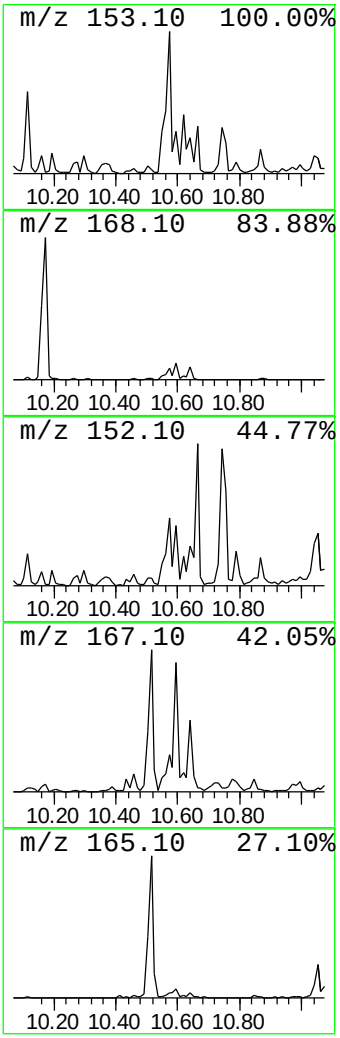
Peak Number 8 Benzene, [1-(2,4-cyclopenta... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.57	21.48 ng	1080570	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, [1-(2,4-cyclopentadien-...	168	C13H12	002320-32-3	90
2	Naphthalene, 1-(2-propenyl)-	168	C13H12	002489-86-3	64
3	Naphthalene, 2-(1-methylethenyl)-	168	C13H12	003710-23-4	53
4	1,1'-Biphenyl, 3-methyl-	168	C13H12	000643-93-6	50
5	Ethanone, 1-(2,3,4-trihydroxyphe...	168	C8H8O4	000528-21-2	47





Library Search Compound Report

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ClientSampleId :
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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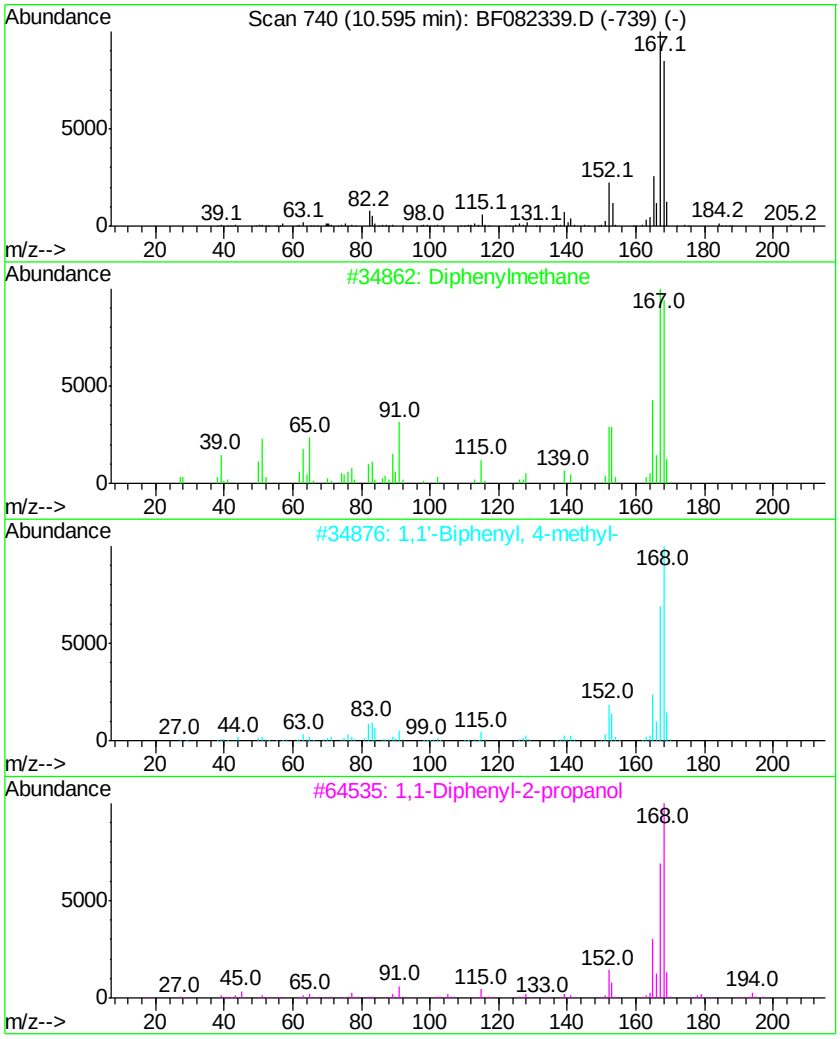
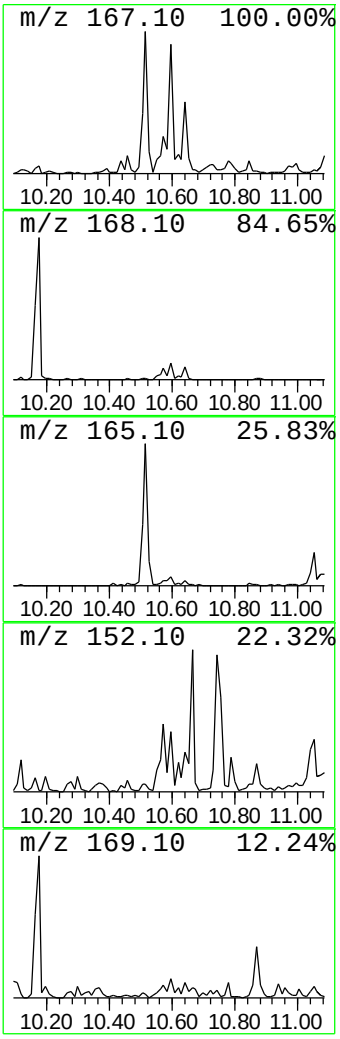
Peak Number 9 Diphenylmethane Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.59	13.37 ng	672470	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Diphenylmethane	168	C13H12	000101-81-5	87
2	1,1'-Biphenyl, 4-methyl-	168	C13H12	000644-08-6	68
3	1,1-Diphenyl-2-propanol	212	C15H16O	029338-49-6	64
4	Fluorene, 1,4-dihydro-	168	C13H12	041593-21-9	59
5	1,1'-Biphenyl, 2-methyl-	168	C13H12	000643-58-3	58





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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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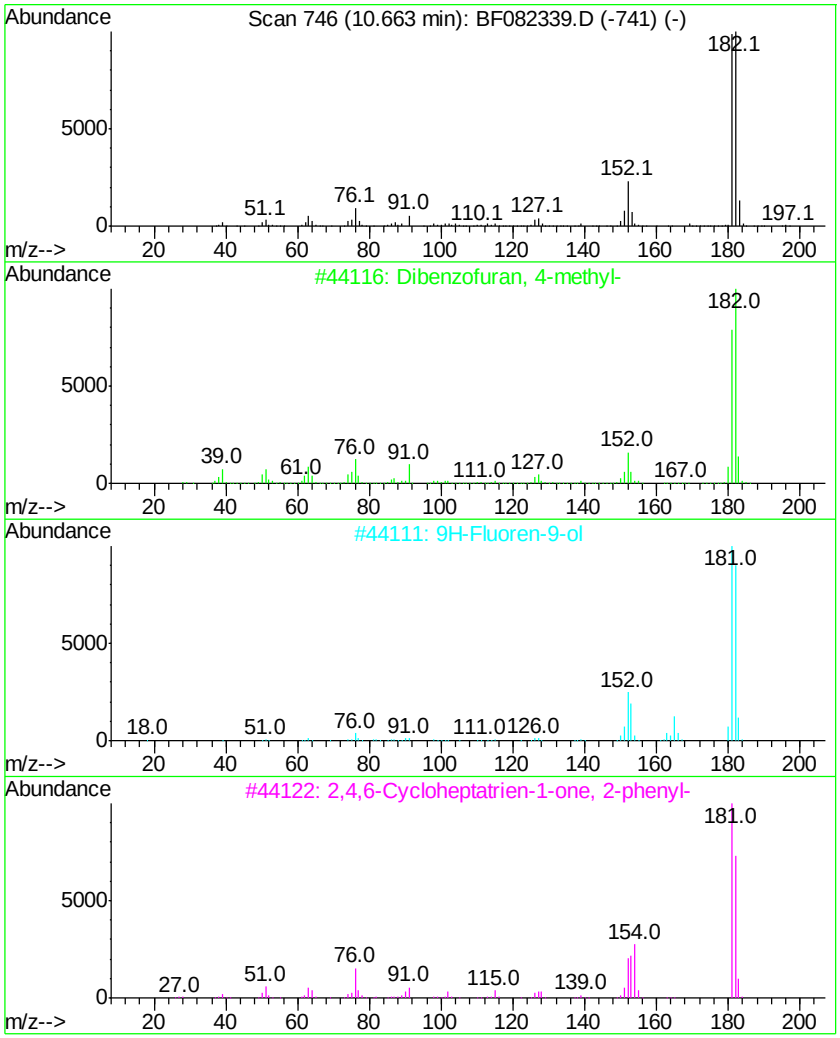
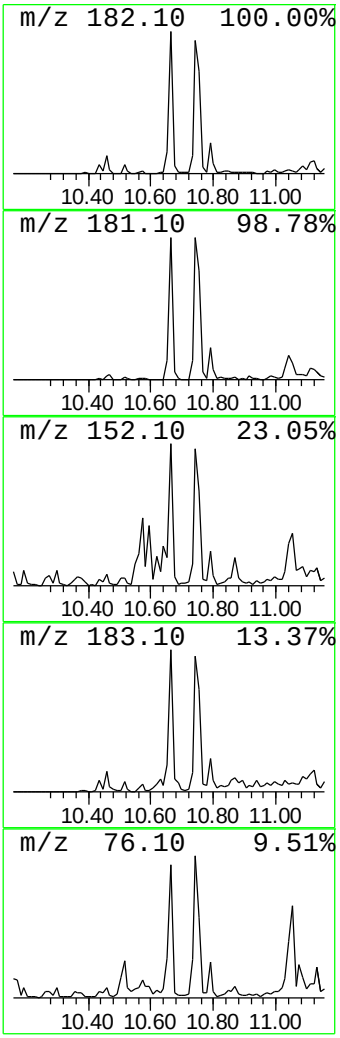
Peak Number 10 Dibenzofuran, 4-methyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.66	47.87 ng	2408050	Acenaphthene-d10	9.95

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dibenzofuran, 4-methyl-	182	C13H10O	007320-53-8	87
2	9H-Fluoren-9-ol	182	C13H10O	001689-64-1	78
3	2,4,6-Cycloheptatrien-1-one, 2-p...	182	C13H10O	014562-09-5	78
4	Pyridine, 4,4'-(1,2-ethenediyl)bis-	182	C12H10N2	001135-32-6	72
5	3-(2-Naphthyl)acrylaldehyde	182	C13H10O	020884-05-3	56





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Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
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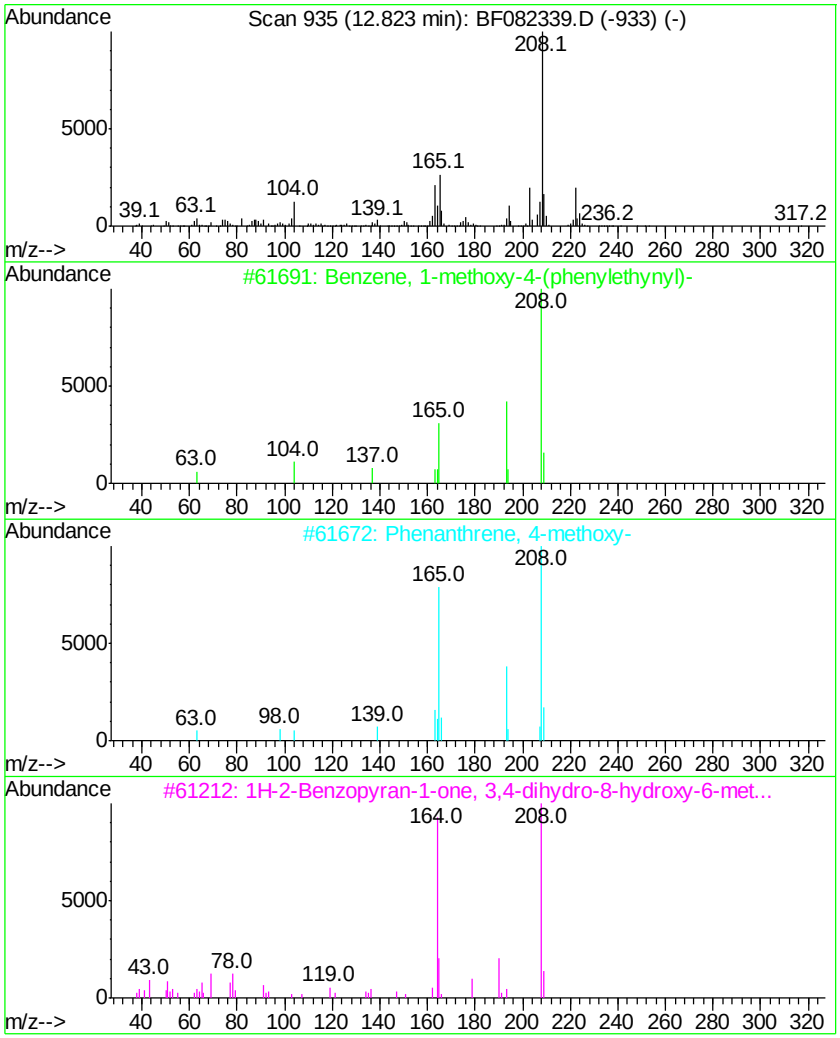
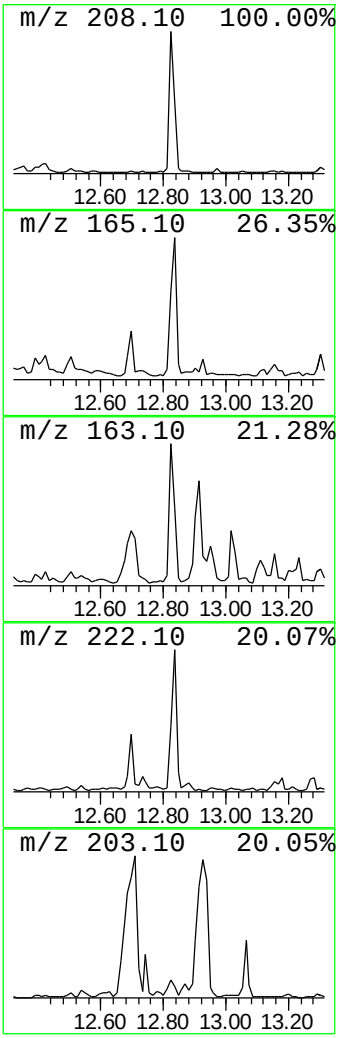
Peak Number 11 unknown12.82 Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.82	8.35 ng	2533570	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-methoxy-4-(phenylethy...	208	C15H12O	007380-78-1	49
2	Phenanthrene, 4-methoxy-	208	C15H12O	015638-06-9	47
3	1H-2-Benzopyran-1-one, 3,4-dihyd...	208	C11H12O4	006803-02-7	43
4	Benzene, 1,1'-(2-methyl-1-propen...	208	C16H16	000781-33-9	40
5	Thiourea, N-(1,1-dimethylethyl)-...	208	C11H16N2S	014327-04-9	38





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TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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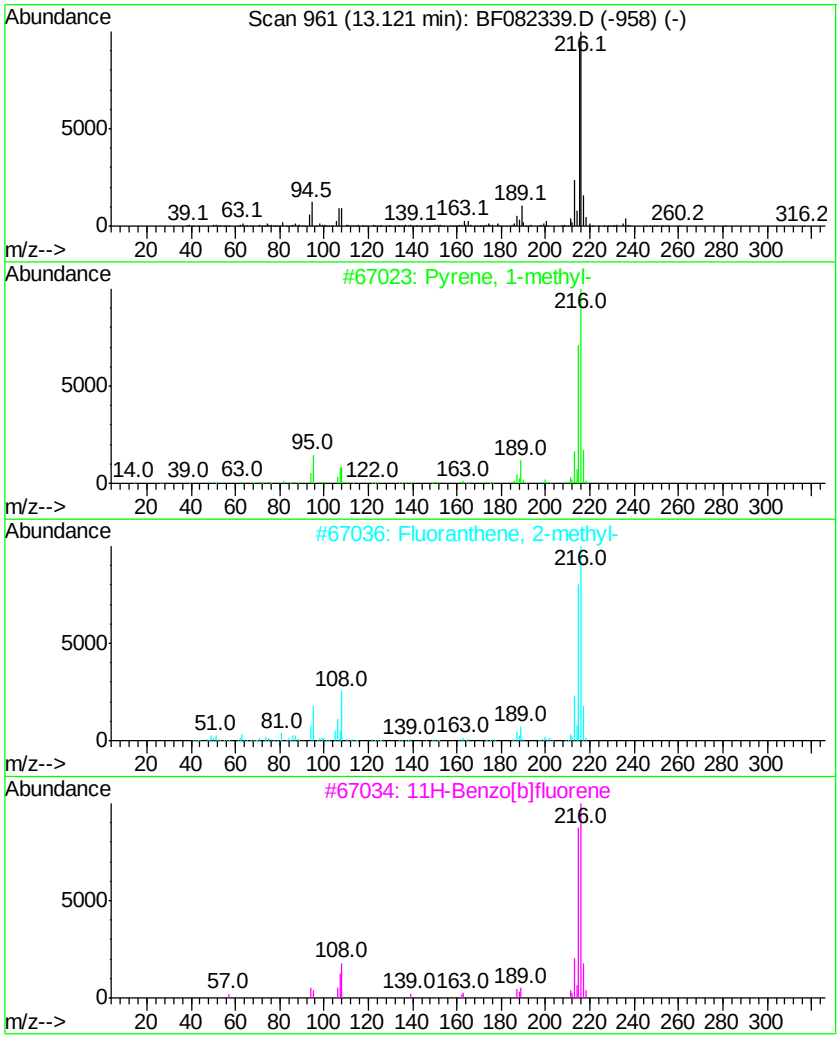
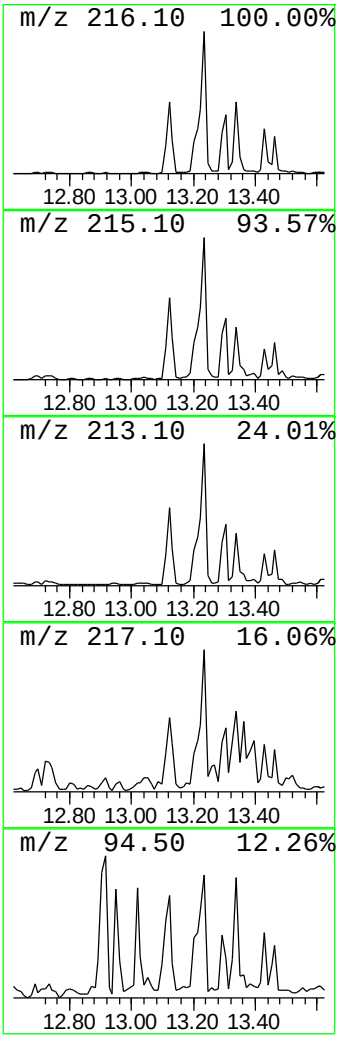
Peak Number 12 Pyrene, 1-methyl- Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.12	7.84 ng	2377560	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pyrene, 1-methyl-	216	C17H12	002381-21-7	95
2	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	95
3	11H-Benzo[b]fluorene	216	C17H12	000243-17-4	91
4	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	87
5	Pyrene, 2-methyl-	216	C17H12	003442-78-2	86





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Quant Title  : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library    : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P
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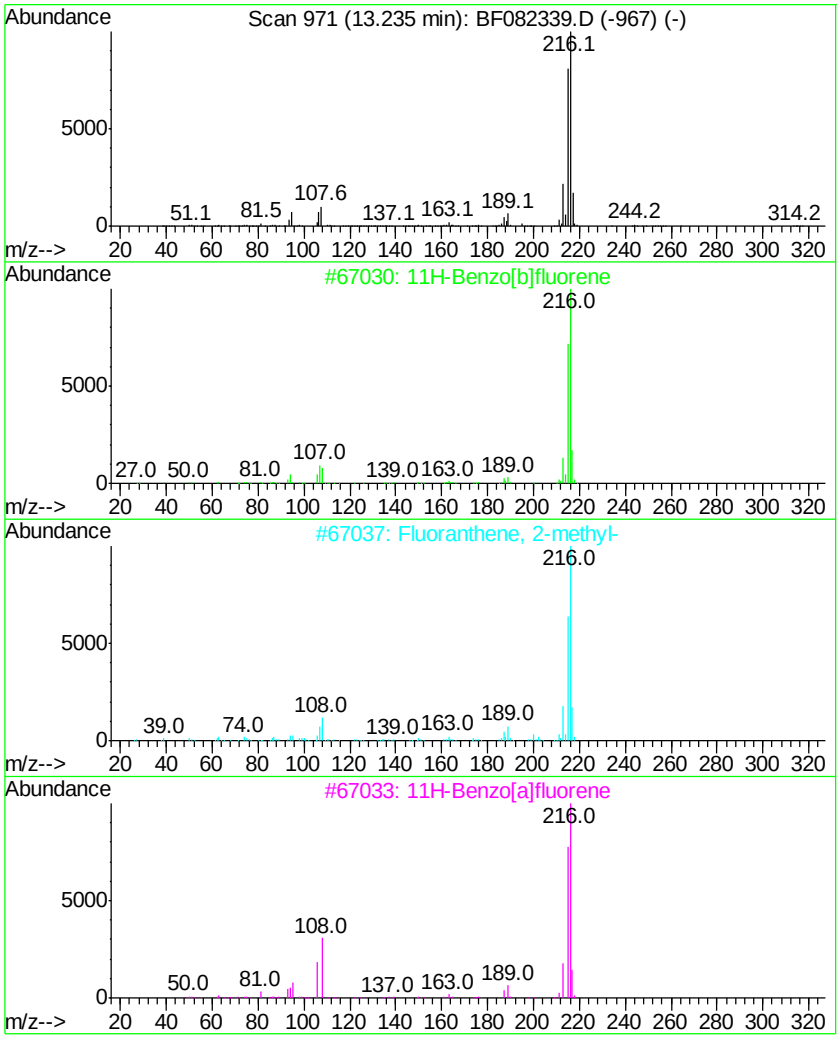
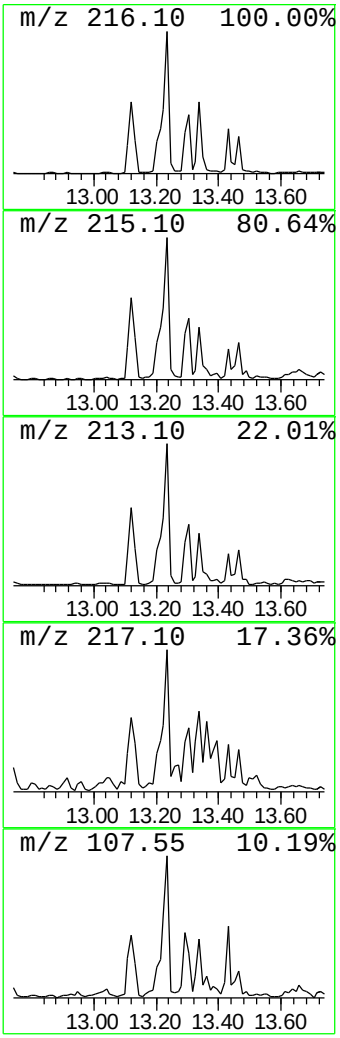
Peak Number 13 11H-Benzo[b]fluorene Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.24	11.71 ng	3553680	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Benzo[b]fluorene	216	C17H12	000243-17-4	93
2	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	91
3	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	87
4	Pyrene, 1-methyl-	216	C17H12	002381-21-7	83
5	Benzoic acid, 3-(3,5-dimethyl-1-...	216	C12H12N2O2	312531-88-7	64





Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

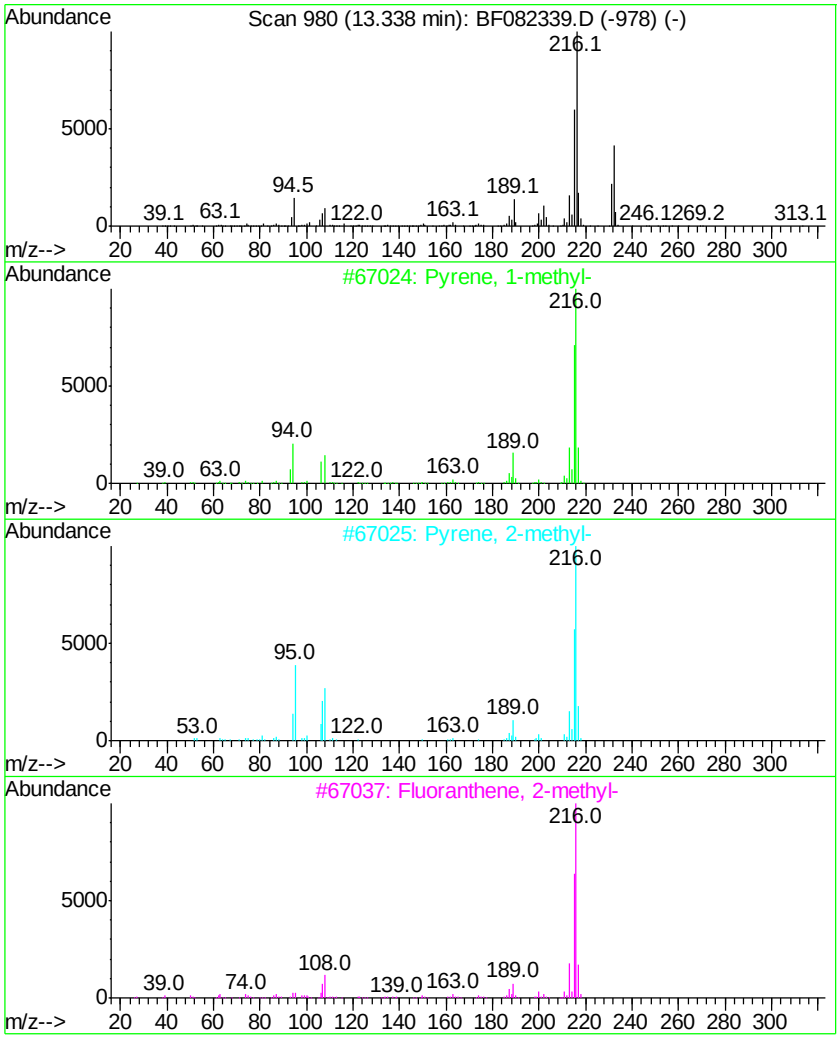
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

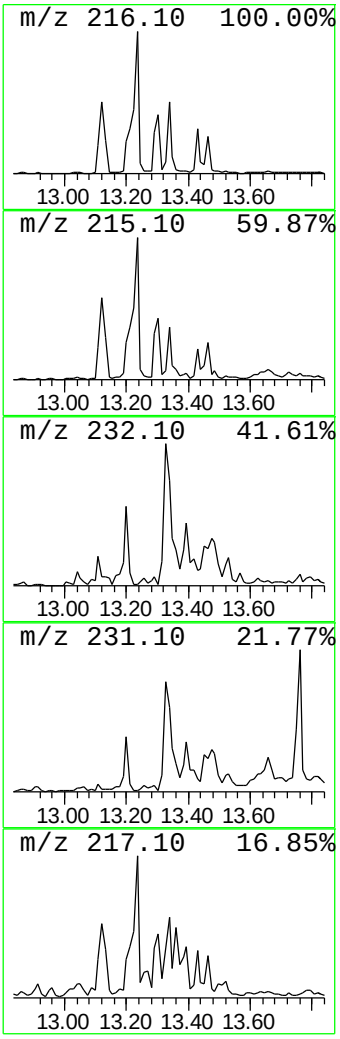
****

Peak Number 14 Pyrene, 2-methyl- Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.34	8.80 ng	2671450	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pyrene, 1-methyl-	216	C17H12	002381-21-7	95
2	Pyrene, 2-methyl-	216	C17H12	003442-78-2	91
3	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	90
4	Pyrene, 4-methyl-	216	C17H12	003353-12-6	87
5	11H-Benzo[a]fluorene	216	C17H12	000238-84-6	64





Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

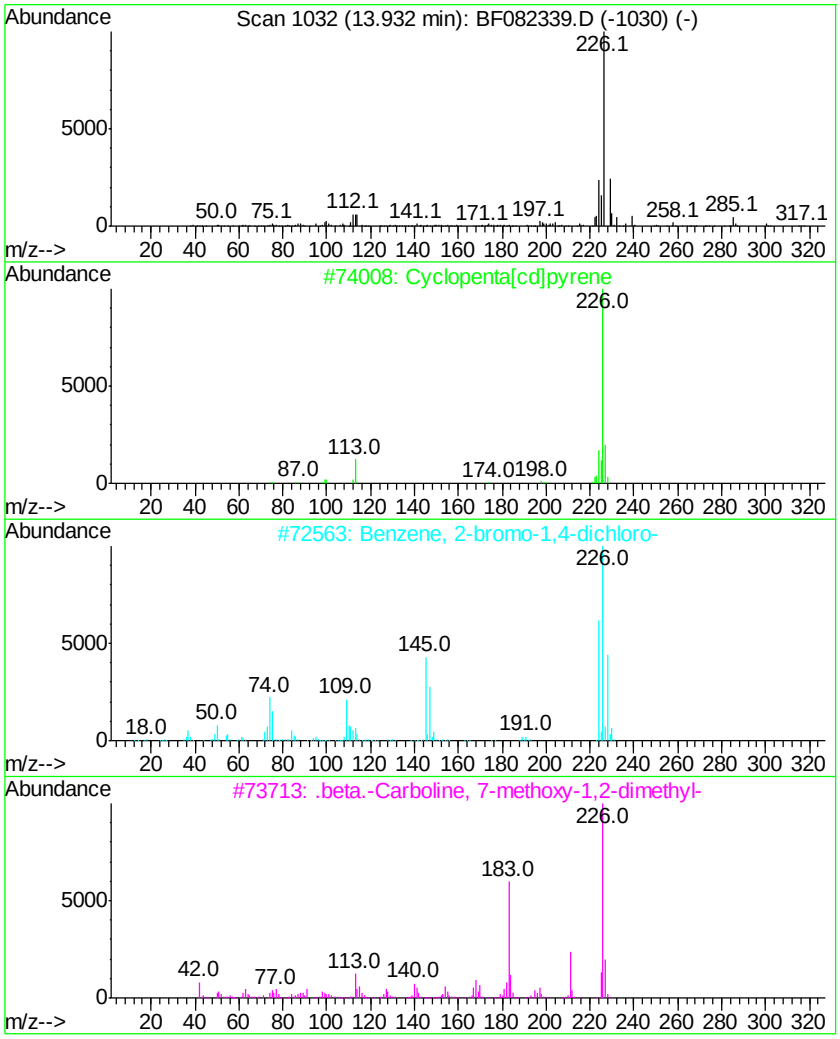
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

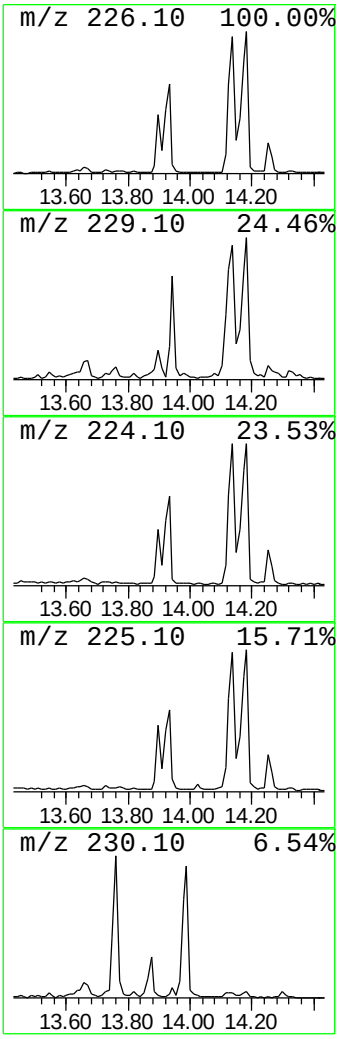
****

Peak Number 15 Cyclopenta[cd]pyrene Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.93	7.56 ng	2294730	Chrysene-d12	14.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopenta[cd]pyrene	226	C18H10	027208-37-3	53
2	Benzene, 2-bromo-1,4-dichloro-	224	C6H3BrCl2	001435-50-3	38
3	.beta.-Carboline, 7-methoxy-1,2-...	226	C14H14N2O	006519-18-2	28
4	Benzo[ghi]fluoranthene	226	C18H10	000203-12-3	22
5	1,3-Diamino-5,6-dihydro-7-methyl...	226	C13H14N4	037436-37-6	9





Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

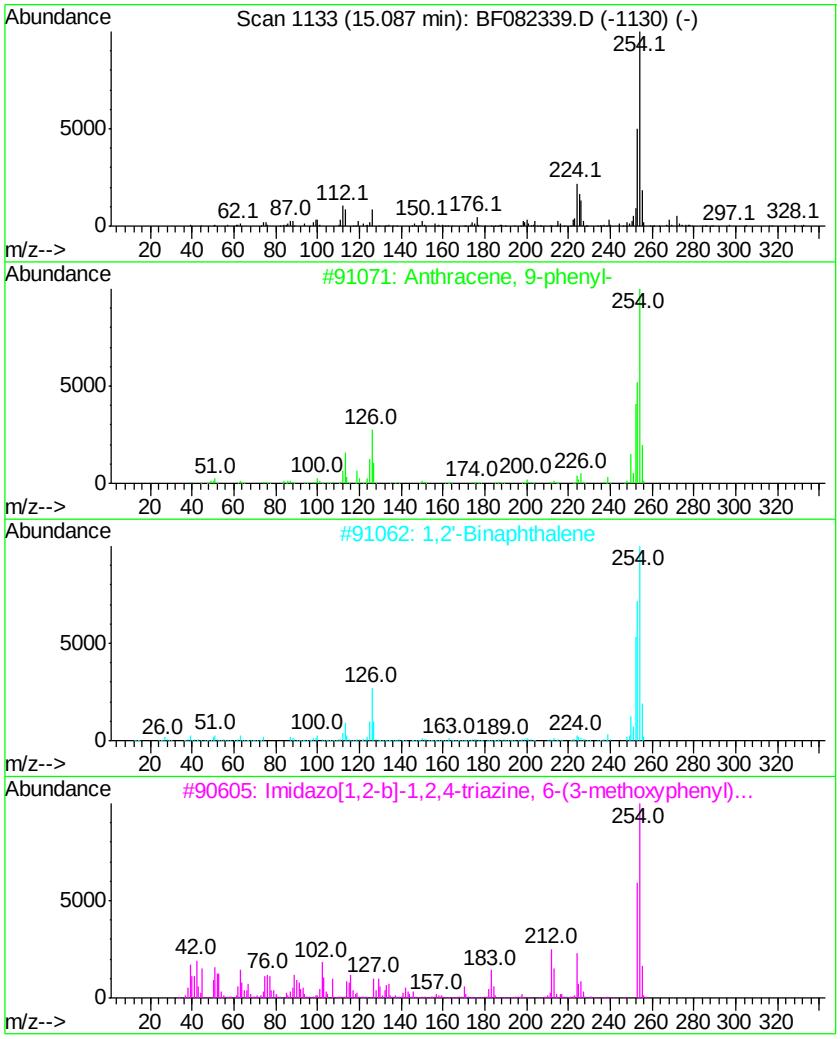
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

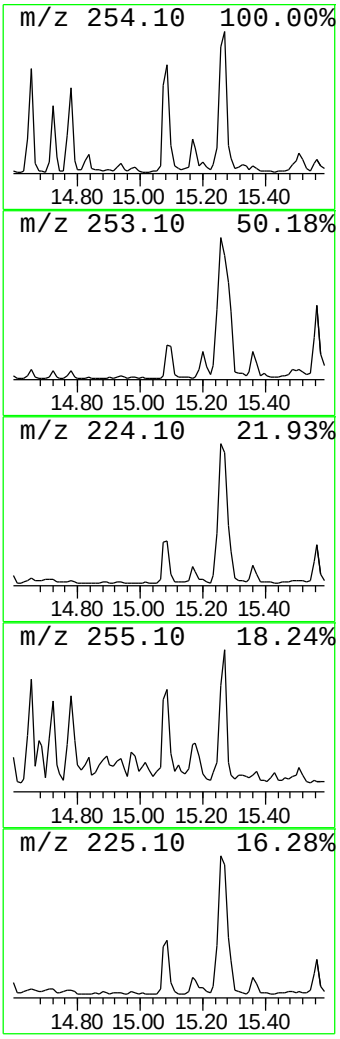
****

Peak Number 16 Anthracene, 9-phenyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.09	17.41 ng	491174	Perylene-d12	15.69

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Anthracene, 9-phenyl-	254	C20H14	000602-55-1	68
2	1,2'-Binaphthalene	254	C20H14	004325-74-0	62
3	Imidazo[1,2-b]-1,2,4-triazine, 6...	254	C14H14N4O	1000277-24-4	59
4	trans-4'-(Methylthio)chalcone	254	C16H14OS	017129-07-6	53
5	2,6-(Etheno[1,4]benzenoetheno)na...	254	C20H14	117054-70-3	53





Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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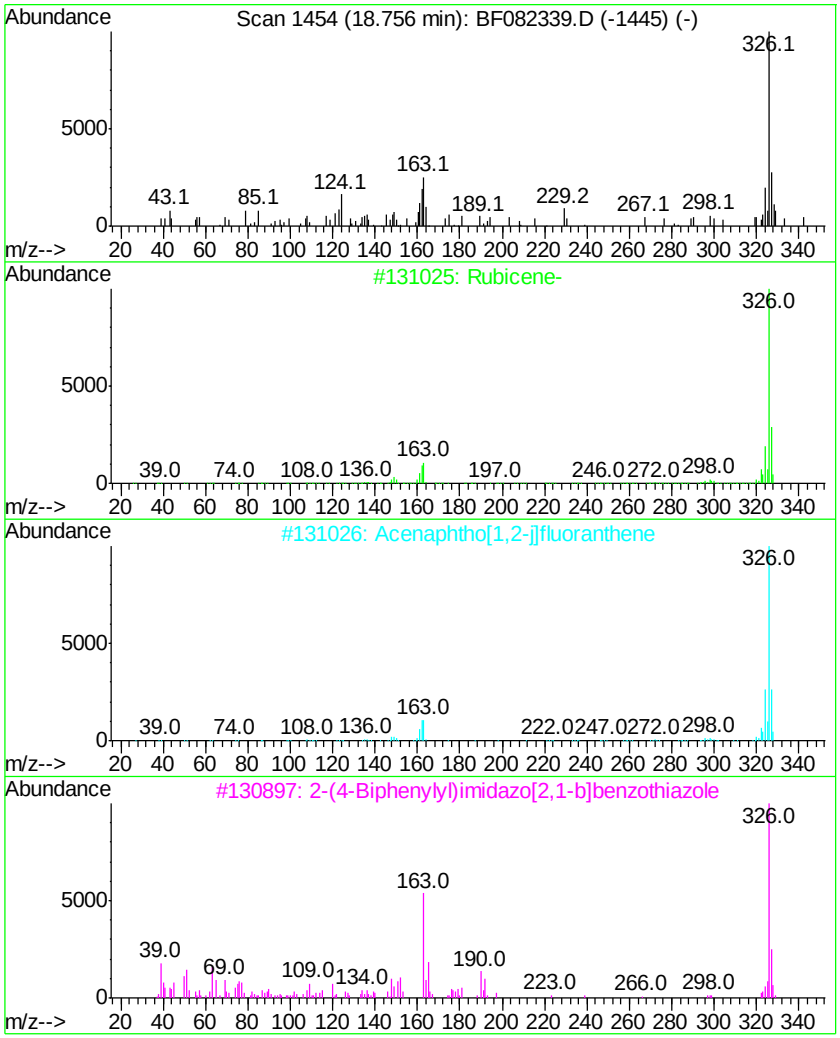
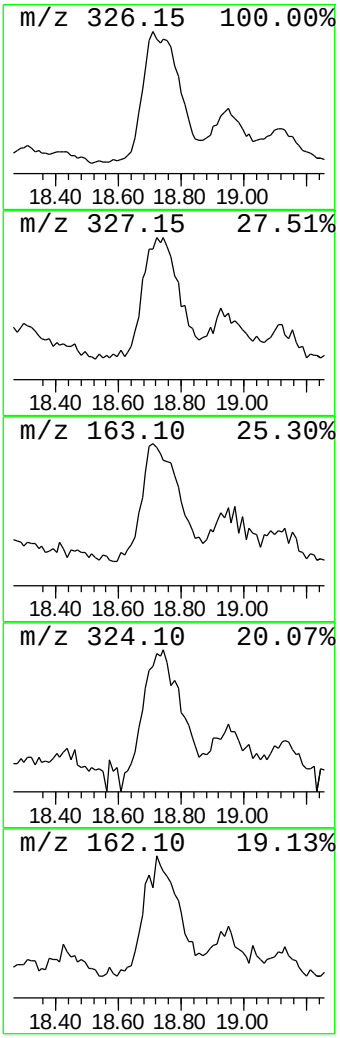
Peak Number 20 Rubicene- Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.76	10.27 ng	289740	Perylene-d12	15.69

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Rubicene-	326	C26H14	000197-61-5	89
2	Acenaphtho[1,2-j]fluoranthene	326	C26H14	000193-21-5	76
3	2-(4-Biphenylyl)imidazo[2,1-b]be...	326	C21H14N2S	038956-29-5	53
4	Benzene, 1,3-bis(4-phenyl-1,3-bu...	326	C26H14	037902-13-9	49
5	Acetic acid, [2,5-bis(trimethyls...	326	C15H26O4Si2	027798-63-6	43





Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\DATA\BF101715\
Data File : BF082339.D
Acq On : 16 Oct 2015 21:39
Operator : UM/IZ
Sample : G4046-04 10X
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Naphthalene, 2,7-...	9.54	14.1	ng	709074	3	9.95	1006050	20.0
Naphthalene, 1,4-...	9.61	15.4	ng	777295	3	9.95	1006050	20.0
Naphthalene, 1,3-...	9.73	10.6	ng	531853	3	9.95	1006050	20.0
1-Isopropenylnaph...	10.11	10.5	ng	528381	3	9.95	1006050	20.0
Naphthalene, 1,4,...	10.37	7.8	ng	391363	3	9.95	1006050	20.0
3,3'-Dimethylbiph...	10.46	11.4	ng	571560	3	9.95	1006050	20.0
Benzene, [1-(2,4-...	10.57	21.5	ng	1080570	3	9.95	1006050	20.0
Diphenylmethane	10.59	13.4	ng	672470	3	9.95	1006050	20.0
Dibenzofuran, 4-m...	10.66	47.9	ng	2408050	3	9.95	1006050	20.0
unknown12.82	12.82	8.3	ng	2533570	5	14.15	6068250	20.0
Pyrene, 1-methyl-	13.12	7.8	ng	2377560	5	14.15	6068250	20.0
11H-Benzo[b]fluorene	13.24	11.7	ng	3553680	5	14.15	6068250	20.0
Pyrene, 2-methyl-	13.34	8.8	ng	2671450	5	14.15	6068250	20.0
Cyclopenta[cd]pyrene	13.93	7.6	ng	2294730	5	14.15	6068250	20.0
Anthracene, 9-phe...	15.09	17.4	ng	491174	6	15.69	564119	20.0
Rubicene-	18.76	10.3	ng	289740	6	15.69	564119	20.0

Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082392.D
Acq On : 20 Oct 2015 9:48
Operator : UM/IZ
Sample : G4046-04DL 50X
Misc :
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Oct 20 13:38:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
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10/20/2015 6:26:13 PM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	88798	20.00 ng	-0.03
21) Naphthalene-d8	8.09	136	363670	20.00 ng	-0.03
38) Acenaphthene-d10	9.85	164	183300	20.00 ng	-0.03
63) Phenanthrene-d10	11.35	188	298546	20.00 ng	-0.02
75) Chrysene-d12	14.02	240	230022	20.00 ng	0.01
86) Perylene-d12	15.53	264	225063	20.00 ng	0.09
System Monitoring Compounds					
5) 2-Fluorophenol	5.41	112	4908	1.12 ng	-0.02
7) Phenol-d6	6.45	99	7231	1.26 ng	-0.03
23) Nitrobenzene-d5	7.37	82	4686	0.87 ng	-0.05
41) 2,4,6-Tribromophenol	10.64	330	2043	1.19 ng	-0.03
44) 2-Fluorobiphenyl	9.17	172	17145	1.55 ng	-0.04
78) Terphenyl-d14	12.93	244	15983	1.84 ng	-0.03
Target Compounds					Qvalue
31) Naphthalene	8.11	128	62537	3.97 ng	98
37) 2-Methylnaphthalene	8.81	142	62614	5.73 ng	98
45) 1,1'-Biphenyl	9.27	154	42982	3.08 ng	98
48) Acenaphthylene	9.71	152	35643	2.08 ng	97
51) Acenaphthene	9.89	154	380740	37.00 ng	99
54) Dibenzofuran	10.06	168	600765	42.52 ng	99
57) Fluorene	10.40	166	620450	53.47 ng	99
70) Phenanthrene	11.38	178	4432154m	302.87 ng	
71) Anthracene	11.43	178	730577m	48.45 ng	
72) Carbazole	11.58	167	551881	40.12 ng	99
74) Fluoranthene	12.57	202	3179562	202.30 ng	94
77) Pyrene	12.80	202	1856111	135.97 ng	98
80) Benzo(a)anthracene	14.01	228	446570	37.31 ng	99
82) Chrysene	14.05	228	454843m	36.07 ng	
85) Indeno(1,2,3-cd)pyrene	16.95	276	38287	3.82 ng	99
87) Benzo(b)fluoranthene	15.11	252	299968m	21.91 ng	
88) Benzo(k)fluoranthene	15.13	252	65531m	5.69 ng	
89) Benzo(a)pyrene	15.46	252	95559	8.12 ng	100
91) Benzo(g,h,i)perylene	17.37	276	24780	2.65 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Sample Results: **BF082392.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082392.D
Acq On : 20 Oct 2015 9:48
Operator : UM/IZ
Sample : G4046-04DL 50X
Misc :
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Oct 20 13:38:32 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
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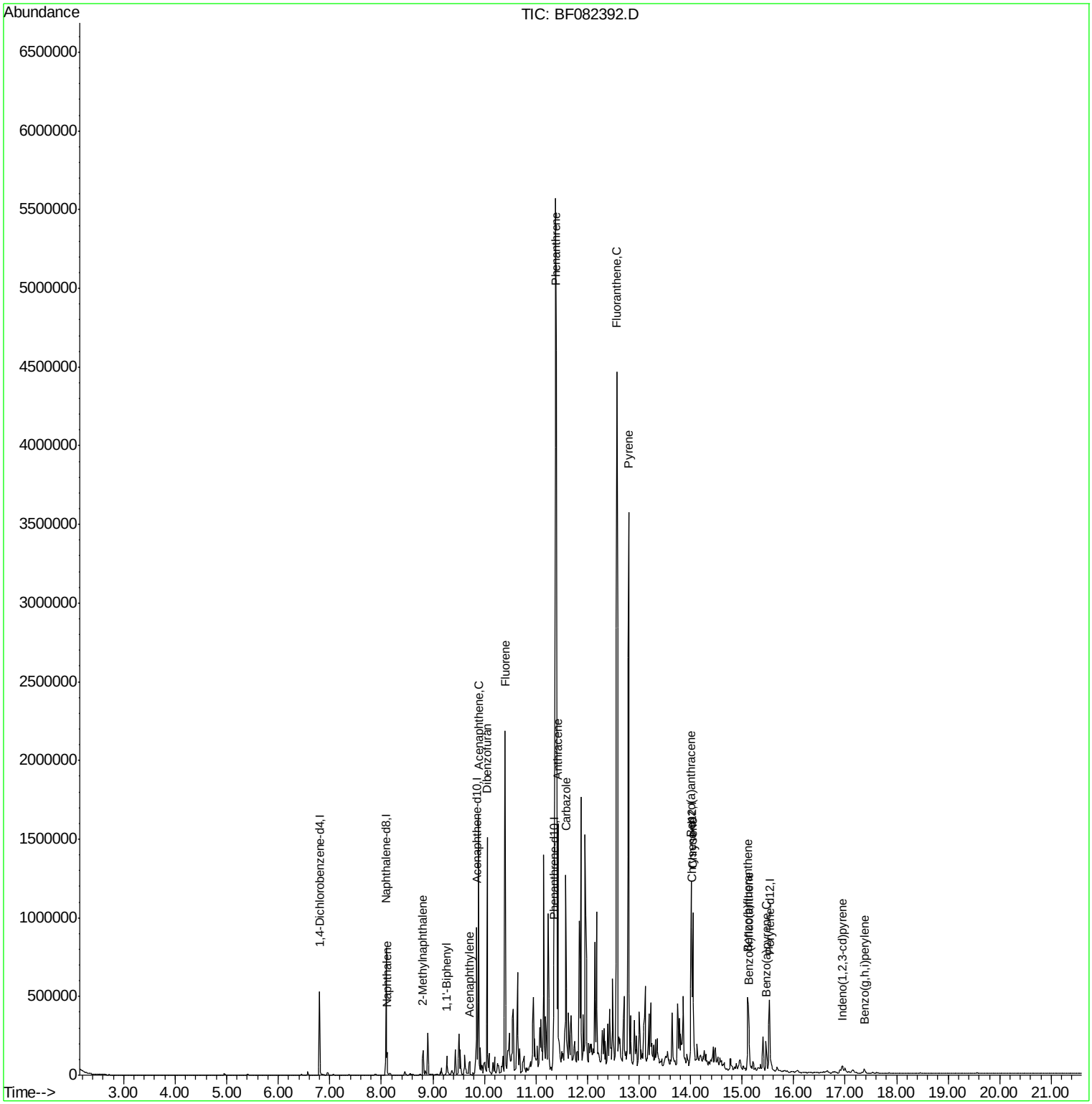

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
MMdadoda
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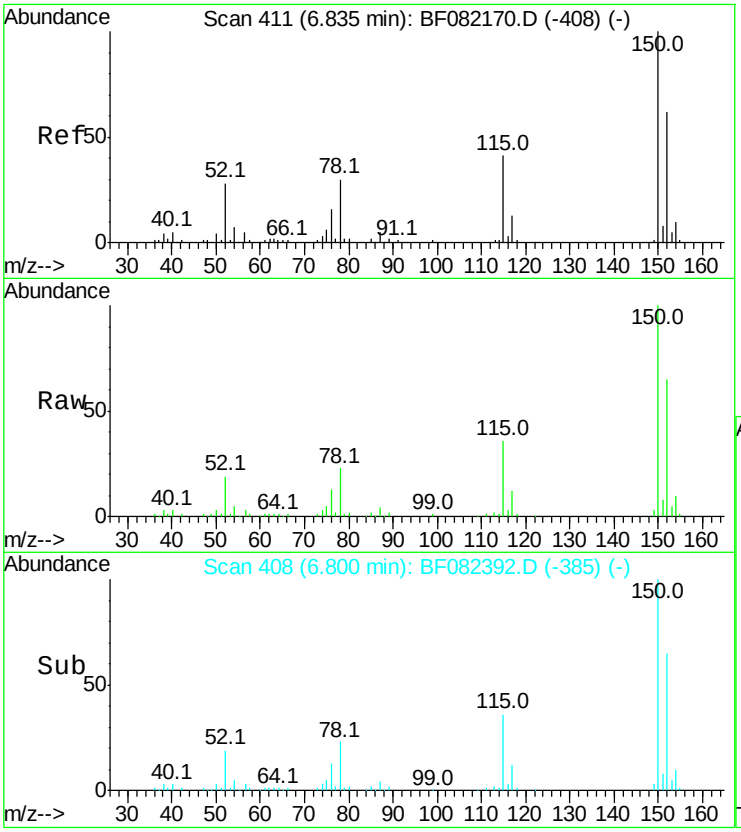
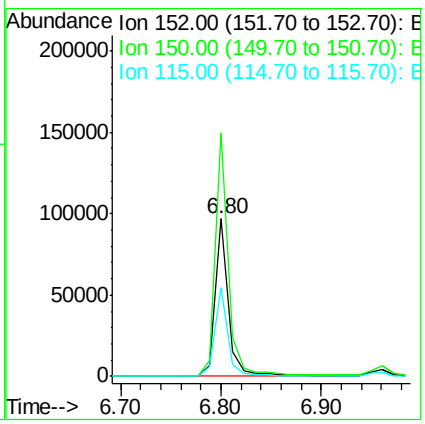
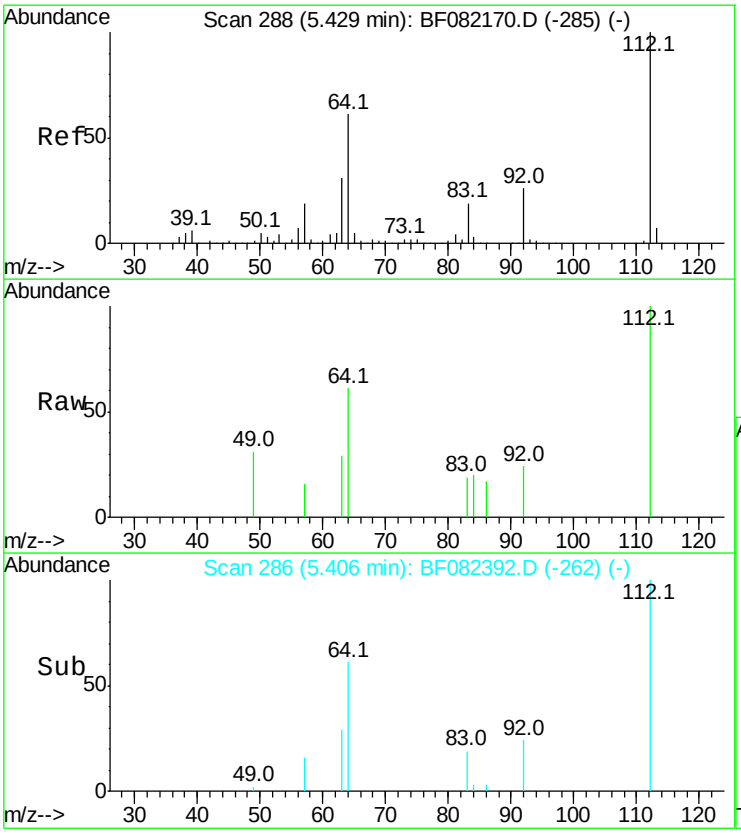


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:152 Resp: 88798

Ion	Ratio	Lower	Upper
152	100		
150	154.4	129.0	193.4
115	55.9	52.1	78.1

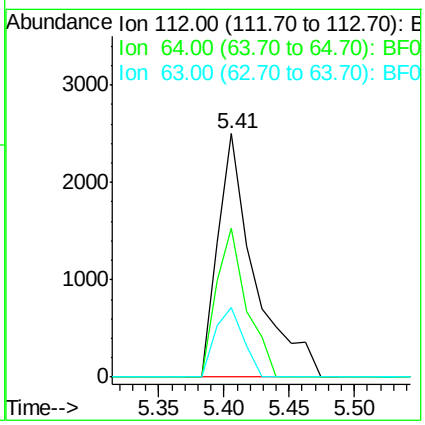




#5
2-Fluorophenol
Concen: 1.12 ng
RT: 5.41 min Scan# 286
Delta R.T. -0.02 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:112 Resp: 4908

Ion	Ratio	Lower	Upper
112	100		
64	61.2	48.6	73.0
63	28.8	25.1	37.7



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
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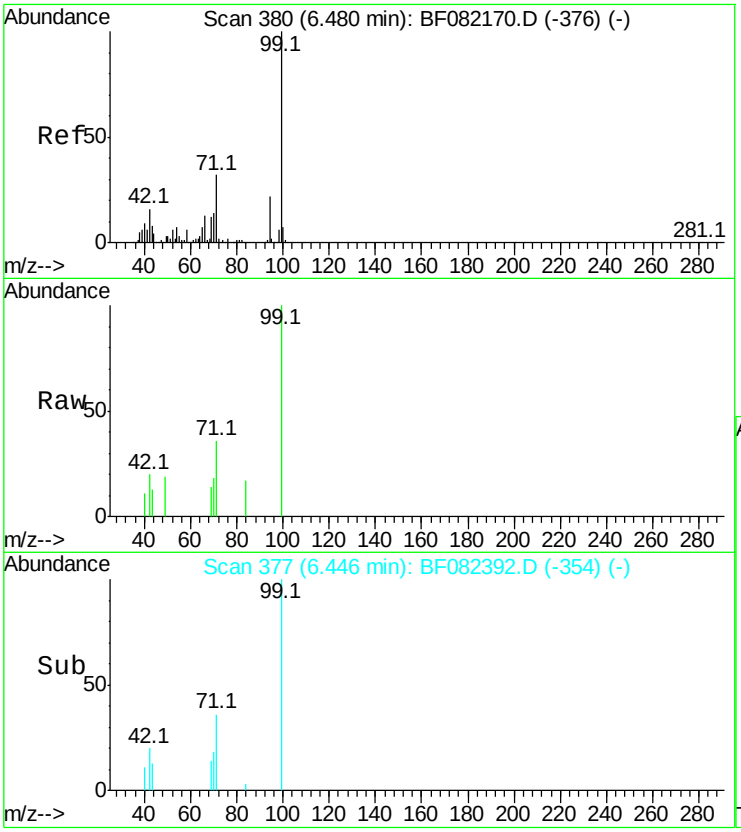
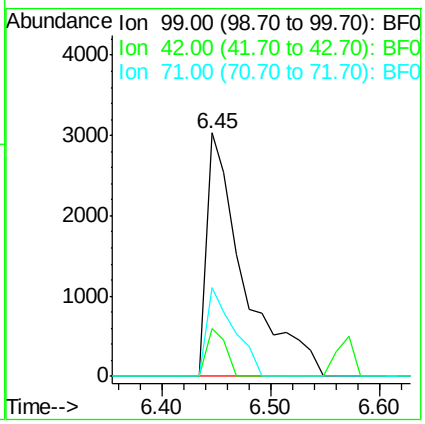
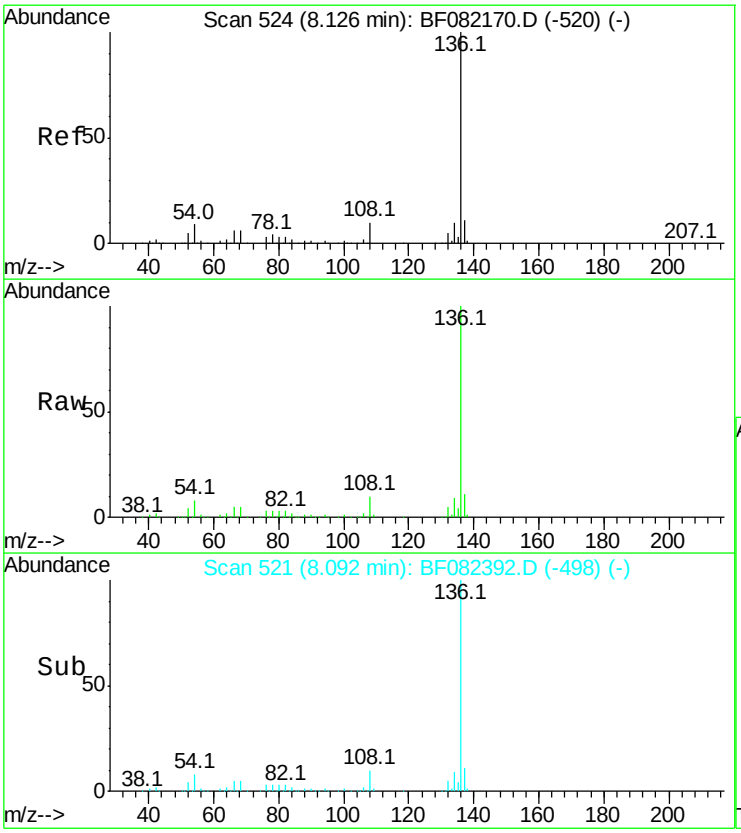


#7
Phenol-d6
Concen: 1.26 ng
RT: 6.45 min Scan# 377
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion: 99 Resp: 7231

Ion	Ratio	Lower	Upper
99	100		
42	19.7	13.2	19.8
71	36.3	25.6	38.4

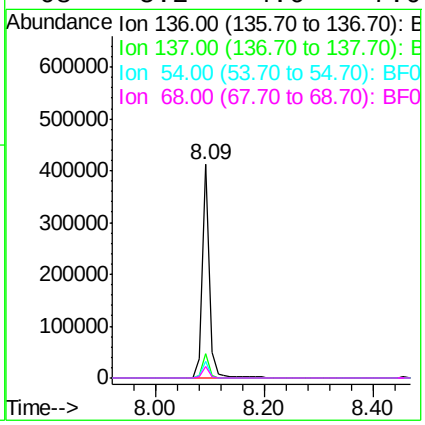


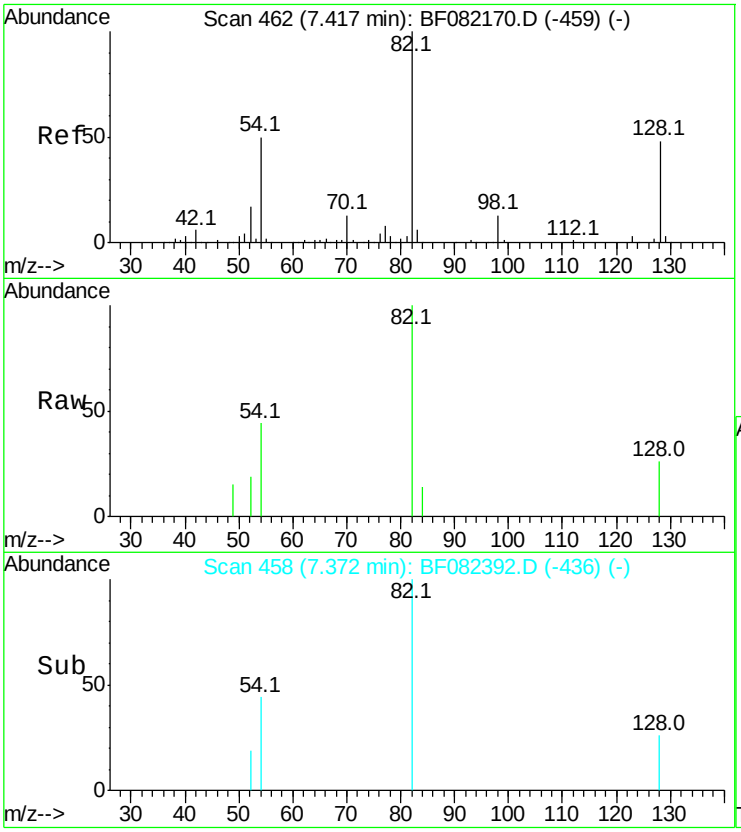


#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:136 Resp: 363670

Ion	Ratio	Lower	Upper
136	100		
137	11.2	9.0	13.6
54	7.9	7.5	11.3
68	5.2	4.6	7.0





#23
Nitrobenzene-d5
Concen: 0.87 ng
RT: 7.37 min Scan# 458
Delta R.T. -0.05 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion: 82 Resp: 4686

Ion	Ratio	Lower	Upper
82	100		
128	26.2	38.7	58.1#
54	44.1	40.1	60.1

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
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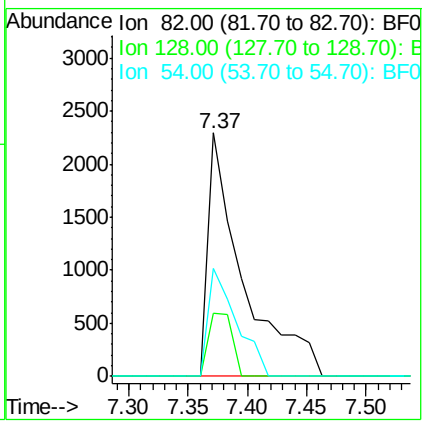
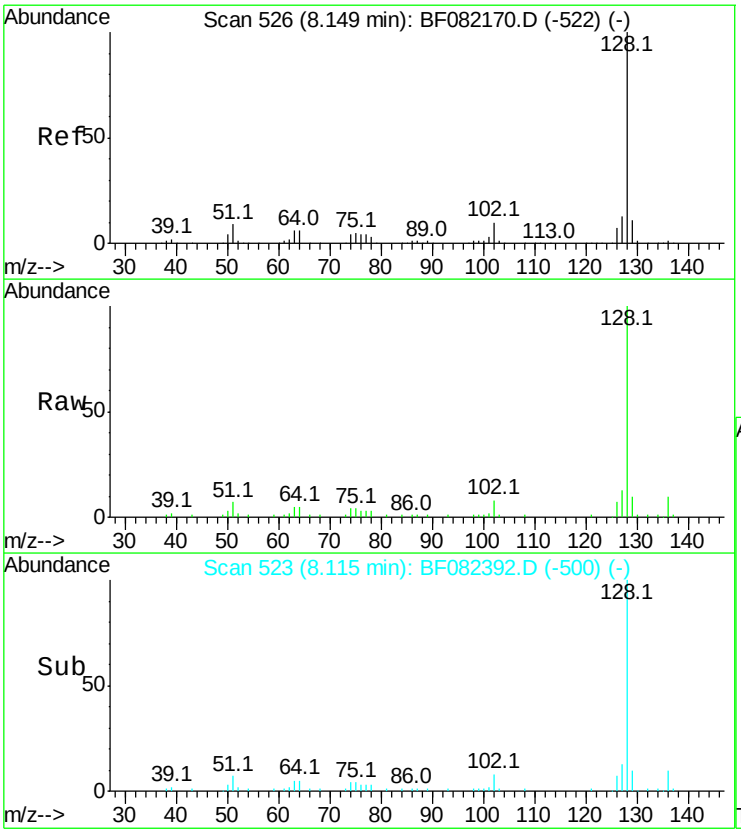
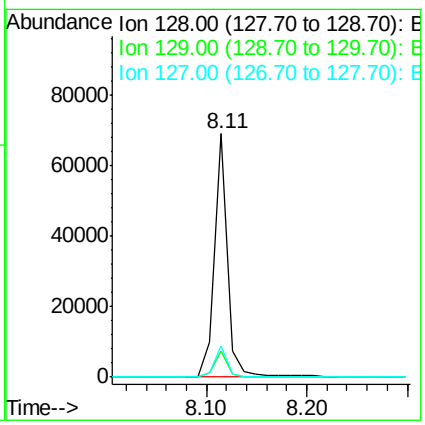




#31
Naphthalene
Concen: 3.97 ng
RT: 8.11 min Scan# 523
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:128 Resp: 62537

Ion	Ratio	Lower	Upper
128	100		
129	10.5	9.1	13.7
127	13.0	10.7	16.1



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
MMdadoda
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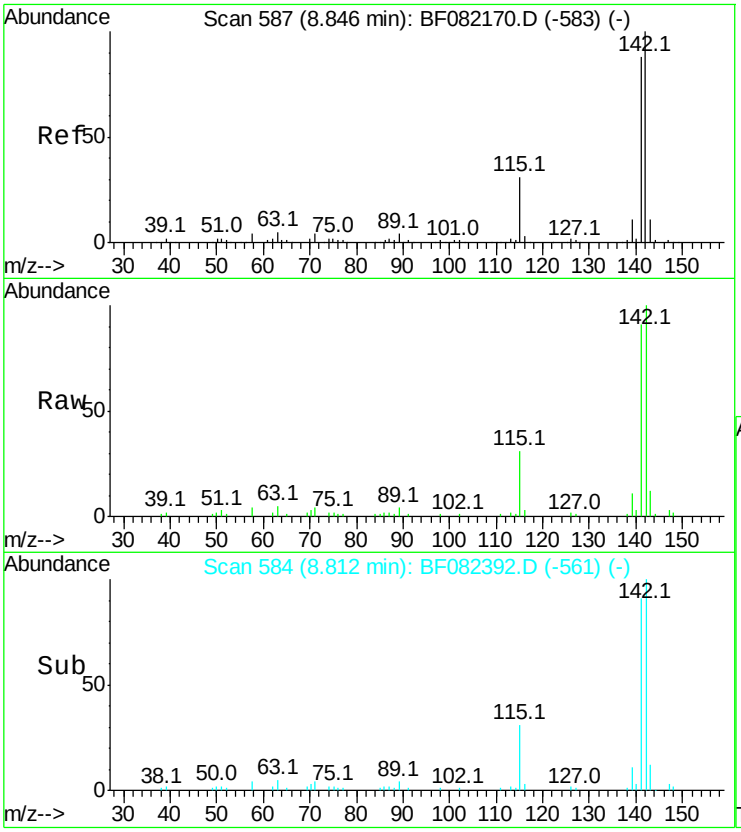
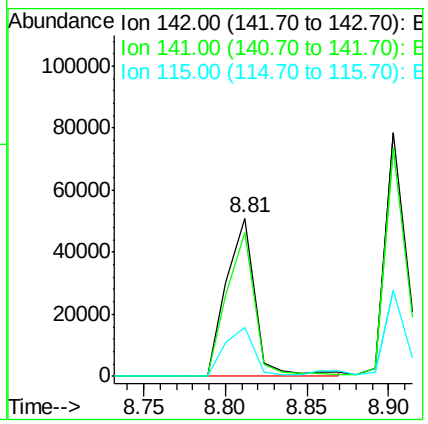
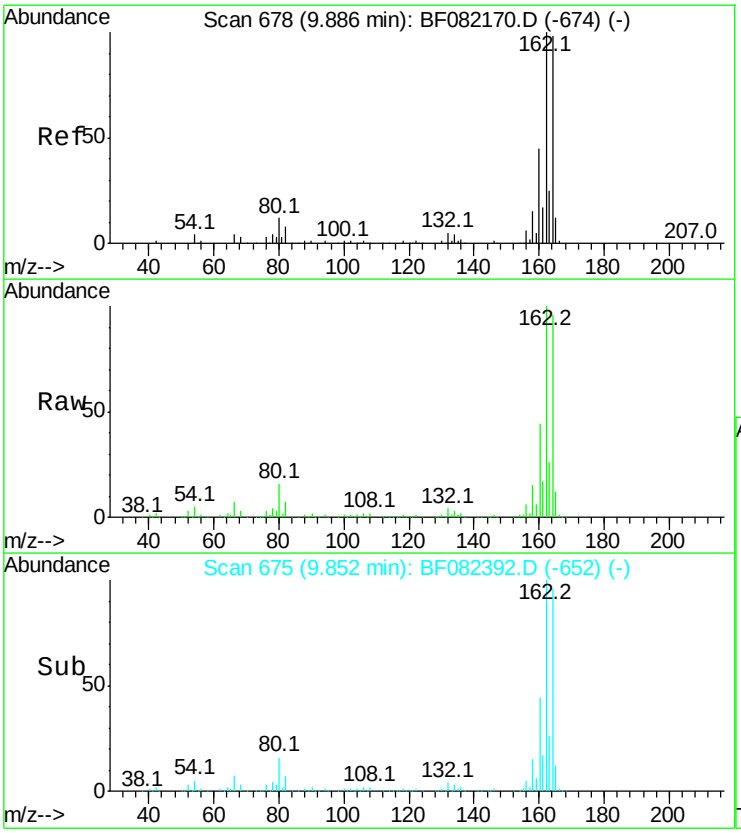


#37
2-Methylnaphthalene
Concen: 5.73 ng
RT: 8.81 min Scan# 584
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:142 Resp: 62614

Ion	Ratio	Lower	Upper
142	100		
141	91.0	70.4	105.6
115	30.8	24.6	37.0

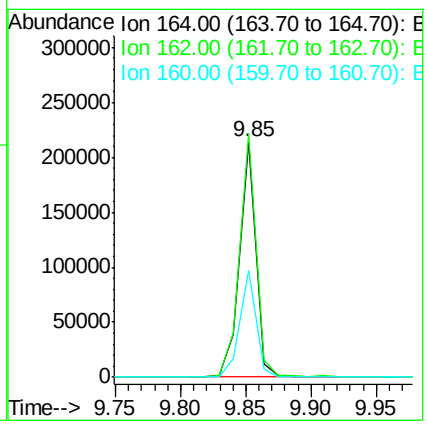


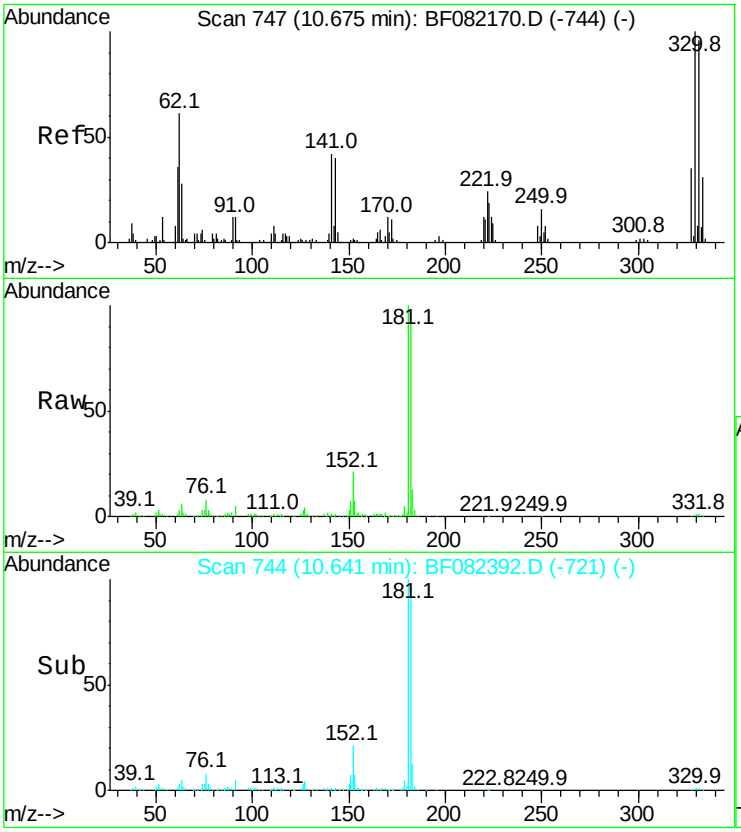


#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:164 Resp: 183300

Ion	Ratio	Lower	Upper
164	100		
162	103.7	81.6	122.4
160	45.4	36.4	54.6

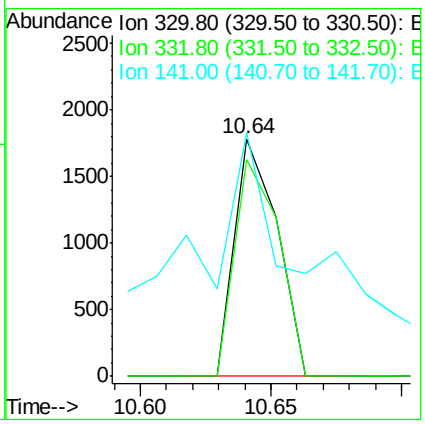




#41
2,4,6-Tribromophenol
Concen: 1.19 ng
RT: 10.64 min Scan# 744
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:330 Resp: 2043

Ion	Ratio	Lower	Upper
330	100		
332	94.9	77.1	115.7
141	179.8	29.8	44.8#



Instrument :
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ClientSampleId :
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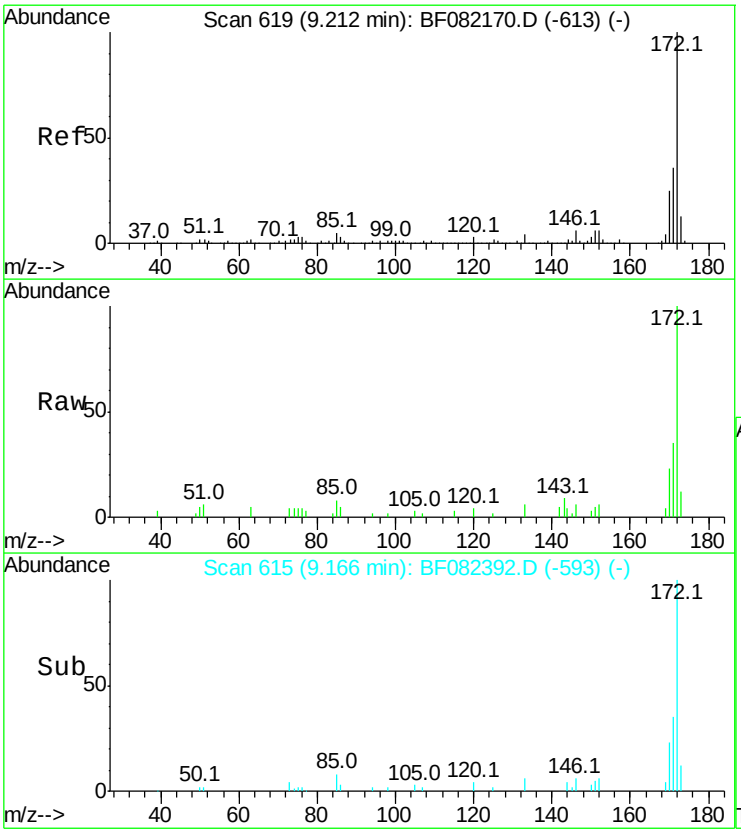
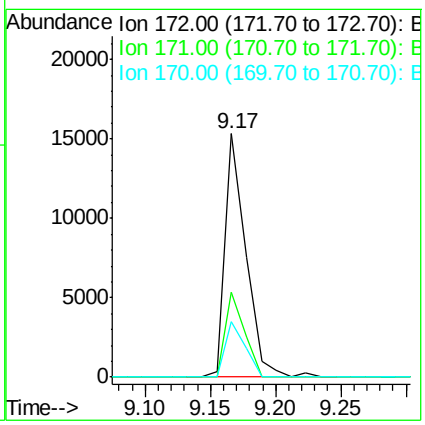


#44
2-Fluorobiphenyl
Concen: 1.55 ng
RT: 9.17 min Scan# 615
Delta R.T. -0.04 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:172 Resp: 17145

Ion	Ratio	Lower	Upper
172	100		
171	34.8	28.6	42.8
170	22.6	19.7	29.5



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ClientSampleId :
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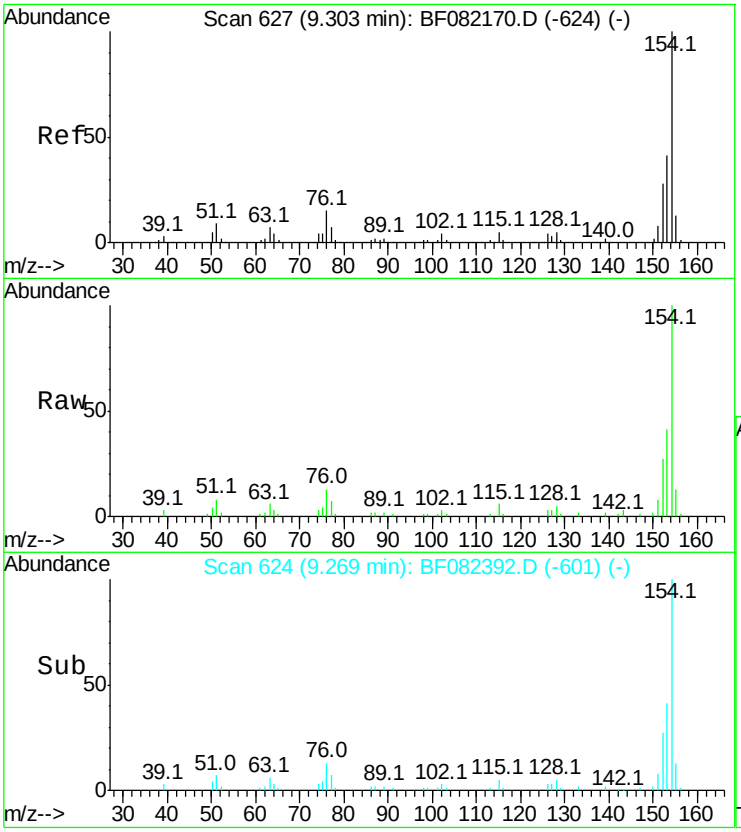
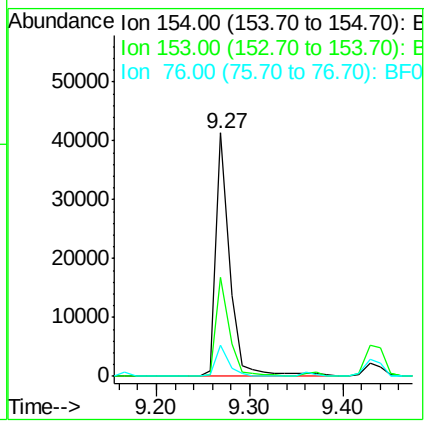
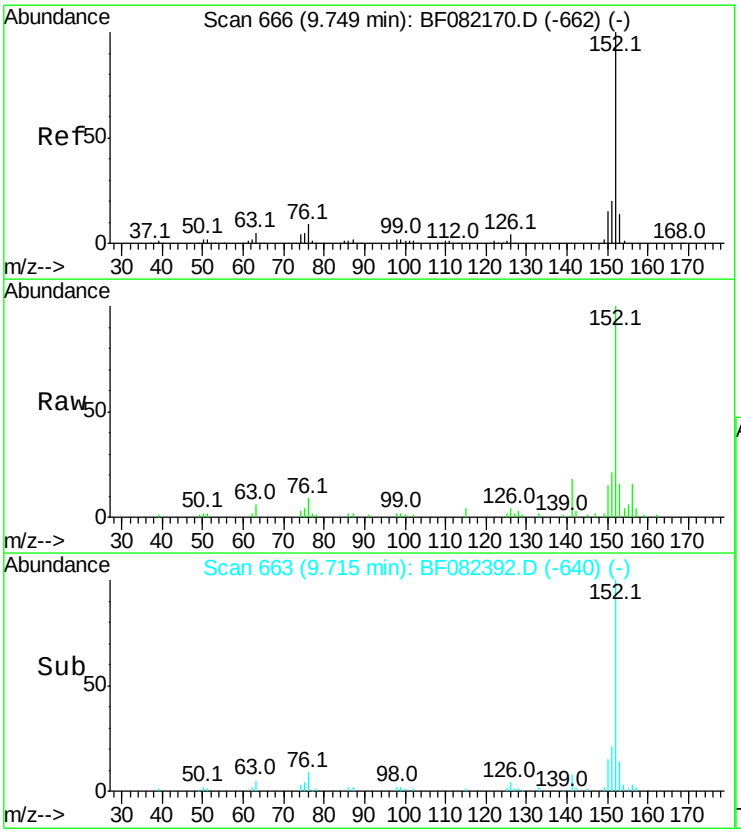


#45
1,1'-Biphenyl
Concen: 3.08 ng
RT: 9.27 min Scan# 624
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:154 Resp: 42982

Ion	Ratio	Lower	Upper
154	100		
153	40.5	20.6	60.6
76	12.9	0.0	35.2

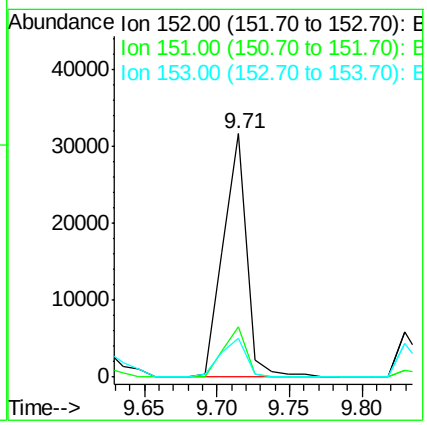




#48
Acenaphthylene
Concen: 2.08 ng
RT: 9.71 min Scan# 663
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:152 Resp: 35643

Ion	Ratio	Lower	Upper
152	100		
151	20.6	16.4	24.6
153	16.0	10.8	16.2



Instrument :
BNA_F
ClientSampleId :
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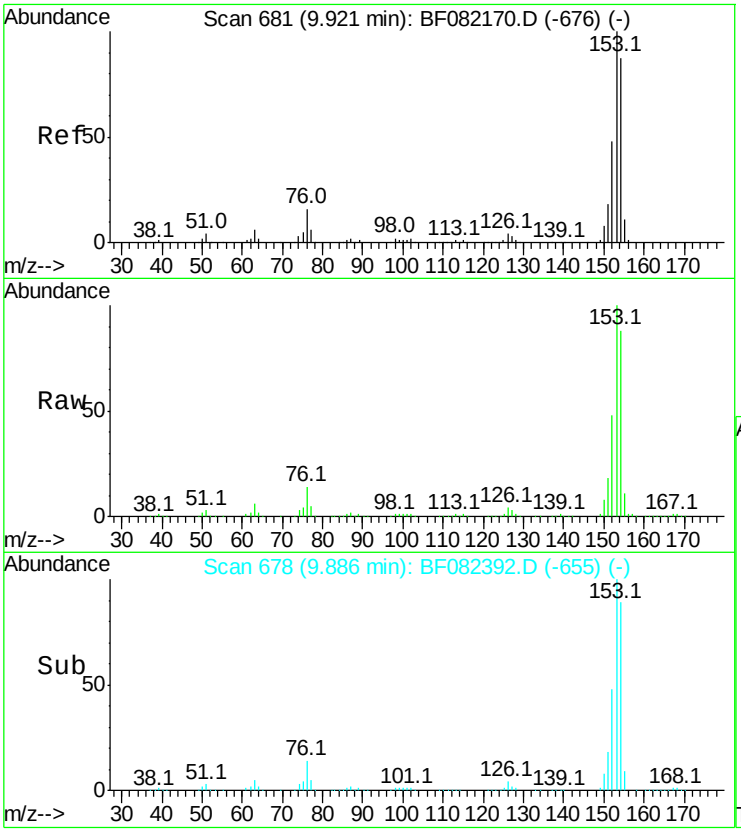
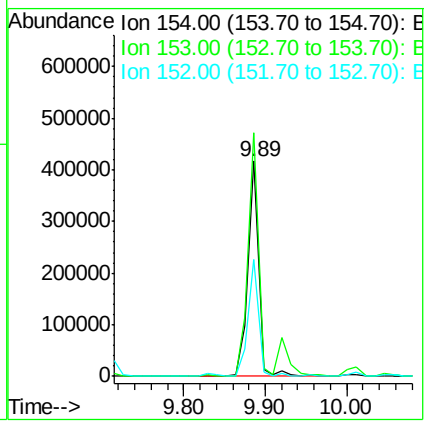
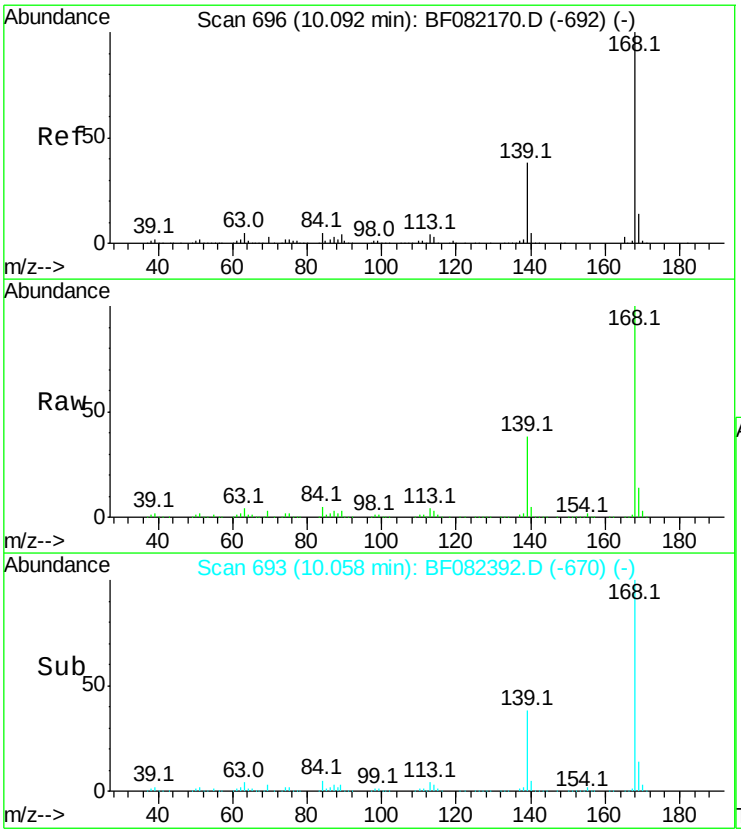


#51
Acenaphthene
Concen: 37.00 ng
RT: 9.89 min Scan# 678
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:154 Resp: 380740

Ion	Ratio	Lower	Upper
154	100		
153	113.2	91.4	137.2
152	54.4	44.3	66.5

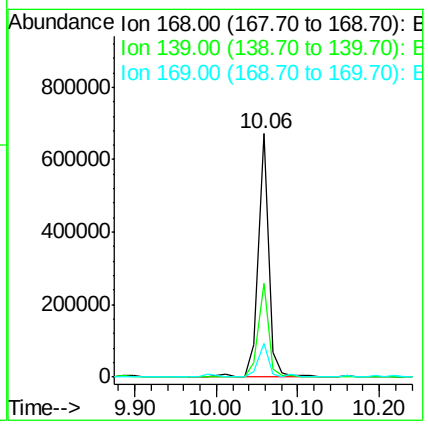




#54
Dibenzofuran
Concen: 42.52 ng
RT: 10.06 min Scan# 693
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:168 Resp: 600765

Ion	Ratio	Lower	Upper
168	100		
139	38.3	31.0	46.6
169	14.1	10.9	16.3



Instrument :
BNA_F
ClientSampleId :
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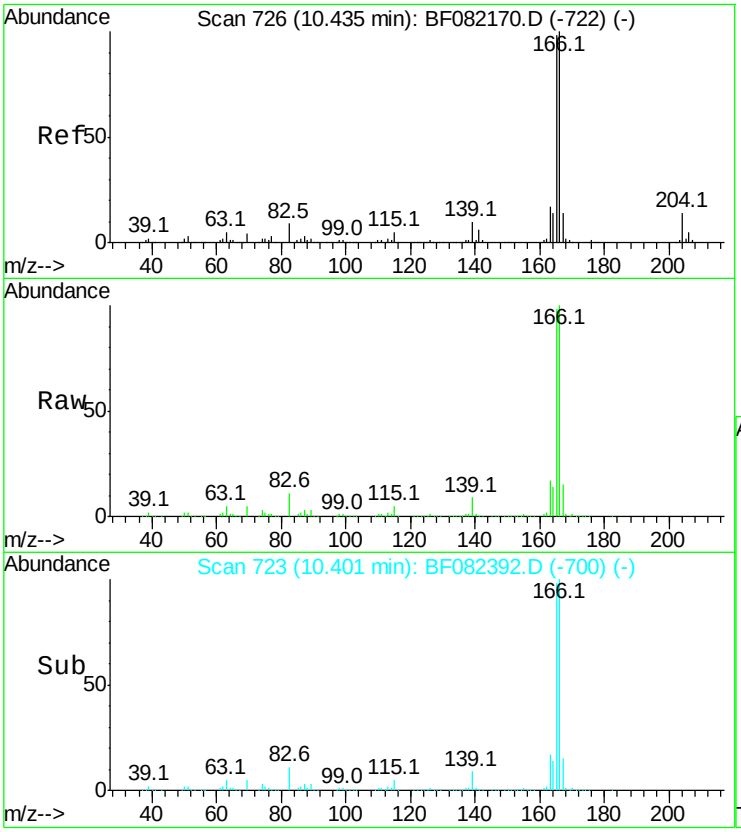
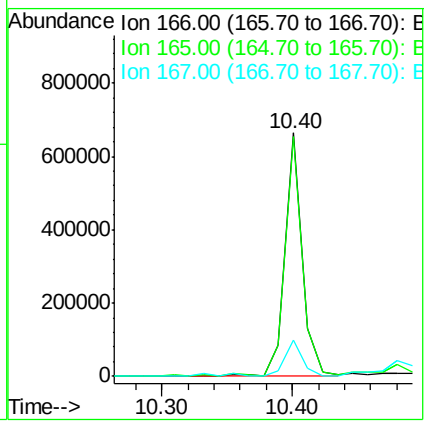
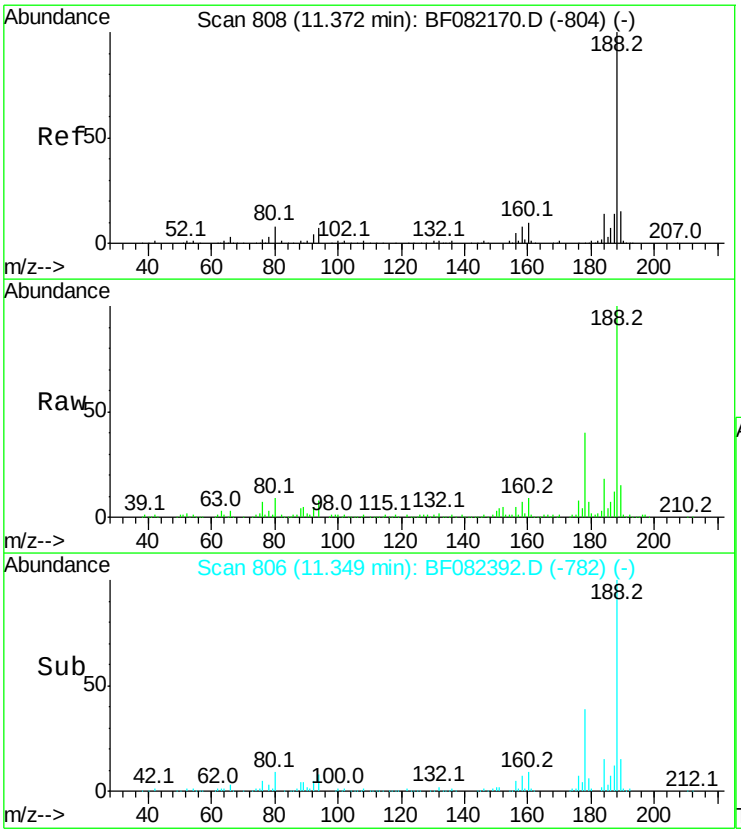


#57
Fluorene
Concen: 53.47 ng
RT: 10.40 min Scan# 723
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:166 Resp: 620450

Ion	Ratio	Lower	Upper
166	100		
165	98.2	78.3	117.5
167	14.8	10.8	16.2

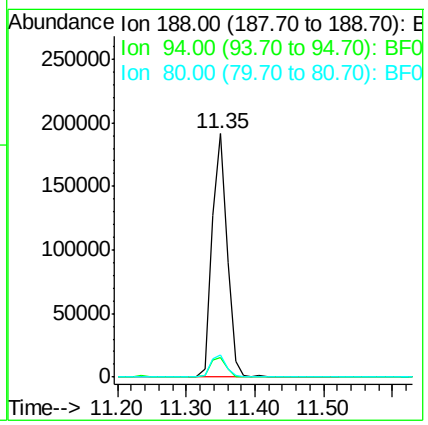




#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.35 min Scan# 806
Delta R.T. -0.02 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:188 Resp: 298546

Ion	Ratio	Lower	Upper
188	100		
94	8.1	5.8	8.6
80	8.9	6.4	9.6



Instrument :
BNA_F
ClientSampleId :
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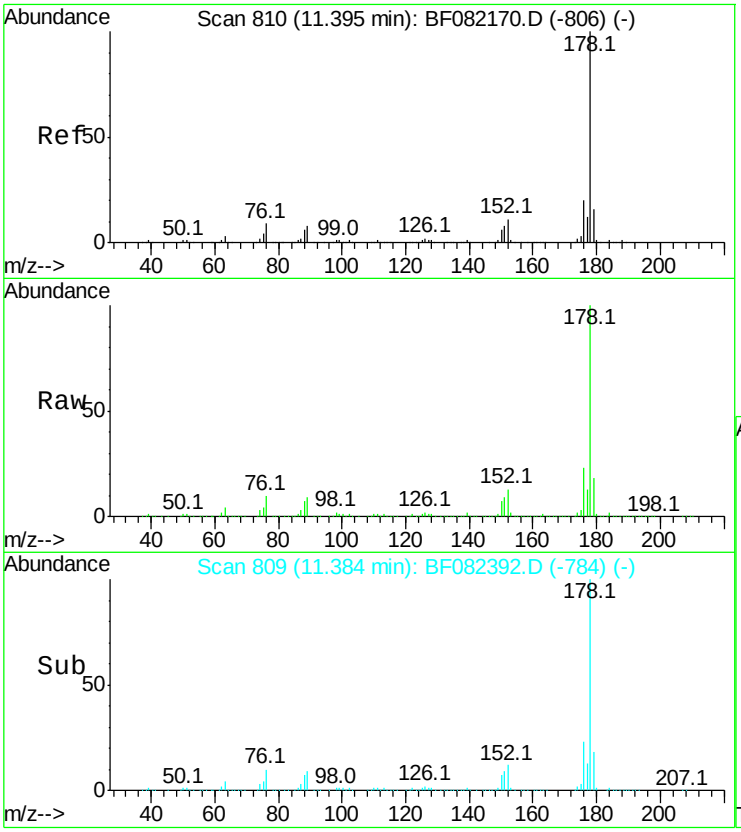
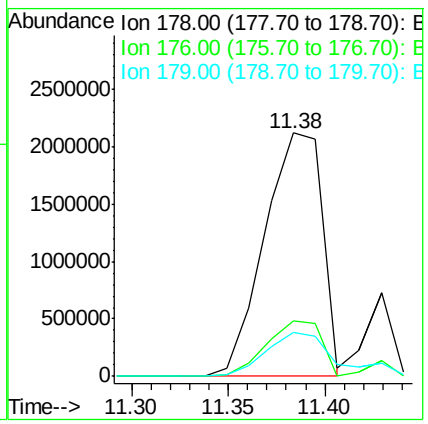
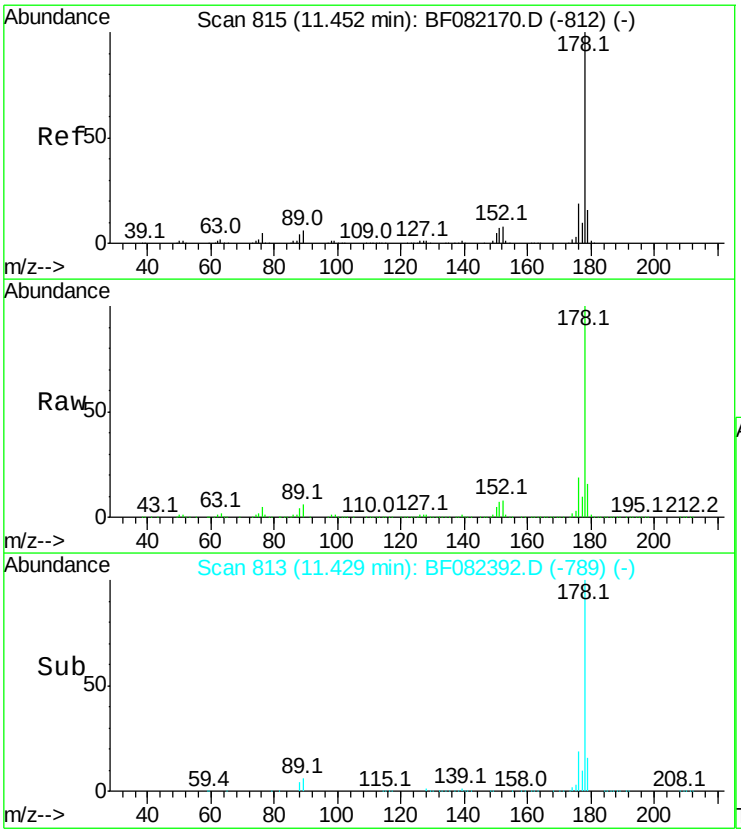


#70
Phenanthrene
Concen: 302.87 ng m
RT: 11.38 min Scan# 809
Delta R.T. -0.01 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:178 Resp: 4432154

Ion	Ratio	Lower	Upper
178	100		
176	22.5	16.0	24.0
179	17.9	12.6	19.0

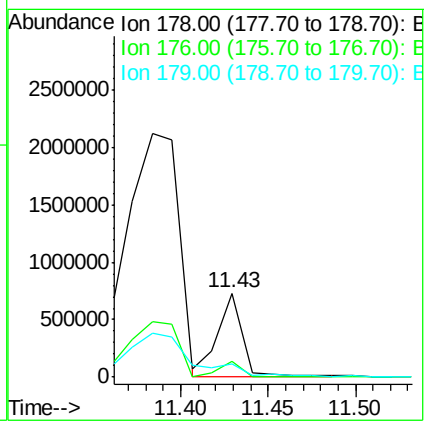




#71
Anthracene
Concen: 48.45 ng m
RT: 11.43 min Scan# 813
Delta R.T. -0.02 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:178 Resp: 730577

Ion	Ratio	Lower	Upper
178	100		
176	18.9	15.4	23.0
179	16.2	12.5	18.7



Instrument :
BNA_F
ClientSampleId :
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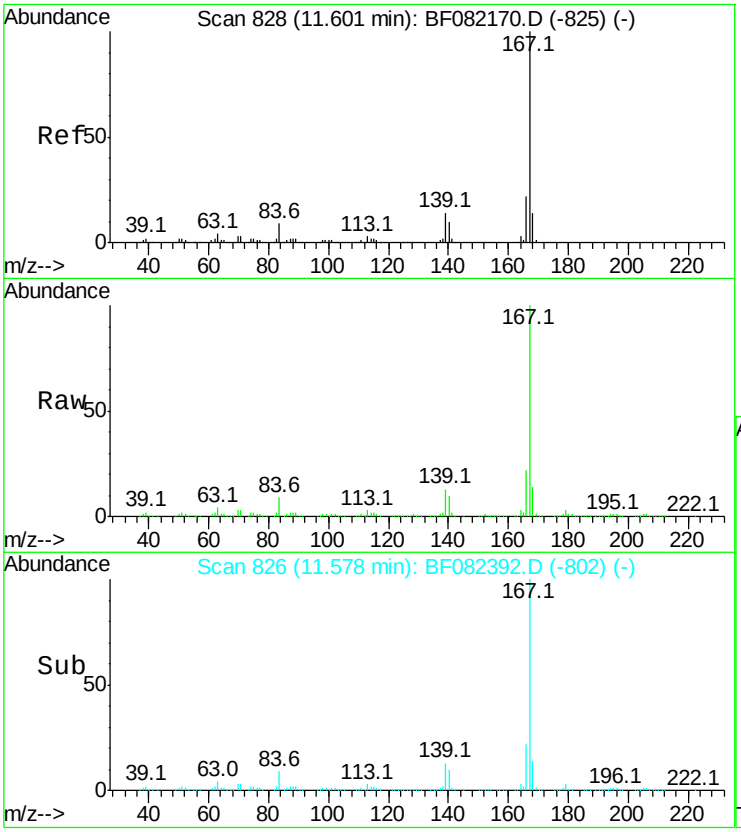
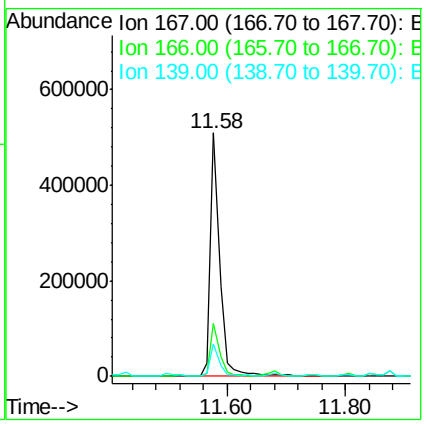
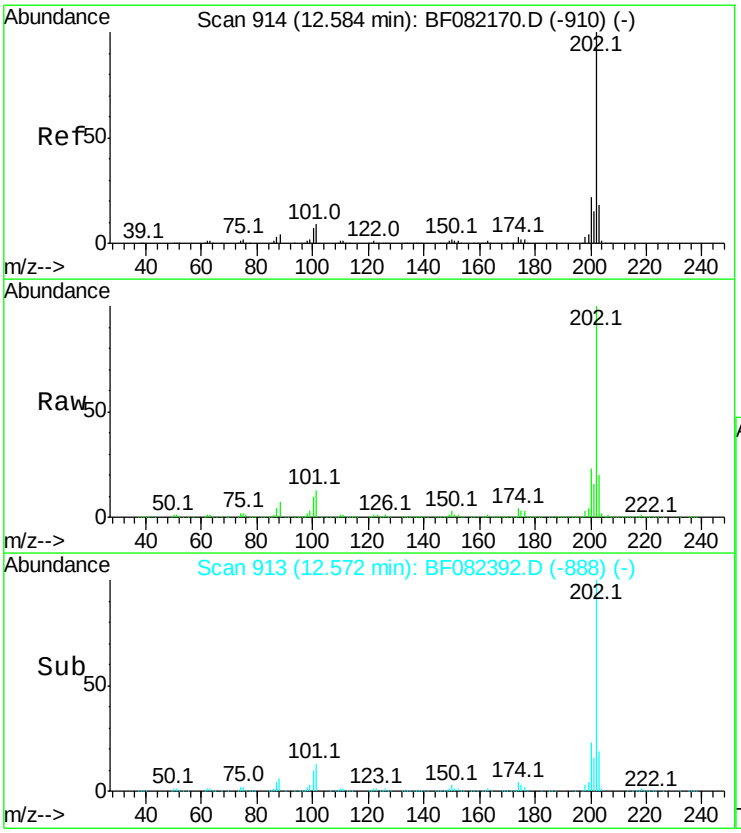


#72
Carbazole
Concen: 40.12 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:167 Resp: 551881

Ion	Ratio	Lower	Upper
167	100		
166	21.6	17.3	25.9
139	13.5	11.2	16.8

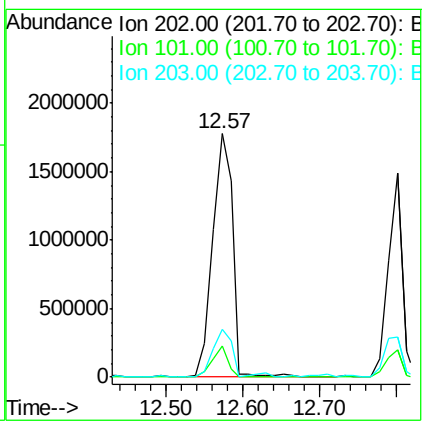


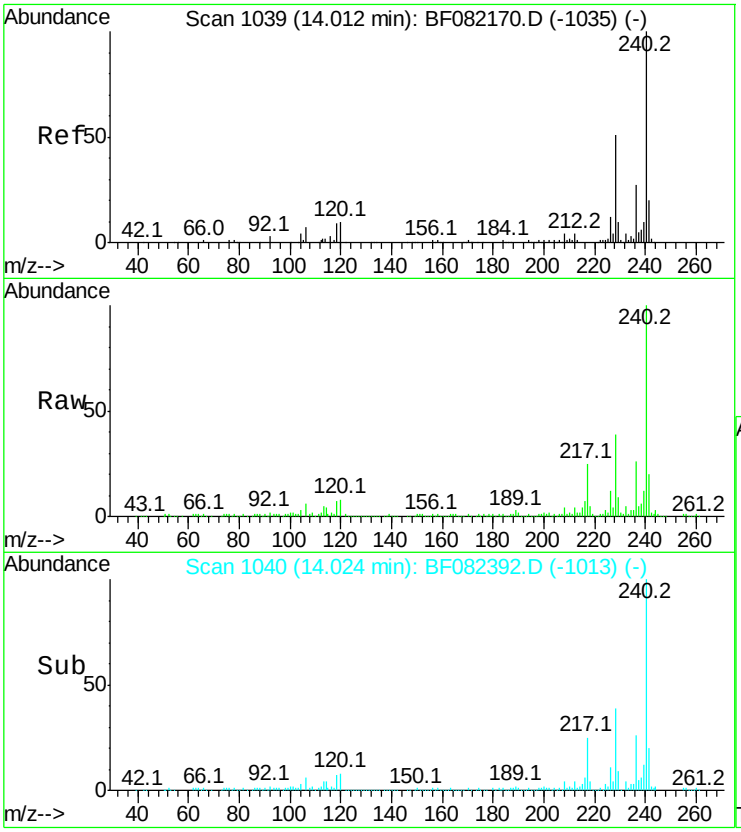


#74
Fluoranthene
Concen: 202.30 ng
RT: 12.57 min Scan# 913
Delta R.T. -0.01 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:202 Resp: 3179562

Ion	Ratio	Lower	Upper
202	100		
101	12.7	0.0	29.3
203	19.5	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.02 min Scan# 1040
Delta R.T. 0.01 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:240 Resp: 230022

Ion	Ratio	Lower	Upper
240	100		
120	8.0	8.1	12.1#
236	26.1	21.3	31.9

Instrument :
BNA_F
ClientSampleId :
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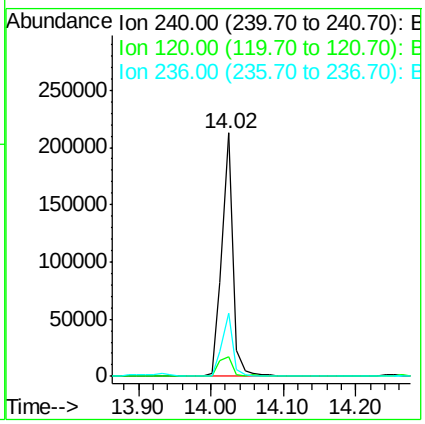
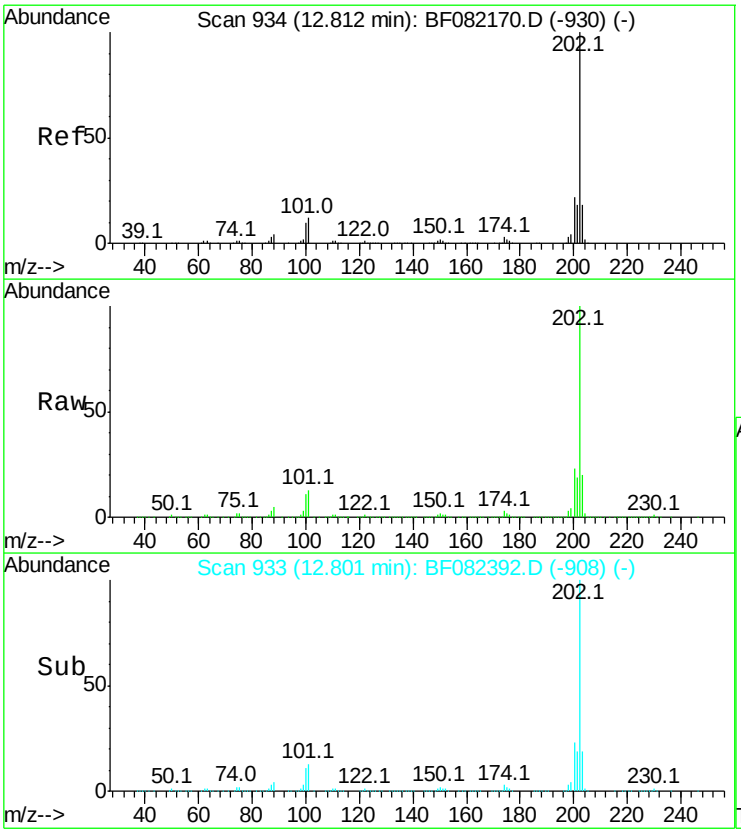
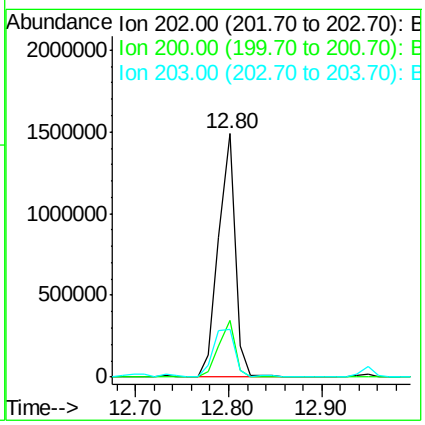




#77
Pyrene
Concen: 135.97 ng
RT: 12.80 min Scan# 933
Delta R.T. -0.01 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:202 Resp: 1856111

Ion	Ratio	Lower	Upper
202	100		
200	23.1	17.9	26.9
203	19.5	14.5	21.7



Instrument :
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ClientSampleId :
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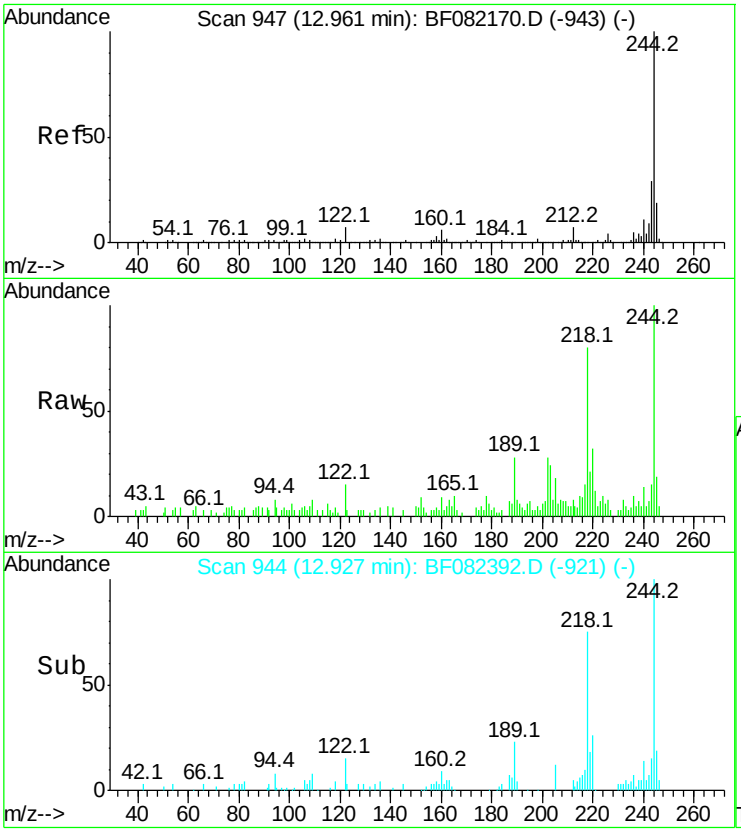
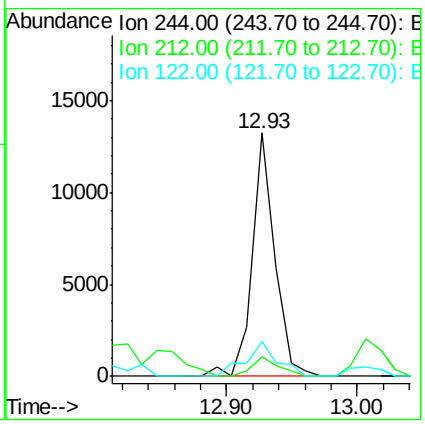
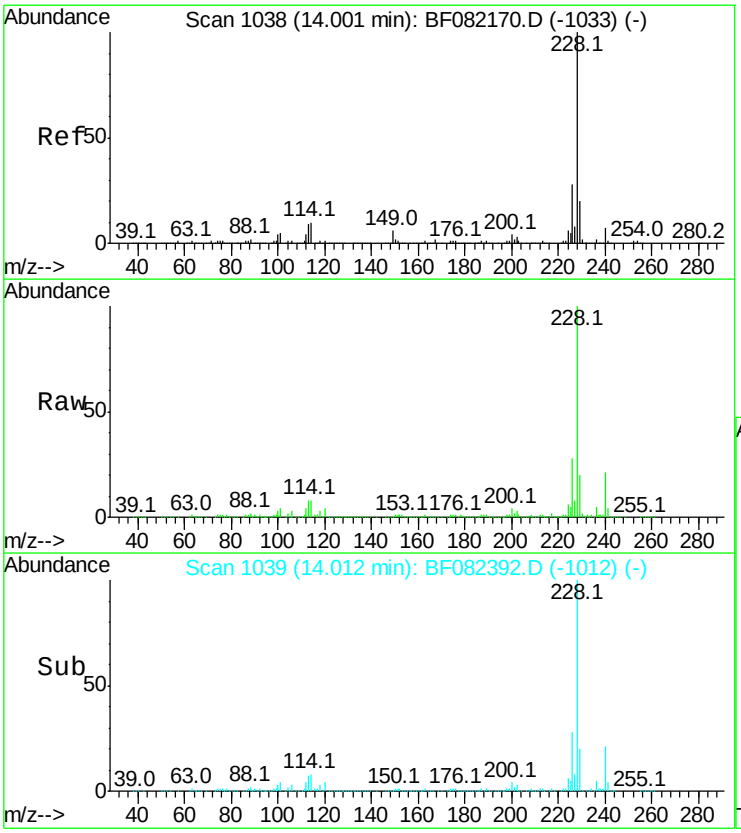


#78
Terphenyl-d14
Concen: 1.84 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:244 Resp: 15983

Ion	Ratio	Lower	Upper
244	100		
212	8.2	5.8	8.6
122	14.6	5.9	8.9#

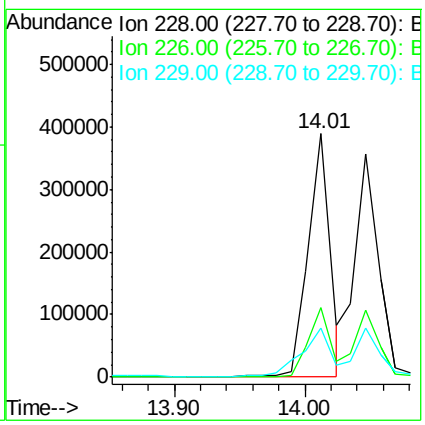


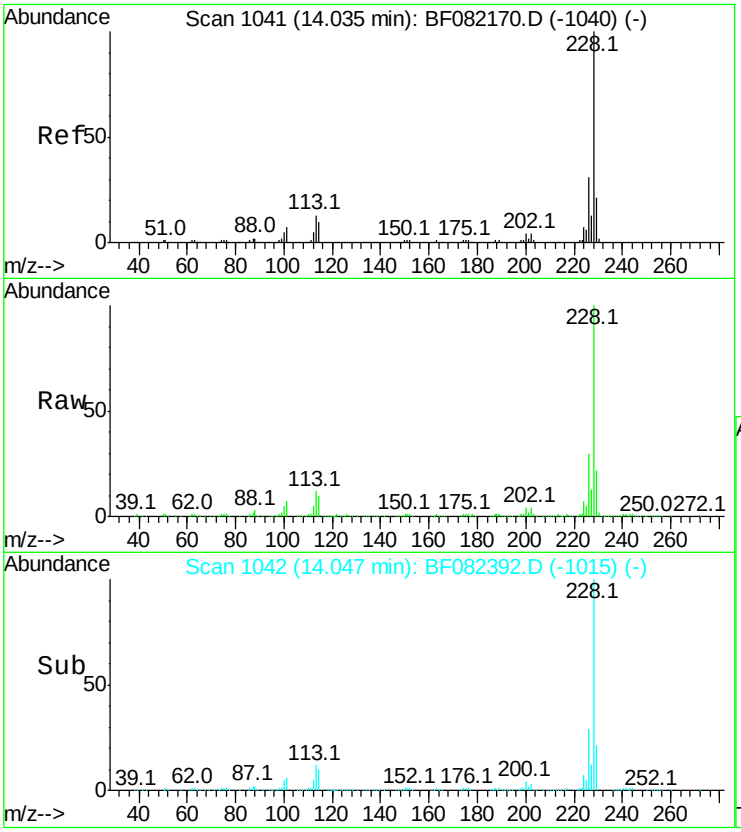


#80
Benzo(a)anthracene
Concen: 37.31 ng
RT: 14.01 min Scan# 1039
Delta R.T. 0.01 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:228 Resp: 446570

Ion	Ratio	Lower	Upper
228	100		
226	28.4	22.3	33.5
229	20.3	16.2	24.2

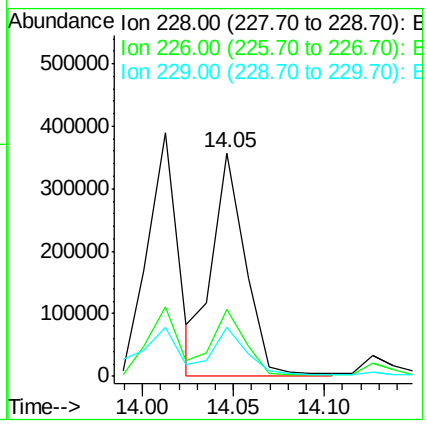




#82
Chrysene
Concen: 36.07 ng m
RT: 14.05 min Scan# 1042
Delta R.T. 0.01 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:228 Resp: 454843

Ion	Ratio	Lower	Upper
228	100		
226	29.7	24.4	36.6
229	22.0	16.3	24.5



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

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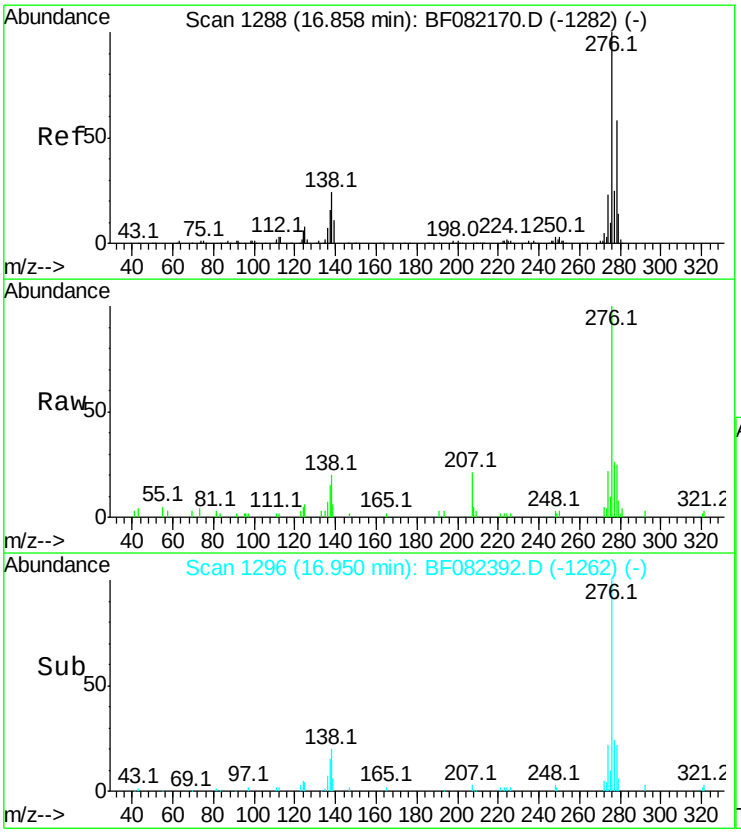
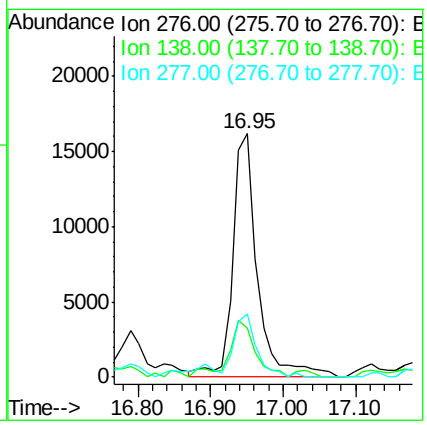
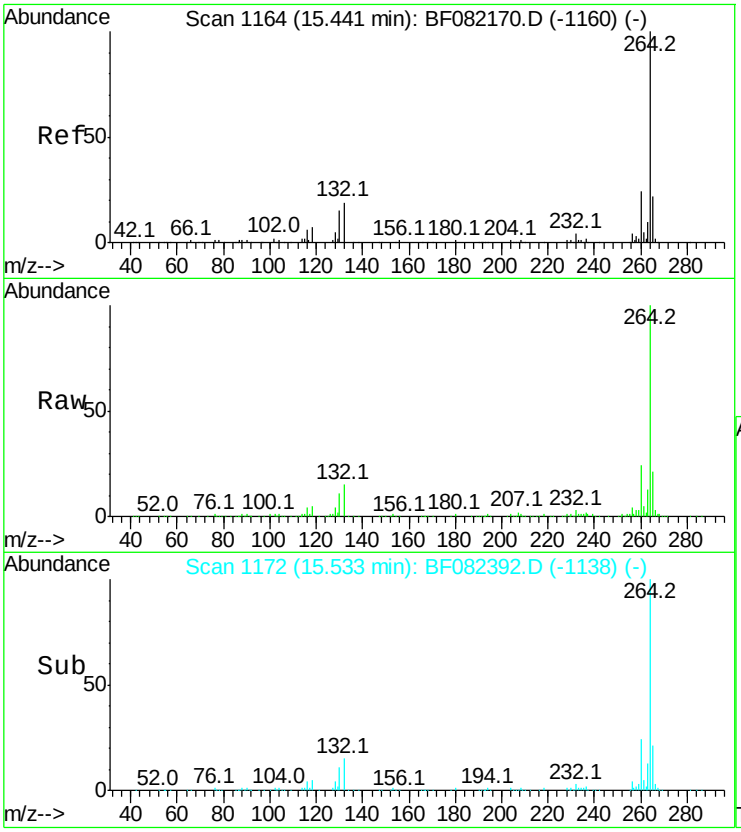


#85
Indeno(1,2,3-cd)pyrene
Concen: 3.82 ng
RT: 16.95 min Scan# 1296
Delta R.T. 0.09 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:276 Resp: 38287

Ion	Ratio	Lower	Upper
276	100		
138	24.9	19.7	29.5
277	24.0	20.1	30.1





#86
Pervlene-d12
Concen: 20.00 ng
RT: 15.53 min Scan# 1172
Delta R.T. 0.09 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:264 Resp: 225063

Ion	Ratio	Lower	Upper
264	100		
260	24.1	19.0	28.6
265	21.4	17.3	25.9

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
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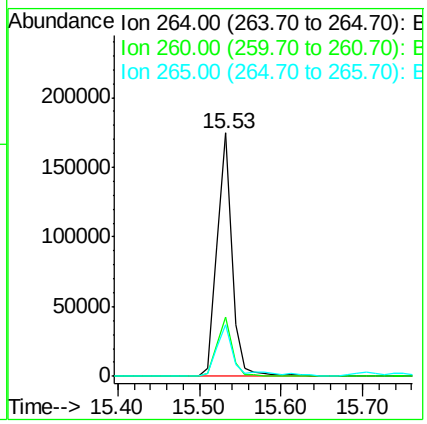
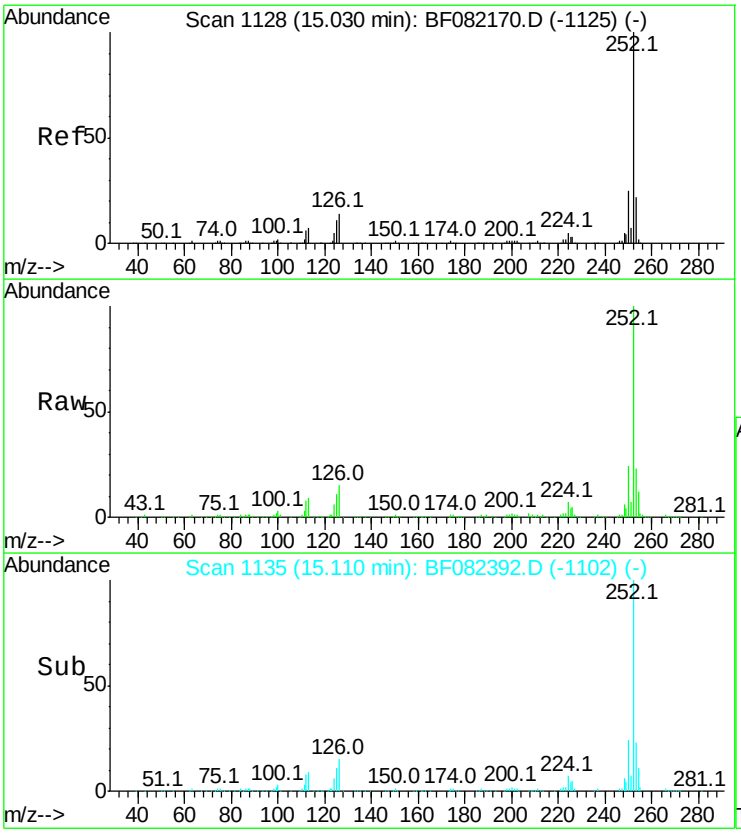
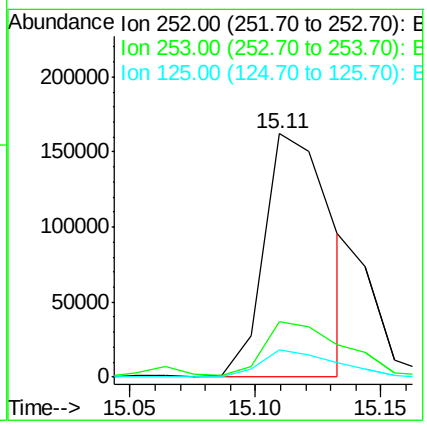


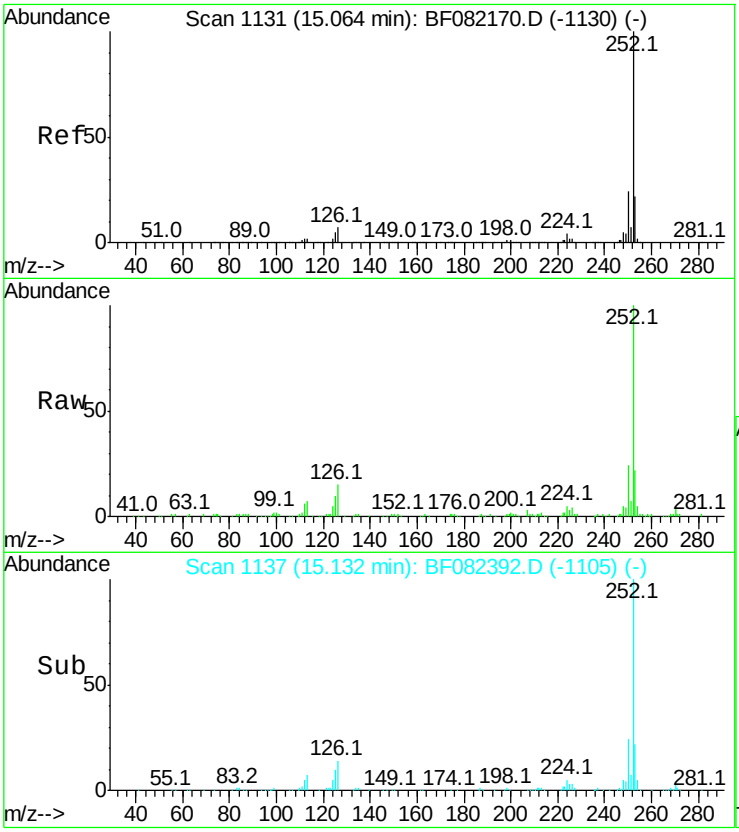


#87
Benzo(b)fluoranthene
Concen: 21.91 ng m
RT: 15.11 min Scan# 1135
Delta R.T. 0.08 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:252 Resp: 299968

Ion	Ratio	Lower	Upper
252	100		
253	22.5	18.0	27.0
125	11.2	8.6	12.8





#88
Benzo(k)fluoranthene
Concen: 5.69 ng m
RT: 15.13 min Scan# 1137
Delta R.T. 0.07 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:252 Resp: 65531

Ion	Ratio	Lower	Upper
252	100		
253	22.4	17.8	26.6
125	10.5	6.7	10.1#

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

Manual Integrations APPROVED
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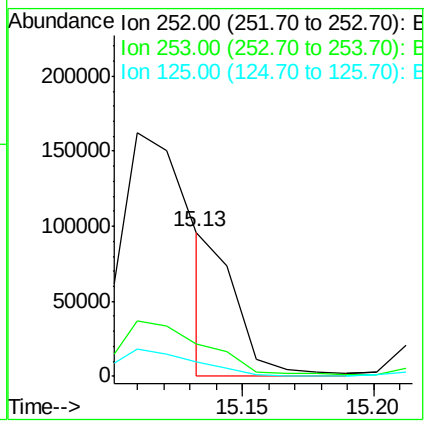
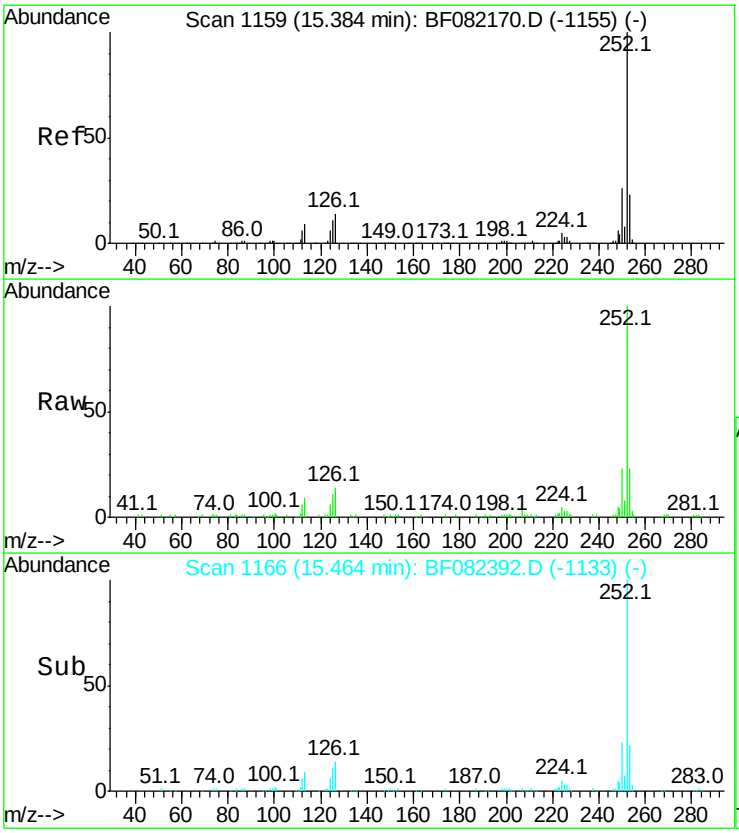
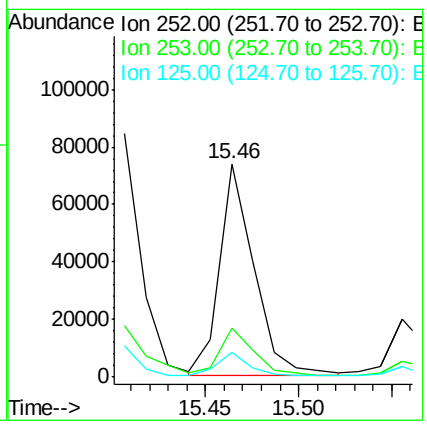


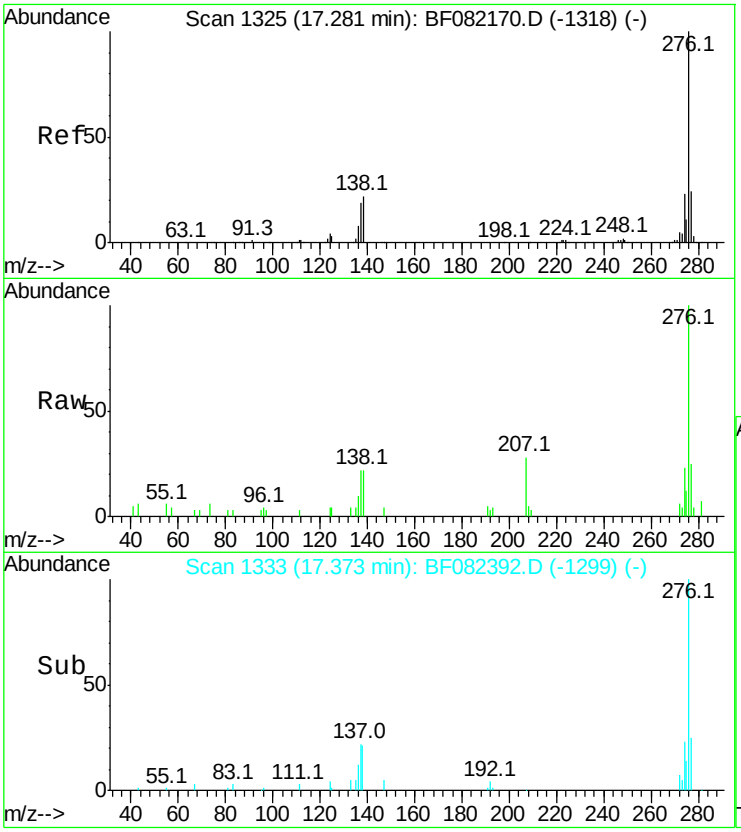


#89
Benzo(a)pyrene
Concen: 8.12 ng
RT: 15.46 min Scan# 1166
Delta R.T. 0.08 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:252 Resp: 95559

Ion	Ratio	Lower	Upper
252	100		
253	22.8	18.2	27.2
125	11.4	8.9	13.3

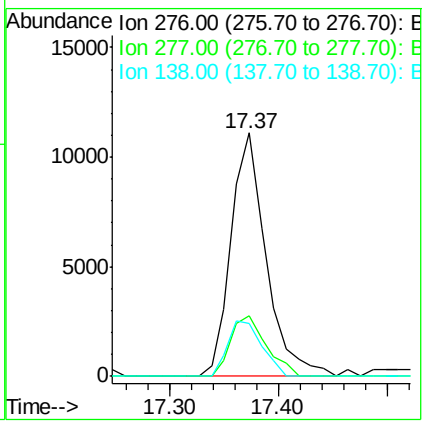




#91
Benzo(g,h,i)perylene
Concen: 2.65 ng
RT: 17.37 min Scan# 1333
Delta R.T. 0.09 min
Lab File: BF082392.D
Acq: 20 Oct 2015 9:48

Tgt Ion:276 Resp: 24780

Ion	Ratio	Lower	Upper
276	100		
277	24.9	18.8	28.2
138	22.0	17.4	26.2



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL

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Quantitation Report (QT Reviewed)

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082393.D
Acq On : 20 Oct 2015 10:17
Operator : UM/IZ
Sample : G4046-04DL2 500X
Misc :
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Oct 20 13:41:16 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	83201	20.00 ng	-0.03
21) Naphthalene-d8	8.09	136	346298	20.00 ng	-0.03
38) Acenaphthene-d10	9.85	164	168528	20.00 ng	-0.03
63) Phenanthrene-d10	11.34	188	294591	20.00 ng	-0.03
75) Chrysene-d12	14.04	240	221500	20.00 ng	0.02
86) Perylene-d12	15.57	264	210304	20.00 ng	0.13
System Monitoring Compounds					
5) 2-Fluorophenol	0.00	112	0	0.00 ng	
7) Phenol-d6	0.00	99	0	0.00 ng	
23) Nitrobenzene-d5	0.00	82	0	0.00 ng	
41) 2,4,6-Tribromophenol	0.00	330	0	0.00 ng	
44) 2-Fluorobiphenyl	9.18	172	1255	0.12 ng	-0.03
78) Terphenyl-d14	12.93	244	1149	0.14 ng	-0.03
Target Compounds					Qvalue
51) Acenaphthene	9.89	154	34017	3.60 ng	99
54) Dibenzofuran	10.06	168	56812	4.37 ng	94
57) Fluorene	10.40	166	74807	7.01 ng	99
70) Phenanthrene	11.36	178	604288	41.85 ng	99
71) Anthracene	11.42	178	81038	5.45 ng	98
72) Carbazole	11.58	167	55985	4.12 ng	98
74) Fluoranthene	12.56	202	430728	27.77 ng	98
77) Pyrene	12.79	202	237435	18.06 ng	96
80) Benzo(a)anthracene	14.02	228	41367m	3.59 ng	
82) Chrysene	14.06	228	45920m	3.78 ng	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Sample Results: **BF082393.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082393.D
Acq On : 20 Oct 2015 10:17
Operator : UM/IZ
Sample : G4046-04DL2 500X
Misc :
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Oct 20 13:41:16 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Mon Oct 12 01:46:21 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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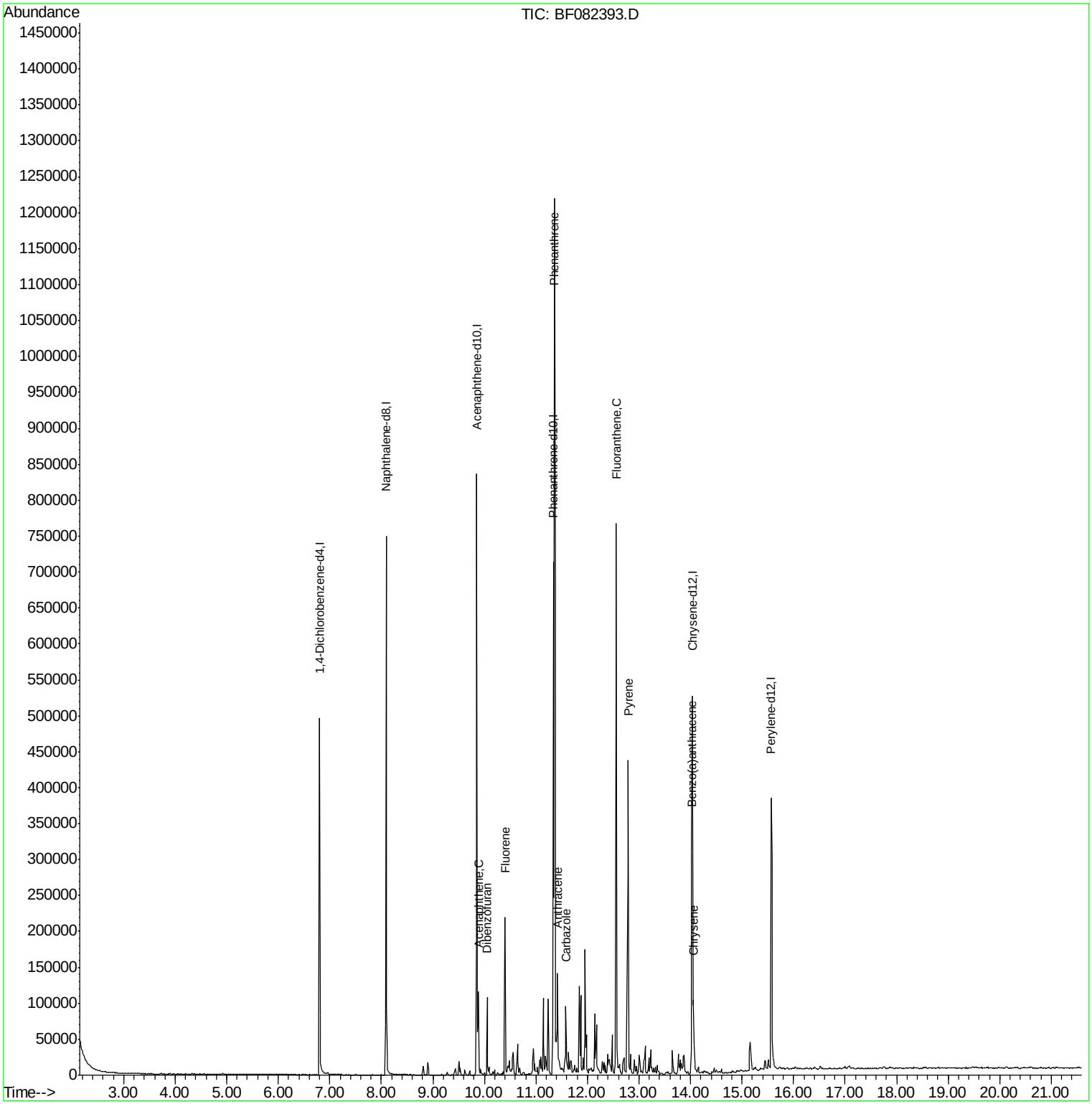
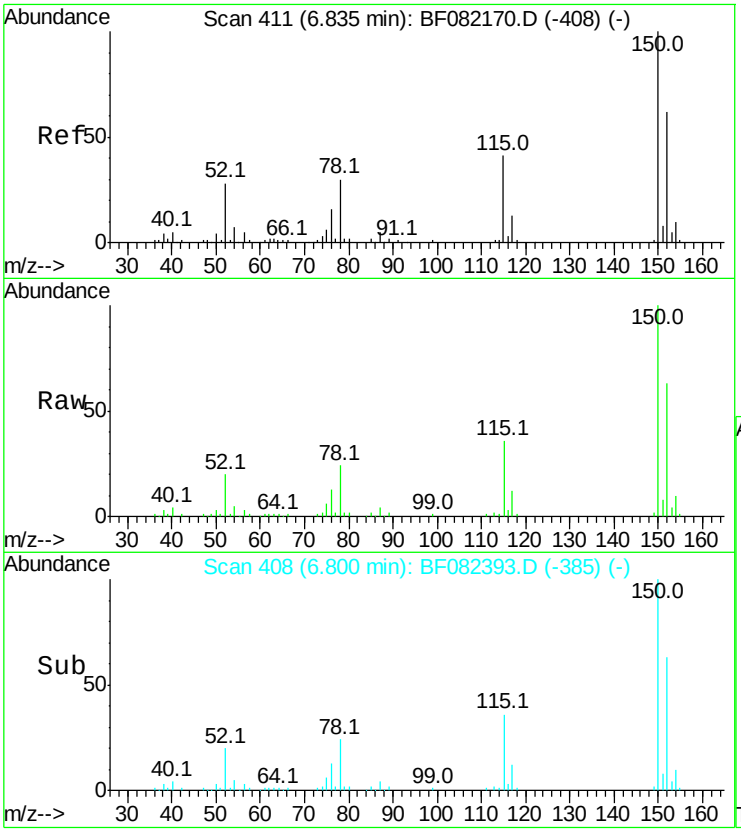
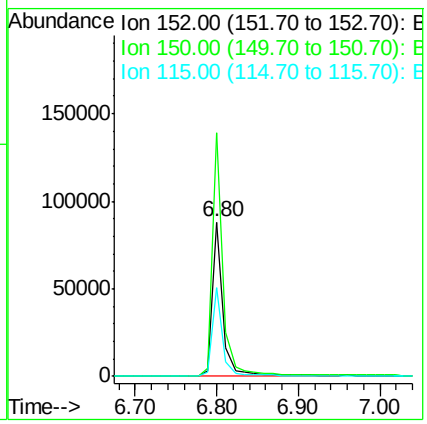




#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:152 Resp: 83201

Ion	Ratio	Lower	Upper
152	100		
150	158.1	129.0	193.4
115	57.5	52.1	78.1



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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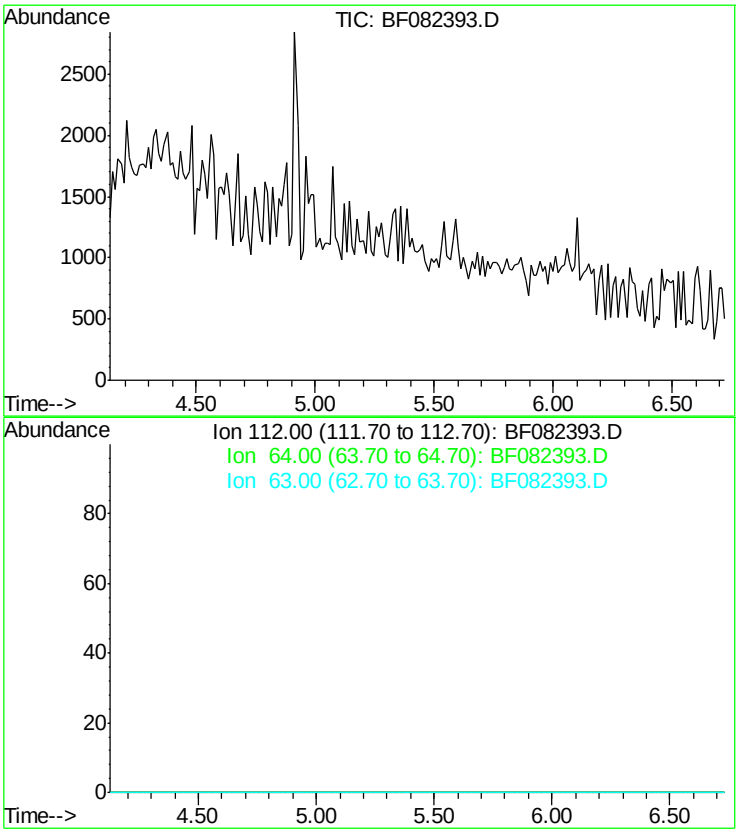

#5
2-Fluorophenol
Concen: 0.00 ng
Expected RT: 5.43 min

Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion: 112

Sig	Exp Ratio
112	100
64	60.8
63	31.4

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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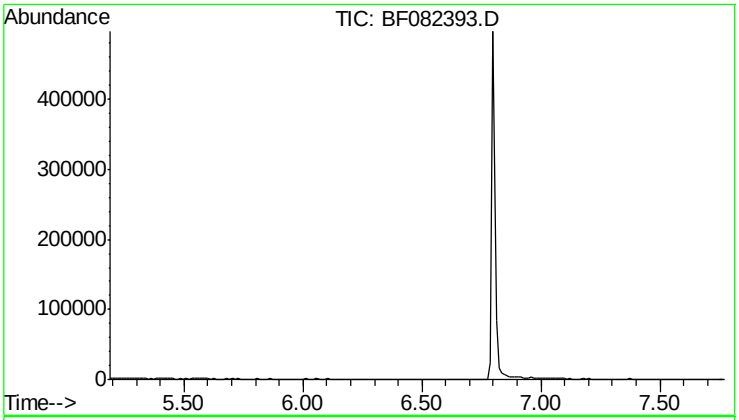
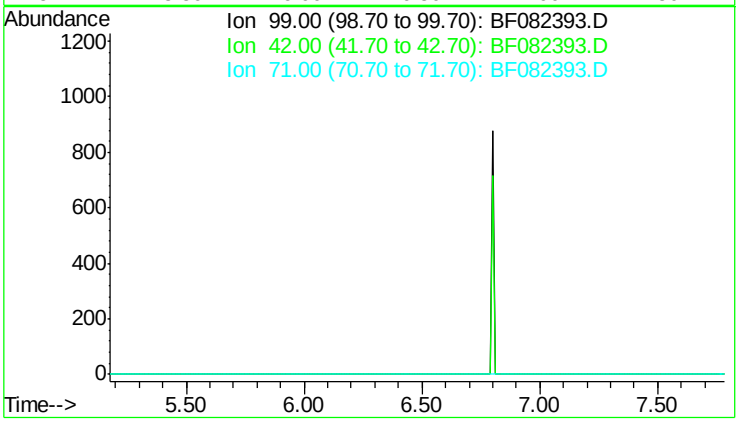


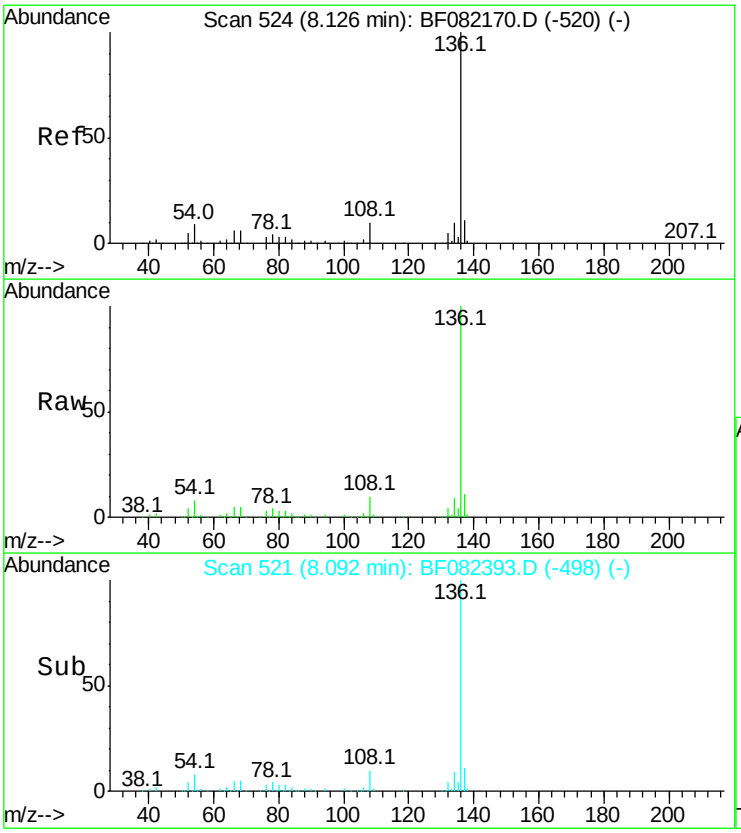


#7
Phenol-d6
Concen: 0.00 ng
Expected RT: 6.48 min

Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion: 99

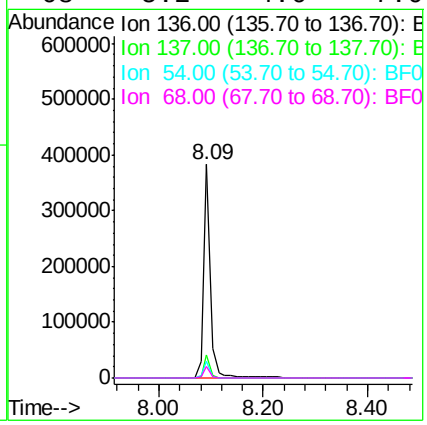
Sig	Exp Ratio
99	100
42	16.5
71	32.0



#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:136 Resp: 346298

Ion	Ratio	Lower	Upper
136	100		
137	11.1	9.0	13.6
54	7.9	7.5	11.3
68	5.2	4.6	7.0



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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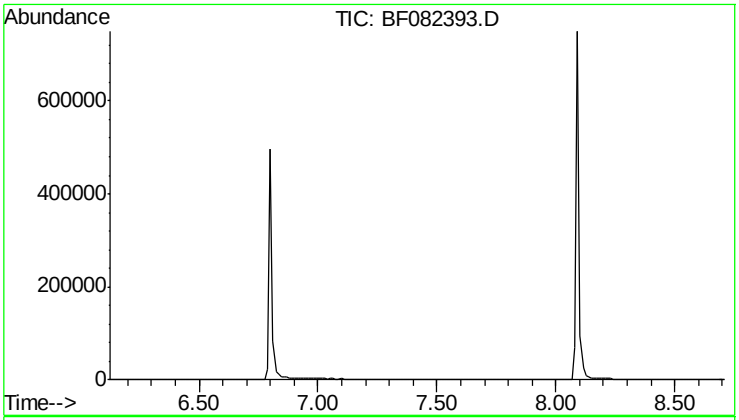
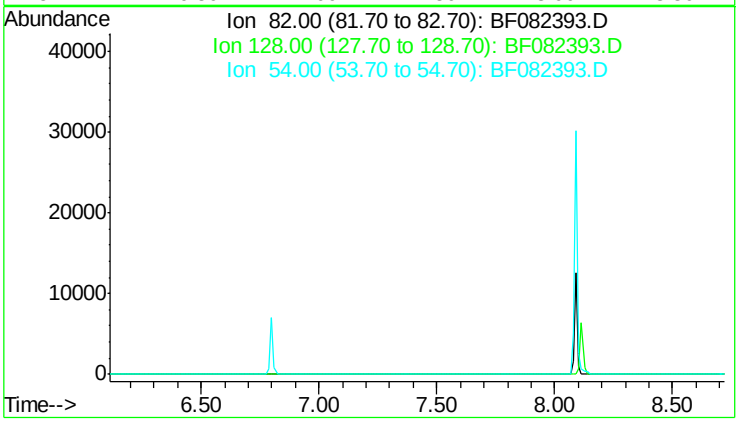


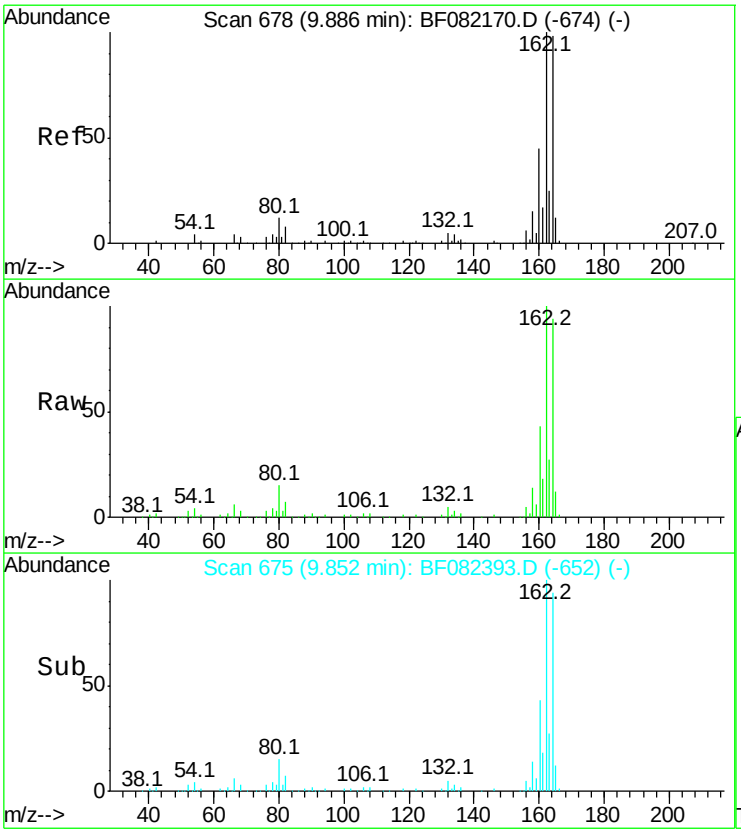


#23
Nitrobenzene-d5
Concen: 0.00 ng
Expected RT: 7.42 min

Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion: 82

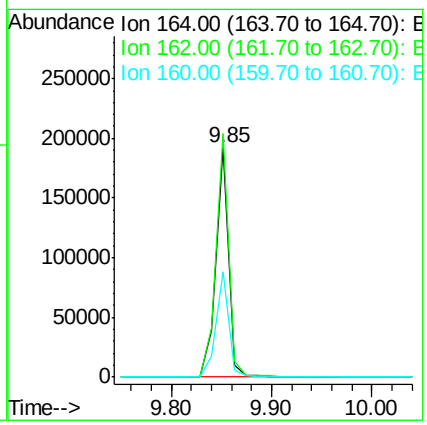
Sig	Exp Ratio
82	100
128	48.4
54	50.1



#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:164 Resp: 168528

Ion	Ratio	Lower	Upper
164	100		
162	106.3	81.6	122.4
160	46.1	36.4	54.6



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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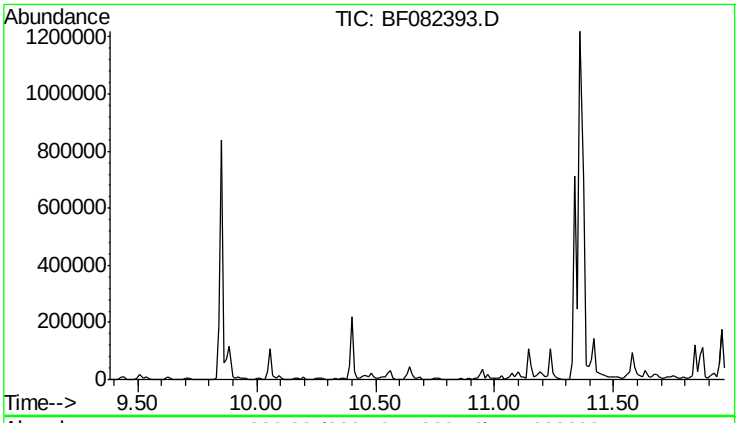
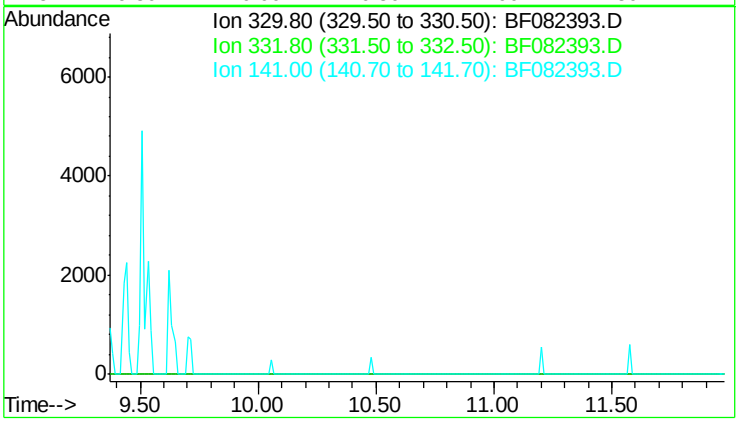


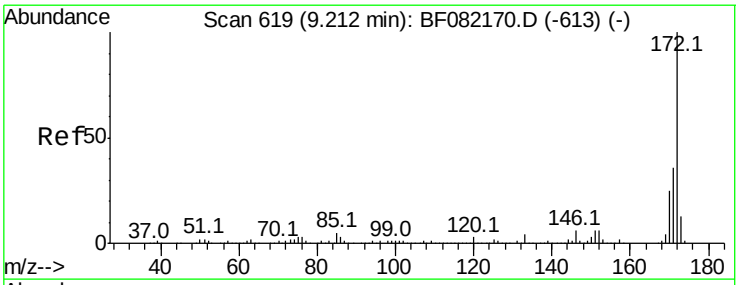


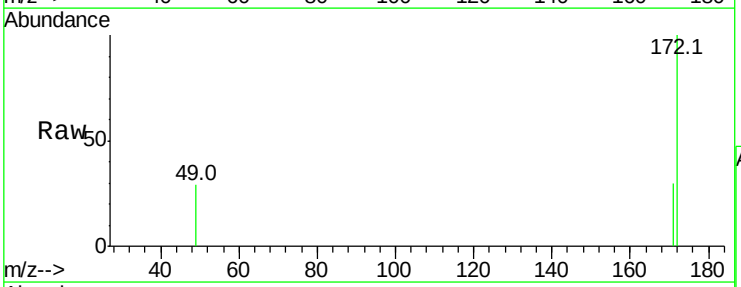
#41
2,4,6-Tribromophenol
Concen: 0.00 ng
Expected RT: 10.67 min

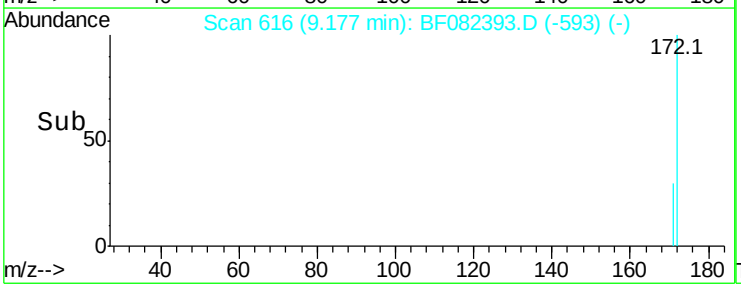
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion: 330

Sig	Exp Ratio
330	100
332	96.4
141	37.3



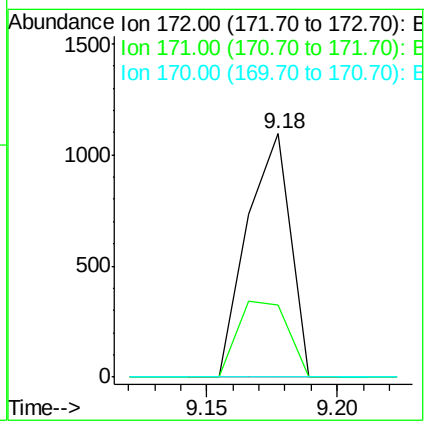




#44
2-Fluorobiphenyl
Concen: 0.12 ng
RT: 9.18 min Scan# 616
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:172 Resp: 1255

Ion	Ratio	Lower	Upper
172	100		
171	29.7	28.6	42.8
170	0.0	19.7	29.5#



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

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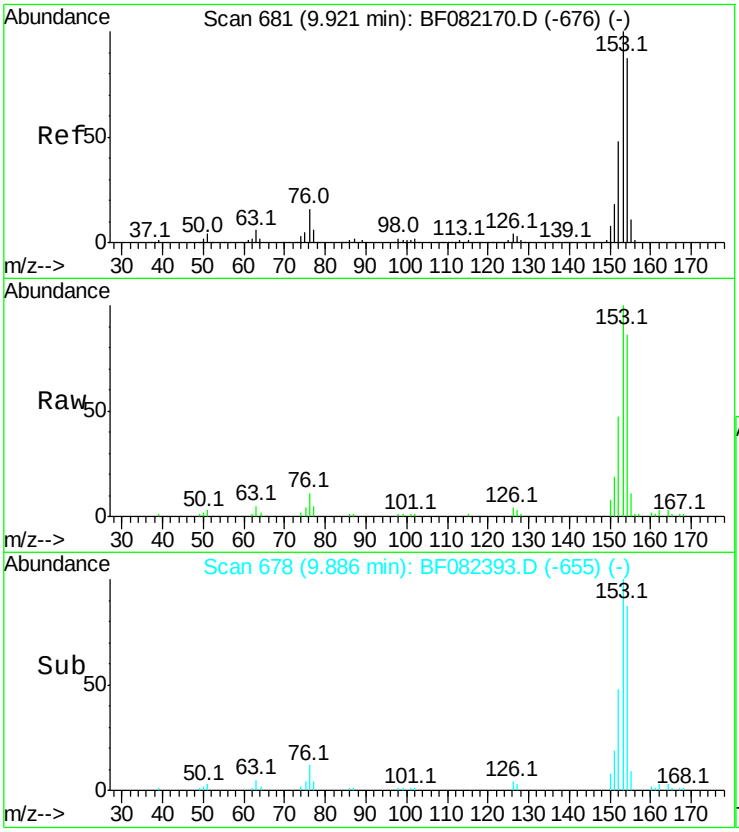
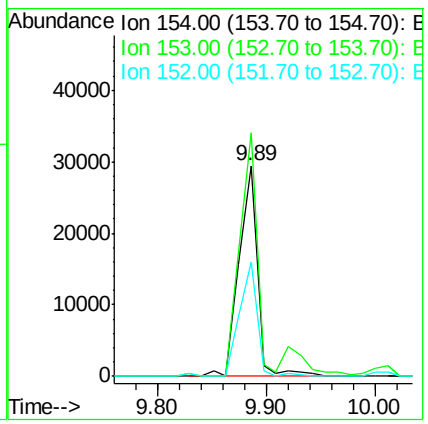
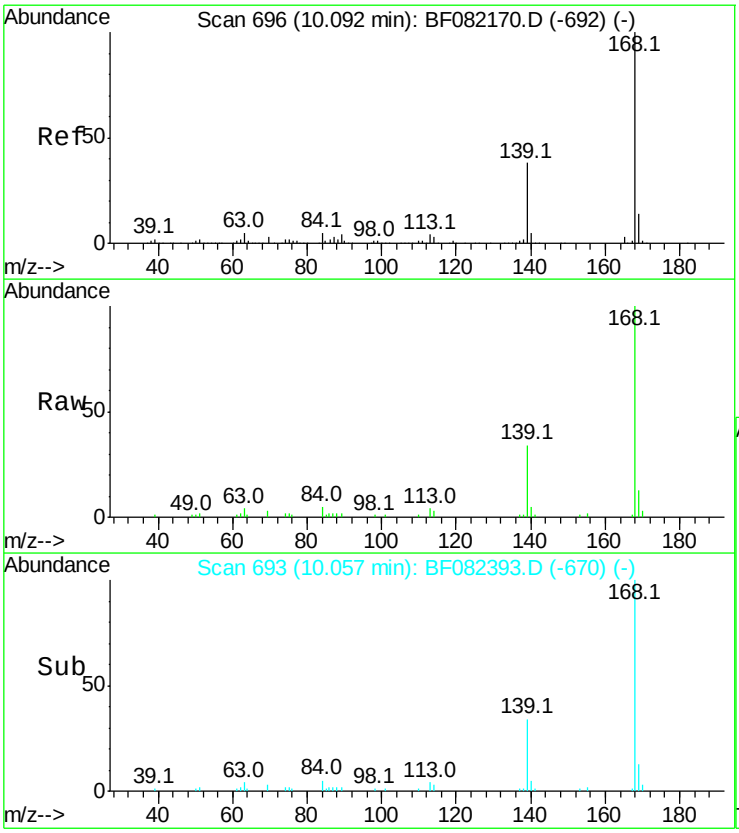


#51
Acenaphthene
Concen: 3.60 ng
RT: 9.89 min Scan# 678
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:154 Resp: 34017

Ion	Ratio	Lower	Upper
154	100		
153	115.8	91.4	137.2
152	54.6	44.3	66.5

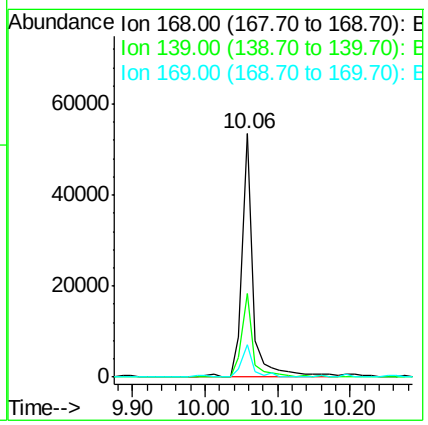


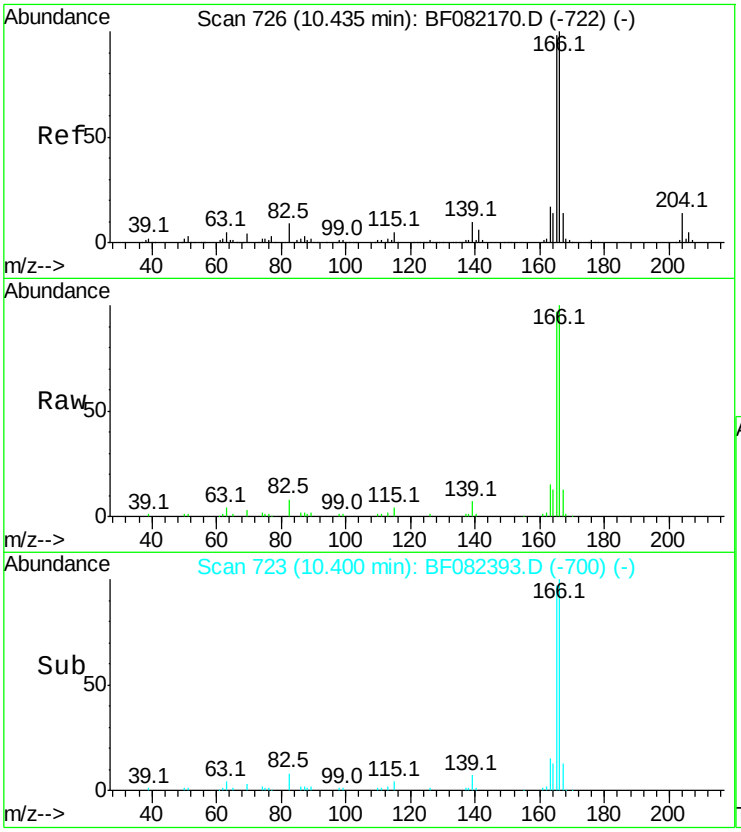


#54
Dibenzofuran
Concen: 4.37 ng
RT: 10.06 min Scan# 693
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:168 Resp: 56812

Ion	Ratio	Lower	Upper
168	100		
139	34.3	31.0	46.6
169	13.5	10.9	16.3





#57
Fluorene
Concen: 7.01 ng
RT: 10.40 min Scan# 723
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:166 Resp: 74807

Ion	Ratio	Lower	Upper
166	100		
165	97.2	78.3	117.5
167	13.3	10.8	16.2

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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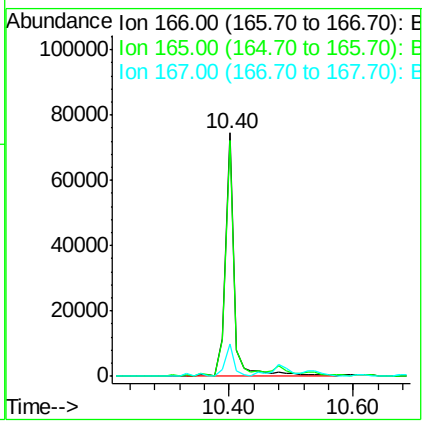
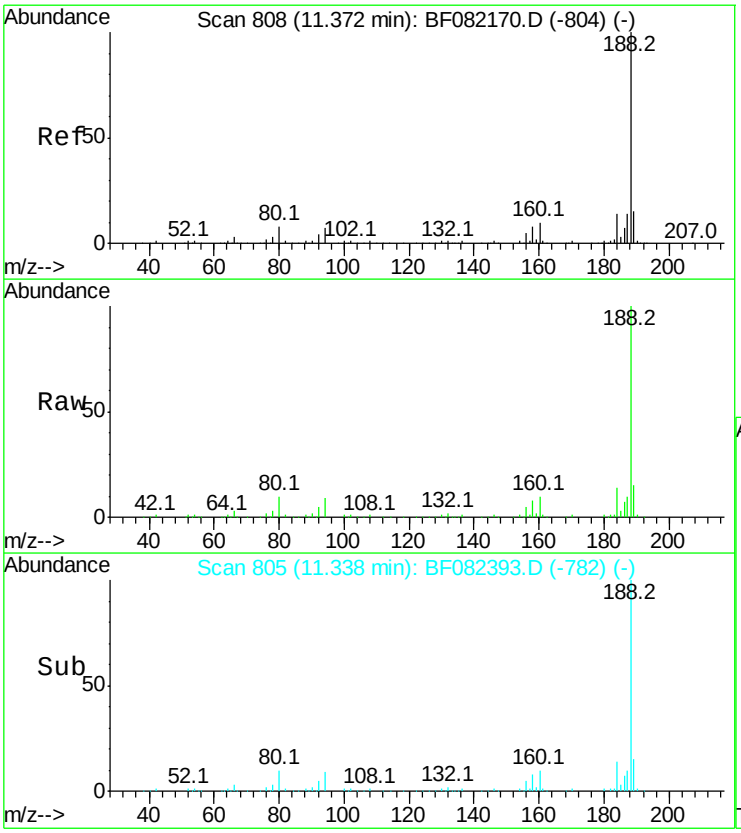
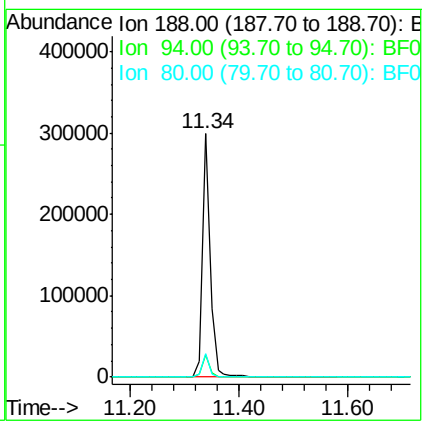




#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:188 Resp: 294591

Ion	Ratio	Lower	Upper
188	100		
94	9.1	5.8	8.6#
80	9.5	6.4	9.6



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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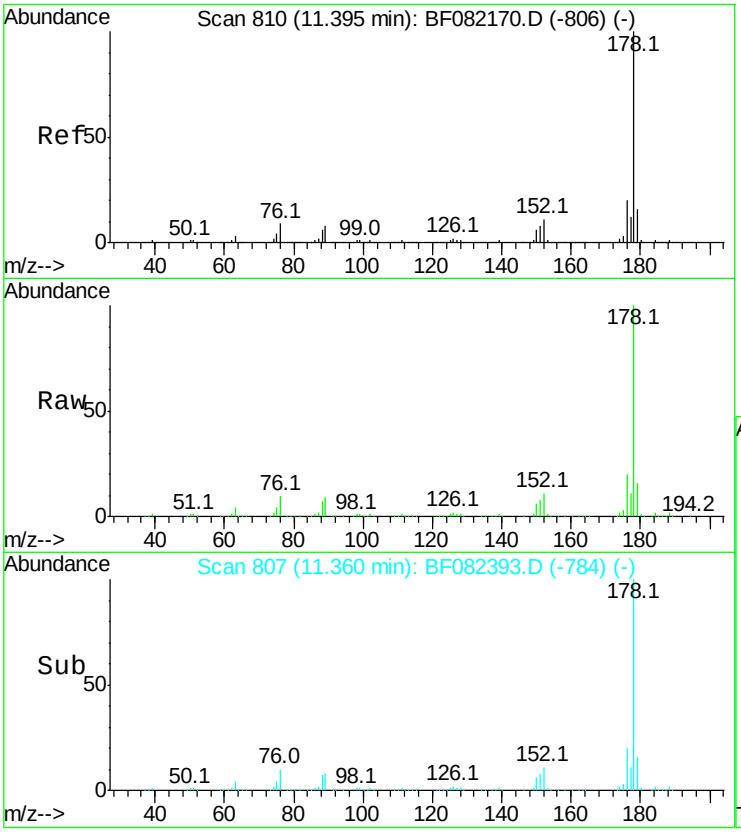
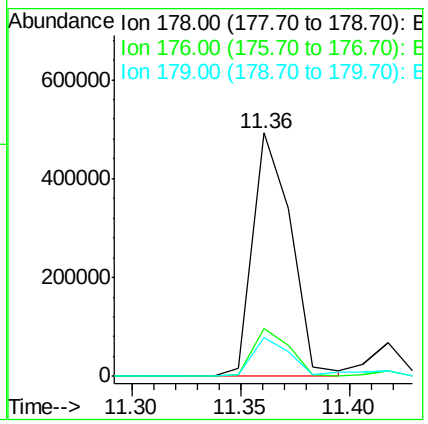
10/20/2015 6:26:14 PM

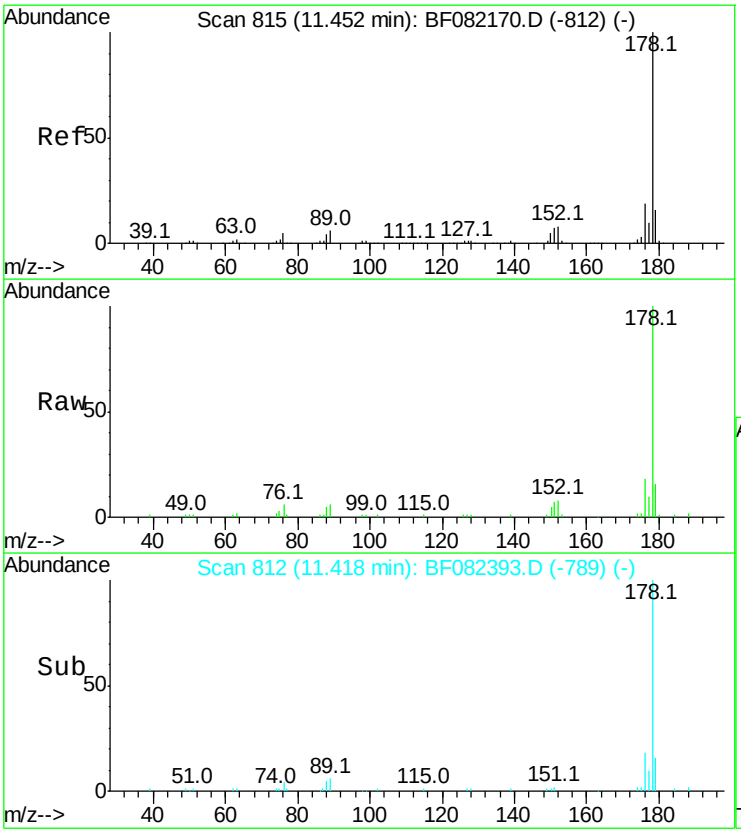


#70
Phenanthrene
Concen: 41.85 ng
RT: 11.36 min Scan# 807
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:178 Resp: 604288

Ion	Ratio	Lower	Upper
178	100		
176	19.6	16.0	24.0
179	15.9	12.6	19.0

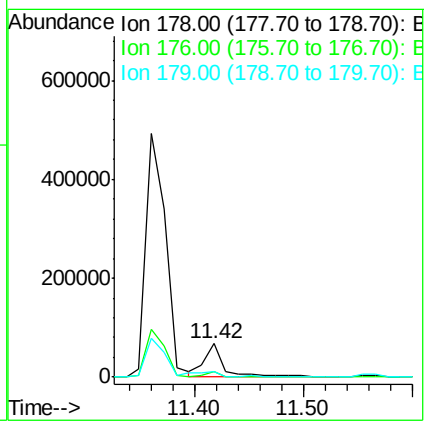


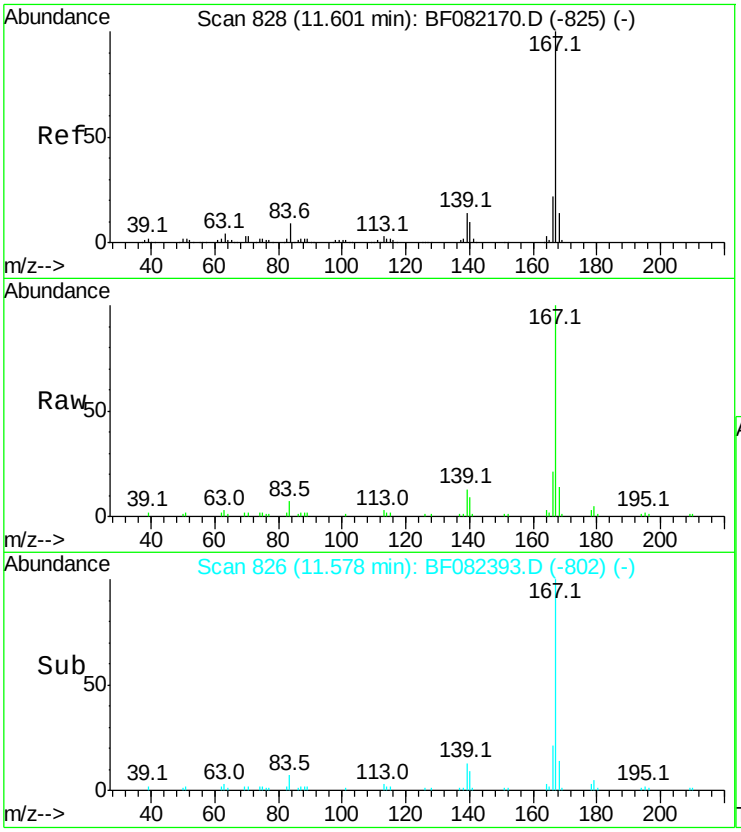


#71
Anthracene
Concen: 5.45 ng
RT: 11.42 min Scan# 812
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:178 Resp: 81038

Ion	Ratio	Lower	Upper
178	100		
176	17.8	15.4	23.0
179	16.0	12.5	18.7





#72
Carbazole
Concen: 4.12 ng
RT: 11.58 min Scan# 826
Delta R.T. -0.02 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:167 Resp: 55985

Ion	Ratio	Lower	Upper
167	100		
166	21.4	17.3	25.9
139	12.7	11.2	16.8

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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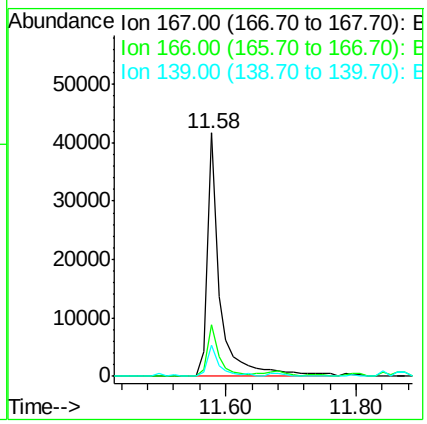
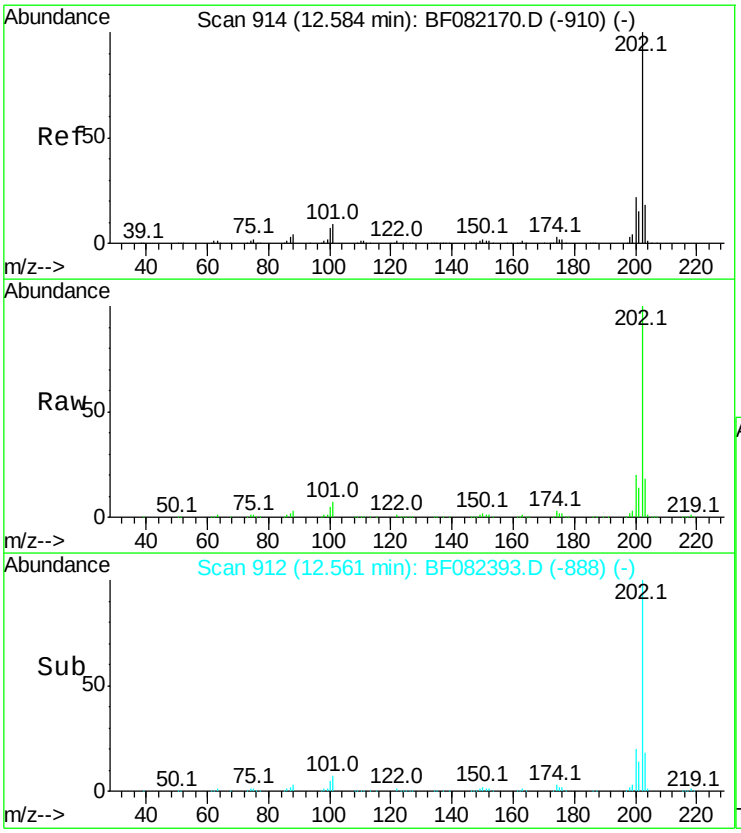
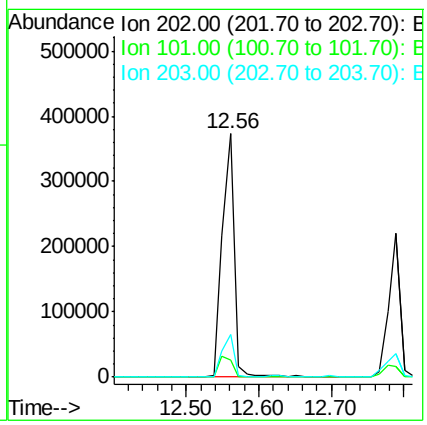


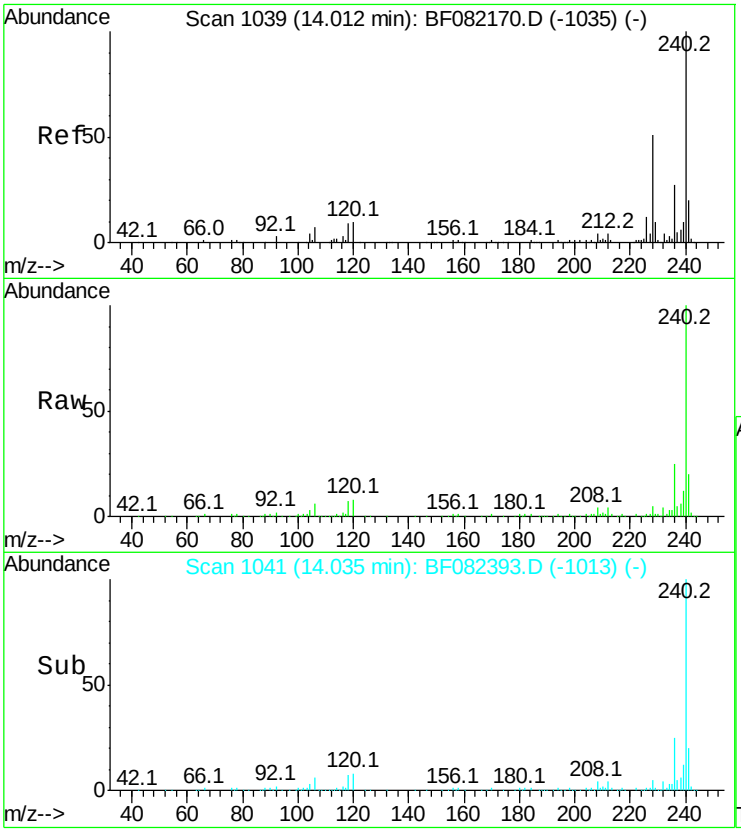


#74
Fluoranthene
Concen: 27.77 ng
RT: 12.56 min Scan# 912
Delta R.T. -0.02 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:202 Resp: 430728

Ion	Ratio	Lower	Upper
202	100		
101	6.9	0.0	29.3
203	17.6	0.0	37.8





#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.04 min Scan# 1041
Delta R.T. 0.02 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:240 Resp: 221500

Ion	Ratio	Lower	Upper
240	100		
120	8.2	8.1	12.1
236	25.3	21.3	31.9

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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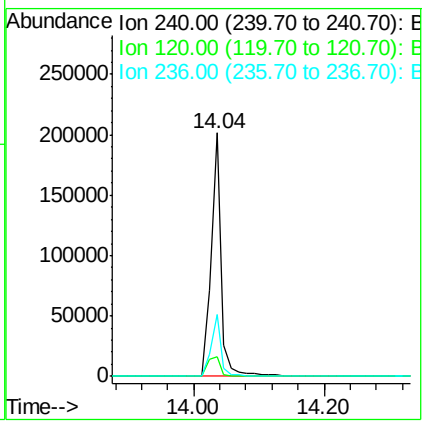
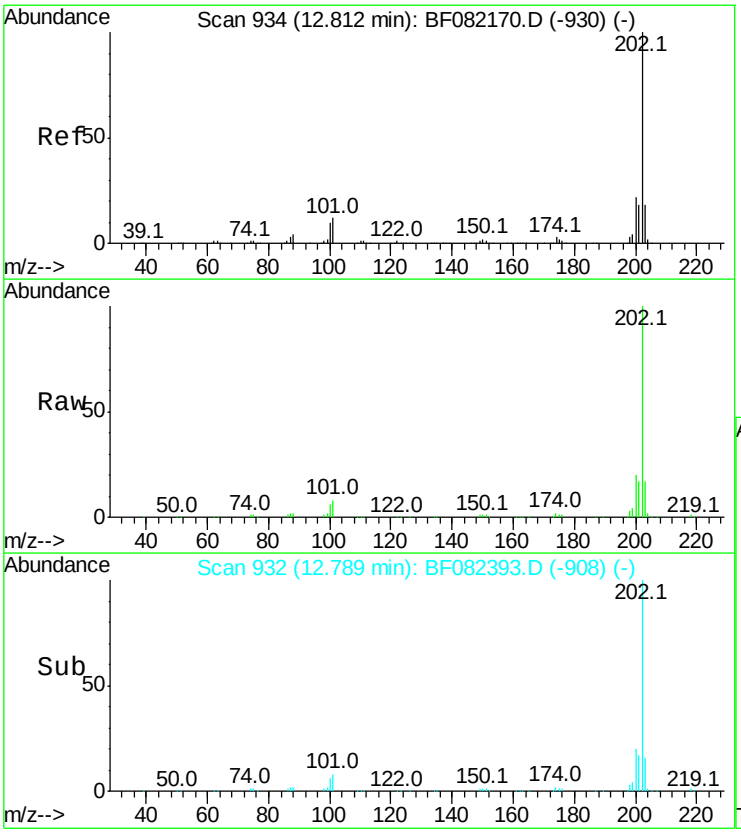
10/20/2015 6:26:14 PM

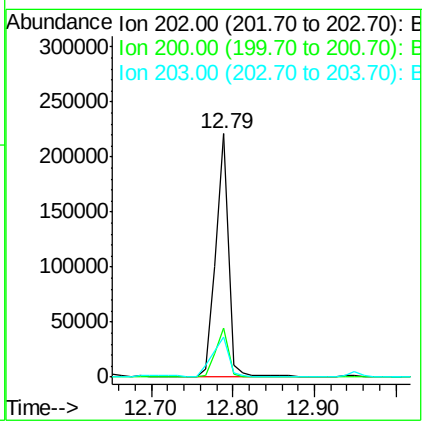


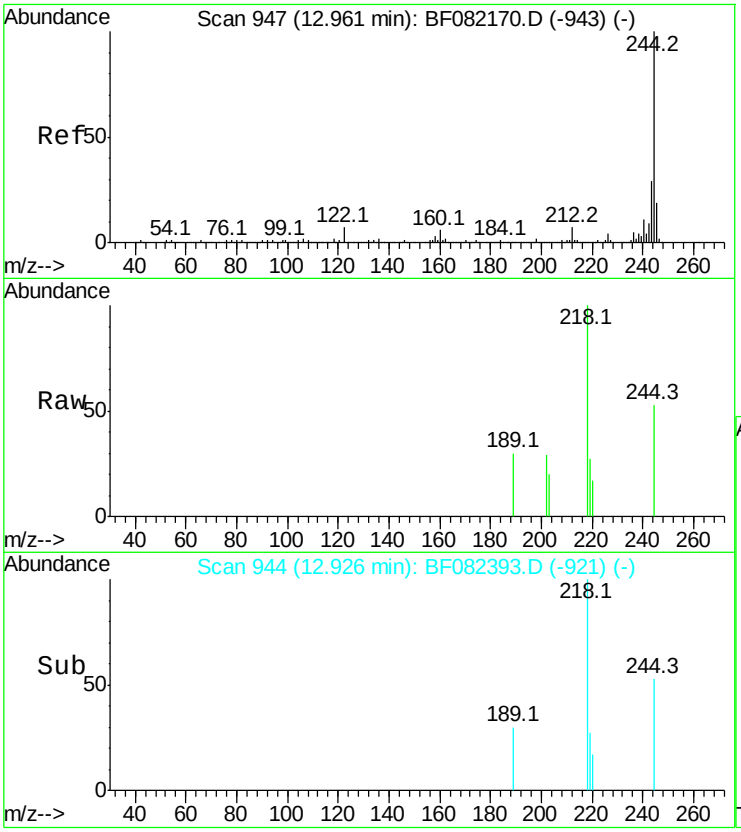


#77
Pyrene
Concen: 18.06 ng
RT: 12.79 min Scan# 932
Delta R.T. -0.02 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:202 Resp: 237435

Ion	Ratio	Lower	Upper
202	100		
200	20.0	17.9	26.9
203	16.7	14.5	21.7

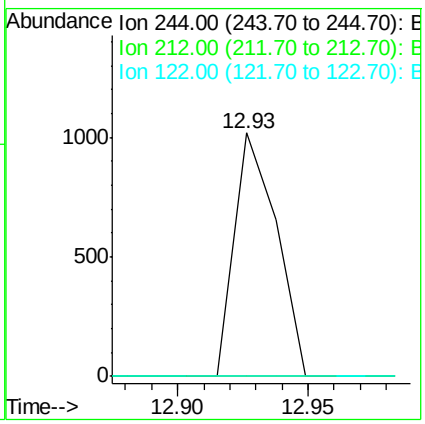




#78
Terphenyl-d14
Concen: 0.14 ng
RT: 12.93 min Scan# 944
Delta R.T. -0.03 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:244 Resp: 1149

Ion	Ratio	Lower	Upper
244	100		
212	0.0	5.8	8.6#
122	0.0	5.9	8.9#



Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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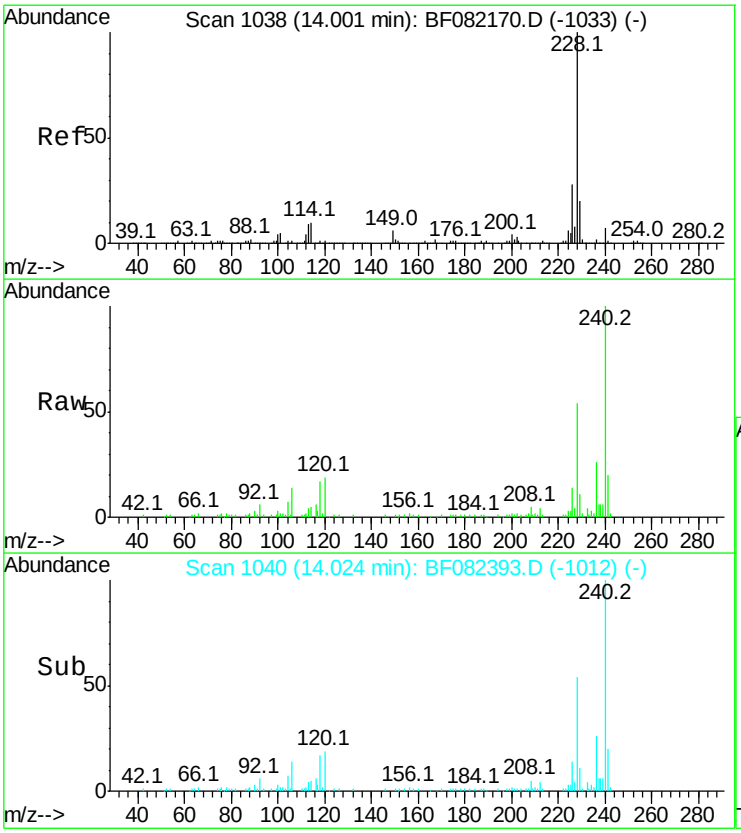
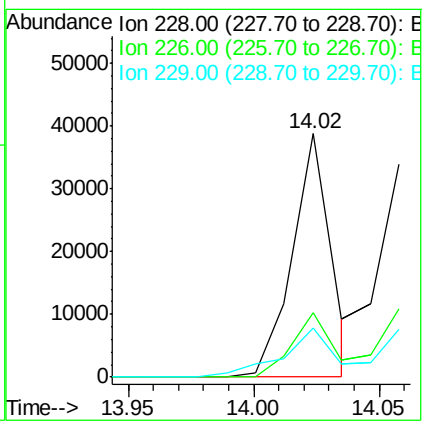
10/20/2015 6:26:14 PM

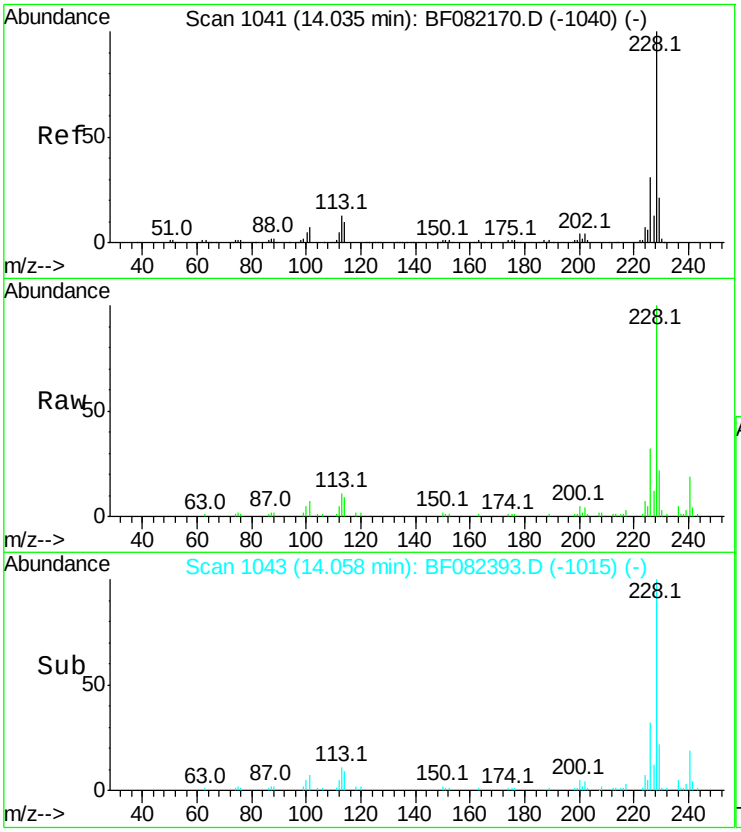


#80
Benzo(a)anthracene
Concen: 3.59 ng m
RT: 14.02 min Scan# 1040
Delta R.T. 0.02 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:228 Resp: 41367

Ion	Ratio	Lower	Upper
228	100		
226	26.3	22.3	33.5
229	20.1	16.2	24.2





#82
Chrysene
Concen: 3.78 ng m
RT: 14.06 min Scan# 1043
Delta R.T. 0.02 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:228 Resp: 45920

Ion	Ratio	Lower	Upper
228	100		
226	32.2	24.4	36.6
229	22.1	16.3	24.5

Instrument :
BNA_F
ClientSampleId :
MANAHAWKEN112DL2

Manual Integrations APPROVED
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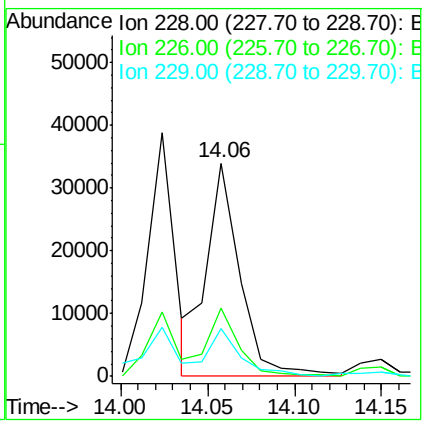
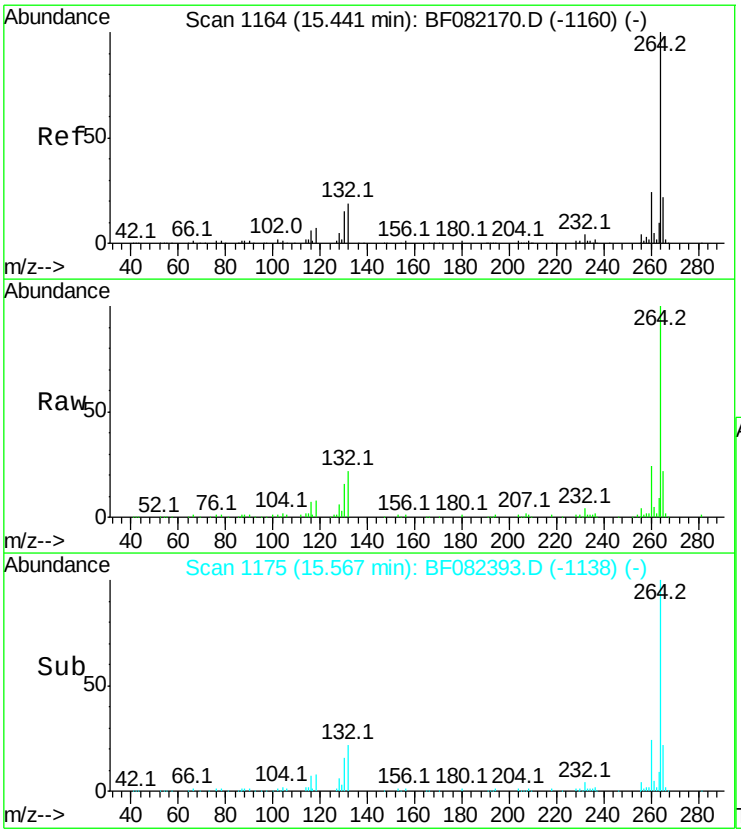
10/20/2015 6:26:14 PM

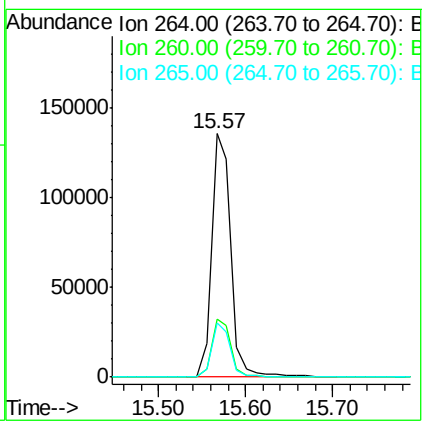




#86
Perylene-d12
Concen: 20.00 ng
RT: 15.57 min Scan# 1175
Delta R.T. 0.13 min
Lab File: BF082393.D
Acq: 20 Oct 2015 10:17

Tgt Ion:264 Resp: 210304

Ion	Ratio	Lower	Upper
264	100		
260	23.6	19.0	28.6
265	22.4	17.3	25.9



Quantitation Report (LSC Reviewed)

Instrument :
BNA_F
ClientSampleId :
PB86144BL

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 20 02:18:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	106489	20.00	ng	0.00
21) Naphthalene-d8	8.09	136	411033	20.00	ng	0.00
38) Acenaphthene-d10	9.85	164	209250	20.00	ng	0.00
63) Phenanthrene-d10	11.34	188	424603	20.00	ng	-0.01
75) Chrysene-d12	14.06	240	365882	20.00	ng	-0.03
86) Perylene-d12	15.62	264	285758	20.00	ng	-0.05
System Monitoring Compounds						
5) 2-Fluorophenol	5.41	112	640594	121.41	ng	0.01
7) Phenol-d6	6.45	99	860285	125.29	ng	0.00
23) Nitrobenzene-d5	7.37	82	495003	80.87	ng	-0.01
41) 2,4,6-Tribromophenol	10.64	330	188039	95.82	ng	-0.01
44) 2-Fluorobiphenyl	9.18	172	1073103	85.05	ng	0.00
78) Terphenyl-d14	12.95	244	1148683	83.19	ng	0.00

Target Compounds	Qvalue

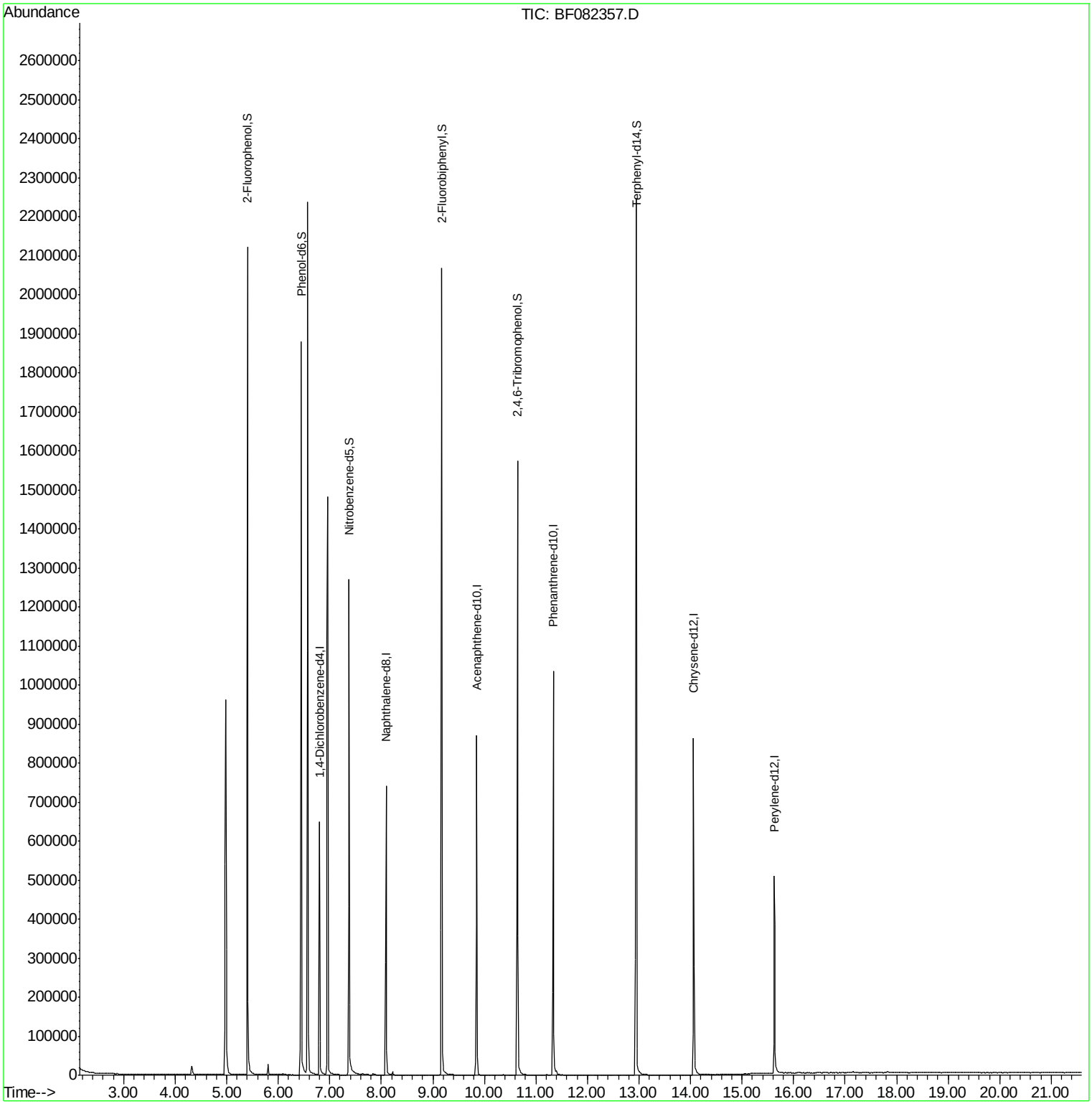
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sample Results: **BF082357.D**

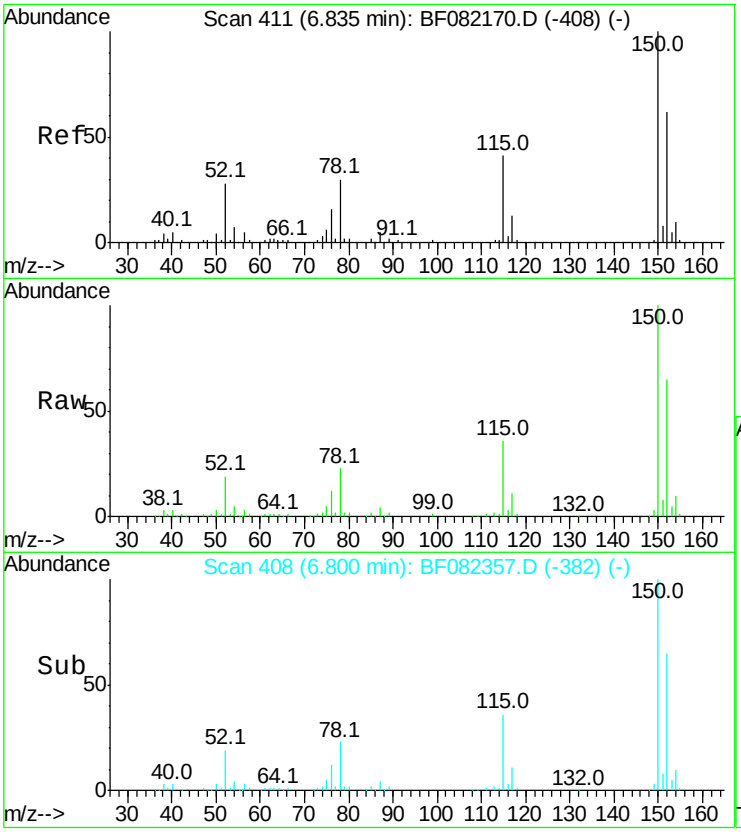
Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BL

Quant Time: Oct 20 02:18:44 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration



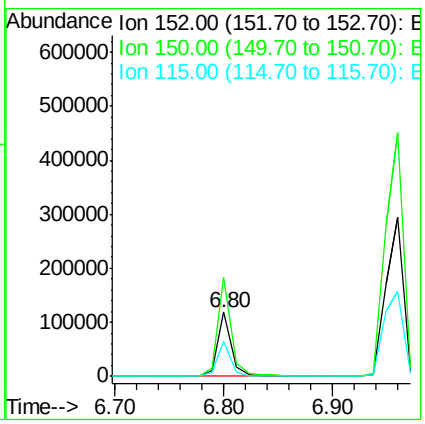
Instrument :
BNA_F
ClientSampleId :
PB86144BL

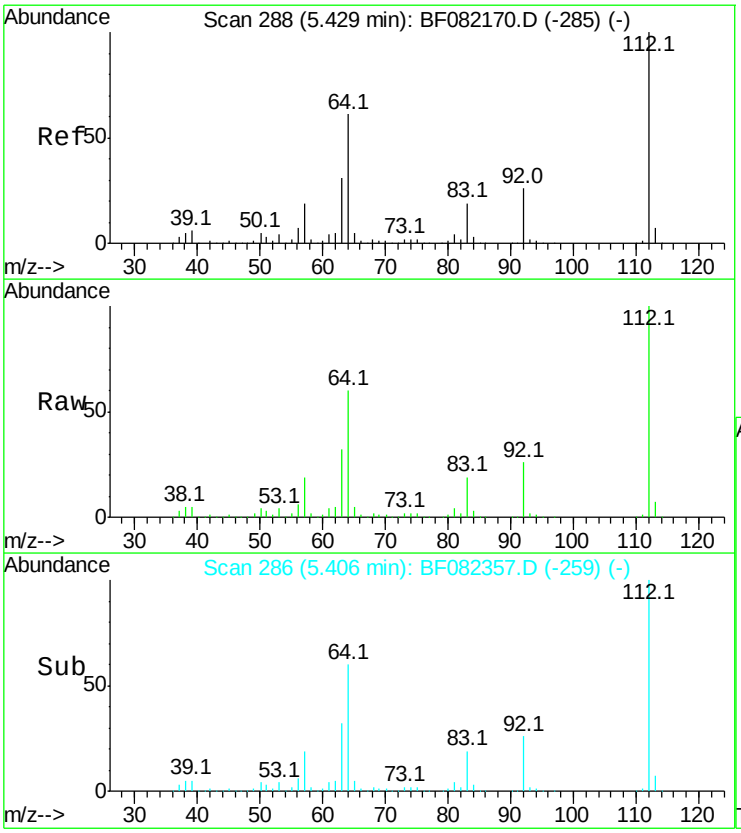


#1
1,4-Dichlorobenzene-d4
Concen: 20.00 ng
RT: 6.80 min Scan# 408
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:152 Resp: 106489

Ion	Ratio	Lower	Upper
152	100		
150	153.8	129.0	193.4
115	55.5	52.1	78.1

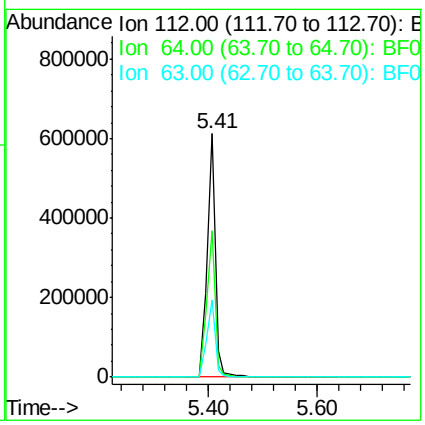




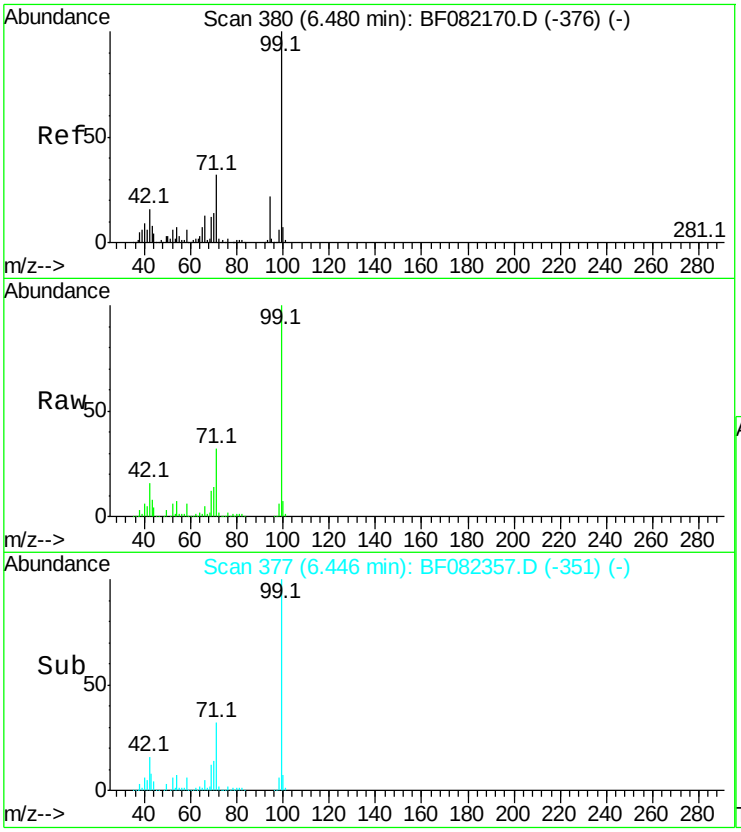
#5
2-Fluorophenol
Concen: 121.41 ng
RT: 5.41 min Scan# 286
Delta R.T. 0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:112 Resp: 640594

Ion	Ratio	Lower	Upper
112	100		
64	60.1	48.6	73.0
63	31.8	25.1	37.7



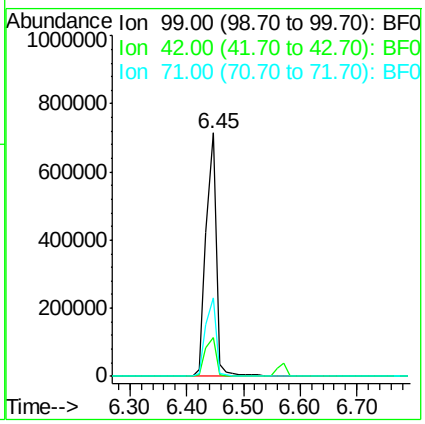
Instrument :
BNA_F
ClientSampleId :
PB86144BL

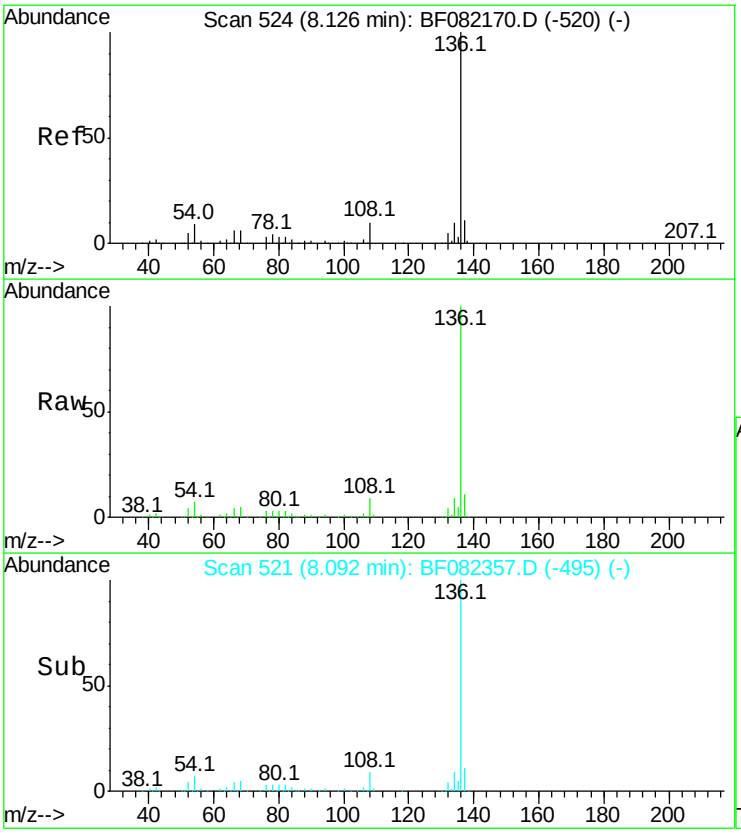


#7
Phenol-d6
Concen: 125.29 ng
RT: 6.45 min Scan# 377
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion: 99 Resp: 860285

Ion	Ratio	Lower	Upper
99	100		
42	15.8	13.2	19.8
71	32.4	25.6	38.4

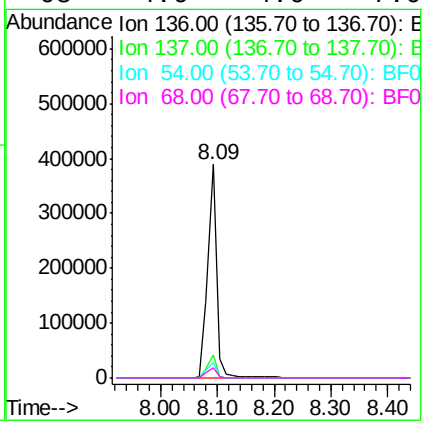




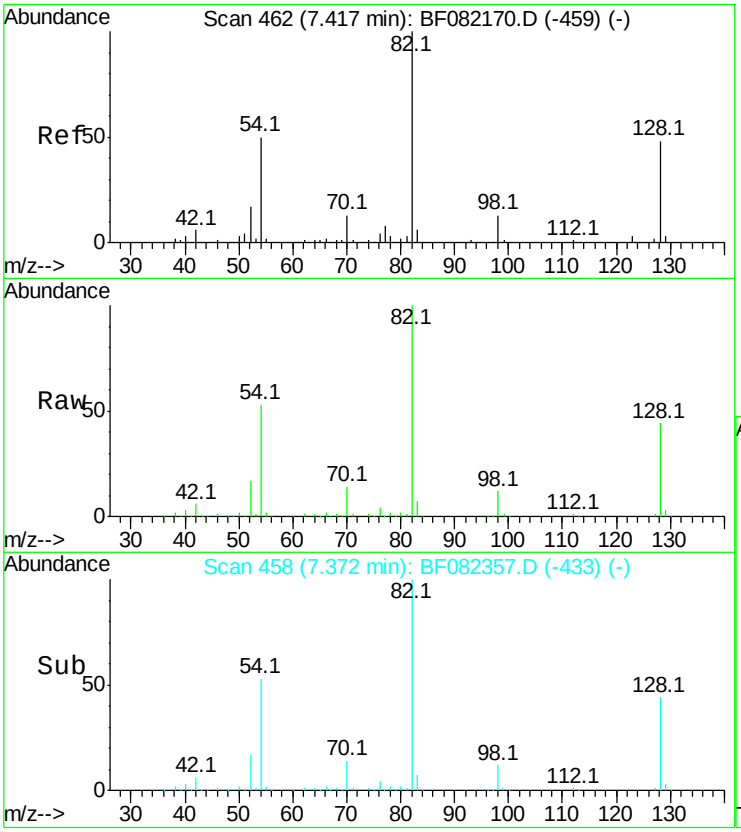
#21
Naphthalene-d8
Concen: 20.00 ng
RT: 8.09 min Scan# 521
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:136 Resp: 411033

Ion	Ratio	Lower	Upper
136	100		
137	10.7	9.0	13.6
54	7.1	7.5	11.3#
68	4.6	4.6	7.0



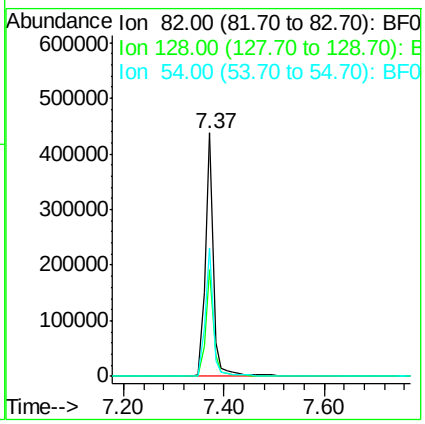
Instrument :
BNA_F
ClientSampleId :
PB86144BL

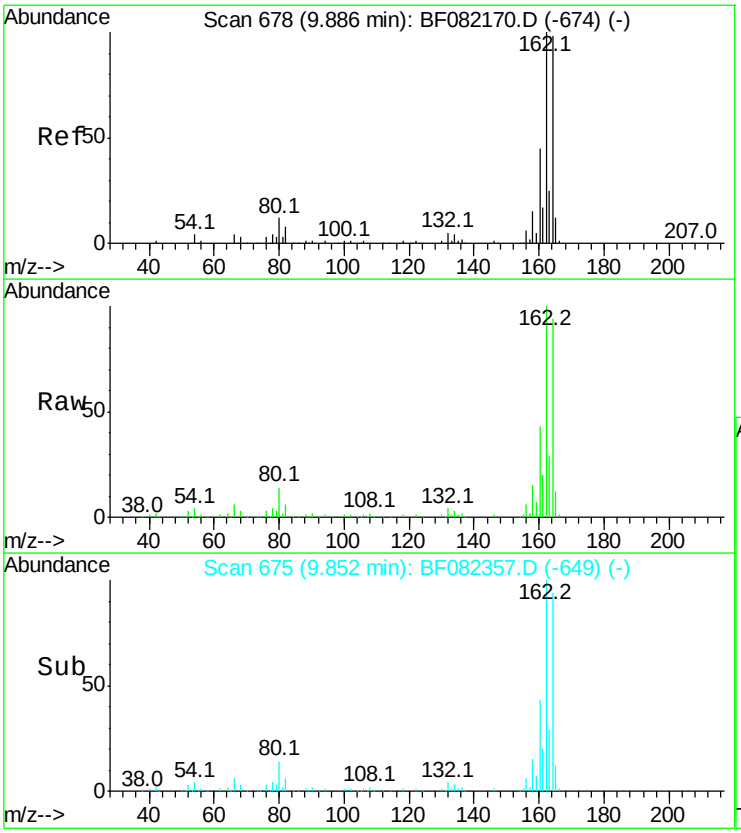


#23
Nitrobenzene-d5
Concen: 80.87 ng
RT: 7.37 min Scan# 458
Delta R.T. -0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion: 82 Resp: 495003

Ion	Ratio	Lower	Upper
82	100		
128	43.7	38.7	58.1
54	53.0	40.1	60.1

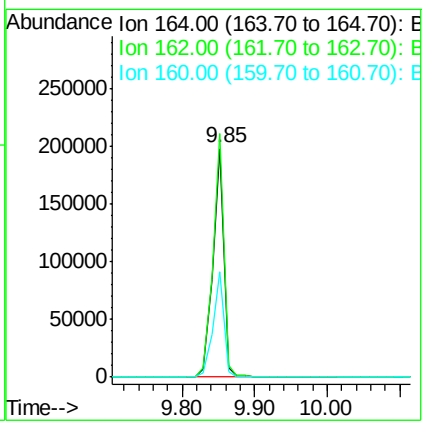




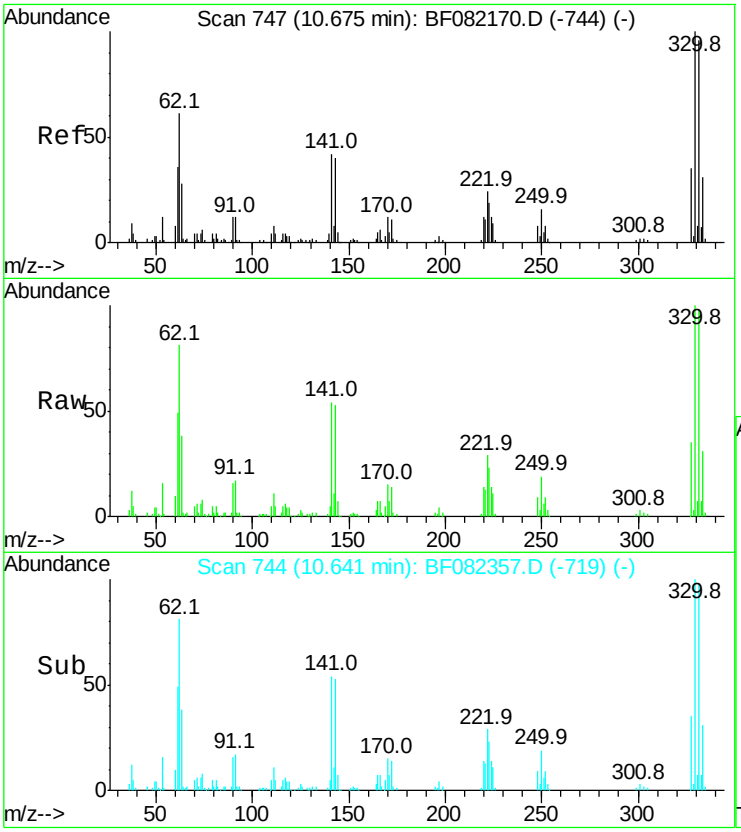
#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.85 min Scan# 675
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:164 Resp: 209250

Ion	Ratio	Lower	Upper
164	100		
162	106.7	81.6	122.4
160	45.9	36.4	54.6



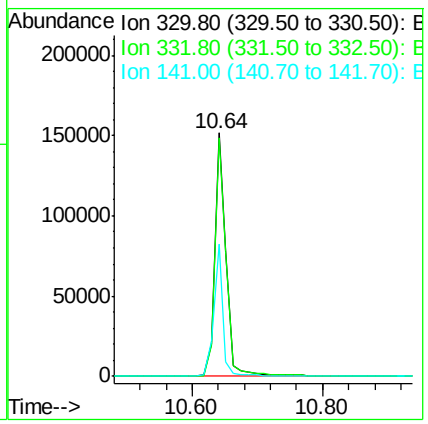
Instrument :
BNA_F
ClientSampleId :
PB86144BL

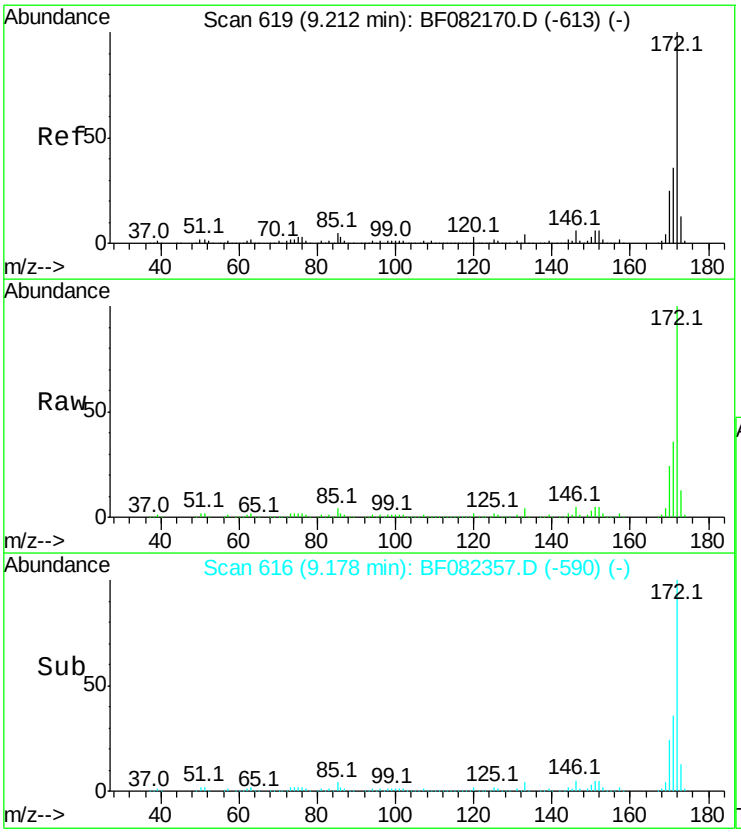


#41
2,4,6-Tribromophenol
Concen: 95.82 ng
RT: 10.64 min Scan# 744
Delta R.T. -0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:330 Resp: 188039

Ion	Ratio	Lower	Upper
330	100		
332	98.3	77.1	115.7
141	44.4	29.8	44.8

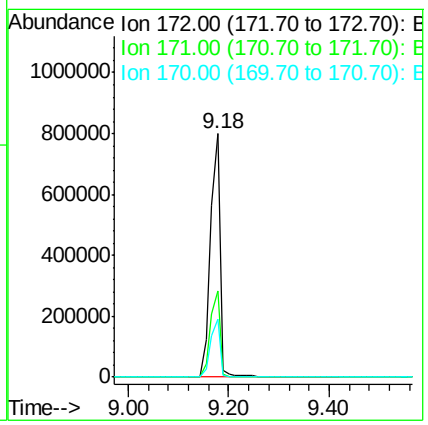




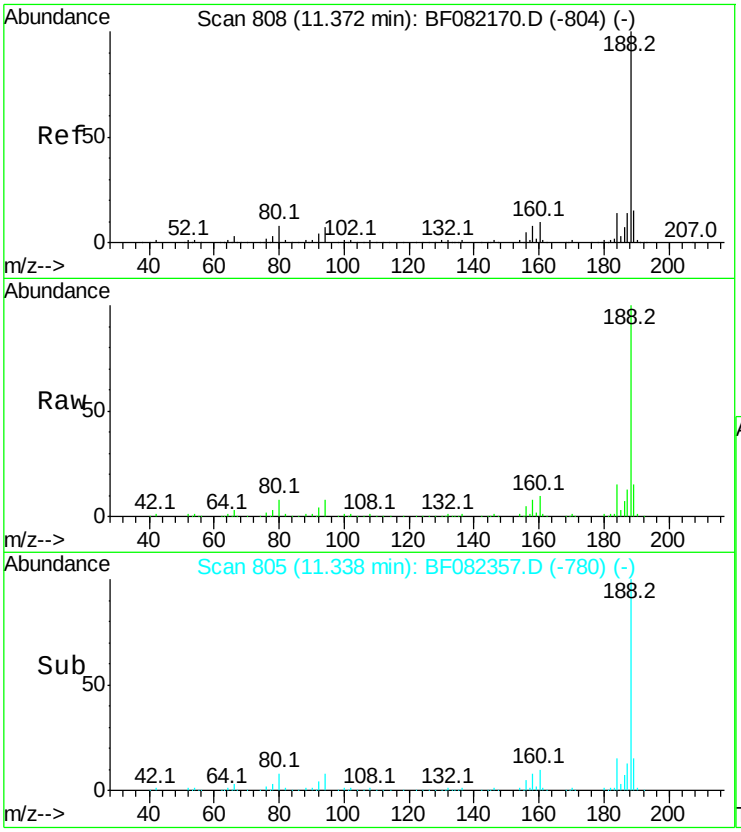
#44
2-Fluorobiphenyl
Concen: 85.05 ng
RT: 9.18 min Scan# 616
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:172 Resp: 1073103

Ion	Ratio	Lower	Upper
172	100		
171	35.5	28.6	42.8
170	24.0	19.7	29.5



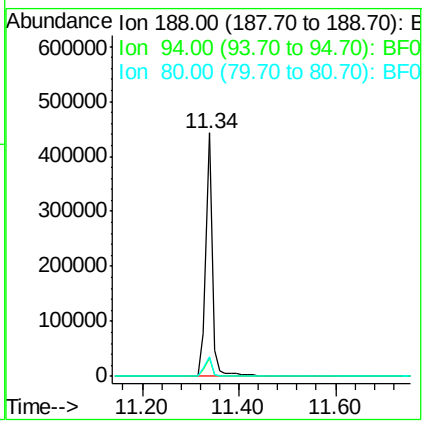
Instrument :
BNA_F
ClientSampleId :
PB86144BL

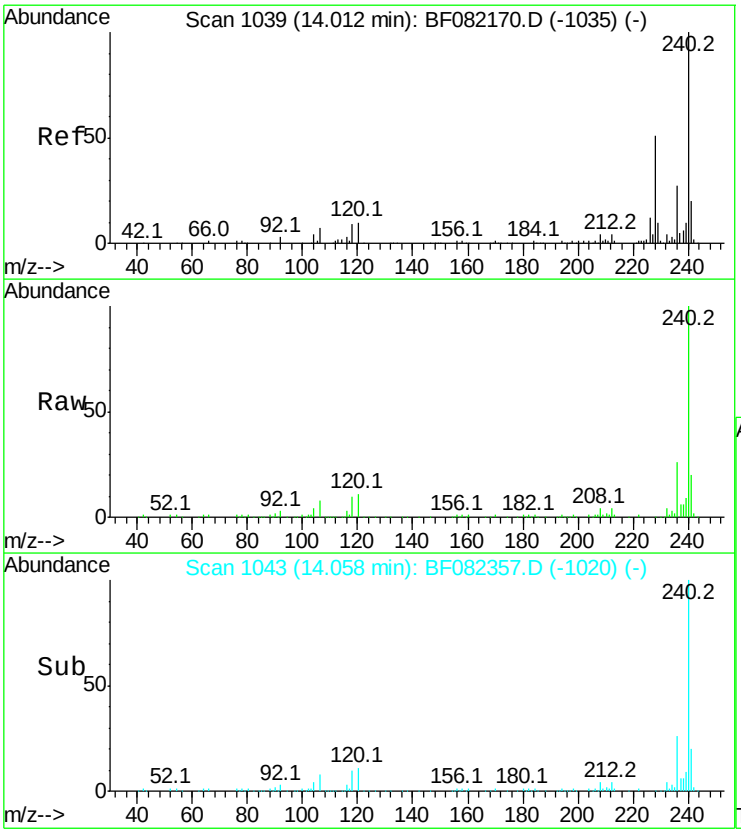


#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.34 min Scan# 805
Delta R.T. -0.01 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:188 Resp: 424603

Ion	Ratio	Lower	Upper
188	100		
94	7.5	5.8	8.6
80	7.8	6.4	9.6

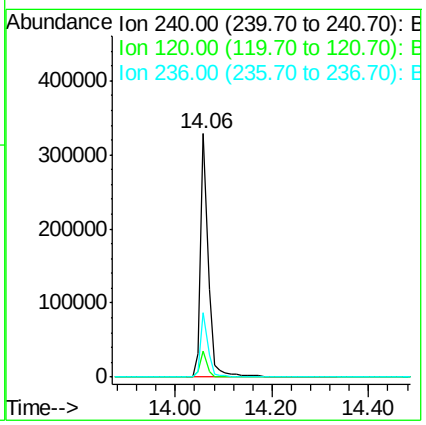




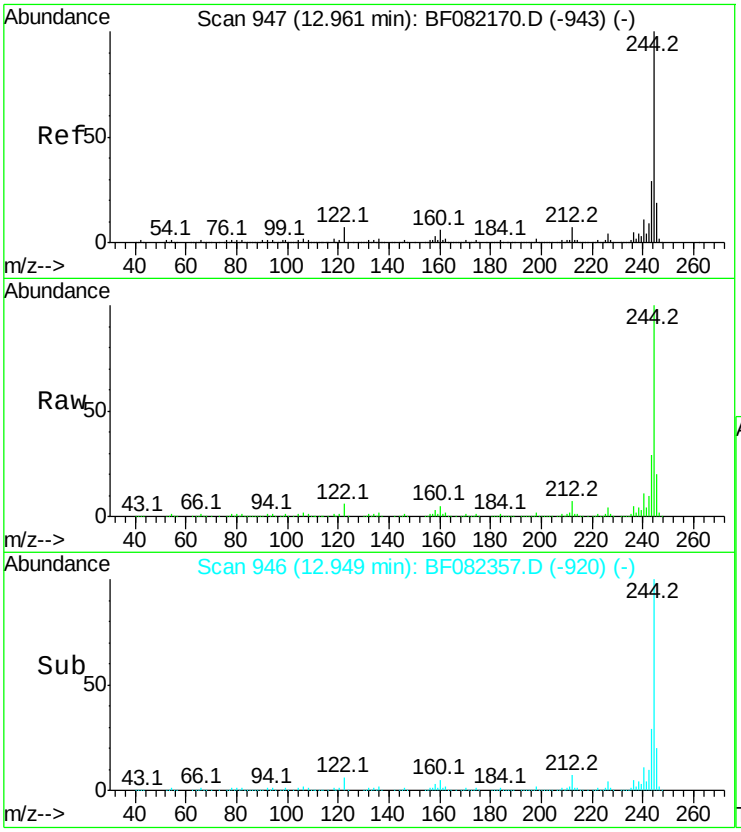
#75
Chrysene-d12
Concen: 20.00 ng
RT: 14.06 min Scan# 1043
Delta R.T. -0.03 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:240 Resp: 365882

Ion	Ratio	Lower	Upper
240	100		
120	10.8	8.1	12.1
236	26.2	21.3	31.9



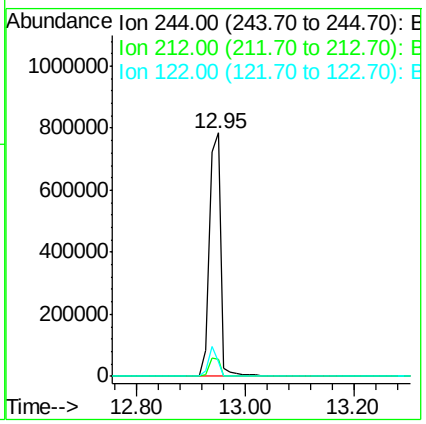
Instrument :
BNA_F
ClientSampleId :
PB86144BL

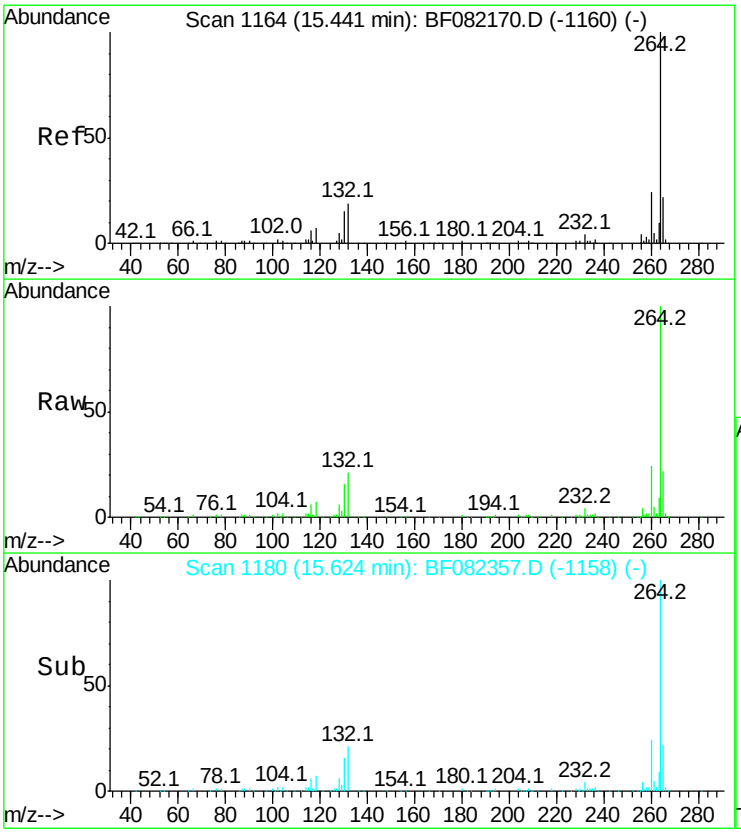


#78
Terphenyl-d14
Concen: 83.19 ng
RT: 12.95 min Scan# 946
Delta R.T. 0.00 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:244 Resp: 1148683

Ion	Ratio	Lower	Upper
244	100		
212	7.1	5.8	8.6
122	6.1	5.9	8.9

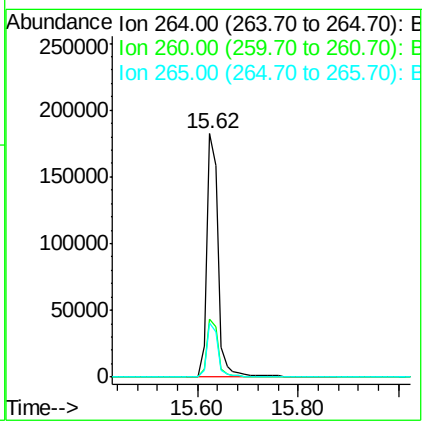




#86
Perylene-d12
Concen: 20.00 ng
RT: 15.62 min Scan# 1180
Delta R.T. -0.05 min
Lab File: BF082357.D
Acq: 19 Oct 2015 15:59

Tgt Ion:264 Resp: 285758

Ion	Ratio	Lower	Upper
264	100		
260	23.9	19.0	28.6
265	22.0	17.3	25.9



Instrument :
BNA_F
ClientSampleId :
PB86144BL

LSC Area Percent Report

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.320	188	191	199	rVB	21567	33600	1.03%	0.140%
2	4.983	245	249	258	rBV	960721	1400574	43.00%	5.830%
3	5.406	283	286	288	rBV	2121474	2189161	67.22%	9.113%
4	5.806	318	321	323	rBV	25686	33109	1.02%	0.138%
5	6.446	374	377	379	rBV	1880416	2243875	68.90%	9.341%
6	6.572	385	388	390	rBV	2230617	2358294	72.41%	9.817%
7	6.800	406	408	410	rBV	646945	564248	17.33%	2.349%
8	6.960	419	422	424	rBV	1480162	1834131	56.32%	7.635%
9	7.372	455	458	460	rBV	1270621	1325531	40.70%	5.518%
10	8.092	518	521	523	rBV	739798	764256	23.47%	3.181%
11	9.178	612	616	618	rBV	2069331	2915818	89.53%	12.138%
12	9.852	672	675	677	rBV	871478	921425	28.29%	3.836%
13	10.641	741	744	747	rBV	1575035	1638585	50.31%	6.821%
14	11.338	802	805	807	rBV	1034972	943303	28.96%	3.927%
15	12.938	942	945	948	rBV	2247239	3256771	100.00%	13.557%
16	14.058	1041	1043	1046	rBV	863589	892158	27.39%	3.714%
17	15.624	1177	1180	1183	rBV	505193	707365	21.72%	2.945%

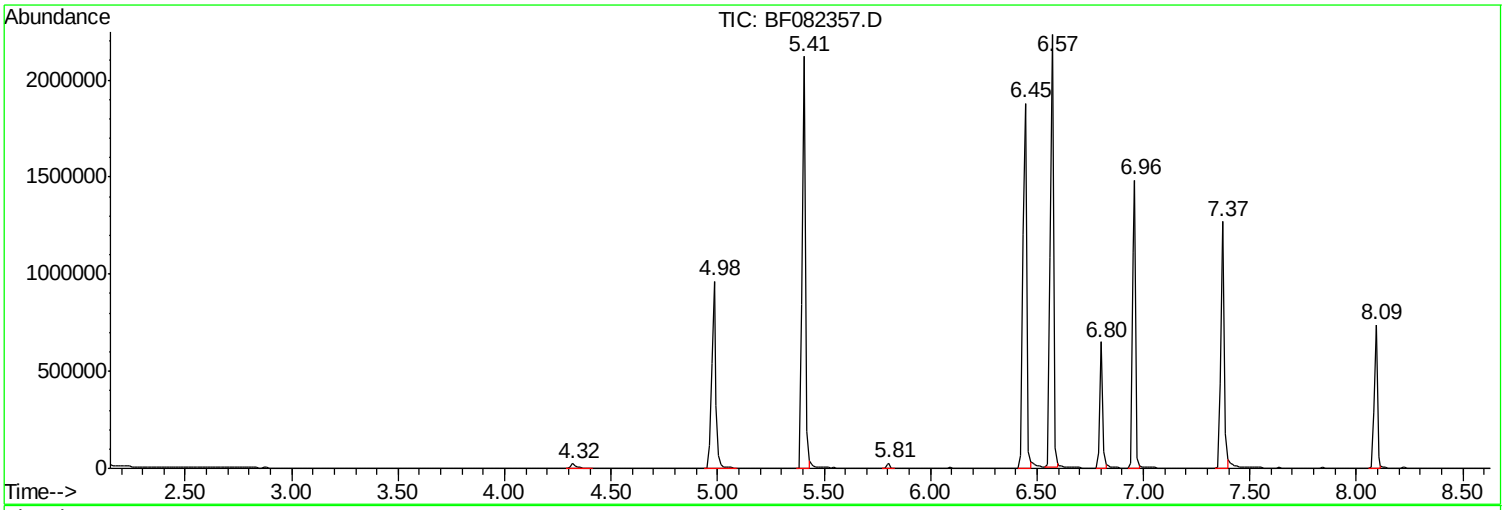
Sum of corrected areas: 24022204

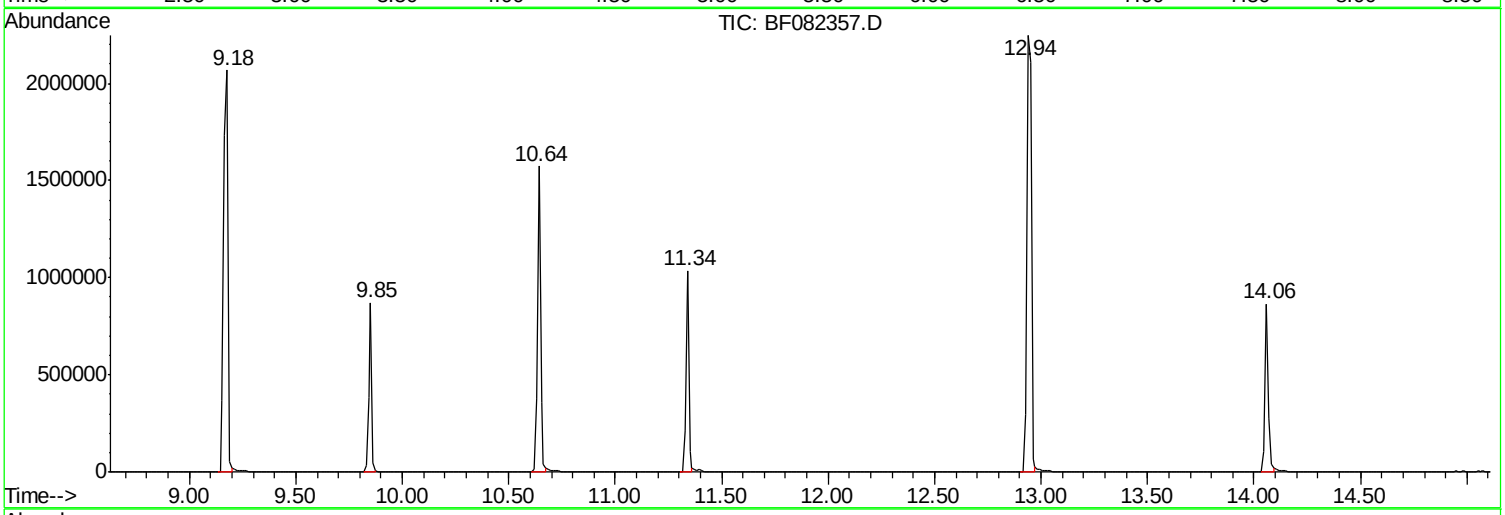
Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

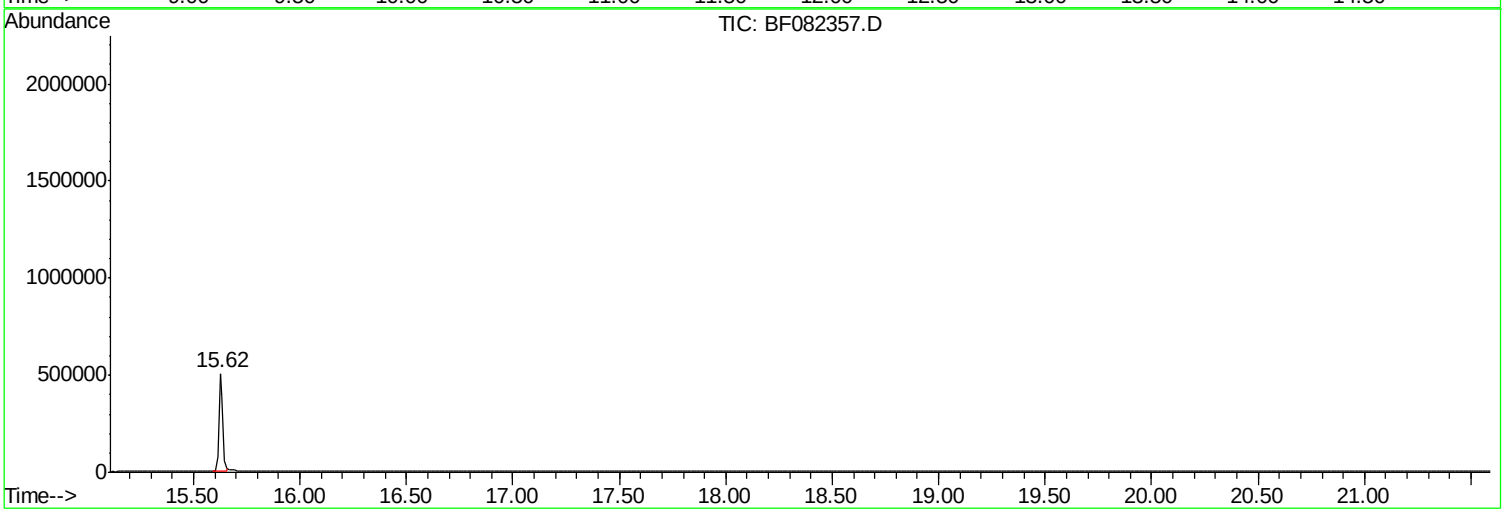
Instrument :
BNA_F
ClientSampleId :
PB86144BL

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P







Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BL

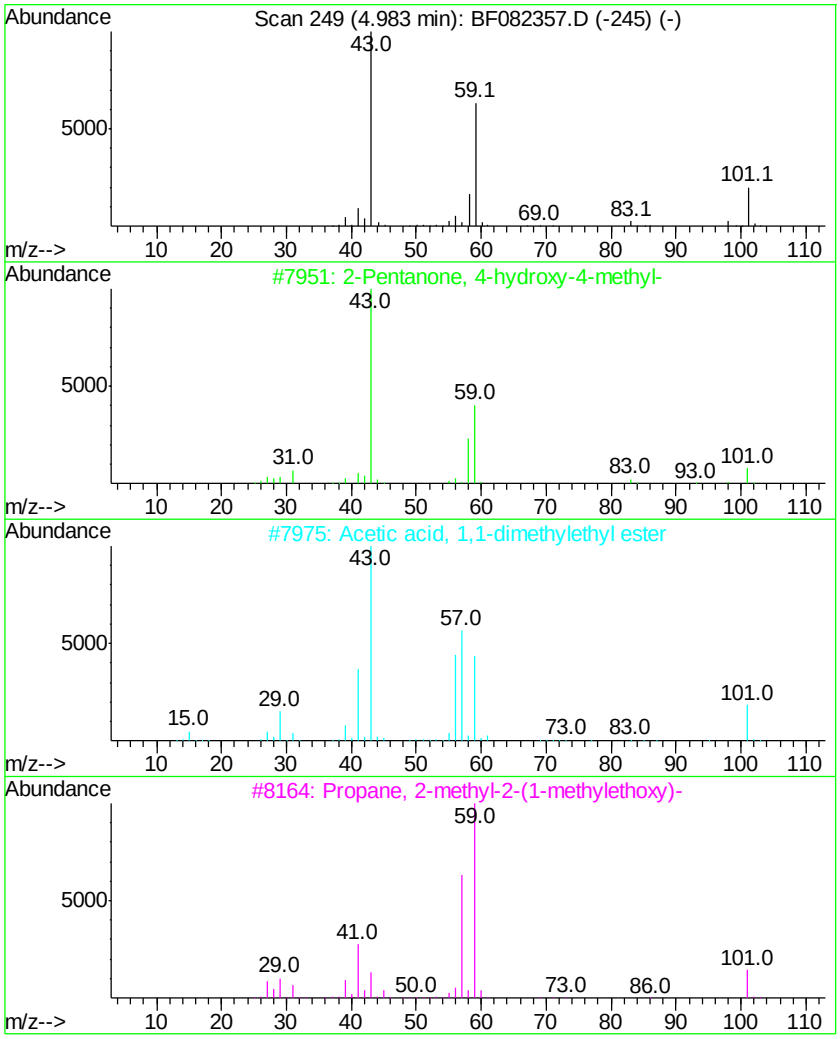
Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

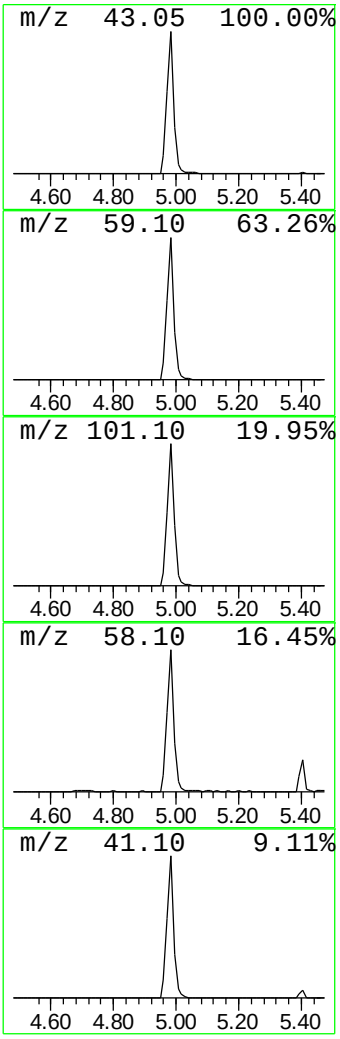
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 2-Pentanone, 4-hydroxy-4-me... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.98	49.64 ng	1400570	1,4-Dichlorobenzene-d4	6.80

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentanone, 4-hydroxy-4-methyl-	116	C6H12O2	000123-42-2	56
2	Acetic acid, 1,1-dimethylethyl e...	116	C6H12O2	000540-88-5	39
3	Propane, 2-methyl-2-(1-methyleth...	116	C7H16O	017348-59-3	36
4	3-Hexanol, 4-methyl-	116	C7H16O	000615-29-2	28
5	Acetic acid, cyano-, 1,1-dimethy...	141	C7H11NO2	001116-98-9	25





Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BL

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

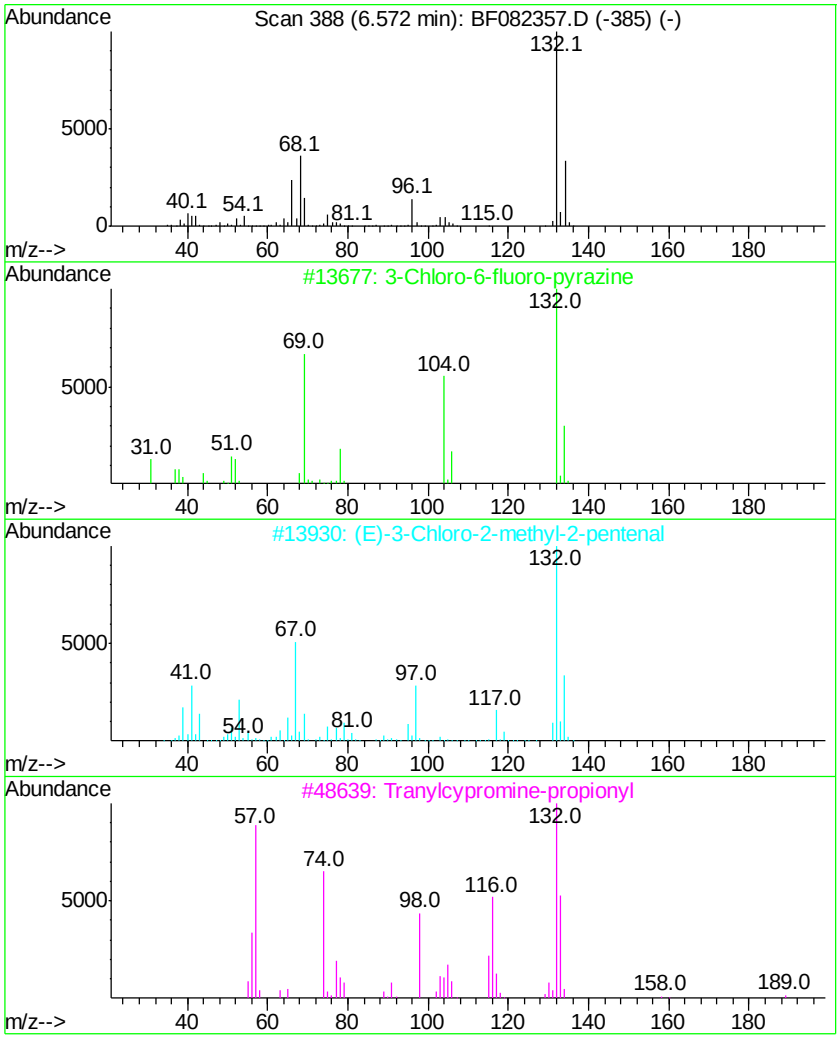
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

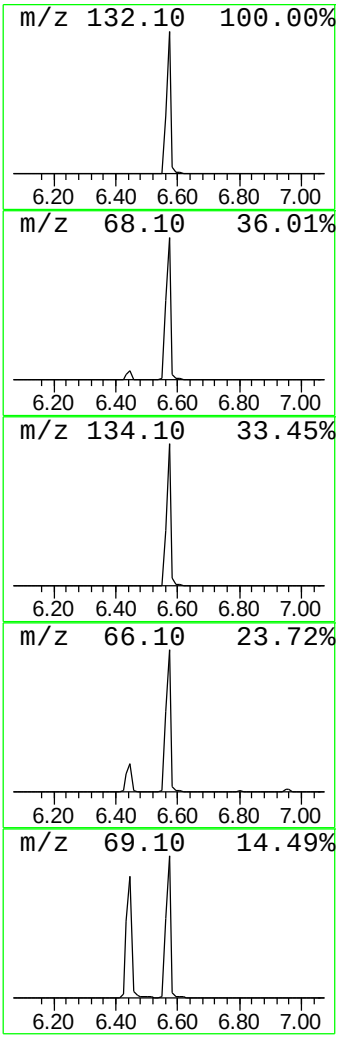
****

Peak Number 2 unknown6.57 Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.57	83.59 ng	2358290	1,4-Dichlorobenzene-d4	6.80

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Chloro-6-fluoro-pyrazine	132	C4H2ClFN2	1000146-10-7	35
2	(E)-3-Chloro-2-methyl-2-pentenal	132	C6H9ClO	031357-76-3	17
3	Tranylcypromine-propionyl	189	C12H15NO	1000123-86-3	12
4	5-Aminoindole	132	C8H8N2	005192-03-0	12
5	Benzene, 1,3,5-trifluoro-	132	C6H3F3	000372-38-3	9





Tentatively Identified Compound (LSC) summary

Instrument :
BNA_F
ClientSampleId :
PB86144BL

Data Path : U:\HPCHEM1\BNA_F\DATA\BF101915\
Data File : BF082357.D
Acq On : 19 Oct 2015 15:59
Operator : UM/IZ
Sample : PB86144BL
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
2-Pentanone, 4-hy...	4.98	49.6	ng	1400570	1	6.80	564248	20.0
unknown6.57	6.57	83.6	ng	2358290	1	6.80	564248	20.0

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082354.D
Acq On : 19 Oct 2015 14:34
Operator : UM/IZ
Sample : PB86144BS
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BS

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:25:44 PM

Quant Time: Oct 20 02:13:59 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.80	152	102323	20.00	ng		0.00
21) Naphthalene-d8	8.09	136	392208	20.00	ng		0.00
38) Acenaphthene-d10	9.85	164	208807	20.00	ng		0.00
63) Phenanthrene-d10	11.34	188	389236	20.00	ng		-0.01
75) Chrysene-d12	14.06	240	370193	20.00	ng		-0.03
86) Perylene-d12	15.60	264	315291	20.00	ng		-0.07
System Monitoring Compounds							
5) 2-Fluorophenol	5.41	112	606389	119.60	ng		0.01
7) Phenol-d6	6.45	99	758810	115.01	ng		0.00
23) Nitrobenzene-d5	7.37	82	481399	82.43	ng		-0.01
41) 2,4,6-Tribromophenol	10.65	330	208959	106.71	ng		0.00
44) 2-Fluorobiphenyl	9.18	172	1059614	84.16	ng		0.00
78) Terphenyl-d14	12.94	244	1019094	72.95	ng		-0.01
Target Compounds							Qvalue
2) 1,4-Dioxane	2.43	88	80706	31.68	ng		98
3) Pyridine	3.13	79	209472	35.36	ng		99
4) n-Nitrosodimethylamine	3.10	42	93900	37.37	ng		98
6) Aniline	6.47	93	188404	22.15	ng	#	77
8) 2-Chlorophenol	6.58	128	224571	36.28	ng	#	75
9) Benzaldehyde	6.34	77	74604	22.14	ng		87
10) Phenol	6.46	94	252614	33.21	ng		85
11) bis(2-Chloroethyl)ether	6.55	93	228748	35.56	ng		96
12) 1,3-Dichlorobenzene	6.74	146	277874m	38.55	ng		
13) 1,4-Dichlorobenzene	6.82	146	274847	36.51	ng		96
14) 1,2-Dichlorobenzene	6.97	146	266201	37.24	ng		95
15) Benzyl Alcohol	6.95	79	181850	39.93	ng		99
16) 2,2'-oxybis(1-Chloropropan	7.09	45	321550	35.90	ng		98
17) 2-Methylphenol	7.07	107	196158	40.08	ng		98
18) Hexachloroethane	7.31	117	94735	36.77	ng	#	83
19) n-Nitroso-di-n-propylamine	7.22	70	162247	35.02	ng	#	88
20) 3+4-Methylphenols	7.22	107	234790	40.26	ng		96
22) Acetophenone	7.22	105	321001	41.37	ng	#	95
24) Nitrobenzene	7.39	77	246314	38.96	ng		96
25) Isophorone	7.63	82	458507	38.90	ng		98
26) 2-Nitrophenol	7.71	139	136427	43.22	ng		96
27) 2,4-Dimethylphenol	7.76	122	222774	43.80	ng		95
28) bis(2-Chloroethoxy)methane	7.85	93	294869	42.99	ng		99
29) 2,4-Dichlorophenol	7.95	162	218009	42.88	ng		96
30) 1,2,4-Trichlorobenzene	8.03	180	233084	39.78	ng		98
31) Naphthalene	8.11	128	675314	39.72	ng		100
32) Benzoic acid	7.90	122	130469	38.22	ng		91
33) 4-Chloroaniline	8.17	127	117243	16.60	ng		98
34) Hexachlorobutadiene	8.23	225	139237	38.13	ng		98
35) Caprolactam	8.55	113	62732	42.52	ng	#	72
36) 4-Chloro-3-methylphenol	8.66	107	221009	44.46	ng		97
37) 2-Methylnaphthalene	8.81	142	505084	42.85	ng		99
39) 1,2,4,5-Tetrachlorobenzene	8.97	216	224804	36.20	ng		97
40) Hexachlorocyclopentadiene	8.96	237	195984	64.19	ng		98

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082354.D
Acq On : 19 Oct 2015 14:34
Operator : UM/IZ
Sample : PB86144BS
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
PB86144BS

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:25:44 PM

Quant Time: Oct 20 02:13:59 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
42) 2,4,6-Trichlorophenol	9.10	196	158897	38.52 ng		99
43) 2,4,5-Trichlorophenol	9.13	196	171011	38.27 ng	#	87
45) 1,1'-Biphenyl	9.28	154	614987	38.62 ng		95
46) 2-Chloronaphthalene	9.30	162	495349	39.52 ng		99
47) 2-Nitroaniline	9.41	65	146791	42.66 ng	#	79
48) Acenaphthylene	9.71	152	744564	38.13 ng		99
49) Dimethylphthalate	9.59	163	587210	39.94 ng		98
50) 2,6-Dinitrotoluene	9.65	165	121058	39.02 ng	#	80
51) Acenaphthene	9.89	154	426023	36.34 ng		99
52) 3-Nitroaniline	9.82	138	66828	19.07 ng		98
53) 2,4-Dinitrophenol	9.93	184	135755	78.44 ng	#	90
54) Dibenzofuran	10.06	168	629015	39.08 ng		96
55) 4-Nitrophenol	9.99	139	152296	67.21 ng	#	83
56) 2,4-Dinitrotoluene	10.06	165	175394	45.23 ng		92
57) Fluorene	10.40	166	503664	38.10 ng		97
58) 2,3,4,6-Tetrachlorophenol	10.18	232	146102	40.02 ng		98
59) Diethylphthalate	10.29	149	597140	43.57 ng		97
60) 4-Chlorophenyl-phenylether	10.40	204	253709	41.90 ng	#	79
61) 4-Nitroaniline	10.43	138	123740	36.40 ng		93
62) Azobenzene	10.56	77	551625	41.12 ng		86
64) 4,6-Dinitro-2-methylphenol	10.46	198	89454	40.95 ng	#	54
65) n-Nitrosodiphenylamine	10.51	169	461358	39.59 ng		99
66) 4-Bromophenyl-phenylether	10.89	248	152908	39.25 ng	#	80
67) Hexachlorobenzene	10.95	284	165199	39.21 ng	#	78
68) Atrazine	11.05	200	177616	48.11 ng		99
69) Pentachlorophenol	11.15	266	178737	82.45 ng		97
70) Phenanthrene	11.37	178	823695	43.17 ng		99
71) Anthracene	11.42	178	831752	42.31 ng		99
72) Carbazole	11.58	167	719677	40.13 ng		99
73) Di-n-butylphthalate	11.91	149	984738	44.51 ng		99
74) Fluoranthene	12.56	202	929782	45.37 ng		98
76) Benzidine	12.69	184	284474	26.52 ng		97
77) Pyrene	12.79	202	857310	39.02 ng		99
79) Butylbenzylphthalate	13.43	149	393959	39.29 ng		95
80) Benzo(a)anthracene	14.05	228	748540	38.86 ng		100
81) 3,3'-Dichlorobenzidine	14.00	252	167711	22.94 ng	#	98
82) Chrysene	14.08	228	725269	35.74 ng		99
83) Bis(2-ethylhexyl)phthalate	14.04	149	571543	39.96 ng		99
84) Di-n-octyl phthalate	14.73	149	966778	39.36 ng		99
85) Indeno(1,2,3-cd)pyrene	17.04	276	624762	38.73 ng		98
87) Benzo(b)fluoranthene	15.19	252	746326m	38.91 ng		
88) Benzo(k)fluoranthene	15.21	252	626390m	38.85 ng		
89) Benzo(a)pyrene	15.54	252	651616	39.53 ng		99
90) Dibenzo(a,h)anthracene	17.05	278	530312	39.25 ng		99
91) Benzo(g,h,i)perylene	17.46	276	512423	39.04 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

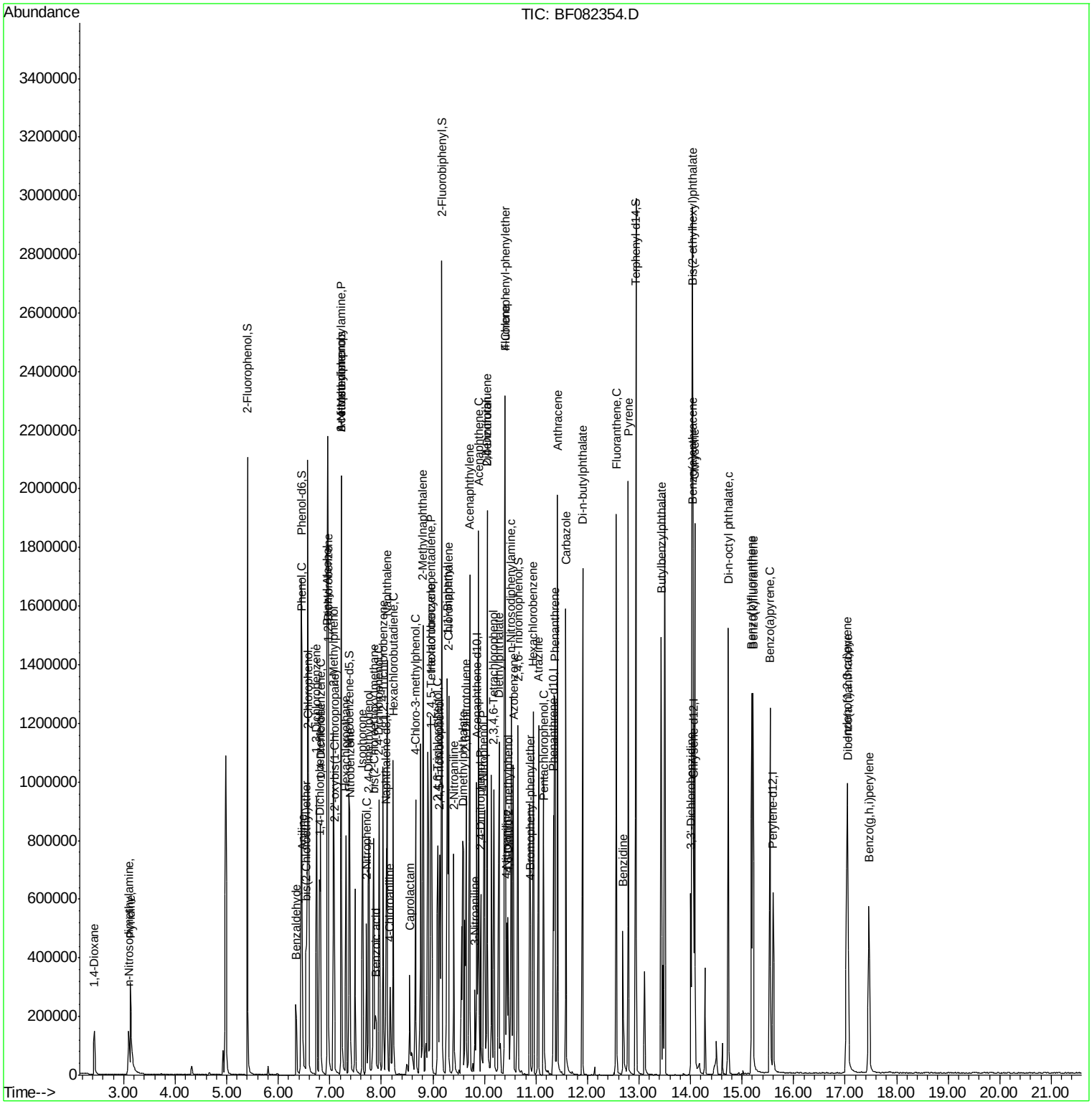
Sample Results: **BF082354.D**

Data Path : U:\HPCHEM1\BNA F\DATA\BF101915\
Data File : BF082354.D
Acq On : 19 Oct 2015 14:34
Operator : UM/IZ
Sample : PB86144BS
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 20 02:13:59 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Oct 20 01:57:16 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
PB86144BS

Manual Integrations APPROVED
MMdadoda
10/20/2015 6:25:44 PM



Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082328.D
Acq On : 16 Oct 2015 16:23
Operator : UM/IZ
Sample : G4051-02MS 10X
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MS

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:11 PM

Quant Time: Oct 17 05:58:22 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.87	152	53162	20.00	ng		0.03
21) Naphthalene-d8	8.16	136	236964	20.00	ng		0.03
38) Acenaphthene-d10	9.91	164	126001	20.00	ng		0.02
63) Phenanthrene-d10	11.39	188	273091	20.00	ng		0.02
75) Chrysene-d12	14.13	240	265958	20.00	ng		0.06
86) Perylene-d12	15.70	264	227615	20.00	ng		0.11
System Monitoring Compounds							
5) 2-Fluorophenol	5.47	112	31106	11.81	ng		0.05
7) Phenol-d6	6.51	99	42849	12.50	ng		0.03
23) Nitrobenzene-d5	7.44	82	25911	7.34	ng		0.02
41) 2,4,6-Tribromophenol	10.71	330	15332	12.98	ng		0.02
44) 2-Fluorobiphenyl	9.23	172	67179	8.84	ng		0.02
78) Terphenyl-d14	13.00	244	87474	8.72	ng		0.03
Target Compounds							Qvalue
2) 1,4-Dioxane	2.42	88	5195	3.93	ng	#	80
3) Pyridine	3.27	79	8487m	2.76	ng		
8) 2-Chlorophenol	6.66	128	11709	3.64	ng		94
9) Benzaldehyde	6.42	77	4259	2.43	ng		100
10) Phenol	6.53	94	14541	3.68	ng		91
11) bis(2-Chloroethyl)ether	6.61	93	11677	3.49	ng		99
12) 1,3-Dichlorobenzene	6.81	146	14233	3.80	ng		96
13) 1,4-Dichlorobenzene	6.89	146	14387	3.68	ng		99
14) 1,2-Dichlorobenzene	7.04	146	15350	4.13	ng		93
15) Benzyl Alcohol	7.02	79	8909	3.76	ng		100
16) 2,2'-oxybis(1-Chloropropan	7.15	45	19040	4.09	ng		91
17) 2-Methylphenol	7.13	107	9622	3.78	ng	#	90
18) Hexachloroethane	7.38	117	4933	3.69	ng		89
19) n-Nitroso-di-n-propylamine	7.28	70	8874	3.69	ng	#	89
20) 3+4-Methylphenols	7.29	107	13459	4.44	ng	#	83
22) Acetophenone	7.28	105	16607	3.54	ng	#	93
24) Nitrobenzene	7.45	77	12049	3.15	ng	#	89
25) Isophorone	7.69	82	27233	3.82	ng		96
26) 2-Nitrophenol	7.78	139	4841	2.54	ng		97
27) 2,4-Dimethylphenol	7.82	122	11278	3.67	ng		94
28) bis(2-Chloroethoxy)methane	7.91	93	15058	3.63	ng		97
29) 2,4-Dichlorophenol	8.03	162	10739	3.50	ng		95
30) 1,2,4-Trichlorobenzene	8.10	180	11707	3.31	ng		94
31) Naphthalene	8.18	128	44229	4.31	ng		97
34) Hexachlorobutadiene	8.30	225	7263	3.29	ng		97
35) Caprolactam	8.56	113	3508	3.94	ng	#	89
36) 4-Chloro-3-methylphenol	8.72	107	11487	3.82	ng		85
37) 2-Methylnaphthalene	8.87	142	29574	4.15	ng		98
39) 1,2,4,5-Tetrachlorobenzene	9.04	216	12897	3.44	ng		96
40) Hexachlorocyclopentadiene	9.02	237	643	8.61	ng		90
42) 2,4,6-Trichlorophenol	9.15	196	8575	3.44	ng		98
43) 2,4,5-Trichlorophenol	9.20	196	10095	3.74	ng		95
45) 1,1'-Biphenyl	9.34	154	34274	3.57	ng		96
46) 2-Chloronaphthalene	9.36	162	28734	3.80	ng		97

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082328.D
Acq On : 16 Oct 2015 16:23
Operator : UM/IZ
Sample : G4051-02MS 10X
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MS

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:11 PM

Quant Time: Oct 17 05:58:22 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
47) 2-Nitroaniline	9.46	65	6692	3.22 ng		91
48) Acenaphthylene	9.77	152	63601	5.40 ng		98
49) Dimethylphthalate	9.63	163	43971	4.96 ng	#	97
50) 2,6-Dinitrotoluene	9.70	165	5800	3.10 ng		90
51) Acenaphthene	9.94	154	34543	4.88 ng		97
52) 3-Nitroaniline	9.89	138	5224	2.47 ng	#	94
54) Dibenzofuran	10.11	168	49437	5.09 ng		99
55) 4-Nitrophenol	10.07	139	3562m	2.59 ng		
56) 2,4-Dinitrotoluene	10.10	165	8381	3.58 ng	#	95
57) Fluorene	10.46	166	41582	5.21 ng		97
58) 2,3,4,6-Tetrachlorophenol	10.24	232	8639	3.92 ng	#	93
59) Diethylphthalate	10.33	149	33672	4.07 ng		96
60) 4-Chlorophenyl-phenylether	10.46	204	13913	3.81 ng	#	82
61) 4-Nitroaniline	10.50	138	5920	2.89 ng		97
62) Azobenzene	10.61	77	31832	3.93 ng		98
65) n-Nitrosodiphenylamine	10.57	169	29565	3.62 ng		99
66) 4-Bromophenyl-phenylether	10.95	248	8172	2.99 ng	#	84
67) Hexachlorobenzene	11.01	284	10954	3.71 ng	#	84
68) Atrazine	11.10	200	10251	3.96 ng		97
69) Pentachlorophenol	11.21	266	8293	5.45 ng		97
70) Phenanthrene	11.43	178	204409	15.27 ng		97
71) Anthracene	11.47	178	95482	6.92 ng		98
72) Carbazole	11.63	167	64611	5.13 ng		98
73) Di-n-butylphthalate	11.96	149	54853	3.53 ng		99
74) Fluoranthene	12.62	202	308939	21.49 ng		99
77) Pyrene	12.85	202	273492	17.33 ng		98
79) Butylbenzylphthalate	13.50	149	25355	3.52 ng	#	85
80) Benzo(a)anthracene	14.12	228	148353	10.72 ng		99
82) Chrysene	14.15	228	153969m	10.56 ng		
83) Bis(2-ethylhexyl)phthalate	14.10	149	68888	6.70 ng		99
84) Di-n-octyl phthalate	14.80	149	58084	3.29 ng	#	95
85) Indeno(1,2,3-cd)pyrene	17.17	276	95992	8.28 ng		98
87) Benzo(b)fluoranthene	15.27	252	143993m	10.40 ng		
88) Benzo(k)fluoranthene	15.29	252	93291m	8.01 ng		
89) Benzo(a)pyrene	15.64	252	117996	9.91 ng		99
90) Dibenzo(a,h)anthracene	17.18	278	48526	4.98 ng		99
91) Benzo(g,h,i)perylene	17.60	276	93559	9.87 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

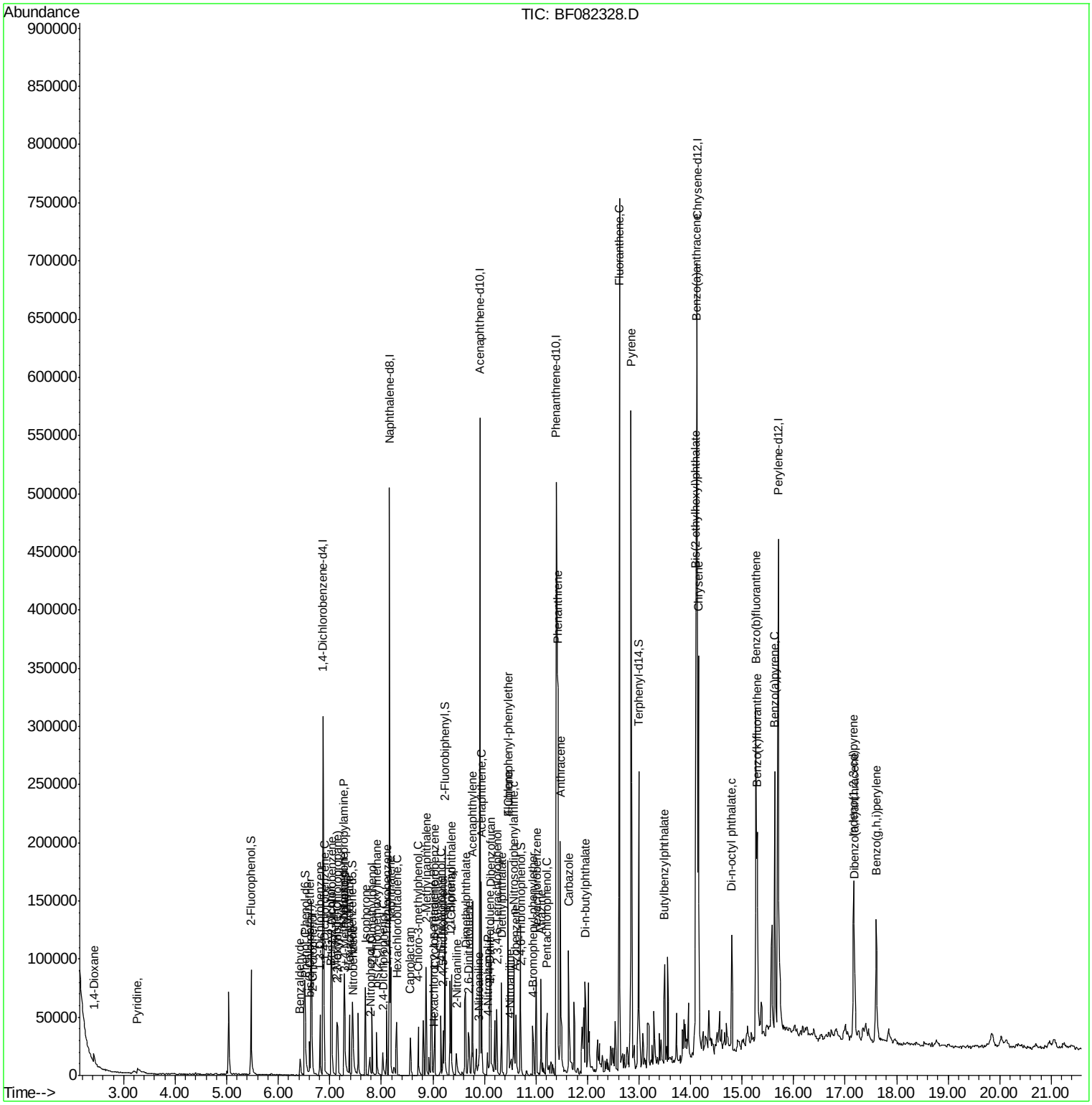
Sample Results: **BF082328.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082328.D
Acq On : 16 Oct 2015 16:23
Operator : UM/IZ
Sample : G4051-02MS 10X
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 05:58:22 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MS

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:11 PM



Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082329.D
Acq On : 16 Oct 2015 16:52
Operator : UM/IZ
Sample : G4051-03MSD 10X
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 19 04:33:40 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MSD

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:13 PM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.89	152	45799m	20.00 ng	0.06
21) Naphthalene-d8	8.17	136	229217	20.00 ng	0.05
38) Acenaphthene-d10	9.92	164	117792	20.00 ng	0.03
63) Phenanthrene-d10	11.42	188	258375	20.00 ng	0.05
75) Chrysene-d12	14.14	240	258150	20.00 ng	0.07
86) Perylene-d12	15.73	264	229036	20.00 ng	0.14
System Monitoring Compounds					
5) 2-Fluorophenol	5.49	112	30755	13.55 ng	0.06
7) Phenol-d6	6.53	99	42985	14.56 ng	0.05
23) Nitrobenzene-d5	7.45	82	26614	7.80 ng	0.03
41) 2,4,6-Tribromophenol	10.72	330	16674	15.09 ng	0.03
44) 2-Fluorobiphenyl	9.25	172	68369	9.63 ng	0.03
78) Terphenyl-d14	13.01	244	88413	9.08 ng	0.05

Target Compounds						Qvalue
2) 1,4-Dioxane	2.45	88	4844	4.25 ng	#	61
3) Pyridine	3.31	79	7549	2.85 ng	#	84
4) n-Nitrosodimethylamine	3.23	42	2327	2.07 ng	#	74
8) 2-Chlorophenol	6.67	128	11049	3.99 ng		92
9) Benzaldehyde	6.45	77	4226	2.80 ng		93
10) Phenol	6.54	94	13646	4.01 ng		92
11) bis(2-Chloroethyl)ether	6.62	93	10979	3.81 ng		91
12) 1,3-Dichlorobenzene	6.82	146	13051m	4.05 ng		
13) 1,4-Dichlorobenzene	6.90	146	14067m	4.18 ng		
14) 1,2-Dichlorobenzene	7.05	146	13356	4.17 ng		98
15) Benzyl Alcohol	7.03	79	8546	4.19 ng		96
16) 2,2'-oxybis(1-Chloropropan	7.17	45	18643	4.65 ng		95
17) 2-Methylphenol	7.15	107	9760m	4.46 ng		
18) Hexachloroethane	7.39	117	4626	4.01 ng		96
19) n-Nitroso-di-n-propylamine	7.29	70	9219m	4.45 ng		
20) 3+4-Methylphenols	7.31	107	13033m	4.99 ng		
22) Acetophenone	7.30	105	15378	3.39 ng	#	92
24) Nitrobenzene	7.47	77	12447	3.37 ng		95
25) Isophorone	7.70	82	25192	3.66 ng		98
26) 2-Nitrophenol	7.79	139	5265	2.85 ng		99
27) 2,4-Dimethylphenol	7.83	122	10650	3.58 ng		94
28) bis(2-Chloroethoxy)methane	7.92	93	13086	3.26 ng		98
29) 2,4-Dichlorophenol	8.05	162	9271	3.12 ng		98
30) 1,2,4-Trichlorobenzene	8.11	180	12893	3.76 ng		95
31) Naphthalene	8.19	128	44579	4.49 ng		99
34) Hexachlorobutadiene	8.31	225	7314	3.43 ng		97
35) Caprolactam	8.57	113	3216	3.73 ng	#	61
36) 4-Chloro-3-methylphenol	8.73	107	11311	3.89 ng		89
37) 2-Methylnaphthalene	8.88	142	26890	3.90 ng		95
39) 1,2,4,5-Tetrachlorobenzene	9.05	216	12692	3.62 ng		96
40) Hexachlorocyclopentadiene	9.03	237	331m	8.47 ng		
42) 2,4,6-Trichlorophenol	9.17	196	8869	3.81 ng		99
43) 2,4,5-Trichlorophenol	9.21	196	9643	3.83 ng		97
45) 1,1'-Biphenyl	9.35	154	34946	3.89 ng		95

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082329.D
Acq On : 16 Oct 2015 16:52
Operator : UM/IZ
Sample : G4051-03MSD 10X
Misc :
ALS Vial : 11 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MSD

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:13 PM

Quant Time: Oct 19 04:33:40 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
46) 2-Chloronaphthalene	9.37	162	27138	3.84 ng		95
47) 2-Nitroaniline	9.47	65	6810	3.51 ng		92
48) Acenaphthylene	9.78	152	59330	5.39 ng		98
49) Dimethylphthalate	9.65	163	42996	5.18 ng	#	98
50) 2,6-Dinitrotoluene	9.71	165	5947	3.40 ng		88
51) Acenaphthene	9.95	154	32882	4.97 ng		95
52) 3-Nitroaniline	9.90	138	4591	2.32 ng	#	89
54) Dibenzofuran	10.13	168	45828	5.05 ng		96
55) 4-Nitrophenol	10.09	139	3399m	2.68 ng		
56) 2,4-Dinitrotoluene	10.11	165	8097	3.70 ng	#	90
57) Fluorene	10.47	166	39746	5.33 ng		97
58) 2,3,4,6-Tetrachlorophenol	10.25	232	8540	4.15 ng	#	96
59) Diethylphthalate	10.34	149	34072	4.41 ng		99
60) 4-Chlorophenyl-phenylether	10.47	204	14070	4.12 ng	#	84
61) 4-Nitroaniline	10.51	138	5822	3.04 ng		87
62) Azobenzene	10.63	77	30352	4.01 ng	#	79
65) n-Nitrosodiphenylamine	10.58	169	30615	3.96 ng		99
66) 4-Bromophenyl-phenylether	10.96	248	8353	3.23 ng	#	82
67) Hexachlorobenzene	11.02	284	11197	4.00 ng	#	80
68) Atrazine	11.11	200	10589	4.32 ng		98
69) Pentachlorophenol	11.22	266	8306	5.77 ng		96
70) Phenanthrene	11.44	178	204930	16.18 ng		97
71) Anthracene	11.49	178	94849	7.27 ng		100
72) Carbazole	11.65	167	66174	5.56 ng		99
73) Di-n-butylphthalate	11.97	149	58249	3.97 ng		99
74) Fluoranthene	12.63	202	303893	22.34 ng		100
77) Pyrene	12.86	202	278389	18.17 ng		98
79) Butylbenzylphthalate	13.51	149	25664	3.67 ng		94
80) Benzo(a)anthracene	14.13	228	164774	12.27 ng		98
81) 3,3'-Dichlorobenzidine	14.09	252	11051	2.17 ng		96
82) Chrysene	14.17	228	140960	9.96 ng		98
83) Bis(2-ethylhexyl)phthalate	14.12	149	72669	7.29 ng	#	99
84) Di-n-octyl phthalate	14.82	149	59926	3.50 ng		98
85) Indeno(1,2,3-cd)pyrene	17.20	276	101732m	9.04 ng		
87) Benzo(b)fluoranthene	15.29	252	148863m	10.68 ng		
88) Benzo(k)fluoranthene	15.30	252	100264m	8.56 ng		
89) Benzo(a)pyrene	15.66	252	123704	10.33 ng		99
90) Dibenzo(a,h)anthracene	17.21	278	45796	4.67 ng		95
91) Benzo(g,h,i)perylene	17.65	276	90381	9.48 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

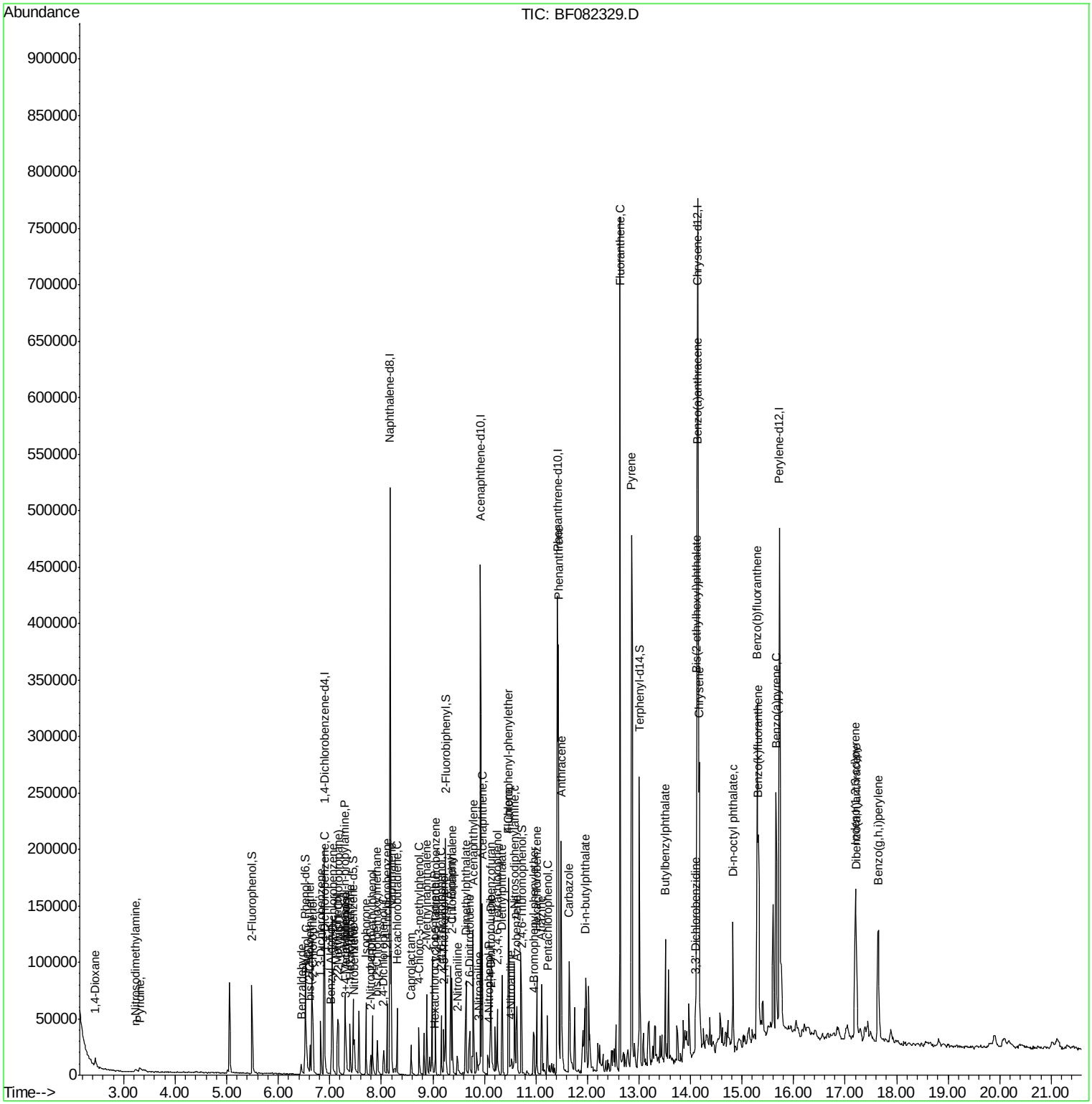
Sample Results: **BF082329.D**

Data Path : Z:\HPCHEM1\BNA F\DATA\BF101715\
Data File : BF082329.D
Acq On : 16 Oct 2015 16:52
Operator : UM/IZ
Sample : G4051-03MSD 10X
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 19 04:33:40 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF101015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Sat Oct 17 01:08:23 2015
Response via : Initial Calibration

Instrument :
BNA_F
ClientSampleId :
TK1-1-20151015MSD

Manual Integrations APPROVED
MMdadoda
10/19/2015 5:32:13 PM



CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDCCC040	BF082166.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:11:48 PM	MMDadoda	10/12/2015 2:30:24 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082166.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:11:48 PM	MMDadoda	10/12/2015 2:30:24 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082166.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:11:48 PM	MMDadoda	10/12/2015 2:30:24 PM	Peak Integrated by Software incorrectly
SSTDICC02.5	BF082167.D	4-Nitrophenol	UMANGI	10/12/2015 2:11:52 PM	MMDadoda	10/12/2015 2:30:31 PM	Peak Integrated by Software incorrectly
SSTDICC02.5	BF082167.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:11:52 PM	MMDadoda	10/12/2015 2:30:31 PM	Peak Integrated by Software incorrectly
SSTDICC02.5	BF082167.D	bis(2-Chloroethyl)ether	UMANGI	10/12/2015 2:11:52 PM	MMDadoda	10/12/2015 2:30:31 PM	Peak Integrated by Software incorrectly
SSTDICC010	BF082168.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:11:56 PM	MMDadoda	10/12/2015 2:30:37 PM	Peak Integrated by Software incorrectly
SSTDICC025	BF082169.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:00 PM	MMDadoda	10/12/2015 2:30:42 PM	Peak Integrated by Software incorrectly
SSTDICCC040	BF082170.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:12:05 PM	MMDadoda	10/12/2015 2:30:48 PM	Peak Integrated by Software incorrectly
SSTDICCC040	BF082170.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:05 PM	MMDadoda	10/12/2015 2:30:48 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDICC050	BF082171.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC050	BF082171.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:49 PM	MMDadoda	10/12/2015 2:30:54 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC060	BF082172.D	n-Nitroso-di-n-propylamine	UMANGI	10/12/2015 2:12:55 PM	MMDadoda	10/12/2015 2:31:02 PM	Peak Integrated by Software incorrectly
SSTDICC080	BF082173.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:02 PM	MMDadoda	10/12/2015 2:31:11 PM	Peak Integrated by Software incorrectly
SSTDICV040	BF082174.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:13:08 PM	MMDadoda	10/12/2015 2:31:21 PM	Peak Integrated by Software incorrectly
SSTDICV040	BF082174.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:08 PM	MMDadoda	10/12/2015 2:31:21 PM	Peak Integrated by Software incorrectly
PB86035BS	BF082175.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:13:15 PM	MMDadoda	10/12/2015 2:31:43 PM	Peak Integrated by Software incorrectly
PB86035BS	BF082175.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:15 PM	MMDadoda	10/12/2015 2:31:43 PM	Peak Integrated by Software incorrectly
PB86035BS	BF082175.D	Caprolactam	UMANGI	10/12/2015 2:13:15 PM	MMDadoda	10/12/2015 2:31:43 PM	Peak Integrated by Software incorrectly

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Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB86050BS	BF082176.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:13:59 PM	MMDadoda	10/12/2015 2:32:42 PM	Peak Integrated by Software incorrectly
PB86050BS	BF082176.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:13:59 PM	MMDadoda	10/12/2015 2:32:42 PM	Peak Integrated by Software incorrectly
PB86050BS	BF082176.D	Caprolactam	UMANGI	10/12/2015 2:13:59 PM	MMDadoda	10/12/2015 2:32:42 PM	Peak Integrated by Software incorrectly
PB86038BS	BF082177.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:05 PM	MMDadoda	10/12/2015 2:35:02 PM	Peak Integrated by Software incorrectly
PB86038BS	BF082177.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:05 PM	MMDadoda	10/12/2015 2:35:02 PM	Peak Integrated by Software incorrectly
PB86038BS	BF082177.D	Caprolactam	UMANGI	10/12/2015 2:14:05 PM	MMDadoda	10/12/2015 2:35:02 PM	Peak Integrated by Software incorrectly
PB86017BS	BF082178.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:11 PM	MMDadoda	10/12/2015 2:33:01 PM	Peak Integrated by Software incorrectly
PB86017BS	BF082178.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:11 PM	MMDadoda	10/12/2015 2:33:01 PM	Peak Integrated by Software incorrectly
PB86017BS	BF082178.D	Caprolactam	UMANGI	10/12/2015 2:14:11 PM	MMDadoda	10/12/2015 2:33:01 PM	Peak Integrated by Software incorrectly
PB86017BSD	BF082179.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:16 PM	MMDadoda	10/12/2015 2:33:12 PM	Peak Integrated by Software incorrectly
PB86017BSD	BF082179.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:16 PM	MMDadoda	10/12/2015 2:33:12 PM	Peak Integrated by Software incorrectly
PB86017BSD	BF082179.D	Caprolactam	UMANGI	10/12/2015 2:14:16 PM	MMDadoda	10/12/2015 2:33:12 PM	Peak Integrated by Software incorrectly
G3974-03MS	BF082181.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:14:20 PM	MMDadoda	10/12/2015 2:35:08 PM	Peak Integrated by Software incorrectly

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Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3974-03MS	BF082181.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:14:20 PM	MMDadoda	10/12/2015 2:35:08 PM	Peak Integrated by Software incorrectly
G3974-03MS	BF082181.D	Caprolactam	UMANGI	10/12/2015 2:14:20 PM	MMDadoda	10/12/2015 2:35:08 PM	Peak Integrated by Software incorrectly
G3974-03MSD	BF082182.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly
G3974-03MSD	BF082182.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly
G3974-03MSD	BF082182.D	Benzoic acid	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly
G3974-03MSD	BF082182.D	Caprolactam	UMANGI	10/12/2015 2:23:21 PM	MMDadoda	10/12/2015 2:35:17 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Aniline	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MS	BF082184.D	Caprolactam	UMANGI	10/12/2015 2:15:13 PM	MMDadoda	10/12/2015 2:35:24 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3979-09MSD	BF082185.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	Aniline	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
G3979-09MSD	BF082185.D	Caprolactam	UMANGI	10/12/2015 2:15:18 PM	MMDadoda	10/12/2015 2:35:31 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082188.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:15:24 PM	MMDadoda	10/12/2015 2:37:45 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082188.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:24 PM	MMDadoda	10/12/2015 2:37:45 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082190.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:15:28 PM	MMDadoda	10/12/2015 2:37:53 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082190.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:15:28 PM	MMDadoda	10/12/2015 2:37:53 PM	Peak Integrated by Software incorrectly
G3906-09MS	BF082197.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:14 PM	MMDadoda	10/12/2015 2:35:44 PM	Peak Integrated by Software incorrectly
G3906-09MS	BF082197.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:14 PM	MMDadoda	10/12/2015 2:35:44 PM	Peak Integrated by Software incorrectly
G3906-09MS	BF082197.D	Caprolactam	UMANGI	10/12/2015 2:16:14 PM	MMDadoda	10/12/2015 2:35:44 PM	Peak Integrated by Software incorrectly
G3906-09MSD	BF082198.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:19 PM	MMDadoda	10/12/2015 2:38:01 PM	Peak Integrated by Software incorrectly
G3906-09MSD	BF082198.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:19 PM	MMDadoda	10/12/2015 2:38:01 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3974-02	BF082199.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly
G3974-02	BF082199.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly
G3974-02	BF082199.D	Chrysene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly
G3974-02	BF082199.D	Fluorene	UMANGI	10/12/2015 2:16:25 PM	MMDadoda	10/12/2015 2:38:08 PM	Peak Integrated by Software incorrectly
G3979-07	BF082204.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:29 PM	MMDadoda	10/12/2015 2:38:16 PM	Peak Integrated by Software incorrectly
G3979-08	BF082205.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:16:34 PM	MMDadoda	10/12/2015 2:38:27 PM	Peak Integrated by Software incorrectly
G3979-08	BF082205.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:16:34 PM	MMDadoda	10/12/2015 2:38:27 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Chrysene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3979-20	BF082208.D	Dibenzo(a,h)anthracene	UMANGI	10/12/2015 2:23:31 PM	MMDadoda	10/12/2015 2:38:48 PM	Peak Integrated by Software incorrectly
G3889-02DL	BF082209.D	Fluorene	UMANGI	10/12/2015 2:17:27 PM	MMDadoda	10/12/2015 2:38:55 PM	Peak Integrated by Software incorrectly
G3921-07DL	BF082210.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly

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Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3921-07DL	BF082210.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly
G3921-07DL	BF082210.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly
G3921-07DL	BF082210.D	Chrysene	UMANGI	10/12/2015 2:17:32 PM	MMDadoda	10/12/2015 2:39:03 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	2-Methylnaphthalene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3974-01DL	BF082211.D	Chrysene	UMANGI	10/12/2015 2:17:37 PM	MMDadoda	10/12/2015 2:39:15 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3933-01	BF082212.D	Chrysene	UMANGI	10/12/2015 2:17:43 PM	MMDadoda	10/12/2015 2:39:28 PM	Peak Integrated by Software incorrectly
G3921-03	BF082213.D	Benzo(a)anthracene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly

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Sequence:	bf101015	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3921-03	BF082213.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly
G3921-03	BF082213.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly
G3921-03	BF082213.D	Chrysene	UMANGI	10/12/2015 2:18:23 PM	MMDadoda	10/12/2015 2:39:35 PM	Peak Integrated by Software incorrectly
G3928-06	BF082214.D	Benzo(b)fluoranthene	UMANGI	10/12/2015 2:18:29 PM	MMDadoda	10/12/2015 2:39:48 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	1,3-Dichlorobenzene	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	1,4-Dichlorobenzene	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	1,4-Dichlorobenzene-d4	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	Aniline	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	Benzo(k)fluoranthene	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082215.D	Phenol	UMANGI	10/12/2015 2:18:37 PM	MMDadoda	10/12/2015 2:40:01 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDCCC040	BF082320.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:19:22 PM	MMdadoda	10/19/2015 5:32:02 PM	Peak Integrated by Software incorrectly
PB86109BL	BF082321.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:19:39 PM	MMdadoda	10/19/2015 5:32:03 PM	Peak Integrated by Software incorrectly
PB86109BS	BF082322.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:19:50 PM	MMdadoda	10/19/2015 5:32:04 PM	Peak Integrated by Software incorrectly
PB86109BS	BF082322.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:19:50 PM	MMdadoda	10/19/2015 5:32:04 PM	Peak Integrated by Software incorrectly
G4017-02	BF082323.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:04 PM	MMdadoda	10/19/2015 5:32:05 PM	Peak Integrated by Software incorrectly
G4017-02	BF082323.D	Benzaldehyde	UMANGI	10/19/2015 5:20:04 PM	MMdadoda	10/19/2015 5:32:05 PM	Peak Integrated by Software incorrectly
G4051-10	BF082324.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:43 PM	MMdadoda	10/19/2015 5:32:06 PM	Peak Integrated by Software incorrectly
G3993-02	BF082325.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:26 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4034-01	BF082326.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4034-01	BF082326.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4034-01	BF082326.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4034-01	BF082326.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:20:59 PM	MMdadoda	10/19/2015 5:32:08 PM	Peak Integrated by Software incorrectly
G4051-01	BF082327.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:21:16 PM	MMdadoda	10/19/2015 5:32:09 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101715	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-02MS	BF082328.D	4-Nitrophenol	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Chrysene	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-02MS	BF082328.D	Pyridine	UMANGI	10/19/2015 5:21:44 PM	MMdadoda	10/19/2015 5:32:11 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	1,3-Dichlorobenzene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	1,4-Dichlorobenzene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	2-Methylphenol	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	3+4-Methylphenols	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	4-Nitrophenol	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Aniline	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-03MSD	BF082329.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Hexachlorocyclopentadiene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-03MSD	BF082329.D	n-Nitroso-di-n-propylamine	UMANGI	10/19/2015 5:22:22 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-04	BF082330.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:22:41 PM	MMdadoda	10/19/2015 5:32:13 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-05	BF082331.D	Chrysene	UMANGI	10/19/2015 5:22:53 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-06	BF082332.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:05 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-06	BF082332.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:05 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-06	BF082332.D	Chrysene	UMANGI	10/19/2015 5:23:05 PM	MMdadoda	10/19/2015 5:32:16 PM	Peak Integrated by Software incorrectly
G4051-07	BF082333.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:23:18 PM	MMdadoda	10/19/2015 5:32:20 PM	Peak Integrated by Software incorrectly
G4051-07	BF082333.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:18 PM	MMdadoda	10/19/2015 5:32:20 PM	Peak Integrated by Software incorrectly
G4051-07	BF082333.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:18 PM	MMdadoda	10/19/2015 5:32:20 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-08	BF082334.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:23:28 PM	MMdadoda	10/19/2015 5:32:22 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-09	BF082335.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4051-09	BF082335.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:23:41 PM	MMdadoda	10/19/2015 5:32:23 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly
G4046-01	BF082336.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:24:01 PM	MMdadoda	10/19/2015 5:32:24 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	1,1"-Biphenyl	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	2,4,6-Tribromophenol	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	2,4-Dimethylphenol	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	2-Fluorobiphenyl	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-02	BF082337.D	2-Methylnaphthalene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Acenaphthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Acenaphthene-d10	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Acenaphthylene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Anthracene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(g,h,i)perylene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Carbazole	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Chrysene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Chrysene-d12	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101715	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-02	BF082337.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Dibenzofuran	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Fluoranthene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Fluorene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Naphthalene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Naphthalene-d8	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Nitrobenzene-d5	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Perylene-d12	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Phenanthrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Phenanthrene-d10	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Pyrene	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly
G4046-02	BF082337.D	Terphenyl-d14	UMANGI	10/19/2015 5:24:23 PM	MMdadoda	10/19/2015 5:32:26 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-03	BF082338.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Chrysene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-03	BF082338.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:24:39 PM	MMdadoda	10/19/2015 5:32:28 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	1,1"-Biphenyl	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	2,4,6-Tribromophenol	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	2-Fluorobiphenyl	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	2-Methylnaphthalene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Acenaphthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101715	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-04	BF082339.D	Acenaphthene-d10	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Acenaphthylene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Anthracene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(g,h,i)perylene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Carbazole	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Chrysene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Chrysene-d12	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Dibenzofuran	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-04	BF082339.D	Fluoranthene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Fluorene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Naphthalene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Naphthalene-d8	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Nitrobenzene-d5	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Perylene-d12	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Phenanthrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Phenanthrene-d10	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Pyrene	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-04	BF082339.D	Terphenyl-d14	UMANGI	10/19/2015 5:25:02 PM	MMdadoda	10/19/2015 5:32:30 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-05	BF082340.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	Chrysene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4046-05	BF082340.D	Pyrene	UMANGI	10/19/2015 5:25:18 PM	MMdadoda	10/19/2015 5:32:32 PM	Peak Integrated by Software incorrectly
G4015-13	BF082341.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:25:32 PM	MMdadoda	10/19/2015 5:32:34 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082343.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:26:25 PM	MMdadoda	10/19/2015 5:32:35 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Chrysene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-01	BF082345.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:26:38 PM	MMdadoda	10/19/2015 5:32:37 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4009-02	BF082346.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Chrysene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-02	BF082346.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:26:50 PM	MMdadoda	10/19/2015 5:32:38 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Chrysene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4009-03	BF082347.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:27:03 PM	MMdadoda	10/19/2015 5:32:39 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	BF101715	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4016-12	BF082348.D	Chrysene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12	BF082348.D	Dibenzo(a,h)anthracene	UMANGI	10/19/2015 5:27:17 PM	MMdadoda	10/19/2015 5:32:41 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(a)anthracene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(a)pyrene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(b)fluoranthene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
G4016-12DL	BF082349.D	Chrysene	UMANGI	10/19/2015 5:27:37 PM	MMdadoda	10/19/2015 5:32:42 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082350.D	1,3-Dichlorobenzene	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082350.D	1,4-Dichlorobenzene-d4	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082350.D	Benzo(k)fluoranthene	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082350.D	n-Nitroso-di-n-propylamine	UMANGI	10/19/2015 5:27:50 PM	MMdadoda	10/19/2015 5:32:43 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDCCC040	BF082352.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:19 PM	MMdadoda	10/20/2015 6:25:41 PM	Peak Integrated by Software incorrectly
PB86128BSD	BF082353.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:22 PM	MMdadoda	10/20/2015 6:25:43 PM	Peak Integrated by Software incorrectly
PB86128BSD	BF082353.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:22 PM	MMdadoda	10/20/2015 6:25:43 PM	Peak Integrated by Software incorrectly
PB86128BSD	BF082353.D	Caprolactam	UMANGI	10/20/2015 6:08:22 PM	MMdadoda	10/20/2015 6:25:43 PM	Peak Integrated by Software incorrectly
PB86144BS	BF082354.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:24 PM	MMdadoda	10/20/2015 6:25:44 PM	Peak Integrated by Software incorrectly
PB86144BS	BF082354.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:24 PM	MMdadoda	10/20/2015 6:25:44 PM	Peak Integrated by Software incorrectly
PB86144BS	BF082354.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:24 PM	MMdadoda	10/20/2015 6:25:44 PM	Peak Integrated by Software incorrectly
PB86137BS	BF082355.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:27 PM	MMdadoda	10/20/2015 6:25:45 PM	Peak Integrated by Software incorrectly
PB86137BS	BF082355.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:27 PM	MMdadoda	10/20/2015 6:25:45 PM	Peak Integrated by Software incorrectly
PB86128BS	BF082356.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:29 PM	MMdadoda	10/20/2015 6:25:46 PM	Peak Integrated by Software incorrectly
PB86128BS	BF082356.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:29 PM	MMdadoda	10/20/2015 6:25:46 PM	Peak Integrated by Software incorrectly
PB86165BS	BF082358.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:33 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
PB86165BS	BF082358.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:33 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB86165BS	BF082358.D	Caprolactam	UMANGI	10/20/2015 6:08:33 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G4047-02	BF082365.D	3+4-Methylphenols	UMANGI	10/23/2015 11:25:45 AM	MMdadoda	10/23/2015 11:27:10 AM	Peak Integrated by Software incorrectly
G4047-02	BF082365.D	Benzoic acid	UMANGI	10/23/2015 11:25:45 AM	MMdadoda	10/23/2015 11:27:10 AM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	1,4-Dichlorobenzene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	1,4-Dichlorobenzene-d4	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	2-Methylphenol	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	n-Nitroso-di-n-propylamine	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MS	BF082368.D	Pyridine	UMANGI	10/20/2015 6:08:37 PM	MMdadoda	10/20/2015 6:25:48 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	1,4-Dichlorobenzene	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3993-02MSD	BF082369.D	1,4-Dichlorobenzene-d4	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	2-Methylphenol	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	n-Nitroso-di-n-propylamine	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3993-02MSD	BF082369.D	Pyridine	UMANGI	10/20/2015 6:08:41 PM	MMdadoda	10/20/2015 6:25:50 PM	Peak Integrated by Software incorrectly
G3975-10MS	BF082370.D	1,3-Dichlorobenzene	UMANGI	10/20/2015 6:08:44 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
G3975-10MS	BF082370.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:44 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
G3975-10MSD	BF082371.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:47 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
G3975-10MSD	BF082371.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:47 PM	MMdadoda	10/20/2015 6:25:51 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082372.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:49 PM	MMdadoda	10/20/2015 6:25:54 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082374.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:55 PM	MMdadoda	10/20/2015 6:25:54 PM	Peak Integrated by Software incorrectly
SSTDCCC040	BF082374.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:08:55 PM	MMdadoda	10/20/2015 6:25:54 PM	Peak Integrated by Software incorrectly
G4040-01	BF082376.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:08:58 PM	MMdadoda	10/20/2015 6:25:55 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4040-01	BF082376.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:08:58 PM	MMdadoda	10/20/2015 6:25:55 PM	Peak Integrated by Software incorrectly
G4040-01	BF082376.D	Chrysene	UMANGI	10/20/2015 6:08:58 PM	MMdadoda	10/20/2015 6:25:55 PM	Peak Integrated by Software incorrectly
G4040-02	BF082377.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:09:00 PM	MMdadoda	10/20/2015 6:25:57 PM	Peak Integrated by Software incorrectly
G4040-02	BF082377.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:00 PM	MMdadoda	10/20/2015 6:25:57 PM	Peak Integrated by Software incorrectly
G4040-02	BF082377.D	Chrysene	UMANGI	10/20/2015 6:09:00 PM	MMdadoda	10/20/2015 6:25:57 PM	Peak Integrated by Software incorrectly
G4040-04	BF082379.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:09:03 PM	MMdadoda	10/20/2015 6:25:59 PM	Peak Integrated by Software incorrectly
G4040-04	BF082379.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:03 PM	MMdadoda	10/20/2015 6:25:59 PM	Coelution Of the peak
G4040-04	BF082379.D	Chrysene	UMANGI	10/20/2015 6:09:03 PM	MMdadoda	10/20/2015 6:25:59 PM	Peak Integrated by Software incorrectly
G4040-05	BF082380.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:06 PM	MMdadoda	10/20/2015 6:25:59 PM	Coelution Of the peak
G4051-01RE	BF082381.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:09 PM	MMdadoda	10/20/2015 6:26:00 PM	Coelution Of the peak
G4051-06RE	BF082382.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:11 PM	MMdadoda	10/20/2015 6:26:02 PM	Coelution Of the peak
G4051-06RE	BF082382.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:11 PM	MMdadoda	10/20/2015 6:26:02 PM	Coelution Of the peak
G4051-08DL	BF082383.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:14 PM	MMdadoda	10/20/2015 6:26:03 PM	Coelution Of the peak

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4051-08DL	BF082383.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:14 PM	MMdadoda	10/20/2015 6:26:03 PM	Coelution Of the peak
G4051-09DL	BF082384.D	Benzo(a)pyrene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Peak Integrated by Software incorrectly
G4051-09DL	BF082384.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Coelution Of the peak
G4051-09DL	BF082384.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Coelution Of the peak
G4051-09DL	BF082384.D	Chrysene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Peak Integrated by Software incorrectly
G4051-09DL	BF082384.D	Dibenzo(a,h)anthracene	UMANGI	10/20/2015 6:09:18 PM	MMdadoda	10/20/2015 6:26:05 PM	Peak Integrated by Software incorrectly
G4009-03DL	BF082385.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4009-03DL	BF082385.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4009-03DL	BF082385.D	Chrysene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Peak Integrated by Software incorrectly
G4009-03DL	BF082385.D	Dibenzo(a,h)anthracene	UMANGI	10/20/2015 6:09:21 PM	MMdadoda	10/20/2015 6:26:06 PM	Peak Integrated by Software incorrectly
G4046-01DL	BF082386.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:26 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4046-01DL	BF082386.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:26 PM	MMdadoda	10/20/2015 6:26:06 PM	Coelution Of the peak
G4046-01DL2	BF082387.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:29 PM	MMdadoda	10/20/2015 6:26:08 PM	Coelution Of the peak

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-01DL2	BF082387.D	Chrysene	UMANGI	10/20/2015 6:09:29 PM	MMdadoda	10/20/2015 6:26:08 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Coelution Of the peak
G4046-02DL	BF082388.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Coelution Of the peak
G4046-02DL	BF082388.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Chrysene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL	BF082388.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/20/2015 6:29:16 PM	MMdadoda	10/20/2015 6:29:22 PM	Peak Integrated by Software incorrectly
G4046-02DL2	BF082389.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:31 PM	MMdadoda	10/20/2015 6:26:12 PM	Peak Integrated by Software incorrectly
G4046-02DL2	BF082389.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:31 PM	MMdadoda	10/20/2015 6:26:12 PM	Peak Integrated by Software incorrectly
G4046-02DL2	BF082389.D	Chrysene	UMANGI	10/20/2015 6:09:31 PM	MMdadoda	10/20/2015 6:26:12 PM	Peak Integrated by Software incorrectly
G4046-03DL	BF082390.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:34 PM	MMdadoda	10/20/2015 6:26:09 PM	Peak Integrated by Software incorrectly
G4046-03DL	BF082390.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:34 PM	MMdadoda	10/20/2015 6:26:09 PM	Peak Integrated by Software incorrectly
G4046-03DL	BF082390.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/20/2015 6:09:34 PM	MMdadoda	10/20/2015 6:26:09 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-03DL2	BF082391.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:36 PM	MMdadoda	10/20/2015 6:26:10 PM	Peak Integrated by Software incorrectly
G4046-03DL2	BF082391.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:36 PM	MMdadoda	10/20/2015 6:26:10 PM	Peak Integrated by Software incorrectly
G4046-03DL2	BF082391.D	Chrysene	UMANGI	10/20/2015 6:09:36 PM	MMdadoda	10/20/2015 6:26:10 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Anthracene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Chrysene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL	BF082392.D	Phenanthrene	UMANGI	10/20/2015 6:09:39 PM	MMdadoda	10/20/2015 6:26:13 PM	Peak Integrated by Software incorrectly
G4046-04DL2	BF082393.D	Benzo(a)anthracene	UMANGI	10/20/2015 6:09:42 PM	MMdadoda	10/20/2015 6:26:14 PM	Peak Integrated by Software incorrectly
G4046-04DL2	BF082393.D	Chrysene	UMANGI	10/20/2015 6:09:42 PM	MMdadoda	10/20/2015 6:26:14 PM	Peak Integrated by Software incorrectly
G4046-05DL	BF082394.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly
G4046-05DL	BF082394.D	Benzo(k)fluoranthene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly
G4046-05DL	BF082394.D	Dibenzo(a,h)anthracene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly

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Sequence:	BF101915	Instrument	BNA_f

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-05DL	BF082394.D	Indeno(1,2,3-cd)pyrene	UMANGI	10/20/2015 6:09:45 PM	MMdadoda	10/20/2015 6:26:16 PM	Peak Integrated by Software incorrectly
G4040-04RE	BF082396.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:47 PM	MMdadoda	10/20/2015 6:26:17 PM	Peak Integrated by Software incorrectly
G4040-04RE	BF082396.D	Chrysene	UMANGI	10/20/2015 6:09:47 PM	MMdadoda	10/20/2015 6:26:17 PM	Peak Integrated by Software incorrectly
G4040-05RE	BF082397.D	Benzo(b)fluoranthene	UMANGI	10/20/2015 6:09:53 PM	MMdadoda	10/20/2015 6:26:20 PM	Peak Integrated by Software incorrectly

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BF082165.D	10 Oct 2015 9:26	UM/IZ	Ok
2	SSTDCCC040	BF082166.D	10 Oct 2015 9:56	UM/IZ	Not Ok
3	SSTDICC02.5	BF082167.D	10 Oct 2015 10:31	UM/IZ	Ok,M
4	SSTDICC010	BF082168.D	10 Oct 2015 11:01	UM/IZ	Ok,M
5	SSTDICC025	BF082169.D	10 Oct 2015 11:32	UM/IZ	Ok,M
6	SSTDICCC040	BF082170.D	10 Oct 2015 12:02	UM/IZ	Ok,M
7	SSTDICC050	BF082171.D	10 Oct 2015 12:32	UM/IZ	Ok,M
8	SSTDICC060	BF082172.D	10 Oct 2015 13:03	UM/IZ	Ok,M
9	SSTDICC080	BF082173.D	10 Oct 2015 13:33	UM/IZ	Ok,M
10	SSTDICV040	BF082174.D	10 Oct 2015 14:03	UM/IZ	Ok,M
11	PB86035BS	BF082175.D	10 Oct 2015 14:34	UM/IZ	Ok,M
12	PB86050BS	BF082176.D	10 Oct 2015 15:04	UM/IZ	Ok,M
13	PB86038BS	BF082177.D	10 Oct 2015 15:35	UM/IZ	Ok,M
14	PB86017BS	BF082178.D	10 Oct 2015 16:06	UM/IZ	Ok,M
15	PB86017BSD	BF082179.D	10 Oct 2015 16:36	UM/IZ	Ok,M
16	G3974-03	BF082180.D	10 Oct 2015 17:07	UM/IZ	Ok
17	G3974-03MS	BF082181.D	10 Oct 2015 17:37	UM/IZ	Ok,M
18	G3974-03MSD	BF082182.D	10 Oct 2015 18:08	UM/IZ	Ok,M
19	G3979-09	BF082183.D	10 Oct 2015 18:39	UM/IZ	Ok
20	G3979-09MS	BF082184.D	10 Oct 2015 19:09	UM/IZ	Ok,M
21	G3979-09MSD	BF082185.D	10 Oct 2015 19:39	UM/IZ	Ok,M
22	G3979-10	BF082186.D	10 Oct 2015 20:10	UM/IZ	Ok
23	G3979-11	BF082187.D	10 Oct 2015 20:40	UM/IZ	Ok
24	SSTDCCC040	BF082188.D	10 Oct 2015 21:10	UM/IZ	Ok,M
25	DFTPP	BF082189.D	10 Oct 2015 21:41	UM/IZ	Ok
26	SSTDCCC040	BF082190.D	10 Oct 2015 22:11	UM/IZ	Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

27	G3979-12	BF082191.D	10 Oct 2015 22:41	UM/IZ	Ok
28	G3979-21	BF082192.D	10 Oct 2015 23:12	UM/IZ	Ok
29	G3979-22	BF082193.D	10 Oct 2015 23:42	UM/IZ	Ok
30	G3979-23	BF082194.D	11 Oct 2015 00:12	UM/IZ	Ok
31	G3979-24	BF082195.D	11 Oct 2015 00:42	UM/IZ	Ok
32	G3979-25	BF082196.D	11 Oct 2015 1:12	UM/IZ	Ok
33	G3906-09MS	BF082197.D	11 Oct 2015 1:42	UM/IZ	Ok,M
34	G3906-09MSD	BF082198.D	11 Oct 2015 2:12	UM/IZ	Ok,M
35	G3974-02	BF082199.D	11 Oct 2015 2:42	UM/IZ	Dilution
36	G3959-04	BF082200.D	11 Oct 2015 3:11	UM/IZ	Ok
37	G3959-03	BF082201.D	11 Oct 2015 3:41	UM/IZ	Ok
38	G3979-05	BF082202.D	11 Oct 2015 4:11	UM/IZ	Ok
39	G3979-06	BF082203.D	11 Oct 2015 4:41	UM/IZ	Ok
40	G3979-07	BF082204.D	11 Oct 2015 5:11	UM/IZ	Ok,M
41	G3979-08	BF082205.D	11 Oct 2015 5:40	UM/IZ	Ok,M
42	G3979-18	BF082206.D	11 Oct 2015 6:10	UM/IZ	Ok
43	G3979-19	BF082207.D	11 Oct 2015 6:40	UM/IZ	Ok
44	G3979-20	BF082208.D	11 Oct 2015 7:10	UM/IZ	Ok,M
45	G3889-02DL	BF082209.D	11 Oct 2015 7:39	UM/IZ	Ok,M
46	G3921-07DL	BF082210.D	11 Oct 2015 8:09	UM/IZ	Ok,M
47	G3974-01DL	BF082211.D	11 Oct 2015 8:39	UM/IZ	Dilution
48	G3933-01	BF082212.D	11 Oct 2015 9:09	UM/IZ	Ok,M
49	G3921-03	BF082213.D	11 Oct 2015 9:38	UM/IZ	Ok,M
50	G3928-06	BF082214.D	11 Oct 2015 10:08	UM/IZ	Not Ok
51	SSTDCCC040	BF082215.D	11 Oct 2015 10:38	UM/IZ	Not Ok

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BF082319.D	16 Oct 2015 11:18	UM/IZ	Ok
2	SSTDCCC040	BF082320.D	16 Oct 2015 11:49	UM/IZ	Ok,M
3	PB86109BL	BF082321.D	16 Oct 2015 12:49	UM/IZ	Ok,M
4	PB86109BS	BF082322.D	16 Oct 2015 13:17	UM/IZ	Ok,M
5	G4017-02	BF082323.D	16 Oct 2015 13:54	UM/IZ	Ok,M
6	G4051-10	BF082324.D	16 Oct 2015 14:22	UM/IZ	Ok,M
7	G3993-02	BF082325.D	16 Oct 2015 14:51	UM/IZ	Ok,M
8	G4034-01	BF082326.D	16 Oct 2015 15:20	UM/IZ	Ok,M
9	G4051-01	BF082327.D	16 Oct 2015 15:54	UM/IZ	ReRun
10	G4051-02MS	BF082328.D	16 Oct 2015 16:23	UM/IZ	Ok,M
11	G4051-03MSD	BF082329.D	16 Oct 2015 16:52	UM/IZ	Ok,M
12	G4051-04	BF082330.D	16 Oct 2015 17:20	UM/IZ	Ok,M
13	G4051-05	BF082331.D	16 Oct 2015 17:49	UM/IZ	Ok,M
14	G4051-06	BF082332.D	16 Oct 2015 18:18	UM/IZ	ReRun
15	G4051-07	BF082333.D	16 Oct 2015 18:47	UM/IZ	Ok,M
16	G4051-08	BF082334.D	16 Oct 2015 19:15	UM/IZ	Dilution
17	G4051-09	BF082335.D	16 Oct 2015 19:44	UM/IZ	Dilution
18	G4046-01	BF082336.D	16 Oct 2015 20:12	UM/IZ	Dilution
19	G4046-02	BF082337.D	16 Oct 2015 20:41	UM/IZ	Dilution
20	G4046-03	BF082338.D	16 Oct 2015 21:10	UM/IZ	Dilution
21	G4046-04	BF082339.D	16 Oct 2015 21:39	UM/IZ	Dilution
22	G4046-05	BF082340.D	16 Oct 2015 22:07	UM/IZ	Dilution
23	G4015-13	BF082341.D	16 Oct 2015 22:36	UM/IZ	Ok,M
24	DFTPP	BF082342.D	17 Oct 2015 00:04	UM/IZ	Ok
25	SSTDCCC040	BF082343.D	17 Oct 2015 00:33	UM/IZ	Ok,M
26	G4016-03	BF082344.D	17 Oct 2015 1:05	UM/IZ	Ok

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

27	G4009-01	BF082345.D	17 Oct 2015 1:33	UM/IZ	Ok,M
28	G4009-02	BF082346.D	17 Oct 2015 2:02	UM/IZ	Ok,M
29	G4009-03	BF082347.D	17 Oct 2015 2:31	UM/IZ	Dilution
30	G4016-12	BF082348.D	17 Oct 2015 2:59	UM/IZ	Dilution
31	G4016-12DL	BF082349.D	17 Oct 2015 3:28	UM/IZ	Ok,M
32	SSTDCCC040	BF082350.D	17 Oct 2015 3:56	UM/IZ	Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BF082351.D	19 Oct 2015 12:50	UM/IZ	Ok
2	SSTDCCC040	BF082352.D	19 Oct 2015 13:18	UM/IZ	Ok,M
3	PB86128BSD	BF082353.D	19 Oct 2015 14:05	UM/IZ	Ok,M
4	PB86144BS	BF082354.D	19 Oct 2015 14:34	UM/IZ	Ok,M
5	PB86137BS	BF082355.D	19 Oct 2015 15:02	UM/IZ	Ok,M
6	PB86128BS	BF082356.D	19 Oct 2015 15:31	UM/IZ	Ok,M
7	PB86144BL	BF082357.D	19 Oct 2015 15:59	UM/IZ	Ok
8	PB86165BS	BF082358.D	19 Oct 2015 16:28	UM/IZ	Ok,M
9	PB86137BL	BF082359.D	19 Oct 2015 16:58	UM/IZ	Ok
10	PB86137TB	BF082360.D	19 Oct 2015 17:26	UM/IZ	Ok
11	PB86128BL	BF082361.D	19 Oct 2015 17:55	UM/IZ	Ok
12	PB86165BL	BF082362.D	19 Oct 2015 18:24	UM/IZ	Ok
13	PB86165TB	BF082363.D	19 Oct 2015 18:53	UM/IZ	Ok
14	G3918-03RE	BF082364.D	19 Oct 2015 19:21	UM/IZ	Confirms
15	G4047-02	BF082365.D	19 Oct 2015 19:50	UM/IZ	ReRun
16	G3975-10	BF082366.D	19 Oct 2015 20:19	UM/IZ	Ok
17	G3975-09	BF082367.D	19 Oct 2015 20:47	UM/IZ	ReRun
18	G3993-02MS	BF082368.D	19 Oct 2015 21:16	UM/IZ	Ok,M
19	G3993-02MSD	BF082369.D	19 Oct 2015 21:45	UM/IZ	Ok,M
20	G3975-10MS	BF082370.D	19 Oct 2015 22:14	UM/IZ	Ok,M
21	G3975-10MSD	BF082371.D	19 Oct 2015 22:42	UM/IZ	Ok,M
22	SSTDCCC040	BF082372.D	19 Oct 2015 23:11	UM/IZ	Ok,M
23	DFTPP	BF082373.D	20 Oct 2015 00:44	UM/IZ	Ok
24	SSTDCCC040	BF082374.D	20 Oct 2015 1:13	UM/IZ	Ok,M
25	G4084-01	BF082375.D	20 Oct 2015 1:42	UM/IZ	Ok
26	G4040-01	BF082376.D	20 Oct 2015 2:10	UM/IZ	Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

27	G4040-02	BF082377.D	20 Oct 2015 2:39	UM/IZ	Ok,M
28	G4040-03	BF082378.D	20 Oct 2015 3:07	UM/IZ	ReRun
29	G4040-04	BF082379.D	20 Oct 2015 3:36	UM/IZ	ReRun
30	G4040-05	BF082380.D	20 Oct 2015 4:05	UM/IZ	ReRun
31	G4051-01RE	BF082381.D	20 Oct 2015 4:33	UM/IZ	Confirms
32	G4051-06RE	BF082382.D	20 Oct 2015 5:02	UM/IZ	Confirms
33	G4051-08DL	BF082383.D	20 Oct 2015 5:31	UM/IZ	Ok,M
34	G4051-09DL	BF082384.D	20 Oct 2015 5:59	UM/IZ	Ok,M
35	G4009-03DL	BF082385.D	20 Oct 2015 6:28	UM/IZ	Ok,M
36	G4046-01DL	BF082386.D	20 Oct 2015 6:56	UM/IZ	Dilution
37	G4046-01DL2	BF082387.D	20 Oct 2015 7:25	UM/IZ	Ok,M
38	G4046-02DL	BF082388.D	20 Oct 2015 7:53	UM/IZ	Dilution
39	G4046-02DL2	BF082389.D	20 Oct 2015 8:22	UM/IZ	Ok,M
40	G4046-03DL	BF082390.D	20 Oct 2015 8:51	UM/IZ	Dilution
41	G4046-03DL2	BF082391.D	20 Oct 2015 9:19	UM/IZ	Ok,M
42	G4046-04DL	BF082392.D	20 Oct 2015 9:48	UM/IZ	Dilution
43	G4046-04DL2	BF082393.D	20 Oct 2015 10:17	UM/IZ	Ok,M
44	G4046-05DL	BF082394.D	20 Oct 2015 10:46	UM/IZ	Ok,M
45	G4040-03RE	BF082395.D	20 Oct 2015 11:15	UM/IZ	Confirms
46	G4040-04RE	BF082396.D	20 Oct 2015 11:43	UM/IZ	Confirms
47	G4040-05RE	BF082397.D	20 Oct 2015 12:12	UM/IZ	Confirms
48	G3975-09RE	BF082398.D	20 Oct 2015 12:41	UM/IZ	Confirms

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP	DFTPP	BF082165.D		Ok
2	SSTDCCC040	SSTDCCC040	BF082166.D	Need ICAL	Not Ok
3	SSTDICC02.5	SSTDICC02.5	BF082167.D	Compound # 4,32,40,44,53,55,59,60,64,71 removed from 2.5 PPM level	Ok,M
4	SSTDICC010	SSTDICC010	BF082168.D	linear Regression used for Compound # 40,53	Ok,M
5	SSTDICC025	SSTDICC025	BF082169.D	Quadratic Regression used for Compound # 55	Ok,M
6	SSTDICCC040	SSTDICCC040	BF082170.D		Ok,M
7	SSTDICC050	SSTDICC050	BF082171.D		Ok,M
8	SSTDICC060	SSTDICC060	BF082172.D		Ok,M
9	SSTDICC080	SSTDICC080	BF082173.D		Ok,M
10	SSTDICV040	ICVBF101015	BF082174.D		Ok,M
11	PB86035BS	PB86035BS	BF082175.D		Ok,M
12	PB86050BS	PB86050BS	BF082176.D		Ok,M
13	PB86038BS	PB86038BS	BF082177.D		Ok,M
14	PB86017BS	PB86017BS	BF082178.D		Ok,M
15	PB86017BSD	PB86017BSD	BF082179.D		Ok,M
16	G3974-03	MGP222BR-35-37	BF082180.D		Ok
17	G3974-03MS	MGP222BR-35-37MS	BF082181.D		Ok,M
18	G3974-03MSD	MGP222BR-35-37MSD	BF082182.D		Ok,M
19	G3979-09	A13COMP	BF082183.D		Ok
20	G3979-09MS	A13COMPMS	BF082184.D		Ok,M
21	G3979-09MSD	A13COMPMSD	BF082185.D		Ok,M
22	G3979-10	A14COMP	BF082186.D		Ok

Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

23	G3979-11	A15COMP	BF082187.D		Ok
24	SSTDCCC040	SSTDCCC040EC	BF082188.D		Ok,M
25	DFTPP	DFTPP	BF082189.D		Ok
26	SSTDCCC040	SSTDCCC040	BF082190.D		Ok,M
27	G3979-12	A16COMP	BF082191.D		Ok
28	G3979-21	A12COMP	BF082192.D		Ok
29	G3979-22	A9COMP	BF082193.D		Ok
30	G3979-23	A10COMP	BF082194.D		Ok
31	G3979-24	A11COMP	BF082195.D		Ok
32	G3979-25	A12COMP	BF082196.D		Ok
33	G3906-09MS	IM-MLA-(1.5-02)MS	BF082197.D		Ok,M
34	G3906-09MSD	IM-MLA-(1.5-02)MSD	BF082198.D		Ok,M
35	G3974-02	MGP222BR-22-24	BF082199.D	Need 5X	Dilution
36	G3959-04	PO-002	BF082200.D		Ok
37	G3959-03	PO-004	BF082201.D		Ok
38	G3979-05	A13COMP	BF082202.D		Ok
39	G3979-06	A14COMP	BF082203.D		Ok
40	G3979-07	A15COMP	BF082204.D		Ok,M
41	G3979-08	A16COMP	BF082205.D		Ok,M
42	G3979-18	A9COMP	BF082206.D		Ok
43	G3979-19	A10COMP	BF082207.D		Ok
44	G3979-20	A11COMP	BF082208.D		Ok,M
45	G3889-02DL	MGP123-5-7DL	BF082209.D		Ok,M

Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101015

Review By	UMANGI	Review On	10/12/2015 2:24:07 PM		
SubDirectory	BF101015	HP Acquire Method	BNA_F	HP Processing Method	BF092815

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4716
ICV/I.BLK	SP3437

46	G3921-07DL	LS-COMP(1-8)DL	BF082210.D		Ok,M
47	G3974-01DL	MGP222BR-12-14DL	BF082211.D	Need 200X	Dilution
48	G3933-01	TP-COMP-04	BF082212.D		Ok,M
49	G3921-03	RS-COMP(1-8)	BF082213.D		Ok,M
50	G3928-06	OS-SB-22(46-48)A	BF082214.D	Out of tune time	Not Ok
51	SSTDCCC040	SSTDCCC040EC	BF082215.D	Out of tune time	Not Ok

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP	DFTPP	BF082319.D		Ok
2	SSTDCCC040	SSTDCCC040	BF082320.D		Ok,M
3	PB86109BL	PB86109BL	BF082321.D		Ok,M
4	PB86109BS	PB86109BS	BF082322.D		Ok,M
5	G4017-02	TEC-10	BF082323.D		Ok,M
6	G4051-10	FB1-20151015	BF082324.D		Ok,M
7	G3993-02	STOCKPILE	BF082325.D		Ok,M
8	G4034-01	CWC-1-20151014	BF082326.D		Ok,M
9	G4051-01	TK1-1-20151015	BF082327.D	Surrogate fail	ReRun
10	G4051-02MS	TK1-1-20151015MS	BF082328.D		Ok,M
11	G4051-03MSD	TK1-1-20151015MSD	BF082329.D	Internal standard fail	Ok,M
12	G4051-04	TK1-3-20151015	BF082330.D		Ok,M
13	G4051-05	TK1-4-20151015	BF082331.D		Ok,M
14	G4051-06	TK1-6-20151015	BF082332.D	Surrogate fail	ReRun
15	G4051-07	TK1-2-20151015	BF082333.D		Ok,M
16	G4051-08	TK1-DUP-20151015	BF082334.D	Need 5X	Dilution
17	G4051-09	TK1-5-20151015	BF082335.D	Surrogate fail, Need 5X	Dilution
18	G4046-01	GOODLUCK902	BF082336.D	Internal standard fail, Need 50X, 250X	Dilution
19	G4046-02	GOODLUCK58	BF082337.D	Internal standard fail, Need 50X, 250X	Dilution
20	G4046-03	GOODLUCKINSULATION	BF082338.D	Internal standard fail, Need 400X	Dilution
21	G4046-04	MANAHAWKEN112	BF082339.D	Internal standard fail, Need 50X,500X	Dilution
22	G4046-05	MANAHAWKENINSULATI	BF082340.D	Internal standard fail, Need 400X	Dilution

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101715

Review By	MMdadoda	Review On	10/19/2015 5:33:19 PM		
SubDirectory	BF101715	HP Acquire Method	BNA_F	HP Processing Method	bf101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4717
ICV/I.BLK	SP3437

23	G4015-13	LW-1	BF082341.D		Ok,M
24	DFTPP	DFTPP	BF082342.D		Ok
25	SSTDCCC040	SSTDCCC040	BF082343.D		Ok,M
26	G4016-03	CS-3	BF082344.D		Ok
27	G4009-01	KW-1	BF082345.D		Ok,M
28	G4009-02	KW-2	BF082346.D		Ok,M
29	G4009-03	KW-3	BF082347.D	Need 2X	Dilution
30	G4016-12	CS-13	BF082348.D	Need 20X	Dilution
31	G4016-12DL	CS-13DL	BF082349.D		Ok,M
32	SSTDCCC040	SSTDCCC040EC	BF082350.D		Ok,M

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP	DFTPP	BF082351.D		Ok
2	SSTDCCC040	SSTDCCC040	BF082352.D		Ok,M
3	PB86128BSD	PB86128BSD	BF082353.D		Ok,M
4	PB86144BS	PB86144BS	BF082354.D		Ok,M
5	PB86137BS	PB86137BS	BF082355.D		Ok,M
6	PB86128BS	PB86128BS	BF082356.D		Ok,M
7	PB86144BL	PB86144BL	BF082357.D		Ok
8	PB86165BS	PB86165BS	BF082358.D		Ok,M
9	PB86137BL	PB86137BL	BF082359.D		Ok
10	PB86137TB	PB86137TB	BF082360.D		Ok
11	PB86128BL	PB86128BL	BF082361.D		Ok
12	PB86165BL	PB86165BL	BF082362.D		Ok
13	PB86165TB	PB86165TB	BF082363.D		Ok
14	G3918-03RE	WC100215-LRE	BF082364.D	Fax is given with original run	Confirms
15	G4047-02	EFFWW	BF082365.D	ISTD fail	ReRun
16	G3975-10	PX3	BF082366.D		Ok
17	G3975-09	PX3	BF082367.D	Internal standard fail	ReRun
18	G3993-02MS	STOCKPILEMS	BF082368.D		Ok,M
19	G3993-02MSD	STOCKPILEMSD	BF082369.D		Ok,M
20	G3975-10MS	PX3MS	BF082370.D		Ok,M
21	G3975-10MSD	PX3MSD	BF082371.D		Ok,M
22	SSTDCCC040	SSTDCCC040EC	BF082372.D		Ok,M

Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

23	DFTPP	DFTPP	BF082373.D		Ok
24	SSTDCCC040	SSTDCCC040	BF082374.D		Ok,M
25	G4084-01	SB-07-7.5-8.0-092915	BF082375.D		Ok
26	G4040-01	IM-MLA-2.5-03	BF082376.D		Ok,M
27	G4040-02	IM-MLA-2.5-04	BF082377.D		Ok,M
28	G4040-03	IM-MLA-2.5-05	BF082378.D	Internal standard fail	ReRun
29	G4040-04	IM-MLA-1.5-05	BF082379.D	Internal standard fail	ReRun
30	G4040-05	IM-MLA-DGA-03	BF082380.D	Internal standard fail	ReRun
31	G4051-01RE	TK1-1-20151015RE	BF082381.D	Surrogate fail	Confirms
32	G4051-06RE	TK1-6-20151015RE	BF082382.D	Surrogate fail	Confirms
33	G4051-08DL	TK1-DUP-20151015DL	BF082383.D		Ok,M
34	G4051-09DL	TK1-5-20151015DL	BF082384.D		Ok,M
35	G4009-03DL	KW-3DL	BF082385.D		Ok,M
36	G4046-01DL	GOODLUCK902DL	BF082386.D	Need 250X	Dilution
37	G4046-01DL2	GOODLUCK902DL2	BF082387.D	Internal standard fail	Ok,M
38	G4046-02DL	GOODLUCK58DL	BF082388.D	Need 250X;Internal standard fail	Dilution
39	G4046-02DL2	GOODLUCK58DL2	BF082389.D		Ok,M
40	G4046-03DL	GOODLUCKINSULATIONI	BF082390.D	Need 1000X	Dilution
41	G4046-03DL2	GOODLUCKINSULATIONI	BF082391.D		Ok,M
42	G4046-04DL	MANAHAWKEN112DL	BF082392.D	Need 500X	Dilution
43	G4046-04DL2	MANAHAWKEN112DL2	BF082393.D		Ok,M
44	G4046-05DL	MANAHAWKENINSULATI	BF082394.D		Ok,M
45	G4040-03RE	IM-MLA-2.5-05RE	BF082395.D	Internal standard fail	Confirms

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Instrument ID: BNA_F

Daily Analysis Runlog For Sequence/QCBatch ID # BF101915

Review By	MMdadoda	Review On	10/20/2015 6:26:54 PM		
SubDirectory	BF101915	HP Acquire Method	BNA_F	HP Processing Method	BF101015

STD. NAME	STD REF.#
Tune/Reschk	SP3432
Initial Calibration Stds	SP3438,SP3439,SP3440,SP3441,SP3442,SP3443,SP3444
CCC	SP3441
Internal Standard/PEM	S4718
ICV/I.BLK	SP3437

46	G4040-04RE	IM-MLA-1.5-05RE	BF082396.D	Internal standard fail	Confirms
47	G4040-05RE	IM-MLA-DGA-03RE	BF082397.D	Internal standard fail	Confirms
48	G3975-09RE	PX3RE	BF082398.D	Internal standard fail	Confirms

CHEMTECH EXTRACTION LOGPAGE

PB86144

SOP ID: M 3541 ASE-Extraction-07

Matrix : Solid

Clean Up SOP #: N/A

Weigh By: RS Extraction By: RS

Balance check: RS

Balance ID: PM-4600

Batch# PB86144

Extraction Date : 10/16/15

Extraction Start Time : 09:21

Extraction End Time : 12:40

Review By :

Filter By: RS Concentration By: MM

Weight 1: (20.00) 20.00 Weight 2: (110.00) 110.00

Method of Extraction

☐ Seperatory Funne ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☑ Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	1.0ML	50/100 ppm	SP3463
Surrogate	1.0ML	100/150 ppm	SP3391

Chemical Used	ML/SAMPLE USED	Lot Number
Mcl2/Acetone/1:1		EP1614
Baked Na2SO4		EP1613
Sand		E1520

10/16

10/16

Extraction Conformance/Non-Conformance Comments:

Gr 3975-09 & Extracted & added in Batch.
Gr 4084-01

Extraction End Time: 12:40

Gr 4084-01 Extracted out of Hold time.

KD Bath Temperature: 60.1 c

Received Date: 10/16/15

Delivered Date: 10/16/15

Delivered Time: 12:45

Gr 3975-09 } Delivered
Gr 4084-01 } at 18:15

Envap Temperature: 40 c

Received By: Um

Delivered By: MM

Analysis Group:

Extraction Group: , RS, , MM, UA, RP, JP, BP, NP, UM

CHEMTECH EXTRACTION LOGPAGE **PrepBatch ID** **PB86144**

Analytical Method: 8270D **Extraction Date:** 10/16/2015-09:21 **Concentration Date:** 10 / 16 / 15

Lab Sample ID	Client Sample ID	Test	(g)/ mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
	2	2			Added By	Verified By			
PB86144BL	SBLK44	SVOCMS Group1	30.00	N/A	RS	AP	1		01 01
PB86144BS	SLCS44	SVOCMS Group1	30.03						02
G3975-09	PX3	SVOCMS Group1	30.06					Yellow with Ext 16:15, Matrix	03
G4034-01	CWC-1-20151014	SVOCMS Group1	30.04					Black Matrix	04
G4040-01	IM-MLA-2.5-03	SVOCMS Group1	30.09						05
G4040-02	IM-MLA-2.5-04	SVOCMS Group1	30.06						06
G4040-03	IM-MLA-2.5-05	SVOCMS Group1	30.08						02 01
G4040-04	IM-MLA-1.5-05	SVOCMS Group1	30.10						02
G4040-05	IM-MLA-DGA-03	SVOCMS Group1	30.05						03
G4046-01	GOODLUCK902	SVOC-TCL BNA -20	5.01					Wood Chips	04
G4046-02	GOODLUCK58	SVOC-TCL BNA -20	5.04						05
G4046-03	GOODLUCKINSULATION	SVOCMS Group1	1.05					Asbestos Matrix	06
G4046-04	MANAHAWKEN112	SVOC-TCL BNA -20	5.03					Wood Chips	03 01
G4046-05	MANAHAWKENINSULATION	SVOCMS Group1	1.03					Asbestos Matrix	02
G4051-01	TK1-1-20151015	SVOCMS Group1	30.11						03
G4051-02	G4051-01MS	SVOCMS Group1	30.06						04
G4051-03	G4051-01MSD	SVOCMS Group1	30.03						05
G4051-04	TK1-3-20151015	SVOCMS Group1	30.09						06
G4051-05	TK1-4-20151015	SVOCMS Group1	30.03						04 01
G4051-06	TK1-6-20151015	SVOCMS Group1	30.08						02
G4051-07	TK1-2-20151015	SVOCMS Group1	30.03						03
G4051-08	TK1-DUP-20151015	SVOCMS Group1	30.11						04
G4051-09	TK1-5-20151015	SVOCMS Group1	30.04						05
G4084-01	SB-07-7.5-8.0-092915	SVOCMS Group2	30.10				1	Yellow with Matrix Ext of 16:15	06

* Extracts relinquished on the same date as received.

CHEMTECH

EXTRACTION LOGPAGE

PrepBatch ID : PB86144

Analytical Method:_____ **Extraction Date:** 10/16/2015-09:21 **Concentration Date:**___/___/___

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments		Prep Pos
		2 2			Added By	Verified By				
PB86144BL	SBLK44	SVOCMS Group1	30.00	N/A	RUPESH	rajesh	1			
PB86144BS	SLCS44	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1			
G3975-09	PX3	SVOCMS Group1	30.06	N/A	RUPESH	rajesh	1			
G4034-01	CWC-1-20151014	SVOCMS Group1	30.04	N/A	RUPESH	rajesh	1			
G4040-01	IM-MLA-2.5-03	SVOCMS Group1	30.09	N/A	RUPESH	rajesh	1			
G4040-02	IM-MLA-2.5-04	SVOCMS Group1	30.06	N/A	RUPESH	rajesh	1			
G4040-03	IM-MLA-2.5-05	SVOCMS Group1	30.08	N/A	RUPESH	rajesh	1			
G4040-04	IM-MLA-1.5-05	SVOCMS Group1	30.10	N/A	RUPESH	rajesh	1			
G4040-05	IM-MLA-DGA-03	SVOCMS Group1	30.05	N/A	RUPESH	rajesh	1			
G4046-01	GOODLUCK902	SVOC-TCL BNA -20	5.01	N/A	RUPESH	rajesh	1			
G4046-02	GOODLUCK58	SVOC-TCL BNA -20	5.04	N/A	RUPESH	rajesh	1			
G4046-03	GOODLUCKINSULATION	SVOCMS Group1	1.05	N/A	RUPESH	rajesh	1			
G4046-04	MANAHAWKEN112	SVOC-TCL BNA -20	5.03	N/A	RUPESH	rajesh	1			
G4046-05	MANAHAWKENINSULATION	SVOCMS Group1	1.03	N/A	RUPESH	rajesh	1			
G4051-01	TK1-1-20151015	SVOCMS Group1	30.11	N/A	RUPESH	rajesh	1			
G4051-02	G4051-01MS	SVOCMS Group1	30.06	N/A	RUPESH	rajesh	1			

* **Extracts relinquished on the same date as received.**

2 10/16

CHEMTECH EXTRACTION LOGPAGE

PrepBatch ID : **PB86144**

Analytical Method: 2 **Extraction Date:** 10/16/2015-09:21 **Concentration Date:** __/__/__

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
		2	2		Added By	Verified By			
G4051-03	G4051-01MSD	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1		
G4051-04	TK1-3-20151015	SVOCMS Group1	30.09	N/A	RUPESH	rajesh	1		
G4051-05	TK1-4-20151015	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1		
G4051-06	TK1-6-20151015	SVOCMS Group1	30.08	N/A	RUPESH	rajesh	1		
G4051-07	TK1-2-20151015	SVOCMS Group1	30.03	N/A	RUPESH	rajesh	1		
G4051-08	TK1-DUP-20151015	SVOCMS Group1	30.11	N/A	RUPESH	rajesh	1		
G4051-09	TK1-5-20151015	SVOCMS Group1	30.04	N/A	RUPESH	rajesh	1		
G4084-01	SB-07-7.5-8.0-092915	SVOCMS Group2	30.10	N/A	RUPESH	rajesh	1		

10/16

* Extracts relinquished on the same date as received.

10/16

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LAB CHRONICLE

OrderID:	G4046	**OrderDate:**	10/15/2015 11:06:06 AM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4046-01	**GOODLUCK902**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/16/15	
G4046-01DL	**GOODLUCK902DL**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/20/15	
G4046-01DL 2	**GOODLUCK902DL2**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/20/15	
G4046-02	**GOODLUCK58**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/16/15	
G4046-02DL	**GOODLUCK58DL**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/20/15	
G4046-02DL 2	**GOODLUCK58DL2**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/20/15	
G4046-03	**GOODLUCKINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/16/15	
G4046-03DL	**GOODLUCKINSULATIONDL**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/20/15	
G4046-03DL 2	**GOODLUCKINSULATIONDL2**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/20/15	
G4046-04	**MANAHAWKEN112**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/16/15	
G4046-04DL	**MANAHAWKEN112DL**	**SOIL**			**10/14/15**			**10/14/15**

LAB CHRONICLE

			SVOC-TCL BNA -20	8270D		10/16/15	10/20/15	
G4046-04DL 2	**MANAHAWKEN112DL 2**	**SOIL**			**10/14/15**			**10/14/15**
			SVOC-TCL BNA -20	8270D		10/16/15	10/20/15	
G4046-05	**MANAHAWKENINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/16/15	
G4046-05DL	**MANAHAWKENINSULATIONDL**	**SOIL**			**10/14/15**			**10/14/15**
			SVOCMS Group1	8270D		10/16/15	10/20/15	

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Hit Summary Sheet
SW-846

SDG No.: G4046 **Order ID:** G4046

Client: Sea Coast Environmental Services, Inc. **Project ID:** U.S. Fish and Wildlife

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :	**GOODLUCK902**								
G4046-01	GOODLUCK902	SOIL	Aldrin	10.50		0.598	2	10.2	ug/kg
G4046-01	GOODLUCK902	SOIL	4,4-DDE	13.00	P	1.2	2	10.2	ug/kg
G4046-01	GOODLUCK902	SOIL	Endosulfan II	30.80	P	0.837	2	10.2	ug/kg
G4046-01	GOODLUCK902	SOIL	4,4-DDT	37.30		0.837	2	10.2	ug/kg
			Total Concentration:	**91.60**					
Client ID :	**GOODLUCK58**								
G4046-02	GOODLUCK58	SOIL	Aldrin	16.20		0.596	2	10.1	ug/kg
G4046-02	GOODLUCK58	SOIL	Endrin	16.10	P	1.1	2	10.1	ug/kg
G4046-02	GOODLUCK58	SOIL	4,4-DDT	87.90		0.835	2	10.1	ug/kg
			Total Concentration:	**120.20**					
Client ID :	**MANAHAWKEN112**								
G4046-04	MANAHAWKEN112	SOIL	Aldrin	51.30		0.593	2	10.1	ug/kg
G4046-04	MANAHAWKEN112	SOIL	4,4-DDT	27.30	P	0.83	2	10.1	ug/kg
			Total Concentration:	**78.60**					

SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014746.D	1	10/16/15 08:22	10/16/15 17:12	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
319-84-6	alpha-BHC	2	U	0.777	2	10.2	ug/kg
319-85-7	beta-BHC	2	U	1.1	2	10.2	ug/kg
319-86-8	delta-BHC	2	U	0.598	2	10.2	ug/kg
58-89-9	gamma-BHC (Lindane)	2	U	0.896	2	10.2	ug/kg
76-44-8	Heptachlor	2	U	0.837	2	10.2	ug/kg
309-00-2	Aldrin	10.5		0.598	2	10.2	ug/kg
1024-57-3	Heptachlor epoxide	2	U	0.956	2	10.2	ug/kg
959-98-8	Endosulfan I	2	U	0.896	2	10.2	ug/kg
60-57-1	Dieldrin	2	U	0.777	2	10.2	ug/kg
72-55-9	4,4-DDE	13	P	1.2	2	10.2	ug/kg
72-20-8	Endrin	2	U	1.1	2	10.2	ug/kg
33213-65-9	Endosulfan II	30.8	P	0.837	2	10.2	ug/kg
72-54-8	4,4-DDD	2	U	1	2	10.2	ug/kg
1031-07-8	Endosulfan Sulfate	2	U	0.896	2	10.2	ug/kg
50-29-3	4,4-DDT	37.3		0.837	2	10.2	ug/kg
72-43-5	Methoxychlor	2	U	1	2	10.2	ug/kg
53494-70-5	Endrin ketone	2	U	0.777	2	10.2	ug/kg
7421-93-4	Endrin aldehyde	2	U	0.896	2	10.2	ug/kg
5103-71-9	alpha-Chlordane	2	U	0.837	2	10.2	ug/kg
5103-74-2	gamma-Chlordane	2	U	0.777	2	10.2	ug/kg
8001-35-2	Toxaphene	19.9	U	19.9	19.9	100	ug/kg
SURROGATES							
2051-24-3	Decachlorobiphenyl	77	*	10 - 169		385%	SPK: 20
877-09-8	Tetrachloro-m-xylene	12.5		31 - 151		62%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014746.D	1	10/16/15 08:22	10/16/15 17:12	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014747.D	1	10/16/15 08:22	10/16/15 17:26	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
319-84-6	alpha-BHC	2	U	0.775	2	10.1	ug/kg
319-85-7	beta-BHC	2	U	1.1	2	10.1	ug/kg
319-86-8	delta-BHC	2	U	0.596	2	10.1	ug/kg
58-89-9	gamma-BHC (Lindane)	2	U	0.895	2	10.1	ug/kg
76-44-8	Heptachlor	2	U	0.835	2	10.1	ug/kg
309-00-2	Aldrin	16.2		0.596	2	10.1	ug/kg
1024-57-3	Heptachlor epoxide	2	U	0.954	2	10.1	ug/kg
959-98-8	Endosulfan I	2	U	0.895	2	10.1	ug/kg
60-57-1	Dieldrin	2	U	0.775	2	10.1	ug/kg
72-55-9	4,4-DDE	2	U	1.2	2	10.1	ug/kg
72-20-8	Endrin	16.1	P	1.1	2	10.1	ug/kg
33213-65-9	Endosulfan II	2	U	0.835	2	10.1	ug/kg
72-54-8	4,4-DDD	2	U	1	2	10.1	ug/kg
1031-07-8	Endosulfan Sulfate	2	U	0.895	2	10.1	ug/kg
50-29-3	4,4-DDT	87.9		0.835	2	10.1	ug/kg
72-43-5	Methoxychlor	2	U	1	2	10.1	ug/kg
53494-70-5	Endrin ketone	2	U	0.775	2	10.1	ug/kg
7421-93-4	Endrin aldehyde	2	U	0.895	2	10.1	ug/kg
5103-71-9	alpha-Chlordane	2	U	0.835	2	10.1	ug/kg
5103-74-2	gamma-Chlordane	2	U	0.775	2	10.1	ug/kg
8001-35-2	Toxaphene	19.9	U	19.9	19.9	100	ug/kg
SURROGATES							
2051-24-3	Decachlorobiphenyl	87.7	*	10 - 169		439%	SPK: 20
877-09-8	Tetrachloro-m-xylene	16.8		31 - 151		84%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014747.D	1	10/16/15 08:22	10/16/15 17:26	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.06 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014748.D	1	10/16/15 08:22	10/16/15 17:40	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
319-84-6	alpha-BHC	2	U	0.771	2	10.1	ug/kg
319-85-7	beta-BHC	2	U	1.1	2	10.1	ug/kg
319-86-8	delta-BHC	2	U	0.593	2	10.1	ug/kg
58-89-9	gamma-BHC (Lindane)	2	U	0.889	2	10.1	ug/kg
76-44-8	Heptachlor	2	U	0.83	2	10.1	ug/kg
309-00-2	Aldrin	51.3		0.593	2	10.1	ug/kg
1024-57-3	Heptachlor epoxide	2	U	0.949	2	10.1	ug/kg
959-98-8	Endosulfan I	2	U	0.889	2	10.1	ug/kg
60-57-1	Dieldrin	2	U	0.771	2	10.1	ug/kg
72-55-9	4,4-DDE	2	U	1.2	2	10.1	ug/kg
72-20-8	Endrin	2	U	1.1	2	10.1	ug/kg
33213-65-9	Endosulfan II	2	U	0.83	2	10.1	ug/kg
72-54-8	4,4-DDD	2	U	1	2	10.1	ug/kg
1031-07-8	Endosulfan Sulfate	2	U	0.889	2	10.1	ug/kg
50-29-3	4,4-DDT	27.3	P	0.83	2	10.1	ug/kg
72-43-5	Methoxychlor	2	U	1	2	10.1	ug/kg
53494-70-5	Endrin ketone	2	U	0.771	2	10.1	ug/kg
7421-93-4	Endrin aldehyde	2	U	0.889	2	10.1	ug/kg
5103-71-9	alpha-Chlordane	2	U	0.83	2	10.1	ug/kg
5103-74-2	gamma-Chlordane	2	U	0.771	2	10.1	ug/kg
8001-35-2	Toxaphene	19.7	U	19.7	19.7	100	ug/kg
SURROGATES							
2051-24-3	Decachlorobiphenyl	70	*	10 - 169		350%	SPK: 20
877-09-8	Tetrachloro-m-xylene	12.4		31 - 151		62%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.06 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014748.D	1	10/16/15 08:22	10/16/15 17:40	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

QC SUMMARY

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Surrogate Summary

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8081B

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PL014524.D	PIBLK-PL014524.D	Decachlorobiphenyl	1	20	20.79	104		10	192
		Tetrachloro-m-xylene	1	20	18.6	93		10	172
		Decachlorobiphenyl	2	20	20.55	103		10	192
		Tetrachloro-m-xylene	2	20	19.93	100		10	172
I.BLK-PL014732.D	PIBLK-PL014732.D	Decachlorobiphenyl	1	20	18.7	94		10	192
		Tetrachloro-m-xylene	1	20	20.88	104		10	172
		Decachlorobiphenyl	2	20	20.21	101		10	192
		Tetrachloro-m-xylene	2	20	22.91	115		10	172
G4034-01MS	CWC-1-20151014MS	Decachlorobiphenyl	1	20	17.13	86		10	169
		Tetrachloro-m-xylene	1	20	20.8	104		31	151
		Decachlorobiphenyl	2	20	18.3	92		10	169
		Tetrachloro-m-xylene	2	20	22.41	112		31	151
G4034-01MSD	CWC-1-20151014MSD	Decachlorobiphenyl	1	20	18.69	93		10	169
		Tetrachloro-m-xylene	1	20	20.87	104		31	151
		Decachlorobiphenyl	2	20	18.1	91		10	169
		Tetrachloro-m-xylene	2	20	22.58	113		31	151
I.BLK-PL014743.D	PIBLK-PL014743.D	Decachlorobiphenyl	1	20	17.23	86		10	192
		Tetrachloro-m-xylene	1	20	20.06	100		10	172
		Decachlorobiphenyl	2	20	18.48	92		10	192
		Tetrachloro-m-xylene	2	20	22.23	111		10	172
G4046-01	GOODLUCK902	Decachlorobiphenyl	1	20	76.95	385	*	10	169
		Tetrachloro-m-xylene	1	20	12.48	62		31	151
		Decachlorobiphenyl	2	20	12.91	65		10	169
		Tetrachloro-m-xylene	2	20	17.27	86		31	151
G4046-02	GOODLUCK58	Decachlorobiphenyl	1	20	87.73	439	*	10	169
		Tetrachloro-m-xylene	1	20	16.83	84		31	151
		Decachlorobiphenyl	2	20	12.24	61		10	169
		Tetrachloro-m-xylene	2	20	18.66	93		31	151
G4046-04	MANAHAWKEN112	Decachlorobiphenyl	1	20	70.05	350	*	10	169
		Tetrachloro-m-xylene	1	20	12.39	62		31	151
		Decachlorobiphenyl	2	20	12.58	63		10	169
		Tetrachloro-m-xylene	2	20	16.65	83		31	151
PB86143BS	PB86143BS	Decachlorobiphenyl	1	20	18.3	92		10	169
		Tetrachloro-m-xylene	1	20	18.79	94		31	151
		Decachlorobiphenyl	2	20	16.67	83		10	169
		Tetrachloro-m-xylene	2	20	20.15	101		31	151
PB86143BL	PB86143BL	Decachlorobiphenyl	1	20	16.49	82		10	169
		Tetrachloro-m-xylene	1	20	18.88	94		31	151
		Decachlorobiphenyl	2	20	17.21	86		10	169
		Tetrachloro-m-xylene	2	20	20.84	104		31	151
I.BLK-PL014755.D	PIBLK-PL014755.D	Decachlorobiphenyl	1	20	17.66	88		10	192
		Tetrachloro-m-xylene	1	20	20.71	104		10	172
		Decachlorobiphenyl	2	20	18.97	95		10	192

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Surrogate Summary

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8081B

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PL014755.D	PIBLK-PL014755.D	Tetrachloro-m-xylene	2	20	22.76	114		10	172

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8081B **DataFile :** PL014736.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**CWC-1-20151014MS**											
G4034-01MS	alpha-BHC	20	0	23.6	ug/kg	118				16	147	
	beta-BHC	20	0	83.4	ug/kg	417	*			25	146	
	delta-BHC	20	0	19.3	ug/kg	97				11	146	
	gamma-BHC (Lindane)	20	1.7	26.9	ug/kg	126				21	147	
	Heptachlor	20	0	28	ug/kg	140				23	143	
	Aldrin	20	0	23.3	ug/kg	117				11	152	
	Heptachlor epoxide	20	0	20.2	ug/kg	101				22	147	
	Endosulfan I	20	0	17.9	ug/kg	90				10	164	
	Dieldrin	20	0	22	ug/kg	110				10	162	
	4,4'-DDE	20	0	20.1	ug/kg	101				10	174	
	Endrin	20	0	20.4	ug/kg	102				10	171	
	Endosulfan II	20	0	19	ug/kg	95				11	146	
	4,4'-DDD	20	3.6	23	ug/kg	97				10	150	
	Endosulfan sulfate	20	0	17.1	ug/kg	86				10	152	
	4,4'-DDT	20	5.1	23.5	ug/kg	92				10	192	
	Methoxychlor	20	0	23.4	ug/kg	117				10	200	
	Endrin ketone	20	0	17.2	ug/kg	86				12	145	
	Endrin aldehyde	20	0	18.2	ug/kg	91				10	146	
	alpha-Chlordane	20	1.4	20	ug/kg	93				10	157	
	gamma-Chlordane	20	2.5	23.3	ug/kg	104				10	161	

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8081B **DataFile :** PL014737.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**CWC-1-20151014MSD**											
G4034-01MSD	alpha-BHC	20	0	23.5	ug/kg	117		1		16	147	20
	beta-BHC	20	0	22.6	ug/kg	113		115	*	25	146	20
	delta-BHC	20	0	19.5	ug/kg	98		1		11	146	20
	gamma-BHC (Lindane)	20	1.7	27	ug/kg	127		1		21	147	20
	Heptachlor	20	0	22	ug/kg	110		24	*	23	143	20
	Aldrin	20	0	22.5	ug/kg	113		3		11	152	20
	Heptachlor epoxide	20	0	21.3	ug/kg	106		5		22	147	20
	Endosulfan I	20	0	21.1	ug/kg	106		16		10	164	20
	Dieldrin	20	0	22.3	ug/kg	112		2		10	162	20
	4,4'-DDE	20	0	20.4	ug/kg	102		1		10	174	20
	Endrin	20	0	20.8	ug/kg	104		2		10	171	20
	Endosulfan II	20	0	19.1	ug/kg	96		1		11	146	20
	4,4'-DDD	20	3.6	23.1	ug/kg	98		1		10	150	20
	Endosulfan sulfate	20	0	18.9	ug/kg	95		10		10	152	20
	4,4'-DDT	20	5.1	24	ug/kg	95		3		10	192	20
	Methoxychlor	20	0	23.4	ug/kg	117		0		10	200	20
	Endrin ketone	20	0	17.8	ug/kg	89		3		12	145	20
	Endrin aldehyde	20	0	18.2	ug/kg	91		0		10	146	20
	alpha-Chlordane	20	1.4	20.2	ug/kg	94		1		10	157	20
	gamma-Chlordane	20	2.5	21.1	ug/kg	93		11		10	161	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8081B **Datafile :** PL014753.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB86143BS	alpha-BHC	16.7	17.3	ug/kg	104				84	123	
	beta-BHC	16.7	20	ug/kg	120				82	123	
	delta-BHC	16.7	16	ug/kg	96				83	126	
	gamma-BHC (Lindane)	16.7	17.7	ug/kg	106				83	125	
	Heptachlor	16.7	16.9	ug/kg	101				83	122	
	Aldrin	16.7	17.4	ug/kg	104				82	124	
	Heptachlor epoxide	16.7	16.4	ug/kg	98				83	120	
	Endosulfan I	16.7	15.7	ug/kg	94				81	124	
	Dieldrin	16.7	15.5	ug/kg	93				85	121	
	4,4'-DDE	16.7	15.1	ug/kg	90				81	123	
	Endrin	16.7	15	ug/kg	90				76	130	
	Endosulfan II	16.7	15.2	ug/kg	91				80	125	
	4,4'-DDD	16.7	15.2	ug/kg	91				80	131	
	Endosulfan sulfate	16.7	14.5	ug/kg	87				81	122	
	4,4'-DDT	16.7	14.6	ug/kg	87				70	129	
	Methoxychlor	16.7	14.1	ug/kg	84				78	129	
	Endrin ketone	16.7	16	ug/kg	96				77	132	
	Endrin aldehyde	16.7	15	ug/kg	90				79	124	
	alpha-Chlordane	16.7	16.3	ug/kg	98				84	120	
	gamma-Chlordane	16.7	16.3	ug/kg	98				83	122	

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4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB86143BL

Lab Name: CHEMTECH

Contract: SEAC01

Lab Code: CHEM

Case No.: G4046

SAS No.: G4046

SDG NO.: G4046

Lab Sample ID: PB86143BL

Lab File ID: PL014754.D

Matrix: (soil/water) Solid

Extraction: (Type) SOXH

Sulfur Cleanup: (Y/N) N

Date Extracted: 10/16/2015

Date Analyzed (1): 10/16/2015

Date Analyzed (2): 10/16/2015

Time Analyzed (1): 19:05

Time Analyzed (2): 19:05

Instrument ID (1): ECD_L

Instrument ID (2): ECD_L

GC Column (1): ZB-MR1 ID: 0.32 (mm)

GC Column (2): ZB-MR2 ID: 0.32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
CWC-1-20151014MS	G4034-01MS	PL014736.D	10/16/2015	10/16/2015
CWC-1-20151014MSD	G4034-01MSD	PL014737.D	10/16/2015	10/16/2015
GOODLUCK902	G4046-01	PL014746.D	10/16/2015	10/16/2015
GOODLUCK58	G4046-02	PL014747.D	10/16/2015	10/16/2015
MANAHAWKEN112	G4046-04	PL014748.D	10/16/2015	10/16/2015
PB86143BS	PB86143BS	PL014753.D	10/16/2015	10/16/2015

COMMENTS:

Form IV Pest

QC SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86143BL	SDG No.:	G4046
Lab Sample ID:	PB86143BL	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014754.D	1	10/16/15 08:22	10/16/15 19:05	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
319-84-6	alpha-BHC	0.33	U	0.13	0.33	1.7	ug/kg
319-85-7	beta-BHC	0.33	U	0.18	0.33	1.7	ug/kg
319-86-8	delta-BHC	0.33	U	0.0999	0.33	1.7	ug/kg
58-89-9	gamma-BHC (Lindane)	0.33	U	0.15	0.33	1.7	ug/kg
76-44-8	Heptachlor	0.33	U	0.14	0.33	1.7	ug/kg
309-00-2	Aldrin	0.33	U	0.0999	0.33	1.7	ug/kg
1024-57-3	Heptachlor epoxide	0.33	U	0.16	0.33	1.7	ug/kg
959-98-8	Endosulfan I	0.33	U	0.15	0.33	1.7	ug/kg
60-57-1	Dieldrin	0.33	U	0.13	0.33	1.7	ug/kg
72-55-9	4,4-DDE	0.33	U	0.2	0.33	1.7	ug/kg
72-20-8	Endrin	0.33	U	0.18	0.33	1.7	ug/kg
33213-65-9	Endosulfan II	0.33	U	0.14	0.33	1.7	ug/kg
72-54-8	4,4-DDD	0.33	U	0.17	0.33	1.7	ug/kg
1031-07-8	Endosulfan Sulfate	0.33	U	0.15	0.33	1.7	ug/kg
50-29-3	4,4-DDT	0.33	U	0.14	0.33	1.7	ug/kg
72-43-5	Methoxychlor	0.33	U	0.17	0.33	1.7	ug/kg
53494-70-5	Endrin ketone	0.33	U	0.13	0.33	1.7	ug/kg
7421-93-4	Endrin aldehyde	0.33	U	0.15	0.33	1.7	ug/kg
5103-71-9	alpha-Chlordane	0.33	U	0.14	0.33	1.7	ug/kg
5103-74-2	gamma-Chlordane	0.33	U	0.13	0.33	1.7	ug/kg
8001-35-2	Toxaphene	3.3	U	3.3	3.3	17	ug/kg
SURROGATES							
2051-24-3	Decachlorobiphenyl	16.5		10 - 169		82%	SPK: 20
877-09-8	Tetrachloro-m-xylene	18.9		31 - 151		94%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86143BL	SDG No.:	G4046
Lab Sample ID:	PB86143BL	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014754.D	1	10/16/15 08:22	10/16/15 19:05	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/01/15
Project:	U.S. Fish and Wildlife	Date Received:	10/01/15
Client Sample ID:	PIBLK-PL014524.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014524.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014524.D	1		10/01/15	PL100115

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
319-84-6	alpha-BHC	0.01	U	0.0051	0.01	0.05	ug/L
319-85-7	beta-BHC	0.01	U	0.0086	0.01	0.05	ug/L
319-86-8	delta-BHC	0.01	U	0.0056	0.01	0.05	ug/L
58-89-9	gamma-BHC (Lindane)	0.01	U	0.0055	0.01	0.05	ug/L
76-44-8	Heptachlor	0.01	U	0.0069	0.01	0.05	ug/L
309-00-2	Aldrin	0.01	U	0.0062	0.01	0.05	ug/L
1024-57-3	Heptachlor epoxide	0.01	U	0.0067	0.01	0.05	ug/L
959-98-8	Endosulfan I	0.01	U	0.0061	0.01	0.05	ug/L
60-57-1	Dieldrin	0.01	U	0.005	0.01	0.05	ug/L
72-55-9	4,4-DDE	0.01	U	0.005	0.01	0.05	ug/L
72-20-8	Endrin	0.01	U	0.0058	0.01	0.05	ug/L
33213-65-9	Endosulfan II	0.01	U	0.0055	0.01	0.05	ug/L
72-54-8	4,4-DDD	0.01	U	0.0071	0.01	0.05	ug/L
1031-07-8	Endosulfan Sulfate	0.01	U	0.006	0.01	0.05	ug/L
50-29-3	4,4-DDT	0.01	U	0.0059	0.01	0.05	ug/L
72-43-5	Methoxychlor	0.01	U	0.005	0.01	0.05	ug/L
53494-70-5	Endrin ketone	0.01	U	0.0057	0.01	0.05	ug/L
7421-93-4	Endrin aldehyde	0.01	U	0.005	0.01	0.05	ug/L
5103-71-9	alpha-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
5103-74-2	gamma-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
8001-35-2	Toxaphene	0.1	U	0.1	0.1	0.5	ug/L
SURROGATES							
2051-24-3	Decachlorobiphenyl	20.8		10 - 192		104%	SPK: 20
877-09-8	Tetrachloro-m-xylene	18.6		10 - 172		93%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/01/15
Project:	U.S. Fish and Wildlife	Date Received:	10/01/15
Client Sample ID:	PIBLK-PL014524.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014524.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014524.D	1		10/01/15	PL100115

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PL014732.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014732.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014732.D	1		10/16/15	PL101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
319-84-6	alpha-BHC	0.01	U	0.0051	0.01	0.05	ug/L
319-85-7	beta-BHC	0.01	U	0.0086	0.01	0.05	ug/L
319-86-8	delta-BHC	0.01	U	0.0056	0.01	0.05	ug/L
58-89-9	gamma-BHC (Lindane)	0.01	U	0.0055	0.01	0.05	ug/L
76-44-8	Heptachlor	0.01	U	0.0069	0.01	0.05	ug/L
309-00-2	Aldrin	0.01	U	0.0062	0.01	0.05	ug/L
1024-57-3	Heptachlor epoxide	0.01	U	0.0067	0.01	0.05	ug/L
959-98-8	Endosulfan I	0.01	U	0.0061	0.01	0.05	ug/L
60-57-1	Dieldrin	0.01	U	0.005	0.01	0.05	ug/L
72-55-9	4,4-DDE	0.01	U	0.005	0.01	0.05	ug/L
72-20-8	Endrin	0.01	U	0.0058	0.01	0.05	ug/L
33213-65-9	Endosulfan II	0.01	U	0.0055	0.01	0.05	ug/L
72-54-8	4,4-DDD	0.01	U	0.0071	0.01	0.05	ug/L
1031-07-8	Endosulfan Sulfate	0.01	U	0.006	0.01	0.05	ug/L
50-29-3	4,4-DDT	0.01	U	0.0059	0.01	0.05	ug/L
72-43-5	Methoxychlor	0.01	U	0.005	0.01	0.05	ug/L
53494-70-5	Endrin ketone	0.01	U	0.0057	0.01	0.05	ug/L
7421-93-4	Endrin aldehyde	0.01	U	0.005	0.01	0.05	ug/L
5103-71-9	alpha-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
5103-74-2	gamma-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
8001-35-2	Toxaphene	0.1	U	0.1	0.1	0.5	ug/L
SURROGATES							
2051-24-3	Decachlorobiphenyl	18.7		10 - 192		94%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.9		10 - 172		104%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PL014732.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014732.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014732.D	1		10/16/15	PL101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PL014743.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014743.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014743.D	1		10/16/15	PL101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
319-84-6	alpha-BHC	0.01	U	0.0051	0.01	0.05	ug/L
319-85-7	beta-BHC	0.01	U	0.0086	0.01	0.05	ug/L
319-86-8	delta-BHC	0.01	U	0.0056	0.01	0.05	ug/L
58-89-9	gamma-BHC (Lindane)	0.01	U	0.0055	0.01	0.05	ug/L
76-44-8	Heptachlor	0.01	U	0.0069	0.01	0.05	ug/L
309-00-2	Aldrin	0.01	U	0.0062	0.01	0.05	ug/L
1024-57-3	Heptachlor epoxide	0.01	U	0.0067	0.01	0.05	ug/L
959-98-8	Endosulfan I	0.01	U	0.0061	0.01	0.05	ug/L
60-57-1	Dieldrin	0.01	U	0.005	0.01	0.05	ug/L
72-55-9	4,4-DDE	0.01	U	0.005	0.01	0.05	ug/L
72-20-8	Endrin	0.01	U	0.0058	0.01	0.05	ug/L
33213-65-9	Endosulfan II	0.01	U	0.0055	0.01	0.05	ug/L
72-54-8	4,4-DDD	0.01	U	0.0071	0.01	0.05	ug/L
1031-07-8	Endosulfan Sulfate	0.01	U	0.006	0.01	0.05	ug/L
50-29-3	4,4-DDT	0.01	U	0.0059	0.01	0.05	ug/L
72-43-5	Methoxychlor	0.01	U	0.005	0.01	0.05	ug/L
53494-70-5	Endrin ketone	0.01	U	0.0057	0.01	0.05	ug/L
7421-93-4	Endrin aldehyde	0.01	U	0.005	0.01	0.05	ug/L
5103-71-9	alpha-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
5103-74-2	gamma-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
8001-35-2	Toxaphene	0.1	U	0.1	0.1	0.5	ug/L
SURROGATES							
2051-24-3	Decachlorobiphenyl	17.2		10 - 192		86%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.1		10 - 172		100%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PL014743.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014743.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014743.D	1		10/16/15	PL101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PL014755.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014755.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014755.D	1		10/16/15	PL101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
319-84-6	alpha-BHC	0.01	U	0.0051	0.01	0.05	ug/L
319-85-7	beta-BHC	0.01	U	0.0086	0.01	0.05	ug/L
319-86-8	delta-BHC	0.01	U	0.0056	0.01	0.05	ug/L
58-89-9	gamma-BHC (Lindane)	0.01	U	0.0055	0.01	0.05	ug/L
76-44-8	Heptachlor	0.01	U	0.0069	0.01	0.05	ug/L
309-00-2	Aldrin	0.01	U	0.0062	0.01	0.05	ug/L
1024-57-3	Heptachlor epoxide	0.01	U	0.0067	0.01	0.05	ug/L
959-98-8	Endosulfan I	0.01	U	0.0061	0.01	0.05	ug/L
60-57-1	Dieldrin	0.01	U	0.005	0.01	0.05	ug/L
72-55-9	4,4-DDE	0.01	U	0.005	0.01	0.05	ug/L
72-20-8	Endrin	0.01	U	0.0058	0.01	0.05	ug/L
33213-65-9	Endosulfan II	0.01	U	0.0055	0.01	0.05	ug/L
72-54-8	4,4-DDD	0.01	U	0.0071	0.01	0.05	ug/L
1031-07-8	Endosulfan Sulfate	0.01	U	0.006	0.01	0.05	ug/L
50-29-3	4,4-DDT	0.01	U	0.0059	0.01	0.05	ug/L
72-43-5	Methoxychlor	0.01	U	0.005	0.01	0.05	ug/L
53494-70-5	Endrin ketone	0.01	U	0.0057	0.01	0.05	ug/L
7421-93-4	Endrin aldehyde	0.01	U	0.005	0.01	0.05	ug/L
5103-71-9	alpha-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
5103-74-2	gamma-Chlordane	0.01	U	0.005	0.01	0.05	ug/L
8001-35-2	Toxaphene	0.1	U	0.1	0.1	0.5	ug/L
SURROGATES							
2051-24-3	Decachlorobiphenyl	17.7		10 - 192		88%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.7		10 - 172		104%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PL014755.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PL014755.D	Matrix:	Water
Analytical Method:	SW8081	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014755.D	1		10/16/15	PL101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86143BS	SDG No.:	G4046
Lab Sample ID:	PB86143BS	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014753.D	1	10/16/15 08:22	10/16/15 18:51	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
319-84-6	alpha-BHC	17.3		0.13	0.33	1.7	ug/kg
319-85-7	beta-BHC	20		0.18	0.33	1.7	ug/kg
319-86-8	delta-BHC	16		0.0999	0.33	1.7	ug/kg
58-89-9	gamma-BHC (Lindane)	17.7		0.15	0.33	1.7	ug/kg
76-44-8	Heptachlor	16.9		0.14	0.33	1.7	ug/kg
309-00-2	Aldrin	17.4		0.0999	0.33	1.7	ug/kg
1024-57-3	Heptachlor epoxide	16.4		0.16	0.33	1.7	ug/kg
959-98-8	Endosulfan I	15.7		0.15	0.33	1.7	ug/kg
60-57-1	Dieldrin	15.5		0.13	0.33	1.7	ug/kg
72-55-9	4,4-DDE	15.1		0.2	0.33	1.7	ug/kg
72-20-8	Endrin	15		0.18	0.33	1.7	ug/kg
33213-65-9	Endosulfan II	15.2		0.14	0.33	1.7	ug/kg
72-54-8	4,4-DDD	15.2		0.17	0.33	1.7	ug/kg
1031-07-8	Endosulfan Sulfate	14.5		0.15	0.33	1.7	ug/kg
50-29-3	4,4-DDT	14.6		0.14	0.33	1.7	ug/kg
72-43-5	Methoxychlor	14.1		0.17	0.33	1.7	ug/kg
53494-70-5	Endrin ketone	16		0.13	0.33	1.7	ug/kg
7421-93-4	Endrin aldehyde	15		0.15	0.33	1.7	ug/kg
5103-71-9	alpha-Chlordane	16.3		0.14	0.33	1.7	ug/kg
5103-74-2	gamma-Chlordane	16.3		0.13	0.33	1.7	ug/kg
SURROGATES							
2051-24-3	Decachlorobiphenyl	18.3		10 - 169		92%	SPK: 20
877-09-8	Tetrachloro-m-xylene	18.8		31 - 151		94%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86143BS	SDG No.:	G4046
Lab Sample ID:	PB86143BS	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014753.D	1	10/16/15 08:22	10/16/15 18:51	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	CWC-1-20151014MS	SDG No.:	G4046
Lab Sample ID:	G4034-01MS	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	16.6 Decanted:
Sample Wt/Vol:	30 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014736.D	1	10/16/15 08:22	10/16/15 14:33	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
319-84-6	alpha-BHC	23.6		0.156	0.396	2	ug/kg
319-85-7	beta-BHC	83.4	EP	0.216	0.396	2	ug/kg
319-86-8	delta-BHC	19.3		0.12	0.396	2	ug/kg
58-89-9	gamma-BHC (Lindane)	26.9		0.18	0.396	2	ug/kg
76-44-8	Heptachlor	28	P	0.168	0.396	2	ug/kg
309-00-2	Aldrin	23.3		0.12	0.396	2	ug/kg
1024-57-3	Heptachlor epoxide	20.2		0.192	0.396	2	ug/kg
959-98-8	Endosulfan I	17.9		0.18	0.396	2	ug/kg
60-57-1	Dieldrin	22		0.156	0.396	2	ug/kg
72-55-9	4,4-DDE	20.1		0.24	0.396	2	ug/kg
72-20-8	Endrin	20.4		0.216	0.396	2	ug/kg
33213-65-9	Endosulfan II	19		0.168	0.396	2	ug/kg
72-54-8	4,4-DDD	23		0.204	0.396	2	ug/kg
1031-07-8	Endosulfan Sulfate	17.1		0.18	0.396	2	ug/kg
50-29-3	4,4-DDT	23.5		0.168	0.396	2	ug/kg
72-43-5	Methoxychlor	23.4	P	0.204	0.396	2	ug/kg
53494-70-5	Endrin ketone	17.2		0.156	0.396	2	ug/kg
7421-93-4	Endrin aldehyde	18.2		0.18	0.396	2	ug/kg
5103-71-9	alpha-Chlordane	20		0.168	0.396	2	ug/kg
5103-74-2	gamma-Chlordane	23.3		0.156	0.396	2	ug/kg
8001-35-2	Toxaphene	4	U	4	4	20.4	ug/kg
SURROGATES							
2051-24-3	Decachlorobiphenyl	17.1		10 - 169		86%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.8		31 - 151		104%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	CWC-1-20151014MS	SDG No.:	G4046
Lab Sample ID:	G4034-01MS	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	16.6 Decanted:
Sample Wt/Vol:	30 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014736.D	1	10/16/15 08:22	10/16/15 14:33	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
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J = Estimated Value
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N = Presumptive Evidence of a Compound
* = Values outside of QC limits
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S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	CWC-1-20151014MSD	SDG No.:	G4046
Lab Sample ID:	G4034-01MSD	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	16.6 Decanted:
Sample Wt/Vol:	30.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014737.D	1	10/16/15 08:22	10/16/15 14:48	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
319-84-6	alpha-BHC	23.5		0.156	0.395	2	ug/kg
319-85-7	beta-BHC	22.6		0.216	0.395	2	ug/kg
319-86-8	delta-BHC	19.5		0.12	0.395	2	ug/kg
58-89-9	gamma-BHC (Lindane)	27		0.18	0.395	2	ug/kg
76-44-8	Heptachlor	22		0.168	0.395	2	ug/kg
309-00-2	Aldrin	22.5		0.12	0.395	2	ug/kg
1024-57-3	Heptachlor epoxide	21.3		0.192	0.395	2	ug/kg
959-98-8	Endosulfan I	21.1	P	0.18	0.395	2	ug/kg
60-57-1	Dieldrin	22.3		0.156	0.395	2	ug/kg
72-55-9	4,4-DDE	20.4		0.24	0.395	2	ug/kg
72-20-8	Endrin	20.8		0.216	0.395	2	ug/kg
33213-65-9	Endosulfan II	19.1		0.168	0.395	2	ug/kg
72-54-8	4,4-DDD	23.1		0.204	0.395	2	ug/kg
1031-07-8	Endosulfan Sulfate	18.9		0.18	0.395	2	ug/kg
50-29-3	4,4-DDT	24		0.168	0.395	2	ug/kg
72-43-5	Methoxychlor	23.4	P	0.204	0.395	2	ug/kg
53494-70-5	Endrin ketone	17.8		0.156	0.395	2	ug/kg
7421-93-4	Endrin aldehyde	18.2		0.18	0.395	2	ug/kg
5103-71-9	alpha-Chlordane	20.2		0.168	0.395	2	ug/kg
5103-74-2	gamma-Chlordane	21.1		0.156	0.395	2	ug/kg
8001-35-2	Toxaphene	4	U	4	4	20.4	ug/kg
SURROGATES							
2051-24-3	Decachlorobiphenyl	18.7		10 - 169		93%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.9		31 - 151		104%	SPK: 20

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	CWC-1-20151014MSD	SDG No.:	G4046
Lab Sample ID:	G4034-01MSD	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	16.6 Decanted:
Sample Wt/Vol:	30.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL014737.D	1	10/16/15 08:22	10/16/15 14:48	PB86143

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
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J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
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S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_L **Calibration Date(s):** 10/01/2015 10/01/2015

Calibration Times: 15:51 16:47

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 100 = PL014527.D RT 075 = PL014528.D

RT 050 = PL014529.D RT 025 = PL014530.D RT 005 = PL014531.D

COMPOUND	RT 100	RT 075	RT 050	RT 025	RT 005	MEAN RT	RT WINDOW FROM	RT WINDOW TO
4,4'-DDD	6.59	6.59	6.59	6.59	6.59	6.59	6.49	6.69
4,4'-DDE	6.11	6.11	6.11	6.11	6.10	6.11	6.01	6.21
4,4'-DDT	6.89	6.89	6.89	6.89	6.88	6.89	6.79	6.99
Aldrin	5.26	5.26	5.26	5.26	5.26	5.26	5.16	5.36
alpha-BHC	4.19	4.19	4.19	4.18	4.18	4.18	4.08	4.28
alpha-Chlordane	5.95	5.94	5.94	5.94	5.94	5.94	5.84	6.04
beta-BHC	4.64	4.64	4.63	4.63	4.63	4.63	4.53	4.73
Decachlorobiphenyl	8.77	8.77	8.77	8.77	8.77	8.77	8.67	8.87
delta-BHC	4.84	4.84	4.84	4.84	4.84	4.84	4.74	4.94
Dieldrin	6.24	6.24	6.24	6.24	6.24	6.24	6.14	6.34
Endosulfan I	5.99	5.99	5.99	5.99	5.99	5.99	5.89	6.09
Endosulfan II	6.67	6.67	6.66	6.66	6.66	6.66	6.56	6.76
Endosulfan sulfate	7.01	7.01	7.01	7.01	7.01	7.01	6.91	7.11
Endrin	6.46	6.46	6.46	6.46	6.45	6.46	6.36	6.56
Endrin aldehyde	6.79	6.79	6.79	6.79	6.79	6.79	6.69	6.89
Endrin ketone	7.47	7.47	7.47	7.47	7.47	7.47	7.37	7.57
gamma-BHC (Lindane)	4.47	4.46	4.46	4.46	4.46	4.46	4.36	4.56
gamma-Chlordane	5.87	5.87	5.87	5.87	5.87	5.87	5.77	5.97
Heptachlor	4.96	4.96	4.96	4.96	4.96	4.96	4.86	5.06
Heptachlor epoxide	5.64	5.64	5.64	5.64	5.64	5.64	5.54	5.74
Methoxychlor	7.35	7.35	7.35	7.35	7.35	7.35	7.25	7.45
Tetrachloro-m-xylene	3.81	3.81	3.81	3.81	3.81	3.81	3.71	3.91

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RETENTION TIMES OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_L **Calibration Date(s):** 10/01/2015 10/01/2015

Calibration Times: 15:51 16:47

GC Column: ZB-MR2 ID: 0.32 (mm)

LAB FILE ID: RT 100 = PL014527.D RT 075 = PL014528.D

RT 050 = PL014529.D RT 025 = PL014530.D RT 005 = PL014531.D

COMPOUND	RT 100	RT 075	RT 050	RT 025	RT 005	MEAN RT	RT WINDOW FROM	RT WINDOW TO
4,4'-DDD	5.51	5.51	5.51	5.51	5.51	5.51	5.41	5.61
4,4'-DDE	5.03	5.02	5.02	5.03	5.03	5.02	4.92	5.12
4,4'-DDT	5.74	5.74	5.74	5.74	5.74	5.74	5.64	5.84
Aldrin	4.18	4.18	4.18	4.18	4.18	4.18	4.08	4.28
alpha-BHC	3.45	3.45	3.45	3.45	3.45	3.45	3.35	3.55
alpha-Chlordane	4.85	4.85	4.85	4.85	4.85	4.85	4.75	4.95
beta-BHC	3.95	3.95	3.95	3.95	3.95	3.95	3.85	4.05
Decachlorobiphenyl	7.50	7.50	7.50	7.50	7.50	7.50	7.40	7.60
delta-BHC	4.12	4.12	4.12	4.12	4.12	4.12	4.02	4.22
Dieldrin	5.13	5.12	5.12	5.12	5.12	5.12	5.02	5.22
Endosulfan I	4.90	4.90	4.90	4.90	4.90	4.90	4.80	5.00
Endosulfan II	5.63	5.63	5.63	5.63	5.63	5.63	5.53	5.73
Endosulfan sulfate	6.00	6.00	6.00	6.00	6.00	6.00	5.90	6.10
Endrin	5.36	5.36	5.36	5.36	5.36	5.36	5.26	5.46
Endrin aldehyde	5.80	5.80	5.80	5.80	5.80	5.80	5.70	5.90
Endrin ketone	6.46	6.46	6.46	6.46	6.46	6.46	6.36	6.56
gamma-BHC (Lindane)	3.70	3.70	3.70	3.71	3.70	3.70	3.60	3.80
gamma-Chlordane	4.80	4.80	4.80	4.80	4.80	4.80	4.70	4.90
Heptachlor	3.96	3.96	3.96	3.96	3.96	3.96	3.86	4.06
Heptachlor epoxide	4.59	4.59	4.59	4.59	4.59	4.59	4.49	4.69
Methoxychlor	6.28	6.28	6.28	6.28	6.28	6.28	6.18	6.38
Tetrachloro-m-xylene	3.04	3.04	3.04	3.04	3.04	3.04	2.94	3.14

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_L

Calibration Date(s): 10/01/2015 10/01/2015

Calibration Times: 15:51 16:47

GC Column: ZB-MR1 **ID:** 0.32 (mm)

LAB FILE ID: CF 100 = PL014527.D CF 075 = PL014528.D

CF 050 = PL014529.D CF 025 = PL014530.D CF 005 = PL014531.D

COMPOUND	CF 100	CF 075	CF 050	CF 025	CF 005	CF	% RSD
4,4'-DDD	2141900000	1986610000	1971500000	1715040000	1485710000	1860150000	14
4,4'-DDE	2746070000	2573070000	2545790000	2238120000	2148380000	2450290000	10
4,4'-DDT	2673620000	2506350000	2534040000	2260620000	2265700000	2448070000	7
Aldrin	2927040000	2728610000	2620230000	2228050000	2011980000	2503180000	15
alpha-BHC	3347650000	3089130000	2912190000	2417200000	2138960000	2781030000	18
alpha-Chlordane	2802190000	2675630000	2686400000	2428190000	2212860000	2561050000	9
beta-BHC	1491270000	1400850000	1425480000	1299690000	1064530000	1336360000	12
Decachlorobiphenyl	3675020000	3607540000	3956910000	3945330000	4156060000	3868170000	6
delta-BHC	2871710000	2665050000	2561230000	2154640000	2061740000	2462870000	14
Dieldrin	2905770000	2734880000	2723760000	2477170000	2081730000	2584660000	12
Endosulfan I	3392380000	3214380000	3205290000	2886490000	2718130000	3083330000	9
Endosulfan II	2816660000	2687920000	2766890000	2563750000	2490250000	2665090000	5
Endosulfan sulfate	2660680000	2542390000	2655010000	2507010000	2707850000	2614590000	3
Endrin	2686100000	2532930000	2498560000	2249690000	2005900000	2394640000	11
Endrin aldehyde	2428820000	2356070000	2476470000	2386900000	2514990000	2432650000	3
Endrin ketone	2952160000	2774500000	2852420000	2502920000	2206930000	2657790000	11
gamma-BHC (Lindane)	3169290000	2965520000	2841900000	2419450000	1932300000	2665690000	19
gamma-Chlordane	2944550000	2795440000	2779070000	2486210000	2281330000	2657320000	10
Heptachlor	3590460000	3446900000	3490360000	3231380000	4055980000	3563020000	9
Heptachlor epoxide	2829240000	2711790000	2703980000	2544670000	2859500000	2729840000	5
Methoxychlor	1520830000	1471470000	1566610000	1483550000	1372710000	1483030000	5
Tetrachloro-m-xylene	2515390000	2438450000	2443420000	2277630000	2266840000	2388350000	5

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_L

Calibration Date(s): 10/01/2015 10/01/2015

Calibration Times: 15:51 16:47

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: CF 100 = PL014527.D CF 075 = PL014528.D

CF 050 = PL014529.D CF 025 = PL014530.D CF 005 = PL014531.D

COMPOUND	CF 100	CF 075	CF 050	CF 025	CF 005	CF	% RSD
4,4'-DDD	1112580000	1110330000	1234030000	1251730000	1203290000	1182390000	6
4,4'-DDE	1311410000	1277680000	1454720000	1518390000	1545430000	1421520000	9
4,4'-DDT	1176760000	1157110000	1267190000	1297410000	1359430000	1251580000	7
Aldrin	1267820000	1240560000	1354240000	1357190000	1449600000	1333880000	6
alpha-BHC	1463260000	1433010000	1533580000	1497170000	1510600000	1487520000	3
alpha-Chlordane	1208510000	1189660000	1323250000	1379200000	1581680000	1336460000	12
beta-BHC	433574000	496128000	523090000	548353000	570242000	514277000	10
Decachlorobiphenyl	973191000	967613000	1083030000	1142430000	1331340000	1099520000	14
delta-BHC	1385820000	1353370000	1463750000	1437290000	1497670000	1427580000	4
Dieldrin	1293850000	1271100000	1417310000	1484730000	1531160000	1399630000	8
Endosulfan I	1177000000	1166650000	1311700000	1428130000	1613280000	1339350000	14
Endosulfan II	1153290000	1144840000	1270340000	1342770000	1429210000	1268090000	10
Endosulfan sulfate	1030450000	1017910000	1141870000	1177290000	1356760000	1144860000	12
Endrin	1261640000	1243720000	1393460000	1452570000	1417410000	1353760000	7
Endrin aldehyde	954576000	949839000	1044370000	1090080000	1278740000	1063520000	13
Endrin ketone	1299850000	1288300000	1442220000	1489070000	1729450000	1449780000	12
gamma-BHC (Lindane)	1378790000	1349460000	1449460000	1426490000	1462520000	1413340000	3
gamma-Chlordane	1240600000	1215950000	1343410000	1408220000	1528440000	1347330000	9
Heptachlor	1463000000	1432260000	1541780000	1489480000	1733730000	1532050000	8
Heptachlor epoxide	1195190000	1179400000	1305180000	1369170000	1542410000	1318270000	11
Methoxychlor	637730000	636419000	716307000	746842000	861818000	719823000	13
Tetrachloro-m-xylene	951216000	940368000	1013530000	1020740000	1109150000	1007000000	7

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_L **Date(s) Analyzed:** 10/01/2015 10/01/2015

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	500	1	6.15	6.05	6.25	16475400
		2	6.33	6.23	6.43	17423300
		3	6.72	6.62	6.82	46080600
		4	6.83	6.73	6.93	16925600
		5	6.63	6.53	6.73	12460400

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_L **Date(s) Analyzed:** 10/01/2015 10/01/2015

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	500	1	5.41	5.31	5.51	8715320
		2	5.66	5.56	5.76	9561390
		3	5.94	5.84	6.04	13224600
		4	6.24	6.14	6.34	42050600
		5	6.71	6.61	6.81	5655520

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/01/2015 10/01/2015

Continuing Calib Time: 10:14 **Initial Calibration Time(s):** 15:51 16:47

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.77	8.77	8.67	8.87	0.00
Tetrachloro-m-xylene	3.81	3.81	3.71	3.91	0.00
alpha-BHC	4.18	4.19	4.09	4.29	0.01
beta-BHC	4.63	4.63	4.53	4.73	0.00
delta-BHC	4.84	4.84	4.74	4.94	0.00
gamma-BHC (Lindane)	4.46	4.46	4.36	4.56	0.00
Heptachlor	4.96	4.96	4.86	5.06	0.00
Aldrin	5.25	5.26	5.16	5.36	0.01
Heptachlor epoxide	5.64	5.64	5.54	5.74	0.00
Endosulfan I	5.98	5.99	5.89	6.09	0.01
Dieldrin	6.24	6.24	6.14	6.34	0.00
4,4'-DDE	6.10	6.11	6.01	6.21	0.01
Endrin	6.45	6.46	6.36	6.56	0.01
Endosulfan II	6.66	6.66	6.56	6.76	0.00
4,4'-DDD	6.59	6.59	6.49	6.69	0.00
Endosulfan sulfate	7.01	7.01	6.91	7.11	0.00
4,4'-DDT	6.88	6.89	6.79	6.99	0.01
Methoxychlor	7.34	7.35	7.25	7.45	0.01
Endrin ketone	7.47	7.47	7.37	7.57	0.00
Endrin aldehyde	6.78	6.79	6.69	6.89	0.01
alpha-Chlordane	5.94	5.94	5.84	6.04	0.00
gamma-Chlordane	5.87	5.87	5.77	5.97	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/01/2015 10/01/2015

Continuing Calib Time: 10:14 **Initial Calibration Time(s):** 15:51 16:47

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.50	7.50	7.40	7.60	0.00
Tetrachloro-m-xylene	3.04	3.04	2.94	3.14	0.00
alpha-BHC	3.45	3.45	3.35	3.55	0.00
beta-BHC	3.95	3.95	3.85	4.05	0.00
delta-BHC	4.12	4.12	4.02	4.22	0.00
gamma-BHC (Lindane)	3.70	3.70	3.60	3.80	0.00
Heptachlor	3.96	3.96	3.86	4.06	0.00
Aldrin	4.18	4.18	4.08	4.28	0.00
Heptachlor epoxide	4.59	4.59	4.49	4.69	0.00
Endosulfan I	4.90	4.90	4.80	5.00	0.00
Dieldrin	5.12	5.12	5.02	5.22	0.00
4,4'-DDE	5.02	5.02	4.92	5.12	0.00
Endrin	5.36	5.36	5.26	5.46	0.00
Endosulfan II	5.63	5.63	5.53	5.73	0.00
4,4'-DDD	5.51	5.51	5.41	5.61	0.00
Endosulfan sulfate	6.00	6.00	5.90	6.10	0.00
4,4'-DDT	5.74	5.74	5.64	5.84	0.00
Methoxychlor	6.28	6.28	6.18	6.38	0.00
Endrin ketone	6.46	6.46	6.36	6.56	0.00
Endrin aldehyde	5.80	5.80	5.70	5.90	0.00
alpha-Chlordane	4.85	4.85	4.75	4.95	0.00
gamma-Chlordane	4.80	4.80	4.70	4.90	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/01/2015 10/01/2015

Client Sample No.: CCAL01 **Date Analyzed:** 10/16/2015

Lab Sample No.: PSTDCCC050 **Data File :** PL014734.D **Time Analyzed:** 10:14

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.586	6.489	6.689	51.310	50.000	2.6
4,4'-DDE	6.102	6.006	6.206	51.280	50.000	2.6
4,4'-DDT	6.881	6.785	6.985	48.410	50.000	-3.2
Aldrin	5.254	5.158	5.358	58.050	50.000	16.1
alpha-BHC	4.182	4.085	4.285	58.640	50.000	17.3
alpha-Chlordane	5.939	5.843	6.043	54.510	50.000	9.0
beta-BHC	4.631	4.534	4.734	59.440	50.000	18.9
Decachlorobiphenyl	8.767	8.673	8.873	44.810	50.000	-10.4
delta-BHC	4.839	4.742	4.942	57.750	50.000	15.5
Dieldrin	6.238	6.142	6.342	53.290	50.000	6.6
Endosulfan I	5.984	5.887	6.087	52.940	50.000	5.9
Endosulfan II	6.660	6.563	6.763	48.450	50.000	-3.1
Endosulfan sulfate	7.005	6.908	7.108	48.430	50.000	-3.1
Endrin	6.451	6.355	6.555	51.860	50.000	3.7
Endrin aldehyde	6.783	6.686	6.886	47.970	50.000	-4.1
Endrin ketone	7.466	7.369	7.569	49.550	50.000	-0.9
gamma-BHC (Lindane)	4.460	4.363	4.563	59.650	50.000	19.3
gamma-Chlordane	5.868	5.771	5.971	54.520	50.000	9.0
Heptachlor	4.958	4.861	5.061	51.980	50.000	4.0
Heptachlor epoxide	5.636	5.540	5.740	53.750	50.000	7.5
Methoxychlor	7.343	7.247	7.447	47.610	50.000	-4.8
Tetrachloro-m-xylene	3.805	3.708	3.908	56.560	50.000	13.1

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/01/2015 10/01/2015

Client Sample No.: CCAL01 **Date Analyzed:** 10/16/2015

Lab Sample No.: PSTDCCC050 **Data File :** PL014734.D **Time Analyzed:** 10:14

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.512	5.412	5.612	50.310	50.000	0.6
4,4'-DDE	5.024	4.924	5.124	49.180	50.000	-1.6
4,4'-DDT	5.735	5.635	5.835	48.700	50.000	-2.6
Aldrin	4.176	4.077	4.277	54.430	50.000	8.9
alpha-BHC	3.447	3.348	3.548	55.390	50.000	10.8
alpha-Chlordane	4.852	4.752	4.952	50.920	50.000	1.8
beta-BHC	3.949	3.849	4.049	57.770	50.000	15.5
Decachlorobiphenyl	7.496	7.396	7.596	45.240	50.000	-9.5
delta-BHC	4.119	4.020	4.220	54.050	50.000	8.1
Dieldrin	5.123	5.024	5.224	50.150	50.000	0.3
Endosulfan I	4.896	4.796	4.996	47.810	50.000	-4.4
Endosulfan II	5.629	5.530	5.730	47.080	50.000	-5.8
Endosulfan sulfate	5.998	5.898	6.098	49.130	50.000	-1.7
Endrin	5.363	5.263	5.463	50.360	50.000	0.7
Endrin aldehyde	5.795	5.695	5.895	47.540	50.000	-4.9
Endrin ketone	6.458	6.359	6.559	47.760	50.000	-4.5
gamma-BHC (Lindane)	3.703	3.604	3.804	55.530	50.000	11.1
gamma-Chlordane	4.798	4.698	4.898	51.840	50.000	3.7
Heptachlor	3.958	3.859	4.059	55.600	50.000	11.2
Heptachlor epoxide	4.589	4.490	4.690	51.650	50.000	3.3
Methoxychlor	6.279	6.179	6.379	47.460	50.000	-5.1
Tetrachloro-m-xylene	3.035	2.935	3.135	55.180	50.000	10.4

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/01/2015 10/01/2015

Continuing Calib Time: 16:31 **Initial Calibration Time(s):** 15:51 16:47

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.77	8.77	8.67	8.87	0.00
Tetrachloro-m-xylene	3.81	3.81	3.71	3.91	0.00
alpha-BHC	4.18	4.19	4.09	4.29	0.01
beta-BHC	4.63	4.63	4.53	4.73	0.00
delta-BHC	4.84	4.84	4.74	4.94	0.00
gamma-BHC (Lindane)	4.46	4.46	4.36	4.56	0.00
Heptachlor	4.96	4.96	4.86	5.06	0.00
Aldrin	5.26	5.26	5.16	5.36	0.00
Heptachlor epoxide	5.64	5.64	5.54	5.74	0.00
Endosulfan I	5.98	5.99	5.89	6.09	0.01
Dieldrin	6.24	6.24	6.14	6.34	0.00
4,4'-DDE	6.10	6.11	6.01	6.21	0.01
Endrin	6.45	6.46	6.36	6.56	0.01
Endosulfan II	6.66	6.66	6.56	6.76	0.00
4,4'-DDD	6.59	6.59	6.49	6.69	0.00
Endosulfan sulfate	7.01	7.01	6.91	7.11	0.00
4,4'-DDT	6.88	6.89	6.79	6.99	0.01
Methoxychlor	7.34	7.35	7.25	7.45	0.01
Endrin ketone	7.47	7.47	7.37	7.57	0.00
Endrin aldehyde	6.78	6.79	6.69	6.89	0.01
alpha-Chlordane	5.94	5.94	5.84	6.04	0.00
gamma-Chlordane	5.87	5.87	5.77	5.97	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/01/2015 10/01/2015

Continuing Calib Time: 16:31 **Initial Calibration Time(s):** 15:51 16:47

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.50	7.50	7.40	7.60	0.01
Tetrachloro-m-xylene	3.03	3.04	2.94	3.14	0.01
alpha-BHC	3.45	3.45	3.35	3.55	0.00
beta-BHC	3.95	3.95	3.85	4.05	0.00
delta-BHC	4.12	4.12	4.02	4.22	0.00
gamma-BHC (Lindane)	3.70	3.70	3.60	3.80	0.00
Heptachlor	3.96	3.96	3.86	4.06	0.00
Aldrin	4.18	4.18	4.08	4.28	0.00
Heptachlor epoxide	4.59	4.59	4.49	4.69	0.00
Endosulfan I	4.90	4.90	4.80	5.00	0.01
Dieldrin	5.12	5.12	5.02	5.22	0.00
4,4'-DDE	5.02	5.02	4.92	5.12	0.00
Endrin	5.36	5.36	5.26	5.46	0.00
Endosulfan II	5.63	5.63	5.53	5.73	0.00
4,4'-DDD	5.51	5.51	5.41	5.61	0.00
Endosulfan sulfate	6.00	6.00	5.90	6.10	0.00
4,4'-DDT	5.73	5.74	5.64	5.84	0.01
Methoxychlor	6.28	6.28	6.18	6.38	0.00
Endrin ketone	6.46	6.46	6.36	6.56	0.00
Endrin aldehyde	5.79	5.80	5.70	5.90	0.01
alpha-Chlordane	4.85	4.85	4.75	4.95	0.00
gamma-Chlordane	4.80	4.80	4.70	4.90	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/01/2015 10/01/2015

Client Sample No.: CCAL02 **Date Analyzed:** 10/16/2015

Lab Sample No.: PSTDCCC050 **Data File :** PL014744.D **Time Analyzed:** 16:31

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.585	6.489	6.689	49.290	50.000	-1.4
4,4'-DDE	6.102	6.006	6.206	48.970	50.000	-2.1
4,4'-DDT	6.881	6.785	6.985	46.060	50.000	-7.9
Aldrin	5.255	5.158	5.358	56.710	50.000	13.4
alpha-BHC	4.182	4.085	4.285	58.330	50.000	16.7
alpha-Chlordane	5.939	5.843	6.043	53.130	50.000	6.3
beta-BHC	4.631	4.534	4.734	57.200	50.000	14.4
Decachlorobiphenyl	8.767	8.673	8.873	42.760	50.000	-14.5
delta-BHC	4.839	4.742	4.942	57.490	50.000	15.0
Dieldrin	6.239	6.142	6.342	51.720	50.000	3.4
Endosulfan I	5.984	5.887	6.087	50.940	50.000	1.9
Endosulfan II	6.660	6.563	6.763	46.560	50.000	-6.9
Endosulfan sulfate	7.005	6.908	7.108	47.390	50.000	-5.2
Endrin	6.451	6.355	6.555	50.110	50.000	0.2
Endrin aldehyde	6.783	6.686	6.886	46.350	50.000	-7.3
Endrin ketone	7.466	7.369	7.569	47.810	50.000	-4.4
gamma-BHC (Lindane)	4.460	4.363	4.563	58.420	50.000	16.8
gamma-Chlordane	5.868	5.771	5.971	53.140	50.000	6.3
Heptachlor	4.958	4.861	5.061	52.210	50.000	4.4
Heptachlor epoxide	5.636	5.540	5.740	53.010	50.000	6.0
Methoxychlor	7.343	7.247	7.447	45.030	50.000	-9.9
Tetrachloro-m-xylene	3.805	3.708	3.908	56.880	50.000	13.8

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/01/2015 10/01/2015

Client Sample No.: CCAL02 **Date Analyzed:** 10/16/2015

Lab Sample No.: PSTDCCC050 **Data File :** PL014744.D **Time Analyzed:** 16:31

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.512	5.412	5.612	49.510	50.000	-1.0
4,4'-DDE	5.023	4.924	5.124	48.210	50.000	-3.6
4,4'-DDT	5.733	5.635	5.835	47.940	50.000	-4.1
Aldrin	4.176	4.077	4.277	53.800	50.000	7.6
alpha-BHC	3.447	3.348	3.548	55.040	50.000	10.1
alpha-Chlordane	4.851	4.752	4.952	50.210	50.000	0.4
beta-BHC	3.949	3.849	4.049	58.210	50.000	16.4
Decachlorobiphenyl	7.495	7.396	7.596	42.660	50.000	-14.7
delta-BHC	4.119	4.020	4.220	54.020	50.000	8.0
Dieldrin	5.123	5.024	5.224	49.270	50.000	-1.5
Endosulfan I	4.895	4.796	4.996	47.430	50.000	-5.1
Endosulfan II	5.628	5.530	5.730	47.300	50.000	-5.4
Endosulfan sulfate	5.997	5.898	6.098	48.350	50.000	-3.3
Endrin	5.362	5.263	5.463	49.640	50.000	-0.7
Endrin aldehyde	5.794	5.695	5.895	46.870	50.000	-6.3
Endrin ketone	6.458	6.359	6.559	46.720	50.000	-6.6
gamma-BHC (Lindane)	3.703	3.604	3.804	55.400	50.000	10.8
gamma-Chlordane	4.797	4.698	4.898	51.080	50.000	2.2
Heptachlor	3.958	3.859	4.059	55.860	50.000	11.7
Heptachlor epoxide	4.589	4.490	4.690	51.040	50.000	2.1
Methoxychlor	6.278	6.179	6.379	46.110	50.000	-7.8
Tetrachloro-m-xylene	3.034	2.935	3.135	54.720	50.000	9.4

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/01/2015 10/01/2015

Continuing Calib Time: 20:02 **Initial Calibration Time(s):** 15:51 16:47

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.77	8.77	8.67	8.87	0.00
Tetrachloro-m-xylene	3.81	3.81	3.71	3.91	0.00
alpha-BHC	4.18	4.19	4.09	4.29	0.01
beta-BHC	4.63	4.63	4.53	4.73	0.00
delta-BHC	4.84	4.84	4.74	4.94	0.00
gamma-BHC (Lindane)	4.46	4.46	4.36	4.56	0.00
Heptachlor	4.96	4.96	4.86	5.06	0.00
Aldrin	5.26	5.26	5.16	5.36	0.00
Heptachlor epoxide	5.64	5.64	5.54	5.74	0.00
Endosulfan I	5.99	5.99	5.89	6.09	0.00
Dieldrin	6.24	6.24	6.14	6.34	0.00
4,4'-DDE	6.10	6.11	6.01	6.21	0.01
Endrin	6.45	6.46	6.36	6.56	0.01
Endosulfan II	6.66	6.66	6.56	6.76	0.00
4,4'-DDD	6.59	6.59	6.49	6.69	0.00
Endosulfan sulfate	7.01	7.01	6.91	7.11	0.00
4,4'-DDT	6.88	6.89	6.79	6.99	0.01
Methoxychlor	7.34	7.35	7.25	7.45	0.01
Endrin ketone	7.47	7.47	7.37	7.57	0.00
Endrin aldehyde	6.78	6.79	6.69	6.89	0.01
alpha-Chlordane	5.94	5.94	5.84	6.04	0.00
gamma-Chlordane	5.87	5.87	5.77	5.97	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/01/2015 10/01/2015

Continuing Calib Time: 20:02 **Initial Calibration Time(s):** 15:51 16:47

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.50	7.50	7.40	7.60	0.01
Tetrachloro-m-xylene	3.03	3.04	2.94	3.14	0.01
alpha-BHC	3.45	3.45	3.35	3.55	0.00
beta-BHC	3.95	3.95	3.85	4.05	0.00
delta-BHC	4.12	4.12	4.02	4.22	0.00
gamma-BHC (Lindane)	3.70	3.70	3.60	3.80	0.00
Heptachlor	3.96	3.96	3.86	4.06	0.00
Aldrin	4.18	4.18	4.08	4.28	0.00
Heptachlor epoxide	4.59	4.59	4.49	4.69	0.00
Endosulfan I	4.90	4.90	4.80	5.00	0.00
Dieldrin	5.12	5.12	5.02	5.22	0.00
4,4'-DDE	5.02	5.02	4.92	5.12	0.00
Endrin	5.36	5.36	5.26	5.46	0.00
Endosulfan II	5.63	5.63	5.53	5.73	0.00
4,4'-DDD	5.51	5.51	5.41	5.61	0.00
Endosulfan sulfate	6.00	6.00	5.90	6.10	0.00
4,4'-DDT	5.73	5.74	5.64	5.84	0.01
Methoxychlor	6.28	6.28	6.18	6.38	0.00
Endrin ketone	6.46	6.46	6.36	6.56	0.00
Endrin aldehyde	5.79	5.80	5.70	5.90	0.01
alpha-Chlordane	4.85	4.85	4.75	4.95	0.00
gamma-Chlordane	4.80	4.80	4.70	4.90	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/01/2015 10/01/2015

Client Sample No.: CCAL03 **Date Analyzed:** 10/16/2015

Lab Sample No.: PSTDCCC050 **Data File :** PL014757.D **Time Analyzed:** 20:02

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.585	6.489	6.689	45.440	50.000	-9.1
4,4'-DDE	6.103	6.006	6.206	45.190	50.000	-9.6
4,4'-DDT	6.881	6.785	6.985	42.230	50.000	-15.5
Aldrin	5.255	5.158	5.358	51.290	50.000	2.6
alpha-BHC	4.183	4.085	4.285	52.440	50.000	4.9
alpha-Chlordane	5.940	5.843	6.043	48.670	50.000	-2.7
beta-BHC	4.631	4.534	4.734	51.120	50.000	2.2
Decachlorobiphenyl	8.767	8.673	8.873	40.040	50.000	-19.9
delta-BHC	4.839	4.742	4.942	51.010	50.000	2.0
Dieldrin	6.239	6.142	6.342	47.150	50.000	-5.7
Endosulfan I	5.985	5.887	6.087	47.490	50.000	-5.0
Endosulfan II	6.660	6.563	6.763	42.380	50.000	-15.2
Endosulfan sulfate	7.005	6.908	7.108	42.540	50.000	-14.9
Endrin	6.452	6.355	6.555	45.440	50.000	-9.1
Endrin aldehyde	6.783	6.686	6.886	42.770	50.000	-14.5
Endrin ketone	7.466	7.369	7.569	44.060	50.000	-11.9
gamma-BHC (Lindane)	4.460	4.363	4.563	52.860	50.000	5.7
gamma-Chlordane	5.868	5.771	5.971	48.970	50.000	-2.1
Heptachlor	4.958	4.861	5.061	47.200	50.000	-5.6
Heptachlor epoxide	5.636	5.540	5.740	48.400	50.000	-3.2
Methoxychlor	7.344	7.247	7.447	42.520	50.000	-15.0
Tetrachloro-m-xylene	3.805	3.708	3.908	51.090	50.000	2.2

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/01/2015 10/01/2015

Client Sample No.: CCAL03 **Date Analyzed:** 10/16/2015

Lab Sample No.: PSTDCCC050 **Data File :** PL014757.D **Time Analyzed:** 20:02

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.512	5.412	5.612	43.650	50.000	-12.7
4,4'-DDE	5.024	4.924	5.124	44.370	50.000	-11.3
4,4'-DDT	5.734	5.635	5.835	44.590	50.000	-10.8
Aldrin	4.176	4.077	4.277	49.160	50.000	-1.7
alpha-BHC	3.447	3.348	3.548	50.200	50.000	0.4
alpha-Chlordane	4.851	4.752	4.952	46.200	50.000	-7.6
beta-BHC	3.949	3.849	4.049	54.460	50.000	8.9
Decachlorobiphenyl	7.495	7.396	7.596	40.040	50.000	-19.9
delta-BHC	4.119	4.020	4.220	49.700	50.000	-0.6
Dieldrin	5.123	5.024	5.224	45.510	50.000	-9.0
Endosulfan I	4.896	4.796	4.996	43.360	50.000	-13.3
Endosulfan II	5.629	5.530	5.730	43.780	50.000	-12.4
Endosulfan sulfate	5.997	5.898	6.098	44.860	50.000	-10.3
Endrin	5.362	5.263	5.463	46.880	50.000	-6.2
Endrin aldehyde	5.794	5.695	5.895	43.540	50.000	-12.9
Endrin ketone	6.458	6.359	6.559	44.260	50.000	-11.5
gamma-BHC (Lindane)	3.703	3.604	3.804	50.650	50.000	1.3
gamma-Chlordane	4.797	4.698	4.898	46.980	50.000	-6.0
Heptachlor	3.958	3.859	4.059	50.840	50.000	1.7
Heptachlor epoxide	4.589	4.490	4.690	46.900	50.000	-6.2
Methoxychlor	6.278	6.179	6.379	43.890	50.000	-12.2
Tetrachloro-m-xylene	3.034	2.935	3.135	49.780	50.000	-0.4

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PESTICIDE CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

GC Column: ZB-MR1 ID: 0.32 (mm) Initi. Calib. Date(s): 10/01/2015 10/01/2015

Client Sample No. (PEM): PEM - PL014525.D Date Analyzed: 10/01/2015

Lab Sample No.(PEM): PEM Time Analyzed: 15:22

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	8.773	8.673	8.873	25.670	20.000	28.4
Tetrachloro-m-xylene	3.808	3.708	3.908	23.630	20.000	18.2
alpha-BHC	4.184	4.085	4.285	8.980	10.000	-10.2
beta-BHC	4.633	4.534	4.734	10.200	10.000	2.0
gamma-BHC (Lindane)	4.462	4.363	4.563	9.220	10.000	-7.8
Endrin	6.456	6.355	6.555	60.140	50.000	20.3
4,4'-DDT	6.887	6.785	6.985	140.130	100.000	40.1
Methoxychlor	7.348	7.247	7.447	350.690	250.000	40.3

GC Column: ZB-MR2 ID: 0.32 (mm) Initi. Calib. Date(s): 10/01/2015 10/01/2015

Client Sample No. (PEM): PEM - PL014525.D Date Analyzed: 10/01/2015

Lab Sample No.(PEM): PEM Time Analyzed: 15:22

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	7.497	7.396	7.596	25.580	20.000	27.9
Tetrachloro-m-xylene	3.035	2.935	3.135	24.700	20.000	23.5
alpha-BHC	3.448	3.348	3.548	11.780	10.000	17.8
beta-BHC	3.946	3.849	4.049	16.120	10.000	61.2
gamma-BHC (Lindane)	3.704	3.604	3.804	12.060	10.000	20.6
Endrin	5.363	5.263	5.463	54.380	50.000	8.8
4,4'-DDT	5.736	5.635	5.835	111.560	100.000	11.6
Methoxychlor	6.279	6.179	6.379	231.570	250.000	-7.4

Sample: PEM
Data File: PL014525.D **Date Acquired** 10/1/15 15:22
Operator: IZ/UA

ENDRIN BREAK DOWN

Column #1

Name	RT	Response	Response [E+EA+EK]	Response [EA+EK]	% Break Down Down
Endrin	6.46	144013973.4	147962199.9	3948226.42	**2.67**
Endrin aldehyde	6.79	756834.873			
Endrin ketone	7.47	3191391.548			

Column #2

Name	RT	Response	Response [E+EA+EK]	Response [EA+EK]	% Break Down
Endrin #2	5.36	73619112.75	79753227.97	6134115.22	**7.69**
Endrin aldehyde #2	5.78	2057850.839			
Endrin ketone #2	6.46	4076264.38			

DDT BREAK DOWN

Column #1

Name	RT	Response	Response [DDT+DDE+DDD]	Response [DDE+DDD]	% Break Down
4,4'-DDT	6.89	343051025.8	347827683.6	4776657.84	**1.37**
4,4'-DDE	6.10	1950482.065			
4,4'-DDD	6.55	2826175.778			

Column #2

Name	RT	Response	Response [DDT+DDE+DDD]	Response [DDE+DDD]	% Break Down
4,4'-DDT #2	5.74	139631131.1	141486286.9	1855155.8	**1.31**
4,4'-DDE #2	5.03	1176416.941			
4,4'-DDD #2	5.52	678738.861			

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PESTICIDE CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

GC Column: ZB-MR1 ID: 0.32 (mm) Initi. Calib. Date(s): 10/01/2015 10/01/2015

Client Sample No. (PEM): PEM - PL014733.D Date Analyzed: 10/16/2015

Lab Sample No.(PEM): PEM Time Analyzed: 10:00

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	8.768	8.673	8.873	20.120	20.000	0.6
Tetrachloro-m-xylene	3.804	3.708	3.908	21.910	20.000	9.6
alpha-BHC	4.181	4.085	4.285	8.230	10.000	-17.7
beta-BHC	4.630	4.534	4.734	10.490	10.000	4.9
gamma-BHC (Lindane)	4.457	4.363	4.563	9.060	10.000	-9.4
Endrin	6.451	6.355	6.555	50.550	50.000	1.1
4,4'-DDT	6.881	6.785	6.985	108.960	100.000	9.0
Methoxychlor	7.343	7.247	7.447	275.460	250.000	10.2

GC Column: ZB-MR2 ID: 0.32 (mm) Initi. Calib. Date(s): 10/01/2015 10/01/2015

Client Sample No. (PEM): PEM - PL014733.D Date Analyzed: 10/16/2015

Lab Sample No.(PEM): PEM Time Analyzed: 10:00

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	7.496	7.396	7.596	21.880	20.000	9.4
Tetrachloro-m-xylene	3.035	2.935	3.135	23.810	20.000	19.1
alpha-BHC	3.447	3.348	3.548	11.570	10.000	15.7
beta-BHC	3.945	3.849	4.049	16.260	10.000	62.6
gamma-BHC (Lindane)	3.703	3.604	3.804	12.120	10.000	21.2
Endrin	5.362	5.263	5.463	49.890	50.000	-0.2
4,4'-DDT	5.734	5.635	5.835	97.480	100.000	-2.5
Methoxychlor	6.278	6.179	6.379	198.130	250.000	-20.7

Sample: PEM
Data File: PL014733.D **Date Acquired** 10/16/2015 10:00
Operator: IZ/UA

ENDRIN BREAK DOWN

Column #1

Name	RT	Response	Response [E+EA+EK]	Response [EA+EK]	% Break Down Down
Endrin	6.45	121057331.8	125154670	4097338.23	**3.27**
Endrin aldehyde	6.78	1429584.956			
Endrin ketone	7.46	2667753.276			

Column #2

Name	RT	Response	Response [E+EA+EK]	Response [EA+EK]	% Break Down
Endrin #2	5.36	67537834.52	70322491.98	2784657.46	**3.96**
Endrin aldehyde #2	5.79	735217.788			
Endrin ketone #2	6.46	2049439.67			

DDT BREAK DOWN

Column #1

Name	RT	Response	Response [DDT+DDE+DDD]	Response [DDE+DDD]	% Break Down
4,4'-DDT	6.88	266737174.1	268415950.8	1678776.69	**0.63**
4,4'-DDE	6.10	392184.197			
4,4'-DDD	6.58	1286592.491			

Column #2

Name	RT	Response	Response [DDT+DDE+DDD]	Response [DDE+DDD]	% Break Down
4,4'-DDT #2	5.73	122009091.3	123094413.5	1085322.24	**0.88**
4,4'-DDE #2	5.02	298245.743			
4,4'-DDD #2	5.51	787076.5			

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Analytical Sequence

Client: Sea Coast Environmental Services, Inc. SDG No.: G4046

Project: U.S. Fish and Wildlife Instrument ID: ECD_L

GC Column: ZB-MR1 ID: 0.32 (mm) Inst. Calib. Date(s): 10/01/2015 10/01/2015

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	10/01/2015	15:07	PL014524.D	8.78	3.81
PEM	PEM	10/01/2015	15:22	PL014525.D	8.77	3.81
RESCHK	RESCHK	10/01/2015	15:36	PL014526.D	8.77	3.81
PSTDICC100	PSTDICC100	10/01/2015	15:51	PL014527.D	8.77	3.81
PSTDICC075	PSTDICC075	10/01/2015	16:05	PL014528.D	8.77	3.81
PSTDICC050	PSTDICC050	10/01/2015	16:19	PL014529.D	8.77	3.81
PSTDICC025	PSTDICC025	10/01/2015	16:33	PL014530.D	8.77	3.81
PSTDICC005	PSTDICC005	10/01/2015	16:47	PL014531.D	8.77	3.81
PTOXICC500	PTOXICC500	10/01/2015	17:16	PL014533.D	8.77	3.81
PCHLORICC500	PCHLORICC500	10/01/2015	17:30	PL014534.D	8.77	3.81
I.BLK	I.BLK	10/16/2015	09:46	PL014732.D	8.77	3.81
PEM	PEM	10/16/2015	10:00	PL014733.D	8.77	3.80
PSTDCCC050	PSTDCCC050	10/16/2015	10:14	PL014734.D	8.77	3.81
CWC-1-20151014MS	G4034-01MS	10/16/2015	14:33	PL014736.D	8.77	3.81
CWC-1-20151014MSD	G4034-01MSD	10/16/2015	14:48	PL014737.D	8.77	3.81
I.BLK	I.BLK	10/16/2015	16:17	PL014743.D	8.77	3.81
PSTDCCC050	PSTDCCC050	10/16/2015	16:31	PL014744.D	8.77	3.81
GOODLUCK902	G4046-01	10/16/2015	17:12	PL014746.D	8.80	3.81
GOODLUCK58	G4046-02	10/16/2015	17:26	PL014747.D	8.80	3.81
MANAHAWKEN112	G4046-04	10/16/2015	17:40	PL014748.D	8.80	3.80
PB86143BS	PB86143BS	10/16/2015	18:51	PL014753.D	8.77	3.80
PB86143BL	PB86143BL	10/16/2015	19:05	PL014754.D	8.77	3.80
I.BLK	I.BLK	10/16/2015	19:33	PL014755.D	8.77	3.80
PSTDCCC050	PSTDCCC050	10/16/2015	20:02	PL014757.D	8.77	3.81

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Analytical Sequence

Client: Sea Coast Environmental Services, Inc. SDG No.: G4046

Project: U.S. Fish and Wildlife Instrument ID: ECD_L

GC Column: ZB-MR2 ID: 0.32 (mm) Inst. Calib. Date(s): 10/01/2015 10/01/2015

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	10/01/2015	15:07	PL014524.D	8.78	3.81
PEM	PEM	10/01/2015	15:22	PL014525.D	8.77	3.81
RESCHK	RESCHK	10/01/2015	15:36	PL014526.D	8.77	3.81
PSTDICC100	PSTDICC100	10/01/2015	15:51	PL014527.D	8.77	3.81
PSTDICC075	PSTDICC075	10/01/2015	16:05	PL014528.D	8.77	3.81
PSTDICC050	PSTDICC050	10/01/2015	16:19	PL014529.D	8.77	3.81
PSTDICC025	PSTDICC025	10/01/2015	16:33	PL014530.D	8.77	3.81
PSTDICC005	PSTDICC005	10/01/2015	16:47	PL014531.D	8.77	3.81
PTOXICC500	PTOXICC500	10/01/2015	17:16	PL014533.D	8.77	3.81
PCHLORICC500	PCHLORICC500	10/01/2015	17:30	PL014534.D	8.77	3.81
I.BLK	I.BLK	10/16/2015	09:46	PL014732.D	8.77	3.81
PEM	PEM	10/16/2015	10:00	PL014733.D	8.77	3.80
PSTDCCC050	PSTDCCC050	10/16/2015	10:14	PL014734.D	8.77	3.81
CWC-1-20151014MS	G4034-01MS	10/16/2015	14:33	PL014736.D	8.77	3.81
CWC-1-20151014MSD	G4034-01MSD	10/16/2015	14:48	PL014737.D	8.77	3.81
I.BLK	I.BLK	10/16/2015	16:17	PL014743.D	8.77	3.81
PSTDCCC050	PSTDCCC050	10/16/2015	16:31	PL014744.D	8.77	3.81
GOODLUCK902	G4046-01	10/16/2015	17:12	PL014746.D	8.80	3.81
GOODLUCK58	G4046-02	10/16/2015	17:26	PL014747.D	8.80	3.81
MANAHAWKEN112	G4046-04	10/16/2015	17:40	PL014748.D	8.80	3.80
PB86143BS	PB86143BS	10/16/2015	18:51	PL014753.D	8.77	3.80
PB86143BL	PB86143BL	10/16/2015	19:05	PL014754.D	8.77	3.80
I.BLK	I.BLK	10/16/2015	19:33	PL014755.D	8.77	3.80
PSTDCCC050	PSTDCCC050	10/16/2015	20:02	PL014757.D	8.77	3.81

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

CWC-1-20151014MS

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4034-01MS Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan II	1	6.66	6.61	6.71	17.1	10.5
	2	5.63	5.58	5.68	19	
4,4'-DDD	1	6.59	6.54	6.64	23	9.1
	2	5.51	5.46	5.56	21	
4,4'-DDT	1	6.88	6.83	6.93	23.5	0.4
	2	5.73	5.68	5.78	23.4	
Endrin aldehyde	1	6.79	6.74	6.84	15	19.3
	2	5.79	5.74	5.84	18.2	
Endosulfan sulfate	1	7.01	6.96	7.06	15.8	7.9
	2	6.00	5.95	6.05	17.1	
Methoxychlor	1	7.34	7.29	7.39	14.4	47.6
	2	6.28	6.23	6.33	23.4	
Endrin ketone	1	7.47	7.42	7.52	17.2	3.6
	2	6.46	6.41	6.51	16.6	
alpha-BHC	1	4.18	4.13	4.23	23.6	11.7
	2	3.45	3.40	3.50	21	
gamma-BHC (Lindane)	1	4.46	4.41	4.51	26.9	20.5
	2	3.70	3.65	3.75	21.9	
Heptachlor	1	4.96	4.91	5.01	20.7	30
	2	3.96	3.91	4.01	28	
Aldrin	1	5.26	5.21	5.31	23.3	14.7
	2	4.18	4.13	4.23	20.1	
beta-BHC	1	4.63	4.58	4.68	18.9	126.1
	2	3.96	3.91	4.01	83.4	
delta-BHC	1	4.84	4.79	4.89	18.7	3.2
	2	4.12	4.07	4.17	19.3	
Heptachlor epoxide	1	5.64	5.59	5.69	20.2	3.5
	2	4.59	4.54	4.64	19.5	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

CWC-1-20151014MS

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4034-01MS Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan I	1	5.99	5.94	6.04	17.9	20.3
	2	4.90	4.85	4.95	14.6	
gamma-Chlordane	1	5.87	5.82	5.92	23.3	10.9
	2	4.80	4.75	4.85	20.9	
alpha-Chlordane	1	5.94	5.89	5.99	20	0
	2	4.85	4.80	4.90	20	
4,4'-DDE	1	6.10	6.05	6.15	17.6	13.3
	2	5.02	4.97	5.07	20.1	
Dieldrin	1	6.24	6.19	6.29	21.1	4.2
	2	5.12	5.07	5.17	22	
Endrin	1	6.45	6.40	6.50	19.3	5.5
	2	5.36	5.31	5.41	20.4	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

CWC-1-20151014MSD

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4034-01MSD Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan II	1	6.66	6.61	6.71	17.4	9.3
	2	5.63	5.58	5.68	19.1	
4,4'-DDD	1	6.59	6.54	6.64	23.1	1.7
	2	5.51	5.46	5.56	22.7	
4,4'-DDT	1	6.88	6.83	6.93	24	2.1
	2	5.73	5.68	5.78	23.5	
Endrin aldehyde	1	6.79	6.74	6.84	15.2	18
	2	5.79	5.74	5.84	18.2	
Endosulfan sulfate	1	7.01	6.96	7.06	17	10.6
	2	6.00	5.95	6.05	18.9	
Methoxychlor	1	7.34	7.29	7.39	13	57.1
	2	6.28	6.23	6.33	23.4	
Endrin ketone	1	7.47	7.42	7.52	17.8	5.2
	2	6.46	6.41	6.51	16.9	
alpha-BHC	1	4.18	4.13	4.23	23.5	9.8
	2	3.45	3.40	3.50	21.3	
gamma-BHC (Lindane)	1	4.46	4.41	4.51	27	19.5
	2	3.70	3.65	3.75	22.2	
Heptachlor	1	4.96	4.91	5.01	20.9	5.1
	2	3.96	3.91	4.01	22	
Aldrin	1	5.26	5.21	5.31	22.5	10.3
	2	4.18	4.13	4.23	20.3	
beta-BHC	1	4.63	4.58	4.68	19.3	15.8
	2	3.95	3.90	4.00	22.6	
delta-BHC	1	4.84	4.79	4.89	18.5	5.3
	2	4.12	4.07	4.17	19.5	
Heptachlor epoxide	1	5.64	5.59	5.69	21.3	8.3
	2	4.59	4.54	4.64	19.6	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

CWC-1-20151014MSD

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4034-01MSD Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan I	1	5.99	5.94	6.04	21.1	35.1
	2	4.90	4.85	4.95	14.8	
gamma-Chlordane	1	5.87	5.82	5.92	19.5	7.9
	2	4.80	4.75	4.85	21.1	
alpha-Chlordane	1	5.94	5.89	5.99	19.9	1.5
	2	4.85	4.80	4.90	20.2	
4,4'-DDE	1	6.10	6.05	6.15	17.6	14.7
	2	5.02	4.97	5.07	20.4	
Dieldrin	1	6.24	6.19	6.29	21.8	2.3
	2	5.12	5.07	5.17	22.3	
Endrin	1	6.45	6.40	6.50	19.4	7
	2	5.36	5.31	5.41	20.8	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

GOODLUCK58

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4046-02 Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
4,4'-DDT	1	6.88	6.83	6.93	87.9	10
	2	5.74	5.69	5.79	79.5	
Aldrin	1	5.27	5.22	5.32	15	7.7
	2	4.18	4.13	4.23	16.2	
Endrin	1	6.47	6.42	6.52	8.1	66.1
	2	5.36	5.31	5.41	16.1	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

GOODLUCK902

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4046-01 Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan II	1	6.67	6.62	6.72	30.8	32.9
	2	5.63	5.58	5.68	22.1	
4,4'-DDT	1	6.88	6.83	6.93	29.9	22
	2	5.74	5.69	5.79	37.3	
Aldrin	1	5.27	5.22	5.32	10.5	21.1
	2	4.18	4.13	4.23	8.5	
4,4'-DDE	1	6.10	6.05	6.15	7.8	50
	2	5.03	4.98	5.08	13	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

MANAHAWKEN112

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4046-04 Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
4,4'-DDT	1	6.88	6.83	6.93	27.3	30.9
	2	5.73	5.68	5.78	20	
Aldrin	1	5.27	5.22	5.32	45.8	11.3
	2	4.18	4.13	4.23	51.3	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

PB86143BS

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: PB86143BS Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan II	1	6.66	6.61	6.71	15.2	4
	2	5.63	5.58	5.68	14.6	
4,4'-DDD	1	6.59	6.54	6.64	15.2	2.7
	2	5.51	5.46	5.56	14.8	
4,4'-DDT	1	6.88	6.83	6.93	14	4.2
	2	5.73	5.68	5.78	14.6	
Endrin aldehyde	1	6.78	6.73	6.83	14.9	0.7
	2	5.79	5.74	5.84	15	
Endosulfan sulfate	1	7.01	6.96	7.06	13.6	6.4
	2	6.00	5.95	6.05	14.5	
Methoxychlor	1	7.34	7.29	7.39	14.1	0
	2	6.28	6.23	6.33	14.1	
Endrin ketone	1	7.47	7.42	7.52	16	10.5
	2	6.46	6.41	6.51	14.4	
alpha-BHC	1	4.18	4.13	4.23	17.3	2.9
	2	3.45	3.40	3.50	16.8	
gamma-BHC (Lindane)	1	4.46	4.41	4.51	17.7	4.6
	2	3.70	3.65	3.75	16.9	
Heptachlor	1	4.96	4.91	5.01	16.2	4.2
	2	3.96	3.91	4.01	16.9	
Aldrin	1	5.26	5.21	5.31	17.4	5.3
	2	4.18	4.13	4.23	16.5	
beta-BHC	1	4.63	4.58	4.68	17.5	13.3
	2	3.95	3.90	4.00	20	
delta-BHC	1	4.84	4.79	4.89	16	3.2
	2	4.12	4.07	4.17	15.5	
Heptachlor epoxide	1	5.64	5.59	5.69	16.4	3.1
	2	4.59	4.54	4.64	15.9	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

PB86143BS

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: PB86143BS Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan I	1	5.98	5.93	6.03	15.7	5.9
	2	4.90	4.85	4.95	14.8	
gamma-Chlordane	1	5.87	5.82	5.92	16.3	3.8
	2	4.80	4.75	4.85	15.7	
alpha-Chlordane	1	5.94	5.89	5.99	16.3	5
	2	4.85	4.80	4.90	15.5	
4,4'-DDE	1	6.10	6.05	6.15	14.6	3.4
	2	5.02	4.97	5.07	15.1	
Dieldrin	1	6.24	6.19	6.29	15.5	2
	2	5.12	5.07	5.17	15.2	
Endrin	1	6.45	6.40	6.50	15	2
	2	5.36	5.31	5.41	14.7	

SAMPLE RAW DATA

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014746.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 17:12
Operator : IZ/UA
Sample : G4046-01
Misc :
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 11:29:18 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm

Instrument :
ECD_L
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
	System Monitoring Compounds						
1) SA	Tetrachlo...	3.805	3.044	29810738	17388012	12.482	17.267m#
23) SA	Decachlor...	8.801	7.496	297.6E6	14197617	76.948	12.913 #
	Target Compounds						
5) MB	Aldrin	5.266	4.179	13196797	5703177	5.272	4.276
12) B	4,4'-DDE	6.097	5.025	9601187	9263640	3.918m	6.517m#
15) B	Endosulfa...	6.665	5.631	13347635	3595394	5.008m	2.835m#
17) MA	4,4'-DDT	6.882	5.735	36736511	23426686	15.006	18.718

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PL014746.D**

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014746.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 17:12
Operator : IZ/UA
Sample : G4046-01
Misc :
ALS Vial : 16 Sample Multiplier: 1

Instrument :
ECD_L
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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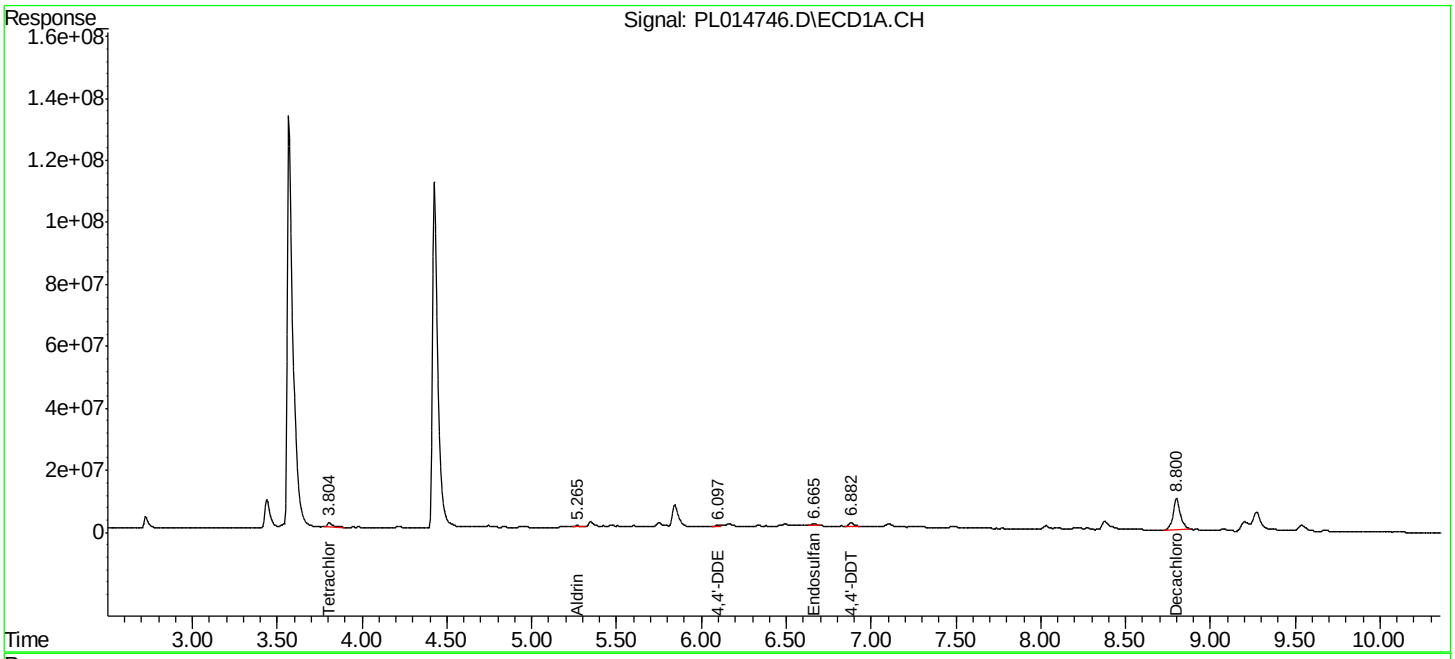
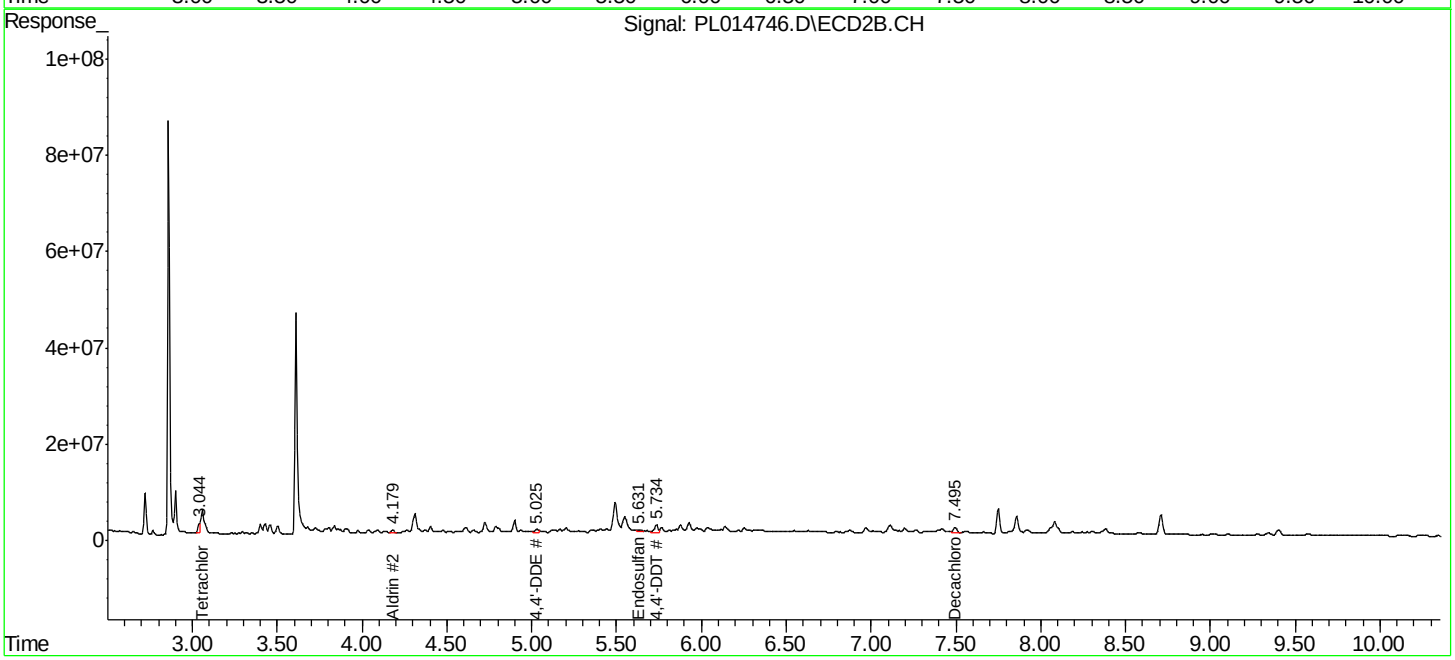
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 11:29:18 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm





Instrument :
ECD_L
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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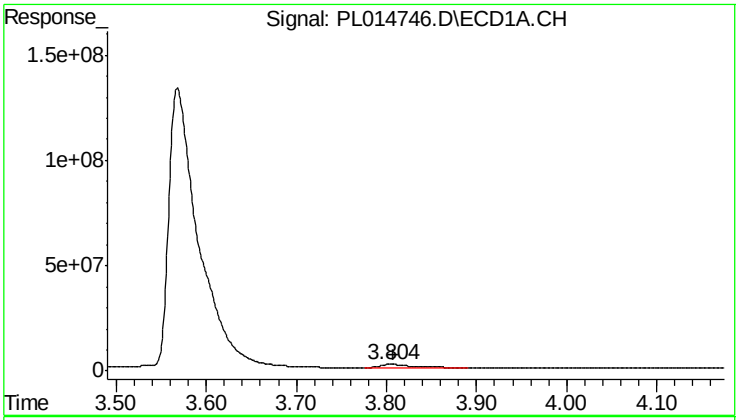
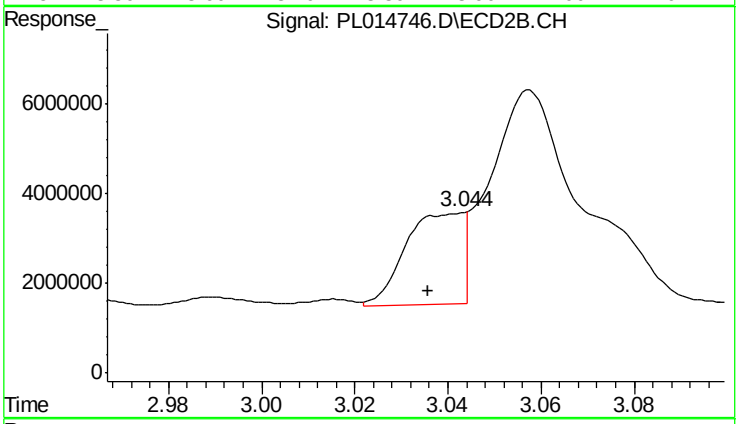


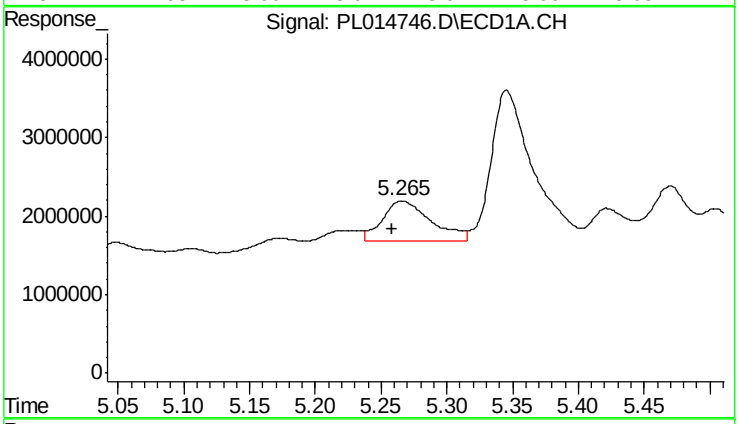
#1 Tetrachloro-m-xylene

R.T.: 3.805 min
Delta R.T.: -0.003 min
Response: 29810738
Conc: 12.48 ng/ml



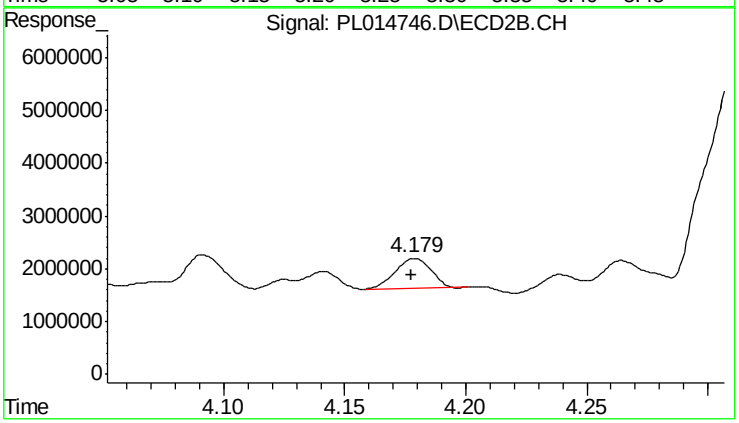
#1 Tetrachloro-m-xylene

R.T.: 3.044 min
Delta R.T.: 0.008 min
Response: 17388012
Conc: 17.27 ng/ml m



#5 Aldrin

R.T.: 5.266 min
Delta R.T.: 0.007 min
Response: 13196797
Conc: 5.27 ng/ml



#5 Aldrin

R.T.: 4.179 min
Delta R.T.: 0.001 min
Response: 5703177
Conc: 4.28 ng/ml

Instrument :
ECD_L
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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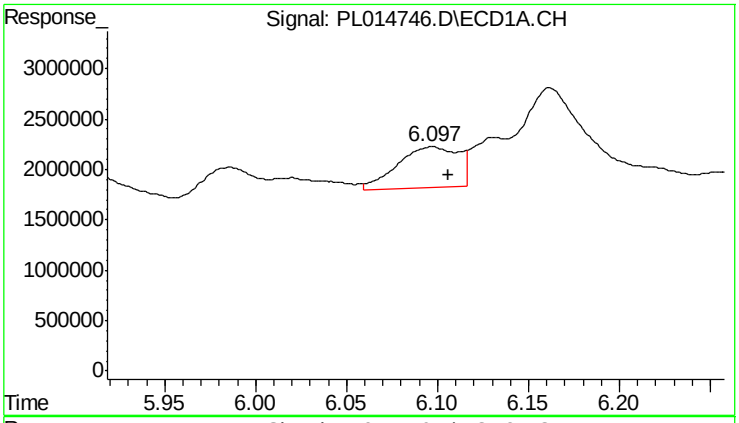
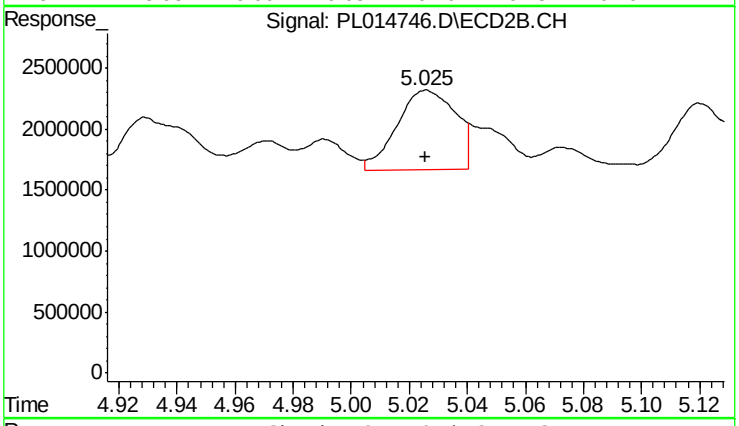


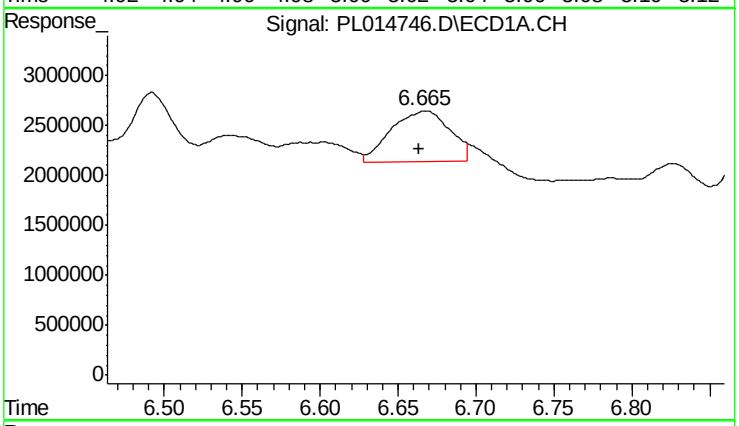
#12 4,4'-DDE

R.T.: 6.097 min
Delta R.T.: -0.009 min
Response: 9601187
Conc: 3.92 ng/ml



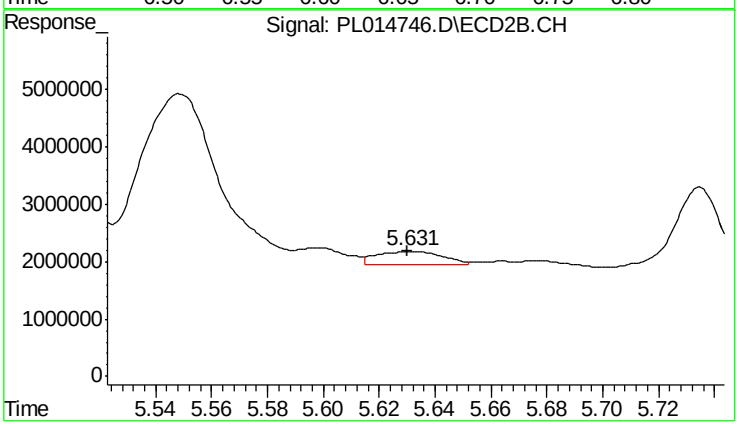
#12 4,4'-DDE

R.T.: 5.025 min
Delta R.T.: 0.000 min
Response: 9263640
Conc: 6.52 ng/ml m



#15 Endosulfan II

R.T.: 6.665 min
Delta R.T.: 0.001 min
Response: 13347635
Conc: 5.01 ng/ml m



#15 Endosulfan II

R.T.: 5.631 min
Delta R.T.: 0.000 min
Response: 3595394
Conc: 2.84 ng/ml m

Instrument :
ECD_L
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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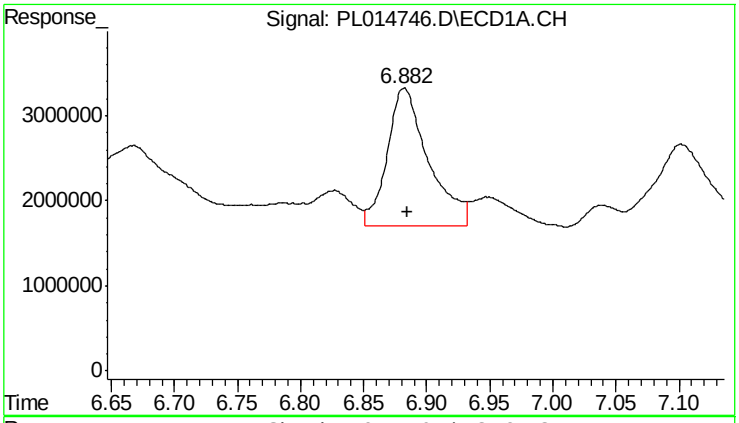
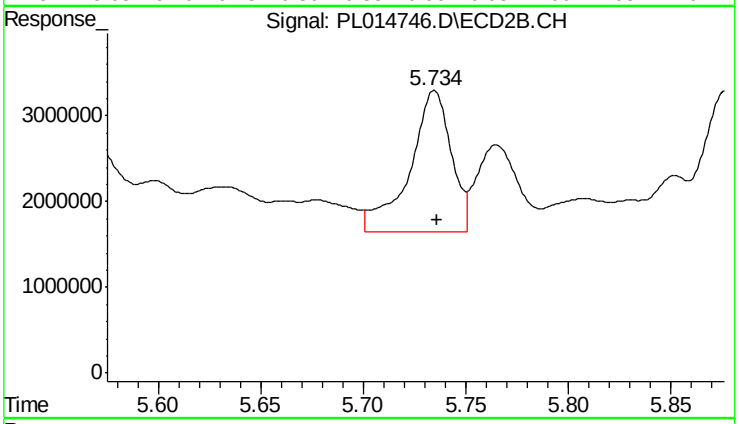


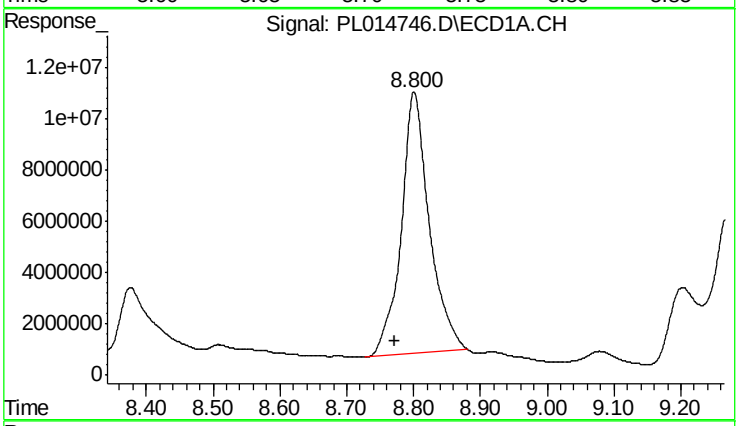
#17 4,4'-DDT

R.T.: 6.882 min
Delta R.T.: -0.003 min
Response: 36736511
Conc: 15.01 ng/ml



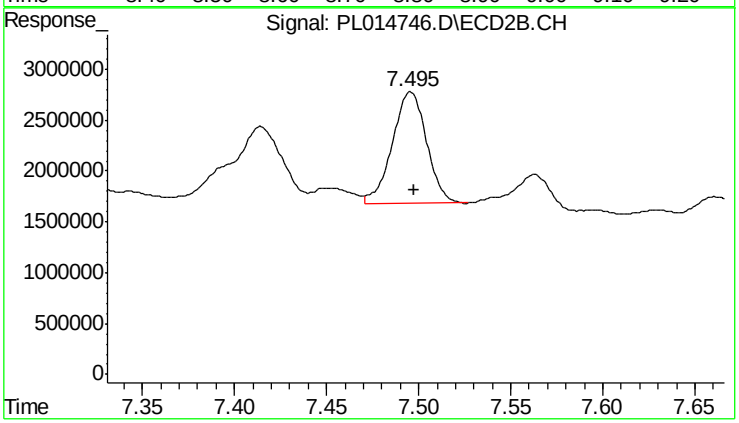
#17 4,4'-DDT

R.T.: 5.735 min
Delta R.T.: -0.001 min
Response: 23426686
Conc: 18.72 ng/ml



#23 Decachlorobiphenyl

R.T.: 8.801 min
Delta R.T.: 0.028 min
Response: 297648798
Conc: 76.95 ng/ml



#23 Decachlorobiphenyl

R.T.: 7.496 min
Delta R.T.: -0.001 min
Response: 14197617
Conc: 12.91 ng/ml

Quantitation Report (QT Reviewed)

Instrument :
ECD_L
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014747.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 17:26
Operator : IZ/UA
Sample : G4046-02
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 01:50:05 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
	System Monitoring Compounds						
1) SA	Tetrachlo...	3.805	3.040	40188955	18791312	16.827	18.661m
23) SA	Decachlor...	8.800	7.495	339.4E6	13453688	87.732	12.236 #
	Target Compounds						
5) MB	Aldrin	5.267	4.182	18845457	10872944	7.529	8.151
14) MA	Endrin	6.472	5.360	9787929	10947562	4.087m	8.087 #
17) MA	4,4'-DDT	6.883	5.735	108.3E6	50041088	44.224	39.982

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PL014747.D**

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014747.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 17:26
Operator : IZ/UA
Sample : G4046-02
Misc :
ALS Vial : 17 Sample Multiplier: 1

Instrument :
ECD_L
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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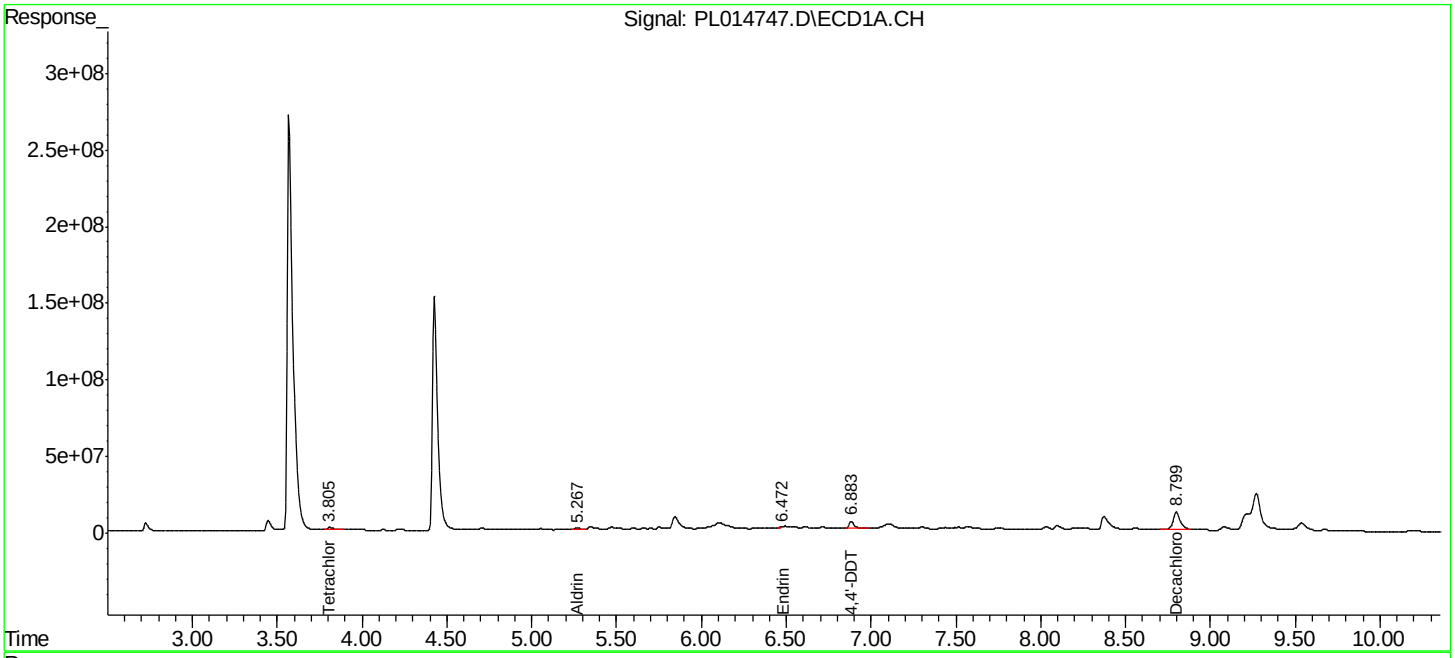
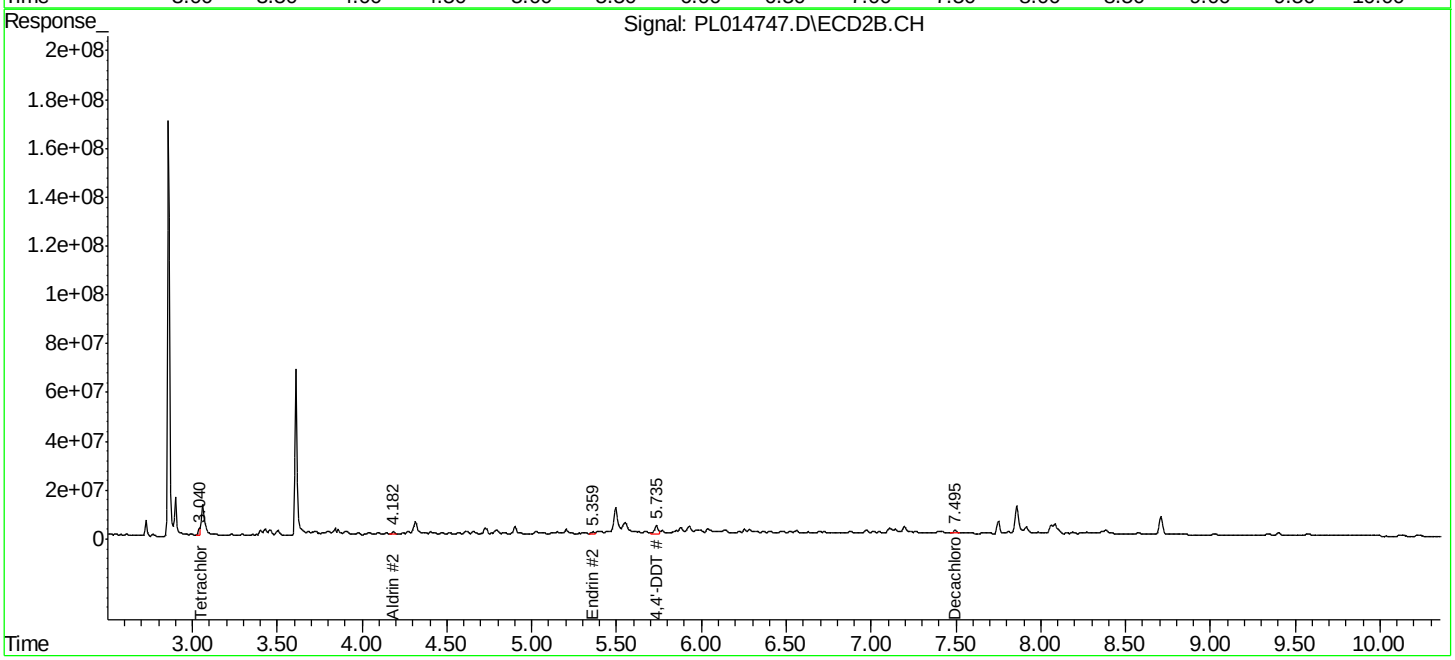
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 01:50:05 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm





Instrument :
ECD_L
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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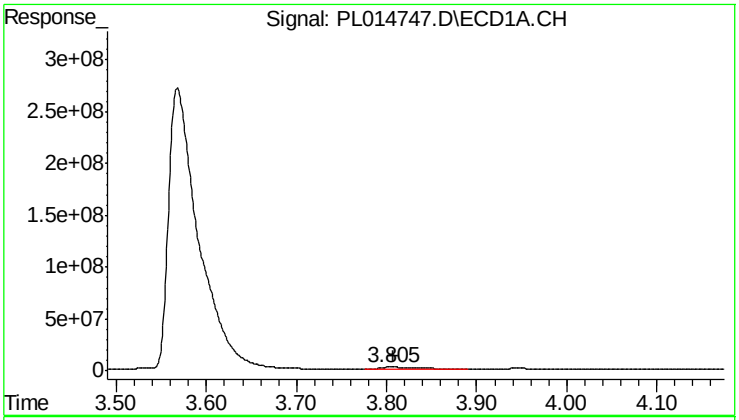
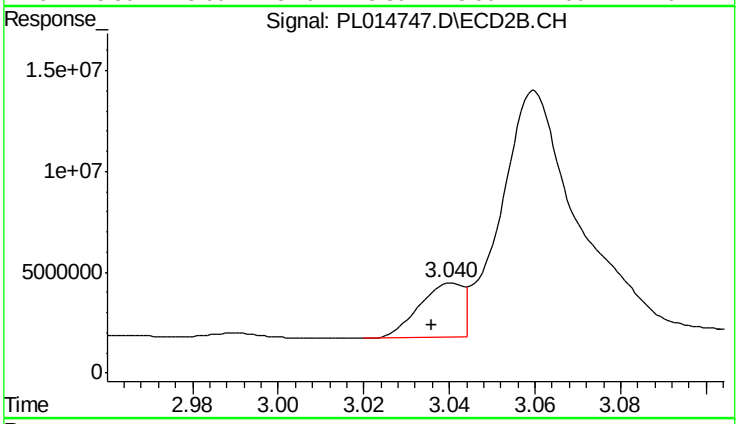


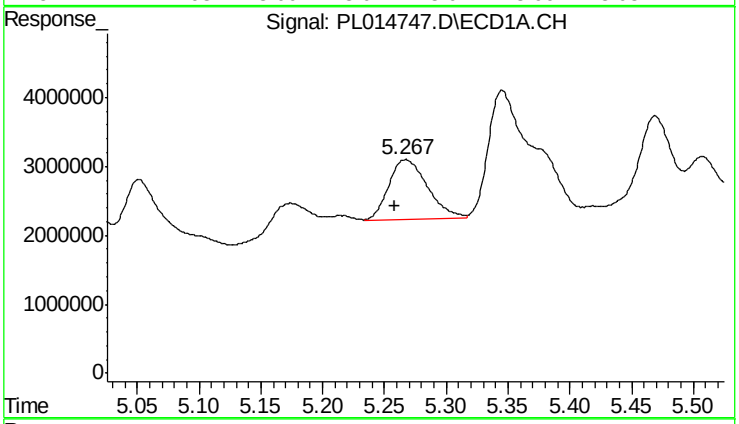
#1 Tetrachloro-m-xylene

R.T.: 3.805 min
Delta R.T.: -0.002 min
Response: 40188955
Conc: 16.83 ng/ml



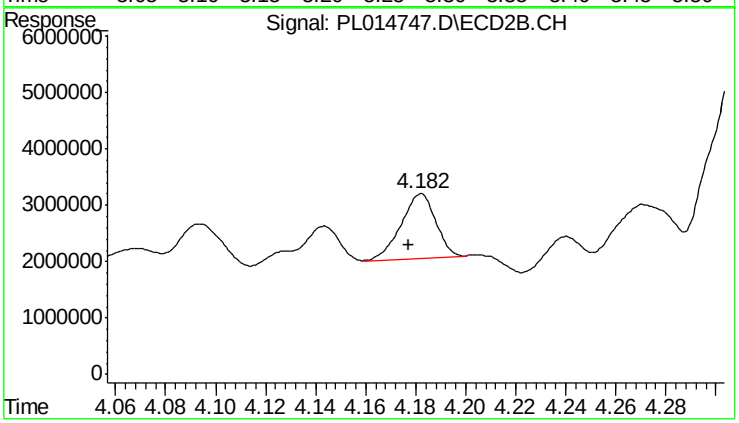
#1 Tetrachloro-m-xylene

R.T.: 3.040 min
Delta R.T.: 0.004 min
Response: 18791312
Conc: 18.66 ng/ml m



#5 Aldrin

R.T.: 5.267 min
Delta R.T.: 0.009 min
Response: 18845457
Conc: 7.53 ng/ml



#5 Aldrin

R.T.: 4.182 min
Delta R.T.: 0.005 min
Response: 10872944
Conc: 8.15 ng/ml

Instrument :
ECD_L
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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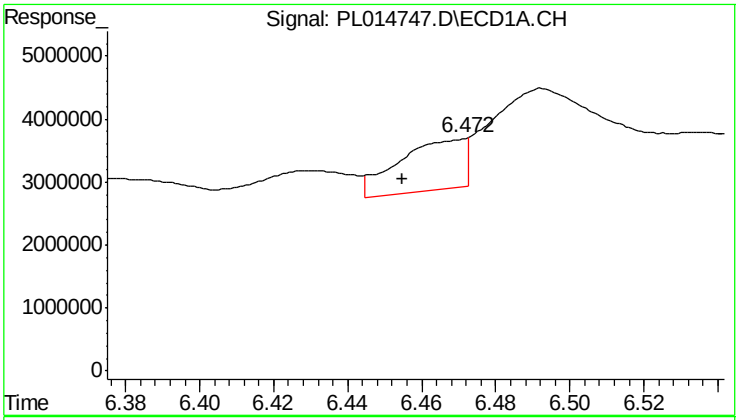
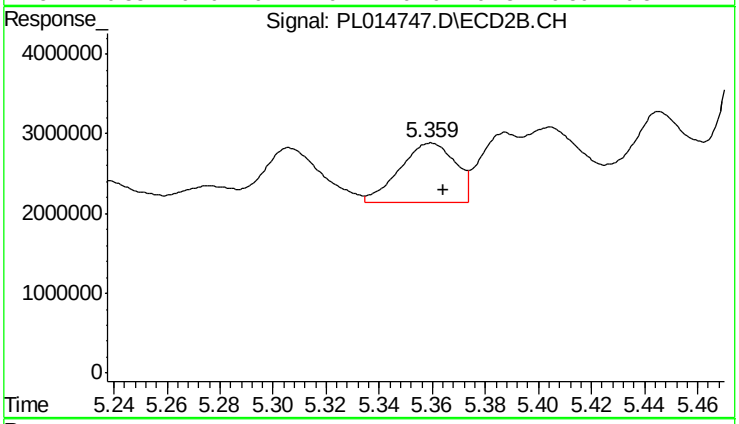


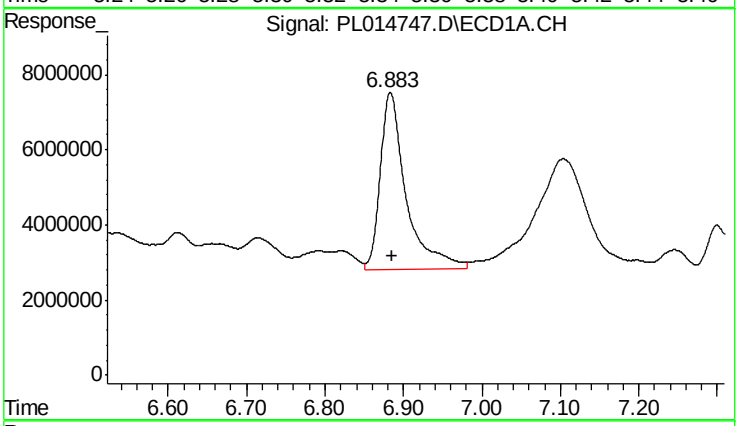
#14 Endrin

R.T.: 6.472 min
Delta R.T.: 0.017 min
Response: 9787929
Conc: 4.09 ng/ml



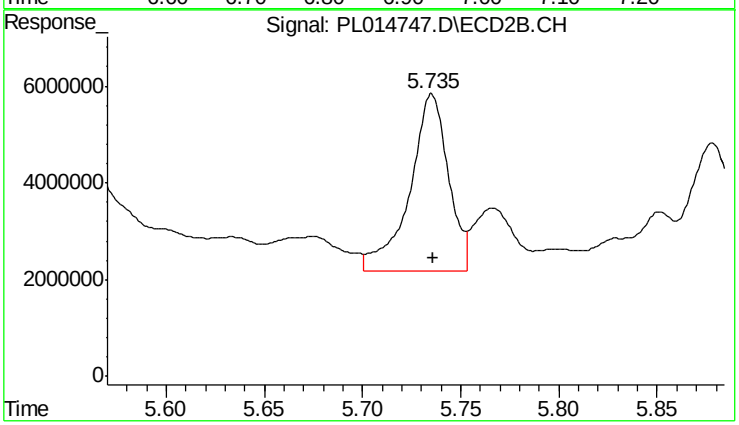
#14 Endrin

R.T.: 5.360 min
Delta R.T.: -0.005 min
Response: 10947562
Conc: 8.09 ng/ml



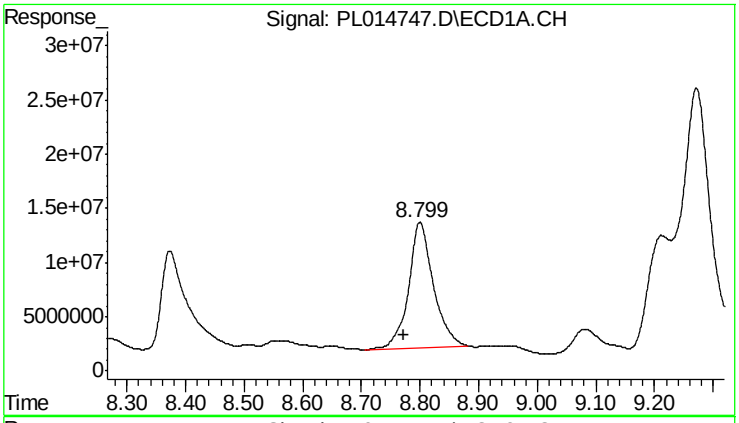
#17 4,4'-DDT

R.T.: 6.883 min
Delta R.T.: -0.002 min
Response: 108263739
Conc: 44.22 ng/ml



#17 4,4'-DDT

R.T.: 5.735 min
Delta R.T.: 0.000 min
Response: 50041088
Conc: 39.98 ng/ml



#23 Decachlorobiphenyl

R.T.: 8.800 min
Delta R.T.: 0.027 min
Response: 339364408
Conc: 87.73 ng/ml

Instrument :
ECD_L
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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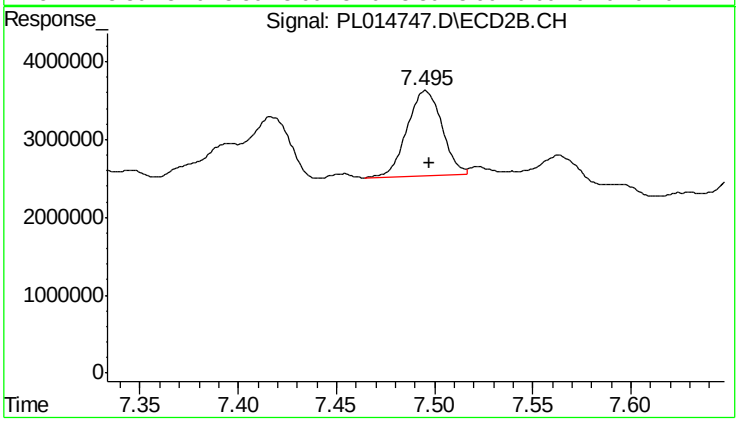

#23 Decachlorobiphenyl

R.T.: 7.495 min
Delta R.T.: -0.002 min
Response: 13453688
Conc: 12.24 ng/ml

Quantitation Report (QT Reviewed)

Instrument :
ECD_L
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014748.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 17:40
Operator : IZ/UA
Sample : G4046-04
Misc :
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 03:54:19 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
	System Monitoring Compounds						
1) SA	Tetrachlo...	3.804	3.040	29580686	16771459	12.385m	16.655m#
23) SA	Decachlor...	8.798	7.496	271.0E6	13827827	70.048m	12.576 #
	Target Compounds						
5) MB	Aldrin	5.269	4.183	58021673	34602793	23.179	25.941
17) MA	4,4'-DDT	6.881	5.734	33823797	12696566	13.817	10.144m#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PL014748.D**

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014748.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 17:40
Operator : IZ/UA
Sample : G4046-04
Misc :
ALS Vial : 18 Sample Multiplier: 1

Instrument :
ECD_L
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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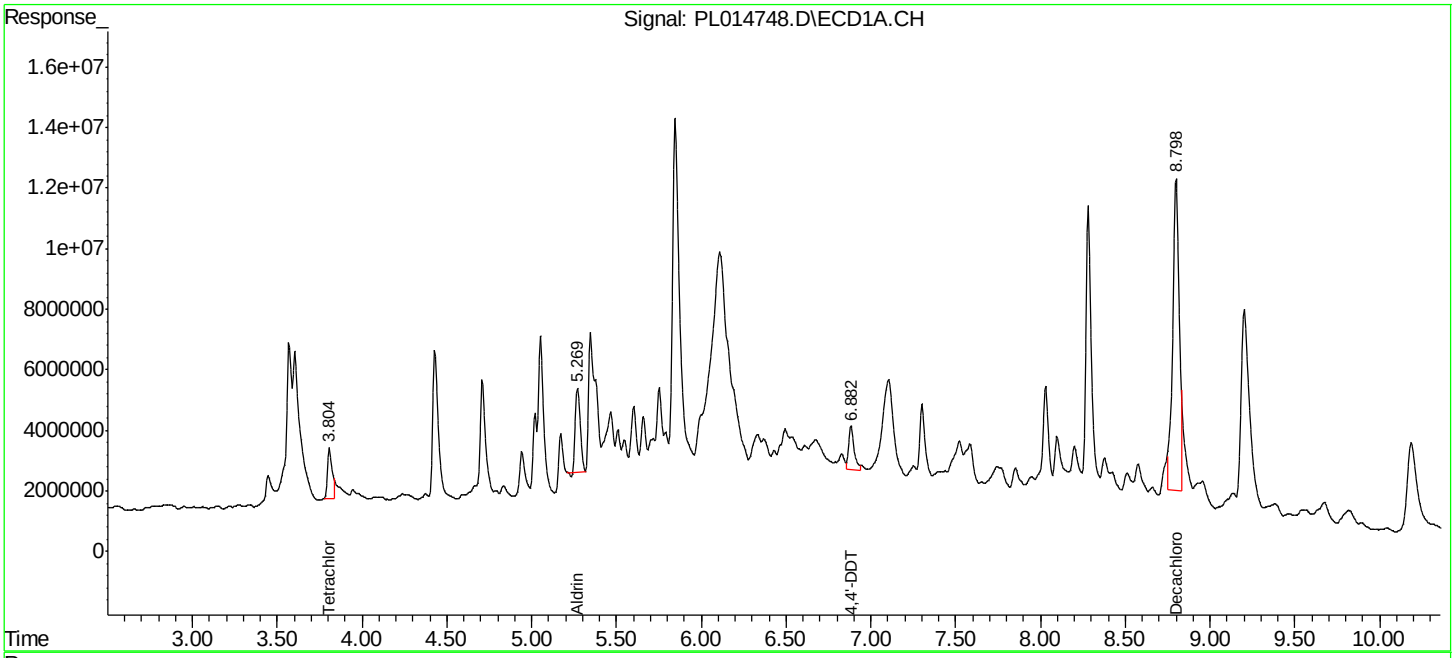
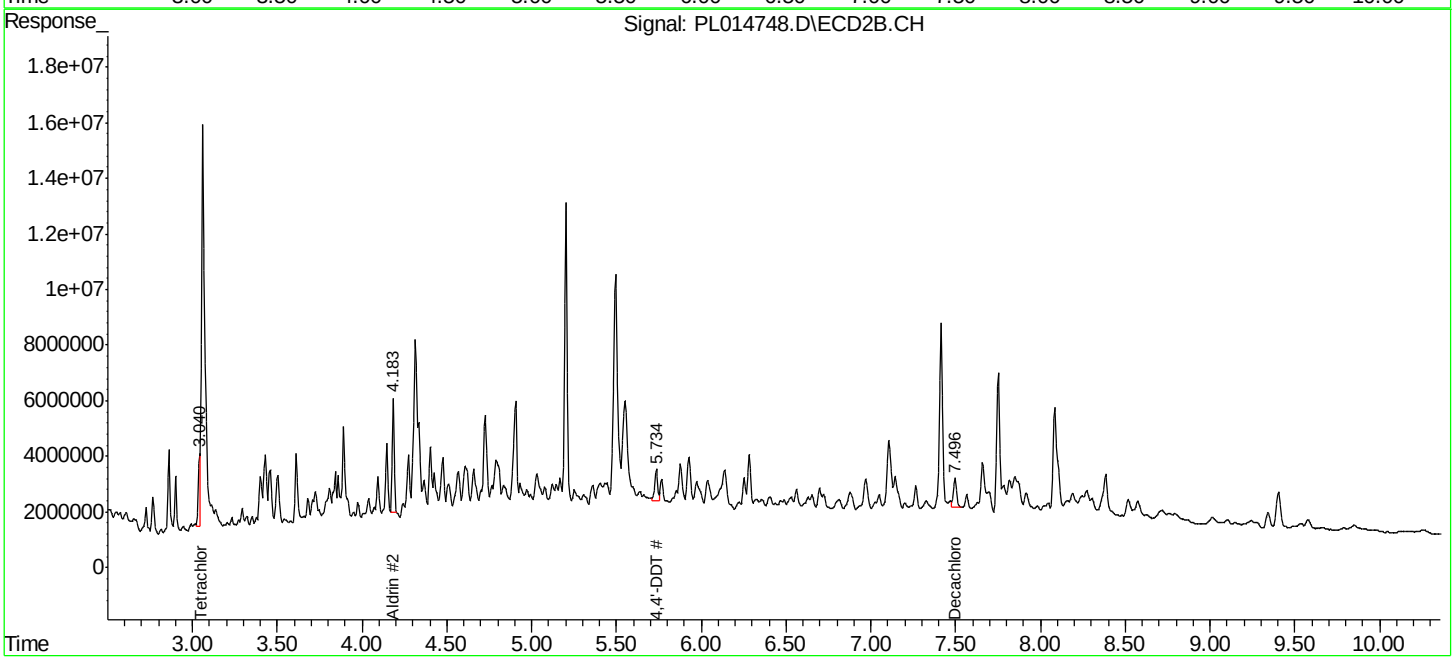
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 03:54:19 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm





Instrument :
ECD_L
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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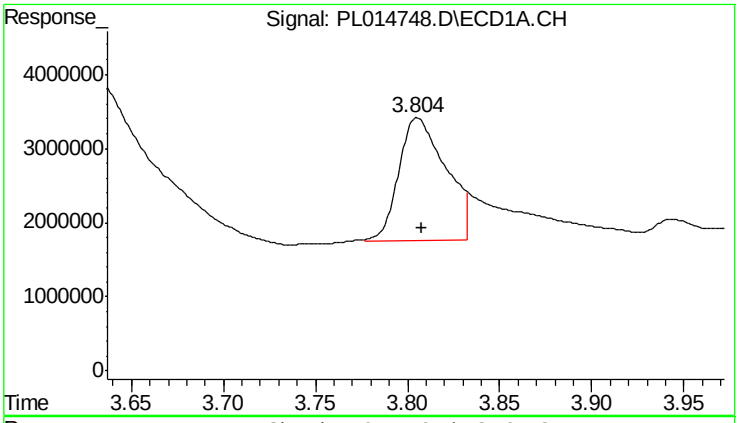
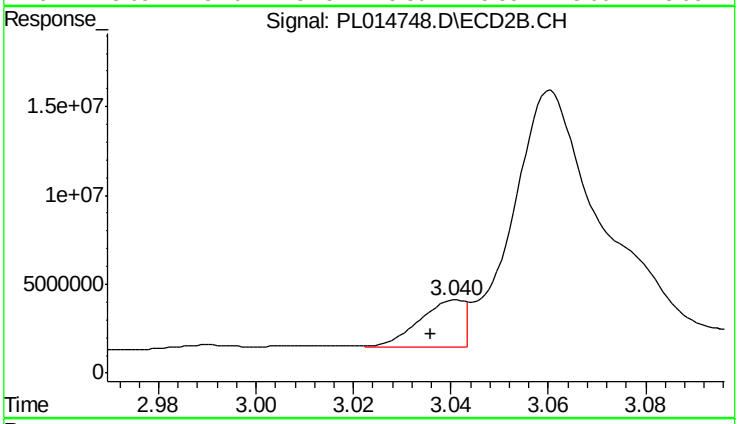


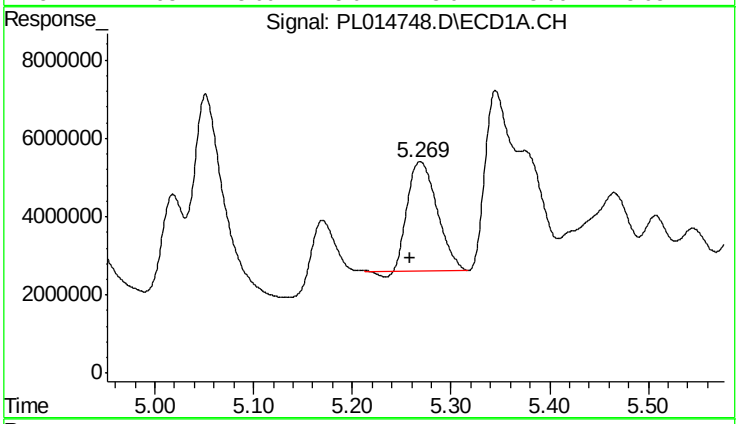
#1 Tetrachloro-m-xylene

R.T.: 3.804 min
Delta R.T.: -0.003 min
Response: 29580686
Conc: 12.39 ng/ml



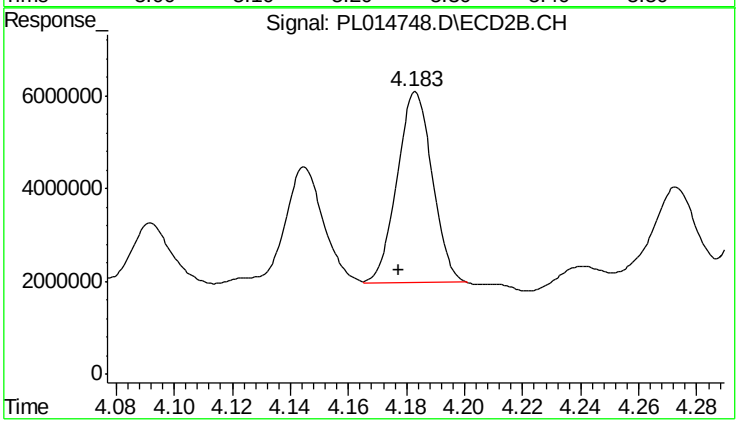
#1 Tetrachloro-m-xylene

R.T.: 3.040 min
Delta R.T.: 0.005 min
Response: 16771459
Conc: 16.65 ng/ml m



#5 Aldrin

R.T.: 5.269 min
Delta R.T.: 0.010 min
Response: 58021673
Conc: 23.18 ng/ml



#5 Aldrin

R.T.: 4.183 min
Delta R.T.: 0.006 min
Response: 34602793
Conc: 25.94 ng/ml

Instrument :
ECD_L
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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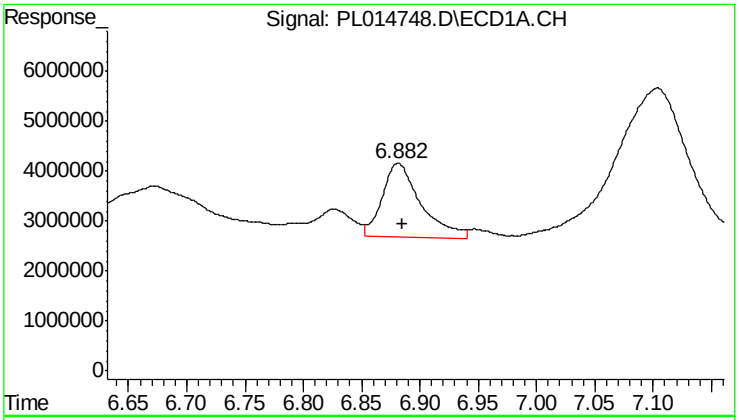
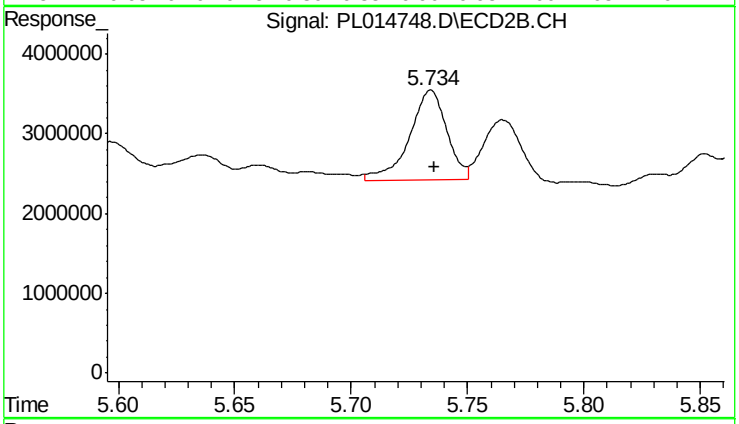


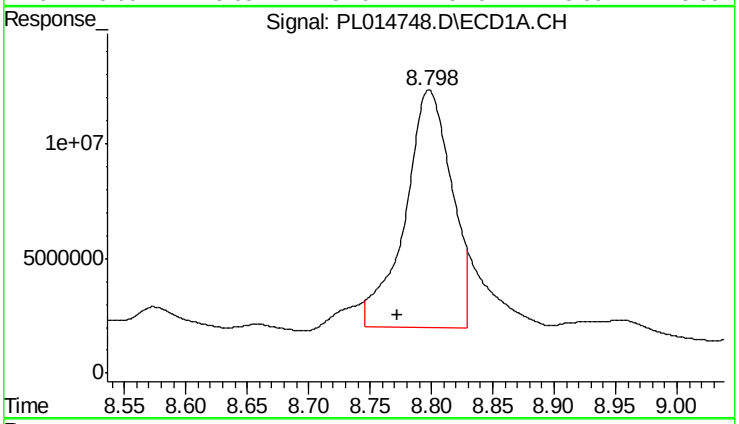
#17 4,4'-DDT

R.T.: 6.881 min
Delta R.T.: -0.004 min
Response: 33823797
Conc: 13.82 ng/ml



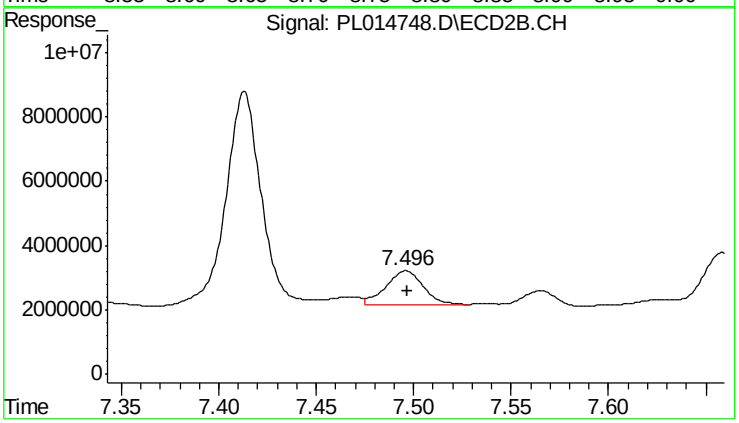
#17 4,4'-DDT

R.T.: 5.734 min
Delta R.T.: -0.002 min
Response: 12696566
Conc: 10.14 ng/ml m



#23 Decachlorobiphenyl

R.T.: 8.798 min
Delta R.T.: 0.026 min
Response: 270959512
Conc: 70.05 ng/ml m



#23 Decachlorobiphenyl

R.T.: 7.496 min
Delta R.T.: -0.001 min
Response: 13827827
Conc: 12.58 ng/ml

Instrument :
ECD_L
ClientSampleId :
PB86143BL

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014754.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 19:05
Operator : IZ/UA
Sample : PB86143BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 00:59:10 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
1) SA Tetrachlo...	3.804	3.034	45083018	20986726	18.876	20.841
23) SA Decachlor...	8.767	7.495	63780677	18923268	16.489	17.210
Target Compounds						

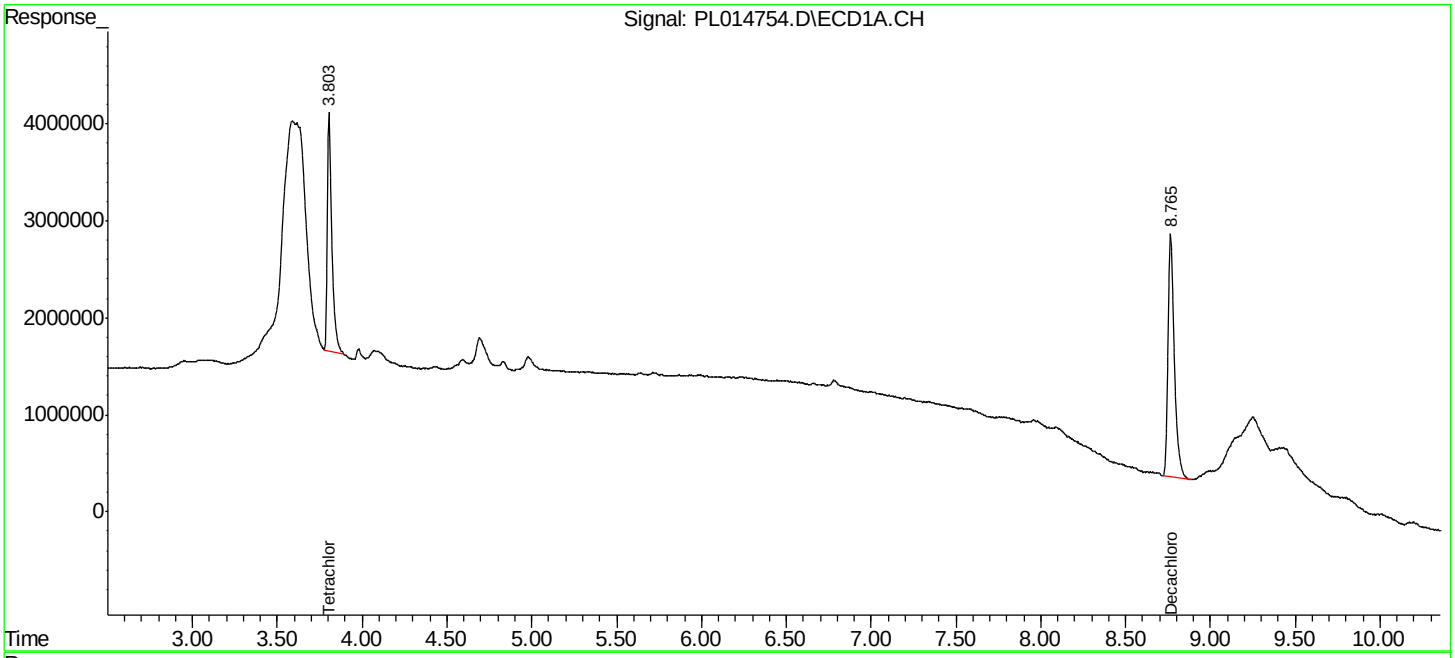
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

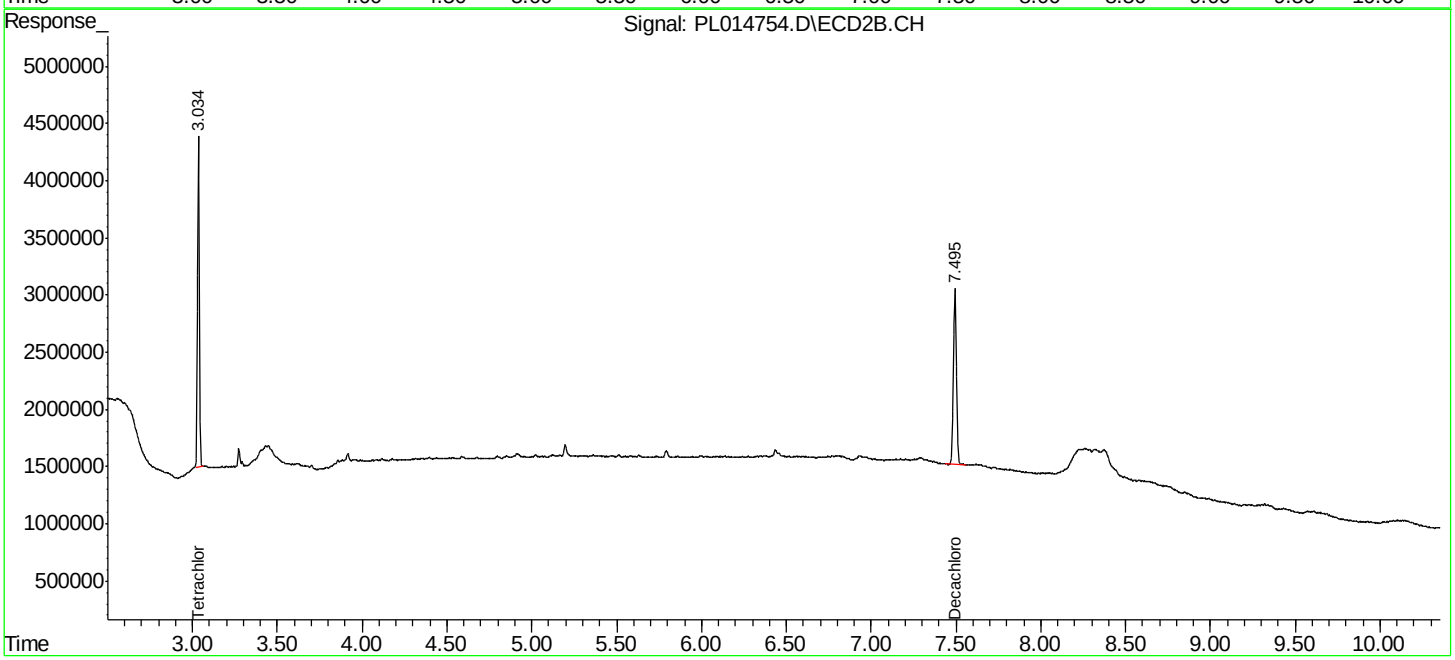
Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014754.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 19:05
Operator : IZ/UA
Sample : PB86143BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument :
ECD_L
ClientSampleId :
PB86143BL

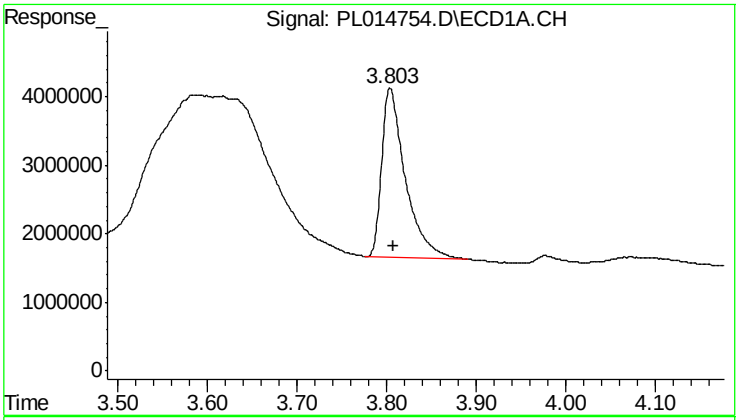
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 00:59:10 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm



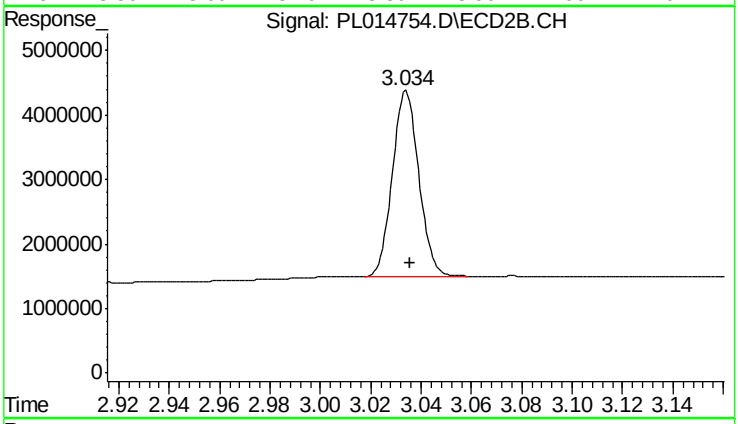


Instrument :
ECD_L
ClientSampleId :
PB86143BL



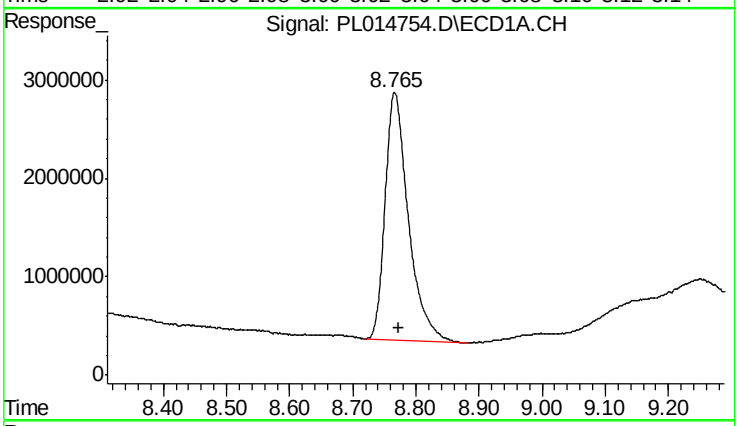
#1 Tetrachloro-m-xylene

R.T.: 3.804 min
Delta R.T.: -0.004 min
Response: 45083018
Conc: 18.88 ng/ml



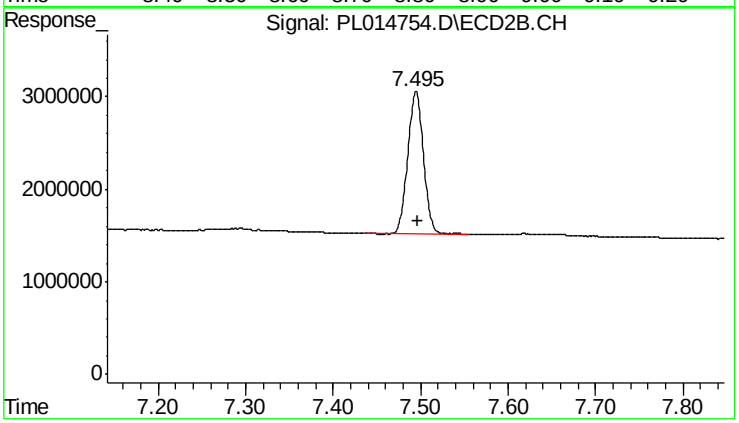
#1 Tetrachloro-m-xylene

R.T.: 3.034 min
Delta R.T.: -0.002 min
Response: 20986726
Conc: 20.84 ng/ml



#23 Decachlorobiphenyl

R.T.: 8.767 min
Delta R.T.: -0.006 min
Response: 63780677
Conc: 16.49 ng/ml



#23 Decachlorobiphenyl

R.T.: 7.495 min
Delta R.T.: -0.002 min
Response: 18923268
Conc: 17.21 ng/ml

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014753.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 18:51
Operator : IZ/UA
Sample : PB86143BS
Misc :
ALS Vial : 23 Sample Multiplier: 1

Instrument :
ECD_L
ClientSampleId :
PB86143BS

Manual Integrations APPROVED
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Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 00:55:22 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
		System Monitoring Compounds						
1)	SA	Tetrachlo...	3.804	3.035	44882754	20290829	18.792	20.150
23)	SA	Decachlor...	8.768	7.495	70772837	18326477	18.296	16.668
		Target Compounds						
2)	A	alpha-BHC	4.182	3.446	144.1E6	75056885	51.830m	50.458m
3)	MA	gamma-BHC...	4.460	3.703	141.4E6	71563660	53.027	50.634
4)	MA	Heptachlor	4.958	3.958	173.1E6	77574490	48.577	50.634m
5)	MB	Aldrin	5.255	4.176	130.8E6	66232353	52.251	49.654
6)	B	beta-BHC	4.631	3.949	70159423	30815616	52.500m	59.920m
7)	B	delta-BHC	4.839	4.119	118.1E6	66236058	47.960	46.397
8)	B	Heptachlo...	5.636	4.589	134.3E6	62771401	49.213	47.617
9)	A	Endosulfan I	5.984	4.896	145.7E6	59338546	47.250	44.304
10)	B	gamma-Chl...	5.868	4.797	129.9E6	63715725	48.888	47.291
11)	B	alpha-Chl...	5.939	4.851	125.3E6	62134710	48.906	46.492
12)	B	4,4'-DDE	6.102	5.024	107.1E6	64553786	43.701	45.412
13)	MA	Dieldrin	6.239	5.123	120.1E6	63925272	46.467	45.673
14)	MA	Endrin	6.452	5.362	108.1E6	59890169	45.127	44.240
15)	B	Endosulfa...	6.660	5.628	122.0E6	55619010	45.774	43.861
16)	A	4,4'-DDD	6.586	5.512	84650424	52622398	45.507	44.505
17)	MA	4,4'-DDT	6.881	5.734	103.2E6	54889664	42.145	43.856
18)	B	Endrin al...	6.784	5.794	108.6E6	47831164	44.647	44.974
19)	B	Endosulfa...	7.005	5.996	106.8E6	49988886	40.854m	43.664
20)	A	Methoxychlor	7.344	6.277	63014010	30522066	42.490	42.402
21)	B	Endrin ke...	7.466	6.458	127.5E6	62901840	47.985m	43.387

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PL014753.D**

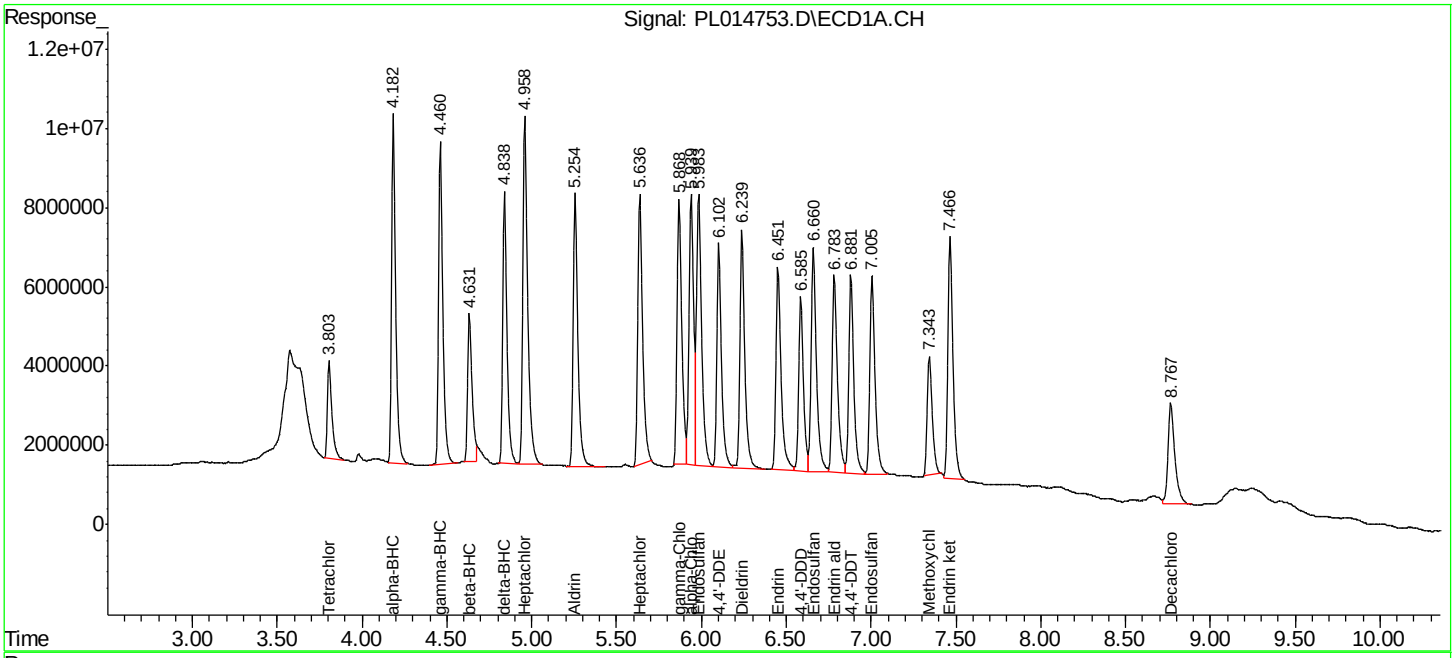
Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014753.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 18:51
Operator : IZ/UA
Sample : PB86143BS
Misc :
ALS Vial : 23 Sample Multiplier: 1

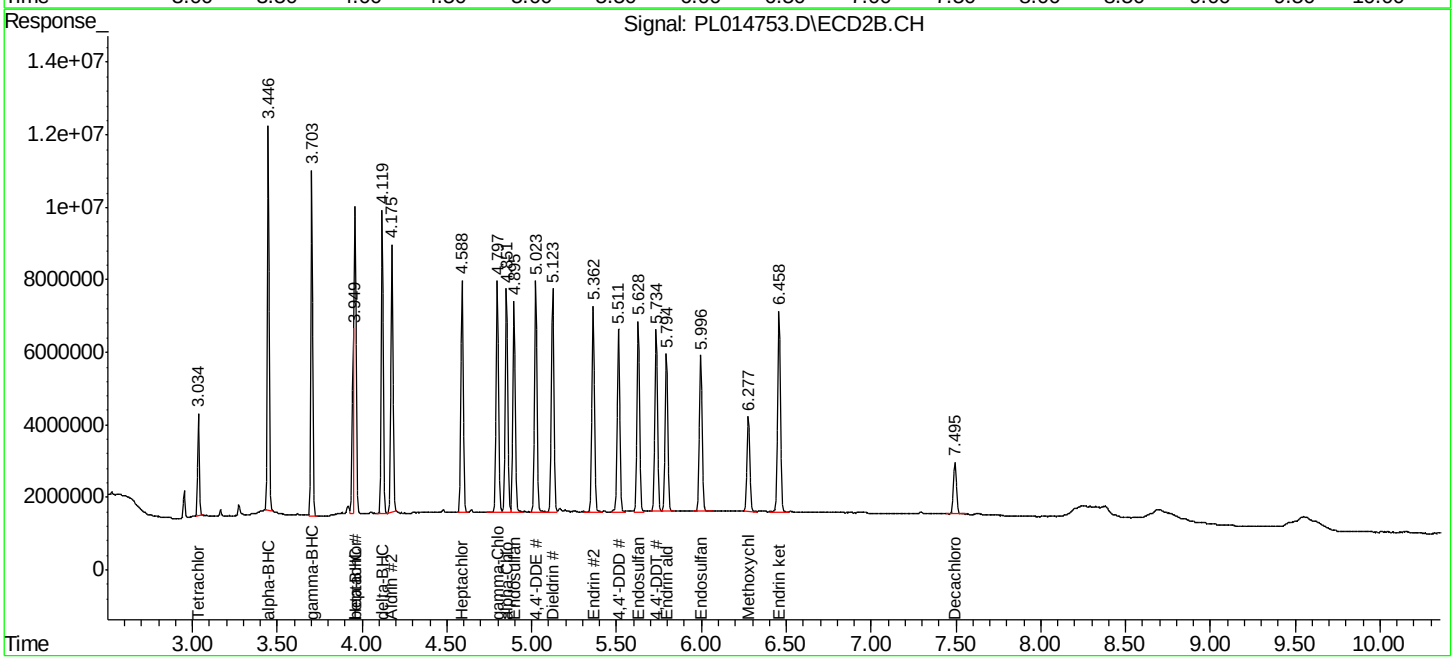
Instrument :
ECD_L
ClientSampleId :
PB86143BS

Manual Integrations APPROVED
ugo
10/19/2015 2:41:05 PM

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 00:55:22 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm





Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014736.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 14:33
Operator : IZ/UA
Sample : G4034-01MS
Misc :
ALS Vial : 6 Sample Multiplier: 1

Instrument :
ECD_L
ClientSampleId :
CWC-1-20151014MS

Manual Integrations APPROVED
ugo
10/19/2015 2:40:15 PM

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 11:18:38 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
		System Monitoring Compounds						
1)	SA	Tetrachlo...	3.805	3.034	49674782	22564590	20.799	22.408
23)	SA	Decachlor...	8.770	7.495	66258987	20126227	17.129	18.305
		Target Compounds						
2)	A	alpha-BHC	4.184	3.446	164.2E6	78122605	59.041	52.519
3)	MA	gamma-BHC...	4.461	3.703	179.2E6	77515338	67.230	54.845
4)	MA	Heptachlor	4.960	3.957	184.5E6	82515659	51.779	53.860m
5)	MB	Aldrin	5.256	4.175	145.9E6	67199908	58.299	50.379
6)	B	beta-BHC	4.633	3.948	63326507	27353466	47.387m	53.188m
7)	B	delta-BHC	4.840	4.118	115.5E6	69077913	46.894	48.388
8)	B	Heptachlo...	5.638	4.589	137.8E6	64406165	50.478	48.857
9)	A	Endosulfan I	5.985	4.896	138.4E6	49037536	44.877m	36.613
10)	B	gamma-Chl...	5.869	4.797	155.2E6	70595824	58.419m	52.397
11)	B	alpha-Chl...	5.941	4.850	127.9E6	66923160	49.944	50.075
12)	B	4,4'-DDE	6.104	5.023	108.1E6	71652933	44.132	50.406
13)	MA	Dieldrin	6.240	5.122	136.3E6	77145618	52.752	55.119m
14)	MA	Endrin	6.453	5.362	115.4E6	68968048	48.189	50.946
15)	B	Endosulfa...	6.662	5.628	114.3E6	60401938	42.892	47.632
16)	A	4,4'-DDD	6.587	5.511	107.2E6	62130320	57.630	52.546m
17)	MA	4,4'-DDT	6.882	5.734	143.9E6	73307965	58.801m	58.572
18)	B	Endrin al...	6.785	5.794	91509868	48378407	37.617	45.489
19)	B	Endosulfa...	7.007	5.996	103.6E6	48928461	39.620m	42.738m
20)	A	Methoxychlor	7.344	6.278	53470628	42056419	36.055m	58.426 #
21)	B	Endrin ke...	7.467	6.458	114.1E6	60316178	42.918m	41.604

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PL014736.D**

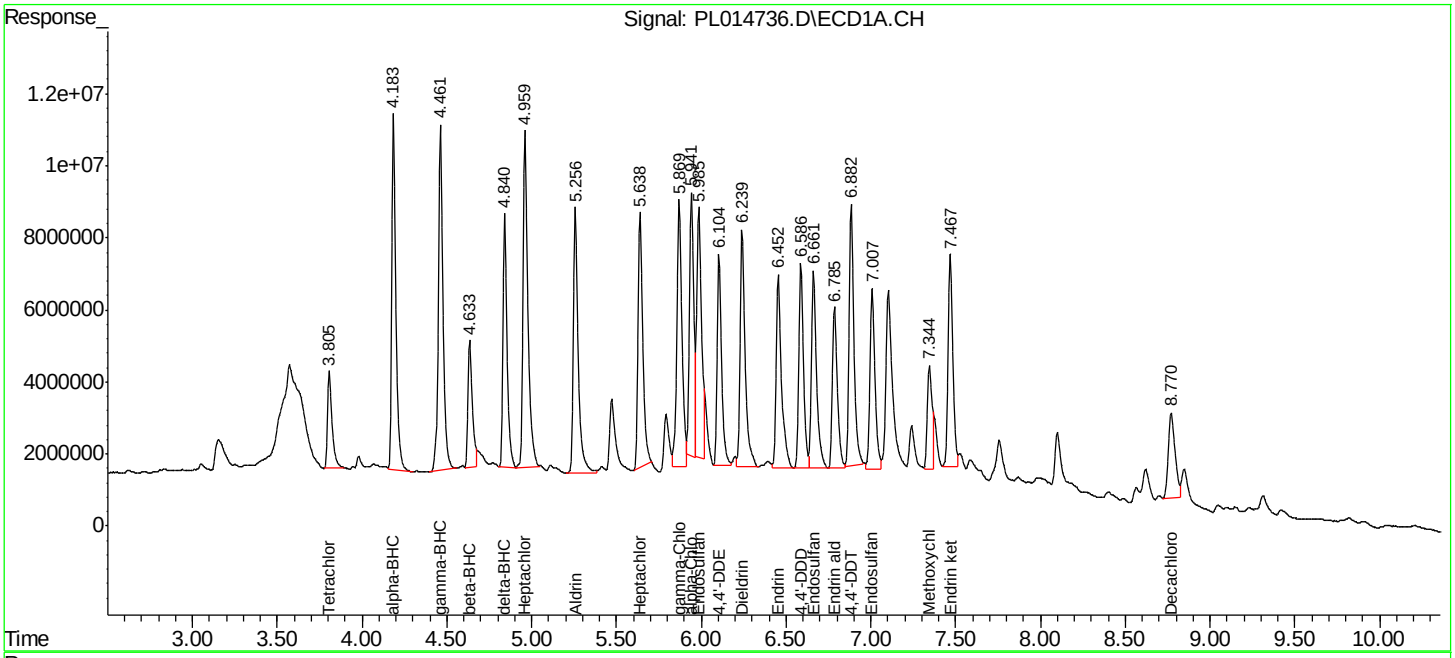
Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014736.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 14:33
Operator : IZ/UA
Sample : G4034-01MS
Misc :
ALS Vial : 6 Sample Multiplier: 1

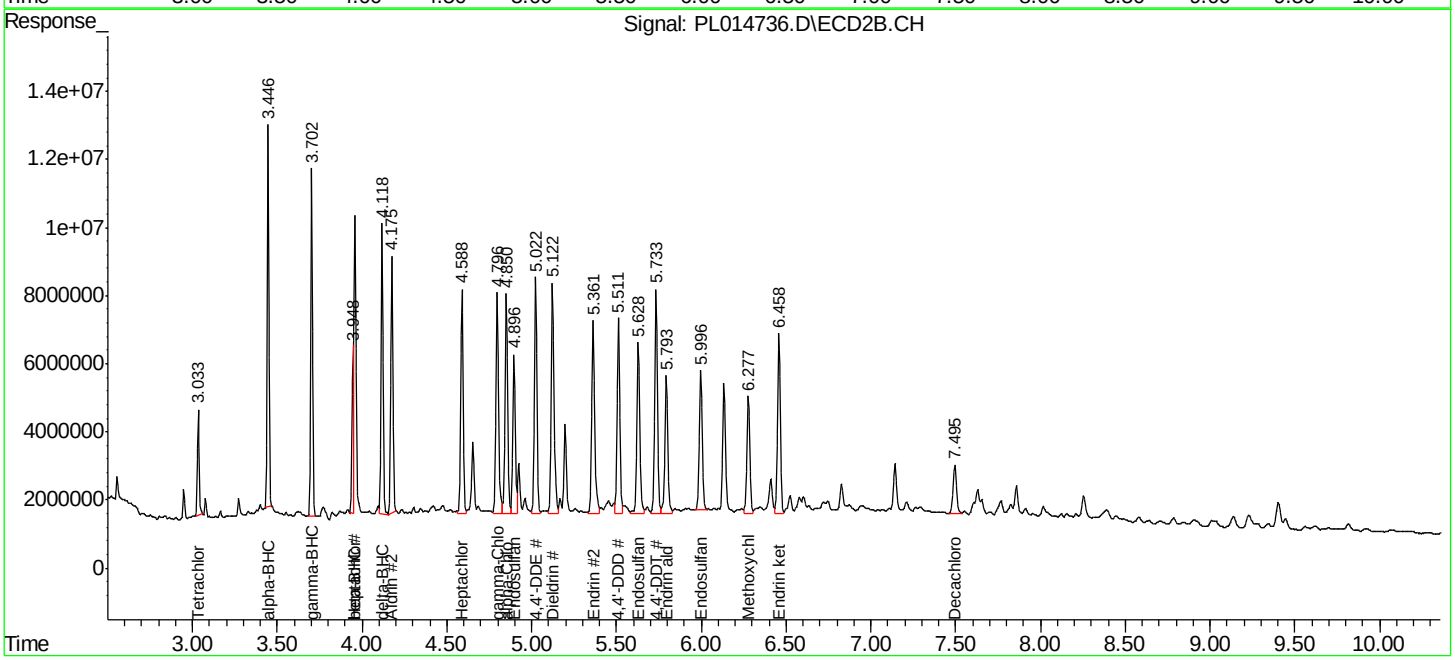
Instrument :
ECD_L
ClientSampleId :
CWC-1-20151014MS

Manual Integrations APPROVED
ugo
10/19/2015 2:40:15 PM

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 19 11:18:38 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm





Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014737.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 14:48
Operator : IZ/UA
Sample : G4034-01MSD
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
ECD_L
ClientSampleId :
CWC-1-20151014MSD

Manual Integrations APPROVED
ugo
10/19/2015 2:40:01 PM

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 00:10:46 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
		System Monitoring Compounds						
1)	SA	Tetrachlo...	3.805	3.034	49855141	22741842	20.874	22.584
23)	SA	Decachlor...	8.769	7.496	72290296	19898482	18.688	18.097
		Target Compounds						
2)	A	alpha-BHC	4.184	3.447	163.5E6	79431566	58.775	53.399
3)	MA	gamma-BHC...	4.460	3.703	180.5E6	78695227	67.697m	55.680
4)	MA	Heptachlor	4.960	3.958	186.2E6	84267257	52.247	55.003m
5)	MB	Aldrin	5.257	4.176	140.8E6	67941614	56.258	50.935
6)	B	beta-BHC	4.633	3.949	64575125	29105782	48.322m	56.595m
7)	B	delta-BHC	4.840	4.119	114.2E6	69736449	46.355	48.849
8)	B	Heptachlo...	5.637	4.589	145.6E6	64567177	53.342m	48.979m
9)	A	Endosulfan I	5.986	4.897	163.3E6	49657984	52.947	37.076 #
10)	B	gamma-Chl...	5.869	4.797	130.0E6	71175264	48.915	52.827
11)	B	alpha-Chl...	5.941	4.851	127.8E6	67642191	49.891	50.613
12)	B	4,4'-DDE	6.104	5.024	107.9E6	72514297	44.018	51.012
13)	MA	Dieldrin	6.240	5.123	141.2E6	78080891	54.640	55.787
14)	MA	Endrin	6.453	5.363	116.2E6	70396703	48.519	52.001
15)	B	Endosulfa...	6.661	5.629	116.2E6	60689500	43.611	47.859
16)	A	4,4'-DDD	6.587	5.512	107.4E6	67113186	57.749	56.760
17)	MA	4,4'-DDT	6.882	5.734	147.2E6	73685964	60.137m	58.874
18)	B	Endrin al...	6.785	5.794	92791895	48423948	38.144	45.532
19)	B	Endosulfa...	7.006	5.997	111.4E6	54155835	42.610	47.304
20)	A	Methoxychlor	7.344	6.278	48200564	42255962	32.501m	58.703 #
21)	B	Endrin ke...	7.467	6.458	118.2E6	61287876	44.482m	42.274

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PL014737.D**

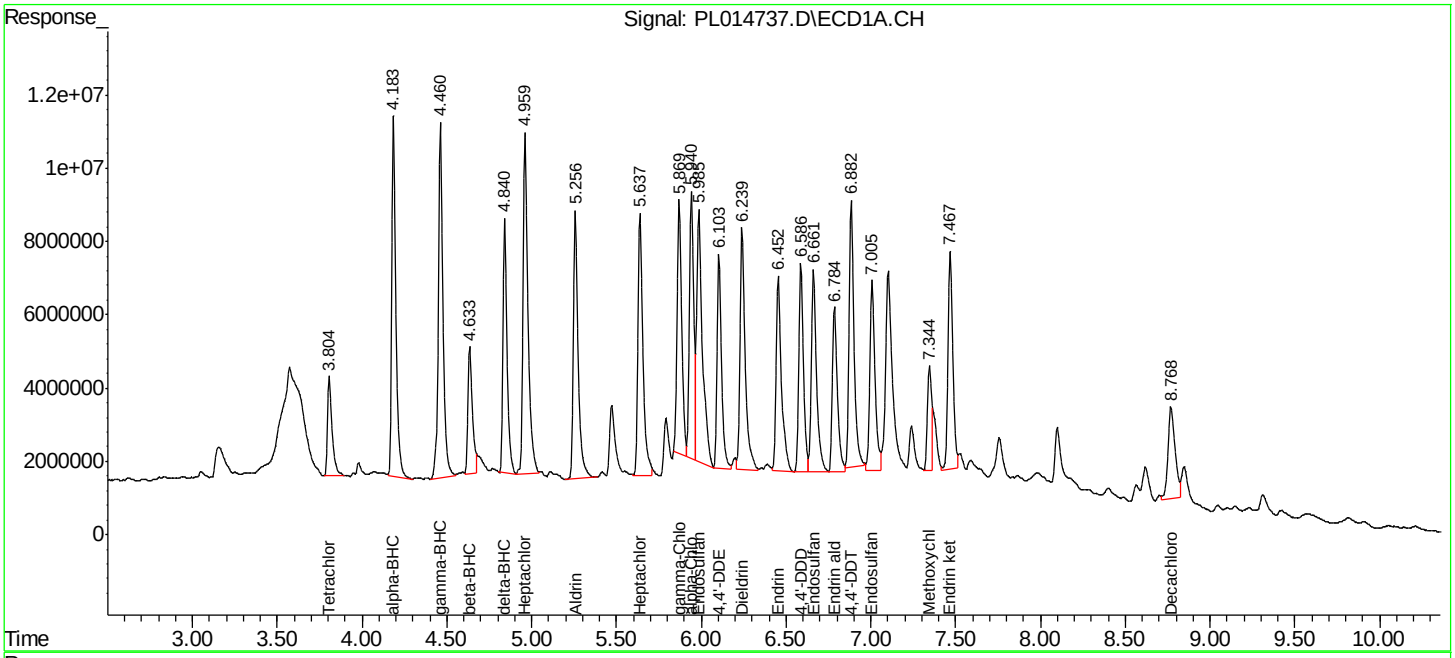
Data Path : P:\HPCHEM1\ECD_L\Data\PL101615\
Data File : PL014737.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 14:48
Operator : IZ/UA
Sample : G4034-01MSD
Misc :
ALS Vial : 7 Sample Multiplier: 1

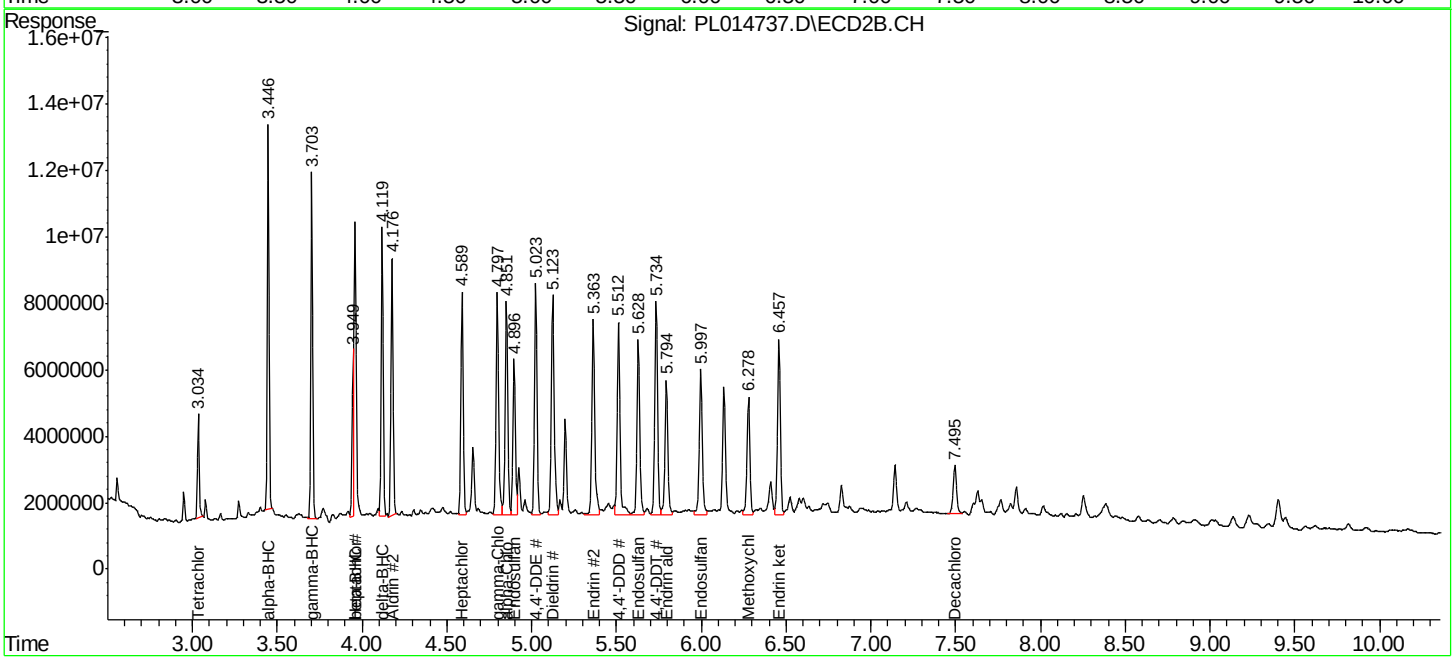
Instrument :
ECD_L
ClientSampleId :
CWC-1-20151014MSD

Manual Integrations APPROVED
ugo
10/19/2015 2:40:01 PM

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 00:10:46 2015
Quant Method : P:\HPCHEM1\ECD_L\methods\PL100115.M
Quant Title : GC Extractables
QLast Update : Fri Oct 02 05:47:58 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30M x 0.32mm x0.5 Signal #2 Info : 30M x 0.32mm x0.25µm





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Manual Integration Report

Sequence:	PL100115	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PSTDCCC050	PL014555.D	4,4"-DDD #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	4,4"-DDE #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	4,4"-DDT #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	Aldrin	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	alpha-BHC	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	beta-BHC	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	beta-BHC #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	Dieldrin #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	Endosulfan I #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	Endosulfan II #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	Endosulfan Sulfate #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	Endrin #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PL100115	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PSTDCCC050	PL014555.D	Endrin aldehyde #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	gamma-BHC (Lindane)	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
PSTDCCC050	PL014555.D	Heptachlor #2	Nevilkumar	10/2/2015 10:58:41 AM	ugo	10/2/2015 12:45:28	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	4,4"-DDD	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	4,4"-DDE #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	Aldrin	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	alpha-BHC	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	alpha-Chlordane	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	beta-BHC	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	beta-BHC #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	delta-BHC #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PL100115	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3857-09MSD	PL014553.D	Dieldrin	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	Dieldrin #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	Endrin #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	gamma-BHC (Lindane)	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	Heptachlor #2	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MSD	PL014553.D	Heptachlor epoxide	Nevilkumar	10/2/2015 10:58:34 AM	ugo	10/2/2015 12:45:39	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	4,4"-DDD	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	4,4"-DDD #2	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	4,4"-DDT #2	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	Aldrin	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	alpha-BHC	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PL100115	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3857-09MS	PL014552.D	alpha-Chlordane	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	beta-BHC	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	beta-BHC #2	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	Dieldrin	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	Endosulfan II	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	Endrin #2	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	Endrin aldehyde #2	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	gamma-BHC (Lindane)	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	Heptachlor #2	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3857-09MS	PL014552.D	Heptachlor epoxide	Nevilkumar	10/2/2015 10:58:22 AM	ugo	10/2/2015 12:45:25	Peak Integrated by Software incorrectly
G3885-01	PL014550.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:58:13 AM	ugo	10/2/2015 12:45:15	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3885-01	PL014550.D	Tetrachloro-m-xylene	Nevilkumar	10/2/2015 10:58:13 AM	ugo	10/2/2015 12:45:15	Peak Integrated by Software incorrectly
G3885-01	PL014550.D	Tetrachloro-m-xylene #2	Nevilkumar	10/2/2015 10:58:13 AM	ugo	10/2/2015 12:45:15	Peak Integrated by Software incorrectly
G3875-12	PL014549.D	alpha-Chlordane	Nevilkumar	10/2/2015 10:58:06 AM	ugo	10/2/2015 12:45:20	Peak Integrated by Software incorrectly
G3875-12	PL014549.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:58:06 AM	ugo	10/2/2015 12:45:20	Peak Integrated by Software incorrectly
G3875-12	PL014549.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:58:06 AM	ugo	10/2/2015 12:45:20	Peak Integrated by Software incorrectly
G3875-12	PL014549.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:58:06 AM	ugo	10/2/2015 12:45:20	Peak Integrated by Software incorrectly
G3875-11	PL014548.D	alpha-Chlordane	Nevilkumar	10/2/2015 10:57:58 AM	ugo	10/2/2015 12:45:10	Peak Integrated by Software incorrectly
G3875-11	PL014548.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:57:58 AM	ugo	10/2/2015 12:45:10	Peak Integrated by Software incorrectly
G3875-11	PL014548.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:57:58 AM	ugo	10/2/2015 12:45:10	Peak Integrated by Software incorrectly
G3875-11	PL014548.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:57:58 AM	ugo	10/2/2015 12:45:10	Peak Integrated by Software incorrectly
G3875-10	PL014547.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:57:50 AM	ugo	10/2/2015 12:45:05	Peak Integrated by Software incorrectly
G3875-10	PL014547.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:57:50 AM	ugo	10/2/2015 12:45:05	Peak Integrated by Software incorrectly
G3875-10	PL014547.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:57:50 AM	ugo	10/2/2015 12:45:05	Peak Integrated by Software incorrectly

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Sequence:	PL100115	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3875-09	PL014546.D	alpha-Chlordane	Nevilkumar	10/2/2015 10:57:34 AM	ugo	10/2/2015 12:45:00	Peak Integrated by Software incorrectly
G3875-09	PL014546.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:57:34 AM	ugo	10/2/2015 12:45:00	Peak Integrated by Software incorrectly
G3875-09	PL014546.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:57:34 AM	ugo	10/2/2015 12:45:00	Peak Integrated by Software incorrectly
G3875-09	PL014546.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:57:34 AM	ugo	10/2/2015 12:45:00	Peak Integrated by Software incorrectly
G3857-12	PL014545.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:57:27 AM	ugo	10/2/2015 12:44:51	Peak Integrated by Software incorrectly
G3857-12	PL014545.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:57:27 AM	ugo	10/2/2015 12:44:51	Peak Integrated by Software incorrectly
G3857-12	PL014545.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:57:27 AM	ugo	10/2/2015 12:44:51	Peak Integrated by Software incorrectly
G3857-12	PL014545.D	Heptachlor epoxide #2	Nevilkumar	10/2/2015 10:57:27 AM	ugo	10/2/2015 12:44:51	Peak Integrated by Software incorrectly
G3857-11	PL014544.D	alpha-Chlordane #2	Nevilkumar	10/2/2015 10:57:22 AM	ugo	10/2/2015 12:44:46	Peak Integrated by Software incorrectly
G3857-11	PL014544.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:57:22 AM	ugo	10/2/2015 12:44:46	Peak Integrated by Software incorrectly
G3857-11	PL014544.D	gamma-Chlordane #2	Nevilkumar	10/2/2015 10:57:22 AM	ugo	10/2/2015 12:44:46	Peak Integrated by Software incorrectly
G3857-10	PL014543.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:57:16 AM	ugo	10/2/2015 12:44:40	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	4,4"-DDD	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly

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Sequence:	PL100115	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB85877BS	PL014540.D	4,4"-DDE	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	4,4"-DDE #2	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	4,4"-DDT	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Aldrin	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	alpha-BHC	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	beta-BHC	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	beta-BHC #2	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Dieldrin	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Dieldrin #2	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Endosulfan II #2	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Endrin	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Endrin #2	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	gamma-BHC (Lindane)	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly

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Sequence:	PL100115	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB85877BS	PL014540.D	gamma-Chlordane	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Heptachlor #2	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PB85877BS	PL014540.D	Heptachlor epoxide	Nevilkumar	10/2/2015 10:57:06 AM	ugo	10/2/2015 12:44:32	Peak Integrated by Software incorrectly
PSTDCCC050	PL014538.D	beta-BHC	Nevilkumar	10/2/2015 10:56:55 AM	ugo	10/2/2015 12:44:26	Peak Integrated by Software incorrectly
PSTDCCC050	PL014538.D	beta-BHC #2	Nevilkumar	10/2/2015 10:56:55 AM	ugo	10/2/2015 12:44:26	Peak Integrated by Software incorrectly
PSTDCCC050	PL014538.D	Heptachlor #2	Nevilkumar	10/2/2015 10:56:55 AM	ugo	10/2/2015 12:44:26	Peak Integrated by Software incorrectly
PCHLORICV500	PL014536.D	Chlordane-2	Nevilkumar	10/2/2015 10:56:46 AM	ugo	10/2/2015 12:44:21	Peak Integrated by Software incorrectly
PCHLORICV500	PL014536.D	Chlordane-2 #2	Nevilkumar	10/2/2015 10:56:46 AM	ugo	10/2/2015 12:44:21	Peak Integrated by Software incorrectly
PCHLORICV500	PL014536.D	Decachlorobiphenyl	Nevilkumar	10/2/2015 10:56:46 AM	ugo	10/2/2015 12:44:21	Peak Integrated by Software incorrectly
PCHLORICV500	PL014536.D	Tetrachloro-m-xylene	Nevilkumar	10/2/2015 10:56:46 AM	ugo	10/2/2015 12:44:21	Peak Integrated by Software incorrectly
PCHLORICV500	PL014536.D	Tetrachloro-m-xylene #2	Nevilkumar	10/2/2015 10:56:46 AM	ugo	10/2/2015 12:44:21	Peak Integrated by Software incorrectly
PTOXICV500	PL014535.D	Tetrachloro-m-xylene	Nevilkumar	10/2/2015 10:56:43 AM	ugo	10/2/2015 12:44:16	Peak Integrated by Software incorrectly
PTOXICV500	PL014535.D	Tetrachloro-m-xylene #2	Nevilkumar	10/2/2015 10:56:43 AM	ugo	10/2/2015 12:44:16	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PTOXICV500	PL014535.D	Toxaphene-1	Nevilkumar	10/2/2015 10:56:43 AM	ugo	10/2/2015 12:44:16	Peak Integrated by Software incorrectly
PTOXICV500	PL014535.D	Toxaphene-2	Nevilkumar	10/2/2015 10:56:43 AM	ugo	10/2/2015 12:44:16	Peak Integrated by Software incorrectly
PTOXICV500	PL014535.D	Toxaphene-3	Nevilkumar	10/2/2015 10:56:43 AM	ugo	10/2/2015 12:44:16	Peak Integrated by Software incorrectly
PTOXICV500	PL014535.D	Toxaphene-3 #2	Nevilkumar	10/2/2015 10:56:43 AM	ugo	10/2/2015 12:44:16	Peak Integrated by Software incorrectly
PCHLORICC500	PL014534.D	Chlordane-2	Nevilkumar	10/2/2015 10:56:39 AM	ugo	10/2/2015 12:44:11	Peak Integrated by Software incorrectly
PCHLORICC500	PL014534.D	Chlordane-2 #2	Nevilkumar	10/2/2015 10:56:39 AM	ugo	10/2/2015 12:44:11	Peak Integrated by Software incorrectly
PCHLORICC500	PL014534.D	Tetrachloro-m-xylene	Nevilkumar	10/2/2015 10:56:39 AM	ugo	10/2/2015 12:44:11	Peak Integrated by Software incorrectly
PCHLORICC500	PL014534.D	Tetrachloro-m-xylene #2	Nevilkumar	10/2/2015 10:56:39 AM	ugo	10/2/2015 12:44:11	Peak Integrated by Software incorrectly
PTOXICC500	PL014533.D	Tetrachloro-m-xylene	Nevilkumar	10/2/2015 10:56:35 AM	ugo	10/2/2015 12:44:05	Peak Integrated by Software incorrectly
PTOXICC500	PL014533.D	Tetrachloro-m-xylene #2	Nevilkumar	10/2/2015 10:56:35 AM	ugo	10/2/2015 12:44:05	Peak Integrated by Software incorrectly
PTOXICC500	PL014533.D	Toxaphene-1	Nevilkumar	10/2/2015 10:56:35 AM	ugo	10/2/2015 12:44:05	Peak Integrated by Software incorrectly
PTOXICC500	PL014533.D	Toxaphene-2	Nevilkumar	10/2/2015 10:56:35 AM	ugo	10/2/2015 12:44:05	Peak Integrated by Software incorrectly
PTOXICC500	PL014533.D	Toxaphene-3	Nevilkumar	10/2/2015 10:56:35 AM	ugo	10/2/2015 12:44:05	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PTOXICC500	PL014533.D	Toxaphene-3 #2	Nevilkumar	10/2/2015 10:56:35 AM	ugo	10/2/2015 12:44:05	Peak Integrated by Software incorrectly
PSTDICV050	PL014532.D	beta-BHC	Nevilkumar	10/2/2015 10:56:31 AM	ugo	10/2/2015 12:43:59	Peak Integrated by Software incorrectly
PSTDICV050	PL014532.D	beta-BHC #2	Nevilkumar	10/2/2015 10:56:31 AM	ugo	10/2/2015 12:43:59	Peak Integrated by Software incorrectly
PSTDICV050	PL014532.D	Heptachlor #2	Nevilkumar	10/2/2015 10:56:31 AM	ugo	10/2/2015 12:43:59	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	4,4"-DDD	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	4,4"-DDD #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	4,4"-DDE #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	4,4"-DDT #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Aldrin	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	alpha-BHC	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	beta-BHC	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	beta-BHC #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	delta-BHC	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PSTDICC005	PL014531.D	Dieldrin #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Endosulfan I #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Endosulfan II #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Endosulfan Sulfate #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Endrin #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Endrin aldehyde #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	gamma-BHC (Lindane)	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Heptachlor #2	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC005	PL014531.D	Heptachlor epoxide	Nevilkumar	10/2/2015 10:56:17 AM	ugo	10/2/2015 12:43:54	Peak Integrated by Software incorrectly
PSTDICC025	PL014530.D	alpha-BHC	Nevilkumar	10/2/2015 10:56:12 AM	ugo	10/2/2015 12:43:47	Peak Integrated by Software incorrectly
PSTDICC025	PL014530.D	beta-BHC	Nevilkumar	10/2/2015 10:56:12 AM	ugo	10/2/2015 12:43:47	Peak Integrated by Software incorrectly
PSTDICC025	PL014530.D	beta-BHC #2	Nevilkumar	10/2/2015 10:56:12 AM	ugo	10/2/2015 12:43:47	Peak Integrated by Software incorrectly
PSTDICC025	PL014530.D	delta-BHC	Nevilkumar	10/2/2015 10:56:12 AM	ugo	10/2/2015 12:43:47	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PSTDICC025	PL014530.D	gamma-BHC (Lindane)	Nevilkumar	10/2/2015 10:56:12 AM	ugo	10/2/2015 12:43:47	Peak Integrated by Software incorrectly
PSTDICC025	PL014530.D	Heptachlor #2	Nevilkumar	10/2/2015 10:56:12 AM	ugo	10/2/2015 12:43:47	Peak Integrated by Software incorrectly
PSTDICC050	PL014529.D	beta-BHC	Nevilkumar	10/2/2015 10:56:07 AM	ugo	10/2/2015 12:43:27	Peak Integrated by Software incorrectly
PSTDICC050	PL014529.D	beta-BHC #2	Nevilkumar	10/2/2015 10:56:07 AM	ugo	10/2/2015 12:43:27	Peak Integrated by Software incorrectly
PSTDICC050	PL014529.D	Heptachlor #2	Nevilkumar	10/2/2015 10:56:07 AM	ugo	10/2/2015 12:43:27	Peak Integrated by Software incorrectly
PSTDICC075	PL014528.D	beta-BHC	Nevilkumar	10/2/2015 10:56:03 AM	ugo	10/2/2015 12:43:23	Peak Integrated by Software incorrectly
PSTDICC075	PL014528.D	beta-BHC #2	Nevilkumar	10/2/2015 10:56:03 AM	ugo	10/2/2015 12:43:23	Peak Integrated by Software incorrectly
PSTDICC075	PL014528.D	Heptachlor #2	Nevilkumar	10/2/2015 10:56:03 AM	ugo	10/2/2015 12:43:23	Peak Integrated by Software incorrectly
PSTDICC100	PL014527.D	Aldrin	Nevilkumar	10/2/2015 10:55:58 AM	ugo	10/2/2015 12:43:19	Peak Integrated by Software incorrectly
PSTDICC100	PL014527.D	beta-BHC	Nevilkumar	10/2/2015 10:55:58 AM	ugo	10/2/2015 12:43:19	Peak Integrated by Software incorrectly
PSTDICC100	PL014527.D	beta-BHC #2	Nevilkumar	10/2/2015 10:55:58 AM	ugo	10/2/2015 12:43:19	Peak Integrated by Software incorrectly
PSTDICC100	PL014527.D	Heptachlor #2	Nevilkumar	10/2/2015 10:55:58 AM	ugo	10/2/2015 12:43:19	Peak Integrated by Software incorrectly
PEM	PL014525.D	4,4"-DDD	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PEM	PL014525.D	4,4"-DDD #2	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly
PEM	PL014525.D	4,4"-DDE	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly
PEM	PL014525.D	4,4"-DDE #2	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly
PEM	PL014525.D	beta-BHC	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly
PEM	PL014525.D	Endrin #2	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly
PEM	PL014525.D	Endrin aldehyde	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly
PEM	PL014525.D	Endrin ketone	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly
PEM	PL014525.D	Methoxychlor	Nevilkumar	10/2/2015 10:55:51 AM	ugo	10/2/2015 12:43:14	Peak Integrated by Software incorrectly

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Sequence:	PL101615	Instrument	ECD_I

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PEM	PL014733.D	4,4"-DDE	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	4,4"-DDE #2	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	4,4"-DDT	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	alpha-BHC	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	beta-BHC	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	Endrin aldehyde #2	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	Endrin ketone	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	Endrin ketone #2	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	gamma-BHC (Lindane)	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PEM	PL014733.D	Methoxychlor	Nevilkumar	10/19/2015 2:13:22 PM	ugo	10/19/2015 2:31:00	Peak Integrated by Software incorrectly
PSTDCCC050	PL014734.D	Aldrin	Nevilkumar	10/19/2015 2:13:27 PM	ugo	10/19/2015 2:39:52	Peak Integrated by Software incorrectly
PSTDCCC050	PL014734.D	alpha-BHC	Nevilkumar	10/19/2015 2:13:27 PM	ugo	10/19/2015 2:39:52	Peak Integrated by Software incorrectly
PSTDCCC050	PL014734.D	beta-BHC	Nevilkumar	10/19/2015 2:13:27 PM	ugo	10/19/2015 2:39:52	Peak Integrated by Software incorrectly

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PSTDCCC050	PL014734.D	beta-BHC #2	Nevilkumar	10/19/2015 2:13:27 PM	ugo	10/19/2015 2:39:52	Peak Integrated by Software incorrectly
PSTDCCC050	PL014734.D	Heptachlor #2	Nevilkumar	10/19/2015 2:13:27 PM	ugo	10/19/2015 2:39:52	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	4,4"-DDD	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	4,4"-DDD #2	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	4,4"-DDT	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	4,4"-DDT #2	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	alpha-Chlordane #2	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	gamma-BHC (Lindane)	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	gamma-Chlordane	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01	PL014735.D	gamma-Chlordane #2	Nevilkumar	10/19/2015 2:18:40 PM	ugo	10/19/2015 2:39:56	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	4,4"-DDD #2	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	4,4"-DDT	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	beta-BHC	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly

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G4034-01MS	PL014736.D	beta-BHC #2	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	Dieldrin #2	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	Endosulfan I	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	Endosulfan Sulfate	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	Endosulfan Sulfate #2	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	Endrin ketone	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	gamma-Chlordane	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	Heptachlor #2	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MS	PL014736.D	Methoxychlor	Nevilkumar	10/19/2015 2:19:03 PM	ugo	10/19/2015 2:40:15	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	4,4"-DDT	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	beta-BHC	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	beta-BHC #2	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	Endrin ketone	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4034-01MSD	PL014737.D	gamma-BHC (Lindane)	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	Heptachlor #2	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	Heptachlor epoxide	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	Heptachlor epoxide #2	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4034-01MSD	PL014737.D	Methoxychlor	Nevilkumar	10/19/2015 2:13:45 PM	ugo	10/19/2015 2:40:01	Peak Integrated by Software incorrectly
G4040-01	PL014738.D	4,4"-DDT	Nevilkumar	10/19/2015 2:14:02 PM	ugo	10/19/2015 2:41:56	Peak Integrated by Software incorrectly
G4040-02	PL014739.D	4,4"-DDD	Nevilkumar	10/19/2015 2:14:11 PM	ugo	10/19/2015 2:40:06	Peak Integrated by Software incorrectly
G4040-02	PL014739.D	4,4"-DDE	Nevilkumar	10/19/2015 2:14:11 PM	ugo	10/19/2015 2:40:06	Peak Integrated by Software incorrectly
G4040-02	PL014739.D	Decachlorobiphenyl	Nevilkumar	10/19/2015 2:14:11 PM	ugo	10/19/2015 2:40:06	Peak Integrated by Software incorrectly
G4040-02	PL014739.D	Decachlorobiphenyl #2	Nevilkumar	10/19/2015 2:14:11 PM	ugo	10/19/2015 2:40:06	Peak Integrated by Software incorrectly
G4040-02	PL014739.D	gamma-Chlordane	Nevilkumar	10/19/2015 2:14:11 PM	ugo	10/19/2015 2:40:06	Peak Integrated by Software incorrectly
G4040-04	PL014741.D	alpha-Chlordane	Nevilkumar	10/19/2015 2:14:19 PM	ugo	10/19/2015 2:40:20	Peak Integrated by Software incorrectly
G4040-04	PL014741.D	alpha-Chlordane #2	Nevilkumar	10/19/2015 2:14:19 PM	ugo	10/19/2015 2:40:20	Peak Integrated by Software incorrectly

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PSTDCCC050	PL014744.D	alpha-BHC	Nevilkumar	10/19/2015 2:14:28 PM	ugo	10/19/2015 2:40:24	Peak Integrated by Software incorrectly
PSTDCCC050	PL014744.D	beta-BHC	Nevilkumar	10/19/2015 2:14:28 PM	ugo	10/19/2015 2:40:24	Peak Integrated by Software incorrectly
PSTDCCC050	PL014744.D	beta-BHC #2	Nevilkumar	10/19/2015 2:14:28 PM	ugo	10/19/2015 2:40:24	Peak Integrated by Software incorrectly
PSTDCCC050	PL014744.D	gamma-BHC (Lindane)	Nevilkumar	10/19/2015 2:14:28 PM	ugo	10/19/2015 2:40:24	Peak Integrated by Software incorrectly
PSTDCCC050	PL014744.D	Heptachlor #2	Nevilkumar	10/19/2015 2:14:28 PM	ugo	10/19/2015 2:40:24	Peak Integrated by Software incorrectly
G4040-02DL	PL014745.D	4,4"-DDD	Nevilkumar	10/19/2015 2:14:39 PM	ugo	10/19/2015 2:40:29	Peak Integrated by Software incorrectly
G4040-02DL	PL014745.D	4,4"-DDD #2	Nevilkumar	10/19/2015 2:14:39 PM	ugo	10/19/2015 2:40:29	Peak Integrated by Software incorrectly
G4040-02DL	PL014745.D	gamma-Chlordane	Nevilkumar	10/19/2015 2:14:39 PM	ugo	10/19/2015 2:40:29	Peak Integrated by Software incorrectly
G4040-02DL	PL014745.D	Heptachlor	Nevilkumar	10/19/2015 2:14:39 PM	ugo	10/19/2015 2:40:29	Peak Integrated by Software incorrectly
G4040-02DL	PL014745.D	Tetrachloro-m-xylene	Nevilkumar	10/19/2015 2:14:39 PM	ugo	10/19/2015 2:40:29	Peak Integrated by Software incorrectly
G4046-01	PL014746.D	4,4"-DDE	Nevilkumar	10/19/2015 2:19:16 PM	ugo	10/19/2015 2:42:02	Peak Integrated by Software incorrectly
G4046-01	PL014746.D	4,4"-DDE #2	Nevilkumar	10/19/2015 2:19:16 PM	ugo	10/19/2015 2:42:02	Peak Integrated by Software incorrectly
G4046-01	PL014746.D	Endosulfan II	Nevilkumar	10/19/2015 2:19:16 PM	ugo	10/19/2015 2:42:02	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-01	PL014746.D	Endosulfan II #2	Nevilkumar	10/19/2015 2:19:16 PM	ugo	10/19/2015 2:42:02	Peak Integrated by Software incorrectly
G4046-01	PL014746.D	Tetrachloro-m-xylene #2	Nevilkumar	10/19/2015 2:19:16 PM	ugo	10/19/2015 2:42:02	Peak Integrated by Software incorrectly
G4046-02	PL014747.D	Endrin	Nevilkumar	10/19/2015 2:14:52 PM	ugo	10/19/2015 2:40:34	Peak Integrated by Software incorrectly
G4046-02	PL014747.D	Tetrachloro-m-xylene #2	Nevilkumar	10/19/2015 2:14:52 PM	ugo	10/19/2015 2:40:34	Peak Integrated by Software incorrectly
G4046-04	PL014748.D	4,4"-DDT #2	Nevilkumar	10/19/2015 2:14:59 PM	ugo	10/19/2015 2:40:42	Peak Integrated by Software incorrectly
G4046-04	PL014748.D	Decachlorobiphenyl	Nevilkumar	10/19/2015 2:14:59 PM	ugo	10/19/2015 2:40:42	Peak Integrated by Software incorrectly
G4046-04	PL014748.D	Endosulfan II	Nevilkumar	10/19/2015 2:14:59 PM	ugo	10/19/2015 2:40:42	Peak Integrated by Software incorrectly
G4046-04	PL014748.D	Endosulfan II #2	Nevilkumar	10/19/2015 2:14:59 PM	ugo	10/19/2015 2:40:42	Peak Integrated by Software incorrectly
G4046-04	PL014748.D	Tetrachloro-m-xylene	Nevilkumar	10/19/2015 2:14:59 PM	ugo	10/19/2015 2:40:42	Peak Integrated by Software incorrectly
G4046-04	PL014748.D	Tetrachloro-m-xylene #2	Nevilkumar	10/19/2015 2:14:59 PM	ugo	10/19/2015 2:40:42	Peak Integrated by Software incorrectly
G3993-02	PL014749.D	alpha-BHC	Nevilkumar	10/19/2015 2:15:06 PM	ugo	10/19/2015 2:40:46	Peak Integrated by Software incorrectly
G3993-02	PL014749.D	alpha-BHC #2	Nevilkumar	10/19/2015 2:15:06 PM	ugo	10/19/2015 2:40:46	Peak Integrated by Software incorrectly
G3993-02	PL014749.D	Tetrachloro-m-xylene #2	Nevilkumar	10/19/2015 2:15:06 PM	ugo	10/19/2015 2:40:46	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G3993-02MS	PL014750.D	4,4"-DDD #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	4,4"-DDE #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	alpha-BHC	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	alpha-BHC #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	beta-BHC #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	Dieldrin #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	Endrin #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	gamma-BHC (Lindane)	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	Heptachlor #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MS	PL014750.D	Heptachlor epoxide #2	Nevilkumar	10/19/2015 2:15:14 PM	ugo	10/19/2015 2:40:50	Peak Integrated by Software incorrectly
G3993-02MSD	PL014751.D	alpha-BHC	Nevilkumar	10/19/2015 2:15:18 PM	ugo	10/19/2015 2:40:55	Peak Integrated by Software incorrectly
G3993-02MSD	PL014751.D	alpha-BHC #2	Nevilkumar	10/19/2015 2:15:18 PM	ugo	10/19/2015 2:40:55	Peak Integrated by Software incorrectly
G3993-02MSD	PL014751.D	beta-BHC #2	Nevilkumar	10/19/2015 2:15:18 PM	ugo	10/19/2015 2:40:55	Peak Integrated by Software incorrectly

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G3993-02MSD	PL014751.D	Heptachlor #2	Nevilkumar	10/19/2015 2:15:18 PM	ugo	10/19/2015 2:40:55	Peak Integrated by Software incorrectly
PB86138BS	PL014752.D	beta-BHC	Nevilkumar	10/19/2015 2:15:23 PM	ugo	10/19/2015 2:41:00	Peak Integrated by Software incorrectly
PB86138BS	PL014752.D	beta-BHC #2	Nevilkumar	10/19/2015 2:15:23 PM	ugo	10/19/2015 2:41:00	Peak Integrated by Software incorrectly
PB86138BS	PL014752.D	delta-BHC #2	Nevilkumar	10/19/2015 2:15:23 PM	ugo	10/19/2015 2:41:00	Peak Integrated by Software incorrectly
PB86138BS	PL014752.D	Endosulfan Sulfate	Nevilkumar	10/19/2015 2:15:23 PM	ugo	10/19/2015 2:41:00	Peak Integrated by Software incorrectly
PB86138BS	PL014752.D	Endosulfan Sulfate #2	Nevilkumar	10/19/2015 2:15:23 PM	ugo	10/19/2015 2:41:00	Peak Integrated by Software incorrectly
PB86138BS	PL014752.D	Heptachlor #2	Nevilkumar	10/19/2015 2:15:23 PM	ugo	10/19/2015 2:41:00	Peak Integrated by Software incorrectly
PB86143BS	PL014753.D	alpha-BHC	Nevilkumar	10/19/2015 2:15:29 PM	ugo	10/19/2015 2:41:05	Peak Integrated by Software incorrectly
PB86143BS	PL014753.D	alpha-BHC #2	Nevilkumar	10/19/2015 2:15:29 PM	ugo	10/19/2015 2:41:05	Peak Integrated by Software incorrectly
PB86143BS	PL014753.D	beta-BHC	Nevilkumar	10/19/2015 2:15:29 PM	ugo	10/19/2015 2:41:05	Peak Integrated by Software incorrectly
PB86143BS	PL014753.D	beta-BHC #2	Nevilkumar	10/19/2015 2:15:29 PM	ugo	10/19/2015 2:41:05	Peak Integrated by Software incorrectly
PB86143BS	PL014753.D	Endosulfan Sulfate	Nevilkumar	10/19/2015 2:15:29 PM	ugo	10/19/2015 2:41:05	Peak Integrated by Software incorrectly
PB86143BS	PL014753.D	Endrin ketone	Nevilkumar	10/19/2015 2:15:29 PM	ugo	10/19/2015 2:41:05	Peak Integrated by Software incorrectly

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PB86143BS	PL014753.D	Heptachlor #2	Nevilkumar	10/19/2015 2:15:29 PM	ugo	10/19/2015 2:41:05	Peak Integrated by Software incorrectly
PEM	PL014756.D	4,4"-DDE	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	4,4"-DDE #2	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	4,4"-DDT	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	4,4"-DDT #2	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	alpha-BHC	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	beta-BHC	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	Endrin #2	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	Endrin aldehyde #2	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	Endrin ketone	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	Endrin ketone #2	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	Methoxychlor	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly
PEM	PL014756.D	Methoxychlor #2	Nevilkumar	10/19/2015 2:15:40 PM	ugo	10/19/2015 2:41:11	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PSTDCCC050	PL014757.D	4,4"-DDD #2	Nevilkumar	10/19/2015 2:15:46 PM	ugo	10/19/2015 2:41:15	Peak Integrated by Software incorrectly
PSTDCCC050	PL014757.D	beta-BHC	Nevilkumar	10/19/2015 2:15:46 PM	ugo	10/19/2015 2:41:15	Peak Integrated by Software incorrectly
PSTDCCC050	PL014757.D	beta-BHC #2	Nevilkumar	10/19/2015 2:15:46 PM	ugo	10/19/2015 2:41:15	Peak Integrated by Software incorrectly
PSTDCCC050	PL014757.D	Heptachlor #2	Nevilkumar	10/19/2015 2:15:46 PM	ugo	10/19/2015 2:41:15	Peak Integrated by Software incorrectly
G4009-02	PL014759.D	Endosulfan Sulfate #2	Nevilkumar	10/19/2015 2:15:51 PM	ugo	10/19/2015 2:41:20	Peak Integrated by Software incorrectly
G4009-03	PL014760.D	Decachlorobiphenyl	Nevilkumar	10/19/2015 2:15:57 PM	ugo	10/19/2015 2:41:25	Peak Integrated by Software incorrectly
G4009-03	PL014760.D	Dieldrin	Nevilkumar	10/19/2015 2:15:57 PM	ugo	10/19/2015 2:41:25	Peak Integrated by Software incorrectly
G4009-03	PL014760.D	Dieldrin #2	Nevilkumar	10/19/2015 2:15:57 PM	ugo	10/19/2015 2:41:25	Peak Integrated by Software incorrectly
G4009-03	PL014760.D	gamma-BHC (Lindane)	Nevilkumar	10/19/2015 2:15:57 PM	ugo	10/19/2015 2:41:25	Peak Integrated by Software incorrectly
PB86138TB	PL014761.D	Decachlorobiphenyl	Nevilkumar	10/19/2015 2:16:03 PM	ugo	10/19/2015 2:41:29	Peak Integrated by Software incorrectly
PB86138TB	PL014761.D	Decachlorobiphenyl #2	Nevilkumar	10/19/2015 2:16:03 PM	ugo	10/19/2015 2:41:29	Peak Integrated by Software incorrectly
PB86138BL	PL014762.D	Decachlorobiphenyl	Nevilkumar	10/19/2015 2:16:07 PM	ugo	10/19/2015 2:41:36	Peak Integrated by Software incorrectly
PB86138BL	PL014762.D	Decachlorobiphenyl #2	Nevilkumar	10/19/2015 2:16:07 PM	ugo	10/19/2015 2:41:36	Peak Integrated by Software incorrectly

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Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PSTDCCC050	PL014764.D	beta-BHC	Nevilkumar	10/19/2015 2:16:12 PM	ugo	10/19/2015 2:41:43	Peak Integrated by Software incorrectly
PSTDCCC050	PL014764.D	beta-BHC #2	Nevilkumar	10/19/2015 2:16:12 PM	ugo	10/19/2015 2:41:43	Peak Integrated by Software incorrectly
PSTDCCC050	PL014764.D	Endosulfan II #2	Nevilkumar	10/19/2015 2:16:12 PM	ugo	10/19/2015 2:41:43	Peak Integrated by Software incorrectly
PSTDCCC050	PL014764.D	Endrin ketone	Nevilkumar	10/19/2015 2:16:12 PM	ugo	10/19/2015 2:41:43	Peak Integrated by Software incorrectly
PSTDCCC050	PL014764.D	Endrin ketone #2	Nevilkumar	10/19/2015 2:16:12 PM	ugo	10/19/2015 2:41:43	Peak Integrated by Software incorrectly
PSTDCCC050	PL014764.D	Heptachlor #2	Nevilkumar	10/19/2015 2:16:12 PM	ugo	10/19/2015 2:41:43	Peak Integrated by Software incorrectly
PSTDCCC050	PL014764.D	Methoxychlor	Nevilkumar	10/19/2015 2:16:12 PM	ugo	10/19/2015 2:41:43	Peak Integrated by Software incorrectly

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Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL100115

Review By	ugo	Review On	10/2/2015 12:45:51 PM		
SubDirectory	PL100115	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	HEXANE	PL014523.D	01 Oct 2015 14:52	IZ/UA	Ok
2	I.BLK	PL014524.D	01 Oct 2015 15:07	IZ/UA	Ok
3	PEM	PL014525.D	01 Oct 2015 15:22	IZ/UA	Ok,M
4	RESCHK	PL014526.D	01 Oct 2015 15:36	IZ/UA	Ok
5	PSTDICC100	PL014527.D	01 Oct 2015 3:51 pm	IZ/UA	Ok,M
6	PSTDICC075	PL014528.D	01 Oct 2015 4:05 pm	IZ/UA	Ok,M
7	PSTDICC050	PL014529.D	01 Oct 2015 4:19 pm	IZ/UA	Ok,M
8	PSTDICC025	PL014530.D	01 Oct 2015 4:33 pm	IZ/UA	Ok,M
9	PSTDICC005	PL014531.D	01 Oct 2015 4:47 pm	IZ/UA	Ok,M
10	PSTDICV050	PL014532.D	01 Oct 2015 17:01	IZ/UA	Ok,M
11	PTOXICC500	PL014533.D	01 Oct 2015 5:16 pm	IZ/UA	Ok,M
12	PCHLORICC500	PL014534.D	01 Oct 2015 5:30 pm	IZ/UA	Ok,M
13	PTOXICV500	PL014535.D	01 Oct 2015 5:44 pm	IZ/UA	Ok,M
14	PCHLORICV500	PL014536.D	01 Oct 2015 5:58 pm	IZ/UA	Ok,M
15	I.BLK	PL014537.D	01 Oct 2015 18:12	IZ/UA	Ok
16	PSTDCCC050	PL014538.D	01 Oct 2015 18:26	IZ/UA	Ok,M
17	PB85877BL	PL014539.D	01 Oct 2015 18:40	IZ/UA	Ok
18	PB85877BS	PL014540.D	01 Oct 2015 18:54	IZ/UA	Ok,M
19	PB85877TB	PL014541.D	01 Oct 2015 19:09	IZ/UA	Ok
20	G3857-09	PL014542.D	01 Oct 2015 19:23	IZ/UA	Ok
21	G3857-10	PL014543.D	01 Oct 2015 19:37	IZ/UA	Not Ok
22	G3857-11	PL014544.D	01 Oct 2015 19:51	IZ/UA	Not Ok
23	G3857-12	PL014545.D	01 Oct 2015 20:05	IZ/UA	Not Ok
24	G3875-09	PL014546.D	01 Oct 2015 20:19	IZ/UA	Not Ok
25	G3875-10	PL014547.D	01 Oct 2015 20:33	IZ/UA	Not Ok
26	G3875-11	PL014548.D	01 Oct 2015 20:48	IZ/UA	Not Ok

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Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL100115

Review By	ugo	Review On	10/2/2015 12:45:51 PM		
SubDirectory	PL100115	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

27	G3875-12	PL014549.D	01 Oct 2015 21:02	IZ/UA	Not Ok
28	G3885-01	PL014550.D	01 Oct 2015 21:16	IZ/UA	Ok,M
29	G3885-02	PL014551.D	01 Oct 2015 21:30	IZ/UA	Ok
30	G3857-09MS	PL014552.D	01 Oct 2015 21:44	IZ/UA	Ok,M
31	G3857-09MSD	PL014553.D	01 Oct 2015 21:58	IZ/UA	Ok,M
32	I.BLK	PL014554.D	01 Oct 2015 22:13	IZ/UA	Ok
33	PSTDCCC050	PL014555.D	01 Oct 2015 22:27	IZ/UA	Ok,M

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Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL101615

Review By	ugo	Review On	10/19/2015 2:42:24 PM		
SubDirectory	PL101615	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	HEXANE	PL014731.D	16 Oct 2015 9:31	IZ/UA	Ok
2	I.BLK	PL014732.D	16 Oct 2015 9:46	IZ/UA	Ok
3	PEM	PL014733.D	16 Oct 2015 10:00	IZ/UA	Ok,M
4	PSTDCCC050	PL014734.D	16 Oct 2015 10:14	IZ/UA	Ok,M
5	G4034-01	PL014735.D	16 Oct 2015 14:18	IZ/UA	Ok,M
6	G4034-01MS	PL014736.D	16 Oct 2015 14:33	IZ/UA	Ok,M
7	G4034-01MSD	PL014737.D	16 Oct 2015 14:48	IZ/UA	Ok,M
8	G4040-01	PL014738.D	16 Oct 2015 15:02	IZ/UA	Ok,M
9	G4040-02	PL014739.D	16 Oct 2015 15:16	IZ/UA	Dilution
10	G4040-03	PL014740.D	16 Oct 2015 15:31	IZ/UA	Ok
11	G4040-04	PL014741.D	16 Oct 2015 15:45	IZ/UA	Ok,M
12	G4040-05	PL014742.D	16 Oct 2015 15:59	IZ/UA	Ok
13	I.BLK	PL014743.D	16 Oct 2015 16:17	IZ/UA	Ok
14	PSTDCCC050	PL014744.D	16 Oct 2015 16:31	IZ/UA	Ok,M
15	G4040-02DL	PL014745.D	16 Oct 2015 16:58	IZ/UA	Ok,M
16	G4046-01	PL014746.D	16 Oct 2015 17:12	IZ/UA	Ok,M
17	G4046-02	PL014747.D	16 Oct 2015 17:26	IZ/UA	Ok,M
18	G4046-04	PL014748.D	16 Oct 2015 17:40	IZ/UA	Ok,M
19	G3993-02	PL014749.D	16 Oct 2015 17:54	IZ/UA	Ok,M
20	G3993-02MS	PL014750.D	16 Oct 2015 18:08	IZ/UA	Ok,M
21	G3993-02MSD	PL014751.D	16 Oct 2015 18:23	IZ/UA	Ok,M
22	PB86138BS	PL014752.D	16 Oct 2015 18:37	IZ/UA	Ok,M
23	PB86143BS	PL014753.D	16 Oct 2015 18:51	IZ/UA	Ok,M
24	PB86143BL	PL014754.D	16 Oct 2015 19:05	IZ/UA	Ok
25	I.BLK	PL014755.D	16 Oct 2015 19:33	IZ/UA	Ok
26	PEM	PL014756.D	16 Oct 2015 19:48	IZ/UA	Ok,M

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Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL101615

Review By	ugo	Review On	10/19/2015 2:42:24 PM		
SubDirectory	PL101615	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

27	PSTDCCC050	PL014757.D	16 Oct 2015 20:02	IZ/UA	Ok,M
28	G4009-01	PL014758.D	16 Oct 2015 20:16	IZ/UA	Not Ok
29	G4009-02	PL014759.D	16 Oct 2015 20:30	IZ/UA	Not Ok
30	G4009-03	PL014760.D	16 Oct 2015 20:44	IZ/UA	Not Ok
31	PB86138TB	PL014761.D	16 Oct 2015 20:58	IZ/UA	Not Ok
32	PB86138BL	PL014762.D	16 Oct 2015 21:12	IZ/UA	Not Ok
33	I.BLK	PL014763.D	16 Oct 2015 21:41	IZ/UA	Not Ok
34	PSTDCCC050	PL014764.D	16 Oct 2015 21:55	IZ/UA	Not Ok

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Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL100115

Review By	ugo	Review On	10/2/2015 12:45:51 PM		
SubDirectory	PL100115	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	HEXANE	HEXANE	PL014523.D		Ok
2	I.BLK	I.BLK	PL014524.D		Ok
3	PEM	PEM	PL014525.D		Ok,M
4	RESCHK	RESCHK	PL014526.D		Ok
5	PSTDICC100	PSTDICC100	PL014527.D		Ok,M
6	PSTDICC075	PSTDICC075	PL014528.D		Ok,M
7	PSTDICC050	PSTDICC050	PL014529.D		Ok,M
8	PSTDICC025	PSTDICC025	PL014530.D		Ok,M
9	PSTDICC005	PSTDICC005	PL014531.D		Ok,M
10	PSTDICV050	ICVPL100115	PL014532.D		Ok,M
11	PTOXICC500	PTOXICC500	PL014533.D		Ok,M
12	PCHLORICC500	PCHLORICC500	PL014534.D		Ok,M
13	PTOXICV500	ICVPL100115TOX	PL014535.D		Ok,M
14	PCHLORICV500	ICVPL100115CHLOR	PL014536.D		Ok,M
15	I.BLK	I.BLK	PL014537.D		Ok
16	PSTDCCC050	PSTDCCC050	PL014538.D		Ok,M
17	PB85877BL	PB85877BL	PL014539.D		Ok
18	PB85877BS	PB85877BS	PL014540.D		Ok,M
19	PB85877TB	PB85877TB	PL014541.D		Ok
20	G3857-09	A1-COMP	PL014542.D		Ok
21	G3857-10	A2-COMP	PL014543.D		Not Ok
22	G3857-11	A3-COMP	PL014544.D		Not Ok

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Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL100115

Review By	ugo	Review On	10/2/2015 12:45:51 PM		
SubDirectory	PL100115	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

23	G3857-12	A4-COMP	PL014545.D		Not Ok
24	G3875-09	A5-COMP	PL014546.D		Not Ok
25	G3875-10	A6-COMP	PL014547.D		Not Ok
26	G3875-11	A7-COMP	PL014548.D		Not Ok
27	G3875-12	A8-COMP	PL014549.D		Not Ok
28	G3885-01	GROUNDWATER	PL014550.D		Ok,M
29	G3885-02	SOILCUTINGS	PL014551.D		Ok
30	G3857-09MS	A1-COMPMS	PL014552.D		Ok,M
31	G3857-09MSD	A1-COMPMSD	PL014553.D		Ok,M
32	I.BLK	I.BLK	PL014554.D		Ok
33	PSTDCCC050	PSTDCCC050	PL014555.D	Compound #3 failing high in both column,compound #4,#8 having high in 2nd column	Ok,M

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Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL101615

Review By	ugo	Review On	10/19/2015 2:42:24 PM		
SubDirectory	PL101615	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	HEXANE	HEXANE	PL014731.D		Ok
2	I.BLK	I.BLK	PL014732.D		Ok
3	PEM	PEM	PL014733.D		Ok,M
4	PSTDCCC050	PSTDCCC050	PL014734.D		Ok,M
5	G4034-01	CWC-1-20151014	PL014735.D		Ok,M
6	G4034-01MS	CWC-1-20151014MS	PL014736.D		Ok,M
7	G4034-01MSD	CWC-1-20151014MSD	PL014737.D		Ok,M
8	G4040-01	IM-MLA-2.5-03	PL014738.D		Ok,M
9	G4040-02	IM-MLA-2.5-04	PL014739.D	NEED 2X	Dilution
10	G4040-03	IM-MLA-2.5-05	PL014740.D		Ok
11	G4040-04	IM-MLA-1.5-05	PL014741.D		Ok,M
12	G4040-05	IM-MLA-DGA-03	PL014742.D		Ok
13	I.BLK	I.BLK	PL014743.D		Ok
14	PSTDCCC050	PSTDCCC050	PL014744.D		Ok,M
15	G4040-02DL	IM-MLA-2.5-04DL	PL014745.D		Ok,M
16	G4046-01	GOODLUCK902	PL014746.D	DCB high in 1st column	Ok,M
17	G4046-02	GOODLUCK58	PL014747.D	DCB high in 1st column	Ok,M
18	G4046-04	MANAHAWKEN112	PL014748.D	DCB high in 1st column	Ok,M
19	G3993-02	STOCKPILE	PL014749.D		Ok,M
20	G3993-02MS	STOCKPILEMS	PL014750.D	compound #2 having high reovery	Ok,M
21	G3993-02MSD	STOCKPILEMSD	PL014751.D	compound #2 having high reovery	Ok,M
22	PB86138BS	PB86138BS	PL014752.D		Ok,M

Instrument ID: ECD_L

Daily Analysis Runlog For Sequence/QCBatch ID # PL101615

Review By	ugo	Review On	10/19/2015 2:42:24 PM		
SubDirectory	PL101615	HP Acquire Method		HP Processing Method	pl100115

STD. NAME	STD REF.#
Tune/Reschk	P5046
Initial Calibration Stds	PP9962,PP10556,PP10577,PP10558,PP10559,PP10561,PP10563
CCC	PP10556
Internal Standard/PEM	P5042
ICV/I.BLK	PP10560,PP10562,PP10564

23	PB86143BS	PB86143BS	PL014753.D		Ok,M
24	PB86143BL	PB86143BL	PL014754.D		Ok
25	I.BLK	I.BLK	PL014755.D		Ok
26	PEM	PEM	PL014756.D		Ok,M
27	PSTDCCC050	PSTDCCC050	PL014757.D		Ok,M
28	G4009-01	KW-1	PL014758.D	PCB pattern	Not Ok
29	G4009-02	KW-2	PL014759.D	PCB pattern	Not Ok
30	G4009-03	KW-3	PL014760.D	PCB pattern	Not Ok
31	PB86138TB	PB86138TB	PL014761.D	END CCAL FAILS	Not Ok
32	PB86138BL	PB86138BL	PL014762.D	END CCAL FAILS	Not Ok
33	I.BLK	I.BLK	PL014763.D	END CCAL FAILS	Not Ok
34	PSTDCCC050	PSTDCCC050	PL014764.D	END CCAL FAILS	Not Ok

CHEMTECH EXTRACTION LOGPAGE

PB86143

SOP ID: M 3541- ASE- Extraction-07

Matrix : Solid

Clean Up SOP #: Florisil

Weigh By: RS Extraction By: RS

Balance check: RS

Balance ID: PM-4600 Weight 1: (20.00) 20.00 Weight 2: (110.00) 110.00

Batch# PB86143

Extraction Date : 10/16/15

Extraction Start Time : 9:22

Extraction End Time : 14:00

Review By : D

Filter By: RS Concentration By: MM

Method of Extraction

☐ Seperatory Funne ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☑ Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	1.0ML	500 PPB	PP10456
Surrogate	1.0ML	200 PPB	PP10606

Chemical Used	ML/SAMPLE USED	Lot Number
Hexane/Acetone/1:1		EP1615
Baked Na2SO4		EP1613
Sand		E1520
Florisil		E1935

Extraction Conformance/Non-Conformance Comments:

Extraction End Time: 14:00

KD Bath Temperature: 60-7 c

Received Date: 10/16/15

Delivered Date: 10/16/15

Delivered Time: 14:05

Envap Temperature: 40 c

Received By: IZ

Delivered By: H

Analysis Group:

Extraction Group: , RS, , MM, UA, RP, JP, BP, NP, UM

CHEMTECH EXTRACTION LOGPAGE

PrepBatch ID **PB86143**

Analytical Method: 8081B **Extraction Date:** 10/16/2015-08:22 **Concentration Date:** 10/16/15

Lab Sample ID	Client Sample ID	Test	g/ mL	PH	Surr/Spike By: Added By	Surr/Spike By: Verified By	Final Vol.(mL)	Comments	Prep Pos
	2	2							
PB86143BL	PBLK43	Pesticide-TCL	30.03	N/A	Rs	N	10		W1 01
PB86143BS	PLCS43	Pesticide-TCL	30.03						02
G4009-01	KW-1	Pesticide-TCL	30.03					Black Matrix	03
G4009-02	KW-2	Pesticide-TCL	30.12						04
G4009-03	KW-3	Pesticide-TCL	30.03						05
G4034-01	CWC-1-20151014	PESTICIDE Group1	30.07						06
G4034-01MS	CWC-1-20151014MS	Pesticide-TCL	30.00						W2 01
G4034-01MSD	CWC-1-20151014MSD	Pesticide-TCL	30.02						02
G4040-01	IM-MLA-2.5-03	PESTICIDE Group1	30.10						03
G4040-02	IM-MLA-2.5-04	PESTICIDE Group1	30.09						04
G4040-03	IM-MLA-2.5-05	PESTICIDE Group1	30.03						05
G4040-04	IM-MLA-1.5-05	PESTICIDE Group1	30.00						06
G4040-05	IM-MLA-DGA-03	PESTICIDE Group1	30.13						W3 01
G4046-01	GOODLUCK902	Pesticide-TCL	5.02					Wood chips	02
G4046-02	GOODLUCK58	Pesticide-TCL	5.03						03
G4046-04	MANAHAWKEN112	Pesticide-TCL	5.06				10		04

* Extracts relinquished on the same date as received.

10/16

CHEMTECH EXTRACTION LOGPAGE

PrepBatch ID : **PB86143**

Analytical Method: 2 **Extraction Date:** 10/16/2015-08:22 **Concentration Date:**___/___/___

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos.
		2 2			Added By	Verified By			
PB86143BL	PBLK43	Pesticide-TCL	30.03	N/A	RUPESH	rajesh	10		
PB86143BS	PLCS43	Pesticide-TCL	30.03	N/A	RUPESH	rajesh	10		
G4009-01	KW-1	Pesticide-TCL	30.03	N/A	RUPESH	rajesh	10		
G4009-02	KW-2	Pesticide-TCL	30.12	N/A	RUPESH	rajesh	10		
G4009-03	KW-3	Pesticide-TCL	30.03	N/A	RUPESH	rajesh	10		
G4034-01	CWC-1-20151014	PESTICIDE Group1	30.07	N/A	RUPESH	rajesh	10		
G4034-01MS	CWC-1-20151014MS	Pesticide-TCL	30.00	N/A	RUPESH	rajesh	10		
G4034-01MSD	CWC-1-20151014MSD	Pesticide-TCL	30.02	N/A	RUPESH	rajesh	10		
G4040-01	IM-MLA-2.5-03	PESTICIDE Group1	30.10	N/A	RUPESH	rajesh	10		
G4040-02	IM-MLA-2.5-04	PESTICIDE Group1	30.09	N/A	RUPESH	rajesh	10		
G4040-03	IM-MLA-2.5-05	PESTICIDE Group1	30.03	N/A	RUPESH	rajesh	10		
G4040-04	IM-MLA-1.5-05	PESTICIDE Group1	30.00	N/A	RUPESH	rajesh	10		
G4040-05	IM-MLA-DGA-03	PESTICIDE Group1	30.13	N/A	RUPESH	rajesh	10		
G4046-01	GOODLUCK902	Pesticide-TCL	5.02	N/A	RUPESH	rajesh	10		
G4046-02	GOODLUCK58	Pesticide-TCL	5.03	N/A	RUPESH	rajesh	10		
G4046-04	MANAHAWKEN112	Pesticide-TCL	5.06	N/A	RUPESH	rajesh	10		

* **Extracts relinquished on the same date as received.**

2

10/16

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LAB CHRONICLE

OrderID:	G4046	**OrderDate:**	10/15/2015 11:06:06 AM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4046-01	**GOODLUCK902**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
			Pesticide-TCL	8081B		10/16/15	10/16/15	
G4046-02	**GOODLUCK58**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
			Pesticide-TCL	8081B		10/16/15	10/16/15	
G4046-03	**GOODLUCKINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
G4046-04	**MANAHAWKEN112**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
			Pesticide-TCL	8081B		10/16/15	10/16/15	
G4046-05	**MANAHAWKENINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	

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Hit Summary Sheet
SW-846

SDG No.: G4046 **Order ID:** G4046

Client: Sea Coast Environmental Services, Inc. **Project ID:** U.S. Fish and Wildlife

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :	**GOODLUCKINSULATION**								
G4046-03	GOODLUCKINSULA	SOIL	Aroclor-1254	3,000.00		43.8	97.9	500	ug/kg
			Total Concentration:	**3,000.00**					

SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012056.D	1	10/16/15 08:20	10/17/15 01:42	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	19.9	U	19.9	19.9	100	ug/kg
11104-28-2	Aroclor-1221	19.9	U	19.9	19.9	100	ug/kg
11141-16-5	Aroclor-1232	19.9	U	19.9	19.9	100	ug/kg
53469-21-9	Aroclor-1242	19.9	U	19.9	19.9	100	ug/kg
12672-29-6	Aroclor-1248	19.9	U	19.9	19.9	100	ug/kg
11097-69-1	Aroclor-1254	19.9	U	8.9	19.9	100	ug/kg
11096-82-5	Aroclor-1260	19.9	U	19.9	19.9	100	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	17.3		10 - 166		86%	SPK: 20
2051-24-3	Decachlorobiphenyl	12.3		60 - 125		62%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012057.D	1	10/16/15 08:20	10/17/15 01:57	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	19.9	U	19.9	19.9	100	ug/kg
11104-28-2	Aroclor-1221	19.9	U	19.9	19.9	100	ug/kg
11141-16-5	Aroclor-1232	19.9	U	19.9	19.9	100	ug/kg
53469-21-9	Aroclor-1242	19.9	U	19.9	19.9	100	ug/kg
12672-29-6	Aroclor-1248	19.9	U	19.9	19.9	100	ug/kg
11097-69-1	Aroclor-1254	19.9	U	8.9	19.9	100	ug/kg
11096-82-5	Aroclor-1260	19.9	U	19.9	19.9	100	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	21.1		10 - 166		106%	SPK: 20
2051-24-3	Decachlorobiphenyl	14		60 - 125		70%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCKINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-03	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	0 Decanted:
Sample Wt/Vol:	1.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012058.D	1	10/16/15 08:20	10/17/15 02:12	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	97.9	U	97.9	97.9	500	ug/kg
11104-28-2	Aroclor-1221	97.9	U	97.9	97.9	500	ug/kg
11141-16-5	Aroclor-1232	97.9	U	97.9	97.9	500	ug/kg
53469-21-9	Aroclor-1242	97.9	U	97.9	97.9	500	ug/kg
12672-29-6	Aroclor-1248	97.9	U	97.9	97.9	500	ug/kg
11097-69-1	Aroclor-1254	3000		43.8	97.9	500	ug/kg
11096-82-5	Aroclor-1260	97.9	U	97.9	97.9	500	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	17.2		10 - 166		86%	SPK: 20
2051-24-3	Decachlorobiphenyl	13.6		60 - 125		68%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.06 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012059.D	1	10/16/15 08:20	10/17/15 02:27	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	19.7	U	19.7	19.7	100	ug/kg
11104-28-2	Aroclor-1221	19.7	U	19.7	19.7	100	ug/kg
11141-16-5	Aroclor-1232	19.7	U	19.7	19.7	100	ug/kg
53469-21-9	Aroclor-1242	19.7	U	19.7	19.7	100	ug/kg
12672-29-6	Aroclor-1248	19.7	U	19.7	19.7	100	ug/kg
11097-69-1	Aroclor-1254	19.7	U	8.8	19.7	100	ug/kg
11096-82-5	Aroclor-1260	19.7	U	19.7	19.7	100	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	19.9		10 - 166		100%	SPK: 20
2051-24-3	Decachlorobiphenyl	11.1	*	60 - 125		55%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKENINSULATION	SDG No.:	G4046
Lab Sample ID:	G4046-05	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	0 Decanted:
Sample Wt/Vol:	1.04 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012060.D	1	10/16/15 08:20	10/17/15 02:42	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	96.1	U	96.1	96.1	490	ug/kg
11104-28-2	Aroclor-1221	96.1	U	96.1	96.1	490	ug/kg
11141-16-5	Aroclor-1232	96.1	U	96.1	96.1	490	ug/kg
53469-21-9	Aroclor-1242	96.1	U	96.1	96.1	490	ug/kg
12672-29-6	Aroclor-1248	96.1	U	96.1	96.1	490	ug/kg
11097-69-1	Aroclor-1254	96.1	U	43	96.1	490	ug/kg
11096-82-5	Aroclor-1260	96.1	U	96.1	96.1	490	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	14.4		10 - 166		72%	SPK: 20
2051-24-3	Decachlorobiphenyl	14.4		60 - 125		72%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
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() = Laboratory InHouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Surrogate Summary

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8082A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PP012024.D	PIBLK-PP012024.D	Tetrachloro-m-xylene	1	20	17.76	89		35	137
		Decachlorobiphenyl	1	20	19.67	98		40	135
		Tetrachloro-m-xylene	2	20	17.65	88		35	137
		Decachlorobiphenyl	2	20	18.39	92		40	135
I.BLK-PP012038.D	PIBLK-PP012038.D	Tetrachloro-m-xylene	1	20	18.72	94		35	137
		Decachlorobiphenyl	1	20	18.69	93		40	135
		Tetrachloro-m-xylene	2	20	18.69	93		35	137
		Decachlorobiphenyl	2	20	18.89	94		40	135
PB86140BL	PB86140BL	Tetrachloro-m-xylene	1	20	16.58	83		10	166
		Decachlorobiphenyl	1	20	17.01	85		60	125
		Tetrachloro-m-xylene	2	20	16.19	81		10	166
		Decachlorobiphenyl	2	20	17.13	86		60	125
PB86140BS	PB86140BS	Tetrachloro-m-xylene	1	20	16.41	82		10	166
		Decachlorobiphenyl	1	20	16.77	84		60	125
		Tetrachloro-m-xylene	2	20	15.82	79		10	166
		Decachlorobiphenyl	2	20	17.13	86		60	125
G4034-01MS	CWC-1-20151014MS	Tetrachloro-m-xylene	1	20	19.15	96		10	166
		Decachlorobiphenyl	1	20	17.38	87		60	125
		Tetrachloro-m-xylene	2	20	18.59	93		10	166
		Decachlorobiphenyl	2	20	17.43	87		60	125
G4034-01MSD	CWC-1-20151014MSD	Tetrachloro-m-xylene	1	20	19.73	99		10	166
		Decachlorobiphenyl	1	20	17.25	86		60	125
		Tetrachloro-m-xylene	2	20	19	95		10	166
		Decachlorobiphenyl	2	20	17.44	87		60	125
I.BLK-PP012050.D	PIBLK-PP012050.D	Tetrachloro-m-xylene	1	20	19.41	97		35	137
		Decachlorobiphenyl	1	20	18.98	95		40	135
		Tetrachloro-m-xylene	2	20	19.41	97		35	137
		Decachlorobiphenyl	2	20	18.83	94		40	135
G4046-01	GOODLUCK902	Tetrachloro-m-xylene	1	20	17.29	86		10	166
		Decachlorobiphenyl	1	20	12.34	62		60	125
		Tetrachloro-m-xylene	2	20	10.8	54		10	166
		Decachlorobiphenyl	2	20	13.37	67		60	125
G4046-02	GOODLUCK58	Tetrachloro-m-xylene	1	20	21.14	106		10	166
		Decachlorobiphenyl	1	20	13.97	70		60	125
		Tetrachloro-m-xylene	2	20	10.79	54		10	166
		Decachlorobiphenyl	2	20	14.93	75		60	125
G4046-03	GOODLUCKINSULATION	Tetrachloro-m-xylene	1	20	17.16	86		10	166
		Decachlorobiphenyl	1	20	13.62	68		60	125
		Tetrachloro-m-xylene	2	20	12.69	63		10	166
		Decachlorobiphenyl	2	20	11.51	58	*	60	125
G4046-04	MANAHAWKEN112	Tetrachloro-m-xylene	1	20	19.9	100		10	166
		Decachlorobiphenyl	1	20	11.06	55	*	60	125
		Tetrachloro-m-xylene	2	20	9.33	47		10	166

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Surrogate Summary

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8082A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
G4046-04	MANAHAWKEN112	Decachlorobiphenyl	2	20	13.24	66		60	125
G4046-05	MANAHAWKENINSULATION	Tetrachloro-m-xylene	1	20	14.43	72		10	166
		Decachlorobiphenyl	1	20	14.35	72		60	125
		Tetrachloro-m-xylene	2	20	15.21	76		10	166
		Decachlorobiphenyl	2	20	13.14	66		60	125
I.BLK-PP012061.D	PIBLK-PP012061.D	Tetrachloro-m-xylene	1	20	20.38	102		35	137
		Decachlorobiphenyl	1	20	18.25	91		40	135
		Tetrachloro-m-xylene	2	20	20.65	103		35	137
		Decachlorobiphenyl	2	20	18.62	93		40	135

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8082A **DataFile :** PP012047.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**CWC-1-20151014MS**											
G4034-01MS	AR1016	79.7	0	130	ug/kg	163	*			40	140	
	AR1260	79.7	0	110	ug/kg	138	*			60	130	

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8082A **DataFile :** PP012048.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**CWC-1-20151014MSD**											
G4034-01MSD	AR1016	79.9	0	130	ug/kg	163	*	0		40	140	20
	AR1260	79.9	0	110	ug/kg	138	*	0		60	130	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8082A **Datafile :** PP012045.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB86140BS	AR1016	66.6	81.2	ug/kg	122				53	140	
	AR1260	66.6	76.1	ug/kg	114				65	130	

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4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB86140BL

Lab Name: CHEMTECH

Contract: SEAC01

Lab Code: CHEM

Case No.: G4046

SAS No.: G4046

SDG NO.: G4046

Lab Sample ID: PB86140BL

Lab File ID: PP012044.D

Matrix: (soil/water) Solid

Extraction: (Type) SOXH

Sulfur Cleanup: (Y/N) N

Date Extracted: 10/16/2015

Date Analyzed (1): 10/16/2015

Date Analyzed (2): 10/16/2015

Time Analyzed (1): 22:27

Time Analyzed (2): 22:27

Instrument ID (1): ECD_P

Instrument ID (2): ECD_P

GC Column (1): ZB-MR1 ID: 0.32 (mm)

GC Column (2): ZB-MR2 ID: 0.32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
PB86140BS	PB86140BS	PP012045.D	10/16/2015	10/16/2015
CWC-1-20151014MS	G4034-01MS	PP012047.D	10/16/2015	10/16/2015
CWC-1-20151014MSD	G4034-01MSD	PP012048.D	10/16/2015	10/16/2015
GOODLUCK902	G4046-01	PP012056.D	10/17/2015	10/17/2015
GOODLUCK58	G4046-02	PP012057.D	10/17/2015	10/17/2015
GOODLUCKINSULATION	G4046-03	PP012058.D	10/17/2015	10/17/2015
MANAHAWKEN112	G4046-04	PP012059.D	10/17/2015	10/17/2015
MANAHAWKENINSULATION	G4046-05	PP012060.D	10/17/2015	10/17/2015

COMMENTS:

Form IV Pest

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86140BL	SDG No.:	G4046
Lab Sample ID:	PB86140BL	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012044.D	1	10/16/15 08:20	10/16/15 22:27	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	3.3	U	3.3	3.3	17	ug/kg
11104-28-2	Aroclor-1221	3.3	U	3.3	3.3	17	ug/kg
11141-16-5	Aroclor-1232	3.3	U	3.3	3.3	17	ug/kg
53469-21-9	Aroclor-1242	3.3	U	3.3	3.3	17	ug/kg
12672-29-6	Aroclor-1248	3.3	U	3.3	3.3	17	ug/kg
11097-69-1	Aroclor-1254	3.3	U	1.5	3.3	17	ug/kg
11096-82-5	Aroclor-1260	3.3	U	3.3	3.3	17	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	16.6		10 - 166		83%	SPK: 20
2051-24-3	Decachlorobiphenyl	17		60 - 125		85%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PP012024.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP012024.D	Matrix:	Water
Analytical Method:	SW8082A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012024.D	1		10/16/15	PP101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
12674-11-2	Aroclor-1016	0.1	U	0.096	0.1	0.5	ug/L
11104-28-2	Aroclor-1221	0.1	U	0.1	0.1	0.5	ug/L
11141-16-5	Aroclor-1232	0.1	U	0.1	0.1	0.5	ug/L
53469-21-9	Aroclor-1242	0.1	U	0.089	0.1	0.5	ug/L
12672-29-6	Aroclor-1248	0.1	U	0.1	0.1	0.5	ug/L
11097-69-1	Aroclor-1254	0.1	U	0.044	0.1	0.5	ug/L
11096-82-5	Aroclor-1260	0.1	U	0.081	0.1	0.5	ug/L
SURROGATES							
877-09-8	Tetrachloro-m-xylene	17.8		35 - 137		89%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.7		40 - 135		98%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	PIBLK-PP012038.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP012038.D	Matrix:	Water
Analytical Method:	SW8082A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012038.D	1		10/16/15	PP101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
12674-11-2	Aroclor-1016	0.1	U	0.096	0.1	0.5	ug/L
11104-28-2	Aroclor-1221	0.1	U	0.1	0.1	0.5	ug/L
11141-16-5	Aroclor-1232	0.1	U	0.1	0.1	0.5	ug/L
53469-21-9	Aroclor-1242	0.1	U	0.089	0.1	0.5	ug/L
12672-29-6	Aroclor-1248	0.1	U	0.1	0.1	0.5	ug/L
11097-69-1	Aroclor-1254	0.1	U	0.044	0.1	0.5	ug/L
11096-82-5	Aroclor-1260	0.1	U	0.081	0.1	0.5	ug/L
SURROGATES							
877-09-8	Tetrachloro-m-xylene	18.7		35 - 137		94%	SPK: 20
2051-24-3	Decachlorobiphenyl	18.7		40 - 135		93%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/17/15
Project:	U.S. Fish and Wildlife	Date Received:	10/17/15
Client Sample ID:	PIBLK-PP012050.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP012050.D	Matrix:	Water
Analytical Method:	SW8082A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012050.D	1		10/17/15	PP101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
12674-11-2	Aroclor-1016	0.1	U	0.096	0.1	0.5	ug/L
11104-28-2	Aroclor-1221	0.1	U	0.1	0.1	0.5	ug/L
11141-16-5	Aroclor-1232	0.1	U	0.1	0.1	0.5	ug/L
53469-21-9	Aroclor-1242	0.1	U	0.089	0.1	0.5	ug/L
12672-29-6	Aroclor-1248	0.1	U	0.1	0.1	0.5	ug/L
11097-69-1	Aroclor-1254	0.1	U	0.044	0.1	0.5	ug/L
11096-82-5	Aroclor-1260	0.1	U	0.081	0.1	0.5	ug/L
SURROGATES							
877-09-8	Tetrachloro-m-xylene	19.4		35 - 137		97%	SPK: 20
2051-24-3	Decachlorobiphenyl	19		40 - 135		95%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/17/15
Project:	U.S. Fish and Wildlife	Date Received:	10/17/15
Client Sample ID:	PIBLK-PP012061.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP012061.D	Matrix:	Water
Analytical Method:	SW8082A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012061.D	1		10/17/15	PP101615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
12674-11-2	Aroclor-1016	0.1	U	0.096	0.1	0.5	ug/L
11104-28-2	Aroclor-1221	0.1	U	0.1	0.1	0.5	ug/L
11141-16-5	Aroclor-1232	0.1	U	0.1	0.1	0.5	ug/L
53469-21-9	Aroclor-1242	0.1	U	0.089	0.1	0.5	ug/L
12672-29-6	Aroclor-1248	0.1	U	0.1	0.1	0.5	ug/L
11097-69-1	Aroclor-1254	0.1	U	0.044	0.1	0.5	ug/L
11096-82-5	Aroclor-1260	0.1	U	0.081	0.1	0.5	ug/L
SURROGATES							
877-09-8	Tetrachloro-m-xylene	20.4		35 - 137		102%	SPK: 20
2051-24-3	Decachlorobiphenyl	18.2		40 - 135		91%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86140BS	SDG No.:	G4046
Lab Sample ID:	PB86140BS	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012045.D	1	10/16/15 08:20	10/16/15 22:42	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	81.2		3.3	3.3	17	ug/kg
11104-28-2	Aroclor-1221	3.3	U	3.3	3.3	17	ug/kg
11141-16-5	Aroclor-1232	3.3	U	3.3	3.3	17	ug/kg
53469-21-9	Aroclor-1242	3.3	U	3.3	3.3	17	ug/kg
12672-29-6	Aroclor-1248	3.3	U	3.3	3.3	17	ug/kg
11097-69-1	Aroclor-1254	3.3	U	1.5	3.3	17	ug/kg
11096-82-5	Aroclor-1260	76.1		3.3	3.3	17	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	16.4		10 - 166		82%	SPK: 20
2051-24-3	Decachlorobiphenyl	16.8		60 - 125		84%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	CWC-1-20151014MS	SDG No.:	G4046
Lab Sample ID:	G4034-01MS	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	16.6 Decanted:
Sample Wt/Vol:	30.1 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012047.D	1	10/16/15 08:20	10/16/15 23:12	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	130		4	4	20.3	ug/kg
11104-28-2	Aroclor-1221	4	U	4	4	20.3	ug/kg
11141-16-5	Aroclor-1232	4	U	4	4	20.3	ug/kg
53469-21-9	Aroclor-1242	4	U	4	4	20.3	ug/kg
12672-29-6	Aroclor-1248	4	U	4	4	20.3	ug/kg
11097-69-1	Aroclor-1254	4	U	1.8	4	20.3	ug/kg
11096-82-5	Aroclor-1260	110		4	4	20.3	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	19.2		10 - 166		96%	SPK: 20
2051-24-3	Decachlorobiphenyl	17.4		60 - 125		87%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	CWC-1-20151014MSD	SDG No.:	G4046
Lab Sample ID:	G4034-01MSD	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	16.6 Decanted:
Sample Wt/Vol:	30.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012048.D	1	10/16/15 08:20	10/16/15 23:27	PB86140

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	130		4	4	20.4	ug/kg
11104-28-2	Aroclor-1221	4	U	4	4	20.4	ug/kg
11141-16-5	Aroclor-1232	4	U	4	4	20.4	ug/kg
53469-21-9	Aroclor-1242	4	U	4	4	20.4	ug/kg
12672-29-6	Aroclor-1248	4	U	4	4	20.4	ug/kg
11097-69-1	Aroclor-1254	4	U	1.8	4	20.4	ug/kg
11096-82-5	Aroclor-1260	110		4	4	20.4	ug/kg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	19.7		10 - 166		99%	SPK: 20
2051-24-3	Decachlorobiphenyl	17.2		60 - 125		86%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P **Calibration Date(s):** 10/16/2015 10/16/2015

Calibration Times: 17:41 18:41

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PP012025.D RT 750 = PP012026.D

RT 500 = PP012027.D RT 250 = PP012028.D RT 050 = PP012029.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	6.08	6.08	6.08	6.08	6.08	6.08	5.98	6.18
Aroclor-1016-2	(2)	6.44	6.44	6.44	6.44	6.44	6.44	6.34	6.54
Aroclor-1016-3	(3)	6.54	6.54	6.54	6.54	6.54	6.54	6.44	6.64
Aroclor-1016-4	(4)	6.84	6.84	6.84	6.84	6.83	6.83	6.73	6.93
Aroclor-1016-5	(5)	6.98	6.98	6.98	6.98	6.98	6.98	6.88	7.08
Aroclor-1260-1	(1)	7.96	7.96	7.96	7.96	7.96	7.96	7.86	8.06
Aroclor-1260-2	(2)	8.22	8.22	8.22	8.22	8.22	8.22	8.12	8.32
Aroclor-1260-3	(3)	8.61	8.61	8.62	8.61	8.61	8.61	8.51	8.71
Aroclor-1260-4	(4)	8.88	8.88	8.88	8.88	8.88	8.88	8.78	8.98
Aroclor-1260-5	(5)	9.26	9.26	9.26	9.26	9.26	9.26	9.16	9.36
Decachlorobiphenyl		11.49	11.49	11.49	11.49	11.49	11.49	11.39	11.59
Tetrachloro-m-xylene		5.16	5.17	5.17	5.17	5.16	5.16	5.06	5.26

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RETENTION TIMES OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P **Calibration Date(s):** 10/16/2015 10/16/2015

Calibration Times: 17:41 18:41

GC Column: ZB-MR2 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PP012025.D RT 750 = PP012026.D

RT 500 = PP012027.D RT 250 = PP012028.D RT 050 = PP012029.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	5.05	5.05	5.05	5.05	5.05	5.05	4.95	5.15
Aroclor-1016-2	(2)	5.47	5.47	5.47	5.47	5.47	5.47	5.37	5.57
Aroclor-1016-3	(3)	5.50	5.50	5.50	5.50	5.50	5.50	5.40	5.60
Aroclor-1016-4	(4)	5.55	5.55	5.55	5.55	5.55	5.55	5.45	5.65
Aroclor-1016-5	(5)	5.72	5.72	5.72	5.72	5.72	5.72	5.62	5.82
Aroclor-1260-1	(1)	6.74	6.74	6.74	6.74	6.74	6.74	6.64	6.84
Aroclor-1260-2	(2)	6.93	6.93	6.93	6.93	6.93	6.93	6.83	7.03
Aroclor-1260-3	(3)	7.09	7.09	7.08	7.09	7.09	7.08	6.98	7.18
Aroclor-1260-4	(4)	7.79	7.79	7.79	7.79	7.79	7.79	7.69	7.89
Aroclor-1260-5	(5)	8.14	8.14	8.14	8.14	8.14	8.14	8.04	8.24
Decachlorobiphenyl		9.27	9.27	9.27	9.27	9.27	9.27	9.17	9.37
Tetrachloro-m-xylene		4.18	4.18	4.18	4.18	4.18	4.18	4.08	4.28

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P

Calibration Date(s): 10/16/2015 10/16/2015

Calibration Times: 17:41 18:41

GC Column: ZB-MR1 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PP012025.D CF 750 = PP012026.D

CF 500 = PP012027.D CF 250 = PP012028.D CF 050 = PP012029.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	1232929	1277883	1309768	1282532	1306480	1281918	2
Aroclor-1016-2	(2)	1540455	1599975	1664604	1699872	1658500	1632681	4
Aroclor-1016-3	(3)	1280016	1328449	1379156	1421368	1432440	1368286	5
Aroclor-1016-4	(4)	1184883	1227479	1275976	1298420	1159860	1229324	5
Aroclor-1016-5	(5)	1292333	1342564	1384160	1432492	1476340	1385578	5
Aroclor-1260-1	(1)	2158124	2332041	2286462	2286704	1945340	2201734	7
Aroclor-1260-2	(2)	2636981	2793024	2834454	2894108	2801300	2791973	3
Aroclor-1260-3	(3)	2026459	2145305	2196710	2173448	2037180	2115820	4
Aroclor-1260-4	(4)	2360201	2485453	2548632	2578048	2140680	2422603	7
Aroclor-1260-5	(5)	4757764	4870365	5036052	5045512	4671620	4876263	3
Decachlorobiphenyl		40547780	41600253	42755480	42972280	39032400	41381639	4
Tetrachloro-m-xylene		56924140	58385253	58384840	58157680	55615200	57493423	2

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P

Calibration Date(s): 10/16/2015 10/16/2015

Calibration Times: 17:41 18:41

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PP012025.D CF 750 = PP012026.D

CF 500 = PP012027.D CF 250 = PP012028.D CF 050 = PP012029.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	1495879	1555132	1619514	1683540	1620200	1594853	4
Aroclor-1016-2	(2)	1505878	1560239	1625490	1666832	1590160	1589720	4
Aroclor-1016-3	(3)	1194140	1258160	1334438	1408472	1418980	1322838	7
Aroclor-1016-4	(4)	1525775	1597916	1686472	1784332	1825080	1683915	7
Aroclor-1016-5	(5)	1630954	1697063	1771072	1859812	1799200	1751620	5
Aroclor-1260-1	(1)	3284822	3385009	3550034	3705672	3751780	3535463	6
Aroclor-1260-2	(2)	4035091	4160211	4344952	4526624	4609080	4335192	6
Aroclor-1260-3	(3)	3750648	3848124	4008862	4126820	3977120	3942315	4
Aroclor-1260-4	(4)	7542595	7679771	7934948	7957660	7663540	7755703	2
Aroclor-1260-5	(5)	5425867	5494820	5737390	5777836	5625560	5612295	3
Decachlorobiphenyl		59987080	61942787	64603320	66556120	65309200	63679701	4
Tetrachloro-m-xylene		63040830	64471227	64245920	63267880	57336400	62472451	5

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P **Date(s) Analyzed:** 10/16/2015 10/16/2015

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	5.37	5.27	5.47	579586
		2	5.46	5.36	5.56	443358
		3	5.54	5.44	5.64	1373690
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	5.54	5.44	5.64	1134400
		2	6.08	5.98	6.18	549354
		3	6.44	6.34	6.54	712762
		4	6.54	6.44	6.64	584454
		5	6.98	6.88	7.08	573174
Aroclor-1242	500	1	5.88	5.78	5.98	1085150
		2	6.08	5.98	6.18	1035350
		3	6.44	6.34	6.54	1302560
		4	7.24	7.14	7.34	1078610
		5	7.28	7.18	7.38	1132540
Aroclor-1248	500	1	6.35	6.25	6.45	1048180
		2	6.38	6.28	6.48	1274370
		3	6.84	6.74	6.94	1645010
		4	7.24	7.14	7.34	1909830
		5	7.28	7.18	7.38	1837640
Aroclor-1254	500	1	7.21	7.11	7.31	2000580
		2	7.43	7.33	7.53	2836180
		3	7.80	7.70	7.90	3077060
		4	8.09	7.99	8.19	2341060
		5	8.54	8.44	8.64	2871000

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P **Date(s) Analyzed:** 10/16/2015 10/16/2015

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	4.40	4.30	4.50	691706
		2	4.48	4.38	4.58	530164
		3	4.56	4.46	4.66	1650310
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	4.56	4.46	4.66	1373180
		2	5.05	4.95	5.15	709328
		3	5.47	5.37	5.57	671436
		4	5.72	5.62	5.82	669746
		5	6.07	5.97	6.17	782394
Aroclor-1242	500	1	5.05	4.95	5.15	1297720
		2	5.35	5.25	5.45	1815030
		3	5.72	5.62	5.82	1429730
		4	6.07	5.97	6.17	1691760
		5	6.11	6.01	6.21	1426960
Aroclor-1248	500	1	5.27	5.17	5.37	1314020
		2	5.29	5.19	5.39	1329760
		3	5.50	5.40	5.60	1854430
		4	5.55	5.45	5.65	1943950
		5	6.07	5.97	6.17	3196780
Aroclor-1254	500	1	6.07	5.97	6.17	3524260
		2	6.21	6.11	6.31	3048160
		3	6.53	6.43	6.63	2492020
		4	6.62	6.52	6.72	4996200
		5	7.26	7.16	7.36	4356160

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/16/2015 10/16/2015

Continuing Calib Time: 21:12 **Initial Calibration Time(s):** 17:41 20:27

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	6.08	6.08	5.98	6.18	0.00
Aroclor-1016-2	(2)	6.44	6.44	6.34	6.54	0.00
Aroclor-1016-3	(3)	6.54	6.54	6.44	6.64	0.00
Aroclor-1016-4	(4)	6.84	6.84	6.74	6.94	0.00
Aroclor-1016-5	(5)	6.98	6.98	6.88	7.08	0.00
Aroclor-1260-1	(1)	7.96	7.96	7.86	8.06	0.00
Aroclor-1260-2	(2)	8.22	8.22	8.12	8.32	0.00
Aroclor-1260-3	(3)	8.61	8.62	8.52	8.72	0.01
Aroclor-1260-4	(4)	8.88	8.88	8.78	8.98	0.00
Aroclor-1260-5	(5)	9.26	9.26	9.16	9.36	0.00
Tetrachloro-m-xylene		5.16	5.17	5.07	5.27	0.01
Decachlorobiphenyl		11.49	11.49	11.39	11.59	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/16/2015 **Initial Calibration Date(s):** 10/16/2015 10/16/2015

Continuing Calib Time: 21:12 **Initial Calibration Time(s):** 17:41 20:27

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.05	5.05	4.95	5.15	0.00
Aroclor-1016-2	(2)	5.47	5.47	5.37	5.57	0.00
Aroclor-1016-3	(3)	5.50	5.50	5.40	5.60	0.00
Aroclor-1016-4	(4)	5.55	5.55	5.45	5.65	0.00
Aroclor-1016-5	(5)	5.72	5.72	5.62	5.82	0.00
Aroclor-1260-1	(1)	6.74	6.74	6.64	6.84	0.00
Aroclor-1260-2	(2)	6.93	6.93	6.83	7.03	0.00
Aroclor-1260-3	(3)	7.08	7.08	6.98	7.18	0.00
Aroclor-1260-4	(4)	7.79	7.79	7.69	7.89	0.00
Aroclor-1260-5	(5)	8.14	8.14	8.04	8.24	0.00
Tetrachloro-m-xylene		4.18	4.18	4.08	4.28	0.00
Decachlorobiphenyl		9.27	9.27	9.17	9.37	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/16/2015 10/16/2015

Client Sample No.: CCAL01 **Date Analyzed:** 10/16/2015

Lab Sample No.: AR1660CCC500 **Data File :** PP012039.D **Time Analyzed:** 21:12

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	6.082	5.983	6.183	483.150	500.000	-3.4
Aroclor-1016-2	6.439	6.340	6.540	473.550	500.000	-5.3
Aroclor-1016-3	6.541	6.442	6.642	465.520	500.000	-6.9
Aroclor-1016-4	6.835	6.735	6.935	487.500	500.000	-2.5
Aroclor-1016-5	6.978	6.879	7.079	461.770	500.000	-7.6
Aroclor-1260-1	7.963	7.864	8.064	525.960	500.000	5.2
Aroclor-1260-2	8.222	8.122	8.322	483.850	500.000	-3.2
Aroclor-1260-3	8.614	8.515	8.715	484.080	500.000	-3.2
Aroclor-1260-4	8.881	8.781	8.981	487.530	500.000	-2.5
Aroclor-1260-5	9.257	9.158	9.358	476.390	500.000	-4.7
Decachlorobiphenyl	11.489	11.391	11.591	47.810	50.000	-4.4
Tetrachloro-m-xylene	5.164	5.065	5.265	47.040	50.000	-5.9

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/16/2015 10/16/2015

Client Sample No.: CCAL01 **Date Analyzed:** 10/16/2015

Lab Sample No.: AR1660CCC500 **Data File :** PP012039.D **Time Analyzed:** 21:12

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.052	4.952	5.152	478.890	500.000	-4.2
Aroclor-1016-2	5.467	5.367	5.567	474.810	500.000	-5.0
Aroclor-1016-3	5.502	5.402	5.602	471.510	500.000	-5.7
Aroclor-1016-4	5.545	5.445	5.645	468.870	500.000	-6.2
Aroclor-1016-5	5.720	5.620	5.820	477.700	500.000	-4.5
Aroclor-1260-1	6.743	6.644	6.844	474.740	500.000	-5.1
Aroclor-1260-2	6.926	6.825	7.025	474.610	500.000	-5.1
Aroclor-1260-3	7.084	6.984	7.184	481.280	500.000	-3.7
Aroclor-1260-4	7.786	7.687	7.887	483.640	500.000	-3.3
Aroclor-1260-5	8.136	8.036	8.236	480.420	500.000	-3.9
Decachlorobiphenyl	9.272	9.173	9.373	47.780	50.000	-4.4
Tetrachloro-m-xylene	4.182	4.083	4.283	47.670	50.000	-4.7

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/17/2015 **Initial Calibration Date(s):** 10/16/2015 10/16/2015

Continuing Calib Time: 00:27 **Initial Calibration Time(s):** 17:41 20:27

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	6.08	6.08	5.98	6.18	0.00
Aroclor-1016-2	(2)	6.44	6.44	6.34	6.54	0.00
Aroclor-1016-3	(3)	6.54	6.54	6.44	6.64	0.00
Aroclor-1016-4	(4)	6.84	6.84	6.74	6.94	0.00
Aroclor-1016-5	(5)	6.98	6.98	6.88	7.08	0.00
Aroclor-1260-1	(1)	7.96	7.96	7.86	8.06	0.00
Aroclor-1260-2	(2)	8.22	8.22	8.12	8.32	0.00
Aroclor-1260-3	(3)	8.61	8.62	8.52	8.72	0.01
Aroclor-1260-4	(4)	8.88	8.88	8.78	8.98	0.00
Aroclor-1260-5	(5)	9.26	9.26	9.16	9.36	0.00
Tetrachloro-m-xylene		5.17	5.17	5.07	5.27	0.00
Decachlorobiphenyl		11.49	11.49	11.39	11.59	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/17/2015 **Initial Calibration Date(s):** 10/16/2015 10/16/2015

Continuing Calib Time: 00:27 **Initial Calibration Time(s):** 17:41 20:27

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.05	5.05	4.95	5.15	0.00
Aroclor-1016-2	(2)	5.47	5.47	5.37	5.57	0.00
Aroclor-1016-3	(3)	5.50	5.50	5.40	5.60	0.00
Aroclor-1016-4	(4)	5.55	5.55	5.45	5.65	0.00
Aroclor-1016-5	(5)	5.72	5.72	5.62	5.82	0.00
Aroclor-1260-1	(1)	6.74	6.74	6.64	6.84	0.00
Aroclor-1260-2	(2)	6.93	6.93	6.83	7.03	0.00
Aroclor-1260-3	(3)	7.09	7.08	6.98	7.18	-0.01
Aroclor-1260-4	(4)	7.79	7.79	7.69	7.89	0.00
Aroclor-1260-5	(5)	8.14	8.14	8.04	8.24	0.00
Tetrachloro-m-xylene		4.19	4.18	4.08	4.28	0.00
Decachlorobiphenyl		9.27	9.27	9.17	9.37	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/16/2015 10/16/2015

Client Sample No.: CCAL02 **Date Analyzed:** 10/17/2015

Lab Sample No.: AR1660CCC500 **Data File :** PP012051.D **Time Analyzed:** 00:27

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	6.083	5.983	6.183	527.870	500.000	5.6
Aroclor-1016-2	6.440	6.340	6.540	520.450	500.000	4.1
Aroclor-1016-3	6.542	6.442	6.642	504.970	500.000	1.0
Aroclor-1016-4	6.835	6.735	6.935	521.760	500.000	4.4
Aroclor-1016-5	6.979	6.879	7.079	502.950	500.000	0.6
Aroclor-1260-1	7.963	7.864	8.064	548.040	500.000	9.6
Aroclor-1260-2	8.222	8.122	8.322	510.010	500.000	2.0
Aroclor-1260-3	8.614	8.515	8.715	507.420	500.000	1.5
Aroclor-1260-4	8.882	8.781	8.981	508.900	500.000	1.8
Aroclor-1260-5	9.256	9.158	9.358	495.440	500.000	-0.9
Decachlorobiphenyl	11.488	11.391	11.591	49.350	50.000	-1.3
Tetrachloro-m-xylene	5.166	5.065	5.265	51.520	50.000	3.0

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/16/2015 10/16/2015

Client Sample No.: CCAL02 **Date Analyzed:** 10/17/2015

Lab Sample No.: AR1660CCC500 **Data File :** PP012051.D **Time Analyzed:** 00:27

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.054	4.952	5.152	513.470	500.000	2.7
Aroclor-1016-2	5.468	5.367	5.567	518.490	500.000	3.7
Aroclor-1016-3	5.503	5.402	5.602	510.300	500.000	2.1
Aroclor-1016-4	5.546	5.445	5.645	502.940	500.000	0.6
Aroclor-1016-5	5.721	5.620	5.820	506.210	500.000	1.2
Aroclor-1260-1	6.744	6.644	6.844	490.870	500.000	-1.8
Aroclor-1260-2	6.927	6.825	7.025	489.970	500.000	-2.0
Aroclor-1260-3	7.085	6.984	7.184	494.830	500.000	-1.0
Aroclor-1260-4	7.787	7.687	7.887	494.100	500.000	-1.2
Aroclor-1260-5	8.136	8.036	8.236	486.870	500.000	-2.6
Decachlorobiphenyl	9.272	9.173	9.373	49.090	50.000	-1.8
Tetrachloro-m-xylene	4.185	4.083	4.283	52.390	50.000	4.8

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/17/2015 **Initial Calibration Date(s):** 10/16/2015 10/16/2015

Continuing Calib Time: 03:27 **Initial Calibration Time(s):** 17:41 20:27

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	6.08	6.08	5.98	6.18	0.00
Aroclor-1016-2	(2)	6.44	6.44	6.34	6.54	0.00
Aroclor-1016-3	(3)	6.54	6.54	6.44	6.64	0.00
Aroclor-1016-4	(4)	6.84	6.84	6.74	6.94	0.00
Aroclor-1016-5	(5)	6.98	6.98	6.88	7.08	0.00
Aroclor-1260-1	(1)	7.96	7.96	7.86	8.06	0.00
Aroclor-1260-2	(2)	8.22	8.22	8.12	8.32	0.00
Aroclor-1260-3	(3)	8.61	8.62	8.52	8.72	0.01
Aroclor-1260-4	(4)	8.88	8.88	8.78	8.98	0.00
Aroclor-1260-5	(5)	9.26	9.26	9.16	9.36	0.00
Tetrachloro-m-xylene		5.17	5.17	5.07	5.27	0.01
Decachlorobiphenyl		11.49	11.49	11.39	11.59	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/17/2015 **Initial Calibration Date(s):** 10/16/2015 10/16/2015

Continuing Calib Time: 03:27 **Initial Calibration Time(s):** 17:41 20:27

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.05	5.05	4.95	5.15	0.00
Aroclor-1016-2	(2)	5.47	5.47	5.37	5.57	0.00
Aroclor-1016-3	(3)	5.50	5.50	5.40	5.60	0.00
Aroclor-1016-4	(4)	5.55	5.55	5.45	5.65	0.00
Aroclor-1016-5	(5)	5.72	5.72	5.62	5.82	0.00
Aroclor-1260-1	(1)	6.74	6.74	6.64	6.84	0.00
Aroclor-1260-2	(2)	6.93	6.93	6.83	7.03	0.00
Aroclor-1260-3	(3)	7.09	7.08	6.98	7.18	-0.01
Aroclor-1260-4	(4)	7.79	7.79	7.69	7.89	0.00
Aroclor-1260-5	(5)	8.14	8.14	8.04	8.24	0.00
Tetrachloro-m-xylene		4.18	4.18	4.08	4.28	0.00
Decachlorobiphenyl		9.27	9.27	9.17	9.37	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/16/2015 10/16/2015

Client Sample No.: CCAL03 **Date Analyzed:** 10/17/2015

Lab Sample No.: AR1660CCC500 **Data File :** PP012062.D **Time Analyzed:** 03:27

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	6.082	5.983	6.183	510.530	500.000	2.1
Aroclor-1016-2	6.440	6.340	6.540	495.390	500.000	-0.9
Aroclor-1016-3	6.542	6.442	6.642	484.030	500.000	-3.2
Aroclor-1016-4	6.835	6.735	6.935	499.390	500.000	-0.1
Aroclor-1016-5	6.979	6.879	7.079	547.370	500.000	9.5
Aroclor-1260-1	7.963	7.864	8.064	574.810	500.000	15.0
Aroclor-1260-2	8.222	8.122	8.322	558.950	500.000	11.8
Aroclor-1260-3	8.614	8.515	8.715	524.820	500.000	5.0
Aroclor-1260-4	8.881	8.781	8.981	545.910	500.000	9.2
Aroclor-1260-5	9.257	9.158	9.358	487.750	500.000	-2.5
Decachlorobiphenyl	11.488	11.391	11.591	46.700	50.000	-6.6
Tetrachloro-m-xylene	5.165	5.065	5.265	50.450	50.000	0.9

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/16/2015 10/16/2015

Client Sample No.: CCAL03 **Date Analyzed:** 10/17/2015

Lab Sample No.: AR1660CCC500 **Data File :** PP012062.D **Time Analyzed:** 03:27

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.053	4.952	5.152	516.980	500.000	3.4
Aroclor-1016-2	5.467	5.367	5.567	520.440	500.000	4.1
Aroclor-1016-3	5.502	5.402	5.602	510.100	500.000	2.0
Aroclor-1016-4	5.546	5.445	5.645	510.510	500.000	2.1
Aroclor-1016-5	5.720	5.620	5.820	502.430	500.000	0.5
Aroclor-1260-1	6.744	6.644	6.844	474.230	500.000	-5.2
Aroclor-1260-2	6.926	6.825	7.025	472.310	500.000	-5.5
Aroclor-1260-3	7.085	6.984	7.184	477.460	500.000	-4.5
Aroclor-1260-4	7.788	7.687	7.887	481.170	500.000	-3.8
Aroclor-1260-5	8.136	8.036	8.236	481.170	500.000	-3.8
Decachlorobiphenyl	9.272	9.173	9.373	47.240	50.000	-5.5
Tetrachloro-m-xylene	4.184	4.083	4.283	53.690	50.000	7.4

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Analytical Sequence

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Project: U.S. Fish and Wildlife **Instrument ID:** ECD_P

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 10/16/2015 10/16/2015

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	10/16/2015	17:26	PP012024.D	11.49	5.17
AR1660ICC1000	AR1660ICC1000	10/16/2015	17:41	PP012025.D	11.49	5.16
AR1660ICC750	AR1660ICC750	10/16/2015	17:56	PP012026.D	11.49	5.17
AR1660ICC500	AR1660ICC500	10/16/2015	18:11	PP012027.D	11.49	5.17
AR1660ICC250	AR1660ICC250	10/16/2015	18:26	PP012028.D	11.49	5.17
AR1660ICC50	AR1660ICC50	10/16/2015	18:41	PP012029.D	11.49	5.16
AR1221ICC500	AR1221ICC500	10/16/2015	18:56	PP012030.D	11.49	5.17
AR1232ICC500	AR1232ICC500	10/16/2015	19:11	PP012031.D	11.49	5.16
AR1242ICC500	AR1242ICC500	10/16/2015	19:26	PP012032.D	11.49	5.17
AR1248ICC500	AR1248ICC500	10/16/2015	19:41	PP012033.D	11.49	5.16
AR1254ICC500	AR1254ICC500	10/16/2015	19:56	PP012034.D	11.49	5.16
AR1262ICC500	AR1262ICC500	10/16/2015	20:11	PP012035.D	11.49	5.17
AR1268ICC500	AR1268ICC500	10/16/2015	20:27	PP012036.D	11.49	5.16
I.BLK	I.BLK	10/16/2015	20:57	PP012038.D	11.49	5.17
AR1660CCC500	AR1660CCC500	10/16/2015	21:12	PP012039.D	11.49	5.16
PB86140BL	PB86140BL	10/16/2015	22:27	PP012044.D	11.49	5.16
PB86140BS	PB86140BS	10/16/2015	22:42	PP012045.D	11.49	5.17
CWC-1-20151014MS	G4034-01MS	10/16/2015	23:12	PP012047.D	11.49	5.16
CWC-1-20151014MSD	G4034-01MSD	10/16/2015	23:27	PP012048.D	11.49	5.17
I.BLK	I.BLK	10/17/2015	00:12	PP012050.D	11.49	5.17
AR1660CCC500	AR1660CCC500	10/17/2015	00:27	PP012051.D	11.49	5.17
GOODLUCK902	G4046-01	10/17/2015	01:42	PP012056.D	11.49	5.17
GOODLUCK58	G4046-02	10/17/2015	01:57	PP012057.D	11.49	5.17
GOODLUCKINSULATION	G4046-03	10/17/2015	02:12	PP012058.D	11.49	5.16
MANAHAWKEN112	G4046-04	10/17/2015	02:27	PP012059.D	11.49	5.17
MANAHAWKENINSULATION	G4046-05	10/17/2015	02:42	PP012060.D	11.49	5.17
I.BLK	I.BLK	10/17/2015	03:12	PP012061.D	11.49	5.17
AR1660CCC500	AR1660CCC500	10/17/2015	03:27	PP012062.D	11.49	5.17

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Analytical Sequence

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Project: U.S. Fish and Wildlife **Instrument ID:** ECD_P

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 10/16/2015 10/16/2015

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	10/16/2015	17:26	PP012024.D	11.49	5.17
AR1660ICC1000	AR1660ICC1000	10/16/2015	17:41	PP012025.D	11.49	5.16
AR1660ICC750	AR1660ICC750	10/16/2015	17:56	PP012026.D	11.49	5.17
AR1660ICC500	AR1660ICC500	10/16/2015	18:11	PP012027.D	11.49	5.17
AR1660ICC250	AR1660ICC250	10/16/2015	18:26	PP012028.D	11.49	5.17
AR1660ICC50	AR1660ICC50	10/16/2015	18:41	PP012029.D	11.49	5.16
AR1221ICC500	AR1221ICC500	10/16/2015	18:56	PP012030.D	11.49	5.17
AR1232ICC500	AR1232ICC500	10/16/2015	19:11	PP012031.D	11.49	5.16
AR1242ICC500	AR1242ICC500	10/16/2015	19:26	PP012032.D	11.49	5.17
AR1248ICC500	AR1248ICC500	10/16/2015	19:41	PP012033.D	11.49	5.16
AR1254ICC500	AR1254ICC500	10/16/2015	19:56	PP012034.D	11.49	5.16
AR1262ICC500	AR1262ICC500	10/16/2015	20:11	PP012035.D	11.49	5.17
AR1268ICC500	AR1268ICC500	10/16/2015	20:27	PP012036.D	11.49	5.16
I.BLK	I.BLK	10/16/2015	20:57	PP012038.D	11.49	5.17
AR1660CCC500	AR1660CCC500	10/16/2015	21:12	PP012039.D	11.49	5.16
PB86140BL	PB86140BL	10/16/2015	22:27	PP012044.D	11.49	5.16
PB86140BS	PB86140BS	10/16/2015	22:42	PP012045.D	11.49	5.17
CWC-1-20151014MS	G4034-01MS	10/16/2015	23:12	PP012047.D	11.49	5.16
CWC-1-20151014MSD	G4034-01MSD	10/16/2015	23:27	PP012048.D	11.49	5.17
I.BLK	I.BLK	10/17/2015	00:12	PP012050.D	11.49	5.17
AR1660CCC500	AR1660CCC500	10/17/2015	00:27	PP012051.D	11.49	5.17
GOODLUCK902	G4046-01	10/17/2015	01:42	PP012056.D	11.49	5.17
GOODLUCK58	G4046-02	10/17/2015	01:57	PP012057.D	11.49	5.17
GOODLUCKINSULATION	G4046-03	10/17/2015	02:12	PP012058.D	11.49	5.16
MANAHAWKEN112	G4046-04	10/17/2015	02:27	PP012059.D	11.49	5.17
MANAHAWKENINSULATION	G4046-05	10/17/2015	02:42	PP012060.D	11.49	5.17
I.BLK	I.BLK	10/17/2015	03:12	PP012061.D	11.49	5.17
AR1660CCC500	AR1660CCC500	10/17/2015	03:27	PP012062.D	11.49	5.17

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IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.
PB86140BS

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: PB86140BS Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_P Instrument ID (2): ECD_P

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

Data file PP012045.D

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%RPD
Aroclor-1016	1	6.08	6.03	6.13	83.03		
	2	6.44	6.39	6.49	82.84		
	3	6.54	6.49	6.59	82.35		
COLUMN 1	4	6.84	6.79	6.89	82.79		
	5	6.98	6.93	7.03	64.99	79.200	
	1	5.05	5.00	5.10	81.28		
	2	5.47	5.42	5.52	80.53		
	3	5.50	5.45	5.55	83.08		
	4	5.55	5.50	5.60	81.70		
COLUMN 2	5	5.72	5.67	5.77	79.59	81.200	2.49
Aroclor-1260	1	7.96	7.91	8.01	81.89		
	2	8.22	8.17	8.27	79.51		
	3	8.61	8.56	8.66	70.33		
COLUMN 1	4	8.88	8.83	8.93	77.64		
	5	9.26	9.21	9.31	71.24	76.100	
	1	6.74	6.69	6.79	78.50		
	2	6.93	6.88	6.98	78.08		
	3	7.09	7.04	7.14	78.81		
	4	7.79	7.74	7.84	69.91		
COLUMN 2	5	8.14	8.09	8.19	70.55	75.200	1.19

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IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.
CWC-1-20151014MS

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4034-01MS Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_P Instrument ID (2): ECD_P

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

Data file PP012047.D

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%RPD
Aroclor-1016	1	6.08	6.03	6.13	129.03		
	2	6.44	6.39	6.49	121.71		
	3	6.54	6.49	6.59	135.86		
COLUMN 1	4	6.84	6.79	6.89	137.29		
	5	6.98	6.93	7.03	104.33	130.000	
	1	5.05	5.00	5.10	123.14		
	2	5.47	5.42	5.52	123.80		
	3	5.50	5.45	5.55	127.33		
	4	5.54	5.49	5.59	114.26		
COLUMN 2	5	5.72	5.67	5.77	104.91	120.000	8.00
Aroclor-1260	1	7.96	7.91	8.01	115.80		
	2	8.22	8.17	8.27	164.52		
	3	8.61	8.56	8.66	94.48		
COLUMN 1	4	8.88	8.83	8.93	106.48		
	5	9.26	9.21	9.31	90.15	110.000	
	1	6.74	6.69	6.79	92.37		
	2	6.93	6.88	6.98	106.74		
	3	7.08	7.03	7.13	117.54		
	4	7.79	7.74	7.84	90.31		
COLUMN 2	5	8.14	8.09	8.19	86.65	98.700	10.83

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IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.
CWC-1-20151014MSD

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4034-01MSD Date(s) Analyzed: 10/16/2015 10/16/2015

Instrument ID (1): ECD_P Instrument ID (2): ECD_P

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

Data file PP012048.D

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%RPD
Aroclor-1016	1	6.08	6.03	6.13	128.96		
	2	6.44	6.39	6.49	128.62		
	3	6.54	6.49	6.59	142.78		
COLUMN 1	4	6.84	6.79	6.89	139.44		
	5	6.98	6.93	7.03	102.74	130.000	
	1	5.05	5.00	5.10	124.49		
	2	5.47	5.42	5.52	126.43		
	3	5.50	5.45	5.55	129.81		
	4	5.55	5.50	5.60	116.55		
COLUMN 2	5	5.72	5.67	5.77	105.11	120.000	8.00
Aroclor-1260	1	7.96	7.91	8.01	117.42		
	2	8.22	8.17	8.27	164.93		
	3	8.61	8.56	8.66	89.00		
COLUMN 1	4	8.88	8.83	8.93	98.30		
	5	9.26	9.21	9.31	89.90	110.000	
	1	6.74	6.69	6.79	93.85		
	2	6.93	6.88	6.98	108.82		
	3	7.09	7.04	7.14	128.44		
	4	7.79	7.74	7.84	92.97		
COLUMN 2	5	8.14	8.09	8.19	93.03	100.000	9.52

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IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.
GOODLUCKINSULATIOI

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: G4046-03 Date(s) Analyzed: 10/17/2015 10/17/2015

Instrument ID (1): ECD_P Instrument ID (2): ECD_P

GC Column: (1): ZB-MR1 ID: 0.32 (mm) GC Column:(2): ZB-MR2 ID: 0.32 (mm)

Data file PP012058.D

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%RPD
Aroclor-1254	1	7.21	7.16	7.26	2,531.86		
	2	7.43	7.38	7.48	3,201.86		
	3	7.80	7.75	7.85	2,526.27		
COLUMN 1	4	8.09	8.04	8.14	3,599.02		
	5	8.54	8.49	8.59	3,377.55	3,000.000	
	1	6.07	6.02	6.12	3,043.14		
	2	6.22	6.17	6.27	2,490.20		
	3	6.53	6.48	6.58	3,154.02		
	4	6.62	6.57	6.67	2,505.00		
COLUMN 2	5	7.26	7.21	7.31	3,880.59	3,000.000	0.00

SAMPLE RAW DATA

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012056.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 1:42
Operator : IZ/UA
Sample : G4046-01
Misc :
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:43:50 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
ugo
10/19/2015 4:39:22 PM

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
1) SA Tetrachlo...	5.166	4.186	1071977	726222	17.286m	10.803 #
2) SA Decachlor...	11.489	9.273	551670	923895	12.340	13.368m
Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PP012056.D**

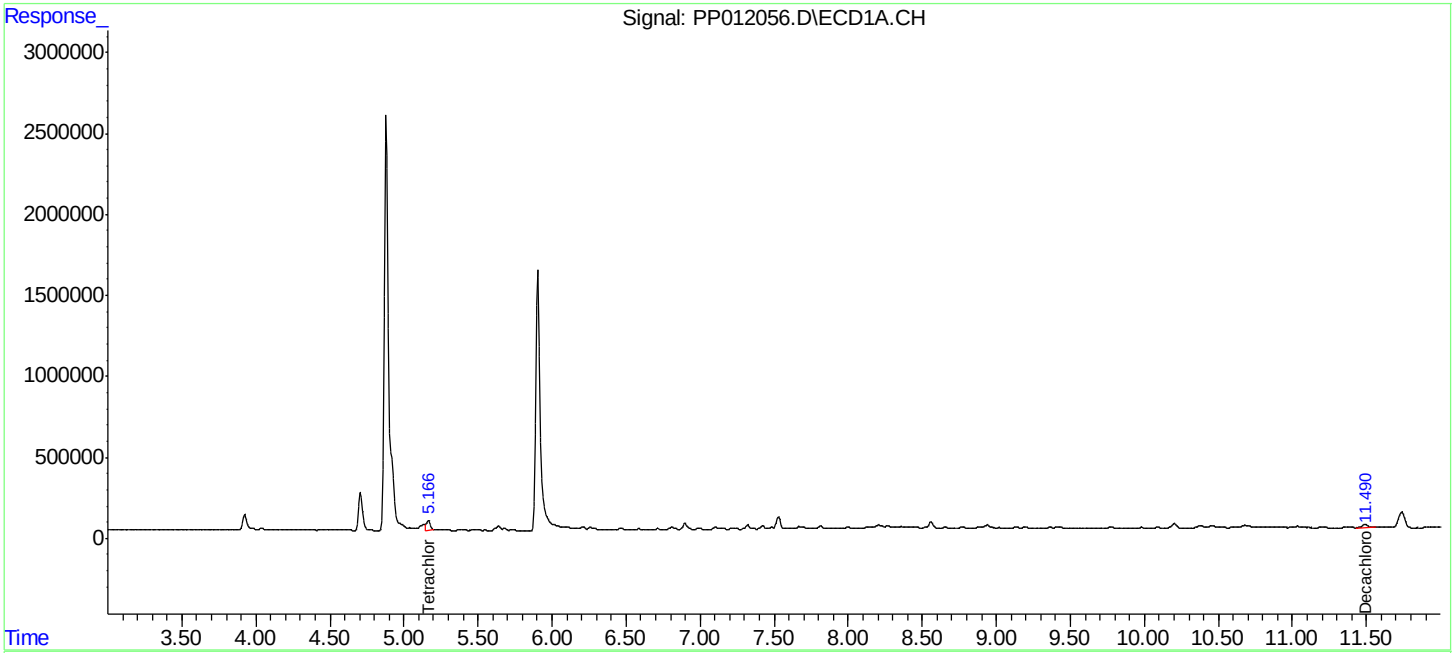
Instrument :
ECD_P
ClientSampleId :
GOODLUCK902

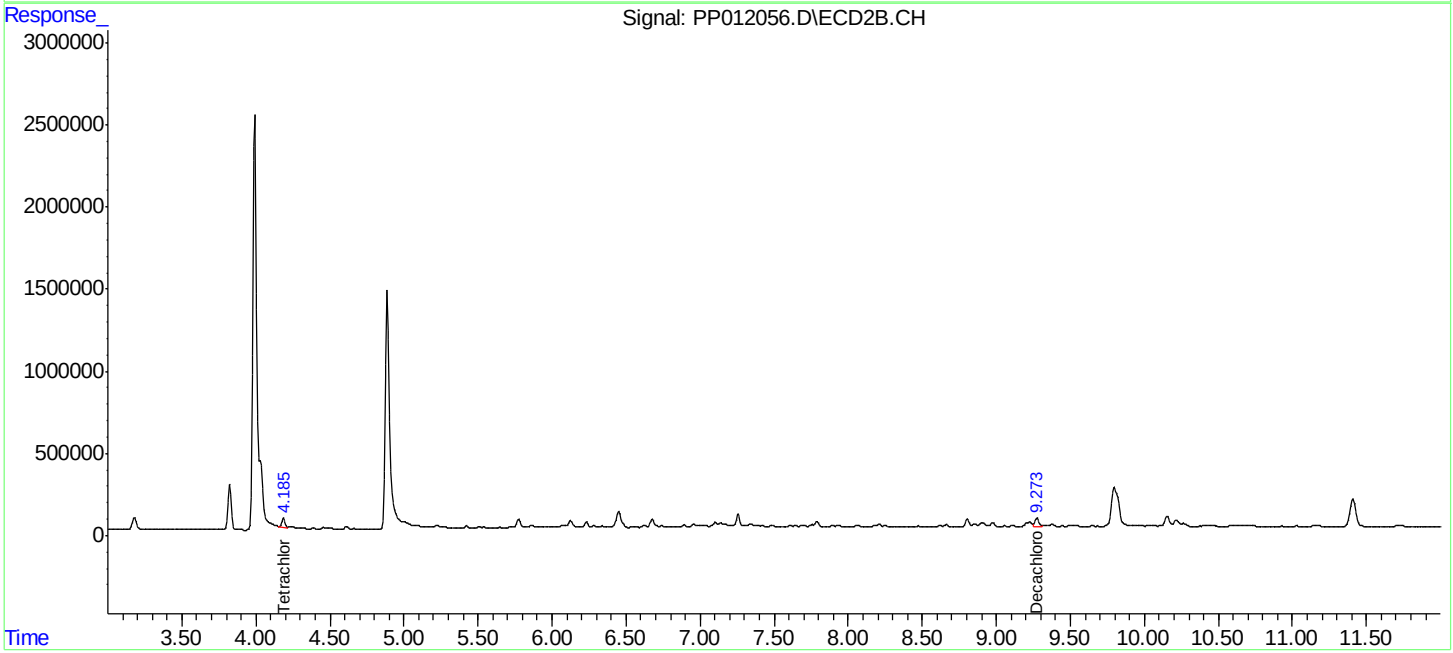
Manual Integrations APPROVED
ugo
10/19/2015 4:39:22 PM

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012056.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 1:42
Operator : IZ/UA
Sample : G4046-01
Misc :
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:43:50 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

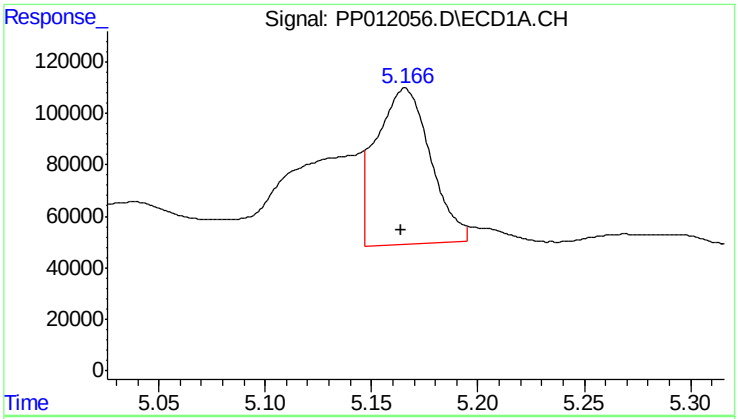
Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm





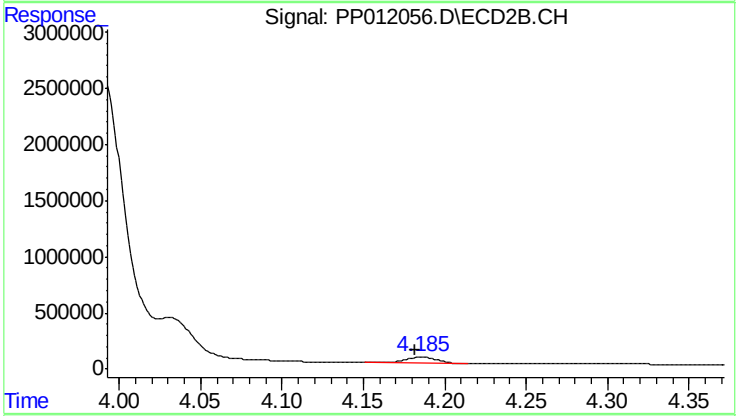
Instrument :
ECD_P
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
ugo
10/19/2015 4:39:22 PM



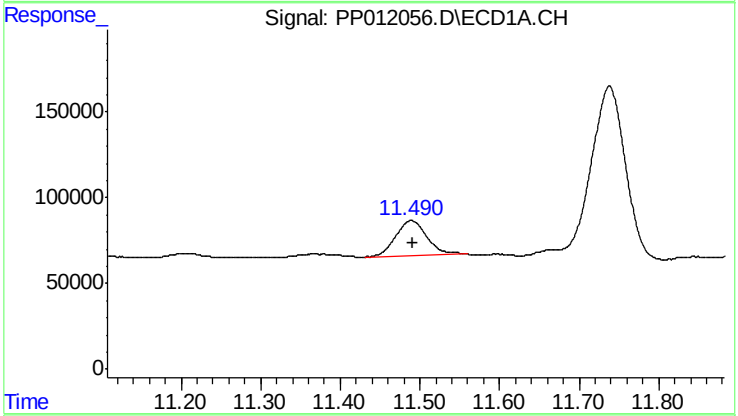
#1 Tetrachloro-m-xylene

R.T.: 5.166 min
Delta R.T.: 0.001 min
Response: 1071977
Conc: 17.29 ng/ml



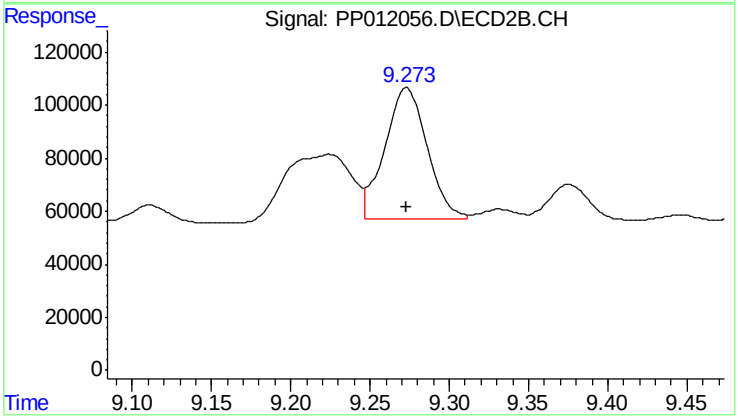
#1 Tetrachloro-m-xylene

R.T.: 4.186 min
Delta R.T.: 0.004 min
Response: 726222
Conc: 10.80 ng/ml



#2 Decachlorobiphenyl

R.T.: 11.489 min
Delta R.T.: -0.002 min
Response: 551670
Conc: 12.34 ng/ml



#2 Decachlorobiphenyl

R.T.: 9.273 min
Delta R.T.: 0.000 min
Response: 923895
Conc: 13.37 ng/ml m

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012057.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 1:57
Operator : IZ/UA
Sample : G4046-02
Misc :
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:45:42 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
1) SA Tetrachlo...	5.165	4.188	1311009	725670	21.140m	10.794 #
2) SA Decachlor...	11.489	9.273	624371	1031757	13.966	14.929m
Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PP012057.D**

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012057.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 1:57
Operator : IZ/UA
Sample : G4046-02
Misc :
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:45:42 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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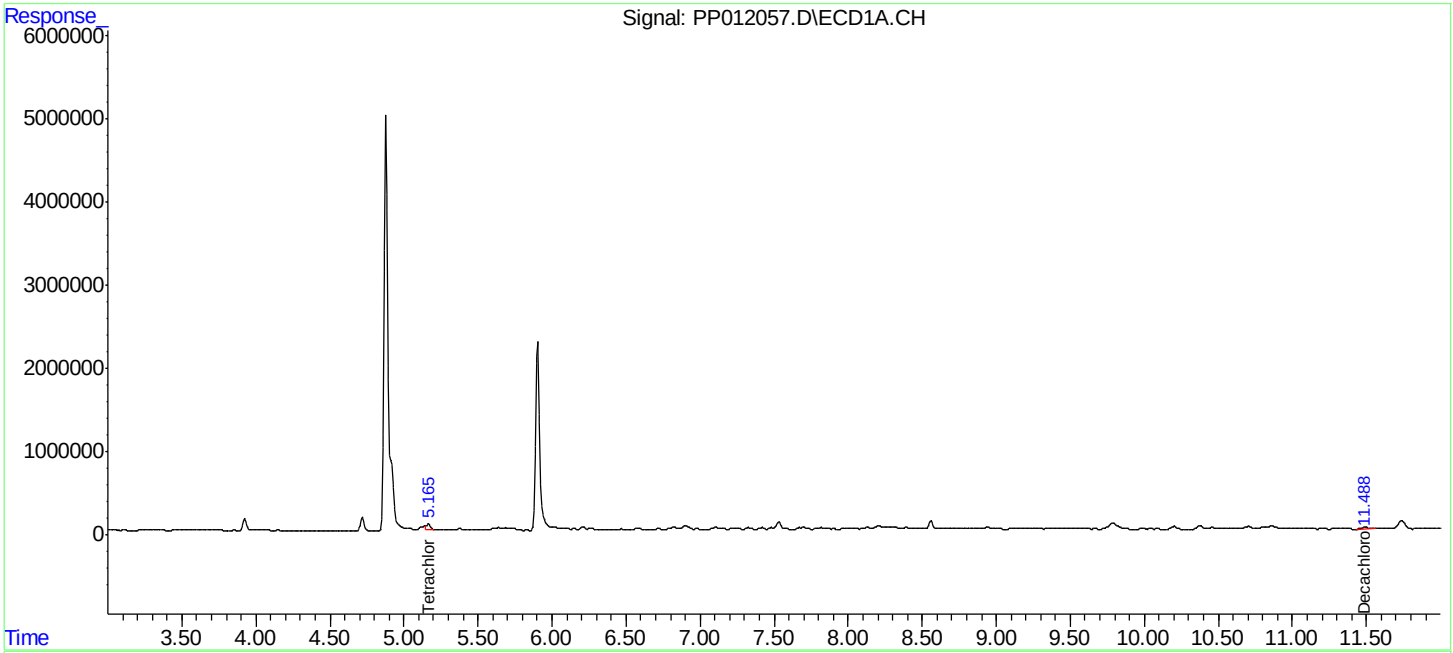

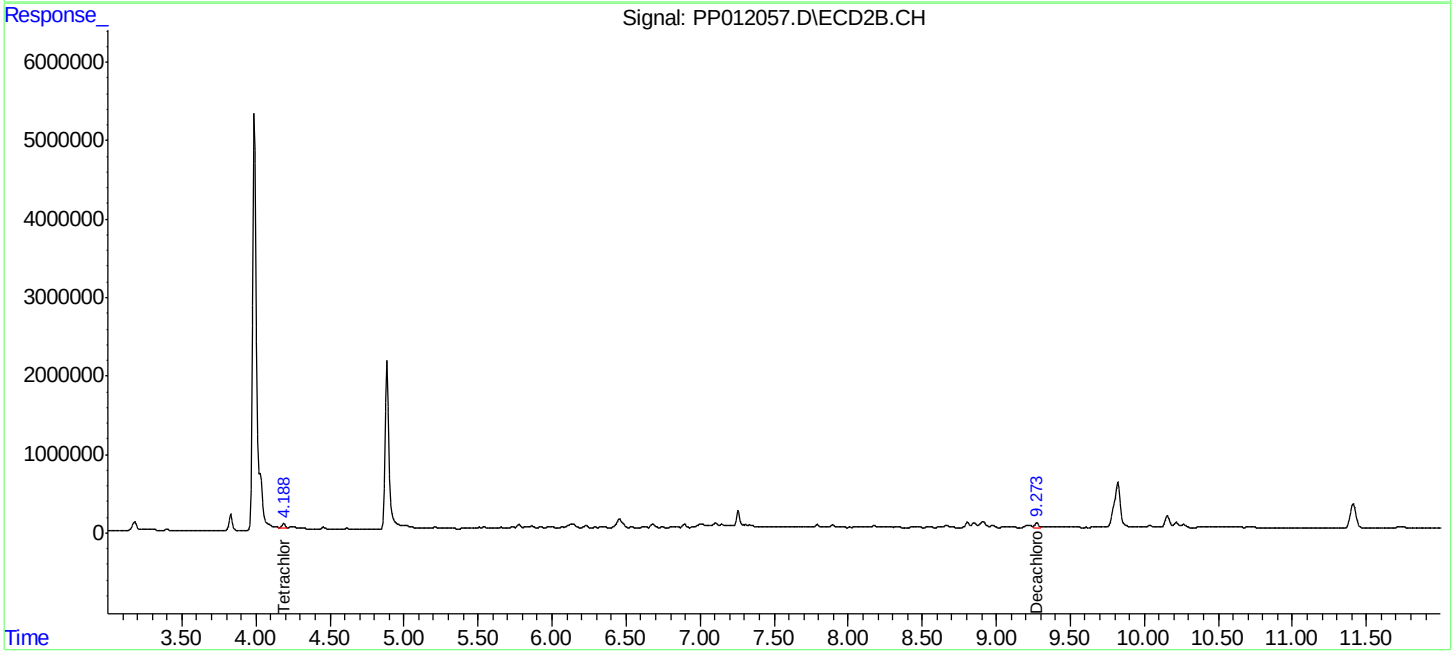

Instrument :
ECD_P
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
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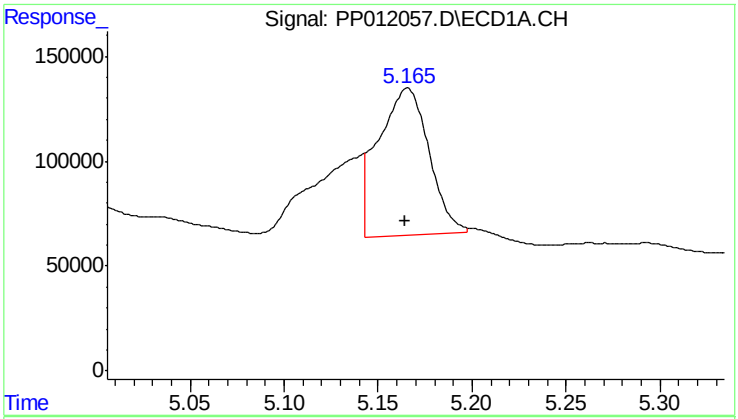
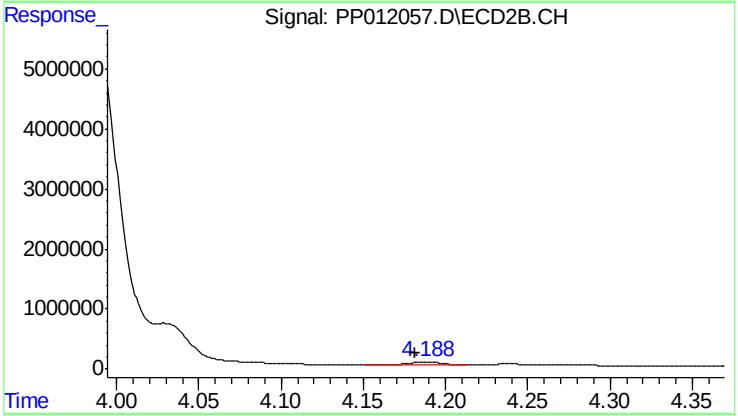


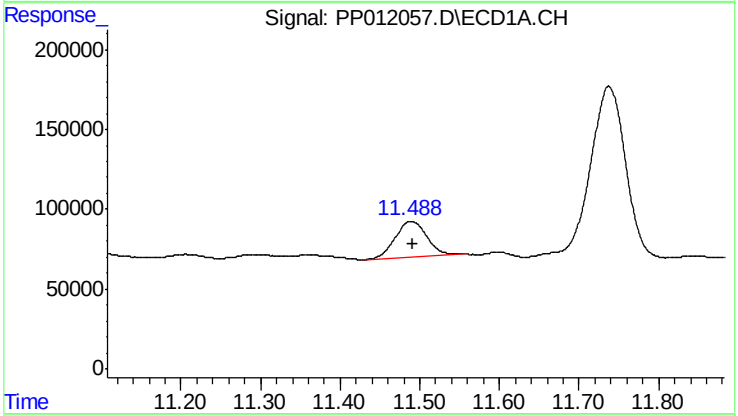
#1 Tetrachloro-m-xylene

R.T.: 5.165 min
Delta R.T.: 0.000 min
Response: 1311009
Conc: 21.14 ng/ml



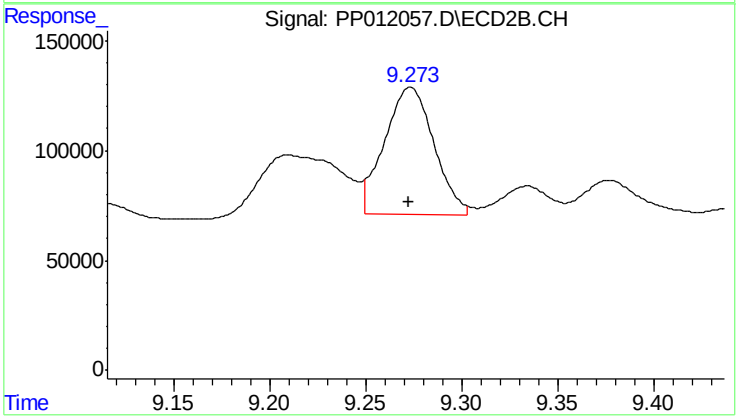
#1 Tetrachloro-m-xylene

R.T.: 4.188 min
Delta R.T.: 0.007 min
Response: 725670
Conc: 10.79 ng/ml



#2 Decachlorobiphenyl

R.T.: 11.489 min
Delta R.T.: -0.002 min
Response: 624371
Conc: 13.97 ng/ml



#2 Decachlorobiphenyl

R.T.: 9.273 min
Delta R.T.: 0.000 min
Response: 1031757
Conc: 14.93 ng/ml m

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012058.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 2:12
Operator : IZ/UA
Sample : G4046-03
Misc :
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:58:00 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
GOODLUCKINSULATION

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		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml	
		System Monitoring Compounds							
1)	SA	Tetrachlo...	5.164	4.186	1063977	852900	17.157m	12.687	#
2)	SA	Decachlor...	11.489	9.274	608685	795172	13.615	11.505	
		Target Compounds							
26)	L6	AR-1254-1	7.214	6.069	516655	1093940	258.253	310.402	
27)	L6	AR-1254-2	7.430	6.215	926260	774225	326.587	253.997	
28)	L6	AR-1254-3	7.803	6.531	792884	801700	257.676	321.706	
29)	L6	AR-1254-4	8.088	6.620	859393	1276596	367.096	255.513	#
30)	L6	AR-1254-5	8.536	7.258	989080	1724269	344.508	395.824	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PP012058.D**

9

Instrument :
ECD_P
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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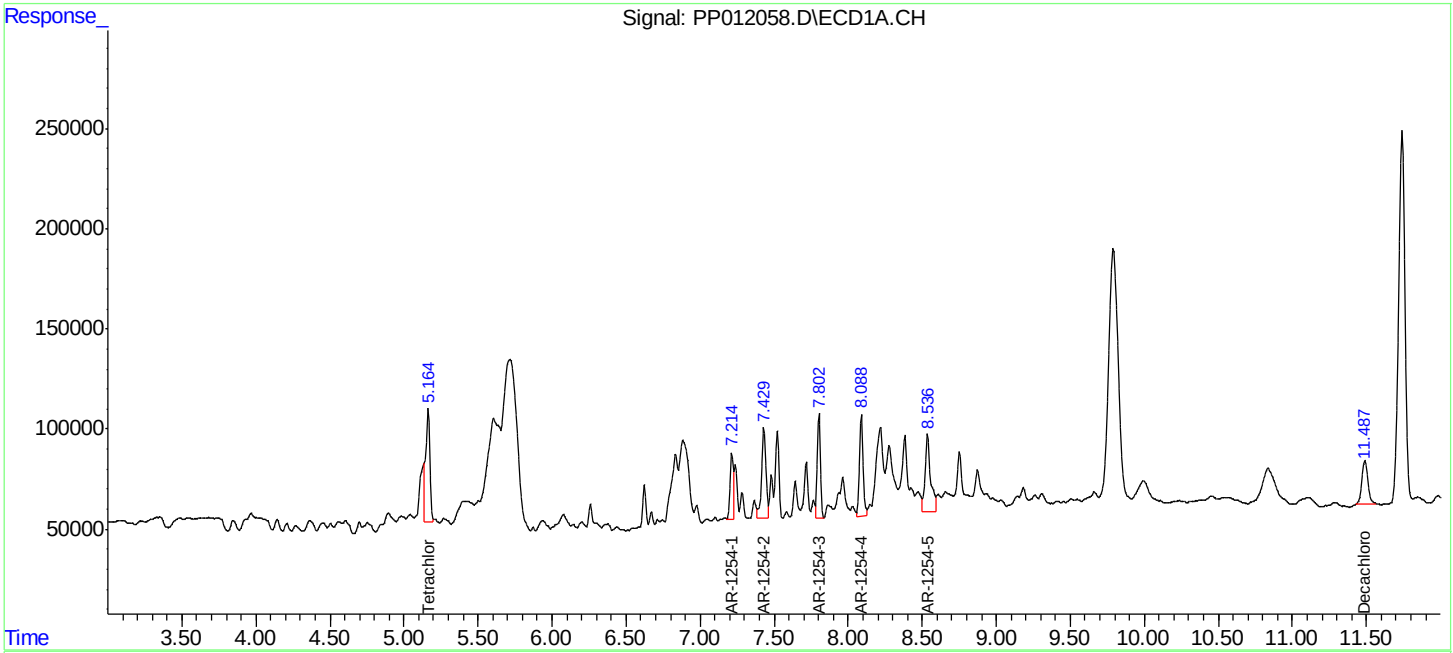
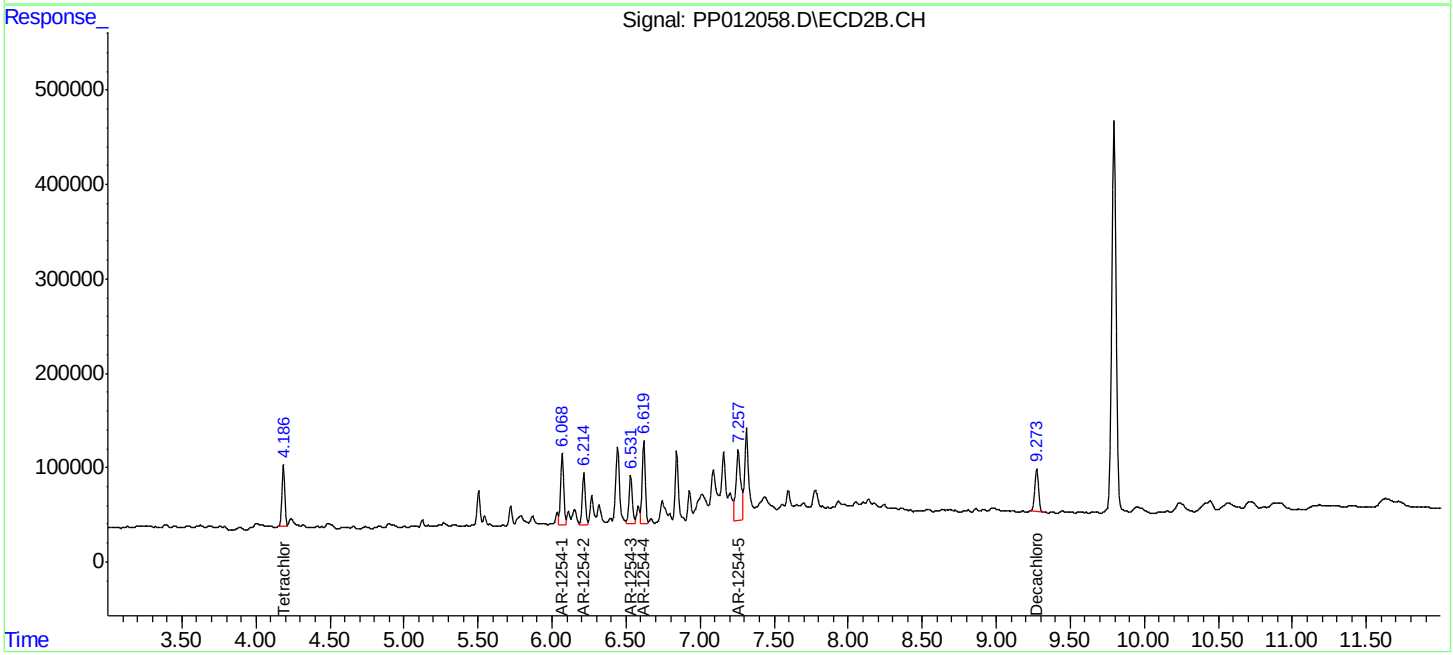
A B C D E F G H I J K L

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012058.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 2:12
Operator : IZ/UA
Sample : G4046-03
Misc :
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:58:00 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm





9

Instrument :
ECD_P
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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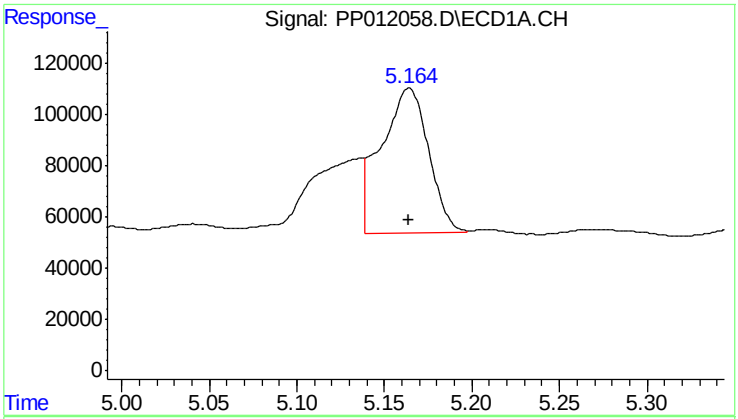
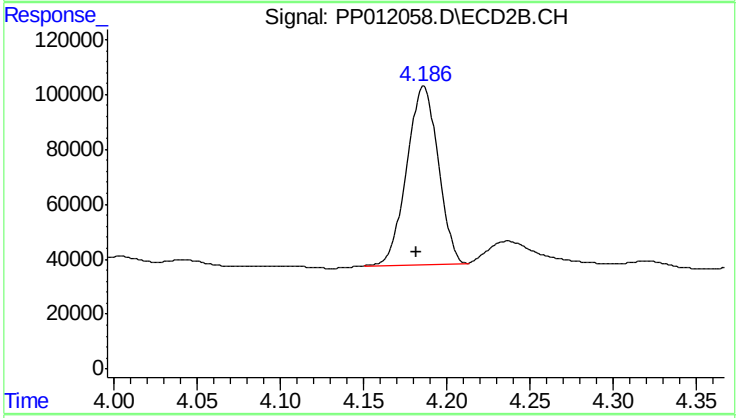
A B C D E F G H I J K L



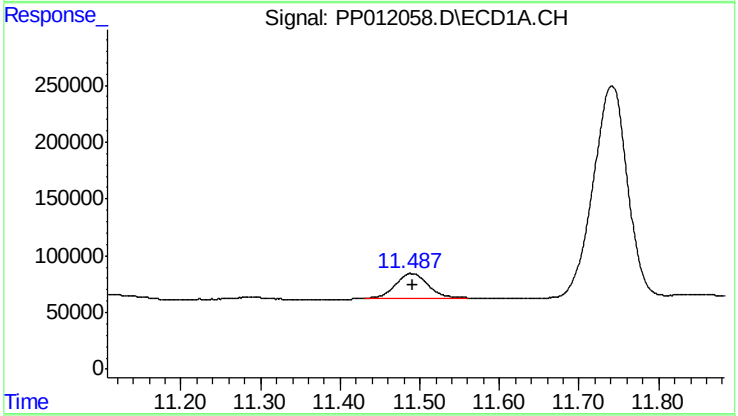
#1 Tetrachloro-m-xylene

R.T.: 5.164 min
Delta R.T.: 0.000 min
Response: 1063977
Conc: 17.16 ng/ml



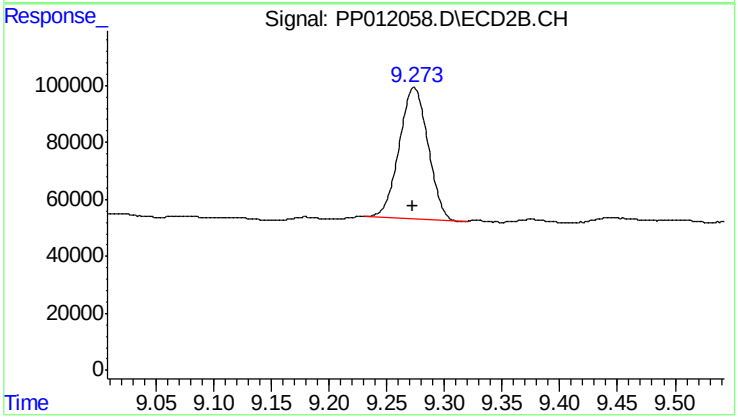
#1 Tetrachloro-m-xylene

R.T.: 4.186 min
Delta R.T.: 0.004 min
Response: 852900
Conc: 12.69 ng/ml



#2 Decachlorobiphenyl

R.T.: 11.489 min
Delta R.T.: -0.002 min
Response: 608685
Conc: 13.62 ng/ml



#2 Decachlorobiphenyl

R.T.: 9.274 min
Delta R.T.: 0.000 min
Response: 795172
Conc: 11.51 ng/ml

Instrument :
ECD_P
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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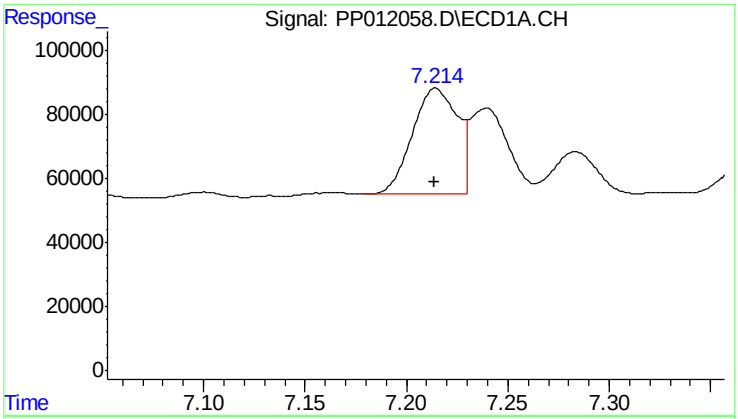
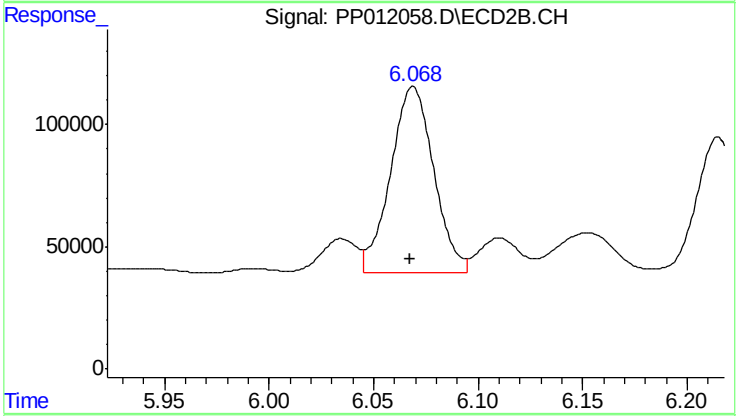


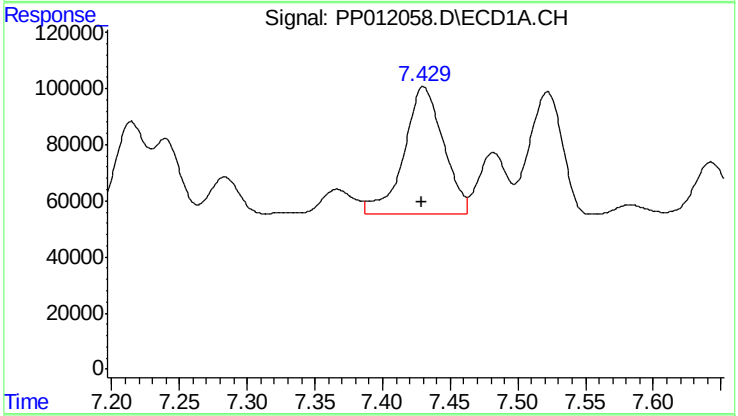
#26 AR-1254-1

R.T.: 7.214 min
Delta R.T.: 0.000 min
Response: 516655
Conc: 258.25 ng/ml



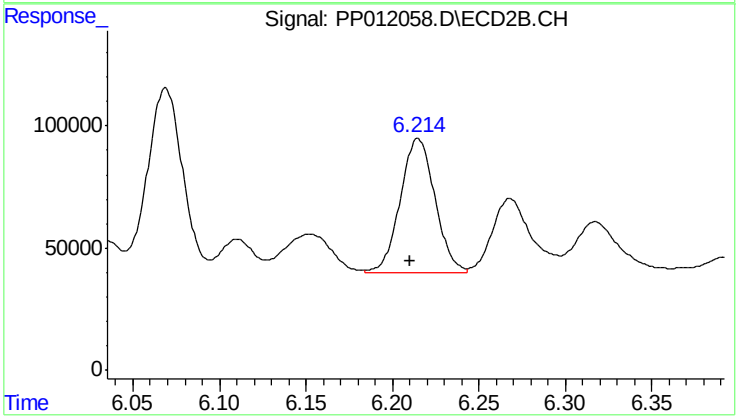
#26 AR-1254-1

R.T.: 6.069 min
Delta R.T.: 0.001 min
Response: 1093940
Conc: 310.40 ng/ml



#27 AR-1254-2

R.T.: 7.430 min
Delta R.T.: 0.001 min
Response: 926260
Conc: 326.59 ng/ml



#27 AR-1254-2

R.T.: 6.215 min
Delta R.T.: 0.004 min
Response: 774225
Conc: 254.00 ng/ml

Instrument :
ECD_P
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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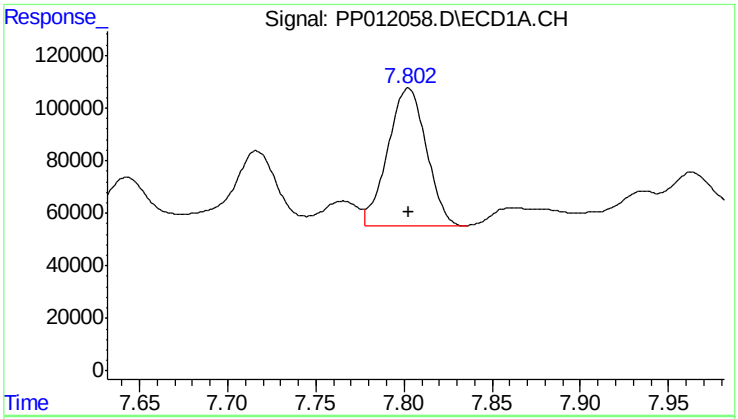
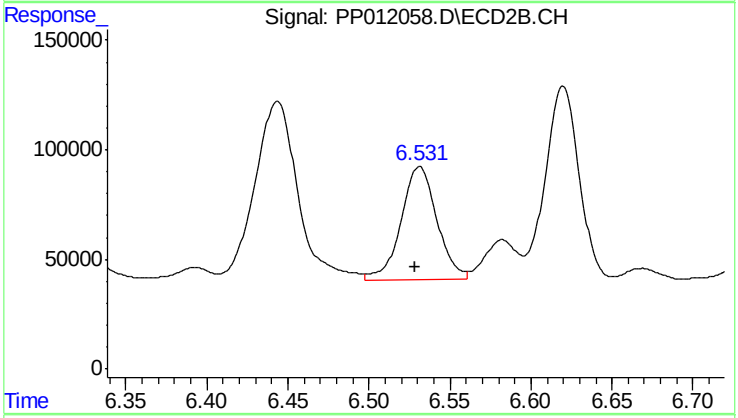


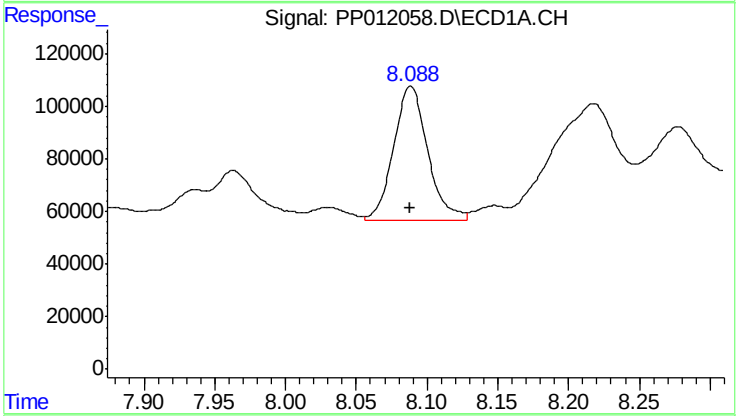
#28 AR-1254-3

R.T.: 7.803 min
Delta R.T.: 0.000 min
Response: 792884
Conc: 257.68 ng/ml



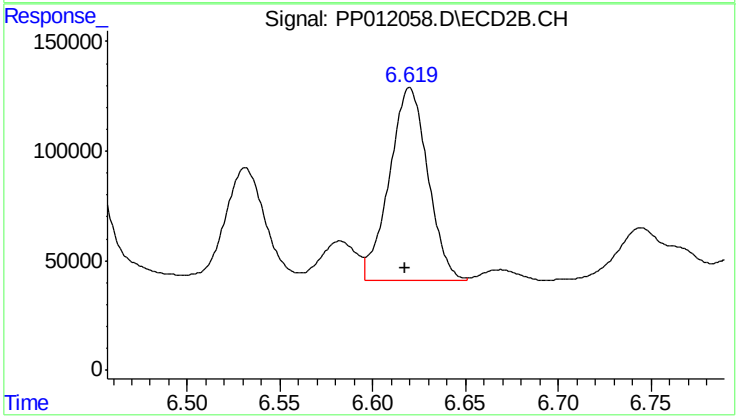
#28 AR-1254-3

R.T.: 6.531 min
Delta R.T.: 0.003 min
Response: 801700
Conc: 321.71 ng/ml



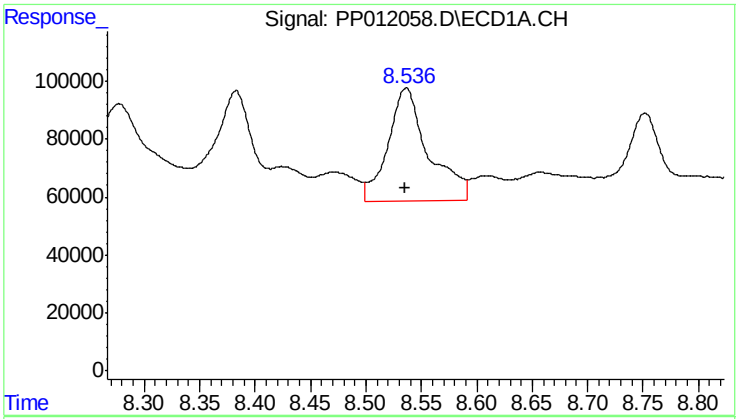
#29 AR-1254-4

R.T.: 8.088 min
Delta R.T.: 0.000 min
Response: 859393
Conc: 367.10 ng/ml



#29 AR-1254-4

R.T.: 6.620 min
Delta R.T.: 0.002 min
Response: 1276596
Conc: 255.51 ng/ml



#30 AR-1254-5

R.T.: 8.536 min
Delta R.T.: 0.000 min
Response: 989080
Conc: 344.51 ng/ml

Instrument :
ECD_P
ClientSampleId :
GOODLUCKINSULATION

Manual Integrations APPROVED
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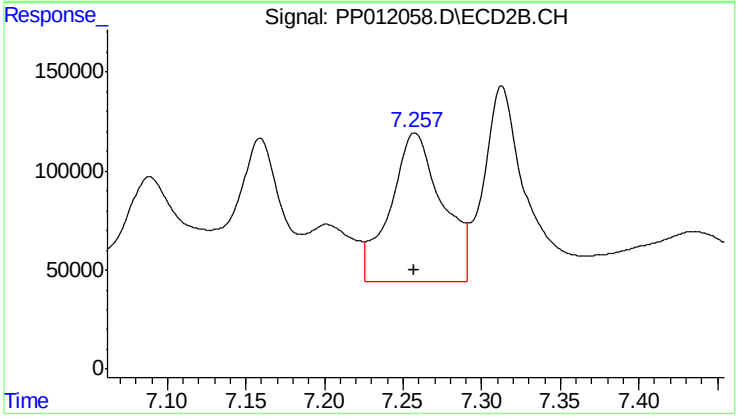

#30 AR-1254-5

R.T.: 7.258 min
Delta R.T.: 0.000 min
Response: 1724269
Conc: 395.82 ng/ml

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012059.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 2:27
Operator : IZ/UA
Sample : G4046-04
Misc :
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 06:00:11 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
1) SA Tetrachlo...	5.165	4.188	1234243	627174	19.903m	9.329 #
2) SA Decachlor...	11.489	9.272	494667	914821	11.065	13.237m
Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PP012059.D**

Instrument :
ECD_P
ClientSampleId :
MANAHAWKEN112

Manual Integrations
APPROVED
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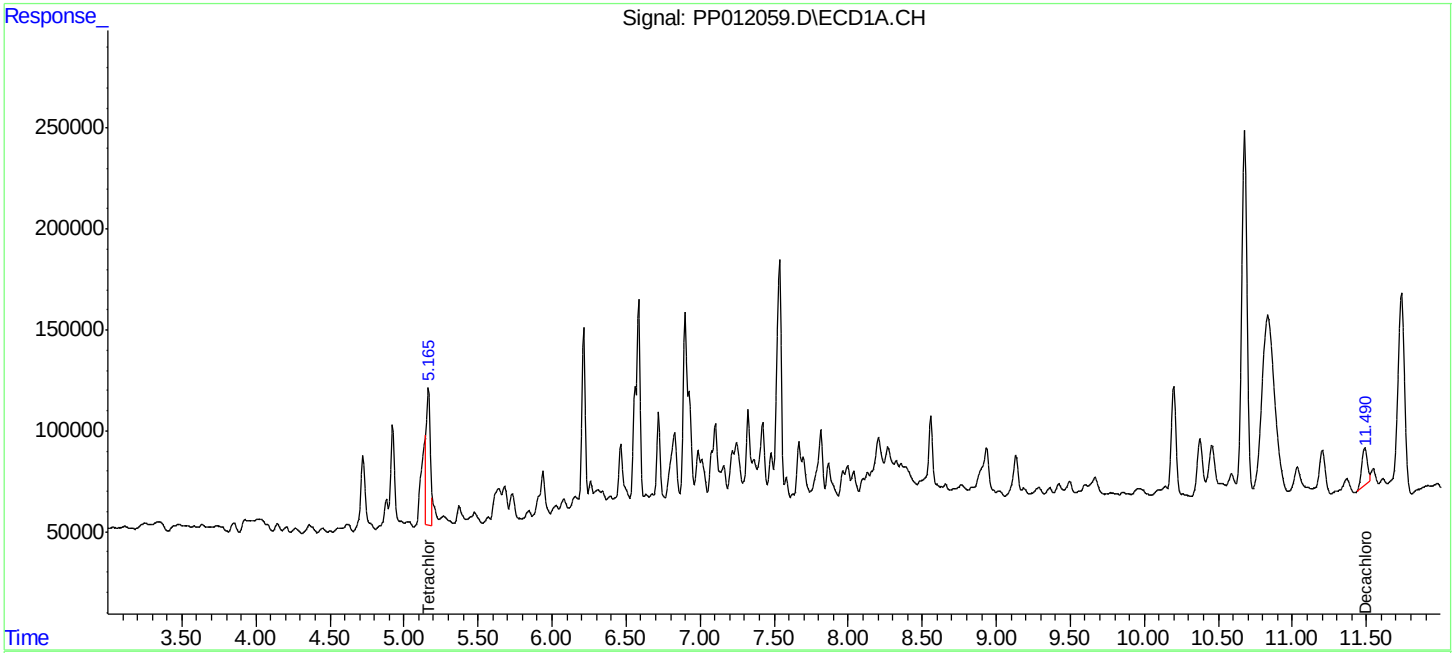
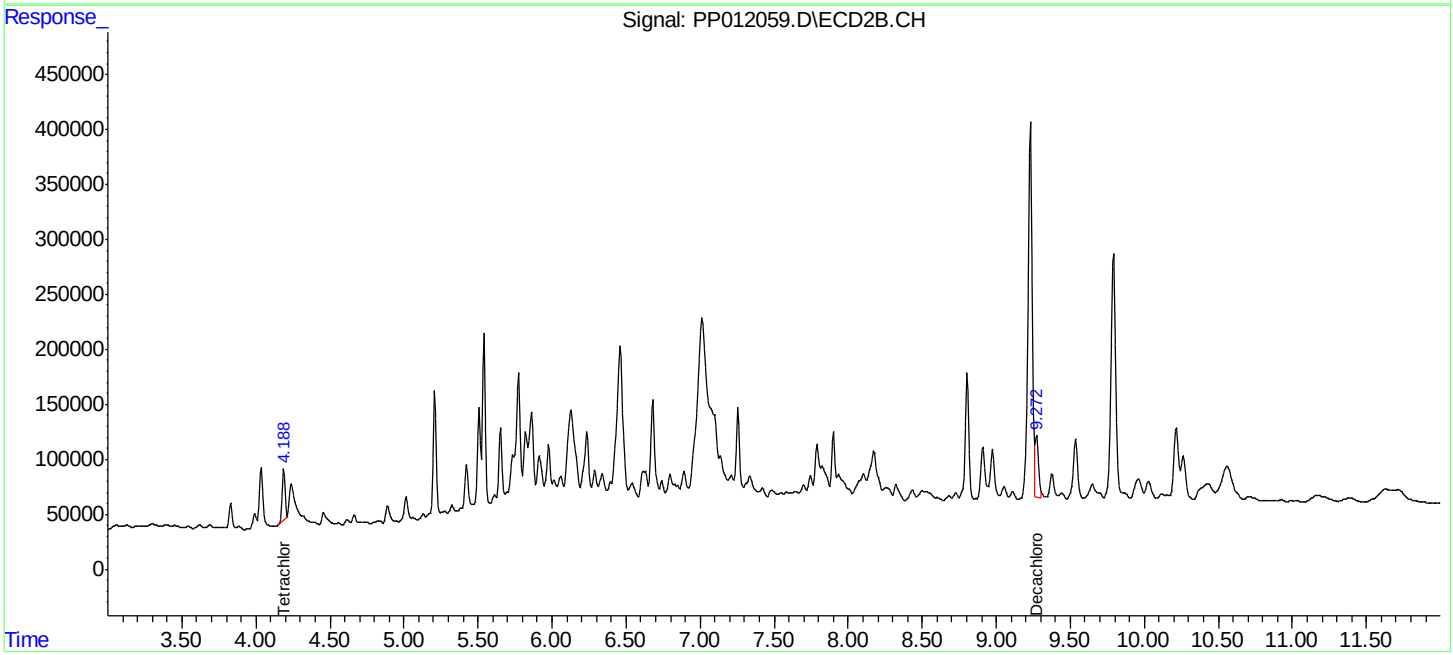
10/19/2015 4:39:53 PM

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012059.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 2:27
Operator : IZ/UA
Sample : G4046-04
Misc :
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 06:00:11 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm





Instrument :
ECD_P
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
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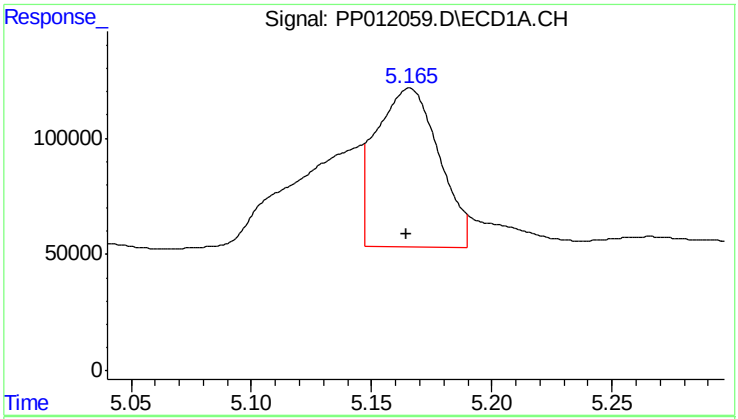
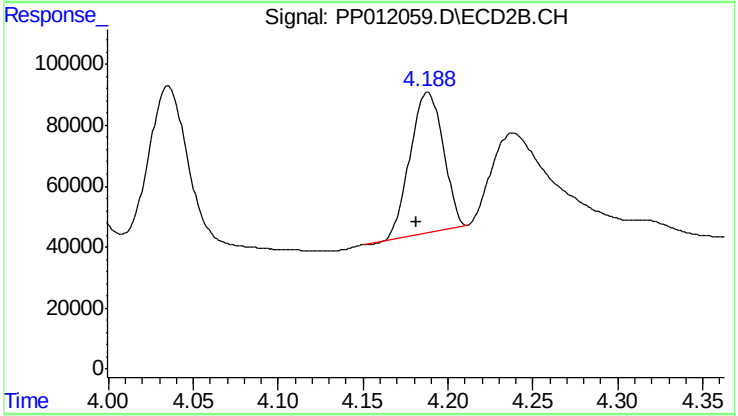
10/19/2015 4:39:53 PM



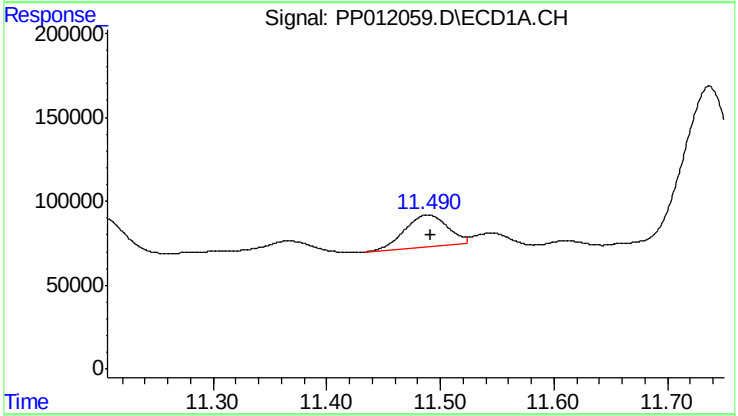
#1 Tetrachloro-m-xylene

R.T.: 5.165 min
Delta R.T.: 0.001 min
Response: 1234243
Conc: 19.90 ng/ml



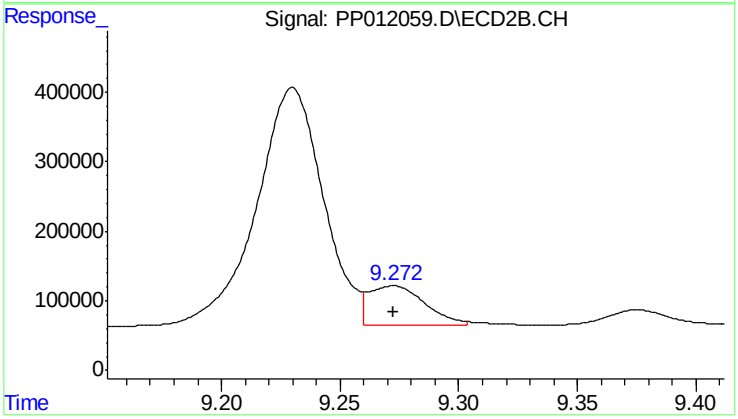
#1 Tetrachloro-m-xylene

R.T.: 4.188 min
Delta R.T.: 0.006 min
Response: 627174
Conc: 9.33 ng/ml



#2 Decachlorobiphenyl

R.T.: 11.489 min
Delta R.T.: -0.002 min
Response: 494667
Conc: 11.06 ng/ml



#2 Decachlorobiphenyl

R.T.: 9.272 min
Delta R.T.: 0.000 min
Response: 914821
Conc: 13.24 ng/ml m

Instrument :
ECD_P
ClientSampleId :
MANAHAWKENINSULATION

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012060.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 2:42
Operator : IZ/UA
Sample : G4046-05
Misc :
ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 06:07:22 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
1) SA Tetrachlo...	5.165	4.184	894704	1022671	14.427	15.212
2) SA Decachlor...	11.491	9.273	641652	908402	14.353	13.144
Target Compounds						

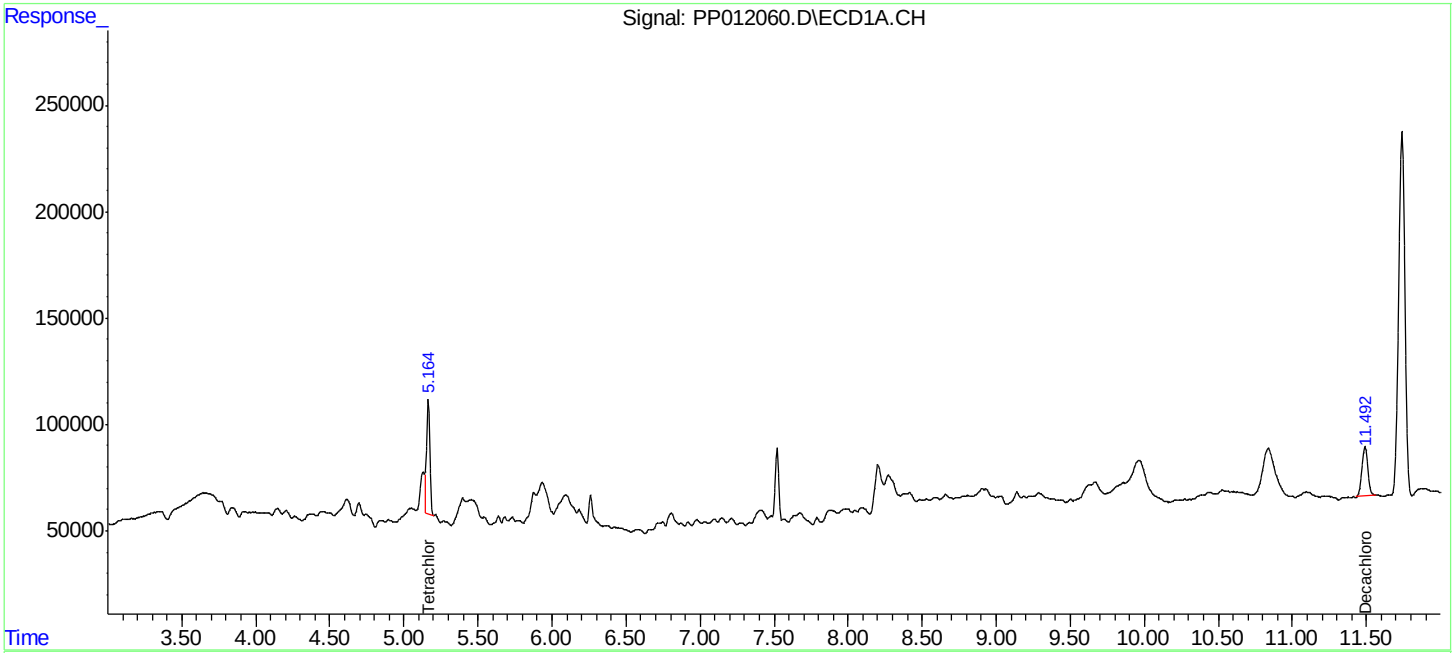
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

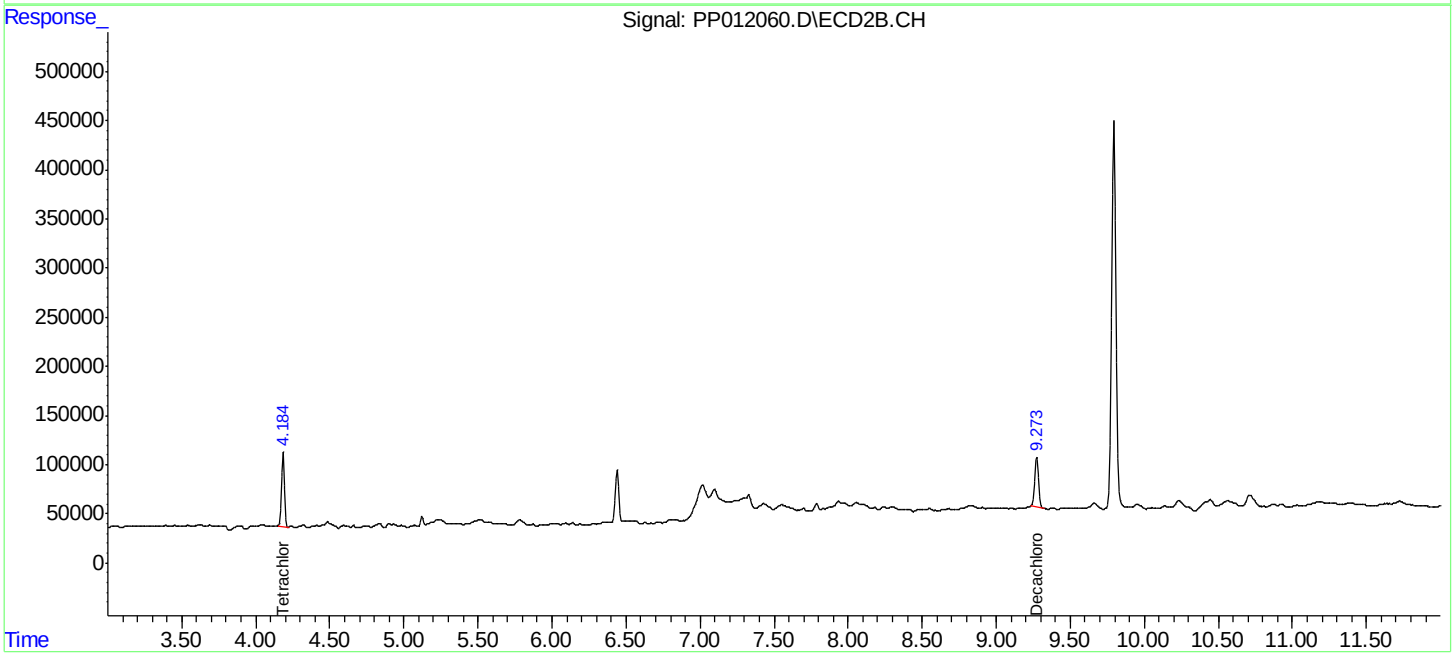
Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012060.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 17 Oct 2015 2:42
Operator : IZ/UA
Sample : G4046-05
Misc :
ALS Vial : 36 Sample Multiplier: 1

Instrument :
ECD_P
ClientSampleId :
MANAHAWKENINSULATION

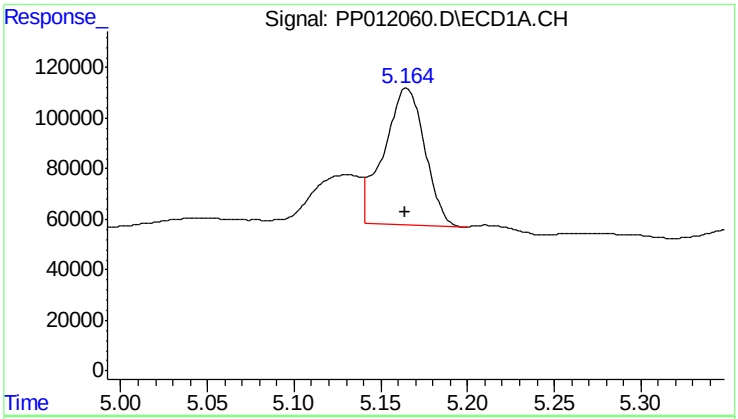
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 06:07:22 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm



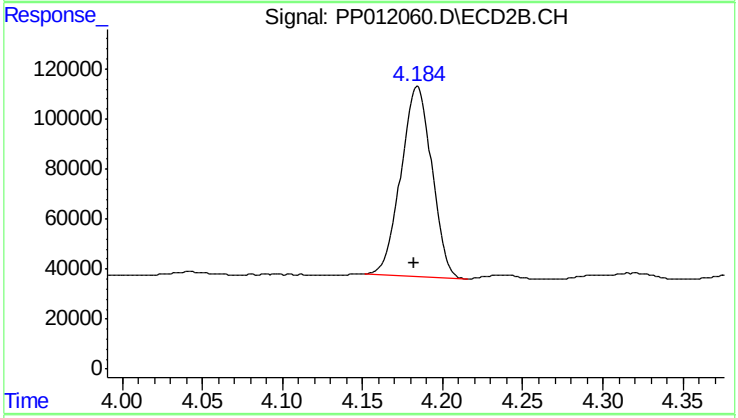


Instrument :
ECD_P
ClientSampleId :
MANAHAWKENINSULATION



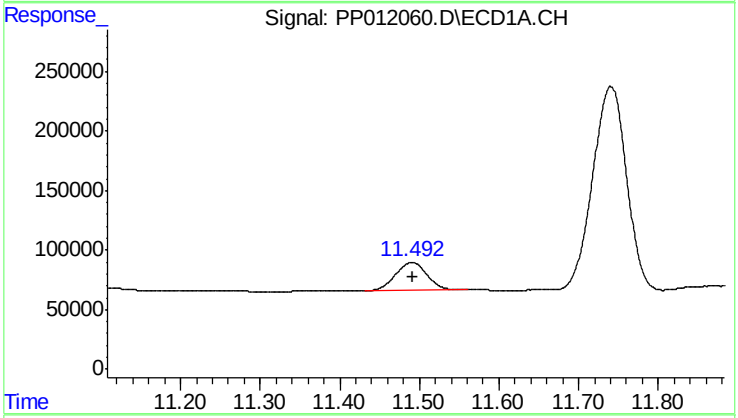
#1 Tetrachloro-m-xylene

R.T.: 5.165 min
Delta R.T.: 0.000 min
Response: 894704
Conc: 14.43 ng/ml



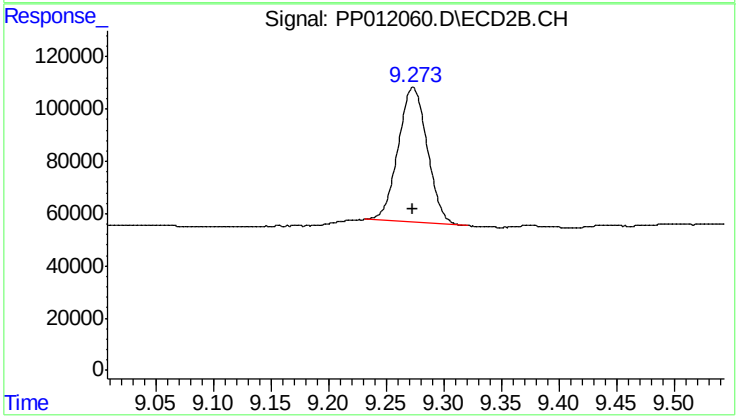
#1 Tetrachloro-m-xylene

R.T.: 4.184 min
Delta R.T.: 0.002 min
Response: 1022671
Conc: 15.21 ng/ml



#2 Decachlorobiphenyl

R.T.: 11.491 min
Delta R.T.: 0.000 min
Response: 641652
Conc: 14.35 ng/ml



#2 Decachlorobiphenyl

R.T.: 9.273 min
Delta R.T.: 0.000 min
Response: 908402
Conc: 13.14 ng/ml

Instrument :
ECD_P
ClientSampleId :
PB86140BL

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012044.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 22:27
Operator : IZ/UA
Sample : PB86140BL
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:24:33 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
1) SA Tetrachlo...	5.164	4.182	1028295	1088338	16.582	16.189
2) SA Decachlor...	11.488	9.272	760326	1184203	17.007	17.134
Target Compounds						

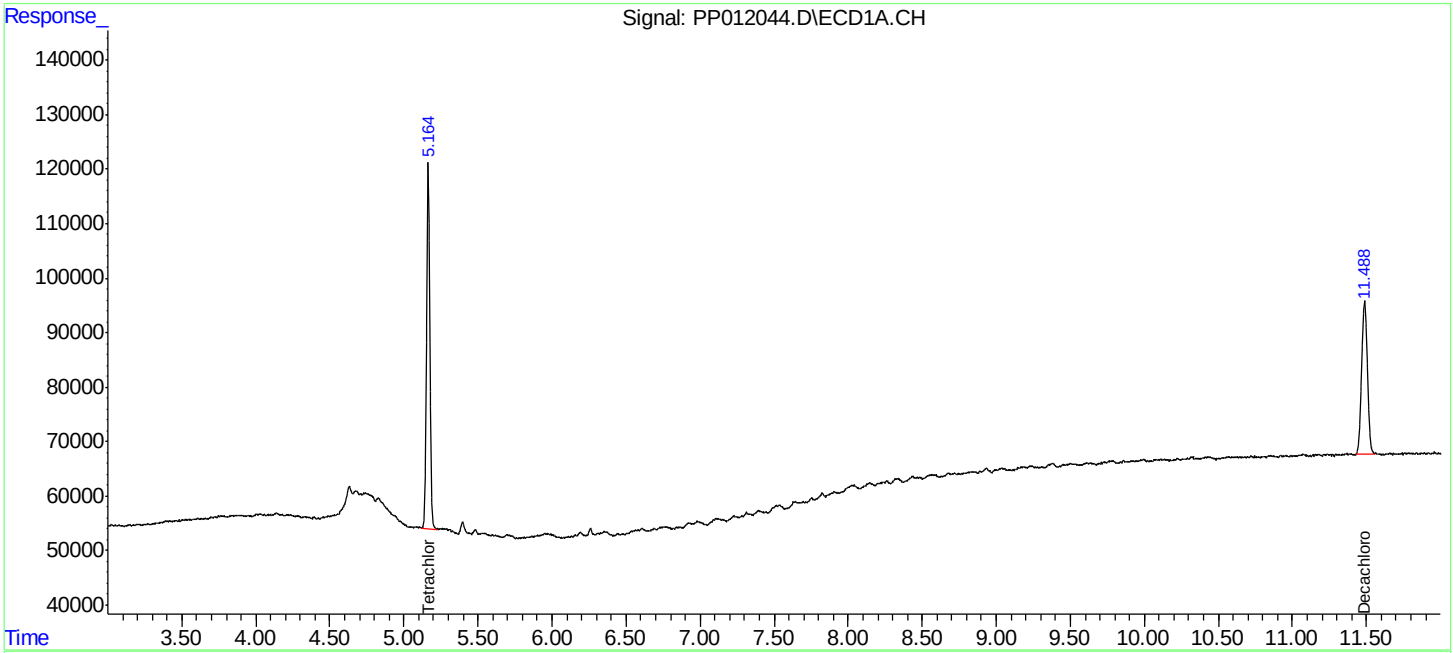
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

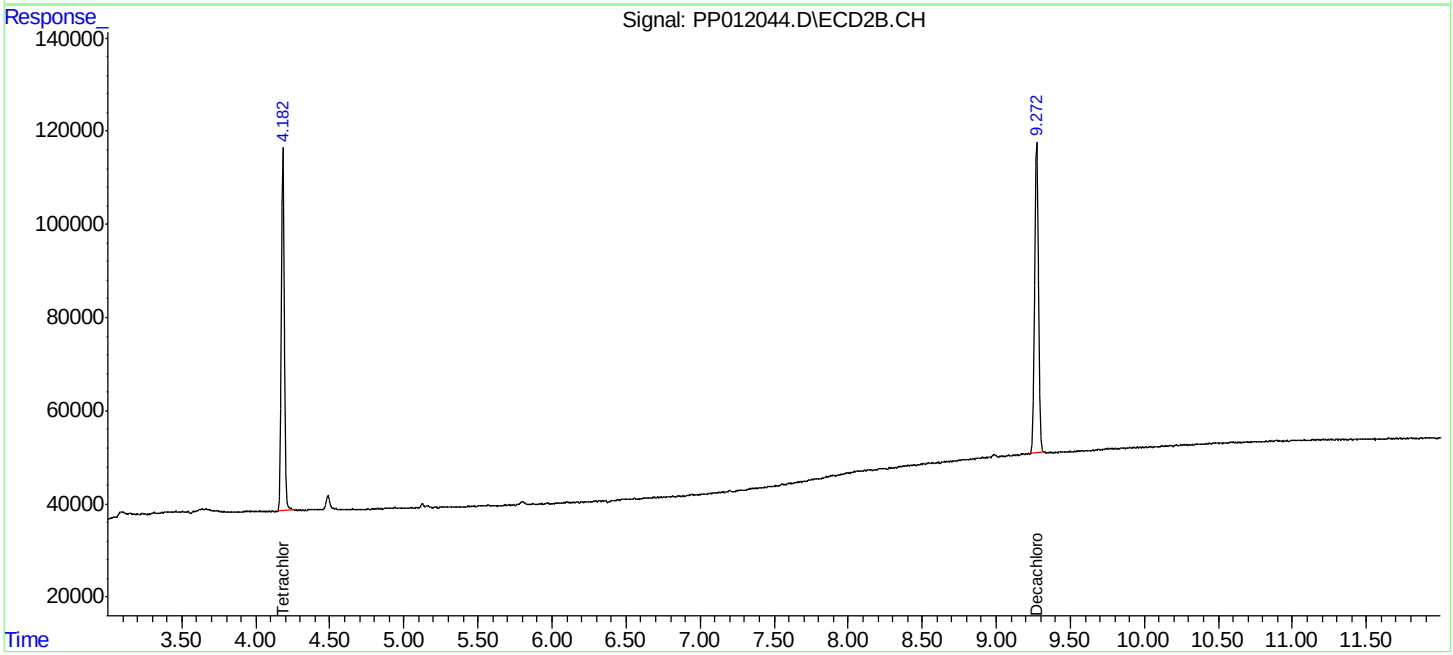
Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012044.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 22:27
Operator : IZ/UA
Sample : PB86140BL
Misc :
ALS Vial : 22 Sample Multiplier: 1

Instrument :
ECD_P
ClientSampleId :
PB86140BL

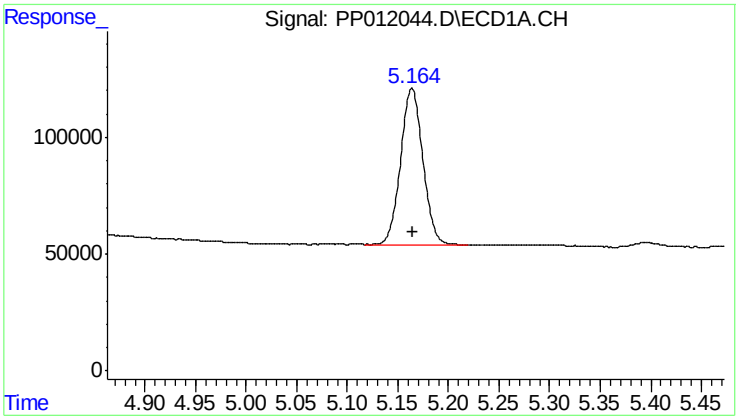
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:24:33 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm



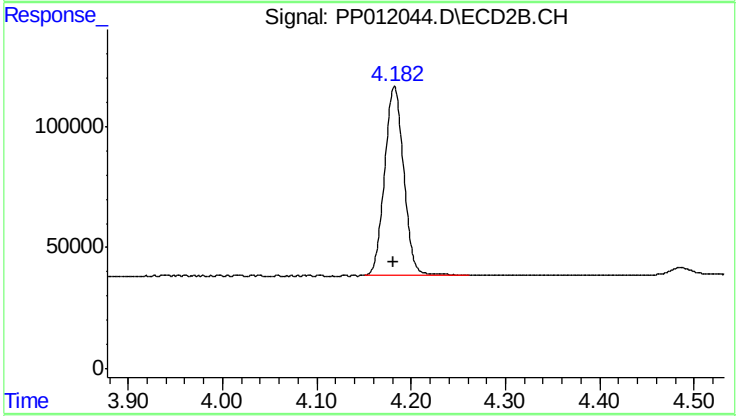


Instrument :
ECD_P
ClientSampleId :
PB86140BL



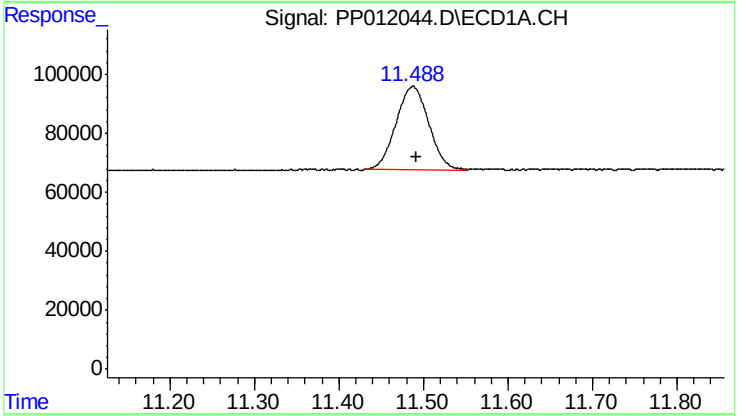
#1 Tetrachloro-m-xylene

R.T.: 5.164 min
Delta R.T.: 0.000 min
Response: 1028295
Conc: 16.58 ng/ml



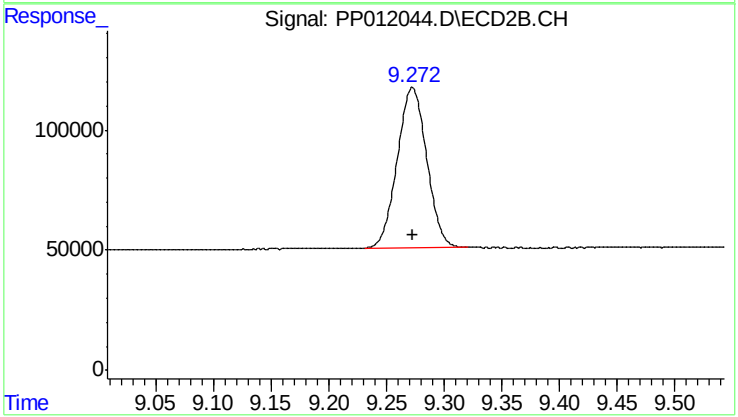
#1 Tetrachloro-m-xylene

R.T.: 4.182 min
Delta R.T.: 0.000 min
Response: 1088338
Conc: 16.19 ng/ml



#2 Decachlorobiphenyl

R.T.: 11.488 min
Delta R.T.: -0.003 min
Response: 760326
Conc: 17.01 ng/ml



#2 Decachlorobiphenyl

R.T.: 9.272 min
Delta R.T.: 0.000 min
Response: 1184203
Conc: 17.13 ng/ml

Quantitation Report (QT Reviewed)

Instrument :
ECD_P
ClientSampleId :
PB86140BS

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012045.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 22:42
Operator : IZ/UA
Sample : PB86140BS
Misc :
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:25:51 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
	System Monitoring Compounds						
1) SA	Tetrachlo...	5.165	4.184	1017390	1063291	16.406	15.817
2) SA	Decachlor...	11.488	9.272	749906	1183622	16.774	17.126
	Target Compounds						
3) L1	AR-1016-1	6.082	5.054	345395	421993	249.262	244.006
4) L1	AR-1016-2	6.439	5.468	439982	416442	248.685	241.755
5) L1	AR-1016-3	6.541	5.503	367064	358794	247.196	249.419
6) L1	AR-1016-4	6.835	5.546	330180	449448	248.531	245.257
7) L1	AR-1016-5	6.979	5.721	293430	454242	195.096	238.928
31) L7	AR-1260-1	7.963	6.744	577433	906552	245.821	235.663
32) L7	AR-1260-2	8.222	6.926	718781	1105217	238.682	234.395
33) L7	AR-1260-3	8.613	7.085	480827	1012253	211.137	236.595
34) L7	AR-1260-4	8.880	7.787	606832	1763635	233.076	209.876
35) L7	AR-1260-5	9.257	8.136	1127964	1290682	213.864	211.802

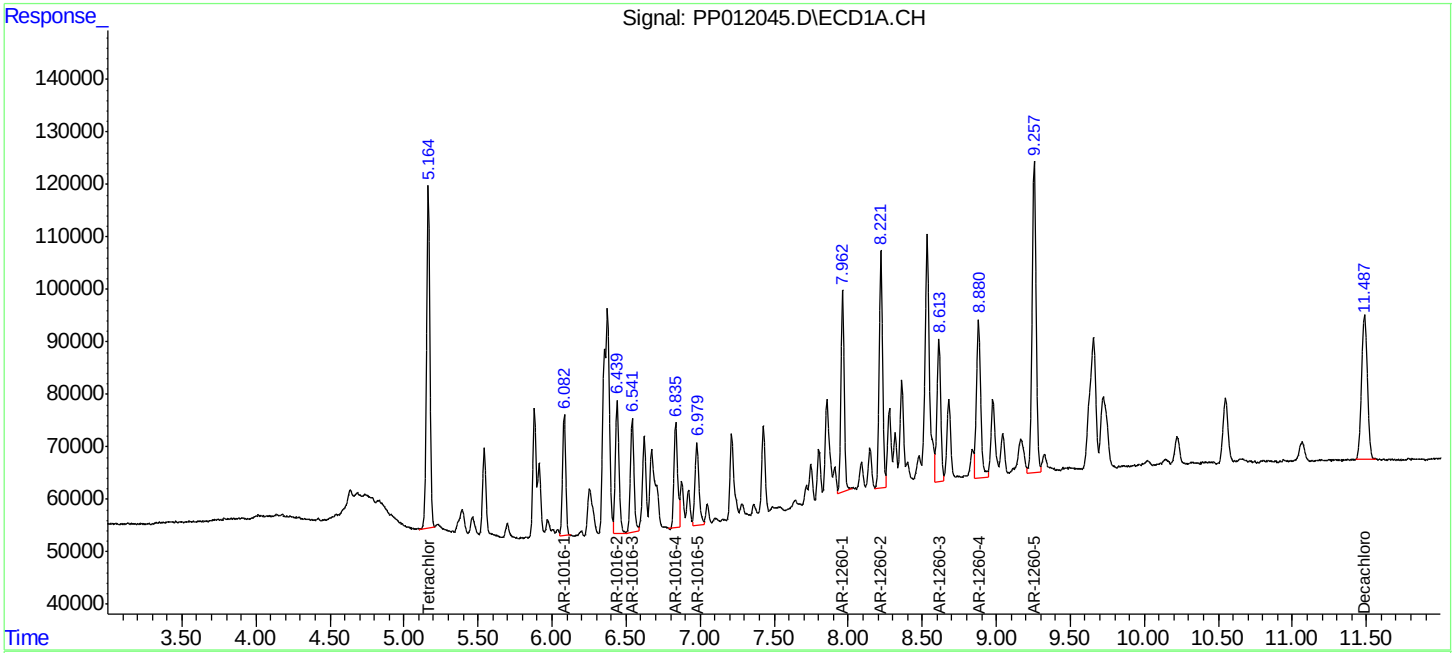
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

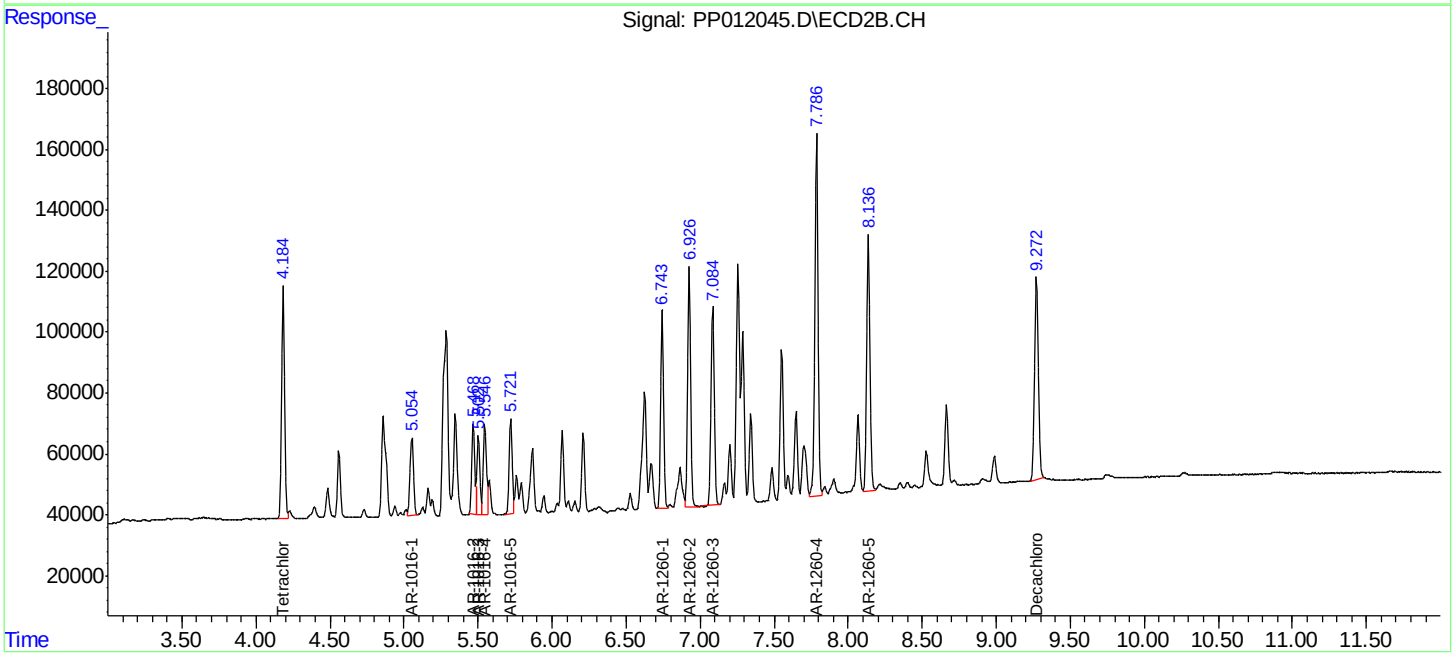
Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012045.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 22:42
Operator : IZ/UA
Sample : PB86140BS
Misc :
ALS Vial : 23 Sample Multiplier: 1

Instrument :
ECD_P
ClientSampleId :
PB86140BS

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:25:51 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm





Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012047.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 23:12
Operator : IZ/UA
Sample : G4034-01MS
Misc :
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:30:59 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
CWC-1-20151014MS

Manual Integrations APPROVED
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10/19/2015 4:39:08 PM

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml	
	System Monitoring Compounds							
1) SA	Tetrachlo...	5.164	4.183	1187716	1249414	19.152	18.585	
2) SA	Decachlor...	11.488	9.272	776893	1204728	17.378	17.431	
	Target Compounds							
3) L1	AR-1016-1	6.081	5.052	448825	534607	323.905	309.122	
4) L1	AR-1016-2	6.438	5.467	540569	535336	305.539	310.776	
5) L1	AR-1016-3	6.540	5.502	506451	459806	341.065	319.638	
6) L1	AR-1016-4	6.835	5.544	457877	525623	344.651	286.824	
7) L1	AR-1016-5	6.978	5.720	393905	500711	261.901	263.370	
31) L7	AR-1260-1	7.961	6.743	682842	892018	290.695m	231.885	
32) L7	AR-1260-2	8.219	6.925	1243749	1263467	413.006m	267.957	#
33) L7	AR-1260-3	8.613	7.084	540114	1262393	237.171	295.061	
34) L7	AR-1260-4	8.880	7.786	695932	1905121	267.299	226.713	
35) L7	AR-1260-5	9.255	8.135	1193616	1325447	226.311	217.507	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012047.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 23:12
Operator : IZ/UA
Sample : G4034-01MS
Misc :
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:30:59 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
CWC-1-20151014MS

Manual Integrations APPROVED
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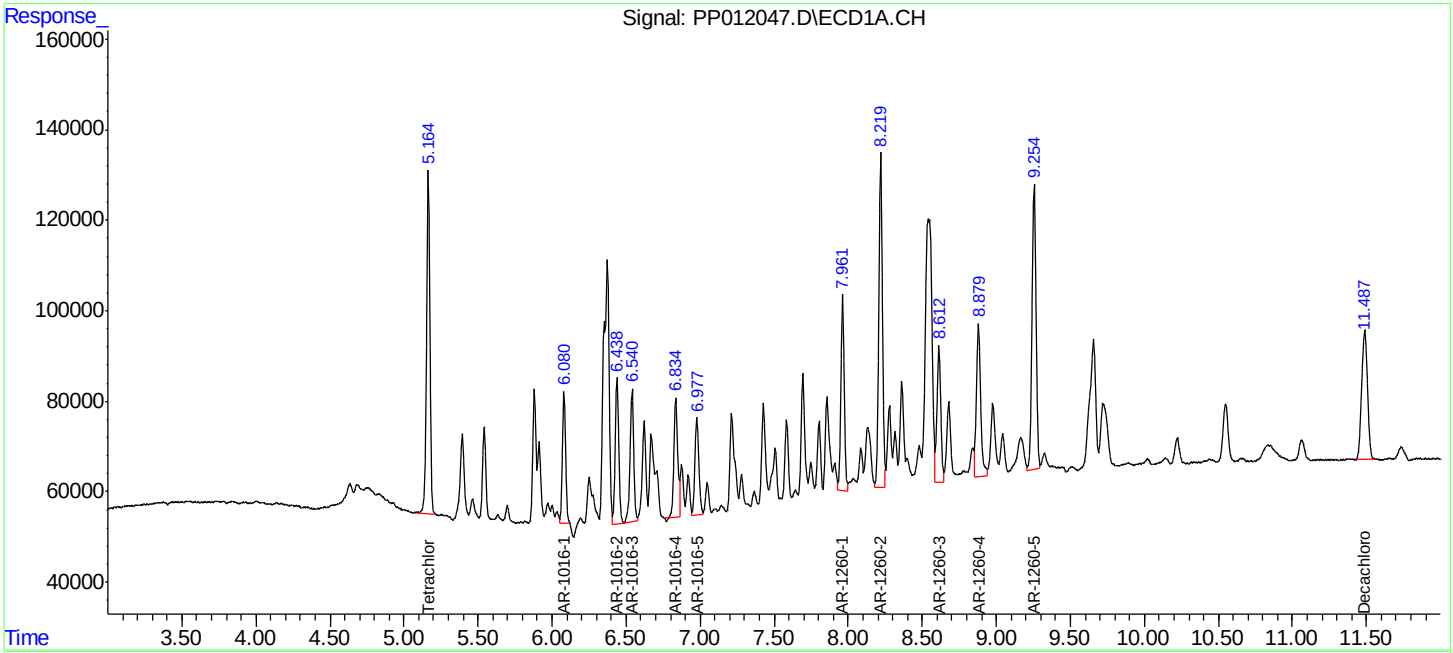
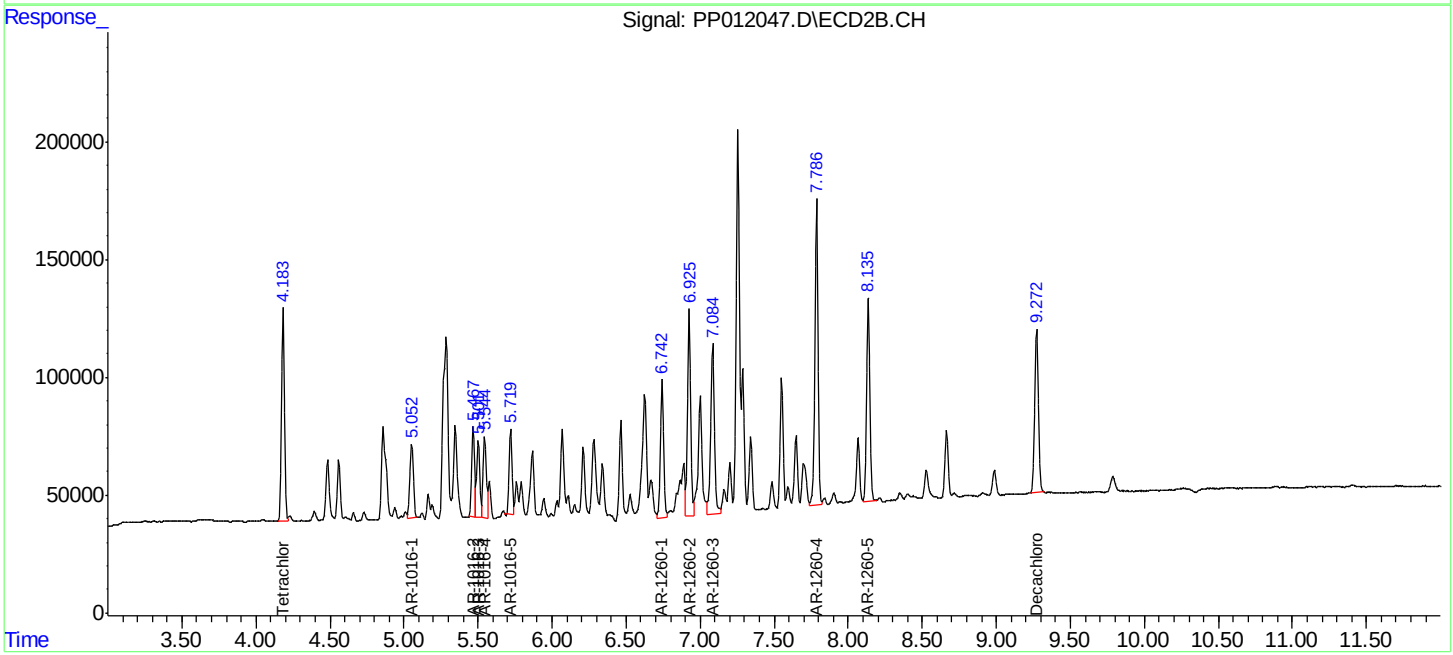
10/19/2015 4:39:08 PM





Quantitation Report (QT Reviewed)

Instrument :
ECD_P
ClientSampleId :
CWC-1-20151014MSD

Manual Integrations APPROVED
ugo
10/19/2015 4:39:16 PM

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012048.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 23:27
Operator : IZ/UA
Sample : G4034-01MSD
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:32:32 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml	
	System Monitoring Compounds							
1) SA	Tetrachlo...	5.166	4.185	1223743	1277138	19.733	18.998	
2) SA	Decachlor...	11.488	9.272	771339	1205341	17.254	17.440	
	Target Compounds							
3) L1	AR-1016-1	6.083	5.054	447398	539022	322.875	311.675	
4) L1	AR-1016-2	6.439	5.468	569715	545256	322.012	316.535	
5) L1	AR-1016-3	6.541	5.503	530820	467539	357.476	325.014	
6) L1	AR-1016-4	6.835	5.545	463791	534731	349.103	291.794	
7) L1	AR-1016-5	6.979	5.720	386877	500300	257.228	263.154	
31) L7	AR-1260-1	7.964	6.744	690542	903910	293.973	234.976	
32) L7	AR-1260-2	8.220	6.926	1243551	1284722	412.940	272.464	#
33) L7	AR-1260-3	8.614	7.085	507458	1375825	222.831	321.573	#
34) L7	AR-1260-4	8.880	7.787	640751	1955910	246.104m	232.757	
35) L7	AR-1260-5	9.256	8.136	1187163	1419365	225.088	232.919	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : P:\HPCHEM1\ECD P\Data\PP101615\
Data File : PP012048.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Oct 2015 23:27
Operator : IZ/UA
Sample : G4034-01MSD
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 17 05:32:32 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101615.M
Quant Title : GC EXTRACTABLES
QLast Update : Sat Oct 17 00:25:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-MR1 Signal #2 Phase: ZB-MR2
Signal #1 Info : 30Mx0.32mmx 0.50µ Signal #2 Info : 30M x 0.32mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
CWC-1-20151014MSD

Manual Integrations APPROVED
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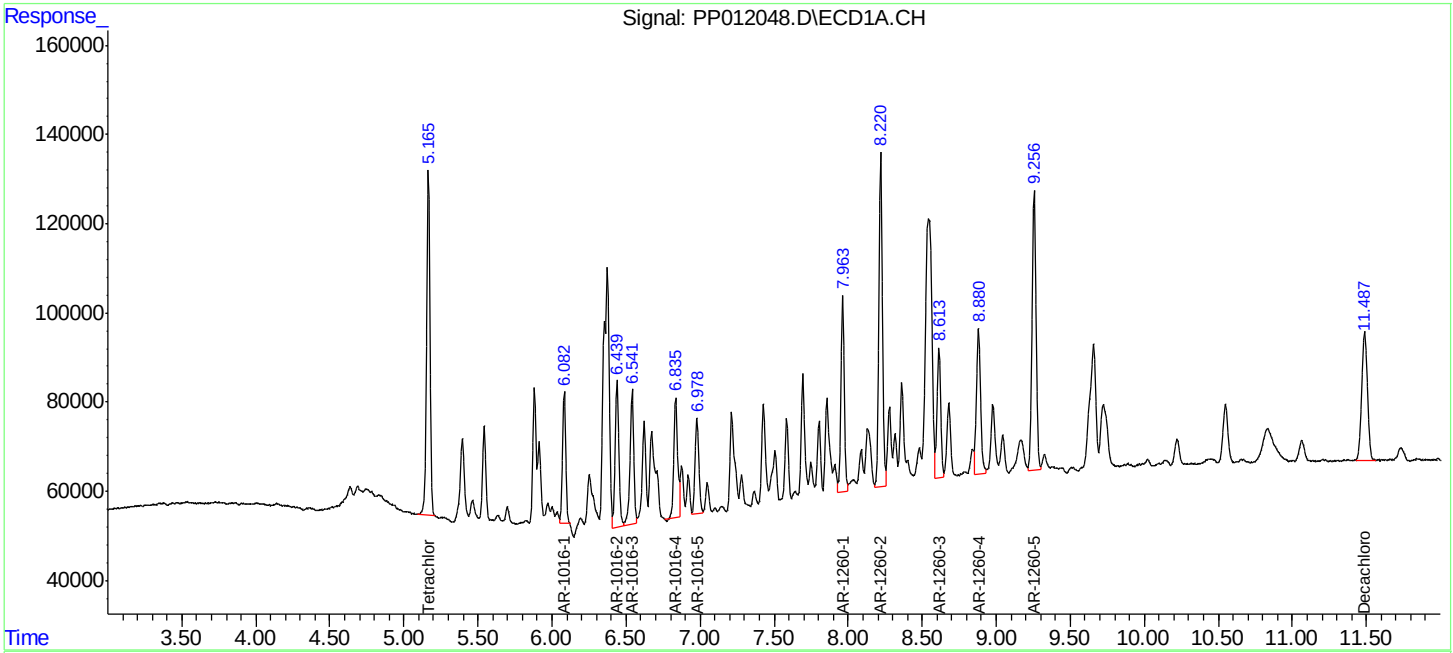
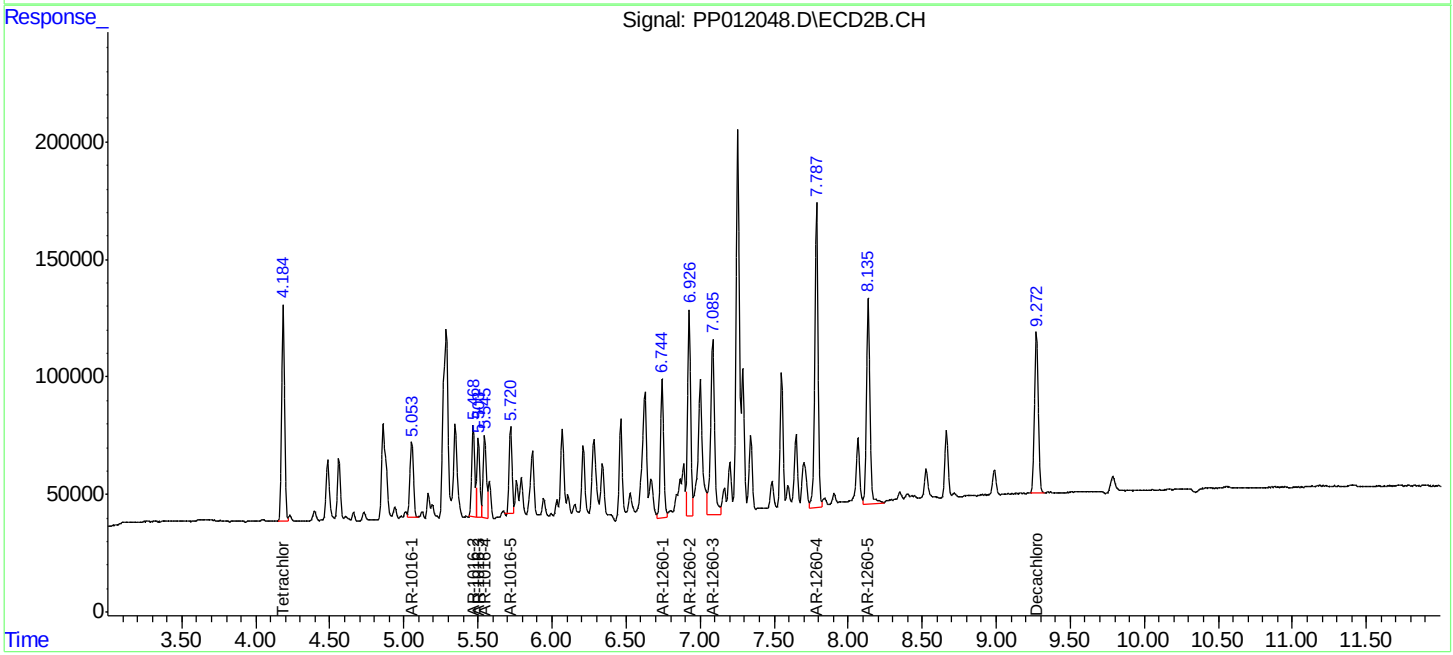
10/19/2015 4:39:16 PM





CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	PP101615	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
AR1660ICC50	PP012029.D	AR-1016-2 #2	iwona	10/19/2015 10:27:59 AM	ugo	10/19/2015 4:39:03	Peak Integrated by Software incorrectly
AR1660ICC50	PP012029.D	AR-1016-3	iwona	10/19/2015 10:27:59 AM	ugo	10/19/2015 4:39:03	Peak Integrated by Software incorrectly
AR1660ICC50	PP012029.D	AR-1016-3 #2	iwona	10/19/2015 10:27:59 AM	ugo	10/19/2015 4:39:03	Peak Integrated by Software incorrectly
AR1660ICC50	PP012029.D	AR-1016-4	iwona	10/19/2015 10:27:59 AM	ugo	10/19/2015 4:39:03	Peak Integrated by Software incorrectly
AR1660ICC50	PP012029.D	AR-1016-4 #2	iwona	10/19/2015 10:27:59 AM	ugo	10/19/2015 4:39:03	Peak Integrated by Software incorrectly
AR1660ICC50	PP012029.D	AR-1260-3	iwona	10/19/2015 10:27:59 AM	ugo	10/19/2015 4:39:03	Peak Integrated by Software incorrectly
AR1660ICC50	PP012029.D	AR-1260-4	iwona	10/19/2015 10:27:59 AM	ugo	10/19/2015 4:39:03	Peak Integrated by Software incorrectly
G4034-01MS	PP012047.D	AR-1260-1	iwona	10/19/2015 10:28:12 AM	ugo	10/19/2015 4:39:08	Peak Integrated by Software incorrectly
G4034-01MS	PP012047.D	AR-1260-2	iwona	10/19/2015 10:28:12 AM	ugo	10/19/2015 4:39:08	Peak Integrated by Software incorrectly
G4034-01MSD	PP012048.D	AR-1260-4	iwona	10/19/2015 10:28:18 AM	ugo	10/19/2015 4:39:16	Peak Integrated by Software incorrectly
G4046-01	PP012056.D	Decachlorobiphenyl #2	iwona	10/19/2015 10:28:23 AM	ugo	10/19/2015 4:39:22	Peak Integrated by Software incorrectly
G4046-01	PP012056.D	Tetrachloro-m-xylene	iwona	10/19/2015 10:28:23 AM	ugo	10/19/2015 4:39:22	Peak Integrated by Software incorrectly
G4046-02	PP012057.D	Decachlorobiphenyl #2	iwona	10/19/2015 10:28:26 AM	ugo	10/19/2015 4:39:27	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PP101615	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-02	PP012057.D	Tetrachloro-m-xylene	iwona	10/19/2015 10:28:26 AM	ugo	10/19/2015 4:39:27	Peak Integrated by Software incorrectly
G4046-03	PP012058.D	Tetrachloro-m-xylene	iwona	10/19/2015 10:28:29 AM	ugo	10/19/2015 4:39:31	Peak Integrated by Software incorrectly
G4046-04	PP012059.D	Decachlorobiphenyl #2	iwona	10/19/2015 10:28:58 AM	ugo	10/19/2015 4:39:53	Peak Integrated by Software incorrectly
G4046-04	PP012059.D	Tetrachloro-m-xylene	iwona	10/19/2015 10:28:58 AM	ugo	10/19/2015 4:39:53	Peak Integrated by Software incorrectly

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP101615

Review By	ugo	Review On	10/19/2015 4:40:03 PM		
SubDirectory	PP101615	HP Acquire Method		HP Processing Method	PP101615

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP9959,PP10583,PP10584,PP10585,PP10586,PP10587,PP10588,PP10589,PP10590,PP10591,PP10592,PP10593
CCC	PP10584
Internal Standard/PEM	N/A
ICV/I.BLK	PP10594

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	HEXANE	PP012023.D	16 Oct 2015 17:10	IZ/UA	Ok
2	I.BLK	PP012024.D	16 Oct 2015 17:26	IZ/UA	Ok
3	AR1660ICC1000	PP012025.D	16 Oct 2015 17:41	IZ/UA	Ok
4	AR1660ICC750	PP012026.D	16 Oct 2015 17:56	IZ/UA	Ok
5	AR1660ICC500	PP012027.D	16 Oct 2015 18:11	IZ/UA	Ok
6	AR1660ICC250	PP012028.D	16 Oct 2015 18:26	IZ/UA	Ok
7	AR1660ICC50	PP012029.D	16 Oct 2015 18:41	IZ/UA	Ok,M
8	AR1221ICC500	PP012030.D	16 Oct 2015 18:56	IZ/UA	Ok
9	AR1232ICC500	PP012031.D	16 Oct 2015 19:11	IZ/UA	Ok
10	AR1242ICC500	PP012032.D	16 Oct 2015 19:26	IZ/UA	Ok
11	AR1248ICC500	PP012033.D	16 Oct 2015 19:41	IZ/UA	Ok
12	AR1254ICC500	PP012034.D	16 Oct 2015 19:56	IZ/UA	Ok
13	AR1262ICC500	PP012035.D	16 Oct 2015 20:11	IZ/UA	Ok
14	AR1268ICC500	PP012036.D	16 Oct 2015 20:27	IZ/UA	Ok
15	PP101615ICV500	PP012037.D	16 Oct 2015 20:42	IZ/UA	Ok
16	I.BLK	PP012038.D	16 Oct 2015 20:57	IZ/UA	Ok
17	AR1660CCC500	PP012039.D	16 Oct 2015 21:12	IZ/UA	Ok
18	PB86129BL	PP012040.D	16 Oct 2015 21:27	IZ/UA	Ok
19	PB86129BS	PP012041.D	16 Oct 2015 21:42	IZ/UA	Ok
20	PB86129BSD	PP012042.D	16 Oct 2015 21:57	IZ/UA	Ok
21	G4017-02	PP012043.D	16 Oct 2015 22:12	IZ/UA	Ok
22	PB86140BL	PP012044.D	16 Oct 2015 22:27	IZ/UA	Ok
23	PB86140BS	PP012045.D	16 Oct 2015 22:42	IZ/UA	Ok
24	G4034-01	PP012046.D	16 Oct 2015 22:57	IZ/UA	Ok
25	G4034-01MS	PP012047.D	16 Oct 2015 23:12	IZ/UA	Ok,M
26	G4034-01MSD	PP012048.D	16 Oct 2015 23:27	IZ/UA	Ok,M

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP101615

Review By	ugo	Review On	10/19/2015 4:40:03 PM		
SubDirectory	PP101615	HP Acquire Method		HP Processing Method	PP101615

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP9959,PP10583,PP10584,PP10585,PP10586,PP10587,PP10588,PP10589,PP10590,PP10591,PP10592,PP10593
CCC	PP10584
Internal Standard/PEM	N/A
ICV/I.BLK	PP10594

27	G4040-01	PP012049.D	16 Oct 2015 23:42	IZ/UA	Ok
28	I.BLK	PP012050.D	17 Oct 2015 00:12	IZ/UA	Ok
29	AR1660CCC500	PP012051.D	17 Oct 2015 00:27	IZ/UA	Ok
30	G4040-02	PP012052.D	17 Oct 2015 00:42	IZ/UA	Ok
31	G4040-03	PP012053.D	17 Oct 2015 00:57	IZ/UA	Ok
32	G4040-04	PP012054.D	17 Oct 2015 1:12	IZ/UA	Ok
33	G4040-05	PP012055.D	17 Oct 2015 1:27	IZ/UA	Ok
34	G4046-01	PP012056.D	17 Oct 2015 1:42	IZ/UA	Ok,M
35	G4046-02	PP012057.D	17 Oct 2015 1:57	IZ/UA	Ok,M
36	G4046-03	PP012058.D	17 Oct 2015 2:12	IZ/UA	Ok,M
37	G4046-04	PP012059.D	17 Oct 2015 2:27	IZ/UA	Ok,M
38	G4046-05	PP012060.D	17 Oct 2015 2:42	IZ/UA	Ok
39	I.BLK	PP012061.D	17 Oct 2015 3:12	IZ/UA	Ok
40	AR1660CCC500	PP012062.D	17 Oct 2015 3:27	IZ/UA	Ok

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP101615

Review By	ugo	Review On	10/19/2015 4:40:03 PM		
SubDirectory	PP101615	HP Acquire Method		HP Processing Method	PP101615

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP9959,PP10583,PP10584,PP10585,PP10586,PP10587,PP10588,PP10589,PP10590,PP10591,PP10592,PP10593
CCC	PP10584
Internal Standard/PEM	N/A
ICV/I.BLK	PP10594

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	HEXANE	HEXANE	PP012023.D		Ok
2	I.BLK	I.BLK	PP012024.D		Ok
3	AR1660ICC1000	AR1660ICC1000	PP012025.D		Ok
4	AR1660ICC750	AR1660ICC750	PP012026.D		Ok
5	AR1660ICC500	AR1660ICC500	PP012027.D		Ok
6	AR1660ICC250	AR1660ICC250	PP012028.D		Ok
7	AR1660ICC50	AR1660ICC50	PP012029.D		Ok,M
8	AR1221ICC500	AR1221ICC500	PP012030.D		Ok
9	AR1232ICC500	AR1232ICC500	PP012031.D		Ok
10	AR1242ICC500	AR1242ICC500	PP012032.D		Ok
11	AR1248ICC500	AR1248ICC500	PP012033.D		Ok
12	AR1254ICC500	AR1254ICC500	PP012034.D		Ok
13	AR1262ICC500	AR1262ICC500	PP012035.D		Ok
14	AR1268ICC500	AR1268ICC500	PP012036.D		Ok
15	PP101615ICV500	ICVPP101615	PP012037.D		Ok
16	I.BLK	I.BLK	PP012038.D		Ok
17	AR1660CCC500	AR1660CCC500	PP012039.D		Ok
18	PB86129BL	PB86129BL	PP012040.D		Ok
19	PB86129BS	PB86129BS	PP012041.D		Ok
20	PB86129BSD	PB86129BSD	PP012042.D		Ok
21	G4017-02	TEC-10	PP012043.D		Ok
22	PB86140BL	PB86140BL	PP012044.D		Ok

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP101615

Review By	ugo	Review On	10/19/2015 4:40:03 PM		
SubDirectory	PP101615	HP Acquire Method		HP Processing Method	PP101615

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP9959,PP10583,PP10584,PP10585,PP10586,PP10587,PP10588,PP10589,PP10590,PP10591,PP10592,PP10593
CCC	PP10584
Internal Standard/PEM	N/A
ICV/I.BLK	PP10594

23	PB86140BS	PB86140BS	PP012045.D		Ok
24	G4034-01	CWC-1-20151014	PP012046.D		Ok
25	G4034-01MS	CWC-1-20151014MS	PP012047.D	AR1016 & AR12060 having high recovery	Ok,M
26	G4034-01MSD	CWC-1-20151014MSD	PP012048.D	AR1016 & AR12060 having high recovery	Ok,M
27	G4040-01	IM-MLA-2.5-03	PP012049.D		Ok
28	I.BLK	I.BLK	PP012050.D		Ok
29	AR1660CCC500	AR1660CCC500	PP012051.D		Ok
30	G4040-02	IM-MLA-2.5-04	PP012052.D		Ok
31	G4040-03	IM-MLA-2.5-05	PP012053.D		Ok
32	G4040-04	IM-MLA-1.5-05	PP012054.D		Ok
33	G4040-05	IM-MLA-DGA-03	PP012055.D		Ok
34	G4046-01	GOODLUCK902	PP012056.D		Ok,M
35	G4046-02	GOODLUCK58	PP012057.D		Ok,M
36	G4046-03	GOODLUCKINSULATION	PP012058.D	AR12154 hits,DCB low in second column	Ok,M
37	G4046-04	MANAHAWKEN112	PP012059.D	DCB low in second column	Ok,M
38	G4046-05	MANAHAWKENINSULATI	PP012060.D		Ok
39	I.BLK	I.BLK	PP012061.D		Ok
40	AR1660CCC500	AR1660CCC500	PP012062.D		Ok

CHEMTECH EXTRACTION LOGPAGE

PB86140

SOP ID: M 35AL-ASE-Extraction-07

Matrix : Solid

Clean Up SOP #: Acid Cleanup

Weigh By: RS Extraction By: RS

Balance check: RS

Balance ID: IM-4600 Weight 1: (20.00) 20.00 Weight 2: (110.00) 110.00

Batch# PB86140

Extraction Date : 10/16/15

Extraction Start Time : 8:20

Extraction End Time : 14:00

Review By : R

Filter By: RS Concentration By: MM

Method of Extraction

☐ Seperatory Funne ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☑ Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	1.0ML	2000 ug	PP10504
Surrogate	1.0ML	200 ug	PP10606

Chemical Used	ML/SAMPLE USED	Lot Number
Hexane/Acetone/1:1		EP1615
Baked Na2SO4		EP1613
Sand		E1520
H2SO4 1:1		EP1588

R 10/16

Extraction Conformance/Non-Conformance Comments:

Extraction End Time: 14:00

R 10/16

KD Bath Temperature: 60.1 c

Received Date: 10/16/15

Delivered Date: 10/16/15

Delivered Time: 14:05

Envap Temperature: 40 c

Received By: IZ

Delivered By: MM

Analysis Group:

Extraction Group: , RS, , MM, UA, RP, JP, BP, NP, UM

CHEMTECH EXTRACTION LOGPAGE

PrepBatch ID **PB86140**

Analytical Method: 8082A **Extraction Date:** 10/16/2015-08:20 **Concentration Date:** 10/16/15

Lab Sample ID	Client Sample ID	Test	g/mL	PH	Surr/Spike By: Added By	Surr/Spike By: Verified By	Final Vol.(mL)	Comments	Prep Pos
	2	2							
PB86140BL	ABLK40	PCB Group1	30.01	Nit	RS	H	10		02
PB86140BS	ALCS40	PCB Group1	30.02						02
G4034-01	CWC-1-20151014	PCB Group1	30.07						03
G4034-01MS	CWC-1-20151014MS	PCB Group1	30.10						04
G4034-01MSD	CWC-1-20151014MSD	PCB Group1	30.02						05
G4040-01	IM-MLA-2.5-03	PCB	30.10						06
G4040-02	IM-MLA-2.5-04	PCB	30.09						03 01
G4040-03	IM-MLA-2.5-05	PCB	30.03						02
G4040-04	IM-MLA-1.5-05	PCB	30.00						03
G4040-05	IM-MLA-DGA-03	PCB	30.13						04
G4046-01	GOODLUCK902	PCB	5.02					Wood chips	05
G4046-02	GOODLUCK58	PCB	5.03						06
G4046-03	GOODLUCKINSULATION	PCB	1.02					Asbestos Matrix	04 01
G4046-04	MANAHAWKEN112	PCB	5.06					Wood chips	02
G4046-05	MANAHAWKENINSULATION	PCB	1.4				10	Asbestos Matrix	03

* Extracts relinquished on the same date as received.

10/16

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID : PB86140**

Analytical Method: 2 **Extraction Date:** 10/16/2015-08:20 **Concentration Date:** ___/___/___

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
		2 2			Added By	Verified By			
PB86140BL	ABLK40	PCB Group1	30.01	N/A	RUPESH	rajesh	10		
PB86140BS	ALCS40	PCB Group1	30.02	N/A	RUPESH	rajesh	10		
G4034-01	CWC-1-20151014	PCB Group1	30.07	N/A	RUPESH	rajesh	10		
G4034-01MS	CWC-1-20151014MS	PCB Group1	30.10	N/A	RUPESH	rajesh	10		
G4034-01MSD	CWC-1-20151014MSD	PCB Group1	30.02	N/A	RUPESH	rajesh	10		
G4040-01	IM-MLA-2.5-03	PCB	30.10	N/A	RUPESH	rajesh	10		
G4040-02	IM-MLA-2.5-04	PCB	30.09	N/A	RUPESH	rajesh	10		
G4040-03	IM-MLA-2.5-05	PCB	30.03	N/A	RUPESH	rajesh	10		
G4040-04	IM-MLA-1.5-05	PCB	30.00	N/A	RUPESH	rajesh	10		
G4040-05	IM-MLA-DGA-03	PCB	30.13	N/A	RUPESH	rajesh	10		
G4046-01	GOODLUCK902	PCB	5.02	N/A	RUPESH	rajesh	10		
G4046-02	GOODLUCK58	PCB	5.03	N/A	RUPESH	rajesh	10		
G4046-03	GOODLUCKINSULATION	PCB	1.02	N/A	RUPESH	rajesh	10		
G4046-04	MANAHAWKEN112	PCB	5.06	N/A	RUPESH	rajesh	10		
G4046-05	MANAHAWKENINSULATION	PCB	1.04	N/A	RUPESH	rajesh	10		

2 10/16

* Extracts relinquished on the same date as received.

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LAB CHRONICLE

OrderID:	G4046	**OrderDate:**	10/15/2015 11:06:06 AM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4046-01	**GOODLUCK902**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
G4046-02	**GOODLUCK58**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
G4046-03	**GOODLUCKINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
G4046-04	**MANAHAWKEN112**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
G4046-05	**MANAHAWKENINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	

Hit Summary Sheet
SW-846

SDG No.: **Order ID:**

Client: **Project ID:**

Sample ID	Client ID	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :								

Total Concentration:

SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.07 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012105.D	1	10/22/15 08:12	10/23/15 14:27	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	98.6	U	78.5	98.6	400	ug/Kg
120-36-5	DICHLORPROP	98.6	U	73.1	98.6	400	ug/Kg
94-75-7	2,4-D	98.6	U	98.6	98.6	400	ug/Kg
93-72-1	2,4,5-TP (Silvex)	98.6	U	64.6	98.6	400	ug/Kg
93-76-5	2,4,5-T	98.6	U	60.7	98.6	400	ug/Kg
94-82-6	2,4-DB	98.6	U	98.6	98.6	400	ug/Kg
88-85-7	DINOSEB	98.6	U	98.6	98.6	400	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	121		12 - 189		24%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012106.D	1	10/22/15 08:12	10/23/15 14:58	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	99.4	U	79.1	99.4	400	ug/Kg
120-36-5	DICHLORPROP	99.4	U	73.7	99.4	400	ug/Kg
94-75-7	2,4-D	99.4	U	99.4	99.4	400	ug/Kg
93-72-1	2,4,5-TP (Silvex)	99.4	U	65.1	99.4	400	ug/Kg
93-76-5	2,4,5-T	99.4	U	61.1	99.4	400	ug/Kg
94-82-6	2,4-DB	99.4	U	99.4	99.4	400	ug/Kg
88-85-7	DINOSEB	99.4	U	99.4	99.4	400	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	124		12 - 189		25%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58RE	SDG No.:	G4046
Lab Sample ID:	G4046-02RE	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012146.D	1	10/22/15 08:12	10/26/15 15:06	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	99.4	U	79.1	99.4	400	ug/Kg
120-36-5	DICHLORPROP	99.4	U	73.7	99.4	400	ug/Kg
94-75-7	2,4-D	99.4	U	99.4	99.4	400	ug/Kg
93-72-1	2,4,5-TP (Silvex)	99.4	U	65.1	99.4	400	ug/Kg
93-76-5	2,4,5-T	99.4	U	61.1	99.4	400	ug/Kg
94-82-6	2,4-DB	99.4	U	99.4	99.4	400	ug/Kg
88-85-7	DINOSEB	99.4	U	99.4	99.4	400	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	136		12 - 189		27%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	0 Decanted:
Sample Wt/Vol:	5.08 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012107.D	1	10/22/15 08:12	10/23/15 15:29	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	98.4	U	78.4	98.4	400	ug/Kg
120-36-5	DICHLORPROP	98.4	U	72.9	98.4	400	ug/Kg
94-75-7	2,4-D	98.4	U	98.4	98.4	400	ug/Kg
93-72-1	2,4,5-TP (Silvex)	98.4	U	64.4	98.4	400	ug/Kg
93-76-5	2,4,5-T	98.4	U	60.5	98.4	400	ug/Kg
94-82-6	2,4-DB	98.4	U	98.4	98.4	400	ug/Kg
88-85-7	DINOSEB	98.4	U	98.4	98.4	400	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	204		12 - 189		41%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

QC SUMMARY

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Surrogate Summary

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8151A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PP011957.D	PIBLK-PP011957.D	2,4-DCAA	1	500	534.39	107		43	172
		2,4-DCAA	2	500	504.98	101		43	172
I.BLK-PP012098.D	PIBLK-PP012098.D	2,4-DCAA	1	500	552.64	111		43	172
		2,4-DCAA	2	500	470.08	94		43	172
PB86237BL	PB86237BL	2,4-DCAA	1	500	275.7	55		12	189
		2,4-DCAA	2	500	219.06	44		12	189
PB86237BS	PB86237BS	2,4-DCAA	1	500	585.13	117		12	189
		2,4-DCAA	2	500	609.17	122		12	189
G4085-01MS	SP-001-COMPMS	2,4-DCAA	1	500	94.26	19		12	189
		2,4-DCAA	2	500	64.59	13		12	189
G4085-01MSD	SP-001-COMPMSD	2,4-DCAA	1	500	94.64	19		12	189
		2,4-DCAA	2	500	64.85	13		12	189
G4046-01	GOODLUCK902	2,4-DCAA	1	500	121.23	24		12	189
		2,4-DCAA	2	500	76.36	15		12	189
G4046-02	GOODLUCK58	2,4-DCAA	1	500	124.2	25		12	189
		2,4-DCAA	2	500	54.66	11	*	12	189
G4046-04	MANAHAWKEN112	2,4-DCAA	1	500	204.64	41		12	189
		2,4-DCAA	2	500	82.58	17		12	189
I.BLK-PP012144.D	PIBLK-PP012144.D	2,4-DCAA	1	500	566.61	113		43	172
		2,4-DCAA	2	500	473.56	95		43	172
G4046-02RE	GOODLUCK58RE	2,4-DCAA	1	500	136.62	27		12	189
		2,4-DCAA	2	500	48.67	10	*	12	189
I.BLK-PP012150.D	PIBLK-PP012150.D	2,4-DCAA	1	500	571.74	114		43	172
		2,4-DCAA	2	500	475.62	95		43	172

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8151A **DataFile :** PP012103.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**SP-001-COMPMS**											
G4085-01MS	DICAMBA	180	0	28.8	ug/Kg	16	*			34	148	
	DICHLORPROP	180	0	22.3	ug/Kg	12				10	224	
	2,4-D	180	0	24.6	ug/Kg	14				11	196	
	2,4,5-TP(Silvex)	180	0	13.6	ug/Kg	8	*			13	154	
	2,4,5-T	180	0	15.7	ug/Kg	9	*			15	147	
	2,4-DB	180	0	0	ug/Kg	0	*			10	155	
	Dinoseb	180	0	0	ug/Kg	0	*			10	161	

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8151A **DataFile :** PP012104.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**SP-001-COMPMSD**											
G4085-01MSD	DICAMBA	180	0	29	ug/Kg	16	*	0		34	148	20
	DICHLORPROP	180	0	21	ug/Kg	12		0		10	224	20
	2,4-D	180	0	21.6	ug/Kg	12		15		11	196	20
	2,4,5-TP(Silvex)	180	0	13.6	ug/Kg	8	*	0		13	154	20
	2,4,5-T	180	0	17.3	ug/Kg	10	*	11		15	147	20
	2,4-DB	180	0	0	ug/Kg	0	*	0		10	155	20
	Dinoseb	180	0	0	ug/Kg	0	*	0		10	161	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: G4046

Client: Sea Coast Environmental Services, Inc.

Analytical Method: 8151A **Datafile :** PP012101.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB86237BS	DICAMBA	170	190	ug/Kg	112				78	123	
	DICHLORPROP	170	200	ug/Kg	118				78	126	
	2,4-D	170	180	ug/Kg	106				68	134	
	2,4,5-TP(Silvex)	170	180	ug/Kg	106				63	134	
	2,4,5-T	170	180	ug/Kg	106				59	140	
	2,4-DB	170	180	ug/Kg	106				51	141	
	Dinoseb	170	170	ug/Kg	100				57	152	

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4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB86237BL

Lab Name: CHEMTECH

Contract: SEAC01

Lab Code: CHEM

Case No.: G4046

SAS No.: G4046

SDG NO.: G4046

Lab Sample ID: PB86237BL

Lab File ID: PP012100.D

Matrix: (soil/water) Solid

Extraction: (Type) SOXH

Sulfur Cleanup: (Y/N) N

Date Extracted: 10/22/2015

Date Analyzed (1): 10/23/2015

Date Analyzed (2): 10/23/2015

Time Analyzed (1): 11:55

Time Analyzed (2): 11:55

Instrument ID (1): ECD_P

Instrument ID (2): ECD_P

GC Column (1): ZB-MR1 ID: 0.32 (mm)

GC Column (2): ZB-MR2 ID: 0.32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
PB86237BS	PB86237BS	PP012101.D	10/23/2015	10/23/2015
SP-001-COMPMS	G4085-01MS	PP012103.D	10/23/2015	10/23/2015
SP-001-COMPMSD	G4085-01MSD	PP012104.D	10/23/2015	10/23/2015
GOODLUCK902	G4046-01	PP012105.D	10/23/2015	10/23/2015
GOODLUCK58	G4046-02	PP012106.D	10/23/2015	10/23/2015
MANAHAWKEN112	G4046-04	PP012107.D	10/23/2015	10/23/2015

COMMENTS:

Form IV Pest

QC SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86237BL	SDG No.:	G4046
Lab Sample ID:	PB86237BL	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.04 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012100.D	1	10/22/15 08:12	10/23/15 11:55	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	16.6	U	13.3	16.6	66.9	ug/Kg
120-36-5	DICHLORPROP	16.6	U	12.3	16.6	66.9	ug/Kg
94-75-7	2,4-D	16.6	U	16.6	16.6	66.9	ug/Kg
93-72-1	2,4,5-TP (Silvex)	16.6	U	10.9	16.6	66.9	ug/Kg
93-76-5	2,4,5-T	16.6	U	10.2	16.6	66.9	ug/Kg
94-82-6	2,4-DB	16.6	U	16.6	16.6	66.9	ug/Kg
88-85-7	DINOSEB	16.6	U	16.6	16.6	66.9	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	275		12 - 189		55%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/09/15
Project:	U.S. Fish and Wildlife	Date Received:	10/09/15
Client Sample ID:	PIBLK-PP011957.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP011957.D	Matrix:	Water
Analytical Method:	SW8151A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP011957.D	1		10/09/15	PP101015

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1918-00-9	DICAMBA	0.5	U	0.163	0.5	2	ug/L
120-36-5	DICHLORPROP	0.5	U	0.263	0.5	2	ug/L
94-75-7	2,4-D	0.5	U	0.348	0.5	2	ug/L
93-72-1	2,4,5-TP (Silvex)	0.5	U	0.151	0.5	2	ug/L
93-76-5	2,4,5-T	0.5	U	0.172	0.5	2	ug/L
94-82-6	2,4-DB	0.5	U	0.5	0.5	2	ug/L
88-85-7	DINOSEB	0.5	U	0.179	0.5	2	ug/L
SURROGATES							
19719-28-9	2,4-DCAA	534		43 - 172		107%	SPK: 500

Comments:

U = Not Detected
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LOD = Limit of Detection
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Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/23/15
Project:	U.S. Fish and Wildlife	Date Received:	10/23/15
Client Sample ID:	PIBLK-PP012098.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP012098.D	Matrix:	Water
Analytical Method:	SW8151A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012098.D	1		10/23/15	PP102315

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1918-00-9	DICAMBA	0.5	U	0.163	0.5	2	ug/L
120-36-5	DICHLORPROP	0.5	U	0.263	0.5	2	ug/L
94-75-7	2,4-D	0.5	U	0.348	0.5	2	ug/L
93-72-1	2,4,5-TP (Silvex)	0.5	U	0.151	0.5	2	ug/L
93-76-5	2,4,5-T	0.5	U	0.172	0.5	2	ug/L
94-82-6	2,4-DB	0.5	U	0.5	0.5	2	ug/L
88-85-7	DINOSEB	0.5	U	0.179	0.5	2	ug/L
SURROGATES							
19719-28-9	2,4-DCAA	552		43 - 172		111%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/26/15
Project:	U.S. Fish and Wildlife	Date Received:	10/26/15
Client Sample ID:	PIBLK-PP012144.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP012144.D	Matrix:	Water
Analytical Method:	SW8151A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012144.D	1		10/26/15	PP102615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1918-00-9	DICAMBA	0.5	U	0.163	0.5	2	ug/L
120-36-5	DICHLORPROP	0.5	U	0.263	0.5	2	ug/L
94-75-7	2,4-D	0.5	U	0.348	0.5	2	ug/L
93-72-1	2,4,5-TP (Silvex)	0.5	U	0.151	0.5	2	ug/L
93-76-5	2,4,5-T	0.5	U	0.172	0.5	2	ug/L
94-82-6	2,4-DB	0.5	U	0.5	0.5	2	ug/L
88-85-7	DINOSEB	0.5	U	0.179	0.5	2	ug/L
SURROGATES							
19719-28-9	2,4-DCAA	566		43 - 172		113%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/26/15
Project:	U.S. Fish and Wildlife	Date Received:	10/26/15
Client Sample ID:	PIBLK-PP012150.D	SDG No.:	G4046
Lab Sample ID:	I.BLK-PP012150.D	Matrix:	Water
Analytical Method:	SW8151A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012150.D	1		10/26/15	PP102615

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1918-00-9	DICAMBA	0.5	U	0.163	0.5	2	ug/L
120-36-5	DICHLORPROP	0.5	U	0.263	0.5	2	ug/L
94-75-7	2,4-D	0.5	U	0.348	0.5	2	ug/L
93-72-1	2,4,5-TP (Silvex)	0.5	U	0.151	0.5	2	ug/L
93-76-5	2,4,5-T	0.5	U	0.172	0.5	2	ug/L
94-82-6	2,4-DB	0.5	U	0.5	0.5	2	ug/L
88-85-7	DINOSEB	0.5	U	0.179	0.5	2	ug/L
SURROGATES							
19719-28-9	2,4-DCAA	571		43 - 172		114%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	
Project:	U.S. Fish and Wildlife	Date Received:	
Client Sample ID:	PB86237BS	SDG No.:	G4046
Lab Sample ID:	PB86237BS	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	0 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012101.D	1	10/22/15 08:12	10/23/15 12:25	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	190		13.3	16.7	67	ug/Kg
120-36-5	DICHLORPROP	200		12.3	16.7	67	ug/Kg
94-75-7	2,4-D	180		16.7	16.7	67	ug/Kg
93-72-1	2,4,5-TP (Silvex)	180		10.9	16.7	67	ug/Kg
93-76-5	2,4,5-T	180		10.2	16.7	67	ug/Kg
94-82-6	2,4-DB	180		16.7	16.7	67	ug/Kg
88-85-7	DINOSEB	170		16.7	16.7	67	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	585		12 - 189		117%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	SP-001-COMPMS	SDG No.:	G4046
Lab Sample ID:	G4085-01MS	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	6.7 Decanted:
Sample Wt/Vol:	30.1 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012103.D	1	10/22/15 08:12	10/23/15 13:26	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	28.8	JP	14.2	17.8	71.6	ug/Kg
120-36-5	DICHLORPROP	22.3	J	13.2	17.8	71.6	ug/Kg
94-75-7	2,4-D	24.6	J	17.8	17.8	71.6	ug/Kg
93-72-1	2,4,5-TP (Silvex)	13.6	J	11.7	17.8	71.6	ug/Kg
93-76-5	2,4,5-T	15.7	J	10.9	17.8	71.6	ug/Kg
94-82-6	2,4-DB	17.8	U	17.8	17.8	71.6	ug/Kg
88-85-7	DINOSEB	17.8	U	17.8	17.8	71.6	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	94.3		12 - 189		19%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/16/15
Project:	U.S. Fish and Wildlife	Date Received:	10/16/15
Client Sample ID:	SP-001-COMPMSD	SDG No.:	G4046
Lab Sample ID:	G4085-01MSD	Matrix:	SOIL
Analytical Method:	SW8151A	% Moisture:	6.7 Decanted:
Sample Wt/Vol:	30.05 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Herbicide
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP012104.D	1	10/22/15 08:12	10/23/15 13:57	PB86237

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1918-00-9	DICAMBA	29	J	14.2	17.8	71.7	ug/Kg
120-36-5	DICHLORPROP	21	J	13.2	17.8	71.7	ug/Kg
94-75-7	2,4-D	21.6	J	17.8	17.8	71.7	ug/Kg
93-72-1	2,4,5-TP (Silvex)	13.6	J	11.7	17.8	71.7	ug/Kg
93-76-5	2,4,5-T	17.3	J	11	17.8	71.7	ug/Kg
94-82-6	2,4-DB	17.8	U	17.8	17.8	71.7	ug/Kg
88-85-7	DINOSEB	17.8	U	17.8	17.8	71.7	ug/Kg
SURROGATES							
19719-28-9	2,4-DCAA	94.6		12 - 189		19%	SPK: 500

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P **Calibration Date(s):** 10/09/2015 10/09/2015

Calibration Times: 14:46 16:48

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 200 = PP011958.D RT 500 = PP011959.D

RT 750 = PP011960.D RT 1000 = PP011961.D RT 1500 = PP011962.D

COMPOUND	RT 200	RT 500	RT 750	RT 1000	RT 1500	MEAN RT	RT WINDOW FROM	RT WINDOW TO
2,4,5-T	16.69	16.69	16.69	16.69	16.69	16.69	16.59	16.79
2,4,5-TP(Silvex)	16.22	16.22	16.22	16.22	16.22	16.22	16.12	16.32
2,4-D	15.11	15.11	15.11	15.11	15.11	15.11	15.01	15.21
2,4-DB	17.35	17.35	17.35	17.35	17.34	17.35	17.25	17.45
2,4-DCAA	13.52	13.52	13.52	13.52	13.52	13.52	13.42	13.62
DICAMBA	13.63	13.63	13.63	13.63	13.63	13.63	13.53	13.73
DICHLORPROP	14.71	14.71	14.71	14.71	14.71	14.71	14.61	14.81
Dinoseb	17.91	17.91	17.91	17.91	17.91	17.91	17.81	18.01

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P **Calibration Date(s):** 10/09/2015 10/09/2015

Calibration Times: 14:46 16:48

GC Column: ZB-MR2 ID: 0.32 (mm)

LAB FILE ID: RT 200 = PP011958.D RT 500 = PP011959.D

RT 750 = PP011960.D RT 1000 = PP011961.D RT 1500 = PP011962.D

COMPOUND	RT 200	RT 500	RT 750	RT 1000	RT 1500	MEAN RT	RT WINDOW FROM	RT WINDOW TO
2,4,5-T	14.85	14.84	14.84	14.84	14.84	14.84	14.74	14.94
2,4,5-TP(Silvex)	14.23	14.23	14.23	14.23	14.23	14.23	14.13	14.33
2,4-D	13.34	13.34	13.34	13.34	13.34	13.34	13.24	13.44
2,4-DB	15.39	15.39	15.39	15.39	15.39	15.39	15.29	15.49
2,4-DCAA	11.69	11.69	11.69	11.69	11.69	11.69	11.59	11.79
DICAMBA	11.85	11.85	11.85	11.85	11.85	11.85	11.75	11.95
DICHLORPROP	12.80	12.80	12.80	12.80	12.80	12.80	12.70	12.90
Dinoseb	16.23	16.23	16.23	16.23	16.23	16.23	16.13	16.33

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P

Calibration Date(s): 10/09/2015 10/09/2015

Calibration Times: 14:46 16:48

GC Column: ZB-MR1 **ID:** 0.32 (mm)

LAB FILE ID: CF 200 = PP011958.D CF 500 = PP011959.D

CF 750 = PP011960.D CF 1000 = PP011961.D CF 1500 = PP011962.D

COMPOUND	CF 200	CF 500	CF 750	CF 1000	CF 1500	CF	% RSD
2,4,5-T	2853670000	2819320000	2957020000	2738590000	2562120000	2786140000	5
2,4,5-TP(Silvex)	2880570000	2864980000	2798230000	2710740000	2561180000	2763140000	5
2,4-D	560078000	511848000	494224000	466678000	439205000	494407000	9
2,4-DB	2106300000	2105750000	2119090000	2056720000	1995730000	2076720000	2
2,4-DCAA	381786000	352575000	340473000	323936000	305078000	340770000	9
DICAMBA	1541170000	1495470000	1493220000	1449740000	1402740000	1476470000	4
DICHLORPROP	437822000	393610000	378305000	358279000	336730000	380949000	10
Dinoseb	369034000	354819000	351242000	337495000	326382000	347794000	5

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Instrument ID: ECD_P

Calibration Date(s): 10/09/2015 10/09/2015

Calibration Times: 14:46 16:48

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: CF 200 = PP011958.D CF 500 = PP011959.D

CF 750 = PP011960.D CF 1000 = PP011961.D CF 1500 = PP011962.D

COMPOUND	CF 200	CF 500	CF 750	CF 1000	CF 1500	CF	% RSD
2,4,5-T	3528300000	3486710000	3490110000	3278500000	3114500000	3379620000	5
2,4,5-TP(Silvex)	4019170000	3831920000	3742980000	3501810000	3275830000	3674340000	8
2,4-D	880425000	851324000	846851000	811634000	787153000	835477000	4
2,4-DB	3119540000	3137920000	3172900000	3037730000	2937050000	3081030000	3
2,4-DCAA	666673000	631313000	624017000	596986000	579443000	619686000	5
DICAMBA	2784920000	2703900000	2661720000	2520090000	2386570000	2611440000	6
DICHLORPROP	712714000	669055000	659590000	629585000	609371000	656063000	6
Dinoseb	424039000	402619000	399247000	380476000	369931000	395263000	5

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/23/2015 **Initial Calibration Date(s):** 10/09/2015 10/09/2015

Continuing Calib Time: 11:02 **Initial Calibration Time(s):** 14:46 16:48

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
DICAMBA	13.63	13.63	13.53	13.73	0.00
2,4-DCAA	13.52	13.52	13.42	13.62	0.00
DICHLORPROP	14.71	14.71	14.61	14.81	0.00
2,4-D	15.11	15.11	15.01	15.21	0.00
2,4,5-TP(Silvex)	16.22	16.22	16.12	16.32	0.00
2,4,5-T	16.69	16.69	16.59	16.79	0.00
2,4-DB	17.34	17.35	17.25	17.45	0.01
Dinoseb	17.91	17.91	17.81	18.01	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/23/2015 **Initial Calibration Date(s):** 10/09/2015 10/09/2015

Continuing Calib Time: 11:02 **Initial Calibration Time(s):** 14:46 16:48

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
DICAMBA	11.85	11.85	11.75	11.95	0.00
2,4-DCAA	11.69	11.69	11.59	11.79	0.00
DICHLORPROP	12.80	12.80	12.70	12.90	0.00
2,4-D	13.34	13.34	13.24	13.44	0.00
2,4,5-TP(Silvex)	14.23	14.23	14.13	14.33	0.00
2,4,5-T	14.84	14.84	14.74	14.94	0.00
2,4-DB	15.39	15.39	15.29	15.49	0.00
Dinoseb	16.23	16.23	16.13	16.33	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/09/2015 10/09/2015

Client Sample No.: CCAL01 **Date Analyzed:** 10/23/2015

Lab Sample No.: HSTDCCC750 **Data File :** PP012099.D **Time Analyzed:** 11:02

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
2,4,5-T	16.688	16.587	16.787	728.630	712.500	2.3
2,4,5-TP(Silvex)	16.217	16.117	16.317	739.300	712.500	3.8
2,4-D	15.111	15.010	15.210	714.480	705.000	1.3
2,4-DB	17.344	17.245	17.445	734.240	712.500	3.1
2,4-DCAA	13.519	13.419	13.619	808.160	750.000	7.8
DICAMBA	13.630	13.530	13.730	744.770	705.000	5.6
DICHLORPROP	14.710	14.611	14.811	723.650	705.000	2.6
Dinoseb	17.906	17.806	18.006	746.890	705.000	5.9

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/09/2015 10/09/2015

Client Sample No.: CCAL01 **Date Analyzed:** 10/23/2015

Lab Sample No.: HSTDCCC750 **Data File :** PP012099.D **Time Analyzed:** 11:02

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
2,4,5-T	14.843	14.744	14.944	695.490	712.500	-2.4
2,4,5-TP(Silvex)	14.232	14.134	14.334	704.460	712.500	-1.1
2,4-D	13.341	13.243	13.443	678.260	705.000	-3.8
2,4-DB	15.390	15.291	15.491	712.490	712.500	0.0
2,4-DCAA	11.690	11.592	11.792	747.690	750.000	-0.3
DICAMBA	11.847	11.749	11.949	693.440	705.000	-1.6
DICHLORPROP	12.797	12.699	12.899	686.740	705.000	-2.6
Dinoseb	16.225	16.127	16.327	686.080	705.000	-2.7

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/26/2015 **Initial Calibration Date(s):** 10/09/2015 10/09/2015

Continuing Calib Time: 11:56 **Initial Calibration Time(s):** 14:46 16:48

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
DICAMBA	13.63	13.63	13.53	13.73	0.00
2,4-DCAA	13.52	13.52	13.42	13.62	0.00
DICHLORPROP	14.71	14.71	14.61	14.81	0.00
2,4-D	15.11	15.11	15.01	15.21	0.00
2,4,5-TP(Silvex)	16.22	16.22	16.12	16.32	0.00
2,4,5-T	16.69	16.69	16.59	16.79	0.00
2,4-DB	17.35	17.35	17.25	17.45	0.01
Dinoseb	17.91	17.91	17.81	18.01	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/26/2015 **Initial Calibration Date(s):** 10/09/2015 10/09/2015

Continuing Calib Time: 11:56 **Initial Calibration Time(s):** 14:46 16:48

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
DICAMBA	11.85	11.85	11.75	11.95	0.00
2,4-DCAA	11.69	11.69	11.59	11.79	0.00
DICHLORPROP	12.80	12.80	12.70	12.90	0.00
2,4-D	13.34	13.34	13.24	13.44	0.00
2,4,5-TP(Silvex)	14.23	14.23	14.13	14.33	0.00
2,4,5-T	14.84	14.84	14.74	14.94	0.00
2,4-DB	15.39	15.39	15.29	15.49	0.00
Dinoseb	16.23	16.23	16.13	16.33	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/09/2015 10/09/2015

Client Sample No.: CCAL02 **Date Analyzed:** 10/26/2015

Lab Sample No.: HSTDCCC750 **Data File :** PP012145.D **Time Analyzed:** 11:56

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
2,4,5-T	16.687	16.587	16.787	689.170	712.500	-3.3
2,4,5-TP(Silvex)	16.216	16.117	16.317	685.970	712.500	-3.7
2,4-D	15.110	15.010	15.210	689.240	705.000	-2.2
2,4-DB	17.345	17.245	17.445	687.980	712.500	-3.4
2,4-DCAA	13.519	13.419	13.619	764.870	750.000	2.0
DICAMBA	13.630	13.530	13.730	716.720	705.000	1.7
DICHLORPROP	14.710	14.611	14.811	696.140	705.000	-1.3
Dinoseb	17.906	17.806	18.006	701.040	705.000	-0.6

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 10/09/2015 10/09/2015

Client Sample No.: CCAL02 **Date Analyzed:** 10/26/2015

Lab Sample No.: HSTDCCC750 **Data File :** PP012145.D **Time Analyzed:** 11:56

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
2,4,5-T	14.844	14.744	14.944	677.530	712.500	-4.9
2,4,5-TP(Silvex)	14.233	14.134	14.334	668.940	712.500	-6.1
2,4-D	13.342	13.243	13.443	649.810	705.000	-7.8
2,4-DB	15.391	15.291	15.491	686.800	712.500	-3.6
2,4-DCAA	11.692	11.592	11.792	700.960	750.000	-6.5
DICAMBA	11.849	11.749	11.949	655.310	705.000	-7.0
DICHLORPROP	12.799	12.699	12.899	648.620	705.000	-8.0
Dinoseb	16.226	16.127	16.327	652.530	705.000	-7.4

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CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/26/2015 **Initial Calibration Date(s):** 10/09/2015 10/09/2015

Continuing Calib Time: 17:38 **Initial Calibration Time(s):** 14:46 16:48

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
DICAMBA	13.63	13.63	13.53	13.73	0.00
2,4-DCAA	13.52	13.52	13.42	13.62	0.00
DICHLORPROP	14.71	14.71	14.61	14.81	0.00
2,4-D	15.11	15.11	15.01	15.21	0.00
2,4,5-TP(Silvex)	16.21	16.22	16.12	16.32	0.01
2,4,5-T	16.68	16.69	16.59	16.79	0.01
2,4-DB	17.34	17.35	17.25	17.45	0.01
Dinoseb	17.90	17.91	17.81	18.01	0.01

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

Continuing Calib Date: 10/26/2015 **Initial Calibration Date(s):** 10/09/2015 10/09/2015

Continuing Calib Time: 17:38 **Initial Calibration Time(s):** 14:46 16:48

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
DICAMBA	11.85	11.85	11.75	11.95	0.00
2,4-DCAA	11.69	11.69	11.59	11.79	0.00
DICHLORPROP	12.80	12.80	12.70	12.90	0.00
2,4-D	13.34	13.34	13.24	13.44	0.00
2,4,5-TP(Silvex)	14.23	14.23	14.13	14.33	0.00
2,4,5-T	14.84	14.84	14.74	14.94	0.00
2,4-DB	15.39	15.39	15.29	15.49	0.00
Dinoseb	16.22	16.23	16.13	16.33	0.01

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/09/2015 10/09/2015

Client Sample No.: CCAL03 **Date Analyzed:** 10/26/2015

Lab Sample No.: HSTDCCC750 **Data File :** PP012151.D **Time Analyzed:** 17:38

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
2,4,5-T	16.683	16.587	16.787	717.330	712.500	0.7
2,4,5-TP(Silvex)	16.213	16.117	16.317	678.780	712.500	-4.7
2,4-D	15.106	15.010	15.210	674.360	705.000	-4.3
2,4-DB	17.341	17.245	17.445	686.470	712.500	-3.7
2,4-DCAA	13.515	13.419	13.619	776.020	750.000	3.5
DICAMBA	13.626	13.530	13.730	724.860	705.000	2.8
DICHLORPROP	14.706	14.611	14.811	704.960	705.000	0.0
Dinoseb	17.902	17.806	18.006	705.210	705.000	0.0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION VERIFICATION SUMMARY

Contract: SEAC01

Lab Code: CHEM **Case No.:** G4046 **SAS No.:** G4046 **SDG NO.:** G4046

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 10/09/2015 10/09/2015

Client Sample No.: CCAL03 **Date Analyzed:** 10/26/2015

Lab Sample No.: HSTDCCC750 **Data File :** PP012151.D **Time Analyzed:** 17:38

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
2,4,5-T	14.841	14.744	14.944	673.150	712.500	-5.5
2,4,5-TP(Silvex)	14.230	14.134	14.334	662.960	712.500	-7.0
2,4-D	13.339	13.243	13.443	645.150	705.000	-8.5
2,4-DB	15.388	15.291	15.491	681.070	712.500	-4.4
2,4-DCAA	11.688	11.592	11.792	666.070	750.000	-11.2
DICAMBA	11.845	11.749	11.949	646.710	705.000	-8.3
DICHLORPROP	12.795	12.699	12.899	645.850	705.000	-8.4
Dinoseb	16.223	16.127	16.327	646.510	705.000	-8.3

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Analytical Sequence

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Project: U.S. Fish and Wildlife **Instrument ID:** ECD_P

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 10/09/2015 10/09/2015

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCAA RT #	RT #
I.BLK	I.BLK	10/09/2015	14:15	PP011957.D	13.52	0.00
HSTDICC200	HSTDICC200	10/09/2015	14:46	PP011958.D	13.52	0.00
HSTDICC500	HSTDICC500	10/09/2015	15:16	PP011959.D	13.52	0.00
HSTDICC750	HSTDICC750	10/09/2015	15:47	PP011960.D	13.52	0.00
HSTDICC1000	HSTDICC1000	10/09/2015	16:18	PP011961.D	13.52	0.00
HSTDICC1500	HSTDICC1500	10/09/2015	16:48	PP011962.D	13.52	0.00
I.BLK	I.BLK	10/23/2015	10:31	PP012098.D	13.52	0.00
HSTDCCC750	HSTDCCC750	10/23/2015	11:02	PP012099.D	13.52	0.00
PB86237BL	PB86237BL	10/23/2015	11:55	PP012100.D	13.52	0.00
PB86237BS	PB86237BS	10/23/2015	12:25	PP012101.D	13.52	0.00
SP-001-COMPMS	G4085-01MS	10/23/2015	13:26	PP012103.D	13.52	0.00
SP-001-COMPMSD	G4085-01MSD	10/23/2015	13:57	PP012104.D	13.52	0.00
GOODLUCK902	G4046-01	10/23/2015	14:27	PP012105.D	13.52	0.00
GOODLUCK58	G4046-02	10/23/2015	14:58	PP012106.D	13.52	0.00
MANAHAWKEN112	G4046-04	10/23/2015	15:29	PP012107.D	13.51	0.00
I.BLK	I.BLK	10/26/2015	11:25	PP012144.D	13.52	0.00
HSTDCCC750	HSTDCCC750	10/26/2015	11:56	PP012145.D	13.52	0.00
GOODLUCK58RE	G4046-02RE	10/26/2015	15:06	PP012146.D	13.52	0.00
I.BLK	I.BLK	10/26/2015	17:08	PP012150.D	13.52	0.00
HSTDCCC750	HSTDCCC750	10/26/2015	17:38	PP012151.D	13.52	0.00

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Analytical Sequence

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Project: U.S. Fish and Wildlife **Instrument ID:** ECD_P

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 10/09/2015 10/09/2015

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCAA RT #	RT #
I.BLK	I.BLK	10/09/2015	14:15	PP011957.D	13.52	0.00
HSTDICC200	HSTDICC200	10/09/2015	14:46	PP011958.D	13.52	0.00
HSTDICC500	HSTDICC500	10/09/2015	15:16	PP011959.D	13.52	0.00
HSTDICC750	HSTDICC750	10/09/2015	15:47	PP011960.D	13.52	0.00
HSTDICC1000	HSTDICC1000	10/09/2015	16:18	PP011961.D	13.52	0.00
HSTDICC1500	HSTDICC1500	10/09/2015	16:48	PP011962.D	13.52	0.00
I.BLK	I.BLK	10/23/2015	10:31	PP012098.D	13.52	0.00
HSTDCCC750	HSTDCCC750	10/23/2015	11:02	PP012099.D	13.52	0.00
PB86237BL	PB86237BL	10/23/2015	11:55	PP012100.D	13.52	0.00
PB86237BS	PB86237BS	10/23/2015	12:25	PP012101.D	13.52	0.00
SP-001-COMPMS	G4085-01MS	10/23/2015	13:26	PP012103.D	13.52	0.00
SP-001-COMPMSD	G4085-01MSD	10/23/2015	13:57	PP012104.D	13.52	0.00
GOODLUCK902	G4046-01	10/23/2015	14:27	PP012105.D	13.52	0.00
GOODLUCK58	G4046-02	10/23/2015	14:58	PP012106.D	13.52	0.00
MANAHAWKEN112	G4046-04	10/23/2015	15:29	PP012107.D	13.51	0.00
I.BLK	I.BLK	10/26/2015	11:25	PP012144.D	13.52	0.00
HSTDCCC750	HSTDCCC750	10/26/2015	11:56	PP012145.D	13.52	0.00
GOODLUCK58RE	G4046-02RE	10/26/2015	15:06	PP012146.D	13.52	0.00
I.BLK	I.BLK	10/26/2015	17:08	PP012150.D	13.52	0.00
HSTDCCC750	HSTDCCC750	10/26/2015	17:38	PP012151.D	13.52	0.00

COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

Contract: SEAC01

Lab Code: CHEM Case No.: G4046 SAS No.: G4046 SDG NO.: G4046

Lab Sample ID: _____ Date(s) Analyzed: _____ _____

Instrument ID (1): _____ Instrument ID (2): _____

GC Column: (1): _____ ID: (mm) GC Column:(2): _____ ID: (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
	1					
	2					

SAMPLE RAW DATA

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012105.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 14:27
Operator : IZ/UA
Sample : G4046-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:58:09 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:40 PM

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
	System Monitoring Compounds						
4) S	2,4-DCAA	13.515	11.687	41312509	47316692	121.233m	76.356m#
	Target Compounds						
10) T	Pentachlo...	16.115	14.043	1463.1E6	2000.3E6	186.978	227.883

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PP012105.D**

10

Instrument :
ECD_P
ClientSampleId :
GOODLUCK902

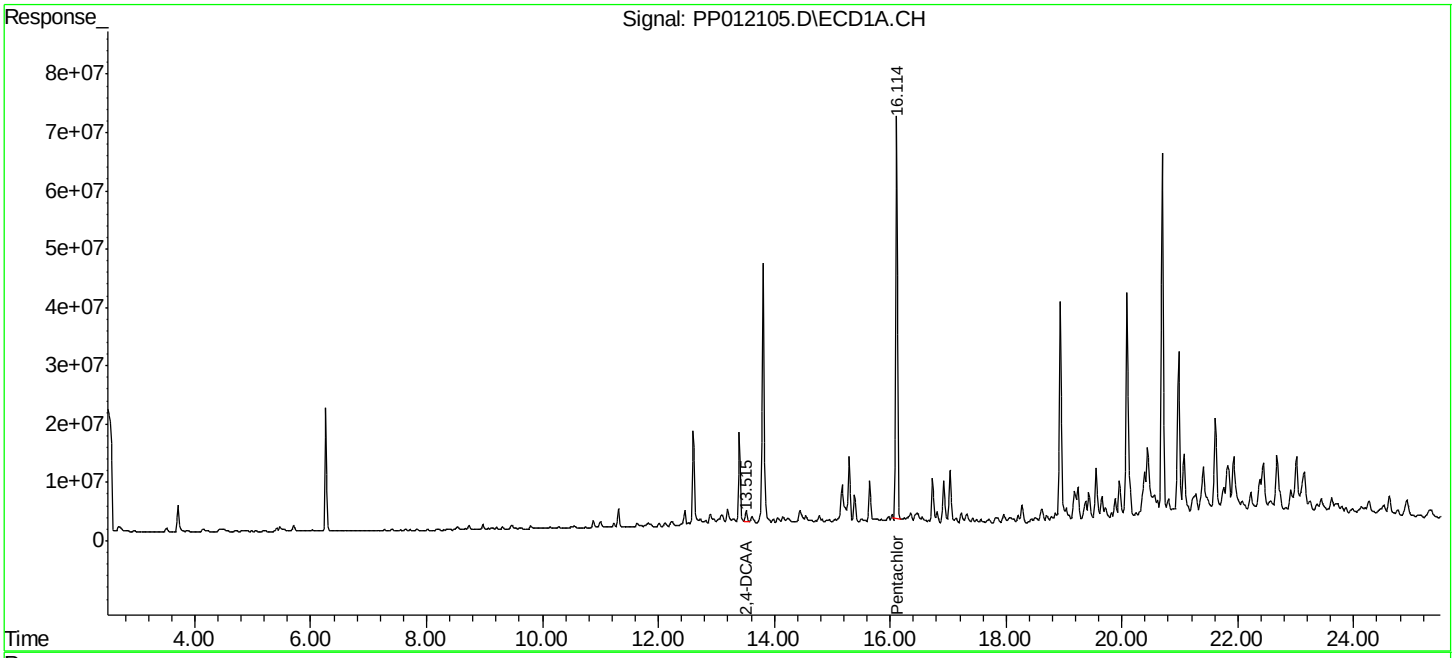
Manual Integrations APPROVED
mohammad
10/27/2015 2:01:40 PM

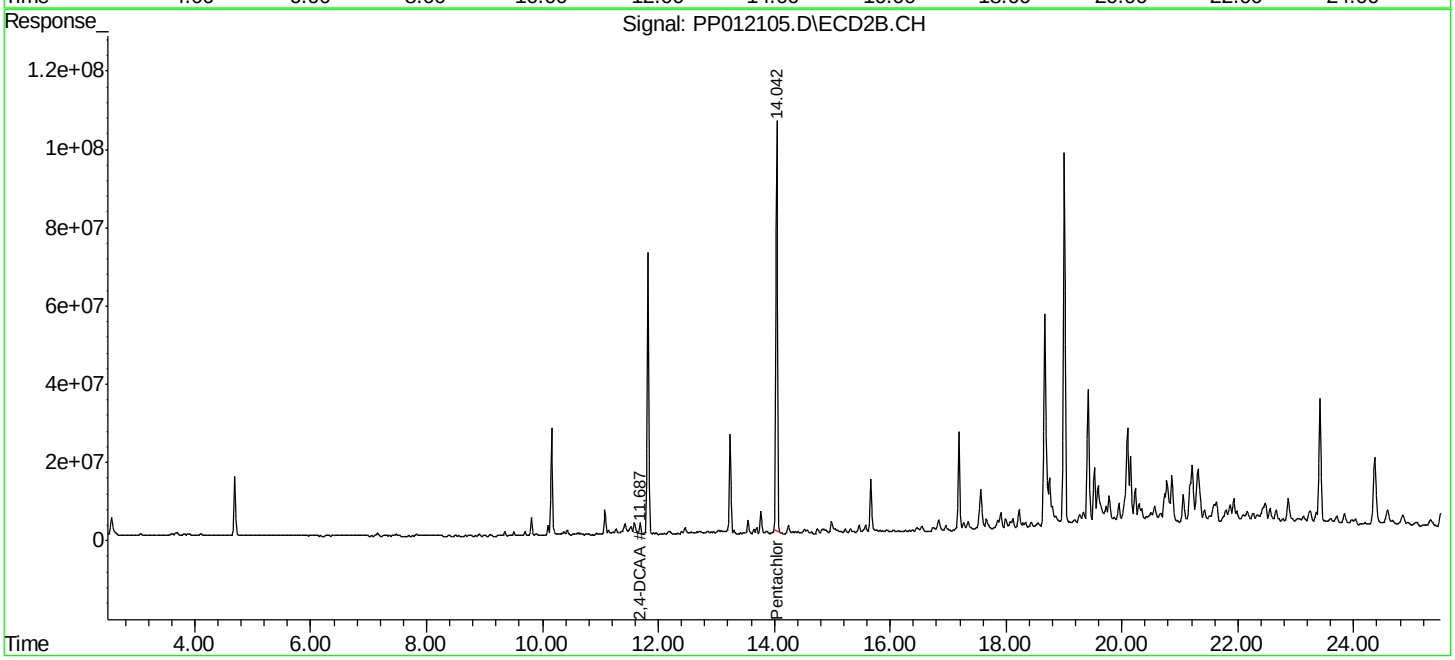
A B C D E F G H I J K L

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012105.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 14:27
Operator : IZ/UA
Sample : G4046-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:58:09 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm





Instrument :
ECD_P
ClientSampleId :
GOODLUCK902

Manual Integrations APPROVED
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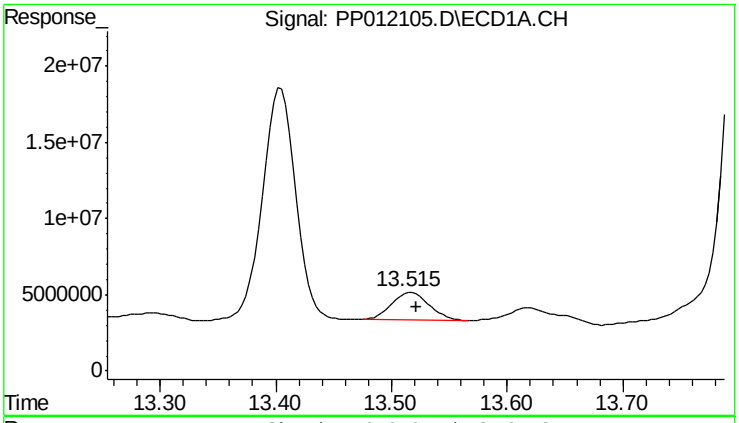
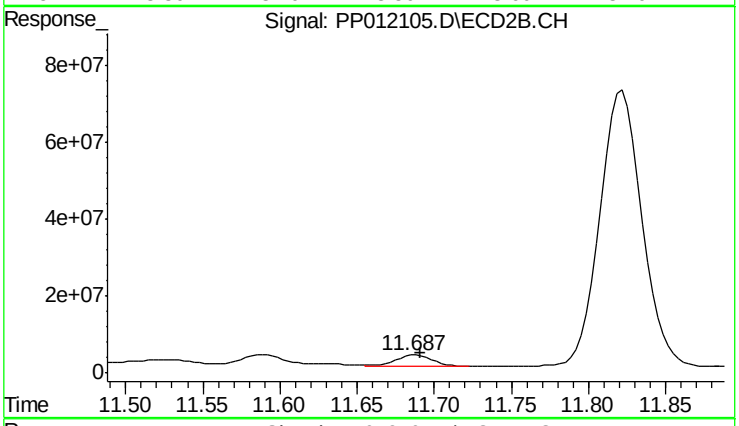


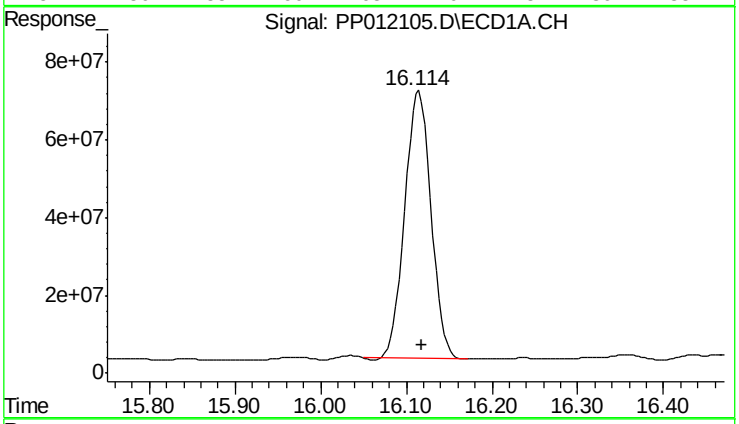
#4 2,4-DCAA

R.T.: 13.515 min
Delta R.T.: -0.006 min
Response: 41312509
Conc: 121.23 ng/ml



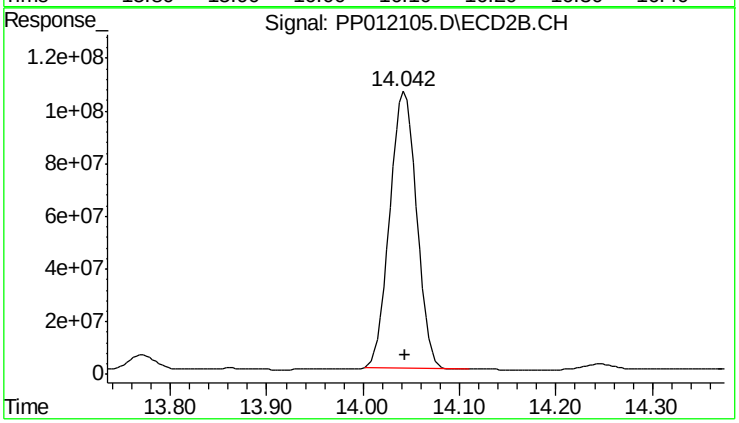
#4 2,4-DCAA

R.T.: 11.687 min
Delta R.T.: -0.004 min
Response: 47316692
Conc: 76.36 ng/ml m



#10 Pentachlorophenol

R.T.: 16.115 min
Delta R.T.: -0.004 min
Response: 1463092710
Conc: 186.98 ng/ml



#10 Pentachlorophenol

R.T.: 14.043 min
Delta R.T.: 0.000 min
Response: 2000290327
Conc: 227.88 ng/ml

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012106.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 14:58
Operator : IZ/UA
Sample : G4046-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:59:54 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:44 PM

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
4) S 2,4-DCAA	13.515	11.687	42323093	33871181	124.199m	54.659m#
Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PP012106.D**

10

Instrument :
ECD_P
ClientSampleId :
GOODLUCK58

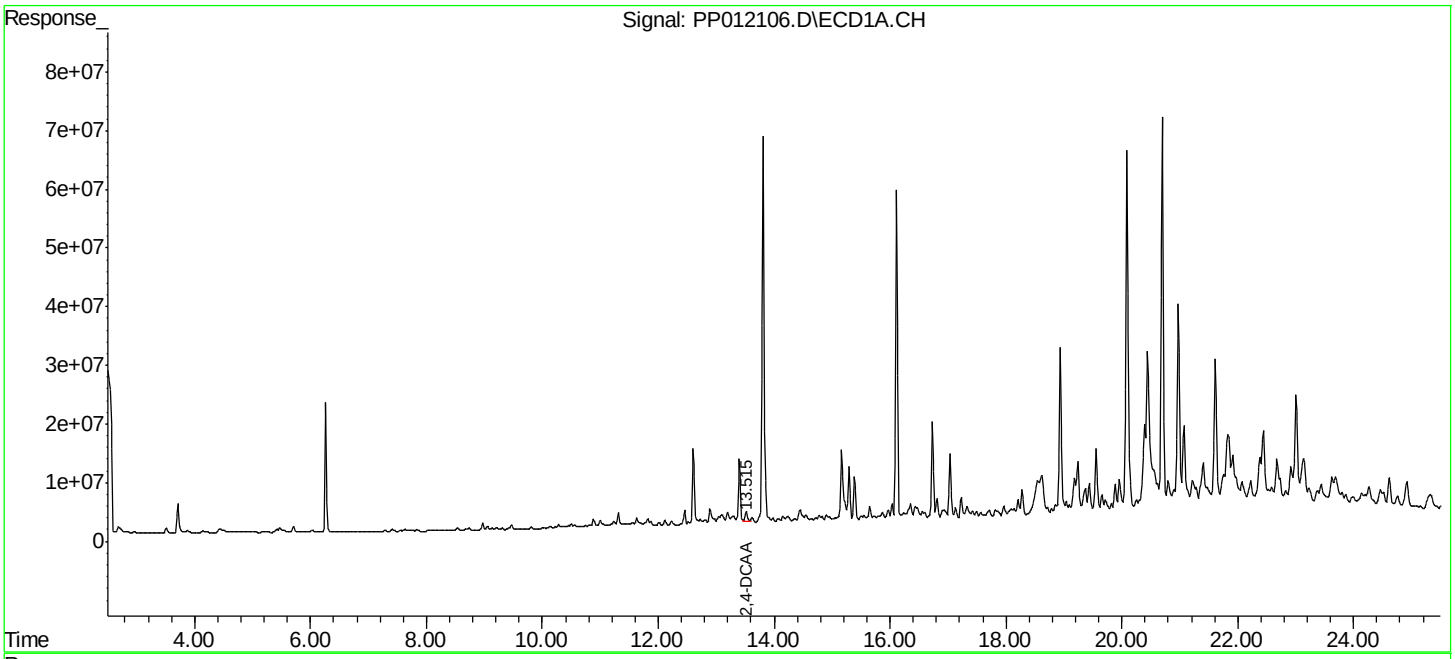
Manual Integrations APPROVED
mohammad
10/27/2015 2:01:44 PM

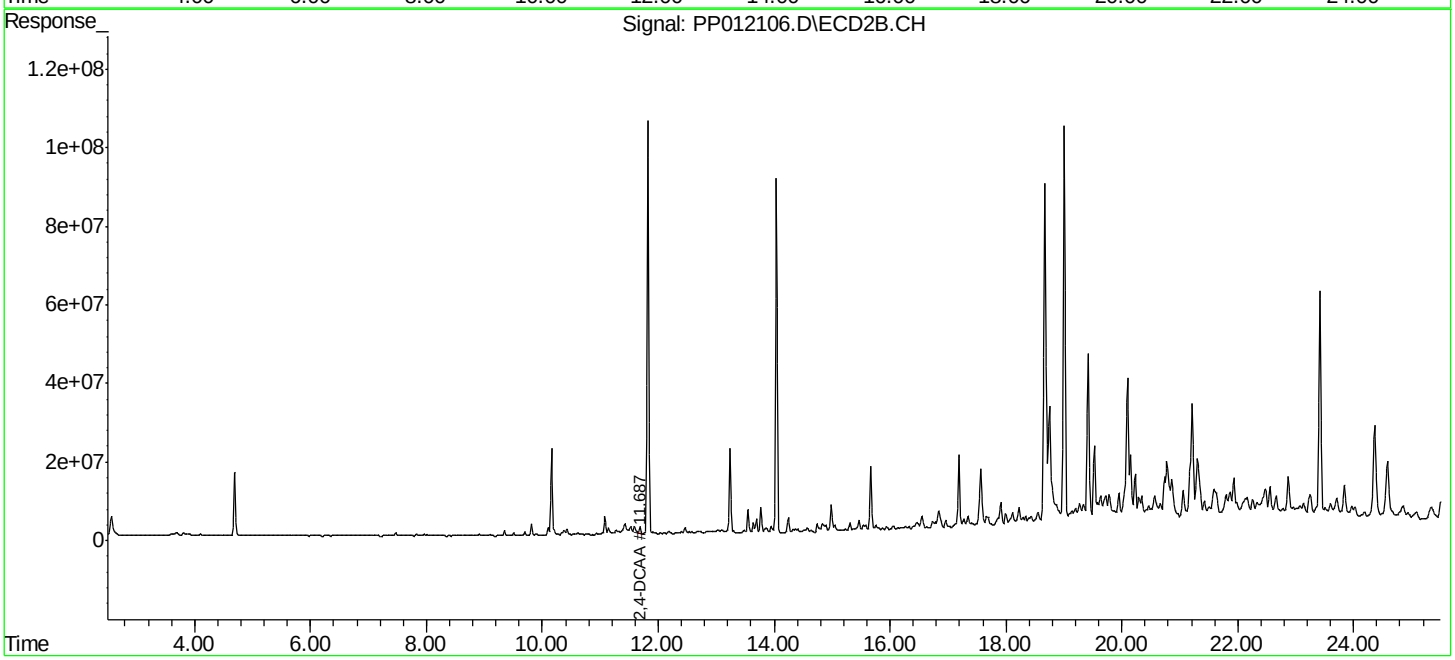
A B C D E F G H I J K L

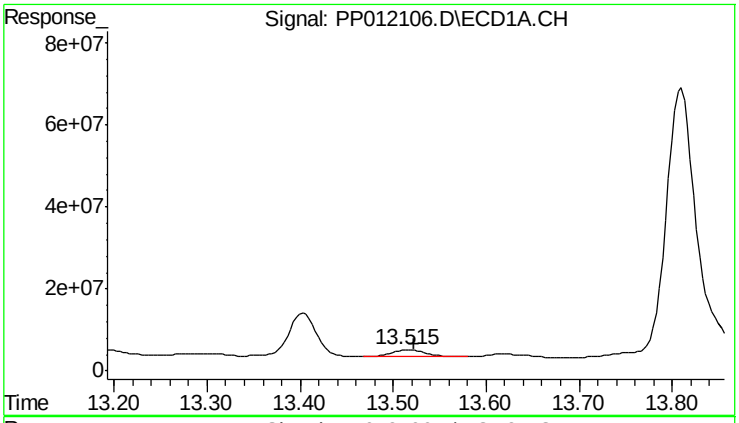
Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012106.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 14:58
Operator : IZ/UA
Sample : G4046-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:59:54 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm





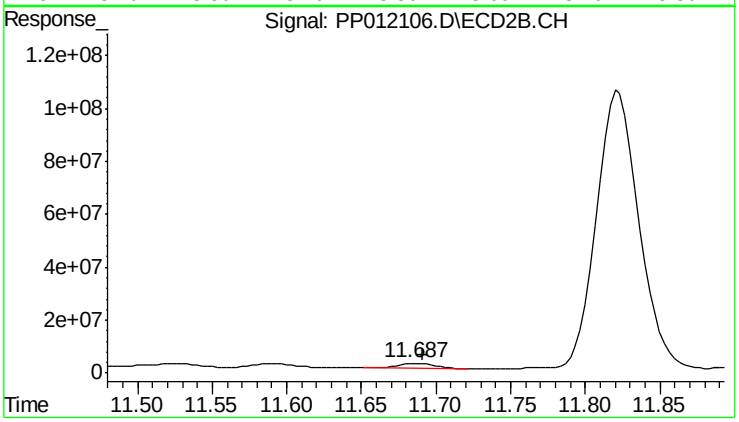


#4 2,4-DCAA

R.T.: 13.515 min
Delta R.T.: -0.006 min
Response: 42323093
Conc: 124.20 ng/ml

Instrument :
ECD_P
ClientSampleId :
GOODLUCK58

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:44 PM



#4 2,4-DCAA

R.T.: 11.687 min
Delta R.T.: -0.005 min
Response: 33871181
Conc: 54.66 ng/ml m

Data Path : P:\HPCHEM1\ECD_P\Data\PP102615\
Data File : PP012146.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2015 15:06
Operator : IZ/UA
Sample : G4046-02RE
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 27 02:17:31 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

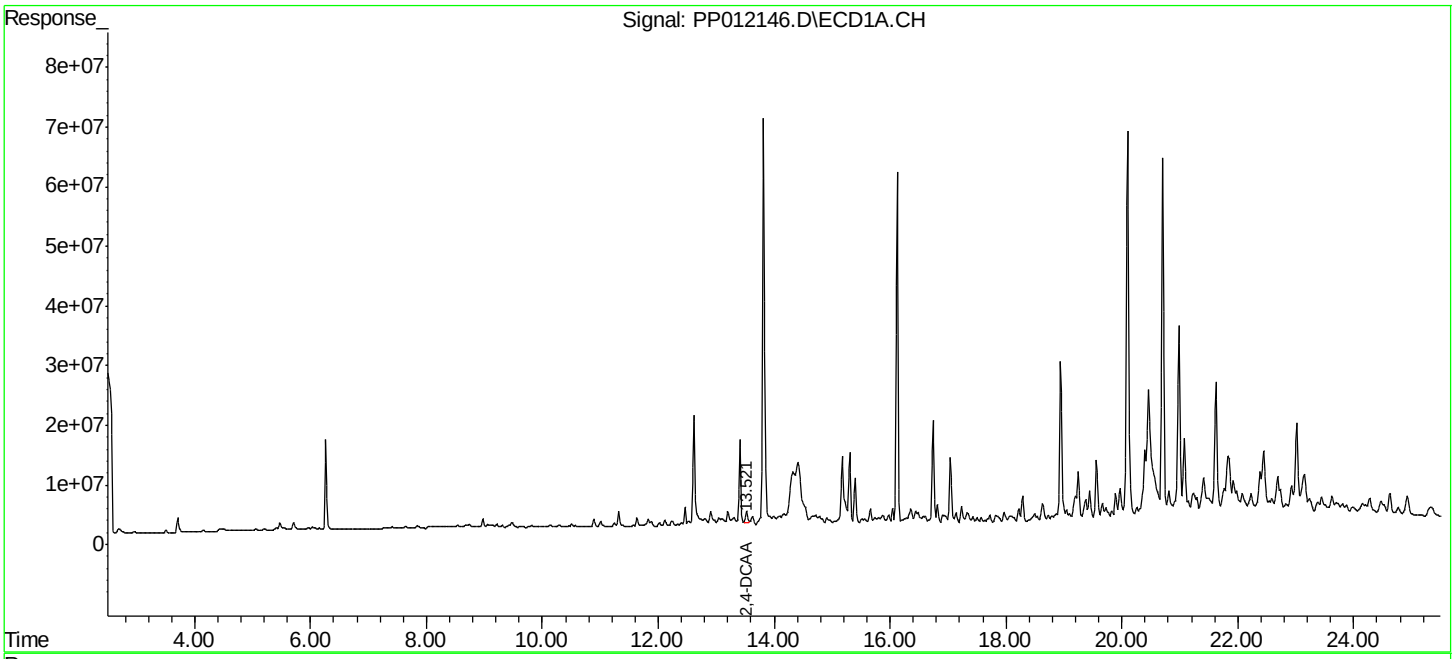
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
4) S 2,4-DCAA	13.521	11.685	46554882	30158494	136.617m	48.667 #
Target Compounds						

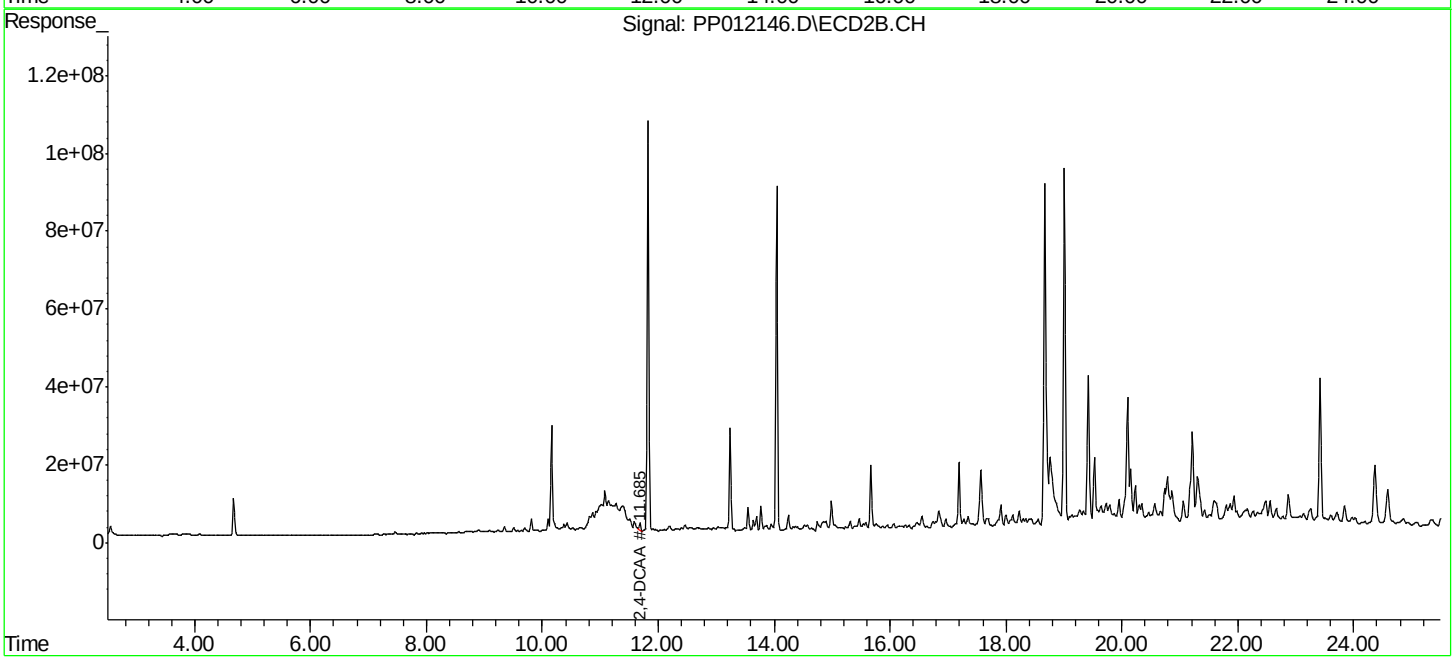
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

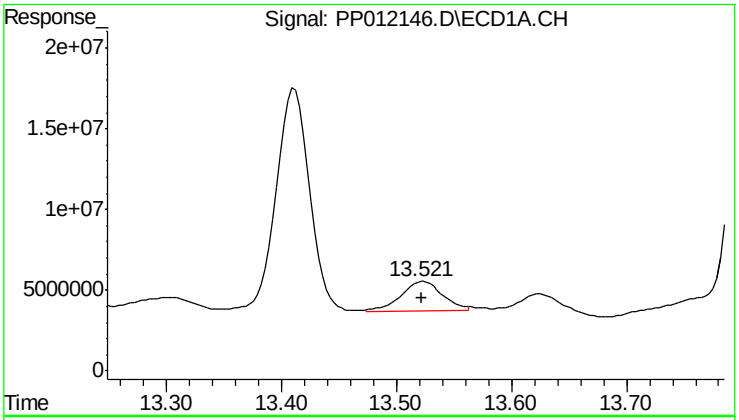
Data Path : P:\HPCHEM1\ECD_P\Data\PP102615\
Data File : PP012146.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2015 15:06
Operator : IZ/UA
Sample : G4046-02RE
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 27 02:17:31 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

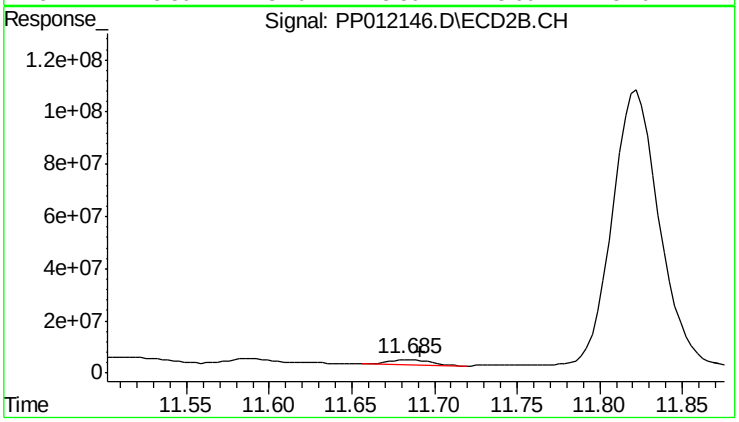






#4 2,4-DCAA

R.T.: 13.521 min
Delta R.T.: 0.000 min
Response: 46554882
Conc: 136.62 ng/ml m



#4 2,4-DCAA

R.T.: 11.685 min
Delta R.T.: -0.006 min
Response: 30158494
Conc: 48.67 ng/ml

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012107.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 15:29
Operator : IZ/UA
Sample : G4046-04
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 04:01:26 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:55 PM

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
4) S 2,4-DCAA	13.513	11.687	69736225	51174286	204.643m	82.581m#
Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Results: **PP012107.D**

10

Instrument :
ECD_P
ClientSampleId :
MANAHAWKEN112

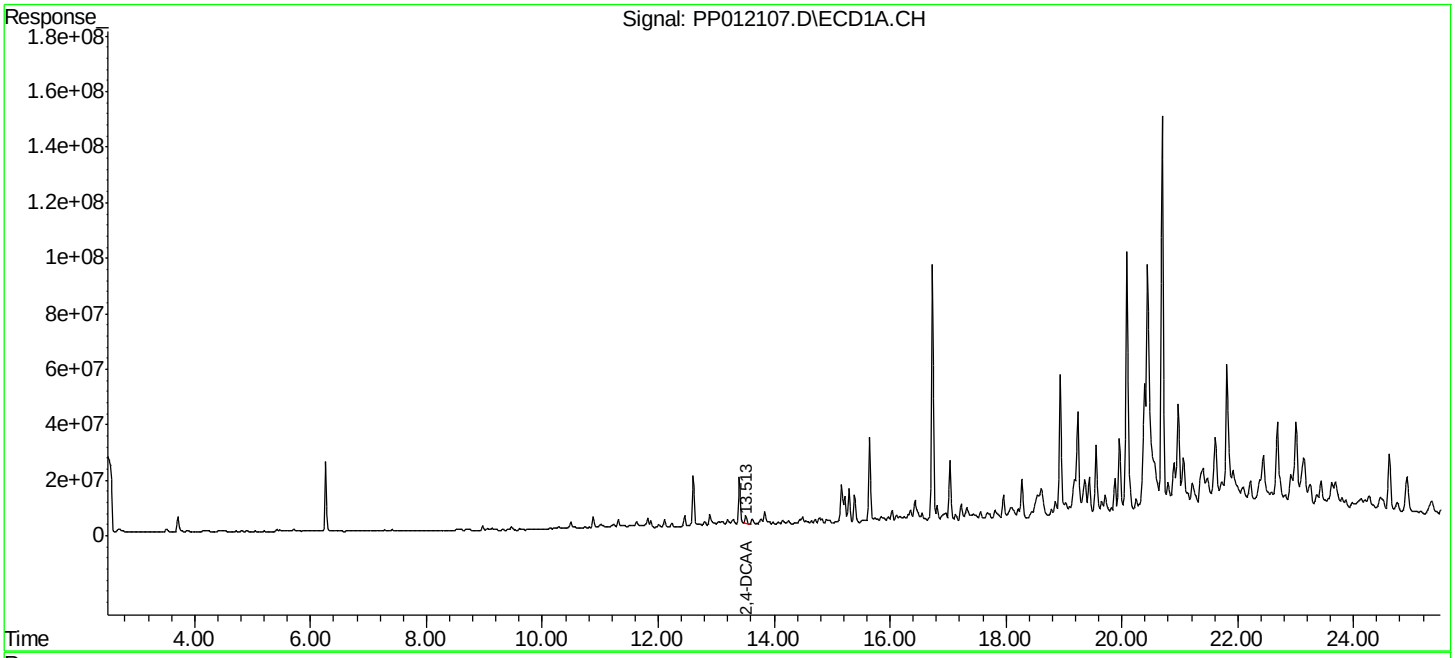
Manual Integrations APPROVED
mohammad
10/27/2015 2:01:55 PM

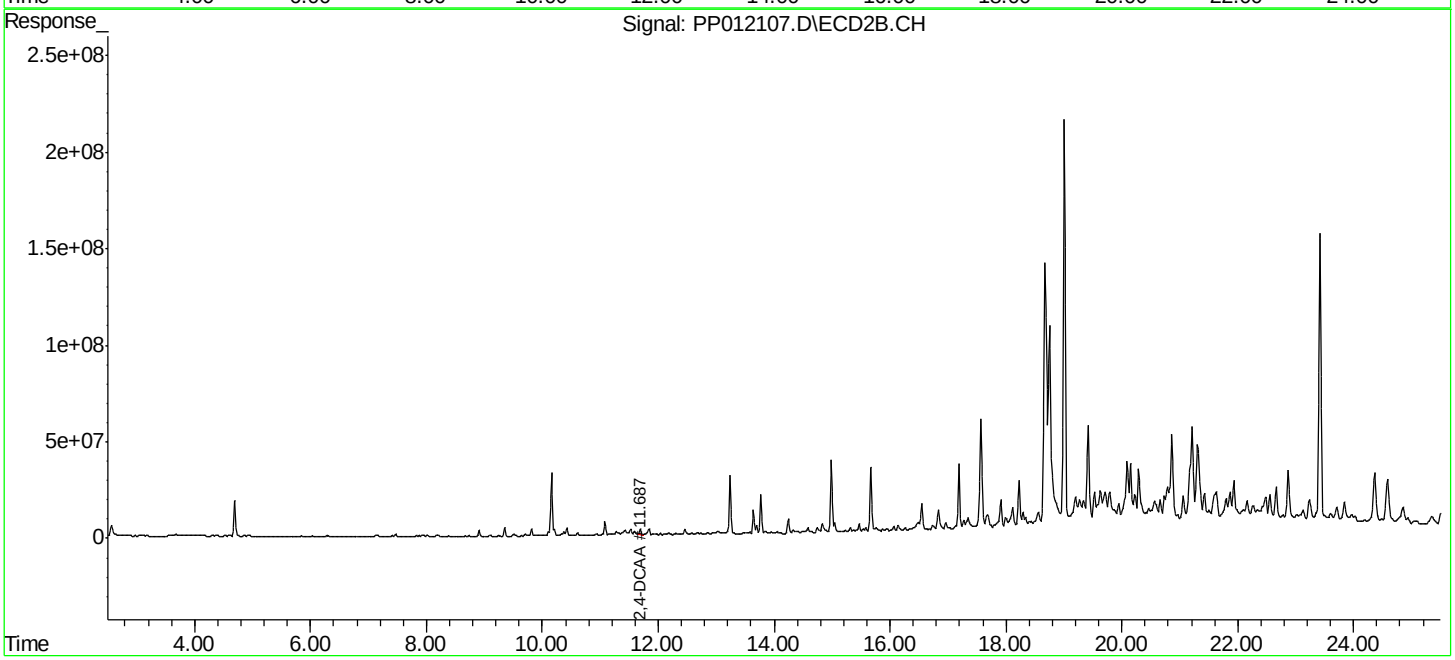
A B C D E F G H I J K L

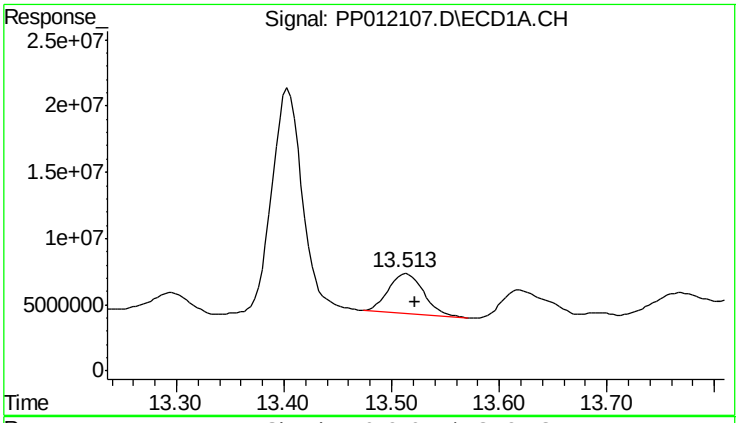
```
Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012107.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On    : 23 Oct 2015  15:29
Operator  : IZ/UA
Sample    : G4046-04
Misc      :
ALS Vial  : 11   Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 04:01:26 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title  : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.     : 2 µl
Signal #1 Phase : ZB-35-HT Inferno  Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info  : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm
```





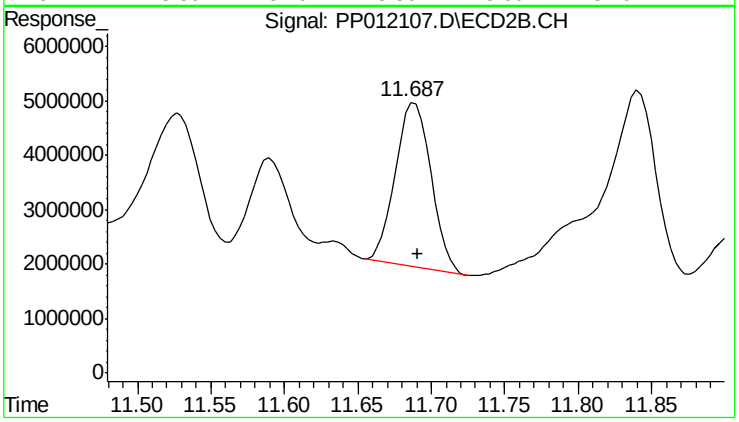


#4 2,4-DCAA

R.T.: 13.513 min
Delta R.T.: -0.009 min
Response: 69736225
Conc: 204.64 ng/ml

Instrument :
ECD_P
ClientSampleId :
MANAHAWKEN112

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:55 PM



#4 2,4-DCAA

R.T.: 11.687 min
Delta R.T.: -0.004 min
Response: 51174286
Conc: 82.58 ng/ml m

Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012100.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 11:55
Operator : IZ/UA
Sample : PB86237BL
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:22:40 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
PB86237BL

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:17 PM

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
System Monitoring Compounds						
4) S 2,4-DCAA	13.523	11.687	93949512	135.8E6	275.698m	219.063m
Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

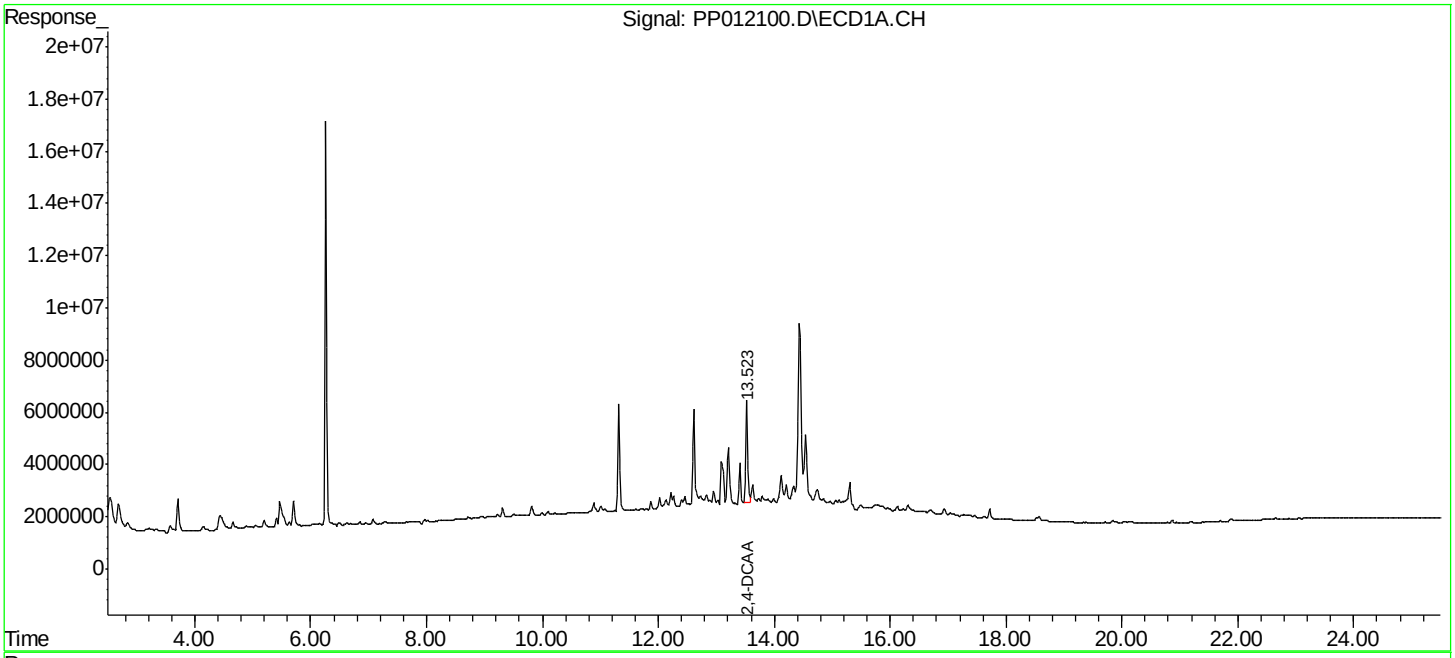
Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012100.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 11:55
Operator : IZ/UA
Sample : PB86237BL
Misc :
ALS Vial : 4 Sample Multiplier: 1

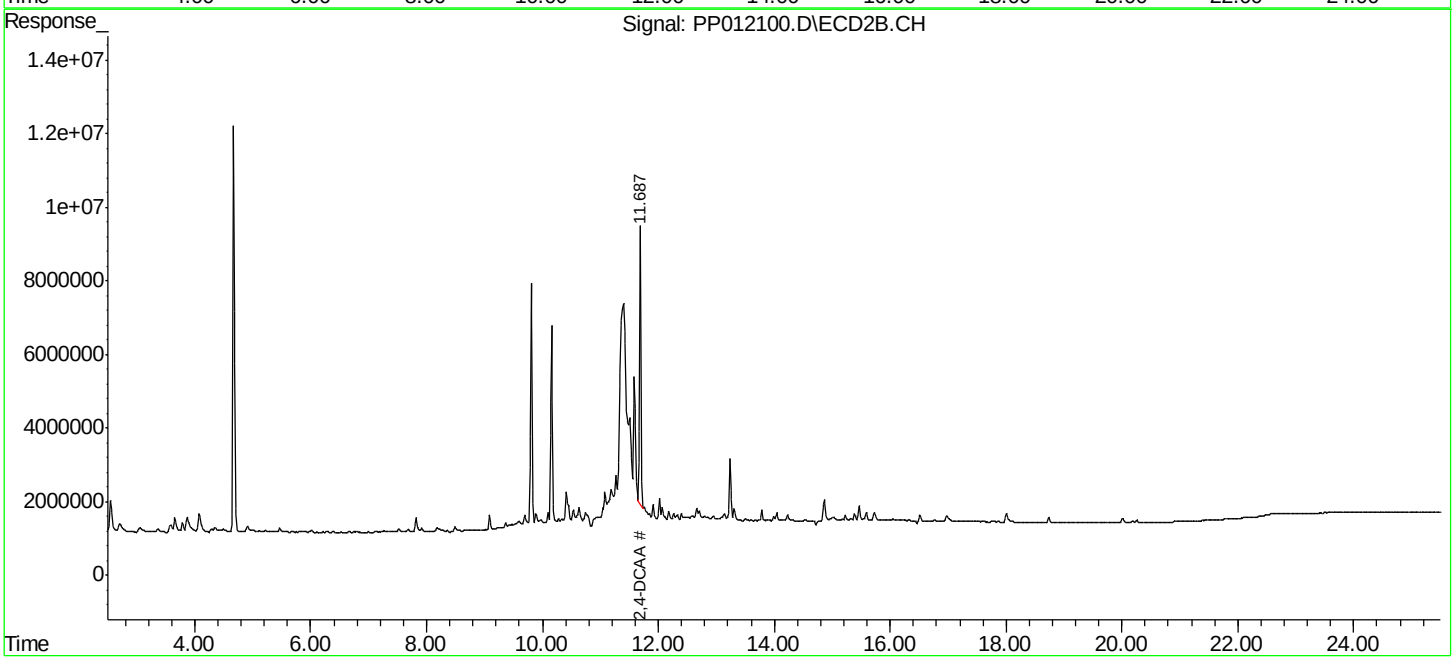
Instrument :
ECD_P
ClientSampleId :
PB86237BL

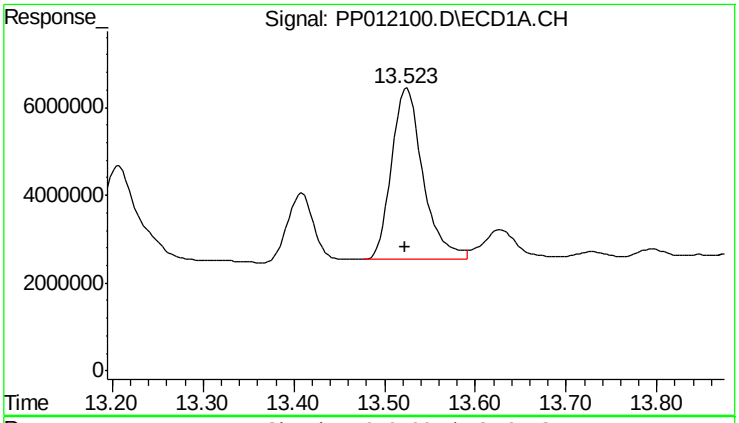
Manual Integrations APPROVED
mohammad
10/27/2015 2:01:17 PM

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:22:40 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm





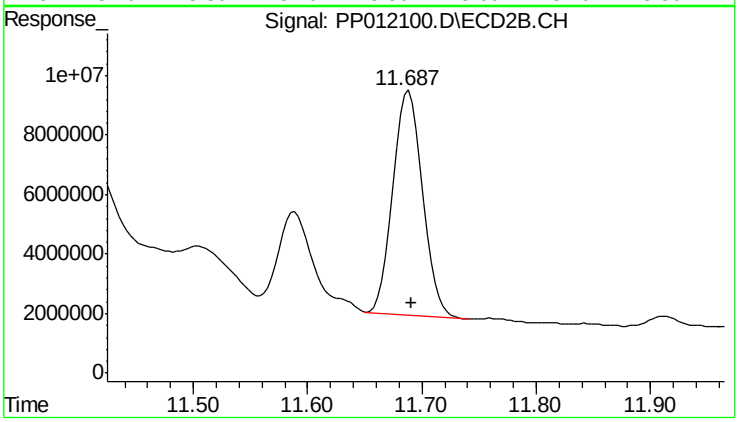


#4 2,4-DCAA

R.T.: 13.523 min
Delta R.T.: 0.001 min
Response: 93949512
Conc: 275.70 ng/ml

Instrument :
ECD_P
ClientSampleId :
PB86237BL

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:17 PM



#4 2,4-DCAA

R.T.: 11.687 min
Delta R.T.: -0.004 min
Response: 135750278
Conc: 219.06 ng/ml m

10

Instrument :
ECD_P
ClientSampleId :
PB86237BS

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:20 PM

A B C D E F G H I J K L

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012101.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 12:25
Operator : IZ/UA
Sample : PB86237BS
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:25:22 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25µm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml	
		System Monitoring Compounds							
4)	S	2,4-DCAA	13.518	11.690	199.4E6	377.5E6	585.133	609.174	
		Target Compounds							
1)	T	Dalapon	4.376	3.131	308.6E6	382.4E6	507.643	463.510m	
2)	T	3,5-DICHL...	12.062	10.121	437.7E6	506.1E6	538.815	538.353m	
3)	T	4-Nitroph...	12.489	10.996	321.2E6	153.4E6	402.733	403.561	
5)	T	DICAMBA	13.629	11.847	844.0E6	1392.2E6	571.664	533.127	
6)	T	MCPP	13.900	11.974	88218716	102.6E6	72.619	53.546	#
7)	T	MCPA	14.251	12.452	94178169	158.5E6	46.875m	53.174	
8)	T	DICHLORPROP	14.710	12.797	228.6E6	368.0E6	600.007	560.949	
9)	T	2,4-D	15.109	13.342	272.4E6	433.5E6	550.915	518.836	
10)	T	Pentachlo...	16.116	14.044	3971.6E6	4621.4E6	507.554	526.496	
11)	T	2,4,5-TP ...	16.217	14.232	1520.3E6	1994.4E6	550.211	542.798	
12)	T	2,4,5-T	16.685	14.843	1284.7E6	1791.4E6	461.111m	530.054	
13)	T	2,4-DB	17.344	15.390	1084.5E6	1627.0E6	522.233	528.063	
14)	T	DINOSEB	17.906	16.225	179.6E6	194.4E6	516.259	491.938	
15)	T	Picloram	18.570	16.517	1987.0E6	2211.3E6	507.963	518.484	
16)	T	DCPA	18.491	16.962	1142.5E6	1484.3E6	495.117	449.304	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

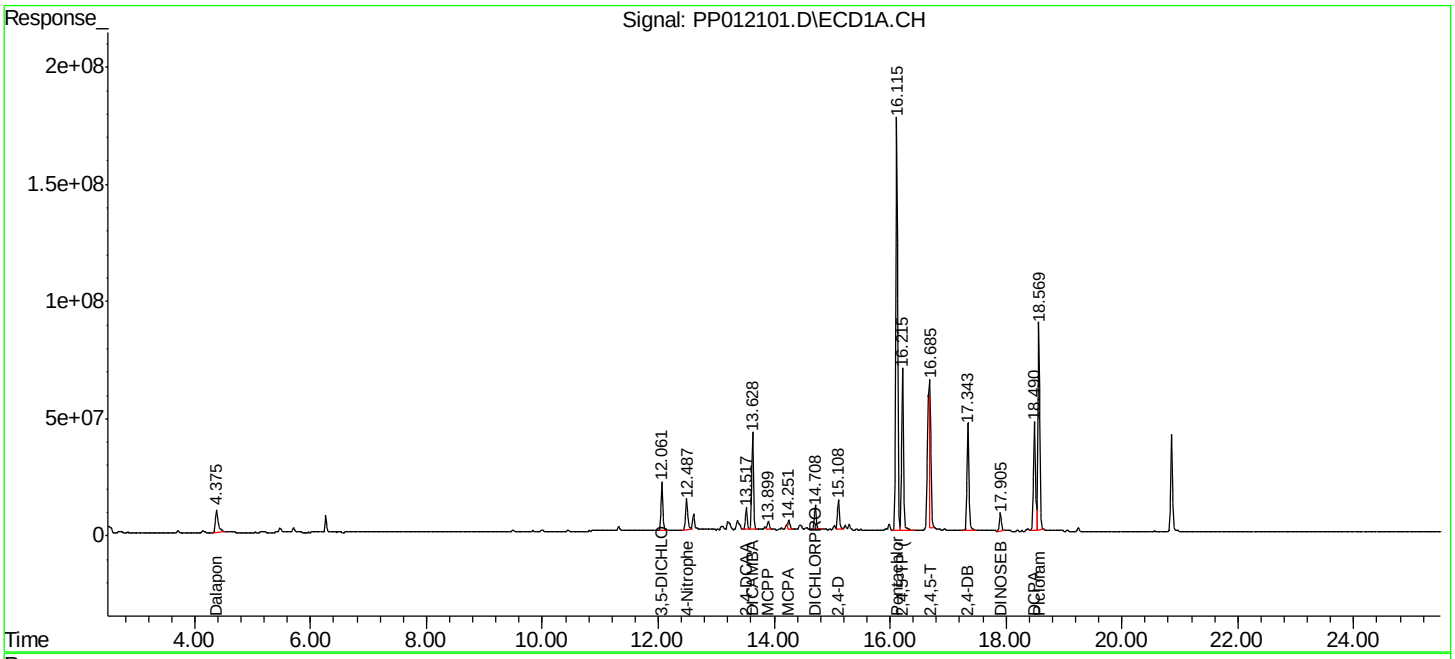
Instrument :
ECD_P
ClientSampleId :
PB86237BS

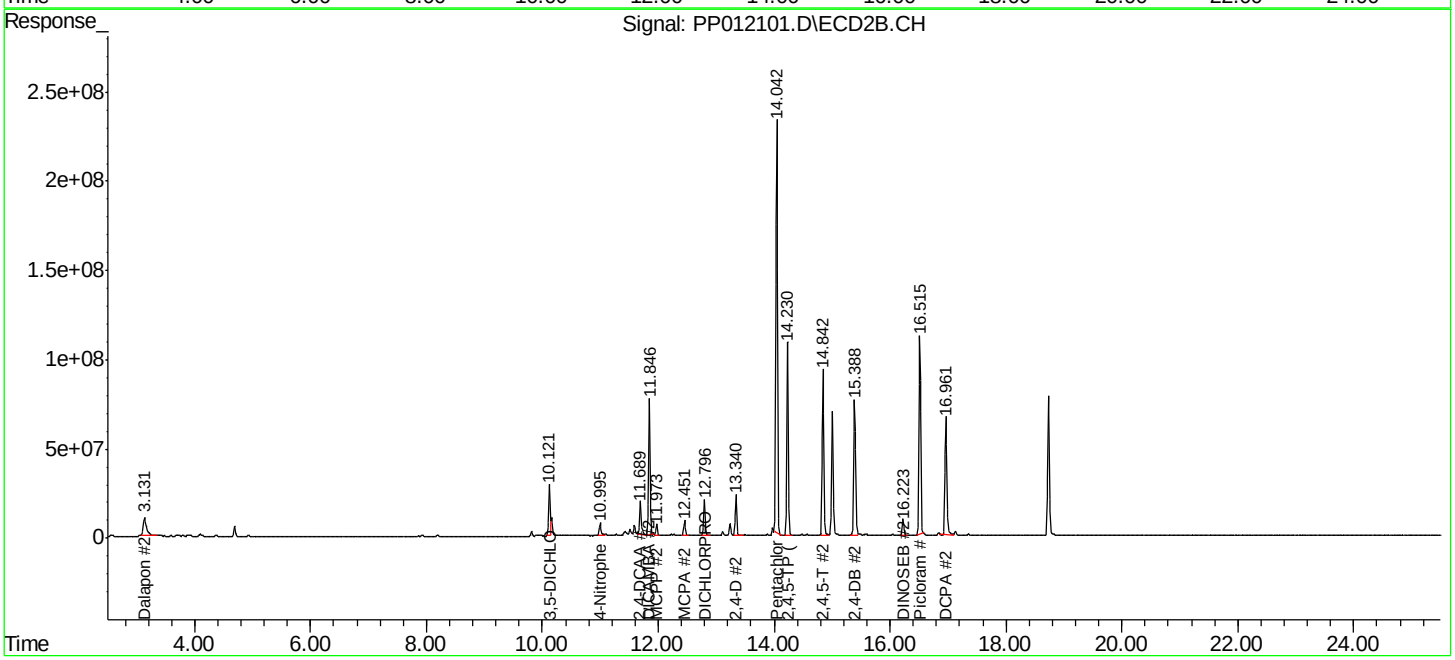
Manual Integrations APPROVED
mohammad
10/27/2015 2:01:20 PM

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012101.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 12:25
Operator : IZ/UA
Sample : PB86237BS
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:25:22 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm





Quantitation Report (QT Reviewed)

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012103.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 13:26
Operator : IZ/UA
Sample : G4085-01MS
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:46:10 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
SP-001-COMPMS

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:28 PM

10 A B C D E F G H I J K L

		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml
		System Monitoring Compounds						
4)	S	2,4-DCAA	13.520	11.688	32119647	40026012	94.256	64.591m#
		Target Compounds						
1)	T	Dalapon	4.374	3.129	59000864	97019892	97.064m	117.590m
2)	T	3,5-DICHL...	12.063	10.121	44740085	47662073	55.071m	50.698m
3)	T	4-Nitroph...	12.492	10.997	51013279	24595317	63.964	64.687
5)	T	DICAMBA	13.629	11.847	119.3E6	162.0E6	80.769	62.020
6)	T	MCPP	13.895	11.968	33303394	5359217	6.674m	2.798 #
7)	T	MCPA	14.249	12.446	50157633	16136583	2.886	5.413 #
8)	T	DICHLORPROP	14.709	12.797	23879900	32919277	62.685m	50.177
9)	T	2,4-D	15.111	13.342	34214596	49348486	69.203m	59.066
10)	T	Pentachlo...	16.117	14.043	299.8E6	375.6E6	38.308	42.785
11)	T	2,4,5-TP ...	16.217	14.232	105.7E6	139.6E6	38.268	37.996
12)	T	2,4,5-T	16.674	14.845	122.8E6	144.9E6	44.062m	42.876
13)	T	2,4-DB	17.364	15.398	15140030	31691549	7.290	10.286 #
14)	T	DINOSEB	17.905	16.225	14727435	16544299	42.345	41.856
15)	T	Picloram	18.569	16.516	356.9E6	427.6E6	91.242	100.260
16)	T	DCPA	18.495	16.964	192.6E6	255.7E6	83.463	77.412

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

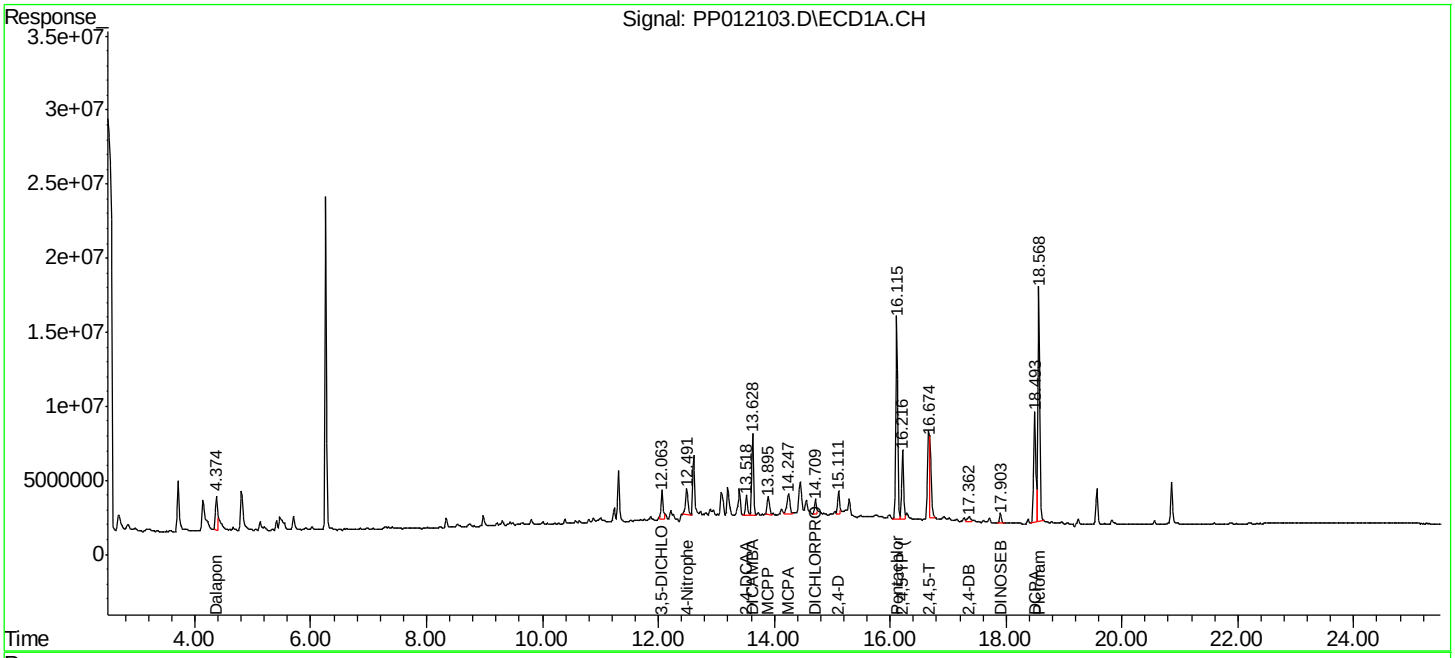
Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012103.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 13:26
Operator : IZ/UA
Sample : G4085-01MS
Misc :
ALS Vial : 7 Sample Multiplier: 1

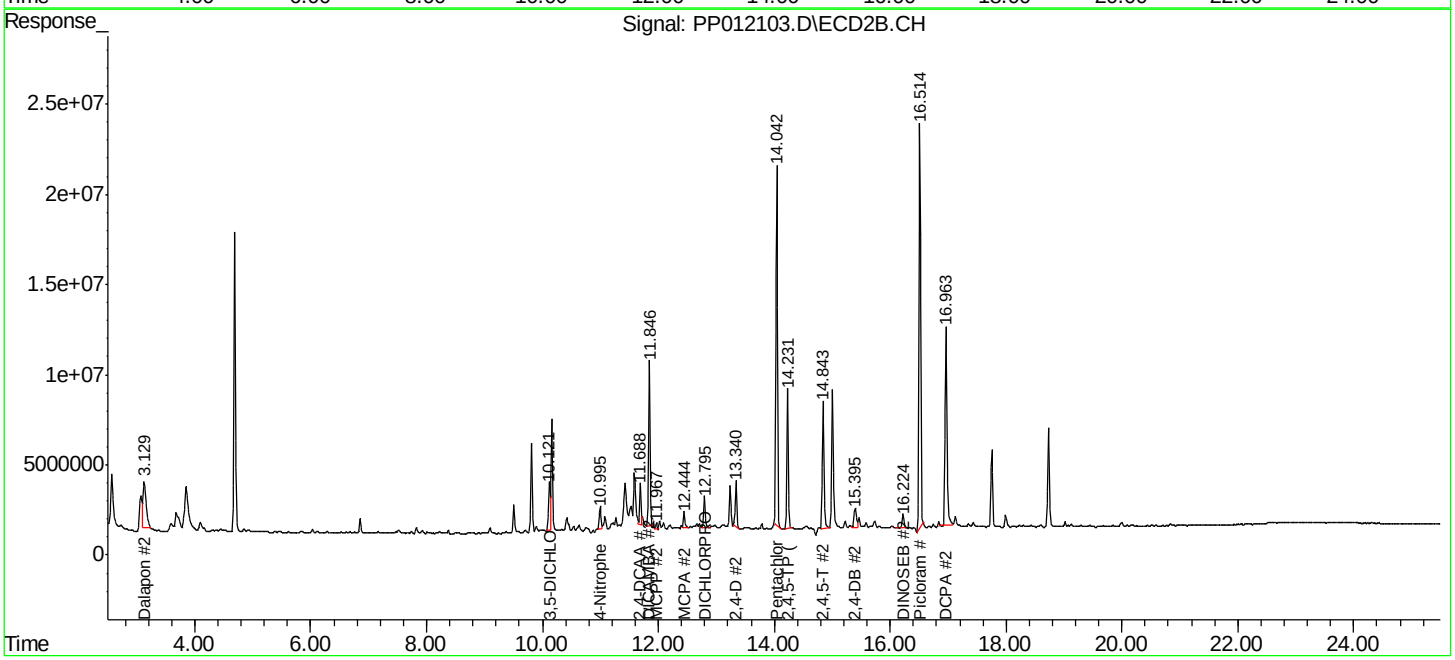
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:46:10 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
SP-001-COMPMS

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:28 PM





10

Instrument :
ECD_P
ClientSampleId :
SP-001-COMPMSD

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:36 PM

A B C D E F G H I J K L

Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012104.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 13:57
Operator : IZ/UA
Sample : G4085-01MSD
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:49:53 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/ml	ng/ml	
		System Monitoring Compounds							
4)	S	2,4-DCAA	13.519	11.688	32248732	40186702	94.635	64.850m	#
		Target Compounds							
1)	T	Dalapon	4.377	3.136	68627760	108.1E6	112.901m	131.063m	
2)	T	3,5-DICHL...	12.062	10.121	43314657	51538745	53.316m	54.821m	
3)	T	4-Nitroph...	12.491	10.997	51178131	24359361	64.170	64.066	
5)	T	DICAMBA	13.628	11.847	120.2E6	165.2E6	81.403	63.278	
6)	T	MCPP	13.894	11.967	33229451	5275897	6.585m	2.755	#
7)	T	MCPA	14.247	12.445	50300215	15838858	3.028	5.313	#
8)	T	DICHLORPROP	14.710	12.796	22415731	32446705	58.842m	49.457	
9)	T	2,4-D	15.110	13.342	30007777	49631878	60.695m	59.405	
10)	T	Pentachlo...	16.116	14.043	298.4E6	377.0E6	38.131	42.946	
11)	T	2,4,5-TP ...	16.217	14.232	105.3E6	139.6E6	38.106	37.985	
12)	T	2,4,5-T	16.671	14.844	135.2E6	143.0E6	48.514m	42.299	
13)	T	2,4-DB	17.363	15.397	15095110	31364443	7.269	10.180	#
14)	T	DINOSEB	17.905	16.225	14802944	16063773	42.562	40.641	
15)	T	Picloram	18.568	16.515	352.1E6	422.3E6	90.006	99.022	
16)	T	DCPA	18.494	16.964	184.7E6	247.9E6	80.049	75.048	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

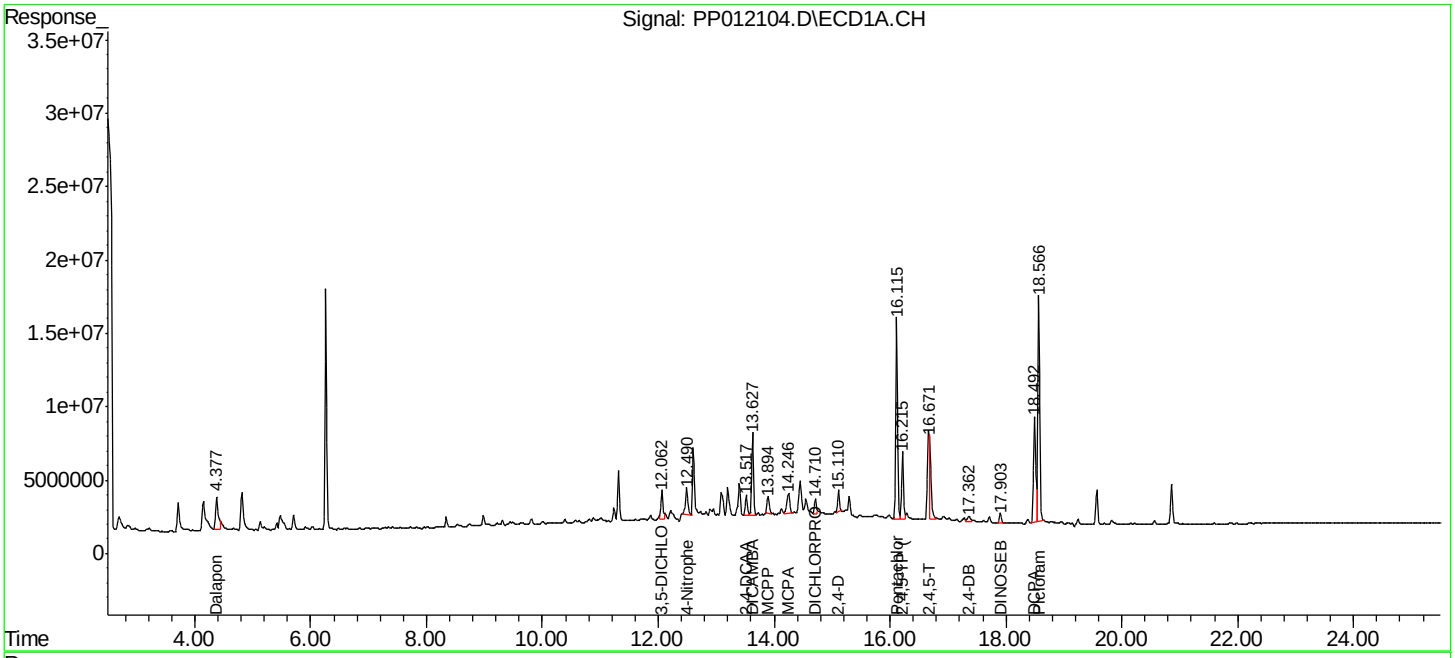
Data Path : P:\HPCHEM1\ECD_P\Data\PP102315\
Data File : PP012104.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Oct 2015 13:57
Operator : IZ/UA
Sample : G4085-01MSD
Misc :
ALS Vial : 8 Sample Multiplier: 1

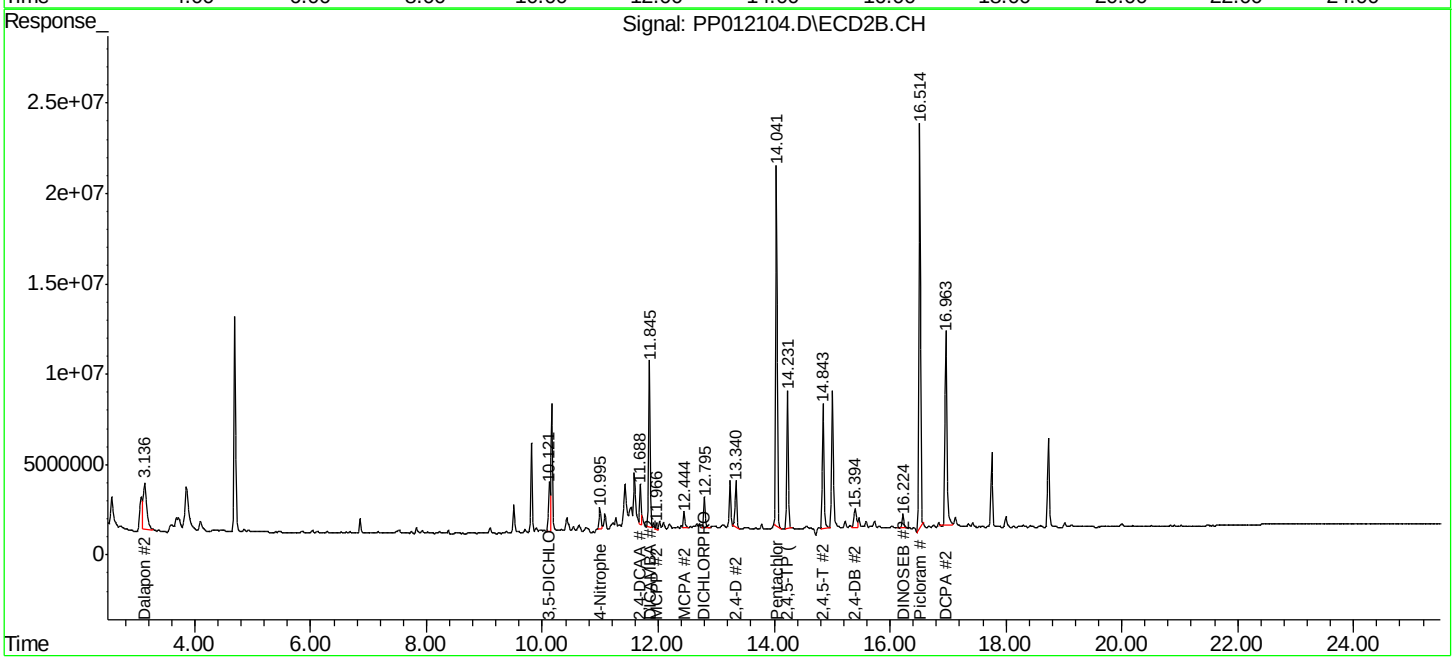
Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 24 03:49:53 2015
Quant Method : P:\HPCHEM1\ECD_P\methods\PP101015.M
Quant Title : 8080.M
QLast Update : Mon Oct 12 10:08:29 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2 µl
Signal #1 Phase : ZB-35-HT Inferno Signal #2 Phase: ZB-XLB-HT Infernon
Signal #1 Info : 30M x 0.25mm x0.2 Signal #2 Info : 30M x 0.25mm x 0.25µm

Instrument :
ECD_P
ClientSampleId :
SP-001-COMPMSD

Manual Integrations APPROVED
mohammad
10/27/2015 2:01:36 PM





CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	PP101015	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
HSTDICC200	PP011958.D	2,4,5-T	iwona	10/13/2015 10:54:34 AM	ugo	10/14/2015 10:10:48	Peak Integrated by Software incorrectly
HSTDICC500	PP011959.D	2,4,5-T	iwona	10/13/2015 10:54:39 AM	ugo	10/14/2015 10:10:52	Peak Integrated by Software incorrectly
HSTDICV750	PP011963.D	2,4,5-T	iwona	10/13/2015 10:54:43 AM	ugo	10/14/2015 10:10:56	Peak Integrated by Software incorrectly
HSTDCCC750	PP011965.D	2,4,5-T	iwona	10/13/2015 10:54:46 AM	ugo	10/14/2015 10:11:00	Peak Integrated by Software incorrectly
PB85726BS	PP011967.D	2,4,5-T	iwona	10/13/2015 10:54:50 AM	ugo	10/14/2015 10:11:04	Peak Integrated by Software incorrectly
G3692-17	PP011968.D	2,4,5-T	iwona	10/13/2015 10:54:53 AM	ugo	10/14/2015 10:11:08	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
HSTDCCC750	PP012099.D	Dalapon #2	iwona	10/26/2015 4:26:43 PM	mohammad	10/27/2015 2:01:14	Peak Integrated by Software incorrectly
PB86237BL	PP012100.D	2,4-DCAA	iwona	10/26/2015 4:26:47 PM	mohammad	10/27/2015 2:01:17	Peak Integrated by Software incorrectly
PB86237BL	PP012100.D	2,4-DCAA #2	iwona	10/26/2015 4:26:47 PM	mohammad	10/27/2015 2:01:17	Peak Integrated by Software incorrectly
PB86237BS	PP012101.D	2,4,5-T	iwona	10/26/2015 4:26:51 PM	mohammad	10/27/2015 2:01:20	Peak Integrated by Software incorrectly
PB86237BS	PP012101.D	3,5-DICHLOROBENZOIC ACID #2	iwona	10/26/2015 4:26:51 PM	mohammad	10/27/2015 2:01:20	Peak Integrated by Software incorrectly
PB86237BS	PP012101.D	Dalapon #2	iwona	10/26/2015 4:26:51 PM	mohammad	10/27/2015 2:01:20	Peak Integrated by Software incorrectly
PB86237BS	PP012101.D	MCPA	iwona	10/26/2015 4:26:51 PM	mohammad	10/27/2015 2:01:20	Peak Integrated by Software incorrectly
G4085-01	PP012102.D	2,4-DCAA #2	Nevilkumar	10/27/2015 11:46:40 AM	mohammad	10/27/2015 2:01:25	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	2,4,5-T	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	2,4-D	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	2,4-DCAA #2	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	3,5-DICHLOROBENZOIC ACID	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	3,5-DICHLOROBENZOIC ACID #2	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly

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Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4085-01MS	PP012103.D	Dalapon	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	Dalapon #2	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	DICHLORPROP	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MS	PP012103.D	MCPP	Nevilkumar	10/27/2015 11:46:46 AM	mohammad	10/27/2015 2:01:28	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	2,4,5-T	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	2,4-D	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	2,4-DCAA #2	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	3,5-DICHLOROBENZOIC ACID	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	3,5-DICHLOROBENZOIC ACID #2	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	Dalapon	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	Dalapon #2	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	DICHLORPROP	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly
G4085-01MSD	PP012104.D	MCPP	iwona	10/26/2015 4:26:57 PM	mohammad	10/27/2015 2:01:36	Peak Integrated by Software incorrectly

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Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4046-01	PP012105.D	2,4-DCAA	iwona	10/26/2015 4:27:02 PM	mohammad	10/27/2015 2:01:40	Peak Integrated by Software incorrectly
G4046-01	PP012105.D	2,4-DCAA #2	iwona	10/26/2015 4:27:02 PM	mohammad	10/27/2015 2:01:40	Peak Integrated by Software incorrectly
G4046-02	PP012106.D	2,4-DCAA	iwona	10/26/2015 4:27:06 PM	mohammad	10/27/2015 2:01:44	Peak Integrated by Software incorrectly
G4046-02	PP012106.D	2,4-DCAA #2	iwona	10/26/2015 4:27:06 PM	mohammad	10/27/2015 2:01:44	Peak Integrated by Software incorrectly
G4046-04	PP012107.D	2,4-DCAA	iwona	10/26/2015 4:27:10 PM	mohammad	10/27/2015 2:01:55	Peak Integrated by Software incorrectly
G4046-04	PP012107.D	2,4-DCAA #2	iwona	10/26/2015 4:27:10 PM	mohammad	10/27/2015 2:01:55	Peak Integrated by Software incorrectly
HSTDCCC750	PP012109.D	Dalapon #2	iwona	10/26/2015 4:27:20 PM	mohammad	10/27/2015 2:01:51	Peak Integrated by Software incorrectly
PB86216BL	PP012110.D	2,4-DCAA #2	iwona	10/26/2015 4:27:24 PM	mohammad	10/27/2015 2:02:03	Peak Integrated by Software incorrectly
PB86216BS	PP012111.D	2,4,5-T	iwona	10/26/2015 4:27:28 PM	mohammad	10/27/2015 2:02:06	Peak Integrated by Software incorrectly
PB86216BS	PP012111.D	3,5-DICHLOROBENZOIC ACID #2	iwona	10/26/2015 4:27:28 PM	mohammad	10/27/2015 2:02:06	Peak Integrated by Software incorrectly
PB86216BS	PP012111.D	4-Nitrophenol #2	iwona	10/26/2015 4:27:28 PM	mohammad	10/27/2015 2:02:06	Peak Integrated by Software incorrectly
PB86216BS	PP012111.D	Dalapon #2	iwona	10/26/2015 4:27:28 PM	mohammad	10/27/2015 2:02:06	Peak Integrated by Software incorrectly
PB86216BS	PP012111.D	DCPA #2	iwona	10/26/2015 4:27:28 PM	mohammad	10/27/2015 2:02:06	Peak Integrated by Software incorrectly

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Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB86216BS	PP012111.D	MCPA	iwona	10/26/2015 4:27:28 PM	mohammad	10/27/2015 2:02:06	Peak Integrated by Software incorrectly
G4116-01	PP012112.D	2,4-DCAA	iwona	10/26/2015 4:27:33 PM	mohammad	10/27/2015 2:02:10	Peak Integrated by Software incorrectly
G4116-01	PP012112.D	2,4-DCAA #2	iwona	10/26/2015 4:27:33 PM	mohammad	10/27/2015 2:02:10	Peak Integrated by Software incorrectly
G4116-03	PP012113.D	2,4-DCAA	iwona	10/26/2015 4:27:47 PM	mohammad	10/27/2015 2:02:13	Peak Integrated by Software incorrectly
G4116-03	PP012113.D	2,4-DCAA #2	iwona	10/26/2015 4:27:47 PM	mohammad	10/27/2015 2:02:13	Peak Integrated by Software incorrectly
G4116-05	PP012114.D	2,4-DCAA	iwona	10/26/2015 4:28:59 PM	mohammad	10/27/2015 2:02:17	Peak Integrated by Software incorrectly
G4116-05	PP012114.D	2,4-DCAA #2	iwona	10/26/2015 4:28:59 PM	mohammad	10/27/2015 2:02:17	Peak Integrated by Software incorrectly
G4116-07	PP012115.D	2,4-DCAA	iwona	10/26/2015 4:28:54 PM	mohammad	10/27/2015 2:02:21	Peak Integrated by Software incorrectly
G4116-07	PP012115.D	2,4-DCAA #2	iwona	10/26/2015 4:28:54 PM	mohammad	10/27/2015 2:02:21	Peak Integrated by Software incorrectly
G4116-09	PP012116.D	2,4-DCAA	iwona	10/26/2015 4:27:58 PM	mohammad	10/27/2015 2:02:28	Peak Integrated by Software incorrectly
G4116-09	PP012116.D	2,4-DCAA #2	iwona	10/26/2015 4:27:58 PM	mohammad	10/27/2015 2:02:28	Peak Integrated by Software incorrectly
G4116-11	PP012117.D	2,4-DCAA	iwona	10/26/2015 4:28:50 PM	mohammad	10/27/2015 2:02:33	Peak Integrated by Software incorrectly
G4116-11	PP012117.D	2,4-DCAA #2	iwona	10/26/2015 4:28:50 PM	mohammad	10/27/2015 2:02:33	Peak Integrated by Software incorrectly

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Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4116-13	PP012118.D	2,4-DCAA	iwona	10/26/2015 4:28:46 PM	mohammad	10/27/2015 2:03:11	Peak Integrated by Software incorrectly
G4116-13	PP012118.D	2,4-DCAA #2	iwona	10/26/2015 4:28:46 PM	mohammad	10/27/2015 2:03:11	Peak Integrated by Software incorrectly
G4116-15	PP012119.D	2,4-DCAA	iwona	10/26/2015 4:28:01 PM	mohammad	10/27/2015 2:03:21	Peak Integrated by Software incorrectly
G4116-15	PP012119.D	2,4-DCAA #2	iwona	10/26/2015 4:28:01 PM	mohammad	10/27/2015 2:03:21	Peak Integrated by Software incorrectly
HSTDCCC750	PP012121.D	2,4-D	iwona	10/26/2015 4:28:04 PM	mohammad	10/27/2015 2:03:24	Peak Integrated by Software incorrectly
HSTDCCC750	PP012121.D	Dalapon #2	iwona	10/26/2015 4:28:04 PM	mohammad	10/27/2015 2:03:24	Peak Integrated by Software incorrectly
HSTDCCC750	PP012121.D	DCPA #2	iwona	10/26/2015 4:28:04 PM	mohammad	10/27/2015 2:03:24	Peak Integrated by Software incorrectly
G4116-17	PP012122.D	2,4-DCAA	iwona	10/26/2015 4:28:43 PM	mohammad	10/27/2015 2:03:27	Peak Integrated by Software incorrectly
G4116-17	PP012122.D	2,4-DCAA #2	iwona	10/26/2015 4:28:43 PM	mohammad	10/27/2015 2:03:27	Peak Integrated by Software incorrectly
G4117-03	PP012125.D	2,4-DCAA	iwona	10/26/2015 4:28:09 PM	mohammad	10/27/2015 2:03:43	Peak Integrated by Software incorrectly
G4117-11	PP012129.D	2,4-DCAA	iwona	10/26/2015 4:28:12 PM	mohammad	10/27/2015 2:03:30	Peak Integrated by Software incorrectly
HSTDCCC750	PP012133.D	Dalapon #2	iwona	10/26/2015 4:28:39 PM	mohammad	10/27/2015 2:03:34	Peak Integrated by Software incorrectly
HSTDCCC750	PP012133.D	DCPA #2	iwona	10/26/2015 4:28:39 PM	mohammad	10/27/2015 2:03:34	Peak Integrated by Software incorrectly

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Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
HSTDCCC750	PP012133.D	DINOSEB #2	iwona	10/26/2015 4:28:39 PM	mohammad	10/27/2015 2:03:34	Peak Integrated by Software incorrectly
HSTDCCC750	PP012133.D	Pentachlorophenol #2	iwona	10/26/2015 4:28:39 PM	mohammad	10/27/2015 2:03:34	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	2,4,5-T	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	2,4-DCAA #2	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	3,5-DICHLOROBENZOIC ACID	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	3,5-DICHLOROBENZOIC ACID #2	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	4-Nitrophenol #2	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	Dalapon #2	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	DCPA #2	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	DICAMBA #2	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MS	PP012135.D	Picloram #2	iwona	10/26/2015 4:29:19 PM	mohammad	10/27/2015 2:03:52	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	2,4,5-T	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	2,4-DB #2	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly

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Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
G4117-17MSD	PP012136.D	2,4-DCAA #2	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	3,5-DICHLOROBENZOIC ACID	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	3,5-DICHLOROBENZOIC ACID #2	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	Dalapon #2	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	DCPA #2	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	DICAMBA #2	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	MCPP	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-17MSD	PP012136.D	Picloram #2	iwona	10/26/2015 4:29:14 PM	mohammad	10/27/2015 2:03:55	Peak Integrated by Software incorrectly
G4117-19	PP012137.D	2,4-DCAA	iwona	10/26/2015 4:28:36 PM	mohammad	10/27/2015 2:03:59	Peak Integrated by Software incorrectly
PB86269BL	PP012138.D	2,4-DCAA #2	iwona	10/26/2015 4:29:12 PM	mohammad	10/27/2015 2:04:02	Peak Integrated by Software incorrectly
PB86269BS	PP012139.D	2,4-DCAA #2	iwona	10/26/2015 4:28:32 PM	mohammad	10/27/2015 2:04:07	Peak Integrated by Software incorrectly
PB86269BS	PP012139.D	3,5-DICHLOROBENZOIC ACID #2	iwona	10/26/2015 4:28:32 PM	mohammad	10/27/2015 2:04:07	Peak Integrated by Software incorrectly
PB86269BS	PP012139.D	Dalapon #2	iwona	10/26/2015 4:28:32 PM	mohammad	10/27/2015 2:04:07	Peak Integrated by Software incorrectly

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Sequence:	PP102315	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
PB86269BS	PP012139.D	DCPA #2	iwona	10/26/2015 4:28:32 PM	mohammad	10/27/2015 2:04:07	Peak Integrated by Software incorrectly
PB86269BS	PP012139.D	DICAMBA #2	iwona	10/26/2015 4:28:32 PM	mohammad	10/27/2015 2:04:07	Peak Integrated by Software incorrectly
PB86269BS	PP012139.D	MCPA	iwona	10/26/2015 4:28:32 PM	mohammad	10/27/2015 2:04:07	Peak Integrated by Software incorrectly
G4138-01	PP012140.D	2,4-DCAA #2	iwona	10/26/2015 4:28:28 PM	mohammad	10/27/2015 2:04:14	Peak Integrated by Software incorrectly
I.BLK	PP012141.D	2,4-DCAA #2	iwona	10/26/2015 4:28:24 PM	mohammad	10/27/2015 2:04:17	Peak Integrated by Software incorrectly
HSTDCCC750	PP012142.D	Dalapon #2	iwona	10/26/2015 4:28:20 PM	mohammad	10/27/2015 2:23:45	Peak Integrated by Software incorrectly
HSTDCCC750	PP012142.D	DCPA #2	iwona	10/26/2015 4:28:20 PM	mohammad	10/27/2015 2:23:45	Peak Integrated by Software incorrectly

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Sequence:	PP102615	Instrument	ECD_p

Sample ID/ Client SampleID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
HSTDCCC750	PP012145.D	Dalapon #2	Nevilkumar	10/27/2015 11:41:22 AM	mohammad	10/27/2015 2:07:01	Peak Integrated by Software incorrectly
HSTDCCC750	PP012145.D	DCPA #2	Nevilkumar	10/27/2015 11:41:22 AM	mohammad	10/27/2015 2:07:01	Peak Integrated by Software incorrectly
HSTDCCC750	PP012145.D	Pentachlorophenol #2	Nevilkumar	10/27/2015 11:41:22 AM	mohammad	10/27/2015 2:07:01	Peak Integrated by Software incorrectly
G4046-02RE	PP012146.D	2,4-DCAA	Nevilkumar	10/27/2015 11:42:57 AM	mohammad	10/27/2015 2:07:03	Peak Integrated by Software incorrectly
G4046-02RE	PP012146.D	Pentachlorophenol	Nevilkumar	10/27/2015 11:42:57 AM	mohammad	10/27/2015 2:07:03	Peak Integrated by Software incorrectly
G4046-02RE	PP012146.D	Pentachlorophenol #2	Nevilkumar	10/27/2015 11:42:57 AM	mohammad	10/27/2015 2:07:03	Peak Integrated by Software incorrectly
G4116-01RE	PP012147.D	2,4-DCAA	Nevilkumar	10/27/2015 11:43:01 AM	mohammad	10/27/2015 2:07:07	Peak Integrated by Software incorrectly
G4116-05RE	PP012148.D	2,4-DCAA	Nevilkumar	10/27/2015 11:43:04 AM	mohammad	10/27/2015 2:07:10	Peak Integrated by Software incorrectly
HSTDCCC750	PP012151.D	Dalapon #2	Nevilkumar	10/27/2015 11:43:08 AM	mohammad	10/27/2015 2:07:13	Peak Integrated by Software incorrectly
HSTDCCC750	PP012151.D	DCPA #2	Nevilkumar	10/27/2015 11:43:08 AM	mohammad	10/27/2015 2:07:13	Peak Integrated by Software incorrectly
HSTDCCC750	PP012151.D	Pentachlorophenol #2	Nevilkumar	10/27/2015 11:43:08 AM	mohammad	10/27/2015 2:07:13	Peak Integrated by Software incorrectly

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP101015

Review By	ugo	Review On	10/12/2015 4:20:24 PM		
SubDirectory	PP101015	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	NA
ICV/I.BLK	PP10535

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	I.BLK	PP011957.D	09 Oct 2015 14:15	IZ/UA	Ok
2	HSTDICC200	PP011958.D	09 Oct 2015 14:46	IZ/UA	Ok,M
3	HSTDICC500	PP011959.D	09 Oct 2015 15:16	IZ/UA	Ok,M
4	HSTDICC750	PP011960.D	09 Oct 2015 15:47	IZ/UA	Ok
5	HSTDICC1000	PP011961.D	09 Oct 2015 16:18	IZ/UA	Ok
6	HSTDICC1500	PP011962.D	09 Oct 2015 16:48	IZ/UA	Ok
7	HSTDICV750	PP011963.D	09 Oct 2015 17:19	IZ/UA	Ok,M
8	I.BLK	PP011964.D	09 Oct 2015 17:49	IZ/UA	Ok
9	HSTDCCC750	PP011965.D	09 Oct 2015 18:20	IZ/UA	Ok,M
10	PB85726BL	PP011966.D	09 Oct 2015 18:51	IZ/UA	Ok
11	PB85726BS	PP011967.D	09 Oct 2015 19:21	IZ/UA	Ok,M
12	G3692-17	PP011968.D	09 Oct 2015 19:52	IZ/UA	Ok,M
13	I.BLK	PP011969.D	09 Oct 2015 20:22	IZ/UA	Ok
14	HSTDCCC750	PP011970.D	09 Oct 2015 20:53	IZ/UA	Ok

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP102315

Review By	mohammad	Review On	10/27/2015 2:23:58 PM		
SubDirectory	PP102315	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	NA
ICV/I.BLK	PP10535

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	HEXANE	PP012097.D	23 Oct 2015 10:01	IZ/UA	Ok
2	I.BLK	PP012098.D	23 Oct 2015 10:31	IZ/UA	Ok
3	HSTDCCC750	PP012099.D	23 Oct 2015 11:02	IZ/UA	Ok,M
4	PB86237BL	PP012100.D	23 Oct 2015 11:55	IZ/UA	Ok,M
5	PB86237BS	PP012101.D	23 Oct 2015 12:25	IZ/UA	Ok,M
6	G4085-01	PP012102.D	23 Oct 2015 12:56	IZ/UA	Ok,M
7	G4085-01MS	PP012103.D	23 Oct 2015 13:26	IZ/UA	Ok,M
8	G4085-01MSD	PP012104.D	23 Oct 2015 13:57	IZ/UA	Ok,M
9	G4046-01	PP012105.D	23 Oct 2015 14:27	IZ/UA	Ok,M
10	G4046-02	PP012106.D	23 Oct 2015 14:58	IZ/UA	ReRun
11	G4046-04	PP012107.D	23 Oct 2015 15:29	IZ/UA	Ok,M
12	I.BLK	PP012108.D	23 Oct 2015 15:59	IZ/UA	Ok
13	HSTDCCC750	PP012109.D	23 Oct 2015 16:30	IZ/UA	Ok,M
14	PB86216BL	PP012110.D	23 Oct 2015 18:59	IZ/UA	Ok,M
15	PB86216BS	PP012111.D	23 Oct 2015 19:29	IZ/UA	Ok,M
16	G4116-01	PP012112.D	23 Oct 2015 20:00	IZ/UA	ReRun
17	G4116-03	PP012113.D	23 Oct 2015 20:30	IZ/UA	Ok,M
18	G4116-05	PP012114.D	23 Oct 2015 21:01	IZ/UA	ReRun
19	G4116-07	PP012115.D	23 Oct 2015 21:32	IZ/UA	Ok,M
20	G4116-09	PP012116.D	23 Oct 2015 22:02	IZ/UA	Ok,M
21	G4116-11	PP012117.D	23 Oct 2015 22:32	IZ/UA	Ok,M
22	G4116-13	PP012118.D	23 Oct 2015 23:03	IZ/UA	Ok,M
23	G4116-15	PP012119.D	23 Oct 2015 23:33	IZ/UA	Ok,M
24	I.BLK	PP012120.D	24 Oct 2015 00:04	IZ/UA	Ok
25	HSTDCCC750	PP012121.D	24 Oct 2015 00:34	IZ/UA	Ok,M
26	G4116-17	PP012122.D	24 Oct 2015 1:05	IZ/UA	Ok,M

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP102315

Review By	mohammad	Review On	10/27/2015 2:23:58 PM		
SubDirectory	PP102315	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	NA
ICV/I.BLK	PP10535

27	G4116-19	PP012123.D	24 Oct 2015 1:35	IZ/UA	ReRun
28	G4117-01	PP012124.D	24 Oct 2015 2:06	IZ/UA	Ok
29	G4117-03	PP012125.D	24 Oct 2015 2:36	IZ/UA	Ok,M
30	G4117-05	PP012126.D	24 Oct 2015 3:07	IZ/UA	Ok
31	G4117-07	PP012127.D	24 Oct 2015 3:37	IZ/UA	Ok
32	G4117-09	PP012128.D	24 Oct 2015 4:08	IZ/UA	Ok
33	G4117-11	PP012129.D	24 Oct 2015 4:38	IZ/UA	Ok,M
34	G4117-13	PP012130.D	24 Oct 2015 5:08	IZ/UA	Ok
35	G4117-15	PP012131.D	24 Oct 2015 5:39	IZ/UA	Ok
36	I.BLK	PP012132.D	24 Oct 2015 6:09	IZ/UA	Ok
37	HSTDCCC750	PP012133.D	24 Oct 2015 6:40	IZ/UA	Ok,M
38	G4117-17	PP012134.D	24 Oct 2015 7:10	IZ/UA	Ok
39	G4117-17MS	PP012135.D	24 Oct 2015 7:40	IZ/UA	Ok,M
40	G4117-17MSD	PP012136.D	24 Oct 2015 8:11	IZ/UA	Ok,M
41	G4117-19	PP012137.D	24 Oct 2015 8:41	IZ/UA	Ok,M
42	PB86269BL	PP012138.D	24 Oct 2015 9:12	IZ/UA	Ok,M
43	PB86269BS	PP012139.D	24 Oct 2015 9:42	IZ/UA	Ok,M
44	G4138-01	PP012140.D	24 Oct 2015 10:12	IZ/UA	Ok,M
45	I.BLK	PP012141.D	24 Oct 2015 10:43	IZ/UA	Ok,M
46	HSTDCCC750	PP012142.D	24 Oct 2015 11:13	IZ/UA	Ok,M

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP102615

Review By	mohammad	Review On	10/27/2015 2:07:22 PM		
SubDirectory	PP102615	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	N/A
ICV/I.BLK	PP10535

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	HEXANE	PP012143.D	26 Oct 2015 10:55	IZ/UA	Ok
2	I.BLK	PP012144.D	26 Oct 2015 11:25	IZ/UA	Ok
3	HSTDCCC750	PP012145.D	26 Oct 2015 11:56	IZ/UA	Ok,M
4	G4046-02RE	PP012146.D	26 Oct 2015 15:06	IZ/UA	Confirms
5	G4116-01RE	PP012147.D	26 Oct 2015 15:36	IZ/UA	Confirms
6	G4116-05RE	PP012148.D	26 Oct 2015 16:07	IZ/UA	Confirms
7	G4116-19RE	PP012149.D	26 Oct 2015 16:37	IZ/UA	Confirms
8	I.BLK	PP012150.D	26 Oct 2015 17:08	IZ/UA	Ok
9	HSTDCCC750	PP012151.D	26 Oct 2015 17:38	IZ/UA	Ok,M

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP101015

Review By	ugo	Review On	10/12/2015 4:20:24 PM		
SubDirectory	PP101015	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	NA
ICV/I.BLK	PP10535

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	I.BLK	I.BLK	PP011957.D		Ok
2	HSTDICC200	HSTDICC200	PP011958.D	MCPP not ok in col1. LR for MCPA Col1	Ok,M
3	HSTDICC500	HSTDICC500	PP011959.D		Ok,M
4	HSTDICC750	HSTDICC750	PP011960.D		Ok
5	HSTDICC1000	HSTDICC1000	PP011961.D		Ok
6	HSTDICC1500	HSTDICC1500	PP011962.D		Ok
7	HSTDICV750	ICVPP101015	PP011963.D		Ok,M
8	I.BLK	I.BLK	PP011964.D		Ok
9	HSTDCCC750	HSTDCCC750	PP011965.D		Ok,M
10	PB85726BL	PB85726BL	PP011966.D		Ok
11	PB85726BS	PB85726BS	PP011967.D		Ok,M
12	G3692-17	PT-HERB-WP	PP011968.D		Ok,M
13	I.BLK	I.BLK	PP011969.D		Ok
14	HSTDCCC750	HSTDCCC750	PP011970.D		Ok

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP102315

Review By	mohammad	Review On	10/27/2015 2:23:58 PM		
SubDirectory	PP102315	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	NA
ICV/I.BLK	PP10535

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	HEXANE	HEXANE	PP012097.D		Ok
2	I.BLK	I.BLK	PP012098.D		Ok
3	HSTDCCC750	HSTDCCC750	PP012099.D		Ok,M
4	PB86237BL	PB86237BL	PP012100.D		Ok,M
5	PB86237BS	PB86237BS	PP012101.D		Ok,M
6	G4085-01	SP-001-COMP	PP012102.D		Ok,M
7	G4085-01MS	SP-001-COMPMS	PP012103.D	all compound having low recovery	Ok,M
8	G4085-01MSD	SP-001-COMPMSD	PP012104.D	all compound having low recovery	Ok,M
9	G4046-01	GOODLUCK902	PP012105.D		Ok,M
10	G4046-02	GOODLUCK58	PP012106.D	surrogate low in 2nd column	ReRun
11	G4046-04	MANAHAWKEN112	PP012107.D		Ok,M
12	I.BLK	I.BLK	PP012108.D		Ok
13	HSTDCCC750	HSTDCCC750	PP012109.D		Ok,M
14	PB86216BL	PB86216BL	PP012110.D		Ok,M
15	PB86216BS	PB86216BS	PP012111.D		Ok,M
16	G4116-01	NB3-01(0-2)	PP012112.D	surrogate low in 2nd column	ReRun
17	G4116-03	NB3-02(0-2)	PP012113.D		Ok,M
18	G4116-05	NB3-03(0-2)	PP012114.D	surrogate low in 2nd column	ReRun
19	G4116-07	BRIDGE-14-01(0-2)	PP012115.D		Ok,M
20	G4116-09	BRIDGE-14-02(0-2)	PP012116.D		Ok,M
21	G4116-11	BT-01(0-2)	PP012117.D		Ok,M
22	G4116-13	BT-02(0-2)	PP012118.D		Ok,M

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP102315

Review By	mohammad	Review On	10/27/2015 2:23:58 PM		
SubDirectory	PP102315	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	NA
ICV/I.BLK	PP10535

23	G4116-15	BT-03(0-2)	PP012119.D		Ok,M
24	I.BLK	I.BLK	PP012120.D		Ok
25	HSTDCCC750	HSTDCCC750	PP012121.D		Ok,M
26	G4116-17	AB-AC-01(0-2)	PP012122.D		Ok,M
27	G4116-19	AB-AC-02(0-2)	PP012123.D	surrogate low in 2nd column	ReRun
28	G4117-01	AB-AC-03(0-2)	PP012124.D		Ok
29	G4117-03	AB-AC-04(0-2)	PP012125.D		Ok,M
30	G4117-05	AB-AC-05(0-2)	PP012126.D		Ok
31	G4117-07	AB-AC-06(0-2)	PP012127.D		Ok
32	G4117-09	AB-AC-07(0-2)	PP012128.D		Ok
33	G4117-11	AB-AC-08(0-2)	PP012129.D		Ok,M
34	G4117-13	COFF-01(0-2)	PP012130.D		Ok
35	G4117-15	COFF-02(0-2)	PP012131.D		Ok
36	I.BLK	I.BLK	PP012132.D		Ok
37	HSTDCCC750	HSTDCCC750	PP012133.D		Ok,M
38	G4117-17	COFF-03(0-2)	PP012134.D		Ok
39	G4117-17MS	COFF-03(0-2)MS	PP012135.D	compound #5 & #13 having low recovery	Ok,M
40	G4117-17MSD	COFF-03(0-2)MSD	PP012136.D	compound #5 & #13 having low recovery	Ok,M
41	G4117-19	COFF-04(0-2)	PP012137.D		Ok,M
42	PB86269BL	PB86269BL	PP012138.D		Ok,M
43	PB86269BS	PB86269BS	PP012139.D		Ok,M
44	G4138-01	102-15	PP012140.D		Ok,M
45	I.BLK	I.BLK	PP012141.D		Ok,M

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP102315

Review By	mohammad	Review On	10/27/2015 2:23:58 PM		
SubDirectory	PP102315	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	NA
ICV/I.BLK	PP10535

46	HSTDCCC750	HSTDCCC750	PP012142.D		Ok,M

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Instrument ID: ECD_P

Daily Analysis Runlog For Sequence/QCBatch ID # PP102615

Review By	mohammad	Review On	10/27/2015 2:07:22 PM		
SubDirectory	PP102615	HP Acquire Method		HP Processing Method	PP101015

STD. NAME	STD REF.#
Tune/Reschk	NA
Initial Calibration Stds	PP10529,PP10530,PP10531,PP10532,PP10533
CCC	PP10531
Internal Standard/PEM	N/A
ICV/I.BLK	PP10535

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	HEXANE	HEXANE	PP012143.D		Ok
2	I.BLK	I.BLK	PP012144.D		Ok
3	HSTDCCC750	HSTDCCC750	PP012145.D		Ok,M
4	G4046-02RE	GOODLUCK58RE	PP012146.D	Surrogate low in 2nd column	Confirms
5	G4116-01RE	NB3-01(0-2)RE	PP012147.D	Surrogate low in 2nd column	Confirms
6	G4116-05RE	NB3-03(0-2)RE	PP012148.D	Surrogate low in 2nd column	Confirms
7	G4116-19RE	AB-AC-02(0-2)RE	PP012149.D	Surrogate low in 2nd column	Confirms
8	I.BLK	I.BLK	PP012150.D		Ok
9	HSTDCCC750	HSTDCCC750	PP012151.D		Ok,M

CHEMTECH EXTRACTION LOGPAGE

PB86237

SOP ID: M 8151A. Herbicide 14

Matrix : Solid

Clean Up SOP #: N/A

Weigh By: RS **Extraction By:** RS

Balance check: RS

Balance ID: PM. 4600 **Weight 1:** (20.00) 20.00 **Weight 2:** (110.00) 110.00

Batch# PB86237

Extraction Date : 10/22/15

Extraction Start Time : 8:12

Extraction End Time : 16:40

Review By :

Filter By: RS **Concentration By:** MM

Method of Extraction

- [ ] Seperatory Funne
- [ ] Continious Liquid/Liquid
- [ ] Sonication
- [ ] Waste Dilution
- [x] Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	1.0ML	5/500 PPM	PP10576
Surrogate	1.0ML	5000 PPB	PP10603

Chemical Used	ML/SAMPLE USED	Lot Number
Mcl2/Acetone/1:1		EP1614
Acidified Na2SO4		EP1602
Hexane		E1990
H2SO4 1:3		EP1594
Diazomethane		EP1617

Extraction Conformance/Non-Conformance Comments:

Extraction End Time: 16:40

KD Bath Temperature: 60.1 c

Received Date: 10/22/15

Delivered Date: 10/22/15

Delivered Time: 16:45

Envap Temperature: 40 c

Received By: NP

Delivered By: MM

Analysis Group: NP, UG

Extraction Group: , RS, , MM, UA, RP, JP, BP, NP, UM

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID** **PB86237**

Analytical Method: 8151A **Extraction Date:** 10/22/2015-08:12 **Concentration Date:** 10/22/15

Lab Sample ID	Client Sample ID	Test	g/ mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
	2	2			Added By	Verified By			
PB86237BL	HBLK37	Herbicide	30.04	N/A	RS	RS	10		U2 01
PB86237BS	HLCS37	Herbicide	30.01						02
G4046-01	GOODLUCK902	Herbicide	5.07					Wood chips Dark yellow Matrix	03
G4046-02	GOODLUCK58	Herbicide	5.03						04
G4046-04	MANAHAWKEN112	Herbicide	5.08						05
G4085-01	SP-001-COMP	Herbicide	30.06					Yellow Matrix	06
G4085-01MS	SP-001-COMPMS	Herbicide	30.10						U3 01
G4085-01MSD	SP-001-COMPMSD	Herbicide	30.05				10		02

* Extracts relinquished on the same date as received.

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID : PB86237**

Analytical Method: 2 **Extraction Date:** 10/22/2015-08:12 **Concentration Date:** __/__/__

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
		2 2			Added By	Verified By			
PB86237BL	HBLK37	Herbicide	30.04	N/A	RUPESH	rajesh	10		
PB86237BS	HLCS37	Herbicide	30.01	N/A	RUPESH	rajesh	10		
G4046-01	GOODLUCK902	Herbicide	5.07	N/A	RUPESH	rajesh	10		
G4046-02	GOODLUCK58	Herbicide	5.03	N/A	RUPESH	rajesh	10		
G4046-04	MANAHAWKEN112	Herbicide	5.08	N/A	RUPESH	rajesh	10		
G4085-01	SP-001-COMP	Herbicide	30.06	N/A	RUPESH	rajesh	10		
G4085-01MS	SP-001-COMPMS	Herbicide	30.10	N/A	RUPESH	rajesh	10		
G4085-01MSD	SP-001-COMPMSD	Herbicide	30.05	N/A	RUPESH	rajesh	10		

10/22

* Extracts relinquished on the same date as received.

10/22

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LAB CHRONICLE

OrderID:	G4046	**OrderDate:**	10/15/2015 11:06:06 AM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4046-01	**GOODLUCK902**	**SOIL**			**10/14/15**			**10/14/15**
			Herbicide	8151A		10/22/15	10/23/15	
			PCB	8082A		10/16/15	10/17/15	
			Pesticide-TCL	8081B		10/16/15	10/16/15	
G4046-02	**GOODLUCK58**	**SOIL**			**10/14/15**			**10/14/15**
			Herbicide	8151A		10/22/15	10/23/15	
			PCB	8082A		10/16/15	10/17/15	
			Pesticide-TCL	8081B		10/16/15	10/16/15	
G4046-02RE	**GOODLUCK58RE**	**SOIL**			**10/14/15**			**10/14/15**
			Herbicide	8151A		10/22/15	10/26/15	
G4046-03	**GOODLUCKINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	
G4046-04	**MANAHAWKEN112**	**SOIL**			**10/14/15**			**10/14/15**
			Herbicide	8151A		10/22/15	10/23/15	
			PCB	8082A		10/16/15	10/17/15	
			Pesticide-TCL	8081B		10/16/15	10/16/15	
G4046-05	**MANAHAWKENINSULATION**	**SOIL**			**10/14/15**			**10/14/15**
			PCB	8082A		10/16/15	10/17/15	

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Hit Summary Sheet
SW-846

SDG No.: G4046 **Order ID:** G4046

Client: Sea Coast Environmental Services, Inc. **Project ID:** U.S. Fish and Wildlife

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :	**GOODLUCK902**								
G4046-01	GOODLUCK902	SOIL	Arsenic	0.662	J	0.207	0.207	0.826	mg/Kg
G4046-01	GOODLUCK902	SOIL	Barium	0.837	J	0.331	1.03	4.13	mg/Kg
G4046-01	GOODLUCK902	SOIL	Chromium	0.153	J	0.103	0.103	0.413	mg/Kg
G4046-01	GOODLUCK902	SOIL	Lead	1.050		0.099	0.207	0.496	mg/Kg
G4046-01	GOODLUCK902	SOIL	Selenium	0.239	J	0.207	0.207	0.826	mg/Kg
Client ID :	**GOODLUCK58**								
G4046-02	GOODLUCK58	SOIL	Arsenic	0.371	J	0.207	0.207	0.83	mg/Kg
G4046-02	GOODLUCK58	SOIL	Barium	1.200	J	0.332	1.04	4.15	mg/Kg
G4046-02	GOODLUCK58	SOIL	Chromium	0.125	J	0.104	0.104	0.415	mg/Kg
G4046-02	GOODLUCK58	SOIL	Lead	0.519		0.1	0.207	0.498	mg/Kg
G4046-02	GOODLUCK58	SOIL	Selenium	0.255	J	0.207	0.207	0.83	mg/Kg
Client ID :	**MANAHAWKEN112**								
G4046-04	MANAHAWKEN112	SOIL	Arsenic	0.972		0.214	0.214	0.855	mg/Kg
G4046-04	MANAHAWKEN112	SOIL	Barium	0.797	J	0.342	1.07	4.27	mg/Kg
G4046-04	MANAHAWKEN112	SOIL	Chromium	0.211	J	0.107	0.107	0.427	mg/Kg
G4046-04	MANAHAWKEN112	SOIL	Lead	0.497	J	0.103	0.214	0.513	mg/Kg
G4046-04	MANAHAWKEN112	SOIL	Mercury	0.016		0.007	0.007	0.013	mg/Kg
G4046-04	MANAHAWKEN112	SOIL	Selenium	0.394	J	0.214	0.214	0.855	mg/Kg

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK902	SDG No.:	G4046
Lab Sample ID:	G4046-01	Matrix:	SOIL
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
7440-38-2	Arsenic	0.662	J	1	0.207	0.207	0.826	mg/Kg	10/16/15 10:30	10/16/15 17:06	SW6010
7440-39-3	Barium	0.837	J	1	0.331	1.03	4.13	mg/Kg	10/16/15 10:30	10/16/15 17:06	SW6010
7440-43-9	Cadmium	0.062	U	1	0.05	0.062	0.248	mg/Kg	10/16/15 10:30	10/16/15 17:06	SW6010
7440-47-3	Chromium	0.153	J	1	0.103	0.103	0.413	mg/Kg	10/16/15 10:30	10/16/15 17:06	SW6010
7439-92-1	Lead	1.05		1	0.099	0.207	0.496	mg/Kg	10/16/15 10:30	10/16/15 17:06	SW6010
7439-97-6	Mercury	0.006	UN	1	0.006	0.006	0.012	mg/Kg	10/16/15 08:55	10/16/15 17:01	SW7471A
7782-49-2	Selenium	0.239	J	1	0.207	0.207	0.826	mg/Kg	10/16/15 10:30	10/16/15 17:06	SW6010
7440-22-4	Silver	0.103	U	1	0.103	0.103	0.413	mg/Kg	10/16/15 10:30	10/16/15 17:06	SW6010

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	No
Comments:	METALS RCRA				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK58	SDG No.:	G4046
Lab Sample ID:	G4046-02	Matrix:	SOIL
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
7440-38-2	Arsenic	0.371	J	1	0.207	0.207	0.83	mg/Kg	10/16/15 10:30	10/16/15 17:10	SW6010
7440-39-3	Barium	1.2	J	1	0.332	1.04	4.15	mg/Kg	10/16/15 10:30	10/16/15 17:10	SW6010
7440-43-9	Cadmium	0.062	U	1	0.05	0.062	0.249	mg/Kg	10/16/15 10:30	10/16/15 17:10	SW6010
7440-47-3	Chromium	0.125	J	1	0.104	0.104	0.415	mg/Kg	10/16/15 10:30	10/16/15 17:10	SW6010
7439-92-1	Lead	0.519		1	0.1	0.207	0.498	mg/Kg	10/16/15 10:30	10/16/15 17:10	SW6010
7439-97-6	Mercury	0.006	UN	1	0.006	0.006	0.013	mg/Kg	10/16/15 08:55	10/16/15 17:04	SW7471A
7782-49-2	Selenium	0.255	J	1	0.207	0.207	0.83	mg/Kg	10/16/15 10:30	10/16/15 17:10	SW6010
7440-22-4	Silver	0.104	U	1	0.104	0.104	0.415	mg/Kg	10/16/15 10:30	10/16/15 17:10	SW6010

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	No
Comments:	METALS RCRA				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN112	SDG No.:	G4046
Lab Sample ID:	G4046-04	Matrix:	SOIL
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
7440-38-2	Arsenic	0.972		1	0.214	0.214	0.855	mg/Kg	10/16/15 10:30	10/16/15 17:15	SW6010
7440-39-3	Barium	0.797	J	1	0.342	1.07	4.27	mg/Kg	10/16/15 10:30	10/16/15 17:15	SW6010
7440-43-9	Cadmium	0.064	U	1	0.051	0.064	0.256	mg/Kg	10/16/15 10:30	10/16/15 17:15	SW6010
7440-47-3	Chromium	0.211	J	1	0.107	0.107	0.427	mg/Kg	10/16/15 10:30	10/16/15 17:15	SW6010
7439-92-1	Lead	0.497	J	1	0.103	0.214	0.513	mg/Kg	10/16/15 10:30	10/16/15 17:15	SW6010
7439-97-6	Mercury	0.016	N	1	0.007	0.007	0.013	mg/Kg	10/16/15 08:55	10/16/15 17:06	SW7471A
7782-49-2	Selenium	0.394	J	1	0.214	0.214	0.855	mg/Kg	10/16/15 10:30	10/16/15 17:15	SW6010
7440-22-4	Silver	0.107	U	1	0.107	0.107	0.427	mg/Kg	10/16/15 10:30	10/16/15 17:15	SW6010

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	No
Comments:	METALS RCRA				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB14	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	10/16/2015	16:20	LB78334

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB46	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	10/16/2015	16:24	LB78334
CCB47	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	10/16/2015	16:57	LB78334
CCB48	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	10/16/2015	17:41	LB78334
CCB49	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	10/16/2015	18:02	LB78334

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	11:46	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	11:46	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	11:46	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	11:46	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	11:46	LB78335
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	11:46	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	11:46	LB78335

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	12:11	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	12:11	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	12:11	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	12:11	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	12:11	LB78335
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	12:11	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	12:11	LB78335
CCB02	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	13:05	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	13:05	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	13:05	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	13:05	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	13:05	LB78335
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	13:05	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	13:05	LB78335
CCB03	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	14:03	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	14:03	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	14:03	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	14:03	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	14:03	LB78335
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	14:03	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	14:03	LB78335
CCB04	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	14:58	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	14:58	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	14:58	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	14:58	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	14:58	LB78335
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	14:58	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	14:58	LB78335
CCB05	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	15:52	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	15:52	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	15:52	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	15:52	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	15:52	LB78335
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	15:52	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	15:52	LB78335
CCB06	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	16:42	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	16:42	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	16:42	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	16:42	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	16:42	LB78335

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	16:42	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	16:42	LB78335
CCB07	Arsenic	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	17:27	LB78335
	Barium	100	+/-100	U	50.0	100	P	10/16/2015	17:27	LB78335
	Cadmium	6.0	+/-6.0	U	3.0	6.0	P	10/16/2015	17:27	LB78335
	Chromium	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	17:27	LB78335
	Lead	12.0	+/-12.0	U	6.0	12.0	P	10/16/2015	17:27	LB78335
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	10/16/2015	17:27	LB78335
	Silver	10.0	+/-10.0	U	5.0	10.0	P	10/16/2015	17:27	LB78335

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Instrument: CV1

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB86133BL		**SOLID**		**Batch Number:**		**PB86133**		**Prep Date:**	**10/16/2015**	
	Mercury	0.014	<0.014	U	0.007	0.014	CV	10/16/2015	16:38	LB78334

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Instrument: P4

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB86135BL		**SOLID**		**Batch Number:**		**PB86135**		**Prep Date:**	**10/16/2015**	
	Arsenic	1.0	<1.0	U	0.25	1.0	P	10/16/2015	13:38	LB78335
	Barium	5.0	<5.0	U	1.25	5.0	P	10/16/2015	13:38	LB78335
	Cadmium	0.3	<0.3	U	0.075	0.3	P	10/16/2015	13:38	LB78335
	Chromium	0.5	<0.5	U	0.125	0.5	P	10/16/2015	13:38	LB78335
	Lead	0.6	<0.6	U	0.25	0.6	P	10/16/2015	13:38	LB78335
	Selenium	1.0	<1.0	U	0.25	1.0	P	10/16/2015	13:38	LB78335
	Silver	0.5	<0.5	U	0.125	0.5	P	10/16/2015	13:38	LB78335

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV14	Mercury	4.2532	4.0	106.3	90 - 110	CV	10/16/2015	16:17	LB78334

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV46	Mercury	5.3324	5.0	106.6	90 - 110	CV	10/16/2015	16:22	LB78334
CCV47	Mercury	5.1047	5.0	102.1	90 - 110	CV	10/16/2015	16:54	LB78334
CCV48	Mercury	4.9206	5.0	98.4	90 - 110	CV	10/16/2015	17:38	LB78334
CCV49	Mercury	5.2119	5.0	104.2	90 - 110	CV	10/16/2015	18:00	LB78334

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Arsenic	976.37	999	97.7	95 - 105	P	10/16/2015	11:34	LB78335
	Barium	515.81	497	103.8	95 - 105	P	10/16/2015	11:34	LB78335
	Cadmium	490.9	496	99	95 - 105	P	10/16/2015	11:34	LB78335
	Chromium	488.4	490	99.7	95 - 105	P	10/16/2015	11:34	LB78335
	Lead	986.52	1002	98.5	95 - 105	P	10/16/2015	11:34	LB78335
	Selenium	1002.4	1029	97.4	95 - 105	P	10/16/2015	11:34	LB78335
	Silver	525.18	501	104.8	95 - 105	P	10/16/2015	11:34	LB78335

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Arsenic	18.23	20.0	91.2	70 - 130	P	10/16/2015	11:42	LB78335
	Barium	104.09	100	104.1	70 - 130	P	10/16/2015	11:42	LB78335
	Cadmium	5.79	6.0	96.5	70 - 130	P	10/16/2015	11:42	LB78335
	Chromium	9.72	10.0	97.2	70 - 130	P	10/16/2015	11:42	LB78335
	Lead	13.16	12.0	109.7	70 - 130	P	10/16/2015	11:42	LB78335
	Selenium	19.77	20.0	98.9	70 - 130	P	10/16/2015	11:42	LB78335
	Silver	9.55	10.0	95.5	70 - 130	P	10/16/2015	11:42	LB78335

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Arsenic	4993	5000	99.9	90 - 110	P	10/16/2015	12:03	LB78335
	Barium	10317	10000	103.2	90 - 110	P	10/16/2015	12:03	LB78335
	Cadmium	2504.7	2500	100.2	90 - 110	P	10/16/2015	12:03	LB78335
	Chromium	985.51	1000	98.6	90 - 110	P	10/16/2015	12:03	LB78335
	Lead	4936.8	5000	98.7	90 - 110	P	10/16/2015	12:03	LB78335
	Selenium	5096.1	5000	101.9	90 - 110	P	10/16/2015	12:03	LB78335
	Silver	1232.9	1250	98.6	90 - 110	P	10/16/2015	12:03	LB78335

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV01	Arsenic	21.41	20.0	107.1	70 - 130	P	10/16/2015	12:07	LB78335
	Barium	105.56	100	105.6	70 - 130	P	10/16/2015	12:07	LB78335
	Cadmium	5.78	6.0	96.3	70 - 130	P	10/16/2015	12:07	LB78335
	Chromium	9.75	10.0	97.5	70 - 130	P	10/16/2015	12:07	LB78335
	Lead	11.93	12.0	99.4	70 - 130	P	10/16/2015	12:07	LB78335
	Selenium	21.91	20.0	109.6	70 - 130	P	10/16/2015	12:07	LB78335
	Silver	9.6	10.0	96	70 - 130	P	10/16/2015	12:07	LB78335

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Arsenic	5017.6	5000	100.4	90 - 110	P	10/16/2015	13:01	LB78335
	Barium	10477	10000	104.8	90 - 110	P	10/16/2015	13:01	LB78335
	Cadmium	2518	2500	100.7	90 - 110	P	10/16/2015	13:01	LB78335
	Chromium	989.01	1000	98.9	90 - 110	P	10/16/2015	13:01	LB78335
	Lead	4946.8	5000	98.9	90 - 110	P	10/16/2015	13:01	LB78335
	Selenium	5110.7	5000	102.2	90 - 110	P	10/16/2015	13:01	LB78335
	Silver	1238.8	1250	99.1	90 - 110	P	10/16/2015	13:01	LB78335
CCV03	Arsenic	5008.3	5000	100.2	90 - 110	P	10/16/2015	13:54	LB78335
	Barium	10269	10000	102.7	90 - 110	P	10/16/2015	13:54	LB78335
	Cadmium	2510.7	2500	100.4	90 - 110	P	10/16/2015	13:54	LB78335
	Chromium	993.75	1000	99.4	90 - 110	P	10/16/2015	13:54	LB78335
	Lead	4943.6	5000	98.9	90 - 110	P	10/16/2015	13:54	LB78335
	Selenium	5103	5000	102.1	90 - 110	P	10/16/2015	13:54	LB78335
	Silver	1243.9	1250	99.5	90 - 110	P	10/16/2015	13:54	LB78335

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV02	Arsenic	17.19	20.0	86	70 - 130	P	10/16/2015	13:58	LB78335
	Barium	107.39	100	107.4	70 - 130	P	10/16/2015	13:58	LB78335
	Cadmium	5.86	6.0	97.7	70 - 130	P	10/16/2015	13:58	LB78335
	Chromium	9.86	10.0	98.6	70 - 130	P	10/16/2015	13:58	LB78335
	Lead	10.46	12.0	87.2	70 - 130	P	10/16/2015	13:58	LB78335
	Selenium	23.67	20.0	118.4	70 - 130	P	10/16/2015	13:58	LB78335
	Silver	9.67	10.0	96.7	70 - 130	P	10/16/2015	13:58	LB78335

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Arsenic	5046.9	5000	100.9	90 - 110	P	10/16/2015	14:54	LB78335
	Barium	10441	10000	104.4	90 - 110	P	10/16/2015	14:54	LB78335
	Cadmium	2519.1	2500	100.8	90 - 110	P	10/16/2015	14:54	LB78335
	Chromium	985.85	1000	98.6	90 - 110	P	10/16/2015	14:54	LB78335
	Lead	4946.2	5000	98.9	90 - 110	P	10/16/2015	14:54	LB78335
	Selenium	5166.8	5000	103.3	90 - 110	P	10/16/2015	14:54	LB78335
	Silver	1236.5	1250	98.9	90 - 110	P	10/16/2015	14:54	LB78335
CCV05	Arsenic	5088.3	5000	101.8	90 - 110	P	10/16/2015	15:44	LB78335
	Barium	10416	10000	104.2	90 - 110	P	10/16/2015	15:44	LB78335
	Cadmium	2556	2500	102.2	90 - 110	P	10/16/2015	15:44	LB78335
	Chromium	1002.4	1000	100.2	90 - 110	P	10/16/2015	15:44	LB78335
	Lead	5012.3	5000	100.2	90 - 110	P	10/16/2015	15:44	LB78335
	Selenium	5221.8	5000	104.4	90 - 110	P	10/16/2015	15:44	LB78335
	Silver	1257.9	1250	100.6	90 - 110	P	10/16/2015	15:44	LB78335

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV03	Arsenic	17.61	20.0	88.1	70 - 130	P	10/16/2015	15:48	LB78335
	Barium	109.55	100	109.6	70 - 130	P	10/16/2015	15:48	LB78335
	Cadmium	5.91	6.0	98.5	70 - 130	P	10/16/2015	15:48	LB78335
	Chromium	9.64	10.0	96.4	70 - 130	P	10/16/2015	15:48	LB78335
	Lead	12.11	12.0	100.9	70 - 130	P	10/16/2015	15:48	LB78335
	Selenium	23.39	20.0	117	70 - 130	P	10/16/2015	15:48	LB78335
	Silver	9.71	10.0	97.1	70 - 130	P	10/16/2015	15:48	LB78335

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV06	Arsenic	5121.8	5000	102.4	90 - 110	P	10/16/2015	16:38	LB78335
	Barium	10681	10000	106.8	90 - 110	P	10/16/2015	16:38	LB78335
	Cadmium	2592	2500	103.7	90 - 110	P	10/16/2015	16:38	LB78335
	Chromium	1006.8	1000	100.7	90 - 110	P	10/16/2015	16:38	LB78335
	Lead	5069.7	5000	101.4	90 - 110	P	10/16/2015	16:38	LB78335
	Selenium	5280.8	5000	105.6	90 - 110	P	10/16/2015	16:38	LB78335
	Silver	1266.5	1250	101.3	90 - 110	P	10/16/2015	16:38	LB78335
CCV07	Arsenic	5153.1	5000	103.1	90 - 110	P	10/16/2015	17:19	LB78335
	Barium	10363	10000	103.6	90 - 110	P	10/16/2015	17:19	LB78335
	Cadmium	2590.3	2500	103.6	90 - 110	P	10/16/2015	17:19	LB78335
	Chromium	1006.2	1000	100.6	90 - 110	P	10/16/2015	17:19	LB78335
	Lead	5077.7	5000	101.6	90 - 110	P	10/16/2015	17:19	LB78335
	Selenium	5310.1	5000	106.2	90 - 110	P	10/16/2015	17:19	LB78335
	Silver	1268.1	1250	101.4	90 - 110	P	10/16/2015	17:19	LB78335

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV04	Arsenic	19.15	20.0	95.8	70 - 130	P	10/16/2015	17:23	LB78335
	Barium	108.28	100	108.3	70 - 130	P	10/16/2015	17:23	LB78335
	Cadmium	5.85	6.0	97.5	70 - 130	P	10/16/2015	17:23	LB78335
	Chromium	9.7	10.0	97	70 - 130	P	10/16/2015	17:23	LB78335
	Lead	12.49	12.0	104.1	70 - 130	P	10/16/2015	17:23	LB78335
	Selenium	19.17	20.0	95.9	70 - 130	P	10/16/2015	17:23	LB78335
	Silver	9.35	10.0	93.5	70 - 130	P	10/16/2015	17:23	LB78335

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Arsenic	17.23	20.0	86.2	40 - 160	P	10/16/2015	11:50	LB78335
	Barium	104.33	100	104.3	40 - 160	P	10/16/2015	11:50	LB78335
	Cadmium	5.78	6.0	96.3	40 - 160	P	10/16/2015	11:50	LB78335
	Chromium	9.65	10.0	96.5	40 - 160	P	10/16/2015	11:50	LB78335
	Lead	11.82	12.0	98.5	40 - 160	P	10/16/2015	11:50	LB78335
	Selenium	21.81	20.0	109.1	40 - 160	P	10/16/2015	11:50	LB78335
	Silver	9.67	10.0	96.7	40 - 160	P	10/16/2015	11:50	LB78335
CRA	Mercury	0.2425	0.2	121.3	40 - 160	CV	10/16/2015	16:31	LB78334

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INTERFERENCE CHECK SAMPLE

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Arsenic	9.29			-20	20	10/16/2015	11:54	LB78335
	Barium	7.9	6.0	131.7	-94	106	10/16/2015	11:54	LB78335
	Cadmium	0.62	1.0	62	-5	7	10/16/2015	11:54	LB78335
	Chromium	55.1	52.0	106	42	62	10/16/2015	11:54	LB78335
	Lead	-2.53			-12	12	10/16/2015	11:54	LB78335
	Selenium	-0.36			-20	20	10/16/2015	11:54	LB78335
	Silver	4.76			-10	10	10/16/2015	11:54	LB78335
ICSAB01	Arsenic	115	104	110.6	83	125	10/16/2015	11:59	LB78335
	Barium	560	537	104.3	337	737	10/16/2015	11:59	LB78335
	Cadmium	1040	972	107	778	1166	10/16/2015	11:59	LB78335
	Chromium	551	542	101.7	434	650	10/16/2015	11:59	LB78335
	Lead	49.7	49.0	101.4	39	59	10/16/2015	11:59	LB78335
	Selenium	50.8	46.0	110.4	11	81	10/16/2015	11:59	LB78335
	Silver	188	201	93.5	161	241	10/16/2015	11:59	LB78335

METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: Sea Coast Environmental Services, Inc. **level:** low **sdg no.:** G4046

contract: SEAC01 **lab code:** CHEM **case no.:** G4046 **sas no.:** G4046

matrix: Solid **sample id:** G4051-01 **client id:** TK1-1-20151015MS

Percent Solids for Sample: 87 **Spiked ID:** G4051-02 **Percent Solids for Spike Sample:** 87

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/Kg	75 - 125	40.9		5.74		37.4	94		P
Barium	mg/Kg	75 - 125	1000		819		9.3	1946		P
Cadmium	mg/Kg	75 - 125	11.8		1.09		9.3	115		P
Chromium	mg/Kg	75 - 125	28.6		12.8		18.7	84		P
Lead	mg/Kg	75 - 125	740		698		46.7	90		P
Mercury	mg/Kg	75 - 125	0.714		0.501		0.29	73	N	CV
Selenium	mg/Kg	75 - 125	83.8		0.934	U	93.4	89.7		P
Silver	mg/Kg	75 - 125	3.96		0.859		3.5	89		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: Sea Coast Environmental Services, Inc. **level:** low **sdg no.:** G4046

contract: SEAC01 **lab code:** CHEM **case no.:** G4046 **sas no.:** G4046

matrix: Solid **sample id:** G4051-01 **client id:** TK1-1-20151015MSD

Percent Solids for Sample: 87 **Spiked ID:** G4051-03 **Percent Solids for Spike Sample:** 87

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/Kg	75 - 125	41.3		5.74		37.2	96		P
Barium	mg/Kg	75 - 125	1010		819		9.3	2054		P
Cadmium	mg/Kg	75 - 125	11.9		1.09		9.3	116		P
Chromium	mg/Kg	75 - 125	28.8		12.8		18.6	86		P
Lead	mg/Kg	75 - 125	751		698		46.5	114		P
Mercury	mg/Kg	75 - 125	0.74		0.501		0.3	80		CV
Selenium	mg/Kg	75 - 125	85.5		0.934	U	93.1	91.8		P
Silver	mg/Kg	75 - 125	4.02		0.859		3.5	90		P

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Metals
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POST DIGEST SPIKE SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Matrix: Solid **Level:** LOW **Client ID:** TK1-1-20151015A

Sample ID: G4051-01 **Spiked ID:** G4051-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	75 - 125	0.73		0.501		0.3	76		CV

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Sea Coast Environmental Services, Inc. **Level:** LOW **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Matrix: Solid **Sample ID:** G4051-01 **Client ID:** TK1-1-20151015DUP

Percent Solids for Sample: 87 **Duplicate ID** G4051-01DUP **Percent Solids for Spike Sample:** 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/Kg	20	5.74		5.68		1		P
Barium	mg/Kg	20	819		803		2		P
Cadmium	mg/Kg	20	1.09		1.03		6		P
Chromium	mg/Kg	20	12.8		12.5		2		P
Lead	mg/Kg	20	698		685		2		P
Mercury	mg/Kg	20	0.501		0.519		4		CV
Selenium	mg/Kg	20	0.934	U	0.938	U			P
Silver	mg/Kg	20	0.859		0.874		2		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Sea Coast Environmental Services, Inc. **Level:** LOW **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Matrix: Solid **Sample ID:** G4051-02 **Client ID:** TK1-1-20151015MSD

Percent Solids for Sample: 87 **Duplicate ID** G4051-03 **Percent Solids for Spike Sample:** 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/Kg	20	40.9		41.3		1		P
Barium	mg/Kg	20	1000		1010		1		P
Cadmium	mg/Kg	20	11.8		11.9		1		P
Chromium	mg/Kg	20	28.6		28.8		1		P
Lead	mg/Kg	20	740		751		1		P
Mercury	mg/Kg	20	0.714		0.74		4		CV
Selenium	mg/Kg	20	83.8		85.5		2		P
Silver	mg/Kg	20	3.96		4.02		2		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB86133BS							
Mercury	mg/Kg	0.26	0.231		88.8	70 - 130	CV

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB86135BS							
Arsenic	mg/Kg	40.0	37		92.5	70 - 130	P
Barium	mg/Kg	10.0	10.5		105	70 - 130	P
Cadmium	mg/Kg	10.0	9.33		93.3	70 - 130	P
Chromium	mg/Kg	20.0	19		95	70 - 130	P
Lead	mg/Kg	50.0	46.5		93	70 - 130	P
Selenium	mg/Kg	100	95		95	70 - 130	P
Silver	mg/Kg	3.8	3.21		84.5	70 - 130	P

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

TK1-1-20151015L

Lab Name: Chemtech Consulting Group **Contract:** SEAC01

Lab Code: CHEM **Lb No.:** lb78335 **Lab Sample ID :** G4051-01L **SDG No.:** G4046

Matrix (soil/water): Solid **Level (low/med):** LOW

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	5.74		6.79		18		P
Barium	819		961		17		P
Cadmium	1.09		0.939	J	14		P
Chromium	12.8		15.3		20		P
Lead	698		696		0		P
Mercury	0.501		0.439		12		CV
Selenium	0.934	U	2.55	J	100.0		P
Silver	0.859		0.759	J	12		P

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metals
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ANALYSIS RUN LOG

Client: Sea Coast Environmental Services, Inc. **Contract:** SEAC01

Lab code: CHEM **Case no.:** G4046 **Sas no.:** G4046 **Sdg no.:** G4046

Instrument id number: **Method:** **Run number:** LB78334

Start date: 10/16/2015 **End date:** 10/16/2015

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1603	HG
S0.2	S0.2	1	1605	HG
S2.5	S2.5	1	1608	HG
S5	S5	1	1610	HG
S7.5	S7.5	1	1612	HG
S10	S10	1	1614	HG
ICV14	ICV14	1	1617	HG
ICB14	ICB14	1	1620	HG
CCV46	CCV46	1	1622	HG
CCB46	CCB46	1	1624	HG
CRA	CRA	1	1631	HG
PB86133BL	PB86133BL	1	1638	HG
PB86133BS	PB86133BS	1	1641	HG
CCV47	CCV47	1	1654	HG
CCB47	CCB47	1	1657	HG
G4046-01	GOODLUCK902	1	1701	HG
G4046-02	GOODLUCK58	1	1704	HG
G4046-04	MANAHAWKEN112	1	1706	HG
G4051-01DUP	TK1-1-20151015DUP	1	1713	HG
G4051-02	TK1-1-20151015MS	1	1720	HG
G4051-03	TK1-1-20151015MSD	1	1731	HG
CCV48	CCV48	1	1738	HG
CCB48	CCB48	1	1741	HG
G4051-01L	TK1-1-20151015L	5	1752	HG
G4051-01A	TK1-1-20151015A	1	1757	HG
CCV49	CCV49	1	1800	HG
CCB49	CCB49	1	1802	HG

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ANALYSIS RUN LOG

Client: Sea Coast Environmental Services, Inc. **Contract:** SEAC01

Lab code: CHEM **Case no.:** G4046 **Sas no.:** G4046 **Sdg no.:** G4046

Instrument id number: **Method:** **Run number:** LB78335

Start date: 10/16/2015 **End date:** 10/16/2015

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1051	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1056	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1100	,
S3	S3	1	1104	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1108	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1112	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1134	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1142	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1146	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1150	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1154	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1159	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1203	Ag,As,Ba,Cd,Cr,Pb,Se
LLCCV01	LLCCV01	1	1207	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1211	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1301	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1305	Ag,As,Ba,Cd,Cr,Pb,Se
PB86135BL	PB86135BL	1	1338	Ag,As,Ba,Cd,Cr,Pb,Se
PB86135BS	PB86135BS	1	1346	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1354	Ag,As,Ba,Cd,Cr,Pb,Se
LLCCV02	LLCCV02	1	1358	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1403	Ag,As,Ba,Cd,Cr,Pb,Se
G4051-01DUP	TK1-1-20151015DUP	1	1407	Ag,As,Ba,Cd,Cr,Pb,Se
G4051-01L	TK1-1-20151015L	5	1415	Ag,As,Ba,Cd,Cr,Pb,Se
G4051-02	TK1-1-20151015MS	1	1419	Ag,As,Ba,Cd,Cr,Pb,Se
G4051-03	TK1-1-20151015MSD	1	1424	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1454	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1458	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1544	Ag,As,Ba,Cd,Cr,Pb,Se
LLCCV03	LLCCV03	1	1548	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1552	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1638	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1642	Ag,As,Ba,Cd,Cr,Pb,Se
G4046-01	GOODLUCK902	1	1706	Ag,As,Ba,Cd,Cr,Pb,Se
G4046-02	GOODLUCK58	1	1710	Ag,As,Ba,Cd,Cr,Pb,Se
G4046-04	MANAHAWKEN112	1	1715	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1719	Ag,As,Ba,Cd,Cr,Pb,Se
LLCCV04	LLCCV04	1	1723	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1727	Ag,As,Ba,Cd,Cr,Pb,Se

METAL PREPARATION & INSTRUMENT DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals

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Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: P4 **Preparation Method:**

Analyte	Wave- length (nm)	MDL	LOD	PQL	Date:
SOLIDS					
Method:	**6010B**				
Arsenic	189.04	0.25	0.25	1	
Barium	493.41	0.4	1.25	5	
Cadmium	226.50	0.06	0.075	0.3	
Chromium	267.72	0.125	0.125	0.5	
Lead	220.35	0.12	0.25	0.6	
Selenium	196.02	0.25	0.25	1	
Silver	328.07	0.125	0.125	0.5	

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Metals

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Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: CV1 **Preparation Method:**

Analyte	Wave- length (nm)	MDL	LOD	PQL	Date:
SOLIDS					
Method: **7471A**					
Mercury	253.70	0.005	0.005	0.01	

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Arsenic	193.759	0.0000000	0.0000000	-0.0001030	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000840	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0001070	0.0000000	0.0000280	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001280	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001170	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0002660
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Arsenic	193.759	-0.0011220	0.0000000	0.0000000	0.0000000	0.0015300
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000600
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0002280	0.0000000
Lead	220.353	-0.0003060	0.0000000	0.0000000	0.0001250	-0.0013650
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0006680	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0000930	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0002444	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	-0.0040370	0.0000000

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Metals

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LINEAR RANGES

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Case No.:** G4046 **SAS No.:** G4046

Instrument ID: P4 **Date:** 02/20/2015

Analyte	Integration Time (sec)	LDR ug/L
Arsenic	10	90000
Barium	10	100000
Cadmium	10	10000
Chromium	10	85000
Lead	10	280000
Selenium	10	45000
Silver	10	8500

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LAB CHRONICLE

OrderID:	G4046	**OrderDate:**	10/15/2015 11:06:06 AM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4046-01	**GOODLUCK902**	**SOIL**			**10/14/15**			**10/14/15**
			Mercury	7471A		10/16/15	10/16/15	
			Metals ICP-RCRA	6010B		10/16/15	10/16/15	
G4046-02	**GOODLUCK58**	**SOIL**			**10/14/15**			**10/14/15**
			Mercury	7471A		10/16/15	10/16/15	
			Metals ICP-RCRA	6010B		10/16/15	10/16/15	
G4046-04	**MANAHAWKEN112**	**SOIL**			**10/14/15**			**10/14/15**
			Mercury	7471A		10/16/15	10/16/15	
			Metals ICP-RCRA	6010B		10/16/15	10/16/15	

METAL PREPARATION & ANALYICAL SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals
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SAMPLE PREPARATION SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Method:**

Case No.: G4046 **SAS No.:** G4046

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB86133**						
G4046-01	GOODLUCK902	SAM	SOLID	10/16/2015	0.57	35.0	100.00
G4046-02	GOODLUCK58	SAM	SOLID	10/16/2015	0.56	35.0	100.00
G4046-04	MANAHAWKEN112	SAM	SOLID	10/16/2015	0.52	35.0	100.00
G4051-01DUP	TK1-1-20151015DUP	DUP	SOLID	10/16/2015	0.52	35.0	87.00
G4051-02	TK1-1-20151015MS	MS	SOLID	10/16/2015	0.55	35.0	87.00
G4051-03	TK1-1-20151015MSD	MSD	SOLID	10/16/2015	0.54	35.0	87.00
PB86133BL	PB86133BL	MB	SOLID	10/16/2015	0.51	35.0	100.00
PB86133BS	PB86133BS	LCS	SOLID	10/16/2015	0.54	35.0	100.00

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Metals
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SAMPLE PREPARATION SUMMARY

Client: Sea Coast Environmental Services, Inc. **SDG No.:** G4046

Contract: SEAC01 **Lab Code:** CHEM **Method:**

Case No.: G4046 **SAS No.:** G4046

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB86135**						
G4046-01	GOODLUCK902	SAM	SOLID	10/16/2015	2.42	100.0	100.00
G4046-02	GOODLUCK58	SAM	SOLID	10/16/2015	2.41	100.0	100.00
G4046-04	MANAHAWKEN112	SAM	SOLID	10/16/2015	2.34	100.0	100.00
G4051-01DUP	TK1-1-20151015DUP	DUP	SOLID	10/16/2015	2.45	100.0	87.00
G4051-02	TK1-1-20151015MS	MS	SOLID	10/16/2015	2.46	100.0	87.00
G4051-03	TK1-1-20151015MSD	MSD	SOLID	10/16/2015	2.47	100.0	87.00
PB86135BL	PB86135BL	MB	SOLID	10/16/2015	2.00	100.0	100.00
PB86135BS	PB86135BS	LCS	SOLID	10/16/2015	2.00	100.0	100.00

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Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB78334

Review By mohan Review On 10/19/2015 12:58:17 PM

STD. NAME	STD REF.#
ICAL Standard	MP30252,MP30253,MP30254,MP30255,MP30256,MP30257,MP30258
ICV Standard	MP30259
CCV Standard	MP30261
ICSA Standard	
CRI Standard	MP30263
Chk Standard	MP30260,MP30262,MP30264,MP30250

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	S0	S0	CAL	10/16/15 16:03		OK
2	S0.2	S0.2	CAL	10/16/15 16:05		OK
3	S2.5	S2.5	CAL	10/16/15 16:08		OK
4	S5	S5	CAL	10/16/15 16:10		OK
5	S7.5	S7.5	CAL	10/16/15 16:12		OK
6	S10	S10	CAL	10/16/15 16:14		OK
7	ICV14	ICV14	ICV	10/16/15 16:17		OK
8	ICB14	ICB14	ICB	10/16/15 16:20		OK
9	CCV46	CCV46	CCV	10/16/15 16:22		OK
10	CCB46	CCB46	CCB	10/16/15 16:24		OK
11	CRA	CRA	CRDL	10/16/15 16:31		OK
12	HighStd	HighStd	HIGH STD	10/16/15 16:34		OK
13	ChkStd	ChkStd	SAM	10/16/15 16:36		OK
14	PB86133BL	PB86133BL	MB	10/16/15 16:38		OK
15	PB86133BS	PB86133BS	LCS	10/16/15 16:41		OK
16	G4034-01	CWC-1-20151014	SAM	10/16/15 16:43		OK
17	G4040-01	IM-MLA-2.5-03	SAM	10/16/15 16:45		OK
18	G4040-02	IM-MLA-2.5-04	SAM	10/16/15 16:47		OK
19	G4040-03	IM-MLA-2.5-05	SAM	10/16/15 16:50		OK
20	G4040-04	IM-MLA-1.5-05	SAM	10/16/15 16:52		OK
21	CCV47	CCV47	CCV	10/16/15 16:54		OK

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB78334

Review By	mohan	Review On	10/19/2015 12:58:17 PM

STD. NAME	STD REF.#
ICAL Standard	MP30252,MP30253,MP30254,MP30255,MP30256,MP30257,MP30258
ICV Standard	MP30259
CCV Standard	MP30261
ICSA Standard	
CRI Standard	MP30263
Chk Standard	MP30260,MP30262,MP30264,MP30250

22	CCB47	CCB47	CCB	10/16/15 16:57		OK
23	G4040-05	IM-MLA-DGA-03	SAM	10/16/15 16:59		OK
24	G4046-01	GOODLUCK902	SAM	10/16/15 17:01		OK
25	G4046-02	GOODLUCK58	SAM	10/16/15 17:04		OK
26	G4046-04	MANAHAWKEN112	SAM	10/16/15 17:06		OK
27	G4051-01	TK1-1-20151015	SAM	10/16/15 17:08		OK
28	G4051-01DUP	TK1-1-20151015DUP	DUP	10/16/15 17:13		OK
29	G4051-02	TK1-1-20151015MS	MS	10/16/15 17:20		OK
30	G4051-03	TK1-1-20151015MSD	MSD	10/16/15 17:31		OK
31	G4051-04	TK1-3-20151015	SAM	10/16/15 17:34		OK
32	G4051-05	TK1-4-20151015	SAM	10/16/15 17:36		OK
33	CCV48	CCV48	CCV	10/16/15 17:38		OK
34	CCB48	CCB48	CCB	10/16/15 17:41		OK
35	G4051-06	TK1-6-20151015	SAM	10/16/15 17:43		OK
36	G4051-07	TK1-2-20151015	SAM	10/16/15 17:45		OK
37	G4051-08	TK1-DUP-20151015	SAM	10/16/15 17:48		OK
38	G4051-09	TK1-5-20151015	SAM	10/16/15 17:50		OK
39	G4051-01L	TK1-1-20151015L	SD	10/16/15 17:52		OK
40	G4051-01A	TK1-1-20151015A	PS	10/16/15 17:57		OK
41	CCV49	CCV49	CCV	10/16/15 18:00		OK
42	CCB49	CCB49	CCB	10/16/15 18:02		OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB78335

Review By BIN Review On 10/19/2015 10:24:24 AM

STD. NAME	STD REF.#
ICAL Standard	MP29999,MP29995,MP29996,MP29997,MP29998,MP29947
ICV Standard	MP29945,MP29994
CCV Standard	MP29993
ICSA Standard	MP29943,MP29944
CRI Standard	
Chk Standard	MP29941,MP29942

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	S0	S0	CAL	10/16/15 10:51		OK
2	S1	S1	CAL	10/16/15 10:56		OK
3	S2	S2	CAL	10/16/15 11:00		OK
4	S3	S3	CAL	10/16/15 11:04		OK
5	S4	S4	CAL	10/16/15 11:08		OK
6	S5	S5	CAL	10/16/15 11:12		OK
7	ICV01	ICV01	ICV	10/16/15 11:34		OK
8	LLICV01	LLICV01	LLICV	10/16/15 11:42		OK
9	ICB01	ICB01	ICB	10/16/15 11:46		OK
10	CRI01	CRI01	CRDL	10/16/15 11:50		OK
11	ICSA01	ICSA01	ICSA	10/16/15 11:54		OK
12	ICSAB01	ICSAB01	ICSAB	10/16/15 11:59		OK
13	CCV01	CCV01	CCV	10/16/15 12:03		OK
14	LLCCV01	LLCCV01	LLCCV	10/16/15 12:07		OK
15	CCB01	CCB01	CCB	10/16/15 12:11		OK
16	PBW 200.7	PBW 200.7	MB	10/16/15 12:15		OK
17	200.7 IDOC-1	200.7 IDOC-1	LCS	10/16/15 12:25		OK
18	200.7 IDOC-2	200.7 IDOC-2	LCS	10/16/15 12:28		OK
19	200.7 IDOC-3	200.7 IDOC-3	LCS	10/16/15 12:32		OK
20	200.7 IDOC-4	200.7 IDOC-4	LCS	10/16/15 12:36		OK
21	PBW 6010	PBW 6010	MB	10/16/15 12:40		OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB78335

Review By	BIN	Review On	10/19/2015 10:24:24 AM

STD. NAME	STD REF.#
ICAL Standard	MP29999,MP29995,MP29996,MP29997,MP29998,MP29947
ICV Standard	MP29945,MP29994
CCV Standard	MP29993
ICSA Standard	MP29943,MP29944
CRI Standard	
Chk Standard	MP29941,MP29942

22	6010 WATER IDOC-	6010 WATER IDOC-1	LCS	10/16/15 12:45		OK
23	6010 WATER IDOC-	6010 WATER IDOC-2	LCS	10/16/15 12:49		OK
24	6010 WATER IDOC-	6010 WATER IDOC-3	LCS	10/16/15 12:53		OK
25	6010 WATER IDOC-	6010 WATER IDOC-4	LCS	10/16/15 12:57		OK
26	CCV02	CCV02	CCV	10/16/15 13:01		OK
27	CCB02	CCB02	CCB	10/16/15 13:05		OK
28	PBS	PBS	MB	10/16/15 13:09		OK
29	6010 SOIL IDOC-1	6010 SOIL IDOC-1	LCS	10/16/15 13:13		OK
30	6010 SOIL IDOC-2	6010 SOIL IDOC-2	LCS	10/16/15 13:17		OK
31	6010 SOIL IDOC-3	6010 SOIL IDOC-3	LCS	10/16/15 13:21		OK
32	6010 SOIL IDOC-4	6010 SOIL IDOC-4	LCS	10/16/15 13:25		OK
33	G4005-02RE2	UST-3RE	SAM	10/16/15 13:29		OK
34	G4005-05	UST-3	SAM	10/16/15 13:33		OK
35	PB86135BL	PB86135BL	MB	10/16/15 13:38		OK
36	PB86135BS	PB86135BS	LCS	10/16/15 13:46		OK
37	G4051-01	TK1-1-20151015	SAM	10/16/15 13:50		OK
38	CCV03	CCV03	CCV	10/16/15 13:54		OK
39	LLCCV02	LLCCV02	LLCCV	10/16/15 13:58		OK
40	CCB03	CCB03	CCB	10/16/15 14:03		OK
41	G4051-01DUP	TK1-1-20151015DUP	DUP	10/16/15 14:07		OK
42	G4051-01L	TK1-1-20151015L	SD	10/16/15 14:15		OK
43	G4051-02	TK1-1-20151015MS	MS	10/16/15 14:19		OK
44	G4051-03	TK1-1-20151015MSD	MSD	10/16/15 14:24		OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB78335

Review By	BIN	Review On	10/19/2015 10:24:24 AM

STD. NAME	STD REF.#
ICAL Standard	MP29999,MP29995,MP29996,MP29997,MP29998,MP29947
ICV Standard	MP29945,MP29994
CCV Standard	MP29993
ICSA Standard	MP29943,MP29944
CRI Standard	
Chk Standard	MP29941,MP29942

45	G4051-01A	TK1-1-20151015A	PS	10/16/15 14:28		OK
46	G4051-04	TK1-3-20151015	SAM	10/16/15 14:32		OK
47	G4051-05	TK1-4-20151015	SAM	10/16/15 14:36		OK
48	G4051-06	TK1-6-20151015	SAM	10/16/15 14:41		OK
49	G4051-07	TK1-2-20151015	SAM	10/16/15 14:45		OK
50	G4051-08	TK1-DUP-20151015	SAM	10/16/15 14:49		OK
51	CCV04	CCV04	CCV	10/16/15 14:54		OK
52	CCB04	CCB04	CCB	10/16/15 14:58		OK
53	G4051-09	TK1-5-20151015	SAM	10/16/15 15:02		OK
54	G4051-10	FB1-20151015	SAM	10/16/15 15:06	NOt ok	Not Ok
55	PB86134BL	PB86134BL	MB	10/16/15 15:11		OK
56	PB86134BS	PB86134BS	LCS	10/16/15 15:15		OK
57	G4048-01	001MWPB	SAM	10/16/15 15:19		OK
58	G4048-02	002M35THAVE	SAM	10/16/15 15:23		OK
59	G4012-01	POOL-WATER	SAM	10/16/15 15:27		OK
60	G4012-01DUP	POOL-WATERDUP	DUP	10/16/15 15:31		OK
61	G4012-01L	POOL-WATERL	SD	10/16/15 15:35		OK
62	G4012-01MS	POOL-WATERMS	MS	10/16/15 15:40		OK
63	CCV05	CCV05	CCV	10/16/15 15:44		OK
64	LLCCV03	LLCCV03	LLCCV	10/16/15 15:48		OK
65	CCB05	CCB05	CCB	10/16/15 15:52		OK
66	G4012-01MSD	POOL-WATERMSD	MSD	10/16/15 15:56		OK
67	G4012-01A	POOL-WATERA	PS	10/16/15 16:00		OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB78335

Review By	BIN	Review On	10/19/2015 10:24:24 AM

STD. NAME	STD REF.#
ICAL Standard	MP29999,MP29995,MP29996,MP29997,MP29998,MP29947
ICV Standard	MP29945,MP29994
CCV Standard	MP29993
ICSA Standard	MP29943,MP29944
CRI Standard	
Chk Standard	MP29941,MP29942

68	G4047-02	EFFWW	SAM	10/16/15 16:04		OK
69	G4009-01	KW-1	SAM	10/16/15 16:08		OK
70	G4009-02	KW-2	SAM	10/16/15 16:12		OK
71	G4009-03	KW-3	SAM	10/16/15 16:17		OK
72	G4034-01	CWC-1-20151014	SAM	10/16/15 16:21		OK
73	G4055-01	CELL-A-POOLWATE	SAM	10/16/15 16:25		OK
74	G4055-02	CELL-B-C-POOLWAT	SAM	10/16/15 16:29		OK
75	G4055-03	CELL-D-POOLWATE	SAM	10/16/15 16:33		OK
76	CCV06	CCV06	CCV	10/16/15 16:38		OK
77	CCB06	CCB06	CCB	10/16/15 16:42		OK
78	G4040-01	IM-MLA-2.5-03	SAM	10/16/15 16:46		OK
79	G4040-02	IM-MLA-2.5-04	SAM	10/16/15 16:50		OK
80	G4040-03	IM-MLA-2.5-05	SAM	10/16/15 16:54		OK
81	G4040-04	IM-MLA-1.5-05	SAM	10/16/15 16:58		OK
82	G4040-05	IM-MLA-DGA-03	SAM	10/16/15 17:02		OK
83	G4046-01	GOODLUCK902	SAM	10/16/15 17:06		OK
84	G4046-02	GOODLUCK58	SAM	10/16/15 17:10		OK
85	G4046-04	MANAHAWKEN112	SAM	10/16/15 17:15		OK
86	CCV07	CCV07	CCV	10/16/15 17:19		OK
87	LLCCV04	LLCCV04	LLCCV	10/16/15 17:23		OK
88	CCB07	CCB07	CCB	10/16/15 17:27		OK

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. G4046
QUOTE NO.
COC Number 036046

CLIENT INFORMATION (REPORT TO BE SENT TO:)

COMPANY: SEACOAST ENV. SVCS, INC
ADDRESS: 37 LONDONBERRY DR
CITY: HOLMDEL STATE: NJ ZIP: 07733
ATTENTION: E.R. STREITER
PHONE: 732-275-1616 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: U.S. FISH & WILDLIFE
PROJECT NO.: LOCATION: BERKLEY TWP
PROJECT MANAGER: MANAHAWKEN, NJ
e-mail: STREITERSEACOAST@gmail.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: SEACOAST PO#:
ADDRESS: SAME
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: STD* DAYS *
HARD COPY: DAYS *
EDD: DAYS *
PREAPPROVED TAT: ☐ YES ☐ NO
* STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☐ LEVEL 1: Results only ☐ Others
☐ LEVEL 2: Results + QC
☐ LEVEL 3: Results (plus results raw data) + QC
☐ LEVEL 4: Results + QC (all raw data)
☐ EDD Format:

ANALYSIS

1 VOCMS GROUP 1
2 MERCURY ICP-METALS, PCB
3 HERBS, PESTS, SVOC, PCB
4 ASBESTOS
5 PCB
6 SVOC'S (CREOSOTE)
7
8
9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
								E	E	E	E	E	E				← Specify Preservatives A–HCl B–HNO_3 C–H_2SO_4 D–NaOH E–ICE F–Other
1.	GOOD LUCK 902	S	✓		10/14/15	11:30	3	✓	✓	✓							
2.	GOOD LUCK 58	S	✓		10/14/15	12:10	3	✓	✓	✓							
3.	GOOD LUCK INSULATION	S	✓		10/14/15	12:30	3				✓	✓	✓				
4.	MANAHAWKEN 112	S	✓		10/14/15	1:20	3	✓	✓	✓							
5.	MANAHAWKEN INSULATION	S	✓		10/14/15	1:45	3				✓	✓	✓				
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. ER Streiter	10/14/15 5:05	1.
RELINQUISHED BY: 2.	DATE/TIME: 10/14/15 5:05	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME:	RECEIVED FOR LAB BY: 3.

Conditions of bottles or coolers at receipt: ☒ Compliant ☐ Non Compliant
MeOH extraction requires an additional 4 oz jar for percent solid.
Comments: Asbestos is part of G4050

Cooler Temp. 5°C
Ice in Cooler?: Yes

Page 1 of 1

SHIPPED VIA: CLIENT: ☒ HAND DELIVERED ☐ OVERNIGHT
CHEMTECH: ☐ PICKED UP ☐ OVERNIGHT

Shipment Complete: ☒ YES ☐ NO

Revision 8/2007

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 284 Sheffield Street Mountainside NJ 07092 Tel. 908-7898900

Laboratory Certification

State	License No.
New Jersey	20012
New York	11376
Connecticut	PH-0649
Florida	E87935
Louisiana	5035
Maryland	296
Massachusetts	M-NJ503
Pennsylvania	68-548
Rhode Island	LAO00259
Virginia	460220
Texas	T10470448-10-1

Other :

DOD ELAP Certified (L-A-B Accredited), ISO/IEC 17025	L2219
Soil Permit	P330-11-00012
CLP Inorganic Contract	EPW09038
CLP Organic Contract	EPW11030

QA Control Code: A2070148

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID:	G4046 SEAC01	**Order Date:**	10/15/2015	**Project Mgr:**	snehal
Client Name:	Sea Coast Environmental Servic	**Project Name:**	U.S. Fish and Wildlife	**Report Type:**	Results Only
Client Contact:	Gene Streiter	**Rec DateTime**	10/14/2015 5:05:00 PM	**EDD:**	NONE
Invoice Name:	Sea Coast Environmental Servic	**Purchase Order:**		**Hard Copy Date:**	
Invoice Contact	Gene Streiter	**Login Tech:**	mayur	**Date Signoff:**	10/15/2015 3:11:26 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates
G4046-01	GOODLUCK902	Solid	10/14/2015	11:30	3	VOC-TCLVOA-10		8260C	Wood Chips	10 Bus. 0/28/2015	10/28/2
G4046-02	GOODLUCK58	Solid	10/14/2015	12:10	3	VOC-TCLVOA-10		8260C	Wood Chips	10 Bus. 0/28/2015	10/28/2
G4046-04	MANAHAWKEN112	Solid	10/14/2015	13:20	3	VOC-TCLVOA-10		8260C	Wood Chips	10 Bus. 0/28/2015	10/28/2

SAMPLE CONDITION RECORD

Are samples submitted with a chain of custody?	Yes
Are the number of samples the same as stated on the chain of custody?	Yes
Are bottle caps tight and securely in place?	Yes
Were all containers intact when received?	Yes
Were samples submitted in an ice chest?	Yes
Were samples received cold?	Yes
Were samples within the holding time for the requested test(s)?	Yes
Is the volume of sample submitted sufficient for the requested test(s)?	Yes
Are all samples for volatile organic analyses free of headspace?	NA

ORDER COMMENT

-----100% Solids, Report creosote as a TIC for SVOC MS Gorup 1

Relinguished By: [illegible]

Date / Time: 10-15-15 3:30

Received By: [illegible]

Date / Time: 10/15/15 3:30

Storage Area: VOA Refridgerator Room

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

DATA PACKAGE

VOLATILE ORGANICS
SEMI-VOLATILE ORGANICS

PROJECT NAME : U.S. FISH AND WILDLIFE

SEA COAST ENVIRONMENTAL SERVICES, INC.

37 Londonberry Drive

Holmdel, NJ - 07733-3100

Phone No: 732-275-1616

ORDER ID : G4423

ATTENTION : Gene Streiter

ACCREDITED IN ACCORDANCE WITH nelac

DoD ELAP

Table Of Contents for G4423

1) Signature Page	3	1
2) Case Narrative	4	2
2.1) TCLP VOA- Case Narrative	4	3
2.2) TCLP BNA- Case Narrative	5	4
3) Qualifier Page	7	5
4) QA Checklist	8	6
5) TCLP VOA Data	9	7
6) TCLP BNA Data	15	
7) Shipping Document	26	
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7.2) Lab Certificate	28	

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Cover Page

Order ID : G4423

Project ID : U.S. Fish and Wildlife

Client : Sea Coast Environmental Services, Inc.

Lab Sample Number	Client Sample Number
G4423-01	GOODLUCK 902
G4423-02	GOODLUCK 58
G4423-03	MANAHAWKEN 112

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : Mildred V Reyes

APPROVED

By Mildred V Reyes, QAQC Supervisor at 1:44 pm, Nov 20, 2015

Date: 11/20/2015

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

CHEMTECH
284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4423
Test Name: TCLP VOA

A. Number of Samples and Date of Receipt:
3 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: TCLP BNA, TCLP Extraction, TCLP VOA and TCLP ZHE Extraction. This data package contains results for TCLP VOA.

C. Analytical Techniques:
The analysis performed on instrument MSVOA_N were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.The analysis of TCLP VOA was based on method 8260B and TCLP extraction method was 1311.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.
Samples GOODLUCK 902, GOODLUCK 58 and MANAHAWKEN 112 were diluted due to bad matrices.

E. Additional Comments:
F. Manual Integration Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature__ Mildred V Reyes _

APPROVED
By Mildred V Reyes, QAQC Supervisor at 1:44 pm, Nov 20, 2015

CHEMTECH
284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Sea Coast Environmental Services, Inc.
Project Name: U.S. Fish and Wildlife
Project # N/A
Chemtech Project # G4423
Test Name: TCLP BNA

A. Number of Samples and Date of Receipt:
3 Solid samples were received on 10/14/2015.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: TCLP BNA, TCLP Extraction, TCLP VOA and TCLP ZHE Extraction. This data package contains results for TCLP BNA.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_F using GC Column RTX-5 which is 20 meters, 0.18 mm ID, 0.36 um dfThe analysis of TCLP BNA was based on method 8270D and extraction was done based on method 3510 and TCLP extraction method was 1311.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements except for GOODLUCK 58.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD {G4366-02MSD} with File ID: BF083001.D recoveries met the acceptable requirements except for Pentachlorophenol[17%] .
The RPD for {G4366-02MSD} with File ID: BF083001.D recoveries met criteria except for 2,4,5-Trichlorophenol[69%], 2,4,6-Trichlorophenol[71%], 2-Methylphenol[46%], 3+4-Methylphenols[45%] and Pentachlorophenol[126%] .
The Blank Spike met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration File ID BF082995.D met the requirements except for Pyridine .
The Continuous Calibration File ID BF083006.D met the requirements except for 2-Fluorobiphenyl .
The Tuning criteria met requirements.

E. Additional Comments:

CHEMTECH
284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

F. Manual Integration Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature___ Mildred V Reyes ___

APPROVED

By Mildred V Reyes, QAQC Supervisor at 1:43 pm, Nov 20, 2015

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

QA Control # A3040960

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **G4423**

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: **POONAM PATEL** **Date:** **11/20/2015**

2nd Level QA Review Signature: Mildred V Reyes **Date:**

APPROVED
By Mildred V Reyes, QAQC Supervisor at 1:43 pm, Nov 20, 2015

CHEMTECH

Hit Summary Sheet
SW-846

SDG No.: G4423

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units

Client ID:

Total Concentration:

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK 902	SDG No.:	G4423
Lab Sample ID:	G4423-01	Matrix:	TCLP
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN028797.D	5		11/17/15 18:54	VN111715

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-01-4	Vinyl Chloride	2.5	U	1.7	2.5	25	ug/L
75-35-4	1,1-Dichloroethene	2.5	U	2.4	2.5	25	ug/L
78-93-3	2-Butanone	12.5	U	6.6	12.5	130	ug/L
56-23-5	Carbon Tetrachloride	2.5	U	1	2.5	25	ug/L
67-66-3	Chloroform	2.5	U	1.7	2.5	25	ug/L
71-43-2	Benzene	2.5	U	1.6	2.5	25	ug/L
107-06-2	1,2-Dichloroethane	3.8	U	2.4	3.8	25	ug/L
79-01-6	Trichloroethene	2.5	U	1.4	2.5	25	ug/L
127-18-4	Tetrachloroethene	2.5	U	1.4	2.5	25	ug/L
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	44.9		61 - 141		90%	SPK: 50
1868-53-7	Dibromofluoromethane	46.3		69 - 133		93%	SPK: 50
2037-26-5	Toluene-d8	50.5		65 - 126		101%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.8		58 - 135		102%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1520730	7.75				
540-36-3	1,4-Difluorobenzene	2408780	8.68				
3114-55-4	Chlorobenzene-d5	2136210	11.52				
3855-82-1	1,4-Dichlorobenzene-d4	961618	13.47				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK 58	SDG No.:	G4423
Lab Sample ID:	G4423-02	Matrix:	TCLP
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN028796.D	5		11/17/15 18:27	VN111715

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-01-4	Vinyl Chloride	2.5	U	1.7	2.5	25	ug/L
75-35-4	1,1-Dichloroethene	2.5	U	2.4	2.5	25	ug/L
78-93-3	2-Butanone	12.5	U	6.6	12.5	130	ug/L
56-23-5	Carbon Tetrachloride	2.5	U	1	2.5	25	ug/L
67-66-3	Chloroform	2.5	U	1.7	2.5	25	ug/L
71-43-2	Benzene	2.5	U	1.6	2.5	25	ug/L
107-06-2	1,2-Dichloroethane	3.8	U	2.4	3.8	25	ug/L
79-01-6	Trichloroethene	2.5	U	1.4	2.5	25	ug/L
127-18-4	Tetrachloroethene	2.5	U	1.4	2.5	25	ug/L
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	44.1		61 - 141		88%	SPK: 50
1868-53-7	Dibromofluoromethane	45.6		69 - 133		91%	SPK: 50
2037-26-5	Toluene-d8	50.6		65 - 126		101%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.4		58 - 135		101%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1517090	7.75				
540-36-3	1,4-Difluorobenzene	2389800	8.68				
3114-55-4	Chlorobenzene-d5	2092310	11.52				
3855-82-1	1,4-Dichlorobenzene-d4	954046	13.47				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN 112	SDG No.:	G4423
Lab Sample ID:	G4423-03	Matrix:	TCLP
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	TCLP VOA
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN028791.D	5		11/17/15 16:09	VN111715

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-01-4	Vinyl Chloride	2.5	U	1.7	2.5	25	ug/L
75-35-4	1,1-Dichloroethene	2.5	U	2.4	2.5	25	ug/L
78-93-3	2-Butanone	12.5	U	6.6	12.5	130	ug/L
56-23-5	Carbon Tetrachloride	2.5	U	1	2.5	25	ug/L
67-66-3	Chloroform	2.5	U	1.7	2.5	25	ug/L
71-43-2	Benzene	2.5	U	1.6	2.5	25	ug/L
107-06-2	1,2-Dichloroethane	3.8	U	2.4	3.8	25	ug/L
79-01-6	Trichloroethene	2.5	U	1.4	2.5	25	ug/L
127-18-4	Tetrachloroethene	2.5	U	1.4	2.5	25	ug/L
108-90-7	Chlorobenzene	2.5	U	2.5	2.5	25	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	45.2		61 - 141		90%	SPK: 50
1868-53-7	Dibromofluoromethane	46.2		69 - 133		92%	SPK: 50
2037-26-5	Toluene-d8	50.3		65 - 126		101%	SPK: 50
460-00-4	4-Bromofluorobenzene	49.6		58 - 135		99%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1523280	7.75				
540-36-3	1,4-Difluorobenzene	2420990	8.68				
3114-55-4	Chlorobenzene-d5	2117600	11.52				
3855-82-1	1,4-Dichlorobenzene-d4	938388	13.47				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
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LAB CHRONICLE

OrderID:	G4423	**OrderDate:**	11/13/2015 12:50:00 PM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4423-01	**GOODLUCK 902**	**TCLP**			**10/14/15**			**10/14/15**
			TCLP VOA	8260B			11/17/15	
G4423-02	**GOODLUCK 58**	**TCLP**			**10/14/15**			**10/14/15**
			TCLP VOA	8260B			11/17/15	
G4423-03	**MANAHAWKEN 112**	**TCLP**			**10/14/15**			**10/14/15**
			TCLP VOA	8260B			11/17/15	

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Hit Summary Sheet
SW-846

SDG No.: G4423

Client: Sea Coast Environmental Services, Inc.

Sample ID	Client ID	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :								

Total Concentration:

SAMPLE DATA

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK 902	SDG No.:	G4423
Lab Sample ID:	G4423-01	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082996.D	1	11/16/15 18:44	11/18/15 05:55	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
110-86-1	Pyridine	10	U	10	10	100	ug/L
106-46-7	1,4-Dichlorobenzene	10	U	2	10	100	ug/L
95-48-7	2-Methylphenol	10	U	2.4	10	100	ug/L
65794-96-9	3+4-Methylphenols	10	U	3.8	10	100	ug/L
67-72-1	Hexachloroethane	10	U	2.5	10	100	ug/L
98-95-3	Nitrobenzene	10	U	6.8	10	100	ug/L
87-68-3	Hexachlorobutadiene	10	U	2.5	10	100	ug/L
88-06-2	2,4,6-Trichlorophenol	10	U	5.6	10	100	ug/L
95-95-4	2,4,5-Trichlorophenol	10	U	4	10	100	ug/L
121-14-2	2,4-Dinitrotoluene	10	U	10	10	100	ug/L
118-74-1	Hexachlorobenzene	10	U	1.8	10	100	ug/L
87-86-5	Pentachlorophenol	10	U	10	10	100	ug/L
SURROGATES							
367-12-4	2-Fluorophenol	110		10 - 130		74%	SPK: 150
13127-88-3	Phenol-d6	120		10 - 130		79%	SPK: 150
4165-60-0	Nitrobenzene-d5	88.7		36 - 131		89%	SPK: 100
321-60-8	2-Fluorobiphenyl	76		39 - 131		76%	SPK: 100
118-79-6	2,4,6-Tribromophenol	140		25 - 155		91%	SPK: 150
1718-51-0	Terphenyl-d14	69.6		23 - 130		70%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	160873	6.75				
1146-65-2	Naphthalene-d8	618533	8.04				
15067-26-2	Acenaphthene-d10	329394	9.79				
1517-22-2	Phenanthrene-d10	760222	11.28				
1719-03-5	Chrysene-d12	711983	13.91				
1520-96-3	Perylene-d12	455049	15.3				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK 902	SDG No.:	G4423
Lab Sample ID:	G4423-01	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082996.D	1	11/16/15 18:44	11/18/15 05:55	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK 58	SDG No.:	G4423
Lab Sample ID:	G4423-02	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082997.D	1	11/16/15 18:44	11/18/15 06:25	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
110-86-1	Pyridine	10	U	10	10	100	ug/L
106-46-7	1,4-Dichlorobenzene	10	U	2	10	100	ug/L
95-48-7	2-Methylphenol	10	U	2.4	10	100	ug/L
65794-96-9	3+4-Methylphenols	10	U	3.8	10	100	ug/L
67-72-1	Hexachloroethane	10	U	2.5	10	100	ug/L
98-95-3	Nitrobenzene	10	U	6.8	10	100	ug/L
87-68-3	Hexachlorobutadiene	10	U	2.5	10	100	ug/L
88-06-2	2,4,6-Trichlorophenol	10	U	5.6	10	100	ug/L
95-95-4	2,4,5-Trichlorophenol	10	U	4	10	100	ug/L
121-14-2	2,4-Dinitrotoluene	10	U	10	10	100	ug/L
118-74-1	Hexachlorobenzene	10	U	1.8	10	100	ug/L
87-86-5	Pentachlorophenol	10	U	10	10	100	ug/L
SURROGATES							
367-12-4	2-Fluorophenol	110		10 - 130		71%	SPK: 150
13127-88-3	Phenol-d6	110		10 - 130		74%	SPK: 150
4165-60-0	Nitrobenzene-d5	76.1		36 - 131		76%	SPK: 100
321-60-8	2-Fluorobiphenyl	72.3		39 - 131		72%	SPK: 100
118-79-6	2,4,6-Tribromophenol	98.1		25 - 155		65%	SPK: 150
1718-51-0	Terphenyl-d14	78.2		23 - 130		78%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	156332	6.75				
1146-65-2	Naphthalene-d8	642714	8.04				
15067-26-2	Acenaphthene-d10	319298	9.79				
1517-22-2	Phenanthrene-d10	559449	11.28				
1719-03-5	Chrysene-d12	508100	13.91				
1520-96-3	Perylene-d12	338970	15.3				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	GOODLUCK 58	SDG No.:	G4423
Lab Sample ID:	G4423-02	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082997.D	1	11/16/15 18:44	11/18/15 06:25	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN 112	SDG No.:	G4423
Lab Sample ID:	G4423-03	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082998.D	1	11/16/15 18:44	11/18/15 06:54	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
110-86-1	Pyridine	10	U	10	10	100	ug/L
106-46-7	1,4-Dichlorobenzene	10	U	2	10	100	ug/L
95-48-7	2-Methylphenol	10	U	2.4	10	100	ug/L
65794-96-9	3+4-Methylphenols	10	U	3.8	10	100	ug/L
67-72-1	Hexachloroethane	10	U	2.5	10	100	ug/L
98-95-3	Nitrobenzene	10	U	6.8	10	100	ug/L
87-68-3	Hexachlorobutadiene	10	U	2.5	10	100	ug/L
88-06-2	2,4,6-Trichlorophenol	10	U	5.6	10	100	ug/L
95-95-4	2,4,5-Trichlorophenol	10	U	4	10	100	ug/L
121-14-2	2,4-Dinitrotoluene	10	U	10	10	100	ug/L
118-74-1	Hexachlorobenzene	10	U	1.8	10	100	ug/L
87-86-5	Pentachlorophenol	10	U	10	10	100	ug/L
SURROGATES							
367-12-4	2-Fluorophenol	110		10 - 130		74%	SPK: 150
13127-88-3	Phenol-d6	110		10 - 130		75%	SPK: 150
4165-60-0	Nitrobenzene-d5	83.7		36 - 131		84%	SPK: 100
321-60-8	2-Fluorobiphenyl	76.8		39 - 131		77%	SPK: 100
118-79-6	2,4,6-Tribromophenol	110		25 - 155		76%	SPK: 150
1718-51-0	Terphenyl-d14	72.3		23 - 130		72%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	162290	6.75				
1146-65-2	Naphthalene-d8	658810	8.04				
15067-26-2	Acenaphthene-d10	429374	9.79				
1517-22-2	Phenanthrene-d10	823002	11.28				
1719-03-5	Chrysene-d12	731227	13.91				
1520-96-3	Perylene-d12	505230	15.3				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	10/14/15
Project:	U.S. Fish and Wildlife	Date Received:	10/14/15
Client Sample ID:	MANAHAWKEN 112	SDG No.:	G4423
Lab Sample ID:	G4423-03	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF082998.D	1	11/16/15 18:44	11/18/15 06:54	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	11/16/15
Project:	U.S. Fish and Wildlife	Date Received:	11/16/15
Client Sample ID:	PB86689TB	SDG No.:	G4423
Lab Sample ID:	PB86689TB	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF083014.D	1	11/16/15 18:44	11/18/15 17:04	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
110-86-1	Pyridine	10	U	10	10	100	ug/L
106-46-7	1,4-Dichlorobenzene	10	U	2	10	100	ug/L
95-48-7	2-Methylphenol	10	U	2.4	10	100	ug/L
65794-96-9	3+4-Methylphenols	10	U	3.8	10	100	ug/L
67-72-1	Hexachloroethane	10	U	2.5	10	100	ug/L
98-95-3	Nitrobenzene	10	U	6.8	10	100	ug/L
87-68-3	Hexachlorobutadiene	10	U	2.5	10	100	ug/L
88-06-2	2,4,6-Trichlorophenol	10	U	5.6	10	100	ug/L
95-95-4	2,4,5-Trichlorophenol	10	U	4	10	100	ug/L
121-14-2	2,4-Dinitrotoluene	10	U	10	10	100	ug/L
118-74-1	Hexachlorobenzene	10	U	1.8	10	100	ug/L
87-86-5	Pentachlorophenol	10	U	10	10	100	ug/L
SURROGATES							
367-12-4	2-Fluorophenol	120		10 - 130		77%	SPK: 150
13127-88-3	Phenol-d6	120		10 - 130		80%	SPK: 150
4165-60-0	Nitrobenzene-d5	49.4		36 - 131		49%	SPK: 100
321-60-8	2-Fluorobiphenyl	63.6		39 - 131		64%	SPK: 100
118-79-6	2,4,6-Tribromophenol	92.2		25 - 155		61%	SPK: 150
1718-51-0	Terphenyl-d14	68.4		23 - 130		68%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	148260	6.73				
1146-65-2	Naphthalene-d8	821369	8.02				
15067-26-2	Acenaphthene-d10	429555	9.77				
1517-22-2	Phenanthrene-d10	770345	11.24				
1719-03-5	Chrysene-d12	686561	13.87				
1520-96-3	Perylene-d12	522295	15.27				

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Report of Analysis

Client:	Sea Coast Environmental Services, Inc.	Date Collected:	11/16/15
Project:	U.S. Fish and Wildlife	Date Received:	11/16/15
Client Sample ID:	PB86689TB	SDG No.:	G4423
Lab Sample ID:	PB86689TB	Matrix:	TCLP
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	100 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	TCLP BNA
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF083014.D	1	11/16/15 18:44	11/18/15 17:04	PB86689

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
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J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
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D = Dilution
() = Laboratory InHouse Limit

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LAB CHRONICLE

OrderID:	G4423	**OrderDate:**	11/13/2015 12:50:00 PM
Client:	Sea Coast Environmental Services, Inc.	**Project:**	U.S. Fish and Wildlife
Contact:	Gene Streiter	**Location:**	D32

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
G4423-01	**GOODLUCK 902**	**TCLP**			**10/14/15**			**10/14/15**
			TCLP BNA	8270D		11/16/15	11/18/15	
G4423-02	**GOODLUCK 58**	**TCLP**			**10/14/15**			**10/14/15**
			TCLP BNA	8270D		11/16/15	11/18/15	
G4423-03	**MANAHAWKEN 112**	**TCLP**			**10/14/15**			**10/14/15**
			TCLP BNA	8270D		11/16/15	11/18/15	

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO.
QUOTE NO. G4046
COC Number 036046

CLIENT INFORMATION (REPORT TO BE SENT TO:)
COMPANY: SEACOAST ENV. SVCS. INC
ADDRESS: 37 LONDONBERRY DR
CITY: HOLMDEL STATE: NJ ZIP: 07733
ATTENTION: E.R. STRETER
PHONE: 732-275-1616 FAX:

CLIENT PROJECT INFORMATION
PROJECT NAME: U.S. FISH & WILDLIFE
PROJECT NO.: LOCATION: BERKLEY TWP
PROJECT MANAGER: MANAHAWKIN, NJ
e-mail: STREITERSEACOAST@gmail.com
PHONE: FAX:

CLIENT BILLING INFORMATION
BILL TO: SEACOAST PO#:
ADDRESS: SAME
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION
FAX: DAYS *
HARD COPY: STD * DAYS *
EDD: DAYS *
PREAPPROVED TAT: ☐ YES ☐ NO
* STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION
☐ LEVEL 1: Results only ☐ Others
☐ LEVEL 2: Results + QC
☐ LEVEL 3: Results (plus results raw data) + QC
☐ LEVEL 4: Results + QC (all raw data)
☐ EDD Format:

ANALYSIS
1 VOCMS GROUP 1
2 MERCURY ICP-METALS, PCB
3 HERB, PEST, SVOC, PCB
4 ASBESTOS
5 PCB
6 SVOC'S (CREOSOTE)
7
8
9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	GOOD LUCK 9 OZ	S	✓		10/14/15	11:30	3	✓	✓	✓							
2.	GOOD LUCK 5 B	S	✓		10/14/15	12:10	3	✓	✓	✓							
3.	GOOD LUCK INSULATION	S	✓		10/14/15	12:30	3				✓	✓	✓				
4.	MANAHAWKIN 112	S	✓		10/14/15	1:20	3	✓	✓	✓							
5.	MANAHAWKIN INSULATION	S	✓		10/14/15	1:45	3				✓	✓	✓				
6.																	
7.																	
8.																	
9.																	
10.																	

E = Specify Preservatives: A-HCl B-HNO_3 C-H_2SO_4 D-NaOH E-ICE F-Other

Copy
Original Documents are included in CSP G4046
Signature
11/13/15
Date

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. ER Streiter	10/14/15 5:05	1.
RELINQUISHED BY: 2.	DATE/TIME: 10/14/15 5:40	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME:	RECEIVED FOR LAB BY: 3.

Conditions of bottles or coolers at receipt: ☒ Compliant ☐ Non Compliant
MeOH extraction requires an additional 4 oz jar for percent solid.
Comments: Asbestos is part of G4050
Cooler Temp. 5°C
Ice in Cooler?: Yes

Page 1 of 1

SHIPPED VIA: CLIENT: ☒ HAND DELIVERED ☐ OVERNIGHT
CHEMTECH: ☐ PICKED UP ☐ OVERNIGHT
Shipment Complete: ☒ YES ☐ NO

Revision 8/2007

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

mildred V. Reyes

From: Karen Noel <karen@chemtech.net>
Sent: Friday, November 13, 2015 10:17 AM
To: snehal@chemtech.net
Subject: FW: Manahawken Telephone poles

Karen@Chemtech.net
908-728-3142

From: Eugene Streiter [mailto:streiterseacoast@gmail.com]
Sent: Friday, November 13, 2015 9:15 AM
To: Karen Noel Chem Tech
Subject: Manahawken Telephone poles

Here's what we need. I hope you have enough sample.
U.S. Fish and Wildlife wants:

For the Telephone poles: 2 samples from Good Luck Point, 1 sample from Manahawken.

TCLP VOC
TCLP SVOC

Do what you can.

Please note: Our mailing address has changed. Please forward all correspondence to:
SeaCoast Environmental Services, Inc.
37 Londonberry Drive
Holmdel, NJ 07733-3100

CHEMTECH 284 Sheffield Street Mountainside NJ 07092 Tel. 908-7898900

Laboratory Certification

State	License No.
New Jersey	20012
New York	11376
Connecticut	PH-0649
Florida	E87935
Louisiana	5035
Maryland	296
Massachusetts	M-NJ503
Pennsylvania	68-548
Rhode Island	LAO00259
Virginia	460220
Texas	T10470448-10-1

Other :

DOD ELAP Certified (L-A-B Accredited), ISO/IEC 17025	L2219
Soil Permit	P330-11-00012
CLP Inorganic Contract	EPW09038
CLP Organic Contract	EPW11030

QA Control Code: A2070148

APPENDIX C

LIST OF PLANT SPECIES OBSERVED AT THE PROJECT AREAS

Plant Species Observed at the Manahawkin Project Area
August 2015
Stafford Township, Ocean County, New Jersey

Species	Authorship	Common Name
Achillea millefolium	L.	Common Yarrow
Ambrosia artemisiifolia	L.	Annual Ragweed
Artemisia vulgaris	L.	Common Wormwood
Baccharis halimifolia	L.	Groundseltree
Daucus carota	L.	Queen Anne's-Lace
Distichlis spicata	(L.) Greene	Coastal Salt Grass
Elaeagnus umbellata		Autumn Olive
Hibiscus moscheutos	L.	Crimson-Eyed Rose-Mallow
Iva frutescens	L.	Jesuit's-Bark
Juniperus virginiana	L.	Eastern Red-Cedar
Phragmites australis	(Cav.) Trin. ex Steud.	Common Reed
Rhus copallinum	L.	Winged Sumac
Rumex crispus	L.	Curly Dock
Salicornia bigelovii	Torr.	Dwarf Saltwort
Spartina alterniflora	Loisel.	Saltwater Cord Grass
Spartina patens	(Ait.) Muhl.	Salt-Meadow Cord Grass
Toxicodendron radicans	(L.) Kuntze	Eastern Poison-Ivy

Plant Species Observed at the Good Luck Point Project Area
August 2015
Berkeley Township, Ocean County, New Jersey

Species	Authorship	Common Name
Artemisia vulgaris	L.	Common Wormwood
Daucus carota	L.	Queen Anne's-Lace
Distichlis spicata	(L.) Greene	Coastal Salt Grass
Elaeagnus umbellata		Autumn Olive
Hibiscus moscheutos	L.	Crimson-Eyed Rose-Mallow
Iva frutescens	L.	Jesuit's-Bark
Juniperus virginiana	L.	Eastern Red-Cedar
Lespedeza cuneata	(Dum.-Cours.) G. Don	Chinese Bush-Clover
Panicum virgatum	L.	Wand Panic Grass
Phragmites australis	(Cav.) Trin. ex Steud.	Common Reed
Robinia pseudoacacia	L.	Black Locust
Rumex crispus	L.	Curly Dock
Salicornia bigelovii	Torr.	Dwarf Saltwort
Spartina alterniflora	Loisel.	Saltwater Cord Grass
Spartina patens	(Ait.) Muhl.	Salt-Meadow Cord Grass
Toxicodendron radicans	(L.) Kuntze	Eastern Poison-Ivy
Verbascum thapsus	L.	Great Mullein

APPENDIX D

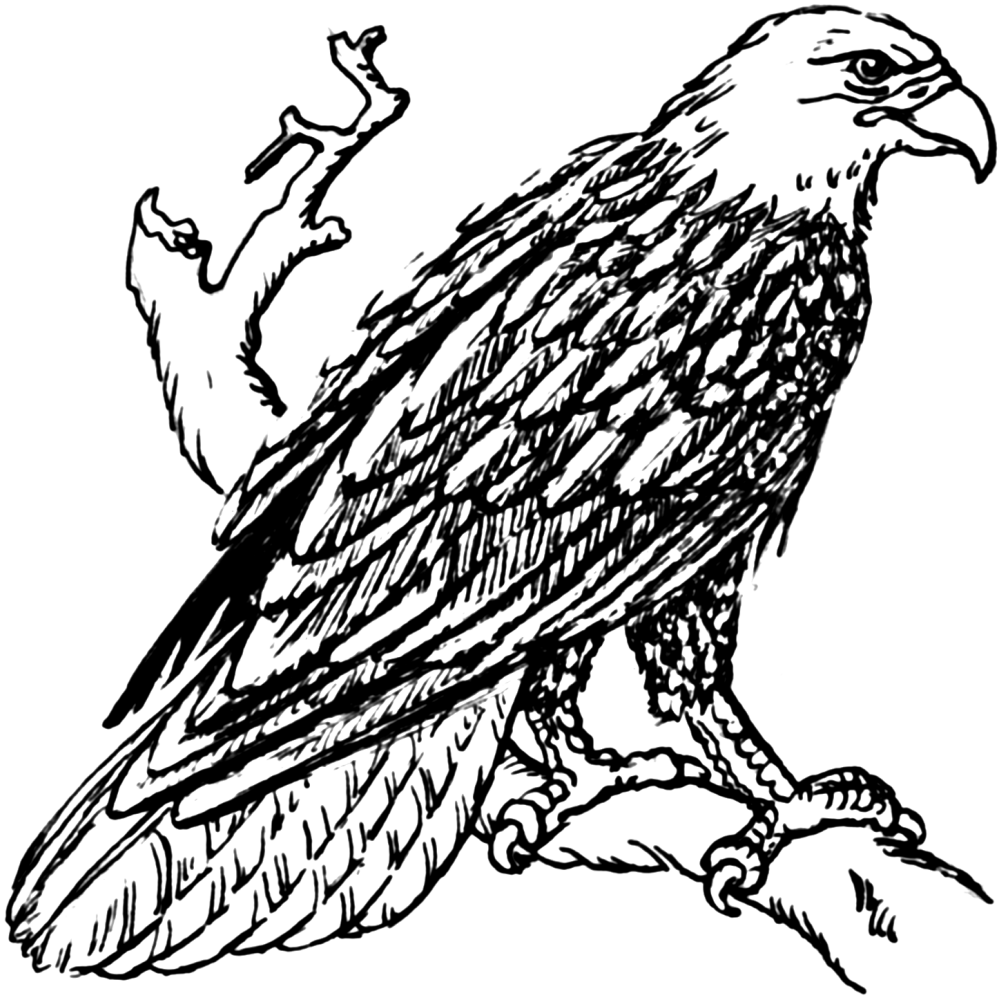
THREATENED AND ENDANGERED SPECIES FINDINGS

U.S. Fish & Wildlife Service

Former AT&T Manahawkin Site

IPaC Trust Resource Report

Generated August 31, 2015 01:26 PM MDT



US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

Former AT&T Manahawkin Site

PROJECT CODE

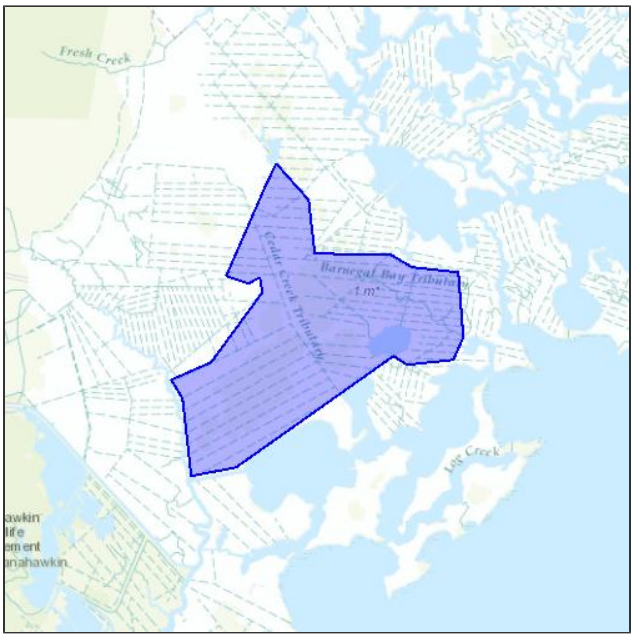
ZUQLE-ZTVKV-FSJCF-X72FJ-PPKQ6M

LOCATION

Ocean County, New Jersey

DESCRIPTION

No description provided



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

New Jersey Ecological Services Field Office
927 North Main Street, Building D
Pleasantville, NJ 08232-1454
(609) 646-9310

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section.

Birds

Red Knot Calidris canutus rufa **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM

Flowering Plants

Knieskern's Beaked-rush Rhynchospora knieskernii **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q216

Swamp Pink Helonias bullata **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q2B8

Mammals

Northern Long-eared Bat Myotis septentrionalis **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Oystercatcher Haematopus palliatus **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black Skimmer Rynchops niger **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0EO

Black-billed Cuckoo Coccyzus erythropthalmus **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus **Bird of conservation concern**
Season: Breeding

Fox Sparrow Passerella iliaca **Bird of conservation concern**
Season: Wintering

Gull-billed Tern Gelochelidon nilotica **Bird of conservation concern**
Season: Breeding

Hudsonian Godwit Limosa haemastica **Bird of conservation concern**
Season: Migrating

Least Bittern Ixobrychus exilis **Bird of conservation concern**
Season: Breeding

Least Tern Sterna antillarum **Bird of conservation concern**
Season: Breeding

Lesser Yellowlegs Tringa flavipes **Bird of conservation concern**
Season: Wintering

Peregrine Falcon Falco peregrinus **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps **Bird of conservation concern**
Year-round

Prairie Warbler Dendroica discolor **Bird of conservation concern**
Season: Breeding

Prothonotary Warbler Protonotaria citrea **Bird of conservation concern**
Season: Breeding

Purple Sandpiper Calidris maritima **Bird of conservation concern**
Season: Wintering

Red Knot Calidris canutus rufa **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM

Rusty Blackbird Euphagus carolinus **Bird of conservation concern**
Season: Wintering

Seaside Sparrow Ammodramus maritimus **Bird of conservation concern**
Year-round

Short-eared Owl Asio flammeus **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula **Bird of conservation concern**
Season: Breeding

Upland Sandpiper Bartramia longicauda **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HC

Wood Thrush Hylocichla mustelina **Bird of conservation concern**
Season: Breeding

Worm Eating Warbler Helmitheros vermivorum **Bird of conservation concern**
Season: Breeding

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

Refuge data is unavailable at this time.

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

U.S. Fish & Wildlife Service

Former AT&T Good Luck Point Site

IPaC Trust Resource Report

Generated August 31, 2015 01:16 PM MDT

US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

Former AT&T Good Luck Point Site

PROJECT CODE

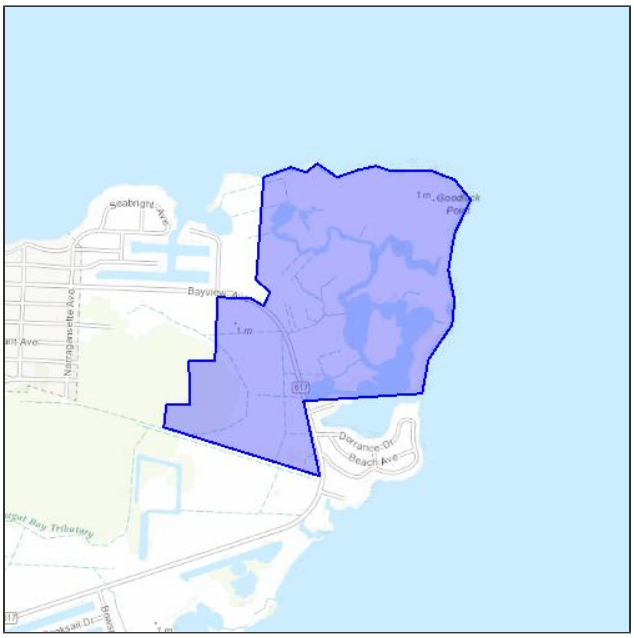
WJHXB-JMTIR-FG3EA-MOX4O-G5LQO4

LOCATION

Ocean County, New Jersey

DESCRIPTION

No description provided



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A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section.

Birds

Red Knot Calidris canutus rufa **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM

Flowering Plants

Knieskern's Beaked-rush Rhynchospora knieskernii **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q216

Seabeach Amaranth Amaranthus pumilus **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q2MZ

Swamp Pink Helonias bullata **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q2B8

Mammals

Northern Long-eared Bat Myotis septentrionalis **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Oystercatcher Haematopus palliatus **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Black Skimmer Rynchops niger **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0EO

Black-billed Cuckoo Coccyzus erythropthalmus **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus **Bird of conservation concern**
Season: Breeding

Fox Sparrow Passerella iliaca **Bird of conservation concern**
Season: Wintering

Great Shearwater Puffinus gravis **Bird of conservation concern**
Season: Migrating

Gull-billed Tern Gelochelidon nilotica **Bird of conservation concern**
Season: Breeding

Horned Grebe Podiceps auritus **Bird of conservation concern**
Season: Wintering

Hudsonian Godwit Limosa haemastica **Bird of conservation concern**
Season: Migrating

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Season: Breeding

Least Tern Sterna antillarum **Bird of conservation concern**
Season: Breeding

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Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FU

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Year-round

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Season: Breeding

Purple Sandpiper Calidris maritima **Bird of conservation concern**
Season: Wintering

Red Knot Calidris canutus rufa **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM

Rusty Blackbird Euphagus carolinus **Bird of conservation concern**
Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus **Bird of conservation concern**
Season: Breeding

Seaside Sparrow Ammodramus maritimus **Bird of conservation concern**
Year-round

Short-eared Owl Asio flammeus **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

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Season: Breeding

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Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HC

Wood Thrush Hylocichla mustelina **Bird of conservation concern**
Season: Breeding

Worm Eating Warbler Helmitheros vermivorum **Bird of conservation concern**
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Wetland data is unavailable at this time.

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION

Project Name:	Marsh Enhancement and Telephone Pole Removal Project (37c)	**Originating Person:**	Rebecca Reeves
Townships:	Ocean Gate- Berkeley Township AT&T Manahawkin- Stafford Township	**Telephone Number:**	609-748-1535
County:	Ocean County	**Email Address:**	rebecca_reeves@fws.gov
Date:	November 4, 2015		

Distance to nearest town: Adjacent

I. **Region:** 5
II. **Service Activity (Program):** NWRS, Edwin B. Forsythe NWR (Refuge)
III. **Pertinent Species and Habitat:**

A. **Listed species and/or their critical habitat within the action area:**

Good Luck Point

Birds

Red knot (*Calidris canutus rufa*)

Flowering Plants

Knieskern's Beaked-rush (*Rhynchospora knieskernii*)
Seabeach Amaranth (*Amaranthus pumilus*)
Swamp Pink (*Helonias bullata*)

Mammals

Northern Long-eared Bat (*Myotis septentrionalis*)

AT&T Manahawkin

Birds

Red knot (*Calidris canutus rufa*)

Flowering Plants

Knieskern's Beaked-rush (*Rhynchospora knieskernii*)
Swamp Pink (*Helonias bullata*)

Mammals

Northern Long-eared Bat (*Myotis septentrionalis*)

B. **Proposed species and/or proposed critical habitat within the action area:**
None

C. **Candidate species within the action area:**

None

D. Include species/habitat occurrences on a map.
We have attached the Information for Planning and Conservation (IPaC) trust resources list, which includes a broad scale map and a list of the species that occur in the Good Luck Point and AT& T Manahawkin Project Areas.

IV. Description of proposed action (attach additional pages as needed):
The Proposed Action is the safe removal of abandoned telephone and shortwave antenna poles and associated support structures (guy-wires, above ground pieces of foundation, and other debris) (Project) within the U.S. Fish and Wildlife Service (the Service) Edwin B. Forsythe National Wildlife Refuge saltmarshes. This Project will be conducted as a component of the Service's Marsh Enhancement and Telephone Pole Array Removal Project (Contract # P11PC00121) for two former American Telephone & Telegraph (AT&T) facilities; Good Luck Point, and AT&T Manahawkin.

The Good Luck Point Project Area (222 acres) is located within Berkeley Township, Ocean County along Bayview Avenue (Route 617). It contains approximately 340 poles with associated guy wires and anchor pipes, as well as twelve several large metal antennas on concrete foundations. The Manahawkin Project Area (390 acres) is located in Stafford Township, Ocean County at the end of Beach Avenue. It contains approximately 113 poles with associated guy wires and anchor pipes, along with seven large metal antennas on concrete foundations. The poles will be cut as close to the ground as possible, transported to central staging areas at each Project Area, and managed for disposal purposes. Cables and other metal debris will be collected and managed for recycling purposes. The above-ground limits of metal anchors and concrete foundations will be removed, but no material will be removed from below-ground. Materials will be removed between January and April, 2016 and work will be conducted primarily by airboat.

V. Determination of effects:

A. Explanation of effects of the action on species and critical habitats in items III. A, B, and C (attach additional pages as needed):
Red Knot migrate through coastal wetlands in the spring and fall and spend winters along coastal waters in Central and South America. In the spring, they are generally concentrated on Delaware Bay beaches, feeding on horseshoe crab (*Limulus polyphemus*) eggs. Impacts on Red Knot are anticipated to be minimal as this work will primarily occur in winter (January- April) when Red Knot will either have migrated south or are concentrated on Delaware Bay beaches.

Knieskern's Beaked-rush is an obligate freshwater wetland species and is not known to exist on this part of this refuge. This work will not occur in any freshwater wetlands, so will not affect this species.

Seabeach Amaranth exists on coastal beaches. This work will occur on salt marshes and not occur on any coastal beach areas, so will not affect this species.

Swamp Pink is an obligate freshwater wetland species and is not known to occur in either project area. This work will not occur in any freshwater wetlands, so will not affect this species.

Northern Long-eared Bats may exist in the forested parts of the refuge adjacent to project areas, but these areas will not be impacted by the proposed work. Furthermore, work will be conducted outside of the active season (April 1- September 30) for these bats, so pole removal activities will have no effect on this species.

B. Explanation of actions to be implemented to reduce adverse effects:
All areas will be surveyed for threatened and endangered species before work will begin. Additionally, staff will be educated on the identification of threatened and endangered species and instructed to avoid impacting these species. Staff will report any sightings of these species to refuge management.

VI. Effect determination and response requested: [* = optional]

A. Listed species/designated critical habitat:

Determination	**Response requested**
No effect/no adverse modification (Species: Red Knot, Knieskern's Beaked-rush, Seabeach Amaranth, Swamp Pink, Northern Long-eared Bat)	X Concurrence
May affect, but is not likely to adversely affect species/adversely modify critical habitat (Species:_____)	___ *Concurrence
May affect, and is likely to adversely affect species/adversely modify critical habitat (Species:_____)	____ Formal Consultation

B. Proposed species/proposed critical habitat:

Determination	**Response requested**
No effect on proposed species/no adverse	

modification of proposed critical habitat
(Species:_____) ____ *Concurrence

Is likely to jeopardize proposed species/
adversely modify proposed critical habitat
(Species:_____) ____ Conference

C. Candidate species:

Determination	**Response requested**
No effect (species:_____)	____ *Concurrence
Is likely to jeopardize candidate species (species:_____)	____ Conference

Rebecca A Reeves
Project Biologist/Supervisor (Requestor)

11/4/15
Date

VII. Reviewing ESFO Evaluation:

A. Concurrence X **Nonconcurrence**_____

B. Formal consultation required_____

C. Conference required_____

D. Informal conference required_____

E. Remarks (attach additional pages as needed):

Endangered Species Biologist (Reviewer),
New Jersey Field Office

11-9-15
Date

Assistant Supervisor, New Jersey Field Office

9 Nov 15
Date

VIII. Map and Official Species List (attached)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Ecological Services Field Office
927 NORTH MAIN STREET, BUILDING D
PLEASANTVILLE, NJ 08232
PHONE: (609)646-9310 FAX: (609)646-0352
URL: www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html

Consultation Code: 05E2NJ00-2016-SLI-0083 November 03, 2015
Event Code: 05E2NJ00-2016-E-00069
Project Name: Good Luck Point Project Area

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species that may occur in your proposed action area and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*)

If the enclosed list indicates that any listed species may be present in your action area, please visit the New Jersey Field Office consultation web page as the next step in evaluating potential project impacts: http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html

On the New Jersey Field Office consultation web page you will find:

- habitat descriptions, survey protocols, and recommended best management practices for listed species;
- recommended procedures for submitting information to this office; and
- links to other Federal and State agencies, the Section 7 Consultation Handbook, the Service's wind energy guidelines, communication tower recommendations, the National Bald Eagle Management Guidelines, and other resources and recommendations for protecting wildlife resources.

The enclosed list may change as new information about listed species becomes available. As per Federal regulations at 50 CFR 402.12(e), the enclosed list is only valid for 90 days. Please return to the ECOS-IPaC website at regular intervals during project planning and implementation to obtain an updated species list. When using ECOS-IPaC, be careful about drawing the boundary of your Project Location. Remember that your action area under the ESA

is not limited to just the footprint of the project. The action area also includes all areas that may be indirectly affected through impacts such as noise, visual disturbance, erosion, sedimentation, hydrologic change, chemical exposure, reduced availability or access to food resources, barriers to movement, increased human intrusions or access, and all areas affected by reasonably forseeable future that would not occur without ("but for") the project that is currently being proposed.

We appreciate your concern for threatened and endangered species. The Service encourages Federal and non-Federal project proponents to consider listed, proposed, and candidate species early in the planning process. Feel free to contact this office if you would like more information or assistance evaluating potential project impacts to federally listed species or other wildlife resources. Please include the Consultation Tracking Number in the header of this letter with any correspondence about your project.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Good Luck Point Project Area

Official Species List

Provided by:

New Jersey Ecological Services Field Office
927 NORTH MAIN STREET, BUILDING D
PLEASANTVILLE, NJ 08232
(609) 646-9310
http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html

Consultation Code: 05E2NJ00-2016-SLI-0083
Event Code: 05E2NJ00-2016-E-00069

Project Type: ** OTHER **

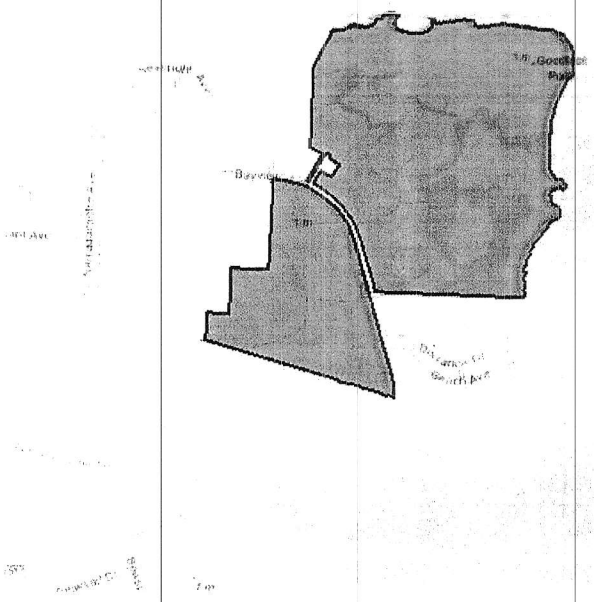
Project Name: Good Luck Point Project Area
Project Description: During the winter (2016) the Edwin B Forsythe Refuge intends to remove antennae poles and metal towers at the Good Luck Point Project Area.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: Good Luck Point Project Area

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Ocean, NJ

United States Department of Interior
Fish and Wildlife Service

Project name: Good Luck Point Project Area

Endangered Species Act Species List

There are a total of 5 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Red Knot *(Calidris canutus rufa)*	Threatened		
Flowering Plants			
Knieskern's Beaked-rush *(Rhynchospora knieskernii)*	Threatened		
Seabeach amaranth *(Amaranthus pumilus)*	Threatened		
Swamp pink *(Helonias bullata)*	Threatened		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

United States Department of Interior
Fish and Wildlife Service

Project name: Good Luck Point Project Area

Critical habitats that lie within your project area

There are no critical habitats within your project area.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Ecological Services Field Office
927 NORTH MAIN STREET, BUILDING D
PLEASANTVILLE, NJ 08232
PHONE: (609)646-9310 FAX: (609)646-0352
URL: www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html

Consultation Code: 05E2NJ00-2016-SLI-0076 October 30, 2015
Event Code: 05E2NJ00-2016-E-00064
Project Name: AT&T Manahawkin Project Area

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species that may occur in your proposed action area and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*)

If the enclosed list indicates that any listed species may be present in your action area, please visit the New Jersey Field Office consultation web page as the next step in evaluating potential project impacts: http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html

On the New Jersey Field Office consultation web page you will find:

- habitat descriptions, survey protocols, and recommended best management practices for listed species;
- recommended procedures for submitting information to this office; and
- links to other Federal and State agencies, the Section 7 Consultation Handbook, the Service's wind energy guidelines, communication tower recommendations, the National Bald Eagle Management Guidelines, and other resources and recommendations for protecting wildlife resources.

The enclosed list may change as new information about listed species becomes available. As per Federal regulations at 50 CFR 402.12(e), the enclosed list is only valid for 90 days. Please return to the ECOS-IPaC website at regular intervals during project planning and implementation to obtain an updated species list. When using ECOS-IPaC, be careful about drawing the boundary of your Project Location. Remember that your action area under the ESA

is not limited to just the footprint of the project. The action area also includes all areas that may be indirectly affected through impacts such as noise, visual disturbance, erosion, sedimentation, hydrologic change, chemical exposure, reduced availability or access to food resources, barriers to movement, increased human intrusions or access, and all areas affected by reasonably forseeable future that would not occur without ("but for") the project that is currently being proposed.

We appreciate your concern for threatened and endangered species. The Service encourages Federal and non-Federal project proponents to consider listed, proposed, and candidate species early in the planning process. Feel free to contact this office if you would like more information or assistance evaluating potential project impacts to federally listed species or other wildlife resources. Please include the Consultation Tracking Number in the header of this letter with any correspondence about your project.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: AT&T Manahawkin Project Area

Official Species List

Provided by:

New Jersey Ecological Services Field Office
927 NORTH MAIN STREET, BUILDING D
PLEASANTVILLE, NJ 08232
(609) 646-9310
http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html

Consultation Code: 05E2NJ00-2016-SLI-0076
Event Code: 05E2NJ00-2016-E-00064

Project Type: ** OTHER **

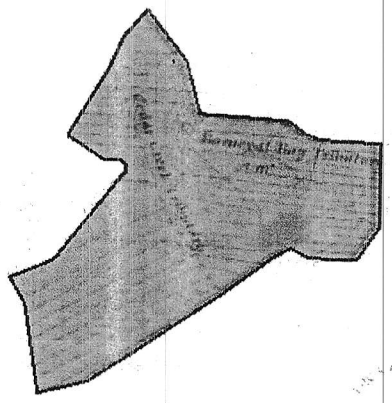
Project Name: AT&T Manahawkin Project Area
Project Description: During the winter (2016) the Edwin B Forsythe Refuge intends to remove antennae poles and metal towers at the AT&T Manahawkin Project Area.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: AT&T Manahawkin Project Area

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-74.20224778206949 39.69951871100396, -74.20229422067463 39.69979740515342, -74.20257285230558 39.700004638535, -74.20347376124543 39.70001893046946, -74.20554492303512 39.7010836712593, -74.20327871910385 39.704142029947306, -74.20242424876909 39.70552825069001, -74.20124470819829 39.7067429573125, -74.19891349021975 39.704492160495576, -74.19811710423875 39.70212854297544, -74.19309008913397 39.70182683630419, -74.19269071712971 39.701676774776494, -74.19216131703102 39.701305192446476, -74.1911768186018 39.701005066796085, -74.18896634099669 39.700990775065854, -74.18765677233151 39.700876441117856, -74.1876939232156 39.697160484688744, -74.18896634099667 39.69566689967956, -74.19180838363182 39.695781242258086, -74.19281145750307 39.69613856159512, -74.19380754161908 39.6957267140196, -74.19663372849269 39.694118569009085, -74.20426023401211 39.69009717813762, -74.20713418577652 39.68959676185048, -74.2078909550061 39.69359114428269, -74.20875271040154 39.69473376548092, -74.20728811702908 39.69517724967741, -74.20632495186014 39.69554538208362, -74.20224778206949 39.69951871100396)))

United States Department of Interior
Fish and Wildlife Service

Project name: AT&T Manahawkin Project Area

Project Counties: Ocean, NJ

United States Department of Interior
Fish and Wildlife Service

Project name: AT&T Manahawkin Project Area

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Red Knot *(Calidris canutus rufa)*	Threatened		
Flowering Plants			
Knieskern's Beaked-rush *(Rhynchospora knieskernii)*	Threatened		
Swamp pink *(Helonias bullata)*	Threatened		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

United States Department of Interior
Fish and Wildlife Service

Project name: AT&T Manahawkin Project Area

Critical habitats that lie within your project area

There are no critical habitats within your project area.

BISON CONNECT

Popowski, Ron <ron_popowski@fws.gov>

Edwin B. Forsythe NWR section 7 request- Pole removal at Good Luck Point and ATT Manahawkin

1 message

Reeves, Rebecca <rebecca_reeves@fws.gov> Thu, Nov 5, 2015 at 2:00 PM
To: Ron Popowski <ron_popowski@fws.gov>
Cc: Virginia Rettig <virginia_rettig@fws.gov>, Paul Castelli <paul_castelli@fws.gov>, Amy Drohan <amy_drohan@fws.gov>, Marc Virgilio <marc_virgilio@fws.gov>, Vinny Turner <vinny_turner@fws.gov>

Hi Ron,

Attached is a section 7 request for work being conducted at the Edwin B. Forsythe NWR as part of the Marsh Enhancement and Telephone Pole Array Removal project. This project will remove large arrays of wooden poles and metal towers from two project areas in Ocean County, NJ. The poles will be cut as close to the ground as possible, transported to central staging areas at each project area, and managed for disposal purposes. Cables and other metal debris will be collected and managed for recycling purposes. The above-ground limits of metal anchors and concrete foundations will be removed, but no material will be removed from below-ground. Materials will be removed between January and April, 2016 and work will be conducted primarily by airboat.

Please feel free to contact me with further comments and questions.

Thanks,
Becca

--
Rebecca A. Reeves
Fish and Wildlife Biologist
Edwin B. Forsythe National Wildlife Refuge
800 Great Creek Road
Post Office Box 72
Oceanville, NJ 08231

(609) 748-1535 office
(609) 748-2731 fax

11/6/15
Carlo
Please take lead.
Thanks,
Ron

EBFNWR_Pole Removal_Section 7_5Nov15.pdf
319K

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
State Forestry Services
Mail Code 501-04
ONLM -Natural Heritage Program
P.O. Box 420
Trenton, NJ 08625-0420
Tel. #609-984-1339
Fax. #609-984-1427

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

September 11, 2015

Christy L. Benes
AMEC Foster Wheeler Environment & Infrastructure, Inc.
285 Davidson Avenue, Suite 405
Somerset, NJ 08873

Re: Former AT&T Manahawkin Pole Removal Project
Block(s) - 296, Lot(s) - 63 and 108
Stafford Township, Ocean County

Dear Ms. Benes:

Thank you for your data request regarding rare species information for the above referenced project site in Stafford Township, Ocean County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.1) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the vicinity of the site.

A list of rare plant species and ecological communities that have been documented from the project site, referenced above, can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive NJ-GeoWeb website at the following URL, http://www.state.nj.us/dep/gis/geowebsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 15-3907462-8295

Table 1: On Site Data Request Search Results (7 Possible Reports)

Report Name	Included	Number of Pages
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. On or In the Immediate Vicinity of the Project Site Based on Search of the Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
3. Natural Heritage Priority Sites On Site	No	0 pages included
4. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Species Based Patches	Yes	2 page(s) included
5. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.1	No	0 pages included
6. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Stream Habitat File	No	0 pages included
7. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	Yes	1 page(s) included

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Wintering	3	NA	State Threatened	G5	S1B,S2N
	Black Skimmer	Rynchops niger	Foraging	4	NA	State Endangered	G5	S1B,S1N
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Caspian Tern	Hydroprogne caspia	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Northern Harrier	Circus cyaneus	Nest	4	NA	State Endangered	G5	S1B,S3N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B
	Peregrine Falcon	Falco peregrinus	Nest	4	NA	State Endangered	G4	S1B,S3N
	Roseate Tern	Sterna dougallii dougallii	Foraging	5	Federally Listed Endangered	State Endangered	G4T3	S1B,S1N

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Tricolored Heron	Egretta tricolor	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S2N
Reptilia								
	Atlantic Loggerhead	Caretta caretta	Occupied Habitat	5	Federally Listed Threatened	State Endangered	G3	S1

Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Papaipema duovata	Goldenrod Stem Borer			G4	S3S4

Total number of records: 1

Table 2: Vicinity Data Request Search Results (6 possible reports)

Report Name	Included	Number of Pages
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches	Yes	2 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.1	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	Yes	1 page(s) included

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Wintering	3	NA	State Threatened	G5	S1B,S2N
	Black Skimmer	Rynchops niger	Foraging	4	NA	State Endangered	G5	S1B,S1N
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Caspian Tern	Hydroprogne caspia	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Common Tern	Sterna hirundo	Nesting Colony	2	NA	Special Concern	G5	S3B,S4N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Northern Harrier	Circus cyaneus	Nest	4	NA	State Endangered	G5	S1B,S3N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B
	Peregrine Falcon	Falco peregrinus	Nest	4	NA	State Endangered	G4	S1B,S3N
	Roseate Tern	Sterna dougallii dougallii	Foraging	5	Federally Listed Endangered	State Endangered	G4T3	S1B,S1N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Tricolored Heron	Egretta tricolor	Foraging	2	NA	Special Concern	G5	S3B,S3N

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S2N
Reptilia								
	Atlantic Loggerhead	Caretta caretta	Occupied Habitat	5	Federally Listed Threatened	State Endangered	G3	S1

Other Animal Species
In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Papaipema duovata	Goldenrod Stem Borer			G4	S3S4
Total number of records: 1					
Vertebrate Animals					
Tursiops truncatus	Bottlenose Dolphin			G5	S3
Total number of records: 1					

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
State Forestry Services
Mail Code 501-04
ONLM -Natural Heritage Program
P.O. Box 420
Trenton, NJ 08625-0420
Tel. #609-984-1339
Fax. #609-984-1427

BOB MARTIN
Commissioner

September 11, 2015

Christy L. Benes
AMEC Foster Wheeler Environment & Infrastructure, Inc.
285 Davidson Avenue, Suite 405
Somerset, NJ 08873

Re: Former AT&T Good Luck Point Pole Removal Project
Block(s) - 1206 / 1207, Lot(s) - 1 and 1.01 / 2.01 and 2.02
Berkeley Township, Ocean County

Dear Ms. Benes:

Thank you for your data request regarding rare species information for the above referenced project site in Berkeley Township, Ocean County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.1) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the vicinity of the site.

A list of rare plant species and ecological communities that have been documented from the project site, referenced above, can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive NJ-GeoWeb website at the following URL, http://www.state.nj.us/dep/gis/geowebsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 15-3907481-8296

Table 1: On Site Data Request Search Results (7 Possible Reports)

Report Name	Included	Number of Pages
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	Yes	1 page(s) included
2. On or In the Immediate Vicinity of the Project Site Based on Search of the Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
3. Natural Heritage Priority Sites On Site	No	0 pages included
4. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Species Based Patches	Yes	1 page(s) included
5. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.1	Yes	1 page(s) included
6. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Stream Habitat File	No	0 pages included
7. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Regional Status	Grank	Srank	Identified	Last Observed	Location
Vascular Plants									
Paspalum dissectum	Mudbank Crown Grass			HL	G4?	S2	Y - Yes	198?-??-??	Berkeley Township, ca. 1/8 mile east of intersection of Arverne Avenue and Narragansette Avenue in Ocean Gate. 3/4 mile west of Barnegat Bay; ca. 3/8 mile north of Bayview Avenue.

Total number of records: 1

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Caspian Tern	Hydroprogne caspia	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Least Tern	Sternula antillarum	Foraging	4	NA	State Endangered	G4	S1B,S1N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B
	Peregrine Falcon	Falco peregrinus	Nest	4	NA	State Endangered	G4	S1B,S3N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Tricolored Heron	Egretta tricolor	Foraging	2	NA	Special Concern	G5	S3B,S3N

Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.1

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Potential vernal habitat area	1359

Total number of records: 1

Table 2: Vicinity Data Request Search Results (6 possible reports)

Report Name	Included	Number of Pages
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	Yes	1 page(s) included
2. Natural Heritage Priority Sites within the Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.1	Yes	1 page(s) included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Immediate Vicinity of the Project Site
Based on Search of Natural Heritage Database
Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Regional Status	Grank	Srank	Identified	Last Observed	Location
Vascular Plants									
Paspalum dissectum	Mudbank Crown Grass			HL	G4?	S2	Y - Yes	198?-??-??	Berkeley Township, ca. 1/8 mile east of intersection of Arverne Avenue and Narragansette Avenue in Ocean Gate. 3/4 mile west of Barnegat Bay; ca. 3/8 mile north of Bayview Avenue.

Total number of records: 1

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Brown Thrasher	Toxostoma rufum	Breeding Sighting	2	NA	Special Concern	G5	S3B,S4N
	Caspian Tern	Hydroprogne caspia	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Least Tern	Sternula antillarum	Foraging	4	NA	State Endangered	G4	S1B,S1N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B
	Peregrine Falcon	Falco peregrinus	Nest	4	NA	State Endangered	G4	S1B,S3N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Tricolored Heron	Egretta tricolor	Foraging	2	NA	Special Concern	G5	S3B,S3N

Friday, September 11, 2015

NHP File No.: 15-3907481-8296

Vernal Pool Habitat
In the Immediate Vicinity of Project Site
Based on Search of
Landscape Project 3.1

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Potential vernal habitat area	1359

Total number of records: 1

APPENDIX E

RESULTS OF SHPO/NJSM FILE SEARCH

BACKGROUND INFORMATION FROM SHPO FILES CONCERNING THE HISTORIC PROPERTY AT GOOD LUCK POINT (AT&T TRANSMITTER BUILDING AND ANTENNA FIELD - SHPO I.D. #4723)

BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

Cultural Resource GIS Digitizing Form

Name: AT + T Transmitter Building and Antenna Field

Inv. ID: 4723 **Attrib. ID:** _____ **HSI ID:** _____

Date: 8/27/08 **Staff Name:** JHammond

Applicable Layers:

___ HD_PLY
✓ PR_PLY
✓ PR_PT
___ AD_PLY
___ ST_PLY
___ ST_PT

Issues Revealed:

___ Address
___ Block / Lot
___ Boundary / Extent
___ Demolished / Destroyed

Notes:

TYPE:
- [ ] New District
- [x] Individually Eligible
- [ ] Individual and Contributing
- [ ] Contributing Only

- [x] Mapped
USGS Quad Name Seaside Park
Quad Reference Number 7
Digital Identification Number 4723

ELIGIBLE PROPERTY WORKSHEET

Name AT&T Transmitter Building & Transmitter Field A.K.A. Ship-to-Shore

Address /Location 83 Bayview Avenue (Ocean Co. Rte. 617)

Block / Lot /

County and Municipality Ocean Co., Berkeley Twp.

District (If applicable)

- [ ] SHPO OPINION
- [ ] DOE
- [x] COE
- [ ] ITC (HPCA-Part 1)

DATE SIGNED 7/30/2007 CHRONO G07-169 LOG 07-1424 AUTHOR B. Craig + C. Brady

REPORT (Accession Number)

SURVEY FORM# (Historic Sites Inventory, Historic Bridge Survey)

Enclosure Checklist

- [x] SHPO Signed Document
- [ ] NPS Signed Document
- [x] Report Information (Title Page, Photograph copies, Relevant Sections)
- [x] Property Information (Survey forms)
- [x] Photographs (Historic and Current)
- [x] HABS/HAER documentation
- [x] Maps (Copy of Historic Properties USGS Quad, Historic, Tax)
- [ ] Other

PROJECT FILE NAME

CABINET LOCATION OF FILE

COVENANT / AGREEMENT

STATUS OF THE PROPERTY

Prepared by: B. Craig Date: 8/7/08

REVIEW COVER SHEET

PROJECT 12128

Log#:	ProjectName	☐ Bridge Bond ☐ ISTEA/TEA-21	PrimeStaff
07-1424	AT&T Ship to Shore shortwave radio transmitter station		Fimbel, Deb

Project Sponsor: Citizen

HPO Section: TS

Local Government ○ County ○ Municipal

Consultant / Citizen / Non-Profit John M. Bench, Tesla Radio Club and Museum

Location(s)

County	Municipality	Primary Loc.	CLG
OCEAN	Berkeley Township	☑	☐

Parcels:

Block	Lot
1207	2.01
1207	2.02
1206	1.01

Address | **Apartment** | **Zip**

FileLocation CENTRAL FILE (County-Municipality)

Old Log #(s) | **Agency Project Number**

REVIEW (OBLIGATION) 19445

Review Log#:	Staff:	Received:	Due:	Complete: ☐	Chrono
07-1424-1	Fimbel, Deb	5/30/2007	6/29/2007		

Review Process	Review Step
TA	Technical Assistance - Project Specific

Received From: Citizen

Local Government: ○ County ○ Municipal

Consultant / Citizen / Non-Profit John M. Bench, Tesla Radio Club and Museum

Description: Rec'd email regarding Tesla Radio Museum (Block Block 1207 Lot 2.01 (1.671 acres) and shortwave radio transmitter antennas (Block 1207 Lot 2.02 (161.014 acres) and Block 1206 Lot 1.01 (50.66 acres) US F&W/USACE 106 and NJDEP, Land Use Regulation CAFRA (Coastal Zone Management area)

Submitted: ☐ Plans ☐ Specs ☐ Photos ☐ Report ☐ Nomination ☐ Map ☐ Other

Report ID: 0 **Accession #:**

Notes

OCEAN **Berkeley Township** **07-1424**

AT&T Ship to Shore shortwave radio transmitter station

HPO-G2007-169 Prod
HPO Log# 07-1424

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Natural and Historic Resources, Historic Preservation Office
PO Box 404, Trenton, NJ 08625
TEL: (609) 292-2023 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

July 30, 2007

CERTIFICATION OF ELIGIBILITY

Mr. Yuri Blanarovich
83 Bayville Avenue
Bayville, NJ 08804

Dear Yuri

This letter is in response to your request for a formal certification of eligibility for the AT&T transmitter building and antenna field along Bayview Avenue (a.k.a. Ocean County Route 617) in the town of Bayview, Berkeley Township, Ocean County, for inclusion in the New Jersey and National Registers of Historic Places.

Based on a review of the current preliminary application, together with a site visit made by Mr. Robert Craig of my staff, it is my opinion, as Deputy State Historic Preservation Officer, that the AT&T transmitter building and associated antenna field is eligible for listing in the New Jersey and National Registers of Historic Places under National Register criterion A for its association with the early implementation and expansion of ship-to-shore telephony. Broad based ship-to-shore telephony was a major step forward in communications in that it allowed replacement of the Morse code telegraph system as the primary means of communication with voice based telephone service. This service was in commercial use until the advent of satellite based voice communications late in the 20th century. The AT&T transmitter building and its associated antenna field is also eligible under criterion C, as a representative, substantially intact example of an early shortwave transmitter building with its associated antenna field. The antenna field is especially interesting for the degree to which it remains intact, despite extensive theft of distribution wire linking the antennae to the transmitters. The transmitter building and antenna field were built and placed into service in 1931 and remained in service until 1999. The AT&T transmitter building is located, on Berkeley Township Block 1207, lot 2.01 and the adjacent antenna field is located on Block 1207 lot 2.02 and Block 1206 lot 1.01.

If you have further questions, please contact Mr. Robert Craig of my staff, at (609) 984-0541, or by email at bob.craig@dep.state.nj.us

Sincerely,

Dorothy P. Guzzo
Deputy State Historic
Preservation Officer

DPG/BC/CB\G169

Department of the Interior
United States Fish and Wildlife Service
800 Great Creek Road
P. O. Box 72
Oceanville, New Jersey 08231-0072

April 30, 2007

Yuri Baranovich
P. O. Box 282
Pine Brook, NJ 07058

Dear Mr. Baranovich,

This replaces my April 11 letter sent to you at 83 Bayview Avenue, Bayville, NJ 08721, which the United States Postal Service returned to sender. This letter responds to your presentation on March 9 to refuge staff about the Tesla Radio Club and Museum.

You proposed to establish an amateur radio station and museum at the former Ocean Gate AT&T shortwave radio transmitter station in three phases.

Phase One	Restore the AT&T transmitter building, establish the Club station and repair antennas.
Phase Two	Set up a multimedia theater and meeting room in the former AT&T transmitter building.
Phase Three	Start furnishing the museum and setup of exhibits and collection of historical materials in the former AT&T transmitter building.

The former AT&T transmitter building and its immediate surroundings is on property owned by Berkeley Township. This property is Block 1207, Lot 2.01 and it encompasses 1.671 acres.

The Service has no issues with any of the Tesla Radio Club and Museum proposal related to Block 1207, Lot 2.01. However, the Service's Right-of-Way through the property to Block 1207, Lot 2.02 may not be compromised.

All the former AT&T shortwave radio transmitter station antennas are on properties that are now part of the Edwin B. Forsythe National Wildlife Refuge (Service tracts 122,a). The properties are, Block 1207, Lot 2.02 (161.014 acres) and Block 1206, Lot 1.01 (50.66 acres).

The Service has issues with repairing, maintaining and using the former AT&T shortwave radio station transmitter antennas. The Service has a Policy on Appropriate Refuge Uses (603 FW 1). The policy applies to all proposed and existing uses in the

National Wildlife Refuge System over which the Service has jurisdiction. I have completed a Finding of Appropriateness on using the existing antennas for radio transmission, and have determined that the use is not appropriate. Uses that are not appropriate may not be permitted within the National Wildlife Refuge System. A copy of my finding is enclosed.

The Service also has issues related to the Service interim guidelines for recommendations on communications tower siting, construction, operation, and decommissioning. http://www.fws.gov/migratorybirds/issues/towers/comtow.html One of the recommendations is, "Towers should not be sited in or near wetlands, other known bird concentration areas (*e.g.*, state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species."

There are also issues related to the New Jersey Department of Environmental Protection (NJDEP) Deed of Conservation Restriction on the properties containing the antennas, because the properties were purchased in part with NJDEP Green Acre Program funding. A copy of the document is enclosed.

In summary the Service has no issue with the Tesla Radio Club establishing a museum at the former AT&T transmitting station. However, the Service and the NJDEP have issues with repairing, maintaining and using the antennas that are now located on refuge properties.

If you have any questions, please call me at (609) 652-1665.

Sincerely,

Stephen P. Atzert

Stephen P. Atzert
Refuge Manager

Enclosures

cc: Janet Kennedy, USFWS
John Flynn, NJDEP, Green Acres Program
Brian Braudis, USFWS

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Edwin B. Forsythe National Wildlife Refuge

Use: Repair, maintenance and use of antennas at former Ocean Gate AT&T transmitting station for HAM radio transmission

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?		X
(c) Is the use consistent with applicable Executive orders and Department and Service policies?		X
(d) Is the use consistent with public safety? (I cannot address without financial information from the group proposing the use.)		
(e) Is the use consistent with goals and objectives in an approved management plan or other document?		X
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed? (This is the first time the use has been proposed.)	X	
(g) Is the use manageable within available budget and staff?		X
(h) Will this be manageable in the future within existing resources?		X
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?		X
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?		X

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ___ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.
Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate X **Appropriate** ____

Refuge Manager: Stephen P. Ritzert Date: 4/11/2007

If a new use is found **Not Appropriate**, the refuge supervisor does not need to sign concurrence.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If a use is found **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: _____ Date: _____

A compatibility determination is required before the use may be allowed.

Attachment

b) The proposed use does not comply with the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd-668ee), as amended.
http://www.fws.gov/laws/laws_digest/NWRSACT.HTML
All refuge uses must be compatible with the Mission of the National Wildlife Refuge System and the purposes for which a refuge was established.
The 1997 amend to the National Wildlife Refuge System Administration Act (Public Law 105-106) defined and established a hierarchy of activities on refuges:

1. Wildlife First
2. Priority Public Uses
3. Other Uses

Wildlife first means that within the National Wildlife Refuge System, "...the conservation, management, and where appropriate, restoration of fish, wildlife, and plant resources and their habitat...for the benefit of present and future generations of Americans." is the number one priority.

Priority Public Uses are compatible wildlife-dependent recreational uses. These uses are: hunting, fishing, wildlife observation, photography, environmental education and interpretation. These uses receive priority consideration in refuge planning and management.

c) The proposed use is not consistent with the Service Appropriate Refuge Uses policy.
http://www.fws.gov/policy/603fw1.html

d) Many of the antennas are in poor condition. A substantial amount of funding will be required to repair and maintain them.

e) The proposed use is not consistent with the refuge Comprehensive Conservation Plan (CCP) approved by the Regional Director in June 2004.
http://www.library.fws.gov/CCPs/ebf_final04.pdf
The refuge intends to remove the antennas when demolition funding becomes available.

g) The refuge recently lost two permanent fulltime positions and closed the Barnegat Division office in Barnegat Township, Ocean County.

h) The National Wildlife Refuge System budget is projected to remain relatively unchanged over the nest several fiscal years.

The following article is from the March 14, 1930 edition of the *Toms River Courier* newspaper.

Thanks to Jerry Beer of the Berkeley County Historical Society for providing the article, and to Sam Etler for transcribing it.

Toms River Center of Ship to Shore Telephone System

Work at the Barnegat Pier Ocean Gate being pushed to complete sending station

Construction work now being done by the American Telephone and Telegraph Company will make Toms River an important center of a radio telephone system that is expected eventually to link Bell System telephones with the principal liners plying the Atlantic Ocean. One unit, the receiving station at Forked River, is already practically complete and has handled messages between the S. S. Leviathan of the United States Lines, and shore telephones. The second unit, the transmitting station at Ocean Gate, is under construction and will probably be in operation by the early part of next year.

Ship-to-shore telephone service was formally inaugurated last December, when passengers on the Leviathan conversed with people in a score of cities as far west as California and as far south as Washington. Service is available to the entire Bell System. For the present it is confined to the Leviathan, but it may ultimately be extended to practically all large passenger ships. The calls are routed through the long distance lines in New York, the ship transmitting to Forked River, where radio and wire-lines join. Until the completion of the Ocean Gate station, the outgoing circuit will [be?] by way of the Bell Telephone Laboratories experimental station at Deal Beach, transmitting to the liner.

The transmitting station at Ocean Gate is located on a 175 acre tract of salt marshes, across the river from Toms Rover, unobstructed to seaward and therefore suitable for radio transmission in that direction.

Due to the nature of the ground the building construction work called for unusual measures. The average elevation is about 18 inches above high water mark. While the surface is soft to a depth of about three feet, the underlying stratum of "hard-pan" was unexpectedly hard, and required the use of dynamite.

The building is to be modernistic in exterior design, accentuating the vertical lines and is

so arranged that it can be extended at the sides and towards the front to provide for future growth. It will house the transmitting sets and associated equipment, the apparatus employed to link radio and wire circuits, and the auxiliary machinery necessary to operate the station.

The structure will be 79 feet across and 48 feet deep, two stories high and with a small basement under one end for the heating plant. On the first floor will be the generators that supply current for the transmitters and the transformers that raise the outside power supply to various required voltages, and other machinery. The transformers, which are of unusual size and power, will be set in vaults of rugged construction, with specially heavy foundations. A water-cooling system will be provided for large vacuum tubes used in the final stages of the transmitters. Large air blowers will cool the circulating water.

On this floor also will be the "line terminal room" where the wire lines from the long distance office terminate. This room will be completely sheathed in copper, to prevent the radio waves from the antennas outdoors from coming back and impairing operation of the apparatus in the room. Cork insulation under the foundations of the rotary machinery in the power room will avoid the effects of vibration on delicate radio apparatus.

On the second floor will be the transmitting sets. In the rear is to be a rectifier, to convert the alternating current from the outside power source into the direct current required in the vacuum tubes.

The structural part of the building will be of reinforced concrete. The exterior walls will consist of 12-inch brick with two-inch "furring" on the inside. All partitions inclosing transformer vaults will be of concrete to insure adequate protection.

The foundations for the building will consist of spread reinforced concrete carried to an average depth of five feet below the natural grade. The basement will go to a depth of ten and a half feet.

With the natural grade only 18 inches above high water, the excavation work presented an unusual problem but by using the "well-point" process of drainage, the work has been accomplished with out difficulty. The excavated area was kept perfectly dry.

Galvanized pipes equipped with heavy points, above which the pipes were perforated, were driven 20 feet into the ground all four sides of the area, seven feet back from the building line at three-foot intervals. The pipes were tightly connected to a six inch common drain pipe at the surface, which in turn was connected to a centrifugal pump. By constant pumping at about 450 gallons per minute the entire area to be excavated was kept dry.

In order to guard against seepage of water into the basement all the foundation walls, as well as the floor slab, are designed to be reinforced and thoroughly water-proofed. As an

additional precaution a sump-pit with automatic pump will be located in the boiler room.

Initially one transmitter will be installed at Ocean Gate. This will be a set similar to those now in use for transatlantic telephone service at the Lawrenceville station, having a power of 15 kilowatts. It will be maintained at the desired frequency by means of a quartz crystal control circuit, the crystals for this circuit being located in heat-insulated ovens, the temperature of which is accurately and automatically regulated.

In the final or output stage of the transmitter there will be six 10-kilowatt wave-cooled vacuum tubes operating at a plate voltage of about 10,000 volts. This produce [*sic*]an enormous amplification for the current transmitted to the antenna.

The two antennas will be of the "curtain" type and consist of networks of wires in the form of coarse-mesh curtains suspended from 70-foot poles, the line poles broadside to the direction of transmission to give a highly "directional" transmission. The line of poles for the longer wave-length antenna will be 500 feet long and for the shorter 255 feet.

Due to the arrangement and interconnection of these wires the signals sent out have a marked directional effect. The range over which the antennas transmit will cover the principal steamship lanes to Europe. The efficiency of each antenna will be further increased by suspending a similar curtain behind the active one. This will serve to reflect radio energy that ordinarily would go toward the west with full power.

The receiving set at Forked River is a specially designed set using screen grid tubes and equipped for automatic volume control. It is arranged to operate over a wide range of frequencies and is provided with switching devices to permit connection to any one of the several antennas. There are at present two antennas [*sic*]"arrays." Each of these arrays consists of a series of brass pipes arranged in a "wall of Troy" vertical formation and mounted on a wooden frame-work. These antennas also have marked directional characteristics, their respectivity being confined to approximately the same arc as that covered by the Ocean Gate transmitter. By means of concentric copper pipes, laid a few feet above the ground in an undulatory form, antennas and receiving set are connected with a minimum of outside interference.

The Forked River station is located on a 292-acre tract of marsh land. A small frame building houses the receiving set, the line terminal equipment and the power apparatus.

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- Long Lines facilities index
- Long Lines main page

Created on September 9, 2004 at 21:20 by Albert LaFrance

LAPRINCE@ATT.NET

AT&T Long Lines

-BUENOS AIRES-
- LIMA, SANTIAGO-

Ocean Gate, NJ

- 3 SHIP ANTENNA
- BERNE, ROME
- LONDON, BERLIN
- HONOLULU
- STOCKHOLM +

History

+ SHIP ANTENNA
+ SHIP ANTENNA
+ 2 SHIP ANNIA
+ CAPETOWN

Ocean Gate was a high-frequency (shortwave) radio transmitting station providing telephone communications to ships at sea (high-seas service) and to overseas locations, under callsign WOO. In addition, the June 1958 List of Coast Stations issued by the International Telecommunications Union identifies Ocean Gate Radio (WOO) as "open to correspondence with aircraft", one of 19 US coast stations so authorized.

A local newspaper article from 1930 describes the station's purpose, design and construction.

A drawing dated 1955, with revisions through 1982, shows the site containing 29 rhombic antennas, plus several antennas of other types. A rhombic antenna, which is highly directional, consists of a diamond-shaped loop of wire supported in a horizontal plane by insulators. Some of the rhombics at Ocean Gate were over 700 feet long. Ian Cummings' Rhombic Antenna Home Page offers information about the history, design and use these antennas.

The graphic portion of the drawing shows destinations of Buenos Aires, San Juan, Panama, Bermuda and Rio de Janeiro. The drawing's change notes identify former destinations of Paris, Frankfort, Santiago and London.

A 1970 Long Lines route map shows Ocean Gate having wire-pair carrier cable links going north to the Asbury Park microwave station and south to Ocean Gate's companion site, the shortwave receiving station at Manahawkin.

In 1999, the Federal Communications Commission authorized AT&T to discontinue high-seas service from Ocean Gate and its sister stations at Dixon, CA and Pennsuco, FL. The land containing the antenna field is now a wildlife refuge, managed by the U.S. Fish and Wildlife Service. The building is owned by the local government, Berkeley Township.

Exterior - south side

Photographed March 26, 2004
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Background & Trends
- Internet Background
- Silicon to Internet Valley
- Silicon Valley History
- Bay Area Guide

Industry Leaders
- Top 100 Banks Online
- Top 100 IT Companies
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Web Influence
- Case Study: IBM
- Criteria of Influence
- IFactor

NetValley
- Community
- Feedback

... a chronology of **Telegraph, Telephone** and **Radiotelephone**, the three services reaching across the Atlantic **before** the 1960 Echo satellite.

By Alan Leon Varney, AT&T Network Systems

TELEGRAPH

1837 - Charles Wheatstone patents "electric telegraph"
1844 - Samuel Morse demonstrates "Morse code" -- but this is the old version, where a number is assigned to each possible word. Alfred Vail helps him later with a "variable-length letter code".
1845 - General Oceanic telegraph Co. registered in NYC to link Europe and North America (was this just another stock swindle?)
1847 - Gutta-percha (an inelastic latex) is discovered. It serves as a reliable insulator in water (reliable, but not great capacitance).
1849 - England to France telegraph cable goes into service -- and fails after 8 days.
1850 - Morse patents "clicking" telegraph.
1851 - England-France commercial telegraph service begins. This one uses gutta-percha, and survives.
1858 - August 18 - First transatlantic telegraph messages via wire. Cyrus Field (a 35-year-old retired merchant) & John Pender formed a British company, "The Atlantic Telegraph Co." The cable deteriorated quickly, and failed after 3 weeks.
1861 - First USA transcontinental telegraph cable begins service.
1868 - First commercially successful transatlantic telegraph cable completed between UK and Canada, with land extension to USA.
(Lack of repeaters & cable capacitance in insulation restricted the cable to 2 words/minute -- signaling speed was inversely proportional to square of length, per Lord Kelvin's prediction. A "siphon receiving" mechanism raised that rate to 20 WPM in 1870.
Even 2 WPM beat the next fastest method; 10 days by steamship.)
Also, Werner Siemens patents a keyboard perforator for Morse code.
1874 - Baudot invents a practical Time Division Multiplexing scheme or telegraph. Uses 5-bit codes & 6 time slots -- 90

bps max. rate. Both Western Union and Murray would use this as the basis of multiplex telegraph systems.
1875 - Typewriter invented.
1880 - Oliver Heaviside's analysis shows that a uniform addition of inductance into a cable would produce distortionless transmission.
(It would be 40 more years before Bell Labs devised a practical method
of producing uniform inductance -- "permalloy" magnetic ribbon spiral
winding around a conductor. This would permit 400 WPM on the
New York-Azores Western Union cable in 1925.)
1901 - Donald Murray links typewriter to high-speed multiplex system, later used by Western Union.[The beginnings of **Teletype** ?]

TELEPHONE

1876 - Bell patents telephone.
1877 - Bell attempts to use telephone over the Atlantic telegraph cable. The attempt fails.
1883 - Test calls placed over five miles of under-water cable.
1884 - San Francisco-Oakland gutta-percha cable begins telephone service.
1910 - Chesapeake Bay cable is first to use loading (inductor) coils underwater. Contained 17 pairs of 13-guage conductors.
1915 - USA transcontinental telephone service begins (NY-San Francisco).
(Used 2500 tons of 8 guage copper on 180,000 poles, with loading coils every 8 miles. Three vacuum tube repeaters were initially used -- by 1918, that was increased to 8 repeaters. In 1920, all loading was removed and 12 improved repeaters installed. This resulted in doubling of the bandwidth (to 3 kHz), halving of the loss and a 3.5-fold increase in propagation speed. The reduction in echo was very obvious.) (A 3-minute call was $20.70)
1921 - Key West-Havana cable begins service, using continuous loading via "permalloy" wrap and a blend of rubber and gutta-percha.
1928 - Design of a continuously-loaded Newfoundland-Ireland cable begins,
as a joint AT&T-British Post Office project. The planned loss was 165 dB over 1800 miles. It used 4 layers of Perminvar tape for loading. Manufacturing in Germany began in 1930. The Depression caused all work to be abandoned. By the late 1930s, submerged repeaters and multiplexing promised more circuits at the same cost.
1947 - Polyethylene replaces rubber & gutta-percha as preferred insulator.
1949 - "SB" submarine cable developed by AT&T, using polyethylene + 5% butyl rubber dielectric. The cable was made up of a core of several dozen steel wires, covered by a

copper tube, then about .2 inches of dielectric and another copper tube, covered by a plastic jacket and armor.
1950 - Repeatered SB submarine cable used on Key West-Havana route.
1952 - Joint AT&T-BPO meetings at Dollis Hill lab to begin transatlantic cable project.
1953 - Canada (Canadian Overseas Telecommunications Corp.) joins in project,
along with Eastern Telephone & Telegraph Co. (AT&T's subsidiary in Canada).
1955 - June 28, HMTS "Monarch" leaves Clarenville, Newfoundland laying cable. After weathering Hurricane Ione, it reaches the Firth of Lorne in Oban, Scotland on September 26.
1956 - June 4, "Monarch" leaves Oban to lay the other cable (these are
uni-directional repeaters). Final splice at Clarenville, August 14. All links and channels were tested within 6 weeks. A total of 102 repeaters were needed on the main cables.

Connections at the North American end:
USA (29 circuits of the 35 originally available) White Plains, NY (via L1 coaxial cable) to Albany, NY or West Haven, Connecticut Albany/West Haven (via K-carrier) to Portland, Maine Portland (via TD-2 microwave) to Sydney Mines, Nova Scotia Sydney Mines (via BPO underwater cable) to Clarenville.
Canada (6 circuits) Montreal (via carrier on cable and open wire) to Saint John, New Brunswick
St. John (via TD-2 microwave) to Sydney Mines (as above).

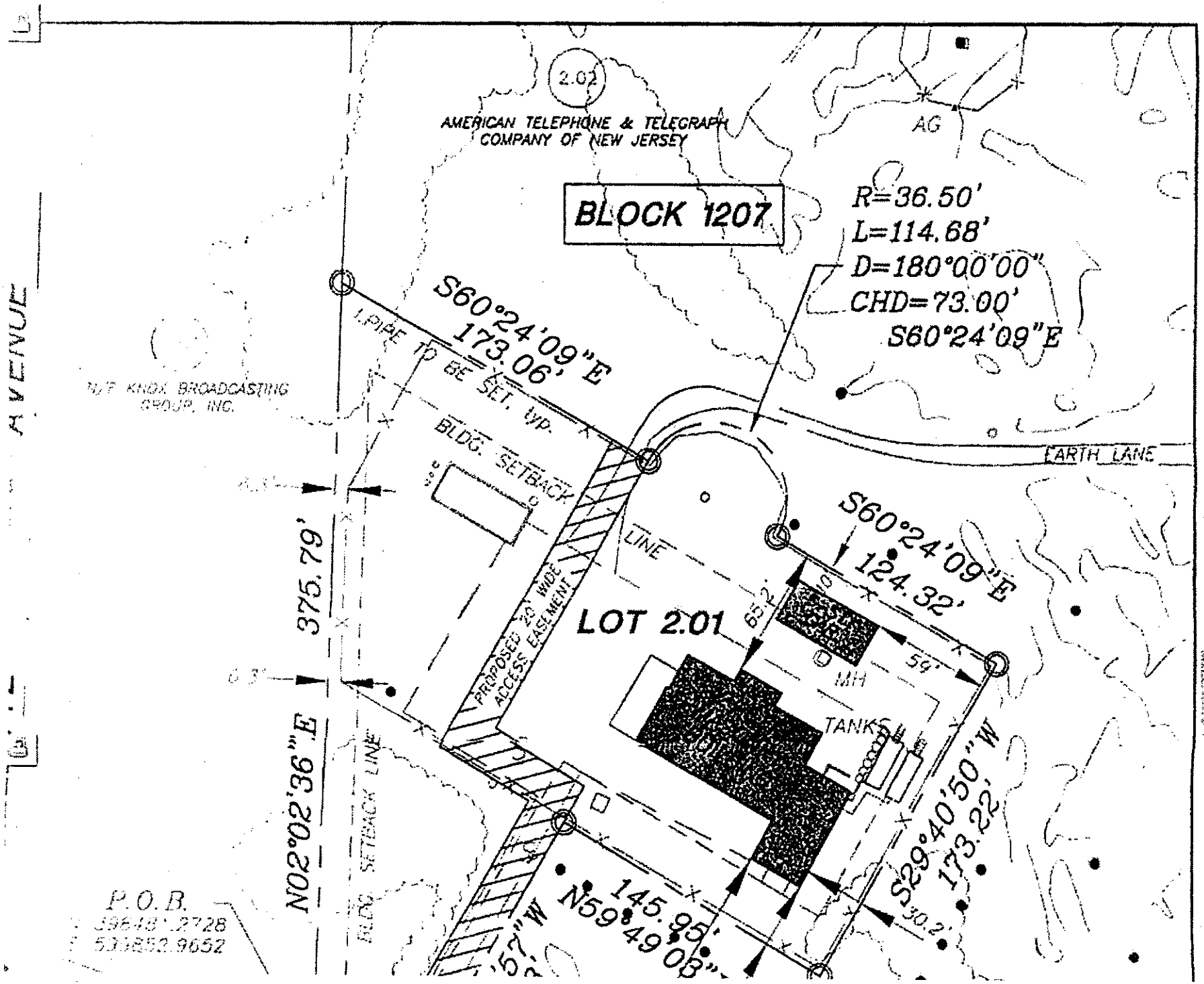
Sept. 25, **1956** at 11 am EST, Chairman Craig of AT&T calls Dr. Charles Hill,
Her Majesty's Postmaster General. This initiates the first long-term transatlantic telephone service, using the TAT-1 cable. [In 1966, after ten years of service, the 1608 tubes in the repeaters had not suffered a single failure. In fact, more than 100 million tube hours over all AT&T undersea repeaters were without failure.]
1963 - First cable from New Jersey to England.
1965 - First cable from New Jersey to France.

RADIOTELEPHONE (cable's competition)

1920s- Catalina Island telephone service to mainland via radio system.
Replaced by cable in 1923 so frequencies could be used for broadcast.
For 6 weeks, a "privacy" system was tested, using inverted sidebands
and a "wobbling" carrier. Later systems used 4 or 5 "bands",
re-ordered before transmission. Some bands were inverted.
The band arrangement was changed a few times per minute, in synch.

1921 - British "Marconi Co." offers 3 MHz calls between England and Norway.
1923 - Amateur radio proves that high frequency radio can reach long distances (sometimes). Transatlantic transmission demonstrated.
1927 - first commercial transatlantic radio telephone service begins.
This uses low frequency radio from RCA's Rocky Point, Long Island & Rugby, England transmitters. Receivers were in Houlton, Maine and Cupar, Scotland. The 2800 Hz bandwidth was modulated to 33 kHz carrier & then 92 kHz, with the lower sideband then at about 60 kHz. Three 250-watt tubes in parallel amplified this, and fed a 2-stage
water-cooled final stage of up to 35 tubes, yielding 150-200 kW. Low frequencies were considered more "reliable". HF radio took 30 dB losses over day-long periods between Deal, New Jersey and New Southgate, England during magnetic disturbances. On those
same days, LF radio actually gained a couple of dB. (A 3-minute call was $75.)
1929 - HF radio begins commercial transatlantic service (2 circuits!). Transmitters in Lawrenceville, New Jersey and Rugby, England; receivers in Netcong, New Jersey and Baldock, Hertfordshire. (Calls used which ever radio system was working "best" at the time. By 1931, HF was the choice 80% of the time.)
1930 - HF radio service begins to Buenos Aires.
1931 - Dixon/Point Reyes, California radio begins transpacific service.
1932 - Florida sites begin Caribbean & Central American service.
1937 - USA can call 68 countries via HF radio -- 93% of the world's telephones are interconnected via wires & radio waves.

Ocean Gate, NJ



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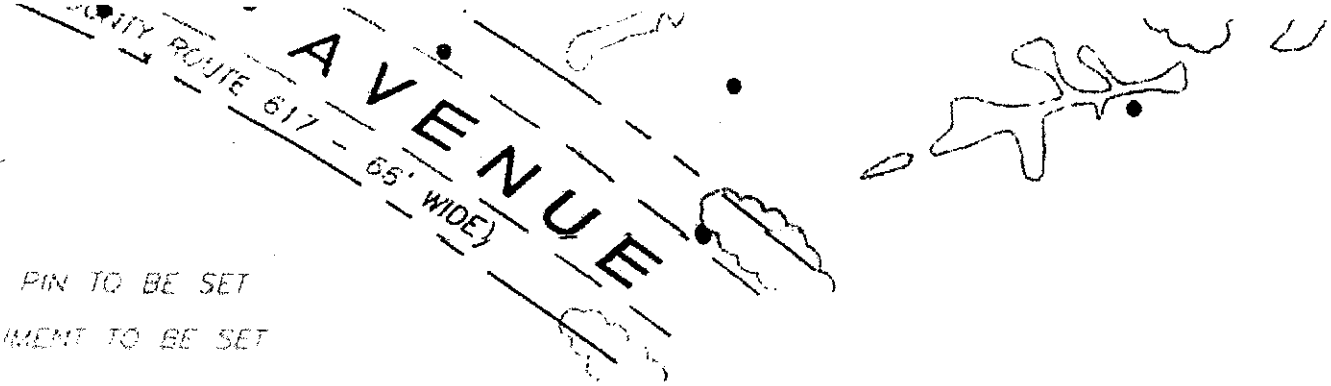
PROPOSED IRON PIN TO BE SET

CONCRETE MONUMENT TO BE SET



NOTES

1. THIS SURVEY IS REFERENCED TO A TITLE REPORT PREPARED BY CHICAGO TITLE INSURANCE COMPANY, COMMITMENT No. 3621-01233, EFFECTIVE DATE AUGUST 30, 2001.
2. OVERHEAD WIRES ARE TOO NUMEROUS TO ILLUSTRATE HEREON.
3. SITE IS LOCATED IN FLOOD ZONE 'AE' AS PER FEMA FLOOD INSURANCE RATE MAP #340369 0015 D DATED 7-15-92.
4. COORDINATES SHOWN HEREON ARE BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM, NAD 1983 DATUM.
5. DEED REFERENCE: DB 842, PG 201 & DB 844, PG 323.
6. SITE IS SUBJECT TO A RIPARIAN GRANT IN DB 844, PG 316.
7. LOT CONTAINS 72,795 155 sq.ft. (1.671 acres), MORE OR LESS.

TOWNSHIP

the best of my knowledge and belief, this map or survey made on Nov. 11, 2002, by me in accordance with the rules and promulgated by the "STATE BOARD OF PROFESSIONAL LAND SURVEYORS",

this map correctly represents the conditions at the date of the field survey, except such encroachments, if any, below the surface and not visible.

been issued to the above named parties except

Telephone & Telegraph Co. of NJ;
The Insurance Company;
for Public Land.

not contain a raised impression seal not an authorized original document and

MICHAEL R. VARGO

MAP OF SURVEY

TAX LOT 2.01, BLOCK 1207

BERKELEY TOWNSHIP
OCEAN COUNTY , NEW JERSEY

VARGO ASSOCIATES LAND SURVEYING & PLANNING
2771 DELSEA DRIVE - P.O. BOX 647
FRANKLINVILLE, N.J. 08322 (856) 694-1716
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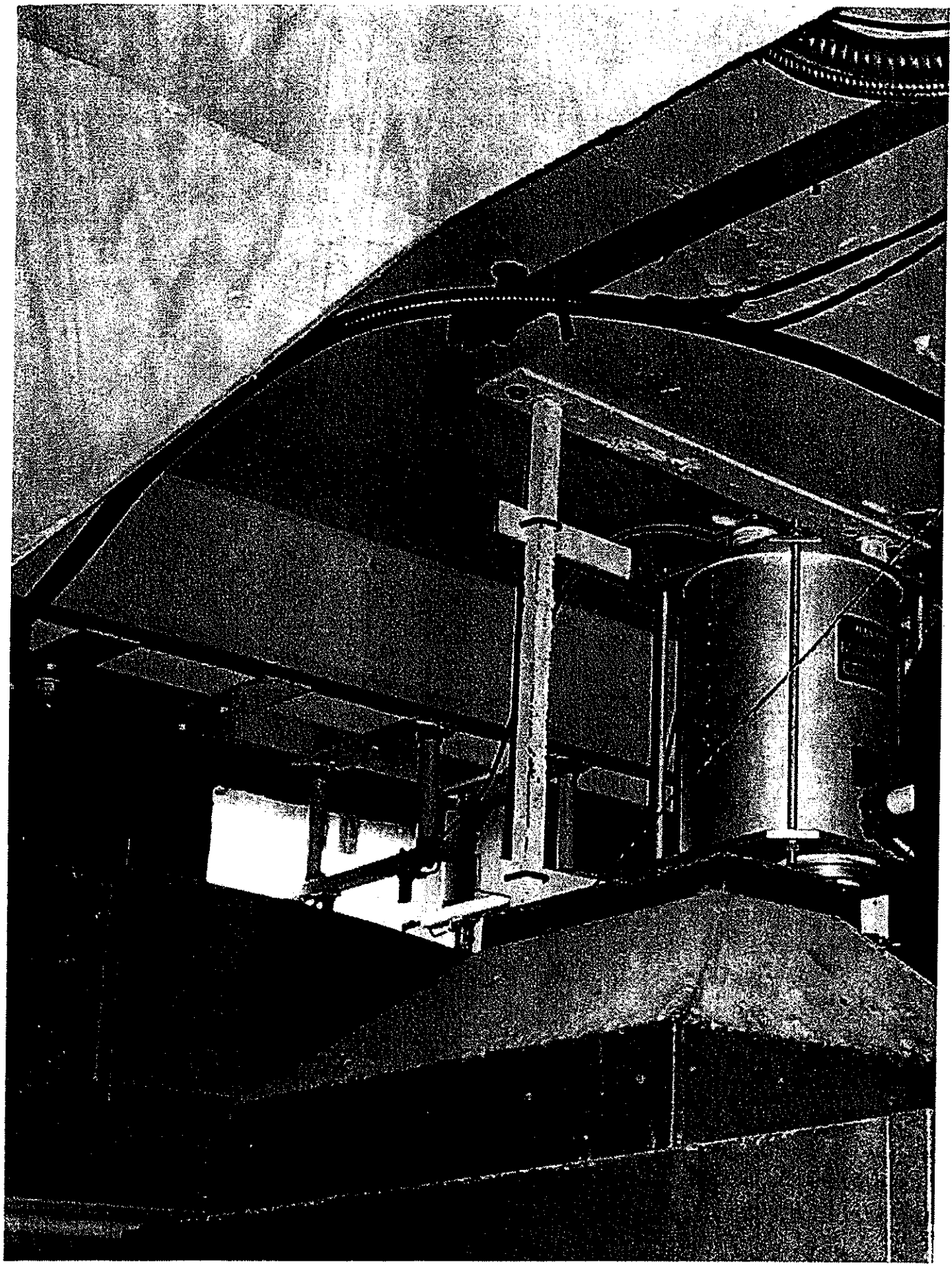
DATE	SCALE	DRAWN BY	F.BK./PG.	PROJ. NO
10/11/02	1"=50'	MRV	0/0	021875



APPENDIX F

PHASE 1A CULTURAL RESOURCES ASSESSMENT REPORT

PHASE IA CULTURAL RESOURCES ASSESSMENT of the Marsh Enhancement and Pole Removal Hurricane Sandy Resiliency Project #37 (37c) for Ocean Gate/Good Luck Point and Manahawkin, Ocean County, New Jersey

December 21, 2015
Project No. 3617157355.81.01
CONTRACT NO. P11PC00121
TASK ORDER NO. F15PD00834
HPO Project Number 15-3524

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Submitted to:

U.S. Fish and Wildlife Service
Edwin B. Forsythe National Wildlife Refuge
800 Great Creek Road
Galloway, NJ 08205

Phase IA Cultural Resources Assessment Of the Marsh Enhancement and Pole Removal Hurricane Sandy Resiliency Project #37 (37c) (Restoring Coastal Marshes in New Jersey National Wildlife Refuges) for Ocean Gate/Good Luck Point and Manahawkin, Ocean County, New Jersey

Project No. 3617157355.81.01
HPO Project Number 15-3524

By

Raymond D. Pasquariello, MA, RPA
David E. Breetzke, MA, RPA

Amec Foster Wheeler Environment & Infrastructure, Inc.
One Richmond Square, Suite 121F
Providence, Rhode Island 02906-5139

Signature

Raymond D. Pasquariello, RPA
Project Principal Investigator
21 December 2015

ABSTRACT

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) prepared a Phase IA Cultural Resources Assessment for the Marsh Enhancement and Pole Removal Hurricane Sandy Resiliency Project #37 (37c) for Ocean Gate/Good Luck Point and Manahawkin, Ocean County, New Jersey (Project), in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (36CFR800).

The Project involves the removal of abandoned poles and associated support structures (guy-wires, above ground pieces of foundation, and other debris) within the U.S. Fish & Wildlife Service Edwin B. Forsythe National Wildlife Refuge (the refuge). This Project will be conducted as a component of the Service's Marsh Enhancement and Telephone Pole Array Removal Project (Contract # P11PC00121) for two former American Telephone & Telegraph (AT&T) facilities. The first Project area is located in Stafford Township, also known as the Manahawkin Project area. The second Project area is located within Berkeley Township, also known as the Ocean Gate/Good Luck Point Project area.

This assessment report addresses the known historic properties at the respective project areas; the AT&T shortwave receiving station and antenna field at Manahawkin, and the AT&T shortwave transmitting station and antenna field at Ocean Gate/Good Luck Point. This report also considers the archaeological sensitivity of the Areas of Potential Effects (APEs) of both project areas.

In 2007, the New Jersey State Historic Preservation Office (SHPO) made a Certification of Eligibility stating that the transmitter building and antenna field at Ocean Gate/Good Luck Point is a historic property that is eligible for listing on the National Register of Historic Places (NRHP). The Manahawkin Project area was the companion facility to Ocean Gate/Good Luck Point. **The Manahawkin Project area's National Register eligibility status has not yet undergone review by the SHPO, but the finding/management recommendation is that the Manahawkin Project Area is also eligible for listing on the National Register.** Both properties are eligible under National Register Criterion A for their association with the early implementation and expansion of ship-to-shore telephony and under National Register Criterion C as representative, substantially intact examples of early shortwave facilities with their associated antenna fields.

No other known historic properties are within the vicinity of the Ocean Gate/Good Luck Point Project area; the closest known archaeological sites are recorded northwest of the project area north of Toms River. But, environmental and archaeological data indicates non-wetland land is located at the southwestern portion of the Project area and this area may be conducive for archaeological sites. **If the project design includes new ground alteration in areas of medium to high archaeological sensitivity, then an archaeological Phase IB testing survey would be recommended.**

At the Manahawkin Project area, the southwestern portion of the Project area is partially located within archaeological site grid EK229. Therefore, archaeological site(s) have been identified within this larger area, although most likely further west of the Manahawkin Project area. There are no recorded historic structures or historic districts within the Project area, but its relative proximity to known archaeological sites warrants further review of the Project area as it relates to proposed project impacts. **If the project design includes new ground alteration in areas of medium to high archaeological sensitivity, then an archaeological Phase IB testing survey would be recommended.**

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1.0 INTRODUCTION

1.1 Project Overview

Amec Foster Wheeler conducted a Phase IA Cultural Resources Assessment within the refuge for the Marsh Enhancement and Pole Removal Hurricane Sandy Resiliency Project #37 (37c) for Ocean Gate/Good Luck Point and Manahawkin, Ocean County, New Jersey (Project), in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (36CFR800) and the New Jersey State Historic Preservation Office (NJ SHPO).

The Project involves the removal of the abandoned poles and associated material found at the former AT&T Manahawkin and Ocean Gate/Good Luck Point Project areas, both units of the refuge. The poles were erected between 1929 and 1938 for the purpose of providing telephone communications to ships at sea and to overseas locations. It should be noted that from the 1930s until 1999, the AT&T Manahawkin Project area provided a primary interface between shortwave reception and America's telephone network as well as ship-to-shore transmissions. Because of this, there are also many telephone poles located at the Manahawkin Project area. However, most of the poles at Ocean Gate/Good Luck Point Project area were not "telephone poles" but were "antenna poles". Regardless, many of the poles are in a state of disrepair and several have fallen down into the marsh as a result of weathering decades of tidal surges and storms. A review of historical aerial photographs indicates that the Project areas historically contained salt marsh typical of the surrounding estuarine environment.

Approximately 113 poles have been identified for removal at the Manahawkin Project area and approximately 340 poles have been identified for removal at the Ocean Gate/Good Luck Point Project area. The poles will be cut as close to the ground as possible, transported to central staging areas at each location and managed for disposal purposes. Cables and other metal debris will be collected and managed for recycling purposes. Additionally, there are a limited number of metal antennae at each of the locations. These will be dismantled and removed, with the resulting metal debris managed for recycling purposes.

In 2007, the NJ SHPO made a Certification of Eligibility (COE) stating that the transmitter building and antenna field at Ocean Gate/Good Luck Point is a historic property that is eligible for listing on the NRHP. The Manahawkin transmitter building and antenna field was the companion facility to Ocean Gate/Good Luck Point, but the Manahawkin Site's National Register eligibility status has not yet undergone review by the SHPO, but the finding/management recommendation by the U.S. Fish and Wildlife Service is that the Manahawkin site is eligible for listing on the National Register.

The purpose of this Phase IA assessment was to (1) assess the overall integrity of the Manahawkin Project area when compared to the Ocean Gate/Good Luck Point Project area so that its National Register eligibility status could be evaluated and (2) identify previously recorded cultural resources that could be impacted by the proposed pole removals, review prior cultural resource surveys, and to provide a general assessment of the Project area's potential to contain unrecorded prehistoric and historic archaeological sites.

1.2 Area of Potential Effects

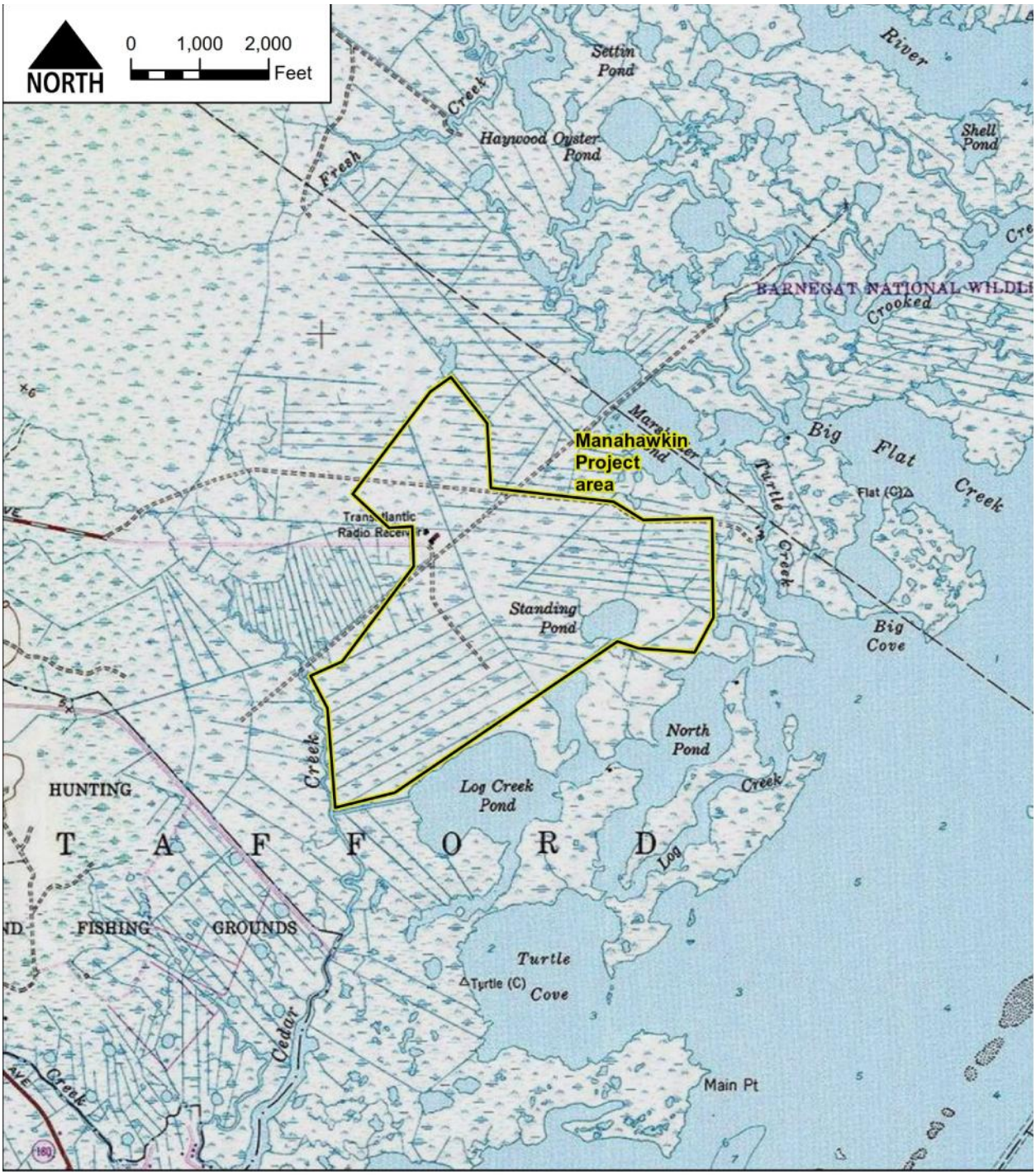
The Area of Potential Effects (APE) is located within two Project areas: Manahawkin and Ocean Gate/Good Luck Point. The first Project area is located in Stafford Township (also known as the

Manahawkin Project area) and is identified by Stafford Township as a portion of Block 296, Lot 63 and all of Lot 108, located at the end of Beach Avenue (**Figure 1**). The Manahawkin Project area is approximately 390 acres in size and generally situated between Marshelder Pond to the east, Standing Pond and Log Creek Pond to the south, additional marshland to the north, and Cedar Creek to the west. The Project area is located in the Coastal Plain physiographic section of the state, within the Barnegat Bay Watershed Management Area (**Figures 2-5 and 6**).

The second Project area is located within Berkeley Township (also known as the Ocean Gate/Good Luck Point Project area) and is identified by Berkeley Township as Block 1207, Lots 2.01 and 2.02 and Block 1206, Lots 1 and 1.01, located along Bayview Avenue (**Figure 7**). The Ocean Gate/Good Luck Point Project area is approximately 222 acres, generally situated between Barnegat Bay to the east, E. Atlantic Avenue to the south, Toms River to the north, and residential properties to the west. This Project area is also located within the Coastal Plain physiographic section of the state and the Barnegat Bay Watershed Management Area (**Figures 8, 9 and 10**).

The APE for archaeological resources at both Manahawkin and Ocean Gate/Good Luck Point is the location of the pole removals, any associated project ground disturbance related to this activity (i.e. staging areas, access roads, etc.), and any associated activities or materials related to the pole removal or their functions. The APE for architectural resources at each Project area is the antenna field.

Since the stations were originally constructed in the late 1920s and late 1930s, the antenna arrays were modified to improve communication with ships at sea and to develop a reliable interface between these ships and the country's ever expanding telephone system. The addition of antennas resulted in a higher number of transmissions from both ship-to-shore and land transmissions all over the world. Manahawkin and Good Luck Point were essential in communications to Europe. In fact, during World War II, the station at Ocean Gate was under armed guard. Messages that were transmitted from the Ocean Gate station were critical to the war effort (Ocean County News Journal 1976).



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		PROJECTION: NAD 1983 StatePlane New Jersey FIPS 2900 Feet	
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DATE: 10/28/2015
PROJECT #: 736114XXXX

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Imagery: ESRI, USGS 24k TOPO - Seaside Park, NJ 1972

Figure 1. USGS Topo of the Manahawkin Project area.

		MAP BY: daniel.conn	LEGEND:
		CHK'D BY: MP	Manahawkin Project area
Amec Foster Wheeler Environment & Infrastructure 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, KY 40299	amec foster wheeler	DATUM: North American 1983	
		PROJECTION: NAD 1983 StatePlane New Jersey FIPS 2900 Feet	
		SCALE: 1 in=800 ft	

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PROJECT #: 736114XXXX

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Imagery: ESRI, NAIP 7/18/2013

Figure 2. Aerial Image of the Manahawkin Project area.

Figure 3. Photo of the Manahawkin Receiver Station.

Figure 4. Photo of the Manahawkin Receiver Station.

Figure 5. Photo of a Manahawkin Curtain Antenna.

Figure 6. Photo of a Manahawkin Rhombic Antenna.

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		CHK'D BY: MP	TIME: 2:17:44 PM
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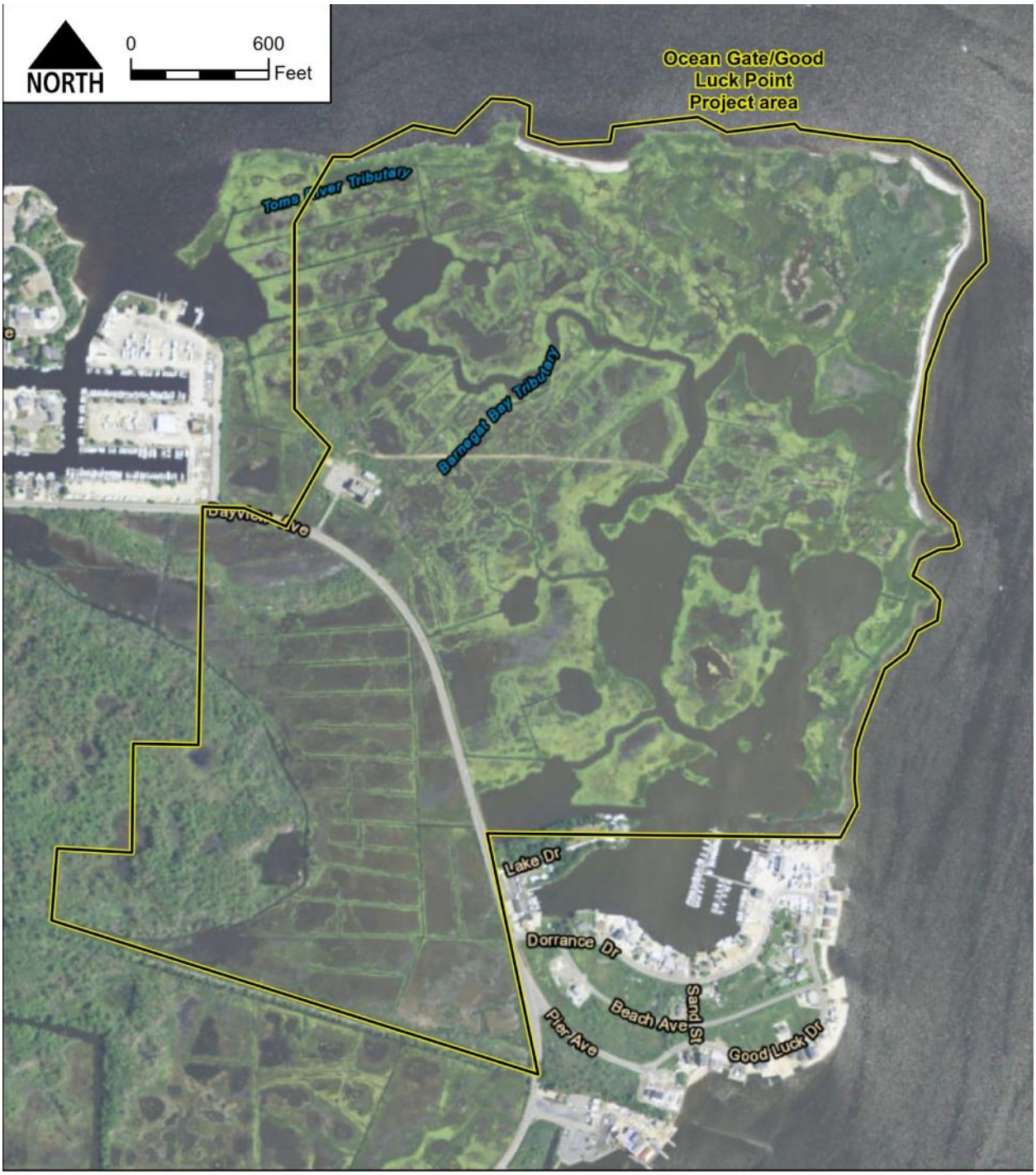
		PROJECTION: NAD 1983 StatePlane New Jersey FIPS 2900 Feet	PROJECT #: 736114XXXX
		SCALE: 1 in=2,000 ft	

U:\Sidework\Ray\OceanCityNJ\GoodLuckPointProjectSite_Topo.mxd Imagery: ESRI, USGS 24k TOPO - Seaside Park, NJ 1972

Figure 7. USGS Topo of the Ocean Gate/Good Luck Point Project area.



		MAP BY: daniel.conn	LEGEND:
		CHK'D BY: MP	Ocean Gate/Good Luck Point Project area
Amec Foster Wheeler Environment & Infrastructure 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, KY 40299	amec foster wheeler	DATUM: North American 1983	
		PROJECTION: NAD 1983 StatePlane New Jersey FIPS 2900 Feet	
		SCALE: 1 in=600 ft	

TIME: 2:28:05 PM
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Imagery: ESRI

Figure 8. Aerial Image of the Ocean Gate/Good Luck Point Project area.

Figure 9. Photo of the Ocean Gate/Good Luck Point Transmitter Station.

Figure 10. Photo of the Ocean Gate/Good Luck Point Antenna Field.

1.3 Physiography, Streams and Soils

1.3.1 Manahawkin Project Area

The topography of and surrounding the Manahawkin Project area is relatively flat and is situated between zero and five feet above mean sea level. Net local surface water drainage from the marsh drains into the adjacent creeks and ponds. The Manahawkin Project area is located within the outer Coastal Plain Physiographic section of New Jersey (NJDEP 2014). The unconsolidated deposits of this province range in age from the Cretaceous to the Miocene (135 to 5.3 million years old) and gently dip to the southeast, towards the coast and extend beneath the Atlantic Ocean to the edge of the Continental Shelf (Dalton 2003; NJDEP 1999). The topography across the Coastal Plain is relatively flat to very gently undulating.

The sediments consist of alternately-deposited layers of sand, silt, and clay which outcrop in irregular bands that trend northeast to southwest within deltaic and marine environments occurring as sea level (NJDEP 1999). The bedrock geology on this project area is made up of the Wildwood Member of the Kirkwood Formation. The Wildwood Member is described as late early and early middle Miocene Era aged clay rock with secondary silt, massive to finely bedded, dark-gray to olive-gray, locally interbedded with thin beds of light-colored sand and containing small shell fragments, primarily at the base (USGS 2015).

The surficial geology over the Manahawkin Project area is listed as Salt-Marsh and Estuarine Deposits. These soils are described as dark in color, ranging from brown, dark brown, gray, or black, and composed of silt, sand, peat, and clay with minor pebble gravel. They are deposited in salt-marshes, estuaries, and tidal channels and can be as thick as 300 feet in some areas. They were deposited during the Holocene Era and contain abundant organic matter (NJDEP 2014).

The majority of this project area is mapped to occur on Appoquinimink-Transquaking-Mispillion complex, very frequently flooded, soils with 0-1% slopes. This complex is described as mucky silt loam, silt loam and mucky peat associated with tidal marshes (Maser 2012). A small portion is mapped as containing Atsion Sand, tide flooded soils with 0-2% slopes. This soil is described as sand to loamy sand and is associated with frequent flooding and ponding within tidal marshes (Maser 2012) [**Figure 11**].

The Service's National Wetlands Inventory (NWI) indicates that the water bodies surrounding the Manahawkin Project area to the east, south and west (including Marshelder Pond, Standing Pond, Log Creek Pond and Cedar Creek) are classified as follows (**Figure 12**):

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UB L).

The NWI indicates that the wetlands within the Manahawkin Project boundaries are classified as follows:

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UB L).
- Estuarine, intertidal, emergent, persistent, regularly flooded, partially drained/ditched (E2EM1Nd),
- Estuarine, intertidal, emergent, persistent, irregularly flooded, partially drained/ditched (E2EM1Pd),
- Estuarine, intertidal, emergent, persistent, regularly flooded (E2EM1N), and
- Estuarine, intertidal, aquatic bed, irregularly exposed wetlands (E2ABM).

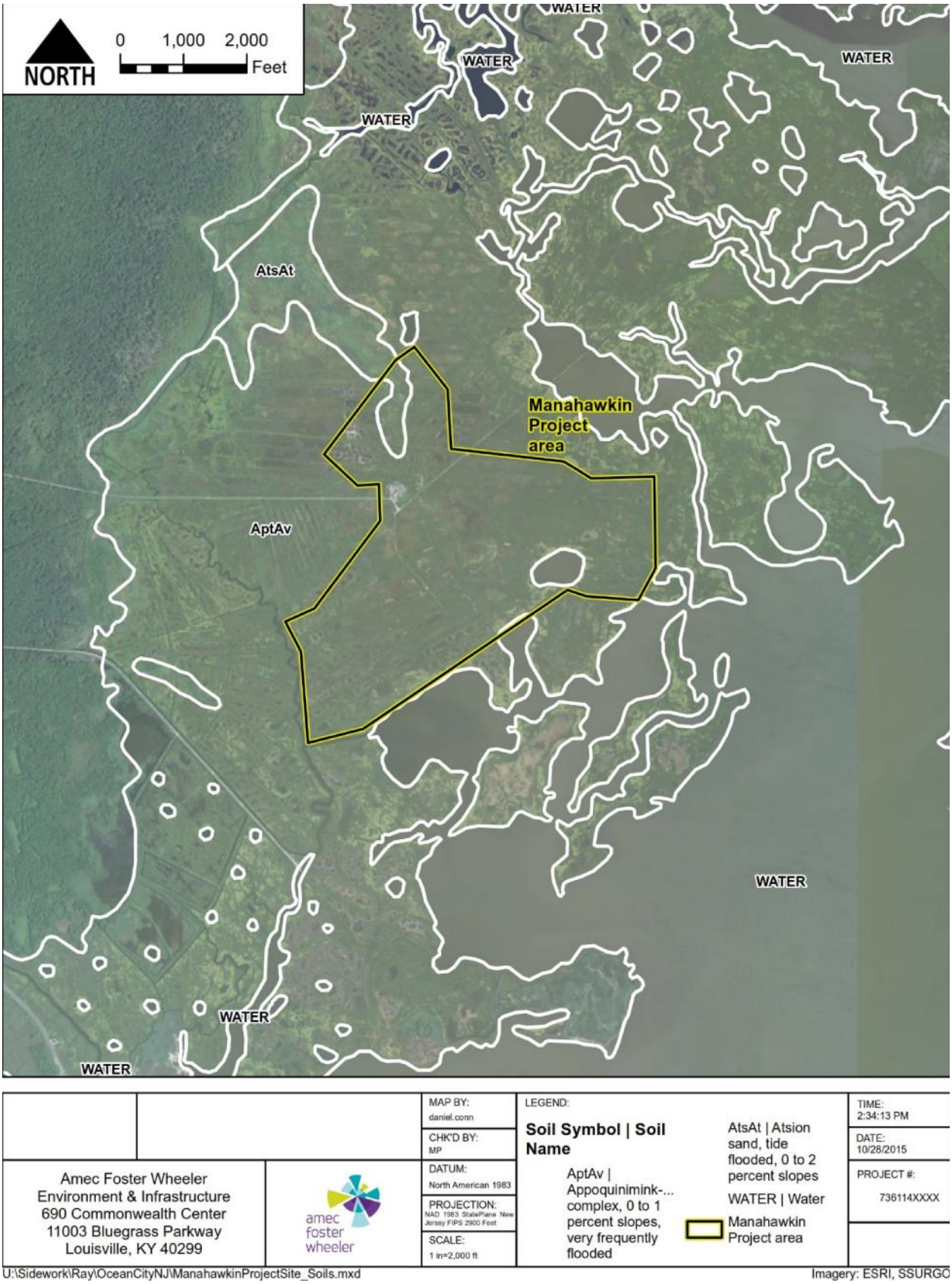

Figure 11. Soils Map of the Manahawkin Project area.

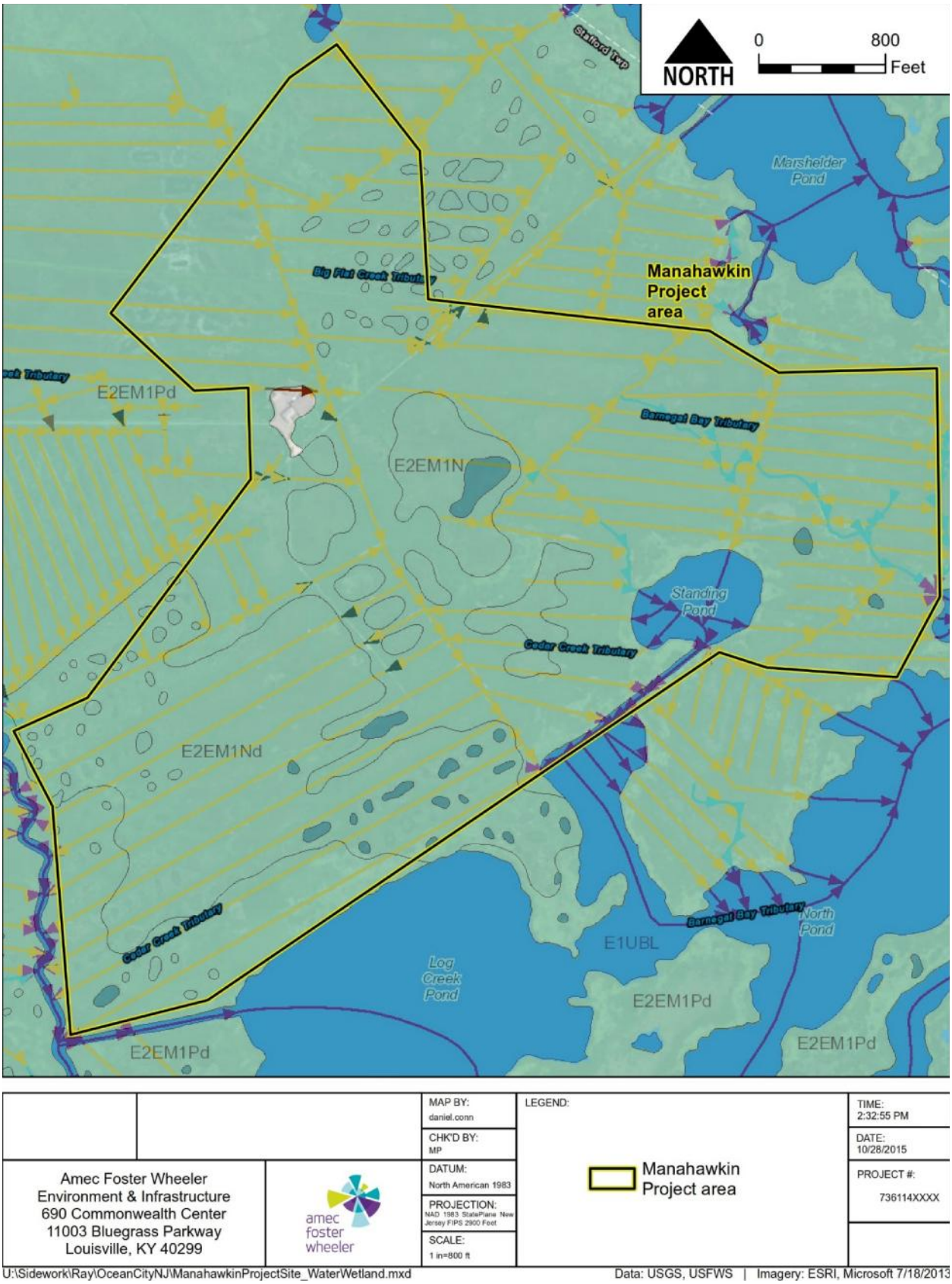

Figure 12. Wetland Map of the Manahawkin Project area.

1.3.2 Ocean Gate/Good Luck Point Project Area

The topography of the Ocean Gate/Good Luck Point Project area is relatively flat and is situated between zero and five feet above mean sea level. Net local surface water drainage from the marsh ultimately drains into the adjacent Toms River or Barnegat Bay. This project area is not unlike the Manahawkin Project area in that it is located within the outer Coastal Plain Physiographic section of New Jersey and the bedrock geology is classified as the Wildwood Member of the Kirkwood Formation (NJDEP 2014).

The surficial geology over the eastern half of the Ocean Gate/Good Luck Point Project area is listed as Salt-Marsh and Estuarine Deposits. These soils are described as dark in color, ranging from brown, dark brown, gray, or black, and comprised of silt, sand, peat, and clay with minor pebble gravel. They contain abundant organic matter and were deposited during the Holocene Era in salt-marshes, estuaries, and tidal channels and can be as thick as 300 feet in some areas (NJDEP 2014).

The surficial geology over the western half of this Project area is listed as Cape May Formation, Unit 2. These soils are described as lighter in color, ranging from very pale brown, yellow, reddish yellow, white, olive yellow or gray, and comprised of sand, pebble gravel, minor silt, clay, peat, and cobble gravel. They were deposited during the late Pleistocene Era as marine terraces and can be as thick as 200 feet in some areas (NJDEP 2014).

The majority of this project area is similar to the Manahawkin Project area in that it is also mapped to occur on Appoquinimink-Transquaking-Mispillion complex, very frequently flooded, soils with 0-1% slopes. However, a small portion is mapped as containing Berryland Sand, rarely flooded soils with 0-2% slopes. This soil is described as very poorly drained, sandy, eolian deposits and/or fluviomarine sediments creating broad, nearly level areas adjacent to swamps and in bottoms of closed depressions at levels just above the tidal mark (USDA 2015) [**Figure 13**].

The Service's NWI indicates that the water bodies surrounding the Ocean Gate/Good Luck Point Project area to the north and east (including Toms River and Barnegat Bay) are classified as (**Figure 14**):

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UBL).

The NWI indicates that the wetlands within the Ocean Gate/Good Luck Point Project area boundaries are classified as follows:

- Estuarine, subtidal, unconsolidated bottom estuarine and deepwater habitats (E1UBL),
- Estuarine, intertidal, emergent, persistent, regularly flooded, partially drained/ditched (E2EM1Nd),
- Estuarine, intertidal, emergent, persistent, irregularly flooded, partially drained/ditched (E2EM1Pd),
- Estuarine, intertidal, emergent, persistent, irregularly flooded (E2EM1P),
- Palustrine, scrub-shrub, needle-leaved evergreen, seasonally flooded (PSS4C),
- Palustrine, emergent, persistent, seasonally flooded (PEM1C),
- Palustrine, forested, broad-leaved deciduous/palustrine, forested, needle-leaved evergreen, saturated (PFO1/4B),
- Palustrine, forested, needle-leaved evergreen/palustrine, forested, broad-leaved deciduous, saturated (PFO4/1B) wetlands, and
- Palustrine, unconsolidated bottom, permanently flooded freshwater ponds (PUBH)

Amec Foster Wheeler Environment & Infrastructure 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, KY 40299	amec foster wheeler	MAP BY: daniel.conn CHK'D BY: MP DATUM: North American 1983 PROJECTION: NAD 1983 StatePlane New Jersey FIPS 2900 Feet SCALE: 1 in=600 ft	LEGEND: **Soil Symbol | Soil Name** AptAv | Appoquinimink-Tran... complex, 0 to 1 percent slopes, very frequently flooded BerAr | Berryland sand, 0 to 2 percent slopes, rarely flooded MumA | Mullica sandy loam, 0 to 2 percent slopes PssA | Psamments, 0 to 3 percent slopes PstAt | Psammaquents, sulfidic substratum, 0 to 3 percent slopes, frequently flooded WATER | Water Ocean Gate/Good Luck Point Project area
			TIME: 2:27:42 PM DATE: 10/28/2015 PROJECT #: 736114XXXX

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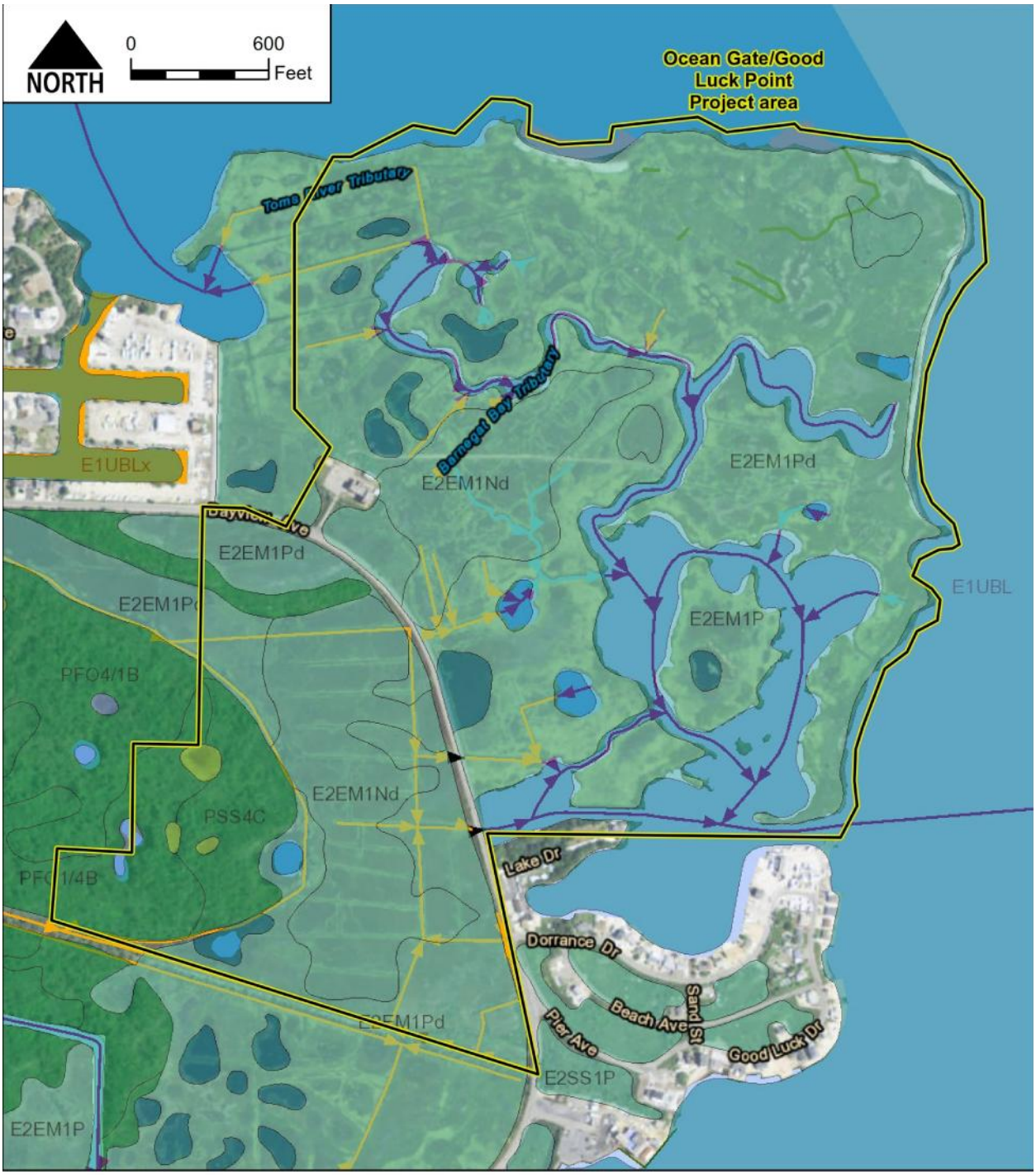
Imagery: ESRI, SSURGO

Figure 13. Soils Map of the Ocean Gate/Good Luck Point Project area



		MAP BY: daniel.conn	LEGEND:
		CHK'D BY: MP	Ocean Gate/Good Luck Point Project area
Amec Foster Wheeler Environment & Infrastructure 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, KY 40299	amec foster wheeler	DATUM: North American 1983	
		PROJECTION: NAD 1983 StatePlane New Jersey FIPS 2900 Feet	
		SCALE: 1 in=600 ft	

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PROJECT #: 736114XXXX	

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Data: USGS, USFWS | Imagery: ESRI, Microsoft 7/30/2013

Figure 14. Wetland Map of the Ocean Gate/Good Luck Point Project area.

2.0 PREHISTORIC AND HISTORIC CONTEXTS

2.1 Paleoindian Period (12,000-8,000 BC)

Our knowledge of the Paleoindian occupation of central New Jersey, and the Northeast in general, is limited by post depositional taphonomic processes. These include deposition, erosion, and in coastal areas, sea level rise. Urbanization and development have further exacerbated site losses across the Northeast. Despite this, archaeologists have recovered important data with regard to the environment, subsistence and settlement patterning, chronology, lithic materials use, and migration/regional adaptation.

The Paleoindian use of the current New Jersey coastline is largely unknown, as sea levels were rising rapidly during the early Paleoindian period. Around 12,000 years ago (Terminal Pleistocene) as much as 62 miles (100 km) of additional coastline could have been available for habitation. This landscape would have exhibited a variety of vegetation including spruce, pine and fir, and tundra-like zones around swamps and on elevated landforms (Marshall 1982). In general, the Paleoindian period was cold and dominated by the development of pre-boreal spruce and pine forests (Stewart 1991). The Early Holocene environment was a dynamic one in which the boreal parkland forest, with a temperate hardwood component, overspread the area after the Younger Dryas stadial, around 12,000 BP (McWeeney 1999; Newby et al. 2005).

Paleoindian sites tend to be located on low order streams, around upland lakes and wetlands, or on dunes and high points within former glacial lakebeds (Curran and Dincauze 1977). Large occupation sites, such as Bull Brook (Robinson 2009, Byers 1954), are few, and may represent either repeated visitations over time by moderately-sized bands, or pioneering base camps from which smaller groups radiated out to colonize the surrounding landscape (Dincauze 1993).

Subsistence-wise, the human population had to have been small, mobile, and adapted to a generalist subsistence strategy (Curran and Dincauze 1977). There is no clear evidence associating large Ice Age mammal remains with Paleoindian artifacts, but a few calcined bones (extrapolated to be Caribou) and several unidentified berry seeds have been reported from Maine (Spiess et al. 1998) and fluted points and caribou bones were recovered from the same strata at the Dutchess Quarry Site in New York (Marshall 1982).

Paleoindian lithic materials sources are varied, with widespread use of only a few cryptocrystalline silicates, quartzites, and rhyolites (Boisvert 1998; Bonnichsen et al. 1980; Moeller 1980). However, the view of far-ranging Paleoindian groups covering great distances for lithic procurement and subsistence has been challenged by new models of settling-in and utilization of localized sources (Jacobson 2001). Typologically, Paleoindian point styles appear to fit into a chronological order of early (Gainey/Bull Brook points), middle (Barnes/Neponset points), and late un-fluted, parallel flaked Holcombe or Eden-like points (Spiess et al. 1998). These style groups evince a great deal of attribute overlap, and intermediate forms are common. More than one style may appear in a given site, supporting the idea of continuous habitation following initial colonization.

Significant Paleoindian sites in New Jersey include the Zierdt Site in Sussex County, the Plenge Site in Warren County, and the Turkey Swamp Site in Monmouth County. These sites should be interpreted in association with sites from nearby portions of New York and Pennsylvania, including the Port Mobil Site on Staten Island, the Shawnee-Minisink Site, and the West Athens Hill Site. When interpreted as a group, these sites indicate that Paleoindian habitation in and around the study area was well established by the end of the Paleoindian period, including base camps, short

term hunting camps, and quarry sites. In addition, isolated fluted point finds have been recovered from all of New Jersey's physiographic provinces within the study area, although with less frequency than in the northern parts of the state (Marshall 1982).

2.2 Archaic Period (8,000-1,000 BC)

The Early Archaic environment was a time of great change, with sea levels rising and the climate becoming warmer and dryer. A mixed pine-hardwood forest began establishing itself over most of the northeast and human groups quickly developed home territories based on post-glacial river and lake systems, as well as other physiographic features (Nicholas 1988).

In the Southeast United States, lanceolate Paleoindian points gave way to new, smaller projectile points that reflected technological adjustments to warmer and dryer forest conditions. The chronological sequence demonstrates that projectile point forms evolved from the Dalton point to side-notched points, then into corner-notched forms, and finally culminated with bifurcate base points (Broyles 1971; Coe 1964; Tuck 1984). These styles appear thinly distributed into the Northeast between 11,500 and 10,000 BP Bifurcate base points become dominant around 9000 BP throughout the Eastern Woodlands and represents an Early Archaic temporal marker. For the project area, these points are reported primarily from farmed fields or findspots. It is likely that most of the significant sites in the area were submerged by rising sea levels, filled for industrial use, (i.e. the nearby Meadowlands Sports Complex and Newark Airport), or disturbed by urban development (Kraft and Mounier 1982). In spite of limited evidence the majority of projectile points from New Jersey show clear influence from the Carolina Piedmont, although new point forms not present in the Piedmont also appear during this period (Kraft and Mounier 1982).

These point styles appear to have diffused rapidly into the Northeast. Kinsey (1972) reported a number of bifurcate points as surface finds in the Upper Delaware Valley. Further evidence for this progression in the Upper Delaware Valley comes from two Early Archaic components in superposition above the Shawnee-Minisink Paleoindian finds. At the Shawnee-Minisink Site, the earliest Early Archaic component appeared to be transitional between Paleoindian and later Early Archaic forms (Dent 1991). A single projectile point type having a broad-bladed corner-notched form with a weakly notched base was recovered. Numerous bifaces, scrapers, drills, blades, knives, gravers, cores, choppers, and hammerstones also were present. These site components are estimated to date to approximately 10,000 years ago. Dent (1991) surmised that this site represented a field camp established to exploit nearby chert resources.

During this time, Dent believes that a change in forest ecology had occurred. This change occurred around 10,000 years ago when the boreal pine-birch forest gave way to a pine-oak boreal forest. After 9211 BP, an oak-hemlock deciduous forest became established in the Upper Delaware Valley. Dent believes that the succeeding Early Archaic components, estimated to date to between 9500 and 7000 years ago are linked to this later forest pattern. According to Dent, the Fitting-Ritchie hypothesis is not supported by these data, as population increase and adjustment to changing environments were clearly taking place at Shawnee-Minisink.

The Middle Archaic presence in New Jersey first was recognized in surface collections by their similarities to the Middle Archaic projectile point forms of New England and the Carolina Piedmont (i.e., Stark, Neville, Merrimack, Stanley Stemmed, and Morrow Mountain). Middle Archaic sites with undisturbed deposits are extremely rare near the study area, with notable exceptions on Staten Island and the banks of the Lower Hudson River (Kraft and Mounier 1982). These similarities may represent human populations or technologies that spread northward as the mixed oak forest ecosystem expanded into the Northeast. Outside the study area, the Rockelein Site

yielded a Middle Archaic level in addition to its Early Archaic component (Dumont and Dumont 1979). The Middle Archaic locus produced Stanley/Neville points and associated tools. One unique artifact from this locus was an incised stone tablet. Coe (1964) reported several similar tablets from the Hardaway and Doerschuk sites in North Carolina and an additional tablet has been reported from southeastern Massachusetts. The function of these incised slates is unknown.

Late Archaic population growth is inferred from the large number of archaeological sites found throughout the Northeast. This population increase coincides, shortly after 6000 BP, with the final stages of the Middle Holocene. By this time, the Laurentide ice sheet had wasted away (Delcourt and Delcourt 1981). Large areas of eastern Canada became available for plant, animal, and human colonization, and rising sea levels with warming ocean waters saw a steady northward increase in bountiful finfish and shellfish habitats. Deciduous trees spread north into what had previously been less productive boreal forests. These forests included nut-bearing hickory, beech, and chestnut trees. These species would have increased the amount of mast food available to humans and wild game, increasing the carrying capacity of the land and favoring human population increase (Snow 1980).

Human populations adapted well to modern forests. The common presence of large storage pits indicates rich surpluses, while evidence of burial practices provides insights into the complex social and ideological aspects of cultures at this time (Dincauze 1975). The Late Archaic became a time of regional diversification in which several food-getting adaptations have been identified (Tuck 1978).

Generally, the economic adaptation of all Late Archaic groups was that of foraging in a bountiful forest environment. Their social systems were those of large groups living at continuously occupied base camps, with small seasonal task sites distributed over a home territory. Technologically, all traditions relied upon various forms of projectile points. Other tools included stone knives, blades, scrapers, various woodworking tools (some utilizing beaver incisors), grinding tools, net sinkers, and various forms of ground stone axes and adzes. The manipulation of these tools allowed Late Archaic groups to generate durable-container technology (Emerson 2009) such as the carved steatite bowl that appeared with the Susquehanna Tradition (Ritchie 1969). The widespread distribution of non-local lithic materials points to an elaborate exchange system.

Three distinct lithic traditions operated in the Late Archaic. The Small-Stemmed Point Tradition was characterized by a series of narrow stemmed, notched, and triangular points commonly made of quartz and quartzite, although chert and other materials are sometimes noted. The Small-Stemmed Point Tradition appears to be a continuation of Middle Archaic Merrimack antecedents (Dincauze 1976). The Laurentian Tradition, in contrast, tends to have broad-bladed notched and stemmed projectile points of chert, rhyolite, quartzite, and to a lesser extent, quartz. In the Lake Forest region of what is now New York and adjacent areas, Ritchie (1969) identified the Laurentian Tradition on the basis of thick, parallel-sided notched or stemmed projectile points, drills, knives, ground slate, and ivory or bone points. The third tradition, Susquehanna, tends to be later in time and technologically more complex than either Laurentian or Smallstemmed traditions. However, all three overlap spatially and temporally to some extent and there appears to be a wide range of variation from patterns of resource and food procurement to mortuary practices (Dincauze 1968; 1975). Other ground stone tools included axes, adzes, gouges, and ulus. These are recognized by two phases in the Hudson Valley, the Vosburg and Vergennes phases.

2.3 Woodland Period (1,000 BC to A.D. 1000)

The Early Woodland Period is defined by the introduction and wide use of Vinette I pottery approximately 3000 years ago. Culturally, this may not represent a significant change in ideology, as burials appear to consistently lack ceramics as grave offerings (Tuck 1978). In addition, some Early Woodland cremation burials are found in cemeteries used initially by Terminal Late Archaic peoples, making it possible to argue for cultural continuity (Leveille 1999).

The eastern equivalent of this Terminal Late Archaic/Early Woodland trajectory is the Meadowood phase (Ritchie 1969). Similar to Archaic sites, Meadowood sites tend to be located on sizable streams and small lakes and ponds and have yielded evidence that foraging continued to provide the subsistence base. Meadowood artifact complexes include thin, side or corner-notched projectile points that often are made from thin trianguloid bifaces. Drills and end scrapers round out this lithic toolkit.

Ceramics consisted of Vinette I pottery, and cigar-shaped smoking pipes. Bone awls and harpoon forms are reported from western New York, as well as antler flaking tools. Ground stone objects included gorgets, birdstones, boatstones, and other objects often associated with burial contexts. Meadowood burial complexes were distributed eastward from western and northern New York, and northward into southeastern Ontario and southern Quebec.

In southern New England, the characteristic projectile point types were Adena, Rossville, Lagoon, and Meadowood. The Early Woodland artifact inventory also includes trapezoidal gorgets, ovate cache blades, birdstones, boatstones, bar amulets, and tubular pipes. Blocked end tubular pipes, copper, and shell ornaments identified from Adena related Middlesex burial complexes further round out the artifact assemblage (Dincauze 1974).

Tuck (1978) asserted that these Early Woodland mortuary practices were an outgrowth of a general Northeast Burial Cult with several regional manifestations. Ideologies centered on commonly-held traits. They included elaborate mortuary ceremonialism, red ocher covered burials, and numerous grave offerings. All appear to have been manifestations of a pan-northeastern credence.

In the New York, New Jersey, and Southern New England region, these mortuary practices are called the Middlesex complex (Ritchie 1969). While some archaeologists have considered it a complex of mortuary practices “grafted” onto Meadowood cultures, such a characterization appears simplistic when one considers the complexity of cultural systems and the archaeological record.

Snow (1980) is likely correct in assigning Middlesex as the mortuary subsystem of Meadowood. The diffusion of Adena-like mortuary traits (lacking mound building in New England) continues to remain unresolved. Some hypothesize that it was the actual migration of the Adena people from the Midwest to the Atlantic Coast (Ritchie and Dragoo 1959). Others suggest that acculturation is the best explanation (Griffin 1961).

For the Early Woodland, there is no evidence for settlement and subsistence change. Fiedel (2001) hypothesized that something in this period caused a severe, region-wide population decline. This hypothesis also may be attributed to a shift in cultural practices that diminished the archaeological visibility of sites. For example, many radiocarbon dated sites lacking in diagnostic artifacts, fall within this time span and are associated with decidedly non-diagnostic Small Stemmed quartz industries. Multi-component sites, where subsequent Middle to Late Woodland

occupations may have obscured evidence of Early Woodland habitation, also have not been considered.

Early Woodland components at the Zimmerman and Faucett sites appeared similar to those of the Terminal Late Archaic with scrapers, drills, netweights, hammerstones, adzes and celts. Ground stone also included gorgets and pendants. Blade caches also are known. Some fire pits yielded charred nutshells and large stone-filled hearths also were reported. In the Upper Delaware, Meadowood-associated pottery is primarily early series exterior cord-marked interior smoothed with conoidal bottoms (Kinsey 1972). Kraft (1975b), however, indicates that the picture is not so clear for the region. He notes that the earliest ceramic vessels are Marcey Creek Plain, which appear in the Terminal Late Archaic and continue into the Early Woodland. Vinette I pottery generally is contemporary with Marcey Creek, and has been found on numerous sites in the Upper Delaware Valley, although in small quantities. Other Early Woodland ceramics include Kinsey's (1972) early series and the Abbott Horizontal Dentate, located in southern New Jersey (Cross 1956).

The Middle Woodland begins approximately 1700 years ago with the evolution of Point Peninsula-style pottery, decorated by applying various stamping and corded stick impression techniques (Kenyon 1983). Concurrently, the elbow pipe is introduced and projectile point forms included Green, Fox Creek, and Jack's Reef varieties. Cache blade concentrations also persist (Feder 2004). As in the rest of the Northeast, the Middle Woodland remains poorly documented and understood in New Jersey. There is no evidence of settlement and subsistence change for the Middle Woodland, although larger sedentary coastal settlements appeared and rudimentary horticulture may have begun (Cross 1956). Cross (1956) characterizes the Early and Middle Woodland periods as displaying a large degree of cultural continuity, with behaviors changing very gradually over time. These observations have led academics to consider the Early and Middle Woodland stages as a single phase within New Jersey.

Approximately 1000 years ago, the appearance of Owasco-like ceramics, decorated with cord marking, dentate stamping and other designs, ushered in the Late Woodland. The study area would have been part of the broad region within New Jersey, eastern Pennsylvania, southern New York, and the northern portions of Delaware and Maryland that was the homeland of the Lenape (Delaware) Indians (Kraft and Mounier 1982).

Late Woodland sites in coastal locations often occur with shell middens, which reflect an intensification of shellfish collecting and marine resource use. Late Woodland subsistence patterns show a general shift toward the incorporation of horticulture into an already bountiful foraging economy, so that, after A.D. 1100 and clearly by A.D. 1500, maize, beans, and squash are common in the archaeological record. The degree to which prehistoric groups became dependent upon horticulture, however, is unclear as foraging continued to be important. Many archaeologists have inferred steady population growth throughout the Late Woodland due to clear increases in artifact frequencies and site sizes. The Late Woodland dates from A.D. 1000 to the time of European contact. During this span of 500 years or more, Native American cultures underwent a period of intensification in terms of food production; technologic, economic, political and social complexity; and population increase. Settlement patterns show that Late Woodland groups were becoming more sedentary and that regional cultural differentiation was taking place.

Artifacts recovered from Late Woodland sites show little change in lithic toolkits. Late Woodland groups appear to have favored the triangular Levanna and Madison projectile points over earlier notched, lanceolate, and stemmed forms. Triangular points first appear in terminal Middle Woodland times (about A.D. 900) and continue into the historic period. During the contact and

historic periods, analogs of brass and copper appear to have been made or traded. Ceramic styles appear similar to Owasco and later collared vessels found throughout New Jersey, New England, and coastal regions. More sumptuary items, especially decorative and personal artifacts also are found in Late Woodland sites. Objects such as bone, clay, trade glass beads, and ceramic pipes are numerous. Also common were human face motifs consisting of incised eyes and a mouth (Kraft 1975b). In the historic period, European trade items of metal and glass were added to the assemblage. It is not clear if these were by direct or indirect trade. In discussing the aboriginal industrial traditions in these assemblages, the term "Terminal Woodland" often is used. During this time, settlement appears to be that of extended family, dispersed horticultural communities along the river bottomlands. Unlike in central New York, there is no evidence for stockaded villages until the wars of the late seventeenth and eighteenth centuries (Kinsey 1983; Kraft 2001).

2.4 Contact Period (A.D. 1500-1700s)

The interface of coastal New Jersey and European exploration, exploitation, and colonization, constitutes a rich and varied set of texts that begin with some of the earliest explorers to reach North America. Recent scholarship has suggested that the first European to pass along the coast of present-day New Jersey was John Cabot in 1498 (Jones 2007 and 2009). The subsequent exploration and early settlement of the New York and New Jersey area was undertaken by the Dutch during the first quarter of the seventeenth century. Later known as the Dutch Golden Age, this period pushed the Netherlands to the forefront of art, architecture, science, and discovery (Huey 1991). The first expedition to this part of the world was conducted by Italian explorer Giovanni da Verrazano. He anchored in New York Harbor in 1524 and was welcomed by members of the Lenape or Delaware, a group of loosely affiliated tribes who spoke Munsee dialects (Goddard 1978). The warm greeting implies that by the sixteenth century the natives in this area were familiar with European explorers. In 1609, Englishman Henry Hudson, while searching for a passage to Asia, discovered the river that eventually bore his name. Hudson sailed north as far as Albany, where he profitably traded beaver and otter pelts with the Mahicans, relatives of the Lenape (Steele 1994). Maps produced in the seventeenth century provide additional details about the specific bands of Lenape who would have populated the project area between the Raritan and Elizabeth rivers. Goddard's (1978) synthetic map of seventeenth century bands identifies the Raritans living within the project area, while a seventeenth century map of New Netherlands identifies the Sahicans as occupying the land between the Raritan and Hackensack rivers. It is likely that the Sahicans and Raritans were analogous groups, as early European records often interchanged or confused the names of native bands.

2.4.1 Dutch Colonization

Henry Hudson's failed expedition to Asia was an undertaking of the Dutch East India Company, which held a 21-year monopoly on trade there. Upon the return of Hudson, the relatively small New Netherlands Company was created and incorporated in 1615 to exploit trade opportunities in North America. This new company was granted monopoly rights in North America between the 40th and 45th parallels for a period of three years. (O'Callaghan 1855). The company was responsible for relatively few settlements, although it should be noted that they did construct Fort Nassau, located in present-day Albany. After the expiration of the New Netherlands Company's monopoly, the shareholders continued their trade in North America until the incorporation of the larger Dutch West India Company (DWIC) in 1621. It was under the auspices of the DWIC that European activity within the project area first began.

Under Peter Minuit, the appointed director of the New Netherlands, the DWIC began to purchase land rights from the native peoples. In 1626, when the DWIC decided that a permanent settlement

would be established on Manhattan Island, land rights were purchased not only for Manhattan Island but also Staten Island “and some other places in that vicinity” (O’Callaghan 1855). It is possible that this transaction or transactions included the land at Ocean Gate/Good Luck Point and Manahawkin. In New Jersey, given the lack of recorded Dutch Settlements in the area, it is unlikely that there was an impetus to purchase the rights to this land. In 1638, Willem Kieft was appointed the fifth director of New Netherlands. Under his rule, the Dutch colonists entered a turbulent period in their history. Beginning in 1640, Kieft undertook a series of actions that antagonized both the Raritan/Sahicans on the New Jersey Mainland, and the Wecquaesgeeks, who lived north of the Harlem River (O’Callaghan 1855).

2.4.2 English Colonization

King Charles II gave the land in the project area to the inhabitants of Connecticut when the new Connecticut Charter was enacted in 1662. This lead to cursory inquiries for permission to settle this land in 1663 by members of the Connecticut Colony. However, disputes with then Governor Stuyveasant and the Dutch Government about the level of autonomy the colonists from Connecticut would have prevented settlement (Hatfield 1868). Subsequently, in March of 1664, the King granted a second charter for this same land, including the land between the Connecticut River and Delaware Bay, to his brother James the Duke of York. The Duke, commander of the navy, assembled an expedition that consisted of 4 warships. After arriving in New York Harbor in August, the Dutch surrendered their settlements to English control. The government of this land was left to Richard Nicholls, commander of the expedition that secured the surrender of New Netherlands (Hatfield 1868).

2.5 Historic Period (Ocean County)

In 1850, Ocean County separated from Monmouth County and became the second largest county in the state (Oxenford 1992; Miller 2000). The county is one of four New Jersey counties that border the Atlantic Ocean, and includes some of the busiest shipping lanes in the world. The region’s proximity to the ocean served as the catalyst for most of the early development, and arguably accounts for the majority of development during the late twentieth century. In 1685, the Proprietors of the Province of East Jersey began to buy land within present-day Ocean County from the Native Americans. The Proprietors then sold much of this land to settlers, attracting many from New England and Long Island. The original land patents for this area were awarded to William Penn and Dr. Daniel Cox in 1690. Around 1700, Penn and Cox hired Jarvus Pharo to survey their 12,000 acres of land, which extended from the Atlantic Ocean to west of present-day West Creek.

Early settlers were drawn to Ocean County by the economic opportunity presented by its natural resources and the religious freedom it offered. The area was heavily wooded at that time, and the numerous streams provided ample waterpower to establish mills. The forests contained plentiful game, and the accessible Barnegat Bay contained numerous varieties of fish, shellfish, and waterfowl. The region’s earliest residents were mostly Baptists, Quakers, and Presbyterians (Oxenford 1992; Miller 2000).

The numerous waterways leading into Barnegat Bay were the primary means of transportation in Ocean County until the mid-nineteenth century. Early roads supplemented the waterways and usually followed Native American trails. Eventually, the paths connecting landing points along the bay to settlements developed into roads along the shore connecting settlements. By 1716, the Main Shore Road, following the path of present-day Route 9, had developed into a popular route used frequently by Quakers traveling for trade and to attend monthly religious meetings. By the

end of the century, the Main Shore Road connected a string of shore villages from Toms River to Cape May. Fishermen from Egg Harbor, Barnegat, and Absecon used the Main Shore Road to transport their catch of oysters, fish, and clams to the Delaware River (Oxenford 1992:67-68; Allaback 1995).

Small villages developed around mills across Ocean County. These mills provided timber essential for the shipbuilding industry that developed in the county. Residents also made a living fishing, oystering, clamming, and hunting waterfowl for sale in the urban markets. Ocean County also served as the center of New Jersey's bog iron production from the end of the American Revolution to the mid-nineteenth century (Oxenford 1992; Allaback 1995).

As noted, during these early periods, and until 1850, Ocean County remained a part of Monmouth County. Eventually, Joel Haywood of West Creek led a movement to separate from Monmouth County. Haywood's family was among Stafford Township's early residents and Haywood was a Methodist minister, local Whig Party leader, and former New Jersey assemblyman. Haywood wrote a letter to the state legislature in 1849 proposing that Monmouth County be divided, with the southern half below the Manasquan River becoming a new county. Haywood's proposal came from an ongoing complaint of Stafford Township residents that the Monmouth County Board of Freeholders did not spend adequate funds for roads, bridges, and other needs in the southern part of the county (Snyder 1969:201-209).

The legislature approved the bill in 1850. The newly formed Ocean County had 10,032 residents. The newly created county consisted of Brick, Dover, Jackson, Plumsted, Union, and Stafford Townships (Snyder 1969:201-209). By the time Ocean County was established, the depletion of hardwood trees had already caused a decline in the regions sawmills and shipbuilding industry. As a result, many of the settlements in Ocean County declined, and agriculture became the prominent industry, with cranberries being widely grown. Eventually the region became a popular vacation destination, and the opening of the Tuckerton Railroad in 1871 allowed greater access to the general public. A group of local hotel owners and Philadelphia businessmen sponsored the rail line, which ran from Whiting to Tuckerton. The rail line cut through the wooded Pine Barrens, and made stops in the settlements of Waretown, Barnegat, Manahawkin, West Creek, and Parkertown, before reaching the turntable at Tuckerton (Miller 2000:294). This endeavor allowed an influx of seasonal residents and development within the region, including construction of a passenger station at Waretown Junction (Miller 2000:397). Ultimately, the construction of automobile bridges across Barnegat and Little Egg Harbor bays in 1914 provided more open access to the bay and shore areas. As the tourist trade increased, hotels were built in Waretown, Barnegat, Tuckerton, Manahawkin, and West Creek, but these remained simple with little to distinguish them from earlier boarding houses. The first modem hotel was the Resort House in Point Pleasant Beach which opened in 1878; it was soon followed by other elegant resort hotels along the shore in Long Beach Island and Seaside Park (Miller 2000:294; Oxenford 1992:67-71, 103-104).

Ocean County grew rapidly in the twentieth century as improved transportation brought increased tourism and housing development. When the county was formed in 1850, it was New Jersey's second largest in area, but the least densely populated. As noted, the automobile brought new visitors and residents to the county for leisure and tourism. These weekend middle class tourists replaced the upper class visitors that came for a season. The Main Shore Road developed into a popular route for automobile tourists on their way to resorts along the Jersey Shore. In 1904, the Board of Freeholders constructed the first gravel road in Ocean County to link Lakewood and Point Pleasant (Oxenford 1992:79). Subsequent construction included roads that connected Point Pleasant and Seaside Park, and one that traversed Long Beach Island. The County continued

shore road improvement projects throughout the 1920s and 1930s. As roads improved, tourism increased and tourism-related businesses, such as campgrounds, motels, and diners lined Ocean County highways (Kise, Straw & Kolodner 2001:27-53).

Improved highways brought new residents to the county, and the population reached 56,622 by 1950 (Miller 2000:568; Kise, Straw & Kolodner 2001:27-53). In the 1950s, construction of the Garden State Parkway served as the catalyst for the rapid population explosion in the county. The parkway linked higher-paying jobs in northern New Jersey with affordable housing in southern New Jersey. Farmland and small villages were transformed into bedroom communities for people working in northern New Jersey, Atlantic City, and Philadelphia.

2.5.1 The American Telephone and Telegraph Company (AT&T)

In 1929, AT&T selected and subsequently developed the Ocean Gate/Good Luck Point Project area as a high-frequency, shortwave radio transmitting station that was designed to provide telephone ship to shore service and to overseas locations. The station was identified as Ocean Gate Radio that operated under the call sign WOO (Whiskey Oscar Oscar). The original installation included a large array of curtain antennas. In the mid-1950s, the curtain array was replaced by a cluster of rhombic antennas.

In addition to the high-seas service, Ocean Gate Radio transmitted for 70 years to Paris, Frankfurt, Santiago, London, Buenos Aires, San Juan, Panama, Bermuda and Rio di Janeiro. Ocean Gate's companion location, constructed in the late 1930s, was the shortwave receiving station at Manahawkin.

Located 10 miles south, below Forked River, Manahawkin was the main receiver facility for WOO and the U.S. terminal for the sole undersea cable from Bermuda. The later development of numerous undersea cables across the Atlantic and the expansion of satellite communication led to the closure of Ocean Gate/Good Luck Point and Manahawkin in 1999 (Mounier 1990).

The information provided below is a brief history of the AT&T shortwave transmitting station at Ocean Gate/Good Luck Point and was synthesized from an article written in the *Toms River Courier* on March 14, 1930.

The transmitting station was located on a tract of salt marshes that was unobstructed to the sea which made the location suitable for radio transmissions. In addition to the antenna, the transmitting station had a building that housed the transmitting sets and associated equipment that would link radio and wire circuits, and the auxiliary machinery necessary to operate the station. This building was constructed of 12-inch concrete block. All of these facilities were constructed only 18 inches above the high water line. The main building was constructed two stories high and with a small basement under one end for the heating plant. The foundation for the building was constructed of reinforced concrete to a depth of five feet below the natural grade. The basement was constructed to a depth of ten and a half feet below grade.

The first floor of the building housed the generators that would supply current for the transmitters and the transformers that raise the outside power supply to various required voltages, and other machinery. The heavy-duty transformers, were placed in vaults. In order to cool the system, a water-cooling system and large air blowers were also needed to cool the circulating water.

Also on the first floor was the "line terminal room" where the wire lines from the long distance office terminated. This room was completely sheathed in copper, to prevent the radio waves from

the antennas, located outdoors, from coming back and impairing operation of the equipment in the room. All of the machinery on this floor was insulated with cork to avoid any vibration from their operation that would have disrupted their delicate radio equipment.

The second floor was where the transmitting sets were housed. The rectifier was located in the back of the building that was used to convert the alternating current from the outside power source into the direct current required in the vacuum tubes.

The two antennas were the "curtain" type and consisted of networks of wires in the form of coarse-mesh curtains suspended from 70-foot poles, the line poles broadside to the direction of transmission to give a highly "directional" transmission.

The signals from this facility covered a range over which the antennas could transmit and cover the principal steamship lanes to Europe. The efficiency of each antenna was further increased by suspending a similar curtain behind the active one. This served to reflect radio energy that ordinarily would have gone toward the west with full power.

2.5.1.1 Long Lines Short Wave Radiotelephone Receiving Station at Manahawkin

By the late 1920s, studies had indicated that improvements were needed to improve radiotelephone communications from ship-to-shore that could handle the increased communication traffic. A new system (MUSA – Multiple Unit Steerable Antenna) had been developed by Bell Telephone Laboratories that with its associated apparatus, MUSA would allow clearer radio circuits and would add more time to the radio day (i.e., the time in a day during which the channels are available commercially). MUSA was especially important because now it was possible to monitor the incoming radio waves, provide a selective system for their reception, and furnish the means for combining the waves into a single telephone circuit. For radiotelephone communications, this was extremely important and greatly improved communications over long distances. To do this it was necessary to use a number of rhombic antennas, in fact, the more antennas used the better the results or the sharper the "steering" (Hoyt 1939:4 and 5; Fink and Bennett 1930).

This new MUSA communication system required a new and improved antenna array. The length of the new antenna system, along with other technical requirements made it necessary to find a new location for this new system. The transatlantic short wave receiving station at Netcong, New Jersey could not handle this new system. The receiving station at Forked River, New Jersey was also reviewed as an alternative location but was also found to be inefficient for the needs of the new system. For these reasons, in December 1936, The Maritime Division of the American Telephone and Telegraph Company (AT&T) began searching for a suitable location for the new MUSA antenna system (Borthwick 1939).

The land requirements that needed to be met included: an area three miles square which needed to be free of roads, electric railroads, power lines, towns, and all sources of interference (Weber 1938). In addition, the land should be as level as possible and the area should have a uniform water table. After review of 25 potential locations in Long Island and New Jersey, were field reviewed and then submitted to legal for potential land costs, a location in Manahawkin, New Jersey was chosen as a suitable location in the salt marshes of New Jersey (Borthwick 1939).

The task to build the communication facility and antenna array proved to be a challenge. Construction of the roads, buildings and antenna system began in 1938. First, roads were required to access the new property. Due to the marshy conditions in this part of New Jersey, the

roads were built to float on top of the marsh. This type of road was constructed in this manner. First, a covering of pine planks was put down. Next, salt hay was laid on top of the pine planks and then a sod wall was built to keep the plank and hay road material together. This road construction made the road rise about three feet above the surface of the marsh (Fink and Bennett 1939).

The construction of the receiver building and garage also proved to have their own challenges. Because of the constant changing water levels, muck, and sand. The buildings were constructed on yellow pine “piles” that were driven deep into the salt marsh. The tops of these clusters of piles were at about the marsh surface. Above the piles were caps of concrete. The floor of the buildings were then tied together by a grid system of reinforced concrete beams which rests on these concrete caps (Fink and Bennett 1939).

Because the receiving station was constructed out in an open marsh, it was susceptible to strong winds and driving rain. Because of this, it was particularly important to construct the receiving building in such a way as to withstand moisture from the sides as well as the roof. Therefore, the brick outside walls of the station were painted with waterproofing cement. Another way of keeping the moisture out was to create a space between the outer wall and the inner wall two-and-a-half inches. This would allow any water or moisture penetrating the outer wall to run down this open space to an area below the floor so as to avoid corrosion and mold issues inside the receiving station. In addition to these measures, an overhanging ornamental iron cornice gutter protruded approximately two feet from the face of the walls. This protected them from heavy rains by acting as a small canopy or visor. In addition, to withstand weather conditions at the shore, the roof had been made of copper (Fink and Bennett 1930; 1939). The main building, incidentally, was heated by a hot water circulating system which included an oil burner.

The construction of the antenna system proved to have its own set of construction issues. The transmission array required the erection of sixty-eight poles with guy wires and anchors. The antenna system was a “rhombic” (diamond shape) antenna which is a broadband directional wire antenna used in the high frequency or shortwave band. The antenna system consisted of one to three parallel wires suspended above the ground in a diamond shape, supported by poles at each vertex to which the wires were attached by insulators (Bennett and Moroze 1939).

On the Manahawkin Project area, 16 rhombic antennas, consisting of 64 poles (four poles for each antenna), were placed end to end over about two miles. The poles were approximately 65 feet above ground and were set in the diamond shape about 600 feet long. To erect the poles in the muck of the salt marsh, it was necessary to first remove as much muck as possible, then, stand the pole in the hole, and then with high pressure water force the sand and clay out until proper depths (between nine to ten feet) were achieved and the pole settled. Depending on its location in the individual antenna, each pole was permanently braced with one or three guy wires to secure it in place (Bennett and Moroze 1939).

Each of the rhombic antennas required a coaxial cable for the transmission lines connected to the receiving equipment in the building. The transmission lines were laid underground (approximately 30 inches deep) to avoid temperature changes which would have had an adverse effect on transmission of the radio waves. Due to the marsh environment and in order to protect the copper pipe from corrosion, it was necessary to have the lines covered by an application of heavy layers of coal tar enamel. This was then reinforced with an asbestos wrap (Bennett and Moroze 1939).

Since the station was originally constructed, additional antennas have been added to the array. The addition of the antenna resulted in an even higher number of transmissions from both ship-to-shore and land transmissions all over the world. In fact, the stations in New Jersey were critical in communications to Europe. During World War II, the station at Ocean Gate/Good Luck Point was under armed guard. Messages that were transmitted from the Ocean Gate/Good Luck Point station were critical to the war effort (Ocean County News Journal 1976).

3.0 BACKGROUND RESEARCH

3.1 Research at the SHPO, NJSM and AT&T Archives and History Center

The background research focused on the examination of historical and contextual information to create an understanding of how the land within the Project areas was used and developed over time. This research identified known architectural and archaeological resources within the Project areas and a 1.5-mile buffer around the Project areas. Records on file on the NJ GeoWeb and at the offices of the NJ SHPO located in the New Jersey Department of Environmental Protection (NJDEP) and the NJ State Museum (NJSM) in Trenton were examined to identify known archaeological sites, architectural resources and prior cultural resource surveys of the Project areas. In addition, relevant information stored at the AT&T Archives and History Center in Warren, New Jersey, was also reviewed.

The NJSM houses both prehistoric and historical site files for the state as well as select cultural resource management (CRM) reports. The NJ SHPO is a repository for CRM reports of investigations conducted throughout the state, as well as for the list of properties on the NRHP. Historic maps of the Project area were also reviewed to identify historic houses, cemeteries, and other historic structures indicative of potential archaeological sites.

Completion of this background research accomplishes the following: (1) indicates areas previously surveyed, whether previously recorded archaeological sites or architectural resources are located in the area, (2) provides information on the types of unrecorded archaeological sites that could be present in the Project areas, and (3) provides a basis for specifically gauging archaeological potential within undisturbed and unsurveyed portions of the Project APE. This research also helps to develop a cultural resources context within the Phase IA report; a critical component in assessing the cultural significance of individual sites, and assisting in the development of site-specific management recommendations.

The objective of the background research was also to assess the potential for the proposed action to impact archaeological, cultural, and historical resources on the Ocean Gate/Good Luck Point and Manahawkin Project areas. The background research indicated there are no historic properties listed on the NRHP within the immediate vicinity of the Ocean Gate/Good Luck Point Project area. However, on the Manahawkin Project area, in the southwestern portion of the Project area is the boundaries of archaeological site grid EK229. Archaeological site(s) have been identified within this site grid area, but not within the proposed Manahawkin Project area APE. There are no recorded historic structures or historic districts within the Manahawkin Project area.

The Ocean Gate/Good Luck Point Project area went through the Certification of Eligibility process to the New Jersey Register of Historic Places in 2007 (AT&T Transmitter Building and Antenna Field [ID#4723]). To the west of the project area is the “Spy” historic property (ID#2277). No other known historic properties are within the vicinity of the project area. Known archaeological sites are recorded northwest of the Project area north of Toms River.

The Ocean Gate/Good Luck Point Project area was determined eligible by NJ SHPO in 2007; the facilities and antenna at the Manahawkin Project area has an equivalent degree of integrity and is also considered eligible using the same rationale as was applied by NJ SHPO to the Ocean Gate/Good Luck Point Project area. Both properties are eligible under National Register Criterion A for their association with the early implementation and expansion of ship-to-shore telephony and under National Register Criterion C as representative, substantially intact examples of early shortwave facilities with their associated antenna fields.

3.1.1 Previously Reported Archaeological Sites within 1.5 miles of the Ocean Gate/Good Luck Point Project Area

At the NJSM and the NJ SHPO, information on six recorded archaeological sites were collected and are compiled in Table 3.1.1 that were within 1.5-mi (2.4-km) of the project APE for Ocean Gate/Good Luck Point (Table 1).

Table 1. Archaeological Sites within 1.5 miles of the Ocean Gate/Good Luck Point Project Area

Site Number	Site Type/Cultural Affiliation	Distance From Project area	Reported Information, Date	NRHP Status	Recommendation
28Oc30	Prehistoric – Village and Cemetery	Within 1.5 miles	ASNJ Bulletin 9:1949	Not assessed	None Listed – Site destroyed
28Oc31	Prehistoric – Cemetery	Within 1.5 miles	ASNJ Bulletin 1:1948	Not assessed	None Listed
28Oc75	Prehistoric – Shell Mound	Within 1.5 miles	Local Informant	Not assessed	None Listed
28Oc141	Prehistoric – Cemetery	Within 1.5 miles	ASNJ Bulletin 1:1948	Not assessed	None Listed
28Oc142	Prehistoric – Humus Rings "wigwam rings"	Within 1.5 miles	ASNJ Bulletin 1:1948	Not assessed	None Listed
28Oc143	Prehistoric – Workshop/Procurement Site	Within 1.5 miles	ASNJ Bulletin 1:1948	Not assessed	None Listed

3.1.2 Previous Archaeological Survey Summaries for the Ocean Gate/Good Luck Point Project Area

The literature review produced the following three reports on cultural resource surveys that fell within or near the current Project area at Ocean Gate/Good Luck Point. Below is a brief description of these cultural resource surveys.

In 1994, R. Alan Mounier (Mounier 1994) completed a Phase I archaeological survey of proposed improvements of Fischer Boulevard in Dover Township, Ocean County, New Jersey for Normandeau Associates, Inc. A total of 1.48 miles were included in this survey. No archaeological sites were identified during this survey based on the heavy disturbance noted within the project alignment. No further work was recommended for this project.

In 1994, Rutgers University, Center for Public Archaeology (Martin et al. 1994) completed a Phase I archaeological survey of the Bayview Avenue Segment of the Rivera Beach/Good Luck Point Sanitary Sewage Facilities in Berkeley Township, Ocean County, New Jersey for Kupper Associates. A total of 2,035 linear feet were included in this survey. No archaeological sites were identified during this survey. The project area had been submitted to extensive infilling of the area to cover the tidal marsh. No further work was recommended for this project.

In 1988, Historic Sites Research (Kardas and Larrabee 1988) completed a cultural resource survey of two of the three proposed sewer projects in Berkeley Township, Ocean County, New Jersey for Kupper Associates. No archaeological sites were identified during this survey for either the JFK Blvd work area or the Ocean Gate/Good Luck Point project area. A survey was not performed on the Holly Park portion of the project area. The project areas were located in what were marshy tidal areas which would have been unattractive to prehistoric habitation sites. The

areas were extensively altered by extensive infilling of the area to cover the tidal marsh. No further work was recommended for the completed portions of the project.

3.1.3 Architectural Overview Survey for the Ocean Gate/Good Luck Point Project Area

The historic architecture background review methods consisted of a preliminary assessment of existing historic inventory forms on file at the NJ SHPO in Trenton, New Jersey, to gain a sense of what resources have been previously identified. In addition to the National Register Eligible Ocean Gate/Good Luck Point AT&T Transmitter Building and Antenna Field, another 11 historic structures have been documented within 1.5 miles of the APE (Table 2).

Table 2. Historic Structures within 1.5 miles of the Ocean Gate/Good Luck Point Project Area

Address/Name	Architectural Style	Historic Use	Activity	Date	Recommendation
1000 Barnegat Avenue Seaside Heights, New Jersey	Not Listed	Bible School/Meeting House	Original Construction	1910-20	Not Recommended NRHP Eligible
Island Heights Historic District	Multiple	Historic District	Methodist Camp Meeting Resort	1878	NRHP
"Mary Ann" A-Cat racing catboat	Boat	Sailing	Original Construction	1922	None Listed
"Bat" A-Cat racing catboat	Boat	Sailing	Original Construction	1923	None Listed
"Spy" A-Cat racing catboat	Boat	Sailing	Restored	1924	None Listed
Ocean Gate School 126 West Avenue, Ocean Borough, Ocean County, New Jersey	One-Room School house	School House	Original Construction	1914	NRHP, Criterion C
12 Williams Lane, Berkeley Township, Ocean County, New Jersey	Vernacular	Single Dwelling	Original Construction	1930	None Listed
Seaside Park Yacht Club 209 South Bayview, Seaside Park, New Jersey	Vernacular Queen Anne	Yacht Club Boat House	Original Construction	19th Century	None Listed
600 South Bayview, Seaside Park, New Jersey	Vernacular	Boat House	Original Construction	1895	None Listed
412 South Bayview, Seaside Park, New Jersey	Vernacular Queen Anne	Single Dwelling	Original Construction	1890	None Listed
Berkley Township, Seaside Park Borough, Seaside Heights Borough, and Dover Township	Vernacular Residential	Multiple (136 structures)	Original Construction	1880-1945	Not Recommended NRHP Eligible

3.1.4 Previously Reported Archaeological Sites or Architectural Resources within 1.5 Miles of the Manahawkin Project APE

At the NJSM and the NJ SHPO, no archaeological sites or architectural resources were identified within 1.5-mi (2.4-km) of the Manahawkin Project APE.

3.1.5 Previous Cultural Resource Survey Summaries for the Manahawkin Project Area

The literature review yielded the following five reports on cultural resource surveys that fell on or near the Manahawkin Project area. Below is a brief description of these cultural resource surveys.

In 2008, Richard Grubb and Associates, Inc. (Lore 2008) completed a Phase I archaeological survey on two tracks of land at the Edwin B Forsyth National Wildlife refuge, Stafford Township, Ocean County, New Jersey. No archaeological sites were identified during this survey. No further work was recommended for the completed for this project.

In 1993, Rutgers University, Center for Public Archaeology (Cavallo et al. 1993) completed a Stage I archaeological survey of the Lawrence Avenue/East Holly Park Sanitary Sewage Facilities in Berkeley Township, Ocean County, New Jersey for Kupper Associates. A total of 26,500 linear feet were included in this survey. No archaeological sites were identified during this survey. The project area had been submitted to extensive infilling of the area to cover the tidal marsh. No further work was recommended for this project.

In 2006, URS Corporation, Inc. (Morin 2006) completed a Phase I cultural resources survey for the New Jersey Department of Transportation for the Route 72 and Manahawkin Bridge Project in Stafford Township, Ship Bottom Borough, Ocean County, New Jersey. No archaeological sites were identified during the archaeological portion of the survey. No further archaeological work was recommended for the project. For the architectural portion of the survey, URS evaluated 37 historic architectural resources but none were determined to be NRHP eligible. However, URS determined that Margo's Marina was considered NRHP eligible under Criterion A. The project was determined to have a no adverse effect on the National Register-eligible property.

In 2009, Richard Grubb and Associates, Inc. (Lore and Leynes 2009) completed a cultural resources investigation for improvements to Route 72 Manahawkin Bay Bridges and Marsha Drive Intersection Stafford Township, Ship Bottom Borough, Ocean County, New Jersey. Due to the low potential for prehistoric or historic archaeological resources, no archaeological survey was recommended. No further archaeological work was recommended for the project. For the architectural portion of the survey, Richard Grubb and Associates, Inc. evaluated four historic architectural resources but three were determined to not be NRHP eligible. However, Richard Grubb and Associates, Inc. determined that the Dorland J. Henderson Memorial Bridge (1513-152) was considered NRHP eligible under Criterion C. The project was determined to have an adverse effect on the National Register-eligibility of the bridge and a HAER documentation was recommended.

In 2005, URS Corporation, Inc. (Morin 2005) completed a Phase I cultural resources survey for the New Jersey Department of Transportation for the Route 72 and Marsha Drive Intersection in Stafford Township, Ocean County, New Jersey. No archaeological sites were identified during the archaeological portion of the survey. No further archaeological work was recommended for the project. For the architectural portion of the survey, URS evaluated historic resources within the lagoon development of Beach Haven West and determined that none of the structures were considered NRHP eligible individually or as a district.

In 1990, R. Alan Mounier (Mounier 1994) completed a Phase I archaeological survey of proposed AT&T Trans-Atlantic Telecommunications Cable No. 9 (TAT-9), Stafford Township, Ocean County, New Jersey for Baker Engineers. No archaeological sites were identified during this survey based on disturbances noted within the project alignment and tidal marsh. No further work was recommended for this project.

3.1.6 A Review of the Archaeological Sites Inventory of Ocean County, 1978

The Archaeological Sites Inventory of Ocean County Project (Archaeological Sites Inventory of Ocean County 1978) identified all known prehistoric archaeological sites in Ocean County, New Jersey. The 1978 study was designed as a management tool for other researchers to identify areas of sensitivity with regard to prehistoric cultural resources in the county. The information compiled in this survey included artifacts recovered (temporal information if possible) by amateur archaeologists and collectors in the county as well as maps of the specific site locations (i.e.,

proximity to water) and current condition descriptions of the areas; developed vs. undeveloped and the potential for the destruction of the sites.

The recordation of the sites in Ocean County consisted of oral interviews with individuals familiar with artifacts collected in Ocean County. These interviews lead to the recordation of 99 sites (67 were coastal sites - east of the Garden State Parkway and 32 were inland sites - west of the Garden State Parkway) throughout the county. The team also visited some sites with the local informants but were unable to visit all 99 sites identified during the oral interviews. After viewing certain collections, the researchers photographed some of the collections (Waretown, West Creek, Tuckerton, Manahawkin, Barnegat, Jackson, New Egypt and Forked River) to record the temporal span of Native Americans living in Ocean County.

For this project research, sites were classified in one of four categories: a scattered find; shell midden; burial site; and collection. The definition of these categories were as follows. A scattered find refers to an area where only one artifact was found through surface collecting. A shell midden was defined as garbage heaps consisting of oyster shells, with some hard clam and ribbed mussel shells within the collection that were discarded by Native Americans. A burial site refers to an area where human bones were identified. The final designation, collection, refers to where a site was identified by individuals who collected an assemblage of projectile points and other stone tools.

A breakdown of the 99 sites recorded were as follows. Fifteen sites were identified as scattered finds, 13 sites were identified as shell middens, seven sites were recorded as burial sites and 62 sites were recorded as collections (two were the result of the Cross survey), one was recorded as a collection with a burial (Cross survey) and one did not record any artifacts or burials (Wilson Survey).

From the evidence gathered from the sites reviewed for this inventory survey, there is evidence that Ocean County was continuously occupied by aboriginal groups from the late Pleistocene or early Holocene times to European contact. The authors concluded that based on the number of sites that they recorded as part of their research, the potential for uncovering additional sites within Ocean County was likely.

Specific to the AT&T Project areas for this current study, the authors concluded that the coastline from Cedar Creek south to Tuckerton should be considered an area of sensitivity. This area covers the AT&T shortwave receiving station and antenna field at Manahawkin, and is only a few short miles south of the AT&T shortwave transmitting station and antenna field at Ocean Gate/Good Luck Point.

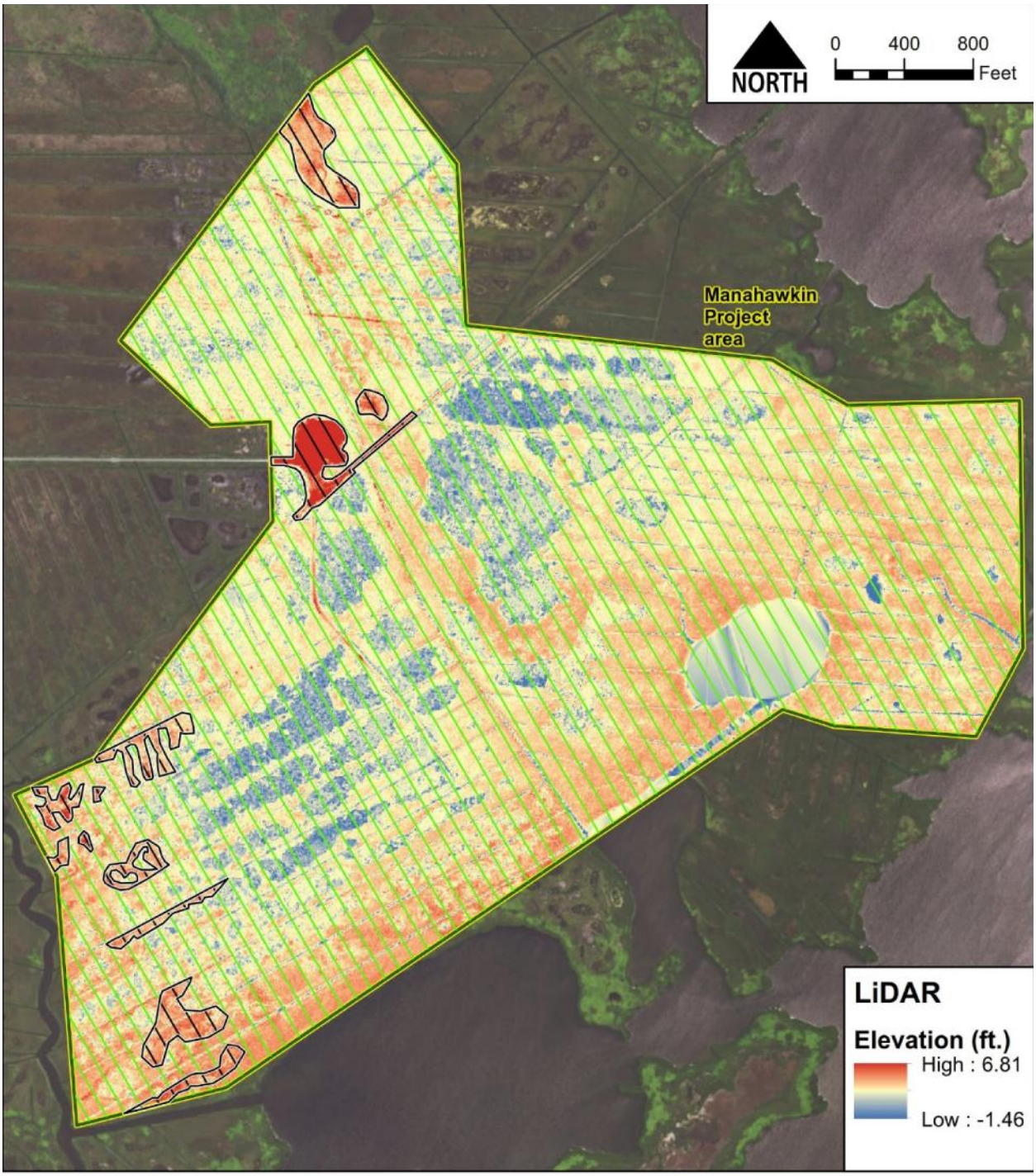
3.1.7 Predictive Modeling for Archaeological Sites

Background research indicates that the most common prehistoric sites that could be found in the project area would likely consist of open-air campsites that would be situated in proximity to wetlands. In fact, archaeological investigations in the Outer Coastal Plain Physiographic Province provide evidence that the majority of prehistoric sites are located within 300 feet of water and wetlands (Hasenstab 1991; Cavallo and Mounier 1982; Pagoulatos and Walwer 1991; Ranere and Hansell 1987). Settlement data from previously identified prehistoric sites also provides evidence that prehistoric sites are more likely to be situated in areas with well-drained soils, raised topography (islands - flat ground in the middle of the marshes), historic trails, and a good vantage point for hunting and protection (Pagoulatos and Walwer 1991). Areas of raised elevation and

well drained soils should be considered moderate to high potential for prehistoric sites (Figure 15 and Figure 16).

Over the last 20 years there have been increasingly more discussions on the Paleo environment of the Continental Shelf by prehistoric peoples. Sea levels have been rising which has altered the coastal environments from what they once were and as a result, what would have been the original coastline is now under water. These now inundated coastline areas would likely have been utilized by Paleoindians. Evidence for the early use of the Continental Shelf by the Paleoindians can be found in the discovery of Paleoindian projectile points washed up on coastal shores. Recently, likely as the result of Hurricane Sandy, three Paleoindian projectile points were recovered from three separate locations in New Jersey (Beach Haven, Seaside Heights and Long Beach) that are in close proximity to the AT&T shortwave receiving station and antenna field at Manahawkin and the AT&T shortwave transmitting station and antenna field at Ocean Gate/Good Luck Point. This information indicates that the present day coastal areas could have been used by Native Americans and have the potential for early Native American sites.

Historic archaeological sensitivity is based on the results of background research and a review of historic maps. A review of nineteenth-century maps indicates that development occurred surrounding the project area by at least the mid nineteenth century. However, the Project APE is almost exclusively located within wetland marshes. The 1872 Beers Atlas does show the position of Good Luck Station that was already established on the point but shows no roads or other structures surrounding this station. A review of twentieth-century maps and aerial photographs indicates that no substantial development has occurred within the APE until the AT&T facility was constructed. Based on an examination of historic maps and aerial photographs, the potential for significant historic period archaeological resources are considered to be low to moderate.



		MAP BY: daniel.conn	LEGEND: **Sensitivity Model**
		CHK'D BY: MP	High / Medium
Amec Foster Wheeler Environment & Infrastructure 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, KY 40299	amec foster wheeler	DATUM: North American 1983	Low
		PROJECTION: NAD 1983 StatePlane New Jersey FIPS 2900 Feet	Manahawkin Project area
		SCALE: 1 in=800 ft	

TIME: 2:58:23 PM
DATE: 12/21/2015
PROJECT #: 3617157355.81.01

U:\Sidework\Ray\OceanCityNJ\ManahawkinProjectSite_LiDAR_Model.mxd

Imagery: ESRI, SSURGO

Figure 15. Archaeological Sensitivity Map of the Manahawkin Project Area

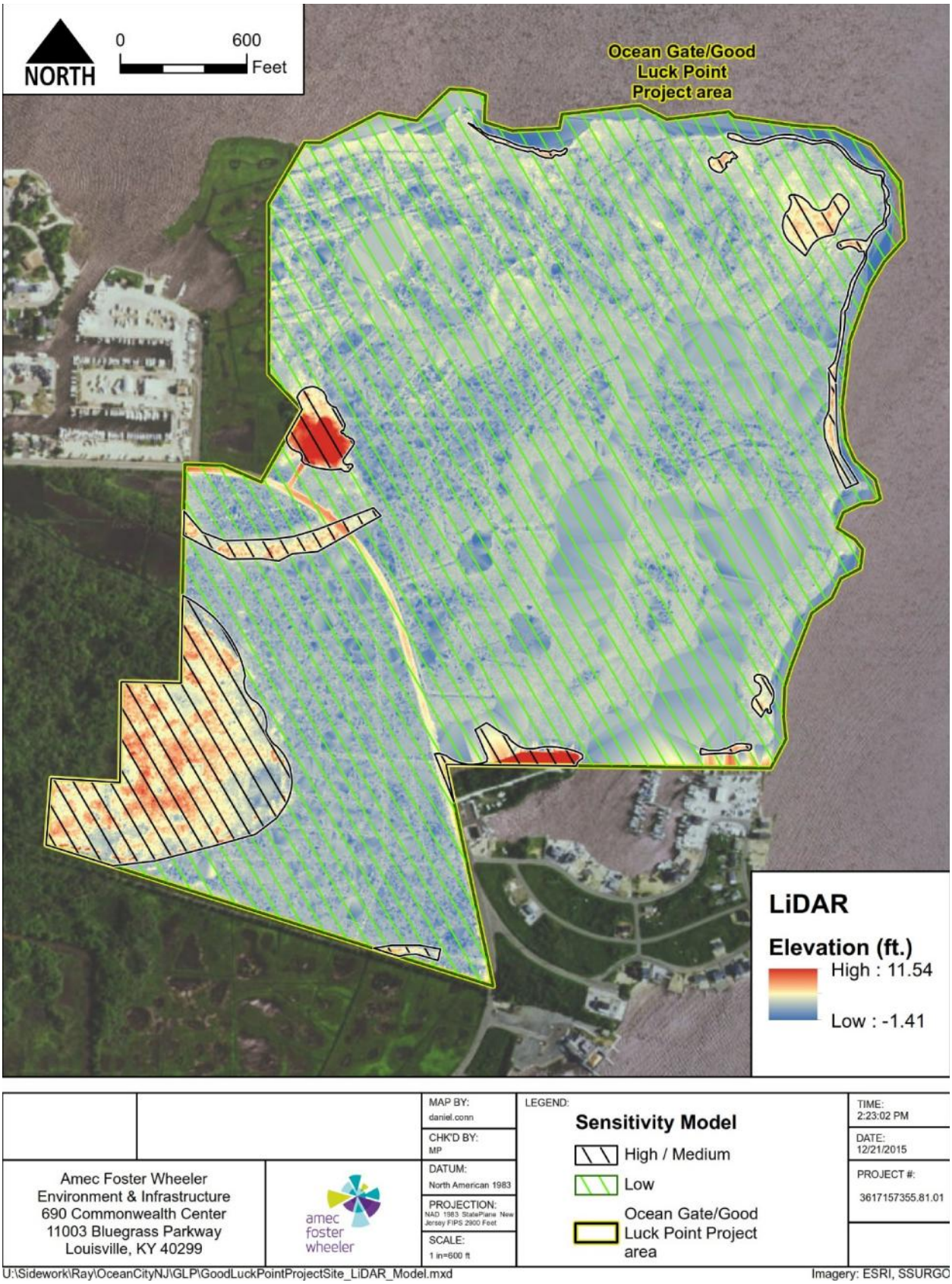


Figure 16 – Archaeological Sensitivity Map of the Ocean Gate/Good Luck Point Project Area

4.0 MANAGEMENT RECOMMENDATIONS AND POTENTIAL FOR ARCHAEOLOGICAL SITES

Amec Foster Wheeler understands that the proposed removal of poles and related materials at Ocean Gate/Good Luck Point would cause an adverse effect. This is based on the fact that the Ocean Gate/Good Luck Point Project area has been through the Certification of Eligibility process to the National Register of Historic Places in 2007 (AT&T Transmitter Building and Antenna Field [ID#4723]. Amec Foster Wheeler will support USFWS as needed with ACHP consultation and with the drafting of a two-party Memorandum of Agreement (MOA). At this time, USFWS is compiling a list of public constituencies that USFWS should contact to seek comment on the anticipated adverse effect on historic properties.

As for the Manahawkin Project area, this preliminary research recommends that the Manahawkin Project area possesses similar integrity when compared to the Ocean Gate/Good Luck Point Project area. Even though many of the poles are in a state of disrepair and several have fallen down into the marsh as a result of weathering decades of tidal surges and storms, the Project area's overall integrity, when compared to that of Ocean Gate/Good Luck Point's, suggests that the Manahawkin AT&T transmitter building and antenna field are also eligible for listing on the National Register of Historic Places under Criterion A and C.

The two proposed project areas encompass approximately 612 acres combined (Manahawkin, 390 acres and Ocean Gate/Good Luck Point, 222 acres) that are almost exclusively located on tidal marsh land. Portions of the Project areas may have also been submitted to infilling to raise the elevation. Because of this, a large portion of the project areas may not require any archaeological surveys. However, areas of slightly higher elevations, could have been used by prehistoric occupants as resource procurement locations.

The project areas have areas of moderate to high potential based on elevational data (Figures 15 and 16). Areas that are above sea level may have been areas of activity during prehistoric times and could have the potential for archaeological sites. If these areas are submitted to disturbance by the removal of the poles in the antenna field, they should be submitted to an archaeological survey. In addition, if the poles to be removed will only be cut and hauled away with little to no ground disturbance, then no archaeological testing is recommended. However, if the antenna poles are pulled from the ground, an archaeological monitor should be on site to monitor that no deeply buried archaeological sites are destroyed.

Amec Foster Wheeler recommends that once the proposed work plan for all ground disturbing activities is finalized, it should be reviewed for areas of high, medium and low archaeological potential. If the project design includes new ground alteration in areas of medium to high archaeological sensitivity, then an archaeological Phase IB testing survey and/or monitoring program would be recommended.

5.0 REFERENCES CITED

Allaback, Sarah [Editor]
1995 *Resorts and Recreation, an Historic Theme Study of the New Jersey Coastal Heritage Trail Route*. The Sandy Hook Foundation, Inc. and National Park Service. Online at http://www.cr.nps.gov/history/online_books/nj1index.htm

Bennett, Austin K., and Michael W. Moroze
1939 Manahawkin Antennas. In *Long Lines* an AT&T monthly magazine, June 1939.

Boisvert, R. A.
1998 *The Israel River Complex: A Paleoindian Manifestation in Jefferson, New Hampshire.* Archaeology of Eastern North America 26:97–106.

Bonnichsen, R., V. Konrad, V. Clay, T. Gibson, and D. Schnurrenberger
1980 *Archaeological Research at Munsungun Lake: 1980 Preliminary Technical Report of Activities*. Institute of Quaternary Studies, University of Maine, Orono.

Borthwick, Calvin S.
1939 In Search of a Site. In *Long Lines* an AT&T monthly magazine, April 1939.

Broyles, B. J.
1971 *Second Preliminary Report: The St. Albans Site, Kanawha Valley, West Virginia. Report of Archaeological Investigations 3.* West Virginia Geological and Economic Survey, Charleston.

Byers, Douglas S.
1954 *Bull Brook-A Fluted Point Site in Ipswich, Massachusetts*. American Antiquity 19:343–351.

Cavallo, John A., Martin, John W., Meredith Arms Bzdak
1993 Stage I Archaeological Survey of the Lawrence Avenue/East Holly Park Sanitary Sewage Facilities in Berkeley Township, Ocean County, New Jersey. Rutgers University, Center for Public Archaeology for Kupper Associates.

Cavallo, John A. and R. Alan Mounier
1982 Aboriginal Settlement Patterns in the New Jersey Pinelands. In *History, Culture, and Archaeology of the Pine Barons: Essays from the Third Annual Conference*, edited by John W. Sinton, pp. 68-100. Center for Environmental Research, Stockton State College, Pomona, New Jersey.

Coe, Joffre L.
1964 *The Formative Cultures of the Carolina Piedmont.* Transactions of the American Philosophical Society 54, Part 5. Philadelphia, PA.

Cross, Dorothy.
1956 *Archaeology of New Jersey*. The Archaeological Society of New Jersey and the New Jersey State Museum, Trenton.

Curran, M.L., and D.F. Dincauze
1977 Paleoindians and Paleo-Lakes: New Data from the Connecticut Drainage. In *Amerinds and their Paleoenvironments in Northeastern North America*, edited by W.S. Newman and B. Salwen, pp. 333–348. Annals of the New York Academy of Sciences 288.

Dalton, R.
2003 Physiographic Provinces of New Jersey. New Jersey Geological Survey Information Circular. <http://www.nj.gov/dep/njgs/enviroed/infocirc/provinces.pdf>. Accessed 11 June 2015.

Delcourt, P.A., and H.R. Delcourt
1981 Vegetation Maps for Eastern North America: 40,000 Years BP to Present. In *Geobotany: An Integrating Experience*, edited by R. Romans, pp. 123–66. Plenum, New York.

Dent, Richard J.
1991 Archaeology in the Upper Delaware Valley: The Earliest Populations. In *The People of Minisink: Papers From the 1989 Delaware Gap Symposium,* edited by David G. Orr, and Douglas V. Campana, pp. 117–143. National Park Service, Mid-Atlantic Region, Philadelphia, Pennsylvania.

Dincauze, Dena F.
1968 A Preliminary Report on the Charles River Archaeological Survey. Peabody Museum, Cambridge, Massachusetts. Manuscript submitted to the National Park Service, Washington, D.C.
1974 An Introduction to Archaeology in the Greater Boston Area. Archaeology of Eastern North America 2:39-66.
1975 The Late Archaic Period in Southern New England. *Arctic Anthropology* 12:(2):23–34.
1976 *The Neville Site: 8,000 Years at Amoskeag, Manchester, New Hampshire*. Peabody Museum Monographs 4. Harvard University, Cambridge, Massachusetts.
1993 Pioneering in the Pleistocene: Large Paleoindian Sites in the Northeast. In *Archaeology of Eastern North America: Papers in Honor of Stephen Williams*, edited by J.B. Stoltman, pp. 43–60. Archaeology Report No. 25. Mississippi Department of Archives and History, Jackson.

Dumont, Elizabeth M., and Lewis A. Dumont
1979 Of Paradigms and Projectile Points: Two Perspectives on the Early Archaic in the Northeast. *Bulletin of the New York State Archaeological Association* 75:38–52.

Emerson, Thomas E.
2009 *Archaic Societies: Diversity and Complexity Across the Midcontinent.* SUNY Press. Albany, New York

Feder, Kenneth L.
2004 The Glazier Blade Cache: 30 Remarkable Blades Found in Granby, Connecticut. *Bulletin of the Archaeological Society of Connecticut* 66:113.

Fiedel, Stuart
2001 What Happened in the Early Woodland? *Archaeology of Eastern North America 29*: 101-142.

Fink, Charles W., and Austin K. Bennett
1930 New Way for Ship to Shore Calls. In *Headquarters Bulletin, American Telephone and Telegraph Company*, Vol. IV, No. 9. September 1930.
1939 Progress at Manahawkin. In *Long Lines* an AT&T monthly magazine, May 1939.

Funk, Robert E.
1976 *Recent Contributions to Hudson Valley Prehistory*. New York State Museum Memoir 22. New York State Museum and Science Service, Albany.

Goddard, Ives
1978 Eastern Algonquian Languages. In *Northeast*, edited by Bruce G. Trigger, pp. 70–77. Handbook of North American Indians, Vol. 15, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Griffin, James B.
1961 [Review of] the Eastern Dispersal of Adena, by William A. Ritchie, and Don W. Dragoo. *American Antiquity* 26:572-73.

Hasenstab, Robert
1991 Wetlands as a Critical Variable in Predictive Modeling of Prehistoric Site Locations: A Case Study from the Passaic River Basin. *Man in the Northeast* 42:39-61.

Hatfield, Francis Edwin
1868 *History of Elizabeth, New Jersey*. Carlton & Lanahan, Cambridge, Ma.

Hoyt, R. S.
1939 MUSA at Manahawkin. In *Long Lines* an AT&T monthly magazine, July 1939.

Huey, Paul R.
1991 The Dutch at Fort Orange. In *Historical Archaeology in Global Perspective,* edited by Lisa Faulk, pp. 21–67. Smithsonian Institution Press, Washington, D.C.

Jacobson, Victoria
2001 Settling into Landscape: An Analysis of Small PaleoIndian Sites in the Northeast. M.A. Thesis, Department of Anthropology, University of Massachusetts, Amherst.

Jones, Evan T.
2007 *Alwyn Ruddock: John Cabot and the Discovery of America.* University of Bristol Institute of Historical Research, England.
2009 *Henry VII and the Bristol expeditions to North America: the Condon Documents.* University of Bristol Institute of Historical Research, England.

Kardas, Susan and Edward Larrabee
1988 Cultural Resource Survey of Three Proposed Sewer Projects, Berkeley Township, Ocean County, New Jersey. Historic Sites Research for Kupper Associates.

Kenyon, Victoria B.
1983 *River Valleys and Human Interaction: A Critical Evaluation of Middle Woodland Ceramics of the Merrimack River Valley*. Ph.D. Dissertation, Boston University.

Kinsey, W. Fred, III
1972 *Archaeology in the Upper Delaware Valley: A Study of the Tocks Island Reservoir,* with contributions by Herbert C. Kraft, Patricia Marchiando, and David Werner. Anthropology Series no. 2, Commonwealth of Pennsylvania, The Pennsylvania Historical and Museum Commission, Harrisburg.
1983 Eastern Pennsylvania Prehistory: A Review. *Pennsylvania History* 50:69–108.

Kise, Straw & Kolodner
2001 *New Jersey Historic Roads Study, Phase 1 Report*. On file, the New Jersey Historic Preservation Office, Trenton, New Jersey.

Kraft, Herbert C.
1975a The Archaeology of the Tocks Island Area. Seton Hall University Museum, South Orange, New Jersey.

1975b The Late Woodland Pottery of the Upper Delaware Valley: A Survey and Reevaluation. Archaeology of Eastern North America 3:101-140.
2001 The Lenape-Delaware Indian Heritage: 10,000 B.C. to A.D. 2000. Lenape Books.

Kraft, Herbert C. and Alan Mounier
1982 *The Archaic Period in New Jersey.* In New Jersey's Archaeological Resources. Edited by Olga Chesler. DEP, New Jersey.

Lore, Robert J. and Jennifer B. Leynes
2009 Cultural Resource Investigation Improvements to Route 72 Manahawkin Bay Bridges and Marsha Drive Intersection, Stafford Township and Borough of Ship Bottom, Ocean County, New Jersey. Richard Grubb and Associates, Inc. for the New Jersey Department of Transportation.

Lore, Robert J.
2008 Phase I Archaeological Identification Survey Land Exchange, Tracts 1337 and 1337-1, Edwin B. Forsyth National Wildlife Refuge, Stafford Township, Ocean County, New Jersey. Richard Grubb and Associates, Inc. for the U.S. Department of the Interior, Fish and Wildlife Service.

Louis Berger & Associates
1988 Phase I Cultural Resource Survey - Baywick Shopping Plaza and Hidden Creek at Berkeley, Berkeley Township, Ocean County, New Jersey. On file, Historic Preservation Office, Trenton.

Marshall, Sydne
1982 Aboriginal Settlement in New Jersey During the Paleo-Indian Cultural Period. In *New Jersey's Archaeological Resources*, edited by Olga Chesler. DEP, New Jersey.

Martin, John W., John A. Cavallo, Richard L. Porter
1994 Stage I Archaeological Survey of the Bayview Avenue Segment of the Rivera Beach/Good Luck Point Sanitary Sewage Facilities in Berkeley Township, Ocean County, New Jersey. Rutgers University, Center for Public Archaeology for Kupper Associates.

Maser (Maser Consulting P.A.)
2012 Environmental Resource Inventory. Township of Berkeley. Ocean County, New Jersey. January.

McWeeney, Lucinda
1999 A Review of Late Pleistocene and Holocene Climate Changes in Southern New England. *Bulletin of the Archaeological Society of Connecticut* 62:3–18.

Miller, Pauline S.
2000 *Ocean County: Four Centuries in the Making*. Ocean County Cultural & Heritage Commission, Toms River, New Jersey.

Mounier, R. Alan
1990 An Archaeological Survey of Proposed AT&T Trans-Atlantic Telecommunications Cable No. 9 (TAT-9) Stafford Township, Ocean County, New Jersey.
1990 An Archaeological Survey of Bayview Village (Block 325- Lot 41 and Part of Lot 45), Little Egg Harbor Township, Ocean County, N.J. on file, Historic Preservation Office, Trenton.
1994 Stage I Archaeological Survey of Proposed Improvements of Fischer Boulevard in Dover Township, Ocean County, New Jersey.

Moeller, Roger
1980 *A Paleo-Indian Site in Western Connecticut.* American Indian Archaeological Institute Occasional Paper 2. Washington, Connecticut.

Morin, Edward M.
2005 Cultural Resources Investigation Route 72 and Marsha Drive Intersection, Stafford Township, Ocean County, New Jersey. URS Corporation for the New Jersey Department of Transportation.
2006 Cultural Resources Investigation Route 72 and Manahawkin Bay Bridges, Stafford Township and Borough of Ship Bottom, Ocean County, New Jersey. URS Corporation for the New Jersey Department of Transportation. URS Corporation for the New Jersey Department of Transportation.

Newby, Paige, P. Killoran, M.R. Waldorf, B.N. Shuman, R.S. Webb, and T. Webb III
2005 14,000 Years of Sediment, Vegetation, and Water-Level Changes in the Makepeace Cedar Swamp, Southeastern Massachusetts. *Quaternary Research* 53:352-368.

NJDEP (New Jersey Department of Environmental Protection).
1999 The Geology of New Jersey. Division of Science, Research and Technology. Geological Survey.
2014 NJ-GeoWeb website <http://www.state.nj.us/dep/gis/newmapping.htm>. Accessed 01 September 2015.

O'Callaghan, Edmund Bailey
1855 *History of New Netherland: or New York under the Dutch*. D. Appleton & Co., New York.

Ocean County News Journal, World Linked by Telephone.
1976 The Sunday Observer, Heritage '76,Section G, Issue No. 61, April 11, 1976, Page 3.

Ocean County Historical Society Museum
1978 Archaeological Sites Inventory of Ocean County. Report prepared for the Ocean County Historical Society Museum by Barbara Wiley and Patricia Lardiere.

Oxenford, David D.
1992 *The People of Ocean County, A History of Ocean County*. Valente Publishing House, Inc., Point Pleasant Beach, New Jersey.

Pagoulatos, Peter, and Gregory Walwer
1991 Native American Land-Use Patterns of the Outer Coastal Plain of New Jersey. *Man in the Northeast* 41:85-104.

Ranere, Anthony J., and Patricia Hansell
1987 A Comprehensive Work Plan for the Development of a Predictive Model of Prehistoric Site Occurrences within the Pinelands Area. Unpublished manuscript on file at the New Jersey Pinelands Commission, New Lisbon, New Jersey.

Ritchie, William A.
1969 *The Archaeology of New York State*. Natural History Press, Garden City, New York.

Ritchie, William A., and Dragoo
1959 The Eastern Dispersal of Adena. *American Antiquity* 25:43-50.

Robinson, Brian S. et. al
2009 Paleoindian Aggregation and Social Context at Bull Brook. *American Antiquity* 74:423–447.

Skinner, Alanson, and Max Schrabisch
1913 A Preliminary Report of the Archaeological Survey of the State of New Jersey. Geological Survey of New Jersey Bulletin 9.

Snow, Dean
1980 *The Archaeology of New England*. Academic Press, New York.

Spiess, A.E., D. Wilson, and J.W. Bradley
1998 Paleoindian Occupation in the New England-Maritimes Region: Beyond Cultural Ecology. *Archaeology of Eastern North America* 26:201–264.

Steele, Ian K.
1994 *Warpaths: Invasions of North America*. Oxford University Press, New York, New York.

Stewart, Michael
1991 *Archaeology and Environment in the Upper Delaware Valley.* In *The People of the Minisink,* edited by David G. Orr, and Douglas V. Campana. National Park Service, Mid-Atlantic Region, Philadelphia, Pennsylvania.

Snyder, John P.
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bureau of Geology and Topography, Trenton, New Jersey.

Toms River Courier March 14, 1930
http://long-lines.net/places-routes/OceanGateNJ/TRC19300314.html accessed October 7, 2015.

Tuck, James A.
1978 Regional Cultural Development 3000 to 300 B.C. In *Handbook of North American Indians*, Vol. 15, Northeast, pp. 28–43.
1984 Maritime Provinces Prehistory. *Canadian Prehistory Series, National Museum of Man*, National Museums of Canada, Ottawa.

USGS (United States Geological Survey)
2015 Mineral Resources On-Line Spatial Data. Wildwood. Member of the Kirkwood Formation. <http://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=NJTkw%3B1>. Accessed on 01 September 2015.

Weber, Edward H.
1938 Salt Marsh Home. In *Long Lines,* an AT&T monthly magazine, September 1938.

APPENDIX A

Historic Property Inventory Forms

BASE FORM

Historic Sites #:

Property Name: AT&T Transmitter Building and Antenna Field at Good Luck Point

Street Address: *Street #:* _____ *(Low)* _____ *(High)* *Apartment #:* _____ *(Low)* _____ *(High)*

Prefix: _____ *Street Name:* Bayview Avenue *Suffix:* _____ *Type:* _____

County(s): Ocean **Zip Code:** 08721

Municipality(s): Berkeley Township **Block(s):** 1206/1207

Local Place Name(s): AT&T Ocean Gate and/or Good Luck Point **Lot(s):** 1, 1.01/2.01, 2.02

Ownership:: U.S. Fish and Wildlife Service **USGS Quad(s)** Seaside Park, NJ

Photograph:

Description: AT&T Ocean Gate/Good Luck Point contains an extensive, inactive shortwave antenna field that is comprised of hundreds of tall wooden poles distributed across the tidal marsh, in addition to cables, wires, metal towers, and concrete blocks. Associated with the antenna field is a shuttered, brick shortwave transmitter building. AT&T placed the shortwave facility into service in 1931, and it remained in service until 1999. The municipality owns the building itself, and the small tract of land that is occupied by the building and its paved parking lot. Under the call sign WOO, the shortwave facility at Good Luck Point (known as Ocean Gate) was a renowned transmitting station, which helped broadcast Voice of America around the globe after 1944 and enabled communication with ships at sea throughout the twentieth century. In 2007, the New Jersey SHPO certified that the historic property (AT&T Transmitter Building and Antenna Field, ID No. 4723) was eligible for listing in the National Register of Historic Places (NRHP) under Criterion A for its association with the early implementation and expansion of ship-to-shore telephony, and under Criterion C as a substantially intact example of an early shortwave transmitter building with its associated antenna field.

Registration and Status Dates:

National Historic Landmark:		SHPO Opinion:	
National Register:		Local Designation:	
New Jersey Register:		Other Designation:	
Determination of Eligibility:	7/30/2007	Other Designation Date:	

BASE FORM

Historic Sites #:

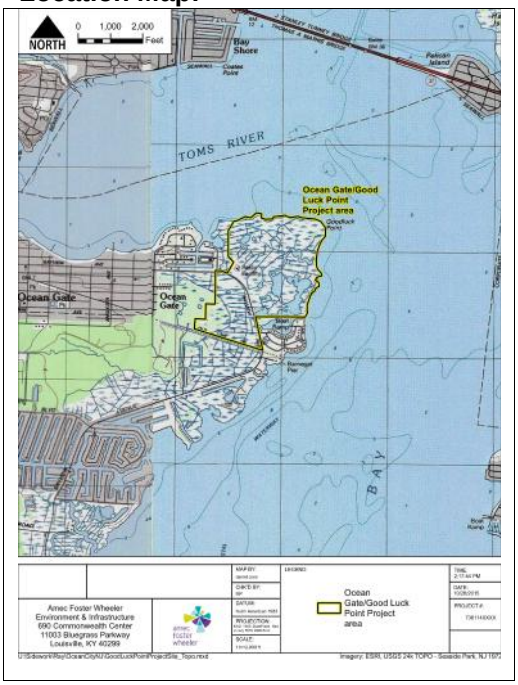
Survey Name:

Date: January 8, 2016

Surveyor:

Organization: Amec Foster Wheeler

Location Map:



Site Map:

Bibliography/Sources: Pasquariello, Raymond D. and David E. Breetzke, 2015, Phase IA Cultural Resources Assessment of the Marsh Enhancement and Pole Removal Hurricane Sandy Resiliency Project #37 (37C) for Ocean Gate/Good Luck Point and Manahawkin, Ocean County, New Jersey.

Additional Information:

More Research Needed? X☐ Yes ☐ No

INTENSIVE LEVEL USE ONLY

Attachments Included: X☐ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes X☐ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BASE FORM

Historic Sites #:

THIS PAGE TO BE COMPLETED ONLY AT INTENSIVE LEVEL
AND
ONLY IF PROPERTY IS A FARM COMPLEX

Historic Farm Name: _____

Period of Agricultural Use: _____ To _____ **Source** _____

Agriculture Type: _____

Remaining Historic Fabric _____

Acreage: _____

Farm Description:

BUILDING ATTACHMENT

Historic Sites #:

Common Name: AT&T Ocean Gate/Good Luck Point
Historic Name: Ocean Gate
Present Use: None
Historic Use: Shortwave radio transmission station from 1929 to 1999
Construction Date: 1929 **Source:**
Alteration Date(s): **Source:**
Designer: * **Physical Condition:** *
Builder: * **Remaining Historic Fabric:** *
Style: *
Form: * **Stories:** *
Type: * **Bays:** *
Roof Finish Materials: *
Exterior Finish Materials Brick and concrete

Exterior Description: The transmitting station was located on a tract of salt marshes that was unobstructed to the sea which made the location suitable for radio transmissions. In addition to the antenna, the transmitting station had a building that housed the transmitting sets and associated equipment that would link radio and wire circuits, and the auxiliary machinery necessary to operate the station. This building was constructed of 12-inch concrete block. All of these facilities were constructed only 18 inches above the high water line. The main building was constructed two stories high and with a small basement under one end for the heating plant. The foundation for the building was constructed of reinforced concrete to a depth of five feet below the natural grade. The basement was constructed to a depth of ten and a half feet below grade.

**Further detail, pending site visit.*

BUILDING ATTACHMENT

Historic Sites #:

Interior Description: The information provided below is a brief history of the AT&T shortwave transmitting station at Ocean Gate/Good Luck Point and was synthesized from an article written in the *Toms River Courier* on March 14, 1930.

The first floor of the building housed the generators that would supply current for the transmitters and the transformers that raise the outside power supply to various required voltages, and other machinery. The heavy-duty transformers, were placed in vaults. In order to cool the system, a water-cooling system and large air blowers were also needed to cool the circulating water.

Also on the first floor was the "line terminal room" where the wire lines from the long distance office terminated. This room was completely sheathed in copper, to prevent the radio waves from the antennas, located outdoors, from coming back and impairing operation of the equipment in the room. All of the machinery on this floor was insulated with cork to avoid any vibration from their operation that would have disrupted their delicate radio equipment.

The second floor was where the transmitting sets were housed. The rectifier was located in the back of the building that was used to convert the alternating current from the outside power source into the direct current required in the vacuum tubes.

The two antennas were the "curtain" type and consisted of networks of wires in the form of coarse-mesh curtains suspended from 70-foot poles, the line poles broadside to the direction of transmission to give a highly "directional" transmission.

The signals from this facility covered a range over which the antennas could transmit and cover the principal steamship lanes to Europe. The efficiency of each antenna was further increased by suspending a similar curtain behind the active one. This served to reflect radio energy that ordinarily would have gone toward the west with full power.

**Further detail, pending site visit.*

Setting: In 1929, AT&T selected and subsequently developed the Ocean Gate/Good Luck Point Project area as a high-frequency, shortwave radio transmitting station that was designed to provide telephone ship to shore service and to overseas locations. The station was identified as Ocean Gate Radio that operated under the call sign WOO (Whiskey Oscar Oscar). The original installation included a large array of curtain antennas. In the mid-1950s, the curtain array was replaced by a cluster of rhombic antennas.

In addition to the high-seas service, Ocean Gate Radio transmitted for 70 years to Paris, Frankfurt, Santiago, London, Buenos Aires, San Juan, Panama, Bermuda and Rio di Janeiro. Ocean Gate's companion location, constructed in the late 1930s, was the shortwave receiving station at Manahawkin.

Located 10 miles south, below Forked River, Manahawkin was the main receiver facility for WOO and the U.S. terminal for the sole undersea cable from Bermuda. The later development of numerous undersea cables across the Atlantic and the expansion of satellite communication led to the closure of Ocean Gate/Good Luck Point and Manahawkin in 1999 (Mounier 1990).

BASE FORM

Historic Sites #:

Property Name: AT&T Receiver Building and Antenna Field at Manahawkin

Street Address: *Street #:* _____ *(Low)* _____ *(High)* *Apartment #:* _____ *(Low)* _____ *(High)*

Prefix: _____ *Street Name:* Beach Avenue *Suffix:* _____ *Type:* _____

County(s): Ocean **Zip Code:** 08050

Municipality(s): Stafford Township **Block(s):** 296

Local Place Name(s): AT&T Manahawkin **Lot(s):** 63, 108

Ownership:: AT&T **USGS Quad(s)** Seaside Park, NJ

Photograph:

Description: AT&T Manahawkin is the companion site to the National Register Eligible AT&T Transmitter Building and Antenna Field at Good Luck Point. AT&T Manahawkin consisted of a shortwave receiving station and antenna field of more than one hundred poles, as well as metal antennas, distributed across the tidal marsh. Via Manahawkin, shortwave communications from ships at sea were linked to America's telephone network from the 1930s until 1999.

Registration and Status Dates:

National Historic Landmark: _____ SHPO Opinion: _____

National Register: _____ Local Designation: _____

New Jersey Register: _____ Other Designation: _____

Determination of Eligibility: _____ Other Designation Date: _____

Survey Name: _____ Date: January 8, 2016

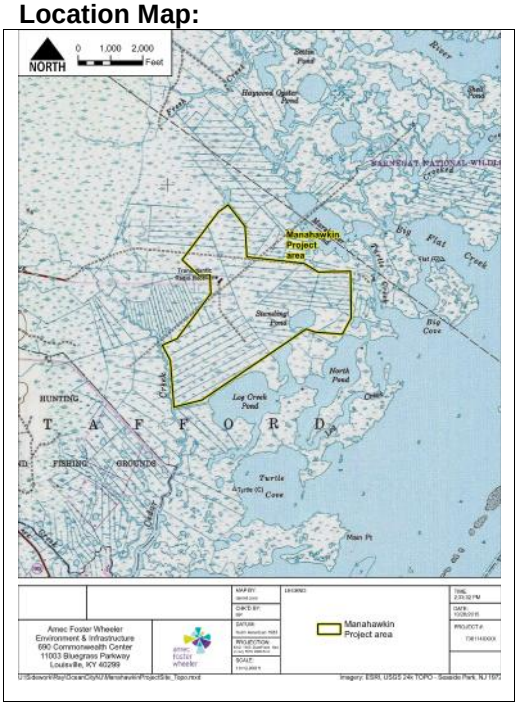
Surveyor: _____

Organization: Amec Foster Wheeler

BASE FORM

Historic Sites #:

Location Map:



Site Map:

Bibliography/Sources: Pasquariello, Raymond D. and David E. Breetzke, 2015, Phase IA Cultural Resources Assessment of the Marsh Enhancement and Pole Removal Hurricane Sandy Resiliency Project #37 (37C) for Ocean Gate/Good Luck Point and Manahawkin, Ocean County, New Jersey.

Additional Information:

More Research Needed? X☐ Yes ☐ No

INTENSIVE LEVEL USE ONLY

Attachments Included: X☐ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes X☐ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BASE FORM

Historic Sites #:

THIS PAGE TO BE COMPLETED ONLY AT INTENSIVE LEVEL
AND
ONLY IF PROPERTY IS A FARM COMPLEX

Historic Farm Name: _____

Period of Agricultural Use: _____ To _____ **Source** _____

Agriculture Type: _____

Remaining Historic Fabric _____

Acreage: _____

Farm Description:

BUILDING ATTACHMENT

Historic Sites #:

Common Name: AT&T Manahawkin
Historic Name: AT&T Manahawkin
Present Use: None
Historic Use: Shortwave radio receiver station from 1938 to 1999
Construction Date: 1938 **Source:**
Alteration Date(s): **Source:**
Designer: * **Physical Condition:** *
Builder: * **Remaining Historic Fabric:** *
Style: *
Form: * **Stories:** *
Type: * **Bays:** *
Roof Finish Materials: *
Exterior Finish Materials *

Exterior Description: ***Pending site visit.***

Interior Description: ***Pending site visit.***

Setting: By the late 1920s, studies had indicated that improvements were needed to improve radiotelephone communications from ship-to-shore that could handle the increased communication traffic. A new system (MUSA – Multiple Unit Steerable Antenna) had been developed by Bell Telephone Laboratories that with its associated apparatus, MUSA would allow clearer radio circuits and would add more time to the radio day (i.e., the time in a day during which the channels are available commercially). MUSA was especially important because now it was possible to monitor the incoming radio waves, provide a selective system for their reception, and furnish the means for combining the waves into a single telephone circuit. For radiotelephone communications, this was extremely important and greatly improved communications over long distances. To do this it was necessary to use a number of rhombic antennas, in fact, the more antennas used the better the results or the sharper the "steering" (Hoyt 1939:4 and 5; Fink and Bennett 1930).

This new MUSA communication system required a new and improved antenna array. The length of the new antenna system, along with other technical requirements made it necessary to find a new location for this new system. The transatlantic short wave receiving station at Netcong, New Jersey could not handle this new system. The receiving station at Forked River, New Jersey was also reviewed as an alternative location but was also found to be inefficient for the needs of the new system. For these reasons, in December 1936, The Maritime Division of the American Telephone and Telegraph Company (AT&T) began searching for a suitable location for the new MUSA antenna system (Borthwick 1939).

BUILDING ATTACHMENT

Historic Sites #:

The land requirements that needed to be met included: an area three miles square which needed to be free of roads, electric railroads, power lines, towns, and all sources of interference (Weber 1938). In addition, the land should be as level as possible and the area should have a uniform water table. After review of 25 potential locations in Long Island and New Jersey, were field reviewed and then submitted to legal for potential land costs, a location in Manahawkin, New Jersey was chosen as a suitable location in the salt marshes of New Jersey (Borthwick 1939).

The task to build the communication facility and antenna array proved to be a challenge. Construction of the roads, buildings and antenna system began in 1938. First, roads were required to access the new property. Due to the marshy conditions in this part of New Jersey, the roads were built to float on top of the marsh. This type of road was constructed in this manner. First, a covering of pine planks was put down. Next, salt hay was laid on top of the pine planks and then a sod wall was built to keep the plank and hay road material together. This road construction made the road rise about three feet above the surface of the marsh (Fink and Bennett 1939).

The construction of the receiver building and garage also proved to have their own challenges. Because of the constant changing water levels, muck, and sand. The buildings were constructed on yellow pine “piles” that were driven deep into the salt marsh. The tops of these clusters of piles were at about the marsh surface. Above the piles were caps of concrete. The floor of the buildings were then tied together by a grid system of reinforced concrete beams which rests on these concrete caps (Fink and Bennett 1939).

Because the receiving station was constructed out in an open marsh, it was susceptible to strong winds and driving rain. Because of this, it was particularly important to construct the receiving building in such a way as to withstand moisture from the sides as well as the roof. Therefore, the brick outside walls of the station were painted with waterproofing cement. Another way of keeping the moisture out was to create a space between the outer wall and the inner wall two-and-a-half inches. This would allow any water or moisture penetrating the outer wall to run down this open space to an area below the floor so as to avoid corrosion and mold issues inside the receiving station. In addition to these measures, an overhanging ornamental iron cornice gutter protruded approximately two feet from the face of the walls. This protected them from heavy rains by acting as a small canopy or visor. In addition, to withstand weather conditions at the shore, the roof had been made of copper (Fink and Bennett 1930; 1939). The main building, incidentally, was heated by a hot water circulating system which included an oil burner.

The construction of the antenna system proved to have its own set of construction issues. The transmission array required the erection of sixty-eight poles with guy wires and anchors. The antenna system was a “rhombic” (diamond shape) antenna which is a broadband directional wire antenna used in the high frequency or shortwave band. The antenna system consisted of one to three parallel wires suspended above the ground in a diamond shape, supported by poles at each vertex to which the wires were attached by insulators (Bennett and Moroze 1939).

On the Manahawkin Project area, 16 rhombic antennas, consisting of 64 poles (four poles for each antenna), were placed end to end over about two miles. The poles were approximately 65 feet above ground and were set in the diamond shape about 600 feet long. To erect the poles in the muck of the salt marsh, it was necessary to first remove as much muck as possible, then, stand the pole in the hole, and then with high pressure water force the sand and clay out until proper depths (between nine to ten feet) were achieved and the pole settled. Depending on its location in the individual antenna, each pole was permanently braced with one or three guy wires to secure it in place (Bennett and Moroze 1939).

Each of the rhombic antennas required a coaxial cable for the transmission lines connected to the receiving equipment in the building. The transmission lines were laid underground (approximately 30 inches deep) to avoid temperature changes which would have had an adverse effect on transmission of the radio waves. Due to the marsh environment and in order to protect the copper pipe from corrosion, it was necessary to have the lines covered by an application of heavy layers of coal tar enamel. This was then reinforced with an asbestos wrap (Bennett and Moroze 1939).

Since the station was originally constructed, additional antennas have been added to the array. The addition of the antenna resulted in an even higher number of transmissions from both ship-to-shore and land transmissions all over the world. In fact, the stations in New Jersey were critical in communications to Europe. During World War II, the station at Ocean Gate/Good Luck Point was under armed guard. Messages that were transmitted from the Ocean Gate/Good Luck Point station were critical to the war effort (Ocean County News Journal 1976).

BUILDING ATTACHMENT

Historic Sites #:

Survey Name:

Date: January 8, 2016

Surveyor:

Organization: Amec Foster Wheeler

APPENDIX G

MATERIAL QUANTITIES/WASTE STREAMS TABLES

ATT Manahawkin
Material Quantities/Waste Streams
Manahawkin, NJ

ATT Manahawkin Waste Stream	Quantity	Length (Linear Feet)	Diameter Average (Feet)	Quantity Range	Roll-offs (30 CY) Range
Wood Poles – Standing	113	70	1.83	7,900 - 8,700 Feet	28 – 31
Wood Poles - Stick ups	25	5	1.83	100 - 200 Feet	--
Wood Poles – Fallen On Ground	3	30	1.83	90 Feet	--
Wire (Galvanized Steel) Per Pole	113	330	0.04	37,000 - 45,000 Feet	5 – 7
Wire (Copper)	--	6,000	0.002	3,000 - 6,000 Feet	2-3
Ceramic Strain Insulators On Poles (3 Each Average) On Metal Antennae (60 each) x 7 Towers	760 @ 3 lbs./each	--	--	400 - 800 Insulators	2-3
Telephone Spike Steps (Steel)	6,400 @ 1 lbs./each	--	--	8,000 - 10,000 Spike Steps	3-4
Metal Antennae Towers (Galvanized Steel)	7	35 to 75	--	400 - 600 Tower Sections (Feet)	7-10
Metal Antennae Towers Wire (Galvanized Steel)	7	1,100	0.004	8,000 - 10,000 Feet	2-4
Metal Antennae Equipment Platforms (Galvanized Steel)	30	30		900 Feet	2-4
Metal Pipe Anchors wrapped with Insulation	400	9		400 - 500 Anchor Pipes	3-5
Concrete Bases	8 (1 CY Concrete)	--	--	8 – 10 CY Concrete	2-3 (20CY)

ATT Good Luck Point
Material Quantities/Waste Streams
Berkeley Township, NJ

ATT Good Luck Point Waste Stream	Quantity	Length (Linear Feet)	Diameter Average (Feet)	Quantity Range	Roll-offs (30 CY) Range
Wood Poles - Standing	110 110 120	70 50 30	1.83 1.50 0.83	16,000 – 19,000 Feet	28 – 32
Wood Poles - Stick ups	20	4	1.83	100 – 200 Feet	--
Wood Poles – Fallen On Ground	5	30	1.83	150 – 300 Feet	--
Wood Cross Members	300	10	3” x 4” (inches)	3,000 – 3,600 Feet	5 – 6
Wire (Galvanized Steel) Per Pole	110	330	0.04	36,000 – 43,000 Feet	5 -8
Wire (Copper)	--	3,000	0.002	3,000 – 6,000 Feet	2-3
Ceramic Strain Insulators On Poles (3 Each Average) On Metal Antennae (60 each) x 6 Towers	700 @ 2 lbs./each	--	--	500 – 600 Insulators	2 – 4
Telephone Spike Steps (Steel)	6,328 @ 0.91lbs./each	--	--	7,500 – 8,300 Spike Steps	2 – 4
Metal Antennae Towers (Galvanized Steel)	12	35	--	420-600 Feet	8 – 12
Metal Antennae Towers Wire (Galvanized Steel)	12	2,200	0.002	26,400-31,700 Feet	2 – 4
Metal Antennae Equipment Platforms (Galvanized Steel)	40	40		1,200 – 1,500 Feet	2 -4
Metal Anchors wrapped with Insulation	450	9		450 - 600 Anchors	2 – 4
Concrete Bases	15 (1 CY Concrete)	--	--	15 – 20 CY Concrete	2 -3

APPENDIX H

NOTIFICATION OF INTENT FOR MATERIAL ACCEPTANCE LETTER

Enviroscapes, Inc.

Environmental and Ecological Restoration Services

December 2, 2015

Charles R. Harman, P.W.S.
Principal Ecologist
Branch Manager
Amec Foster Wheeler
Environment & Infrastructure
285 Davidson Avenue, Suite 405
Somerset, New Jersey 08873

RE: Notification of Intent for Material Acceptance
ATT Manahawkin and ATT Good Luck Point
Enviroscapes Project No. CP2015-024

Dear Mr. Harmon:

Based on our site observations and analytical data collected on October 14, 2015, it is anticipated that the metal recyclable materials and any non-hazardous waste at the site are acceptable for recycling/disposal via Freehold Cartage Inc., located in Freehold, New Jersey. The wood poles and ancillary wood cross members are acceptable at Evergreen Community Power Plant, a clean energy facility and will be used as wood based fuel. Evergreen Community Power Plant is located in Reading, Pennsylvania.

We look forward to the opportunity of continuing to support Amec Foster Wheeler on this U.S. Fish & Wildlife contract for ATT Manahawkin and ATT Good Luck Point.

If you have any questions, please contact me at 732-422-4449 or email at eblanar@enviroscapesinc.com.

Very Truly Yours,
Enviroscapes, Inc.

Edward W. Blanar

Edward W. Blanar
CEO/Executive Vice President

P.O. Box 5067 Kendall Park, NJ 08824 / 215 Deans Lane, Monmouth Junction, NJ 08852
telephone # (732) 422-4449 - fax # (732) 422-4450
visit us at: www.enviroscapesinc.com

APPENDIX I

DRAFT FONSI–MANAHAWKIN PROJECT AREA

Edwin B. Forsythe National Wildlife Refuge

NEPA - Finding of No Significant Impact (FONSI)

Pole Removal Project
Manahawkin Project Area, Stafford Township, Ocean County, NJ

October 2015

DRAFT

DESCRIPTION OF PROPOSED ACTION

The Edwin B. Forsythe National Wildlife Refuge (Refuge) consists of more than 47,000 acres, and is owned and managed by the United States Fish and Wildlife Service (Service). The proposed project is the Pole Removal Project at the Manahawkin Project Area, located at the end of Beach Avenue in Stafford Township, Ocean County, New Jersey. It is identified as a portion of Block 296, Lot 63, and all of Lot 108, and is approximately 390 acres in size.

The Manahawkin Project Area is the site of a former telecommunications receiver facility for radio transmissions and undersea cable communications, comprising a large number of wooden poles (approximately 113), 7 metal antennas, and appurtenant structures throughout an expansive salt marsh. Appurtenant structures include, but are not limited to anchoring devices, cables and wires, ceramic insulators, and equipment platforms. Since the facility's closure, the poles, antennas, and structures have been subjected to decades of storm events and tidal surges, and are currently in a state of deterioration.

The proposed action is the removal of these deteriorating structures near ground level and their off-site disposal and/or recycling. The proposed action will provide ecological enhancement to the salt marsh by removing this vast array of man-made structures, thereby returning the marsh to a naturalized setting for migratory and resident wildlife. The Manahawkin Project Area is located within the Atlantic Flyway, thus the removal of these structures significantly reduces flight hazards to migratory birds. The removal of these structures also eliminates the potential for man-made chemical constituents from these structures to enter the environment. Discussions among the Service and the New Jersey Department of Environmental Protection (NJDEP), the United States Army Corps of Engineers (USACE), and the Ocean County Soil Conservation District have revealed that regulatory approvals for the proposed action are not required due to the non-intrusive nature of the work.

ALTERNATIVES CONSIDERED

The proposed action alternative (Alternative A), an alternative involving the removal of structures below ground level (Alternative B), and the no action alternative (Alternative C) were considered and are discussed in Chapter 3 of the Draft Environmental Assessment (EA), dated October 29, 2015.

The preferred alternative, Alternative A, was found to meet the project goals and objectives with a minimum amount of environmental disturbance, while providing the desired ecological enhancement to the marsh, and restoring the salt marsh habitat for wildlife. Alternative B, which included the below-ground removal of structures, was also found to provide the desired ecological enhancement as the preferred alternative, but would involve extensive above-ground and below-ground disturbances to the salt marsh sediments resulting from structure removal. The restoration of the disturbed sediment would also involve additional disturbances to the marsh. Thus Alternative B was dismissed from further consideration.

The no action alternative, Alternative C, was dismissed from further consideration because it would not produce the desired ecological enhancement of the marsh, and would perpetuate the continued deterioration and present hazards to wildlife. Thus the no action alternative would not fulfill the proposed action's purpose and need.

PUBLIC INVOLVEMENT

[To be written once Public Meetings are held.]

DETERMINATION OF FINDINGS

We have reviewed the anticipated beneficial and adverse impacts of the preferred alternative presented in Chapter 3 of the EA, and compared them to the alternatives. We reviewed the context and intensity of those predicted impacts over the short- and long-term, and considered the cumulative effects. The review of each of the NEPA factors was conducted to assess whether there will be significant environmental effect resulting from the proposed action in accordance with 40 C.F.R. 1508.27.

The proposed action would have long-term beneficial impacts to the salt marsh system by removing a vast array of deteriorating man-made structures and restoring the salt marsh to its previous state. The potential physical and chemical hazards associated with these structures would be eliminated. The overall effect would be an ecological enhancement of the salt marsh.

Direct and indirect adverse impacts of the proposed action would be localized and short-term in nature, limited to the period of construction. These impacts will largely be limited to site construction activities that involve the removal of the structures. This involves the temporary loss of existing vegetation, and temporary displacement of wildlife due to construction noise and land disturbance.

DRAFT

1) **Public Health and Safety**

No aspect of the proposed action has been identified as having the potential to significantly and adversely impact public health or safety. During construction some noise and exhaust from construction vehicles will create a temporary localized disturbance. However, the project site is remote and closed to the public, and will not be accessible to the public during construction activities.

2) **Unique Characteristics of the Area**

The project site is located within a component of the Edwin B. Forsythe National Wildlife Refuge, and includes an expansive salt marsh along the New Jersey coast. The proposed action would not have any adverse effects to the salt marsh but will instead provide an ecological enhancement to the surrounding environment.

3) **Highly Controversial Effects**

The proposed action will not have any significant adverse effects on the quality of the human environment and is, therefore, not likely to generate high levels of controversy. [To be confirmed: "Public response to the proposed action has been positive and supportive."]

4) **Highly Uncertain Effects or Unknown Risks**

The proposed action involves wooden pole and metal antennae removal that is a routinely performed decommissioning activity and does not represent the potential for unreasonable risk.

5) **Precedent for Future Actions with Significant Effects**

The proposed action represents an opportunity to implement the goals and advance the mission of the Service, and will not result in any significant effect on future actions.

6) **Cumulatively Significant Impacts**

The proposed action will not contribute to any cumulatively significant impacts. The proposed action would have no substantial adverse impacts on the adjacent land use, natural resources, or other planned future projects. Direct and indirect beneficial cumulative impacts are anticipated through the long-term benefits to fish and wildlife within and adjacent to the project site. Any direct and indirect adverse cumulative impacts attributed to the proposed action would be short-term and localized. As such, the proposed action will not have a significant cumulative impact.

7) **Effects on Scientific, Cultural, or Historical Resources**

The New Jersey State Historic Preservation Office and the NJ State Museum was consulted in order to fulfill the requirements under Section 106 of the National Historic Preservation Act. The proposed action will not have any adverse impacts to archaeological, cultural, or historical resources.

8) **Effects on Endangered Species Act (ESA)–Listed Species and Habitats**

The proposed action will not adversely affect any federal or state listed species or their habitat.

9) **Threat of Violating any Environmental Law**

There has been communications with state and federal regulatory agencies regarding the proposed action, and no regulatory approvals were deemed necessary, thus there is no threat of violating any environmental law.

DRAFT

CONCLUSIONS

Based on the review of the information presented in this document and the analyses contained in the supporting Draft Environmental Assessment, we find that the implementation of the Preferred Alternative (Alternative A) for the Pole Removal Project at the Manahawkin Project Area will not have a significant impact on the quality of the human environment, in accordance with Section 102(2)(c) of NEPA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant adverse impacts. Accordingly, the preparation of an Environmental Impact Statement for this action is not required, and this FONSI is appropriate and warranted.

_____ _____

Regional Director Date
U.S. Fish and Wildlife Service

DRAFT

APPENDIX J

DRAFT FONSI–GOOD LUCK POINT PROJECT AREA

Edwin B. Forsythe National Wildlife Refuge

NEPA - Finding of No Significant Impact (FONSI)

Pole Removal Project
Good Luck Point Project Area, Berkeley Township, Ocean County, NJ

October 2015

DRAFT

DESCRIPTION OF PROPOSED ACTION

The Edwin B. Forsythe National Wildlife Refuge (Refuge) consists of more than 47,000 acres, and is owned and managed by the United States Fish and Wildlife Service (Service). The proposed project is the Pole Removal Project at the Good Luck Point Project Area, located along Bayview Avenue in Berkeley Township, Ocean County, New Jersey. It is identified as Block 1207, Lots 2.01 and 2.02 and Block 1206, Lots 1 and 1.01, and is approximately 222 acres in size.

The Good Luck Point Project Area is the site of a former telecommunications receiver facility for radio transmissions and undersea cable communications, comprising a large number of wooden poles (approximately 340), 12 metal antennas, and appurtenant structures throughout an expansive salt marsh. Appurtenant structures include, but are not limited to anchoring devices, cables and wires, ceramic insulators, and equipment platforms. Since the facility's closure, the poles, antennas, and structures have been subjected to decades of storm events and tidal surges, and are currently in a state of deterioration.

The proposed action is the removal of these deteriorating structures near ground level and their off-site disposal and/or recycling. The proposed action will provide ecological enhancement to the salt marsh by removing this vast array of man-made structures, thereby returning the marsh to a naturalized setting for migratory and resident wildlife. The Good Luck Point Project Area is located within the Atlantic Flyway, thus the removal of these structures significantly reduces flight hazards to migratory birds. The removal of these structures also eliminates the potential for man-made chemical constituents from these structures to enter the environment. Discussions among the Service and the New Jersey Department of Environmental Protection (NJDEP), the United States Army Corps of Engineers (USACE), and the Ocean County Soil Conservation District have revealed that regulatory approvals for the proposed action are not required due to the non-intrusive nature of the work.

ALTERNATIVES CONSIDERED

The proposed action alternative (Alternative A), an alternative involving the removal of structures below ground level (Alternative B), and the no action alternative (Alternative C) were considered and are discussed in Chapter 3 of the Draft Environmental Assessment (EA), dated October 29, 2015.

The preferred alternative, Alternative A, was found to meet the project goals and objectives with a minimum amount of environmental disturbance, while providing the desired ecological enhancement to the marsh, and restoring the salt marsh habitat for wildlife. Alternative B, which included the below-ground removal of structures, was also found to provide the desired ecological enhancement as the preferred alternative, but would involve extensive above-ground and below-ground disturbances to the salt marsh sediments resulting from structure removal. The restoration of the disturbed sediment would also involve additional disturbances to the marsh. Thus Alternative B was dismissed from further consideration.

The no action alternative, Alternative C, was dismissed from further consideration because it would not produce the desired ecological enhancement of the marsh, and would perpetuate the continued deterioration and present hazards to wildlife. Thus the no action alternative would not fulfill the proposed action's purpose and need.

PUBLIC INVOLVEMENT

[To be written once Public Meetings are held.]

DETERMINATION OF FINDINGS

We have reviewed the anticipated beneficial and adverse impacts of the preferred alternative presented in Chapter 3 of the EA, and compared them to the alternatives. We reviewed the context and intensity of those predicted impacts over the short- and long-term, and considered the cumulative effects. The review of each of the NEPA factors was conducted to assess whether there will be significant environmental effect resulting from the proposed action in accordance with 40 C.F.R. 1508.27.

The proposed action would have long-term beneficial impacts to the salt marsh system by removing a vast array of deteriorating man-made structures and restoring the salt marsh to its previous state. The potential physical and chemical hazards associated with these structures would be eliminated. The overall effect would be an ecological enhancement of the salt marsh.

Direct and indirect adverse impacts of the proposed action would be localized and short-term in nature, limited to the period of construction. These impacts will largely be limited to site construction activities that involve the removal of the structures. This involves the temporary loss of existing vegetation, and temporary displacement of wildlife due to construction noise and land disturbance.

DRAFT

1) **Public Health and Safety**

No aspect of the proposed action has been identified as having the potential to significantly and adversely impact public health or safety. During construction some noise and exhaust from construction vehicles will create a temporary localized disturbance. However, the project site is remote and closed to the public, and will not be accessible to the public during construction activities.

2) **Unique Characteristics of the Area**

The project site is located within a component of the Edwin B. Forsythe National Wildlife Refuge, and includes an expansive salt marsh along the New Jersey coast. The proposed action would not have any adverse effects to the salt marsh but will instead provide an ecological enhancement to the surrounding environment.

3) **Highly Controversial Effects**

The proposed action will not have any significant adverse effects on the quality of the human environment and is, therefore, not likely to generate high levels of controversy. [To be confirmed: "Public response to the proposed action has been positive and supportive."]

4) **Highly Uncertain Effects or Unknown Risks**

The proposed action involves wooden pole and metal antennae removal that is a routinely performed decommissioning activity and does not represent the potential for unreasonable risk.

5) **Precedent for Future Actions with Significant Effects**

The proposed action represents an opportunity to implement the goals and advance the mission of the Service, and will not result in any significant effect on future actions.

6) **Cumulatively Significant Impacts**

The proposed action will not contribute to any cumulatively significant impacts. The proposed action would have no substantial adverse impacts on the adjacent land use, natural resources, or other planned future projects. Direct and indirect beneficial cumulative impacts are anticipated through the long-term benefits to fish and wildlife within and adjacent to the project site. Any direct and indirect adverse cumulative impacts attributed to the proposed action would be short-term and localized. As such, the proposed action will not have a significant cumulative impact.

7) **Effects on Scientific, Cultural, or Historical Resources**

The New Jersey State Historic Preservation Office and the NJ State Museum was consulted in order to fulfill the requirements under Section 106 of the National Historic Preservation Act. The proposed action will not have any adverse impacts to archaeological, cultural, or historical resources.

8) **Effects on Endangered Species Act (ESA)–Listed Species and Habitats**

The proposed action will not adversely affect any federal or state listed species or their habitat.

9) **Threat of Violating any Environmental Law**

There has been communications with state and federal regulatory agencies regarding the proposed action, and no regulatory approvals were deemed necessary, thus there is no threat of violating any environmental law.

DRAFT

CONCLUSIONS

Based on the review of the information presented in this document and the analyses contained in the supporting Draft Environmental Assessment, we find that the implementation of the Preferred Alternative (Alternative A) for the Pole Removal Project at the Good Luck Point Project Area will not have a significant impact on the quality of the human environment, in accordance with Section 102(2)(c) of NEPA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant adverse impacts. Accordingly, the preparation of an Environmental Impact Statement for this action is not required, and this FONSI is appropriate and warranted.

_____ _____

Regional Director Date
U.S. Fish and Wildlife Service

DRAFT