

From: [Turner, Ed](#)
To: [Guinotte, John](#)
Subject: IHS Well data
Date: Friday, May 19, 2017 11:04:59 AM
Attachments: [IHS_ReadMe.zip](#)
[IHS_Wells_2017.gdb.zip](#)
[Oil_Gas_Wells_Active_NALam.zip](#)

Hi John, Hope all's well.

I heard about the baseball sized hail hitting Lakewood the other week. We have kin out there and the 19yr old said the mall he works at was hit hard. I heard other people had car damage and such. Hope you all got through it without issue.

Here is the IHS data that I built. I've included the data in GDB that is in our Wolverine projection and a shapefile in North American Lambert Conformal Conic that I was using with the current range. Included a readme on how I built it too. Basically a location data created using the XY from the excel table.

Let me know if you have any questions.

Thanks, Ed

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IHS well data in the states where we have Wolverine in the 2017 review effort.

These data are the IHS May 2017 well location download created by the USFWS using the available records for the IHS Markit, <https://www.ihs.com/products/us-well-data.html>, Enerdeq Release 2017 v4 online access system. The IHS Well Database is the largest, most comprehensive US well database, accounting for virtually every well-drilled and produced back to 1859. The USFWS has access IHS well data for the prior Greater Sage-Grouse status review and we are looking at these in relation the states where the wolverine current range exists. IHS records are recorded in GCS_North_American_1927 and must be projected after spatial data creation.

Based on data query search results we found the following well types with well symbols in the vicinity of the Current Range.

Well Symbols:

CARBON DIOXIDE CD

GAS G

GAS AND INJECTION GIJ

INJECTION I

OIL O

OIL AND INJECTION OIJ

WATER W

Well Types:

ABANDONED-GENERAL A0

ACTIVE PRODUCING-GENERAL B0

CARBON DIOXIDE B4

COALBED METHANE B5

COALBED METHANE CONVERTED TO INJECTOR BD

COMMINGLED M3

GAS WELL B8

GAS WELL CONVERTED TO INJECTION BB

INJECTION WELL - ACTIVE	F0
OIL & GAS WELL	B9
OIL WELL	B7
OIL WELL CONVERTED TO INJECTION	BA
PLUGGED AND ABANDONED	A2
RECOMPLETED	M6
SALT WATER DISPOSAL - CONVENTIONAL	G2
SOURCE	M8

These data are not obtained in geo-spatial form, but are easily converted to such using the ESRI ArcGIS platform.

To create a spatial representation of IHS well records as of May 2017, we did the following.

1. Granted access under USFWS agreements with IHS Markit.
2. Accessed the IHS Enerdeq Release 2017 v4, <https://my.ihs.com/energy>.
3. Created a records query based on production unallocated (*allocated wells are in Texas and not needed for this effort*) wells (*allowed all types*), production status set to active, and states needed.
4. Query returned all records meeting criteria in the selected Wolverine western states. In the right-hand "My Query" window, saved the query and named it.
5. Query file converted to a new Template. Access the "My Templates" and selected "Production", next created new template by selecting from the left pain the attributes we needed.
6. Records were converted into a template with choices of attributes that we would need in the effort, then exported as excel spreadsheet. To export the saved query template, selected "output all", then "Exports", then scrolled down to "Production Data – Custom" where the template was saved. Selected the desired template, select output file type (excel 2007 + (XLSX)), and submitted the job.
7. Next checked "My Files" location, selected our new output file and it was save to the computer.
8. Logged out of IHS Enerdeq and looked in C:\Users\NAME\Downloads for the data excel to process.
9. Cut the file and saved to the desired location.
10. Opened in excel and viewed file to make sure we had what we needed.

11. Opened the file in ArcCatalog and selected the exported excel, next selected the sheet and right moused to "Create Feature Class" from XY table. Note *** IHS locations are in GCS_North_American_1927.
12. Next projected the output Geo-spatial data to our project coordinate system and worked with the data.
13. Next projected the data to our North_America_Lambert_Conformal_Conic projection for mapping efforts and created visual aids to check locations of wells in relation to the Current Range and wolverine data that we have compiled.

CARBON DIOXIDE CD

GAS G

GAS AND INJECTION GIJ

INACTIVE CARBON DIOXIDE CD

INACTIVE GAS G

INACTIVE OIL O

INACTIVE OIL AND INJECTION OIJ

INACTIVE OTHER OTH

INACTIVE WATER W

INJECTION I

OIL O

OIL AND INJECTION OIJ

OTHER OTH

WATER W

ABANDONED-GENERAL A0

ACTIVE PRODUCING-GENERAL B0

CARBON DIOXIDE B4

COALBED METHANE B5

COALBED METHANE CONVERTED TO INJECTOR BD

COMMINGLED M3

COMMINGLED COALBED METHANE & NATURAL GAS B6

CONSOLIDATED M1

CONVERTED TO GAS M2

CONVERTED TO OIL M4

EXEMPT T0

GAS WELL B8

GAS WELL CONVERTED TO INJECTION BB

HUFF & PUFF FX

INJECTION WELL - ACTIVE F0

INJECTION WELL - SHUT-IN FT

INJECTION WELL - TEMPORARILY ABANDONED FW

LAST WITHDRAWAL M5

MARGINAL (ALLOWABLE SET BY POTENTIAL) I0

NITROGEN BE

NPX (NEW DISCOVERY EXEMPT ALLOWABLE) J0

OBSERVATION K0

OIL & GAS WELL B9

OIL & GAS WELL CONVERTED TO INJECTION BC

OIL WELL B7

OIL WELL CONVERTED TO INJECTION BA

PLUGGED AND ABANDONED A2

RECOMPLETED M6

SALT WATER DISPOSAL - CONVENTIONAL G2

SALT WATER DISPOSAL COMMERCIAL G5

SALT WATER DISPOSAL COMMERCIAL - PLUGGED AND ABANDONED G8

SALT WATER DISPOSAL O&G OPERATOR G6

SALT WATER DISPOSAL O&G OPERATOR - PLUGGED AND ABANDONED G9

SHUT IN-GENERAL D0

SOURCE M8

SPLIT LEASE M7

TRANSFERRED T1

TRANSFERRED/RECOMPLETED T2

UNDERGROUND STORAGE CAVITY - GAS C2

UNDERGROUND STORAGE CAVITY - LPG C4

UNITIZED M9

WASTE DISPOSAL G1

WATER H3