FIELD SUMMARY REPORT
SOUTHERN NEW MEXICO BASE EFFORT

(June 4 - 15, 1984)

I. INTRODUCTION:

Field reconnaissance was conducted during the period of June 4, 1984 through June 15, 1984 for the following maps: Roswell NW, Roswell SW, Carlsbad NW, Clifton SE, Silver City NE, Silver City SE, and Tularosa SW.

USGS quadrangles which contain Field Check Sites are as follows:

ROSWELL NW
- Carrizozo West
- Carrizozo East
- Little Black Peak NE
- Capitan
- Jacob Spring
- Pedernal Arroyo
- Goldrino Well
- Arroyo Serrano West
- Arroyo Serrano East

ROSWELL SW
- Lincoln 15'
- Rudiozo Downs
- Angus
- Mescalero

CARLSBAD NW
- Dunkin 15'
- Sacramento
- Alamagordo 15'

TULAROSA SW
- Elephant Butte

CLIFTON SE
- Copperas Peak
- Little Turkey Peak
- Glenwood
- Negrito Mountain

SILVER CITY NE
- Canador Peak 15'
- Silver City
- Fort Bayard
- Hurley West
- Santa Rita
- Cliff

SILVER CITY SE
- The Saltys
- Spear NE
- Muir Ranch
- Lordsburg
- Gary
Personnel:

Chuck Mullins: USFWS
Rusty Kologiski: USFWS
Nick Rowse: USFWS
Keith Patterson: Martel Laboratories, Inc.
Cindy Bohn: Martel Laboratories, Inc.

The available photography for all maps Field Check is CIR, 1:58,000 taken on the following dates:

- October 3, 1982
- May 12, 1982
- June 9, 1982
- June 20, 1982

The collateral data sources include the following:

- USGS topographic maps 7.5' and 15'
- USGS 1:250,000 topographic maps
- USDA Soil Conservation Service soil survey for the following New Mexico Counties: Lincoln, Otero, Eddy, Chaves, Grant, Hidalgo
- "The Vegetation of New Mexico" Castetter, from New Mexico Quarterly, 26:257-282.


II. OVERVIEW

The mapping area consists of two separate geographic sections. The western area contains the Clifton SE, Silver City NE and SE, and Tularosa SW 1:100K maps. The physiography of the land is composed primarily of large alkali flats and basin range in the south with an average rainfall of 2 - 4 cm. Extending to the north, the Gila National Forest containing the Gila and Black mountain ranges can average up to 46 cm of rainfall on the western face. The heaviest rain period is between July and September. The Gila and San Francisco Rivers are the primary waterways for the area with the addition of the Rio Grande which cuts across the extreme northeast corner in Tularosa SW. Bailey describes this area within the Dry Domain as occurring in the Mexican Highlands Shrub Steppe Province, Upper Gila Mountain Province, and the Chihuahua Desert Province (Grama - Tobosa Section).

The eastern half of the mapping area contains the Roswell NW and SW and Carlsbad NW 1:100K. The Sacramento and Capitan Mountains and the Lincoln National Forest and the Mescalero Apache Indian reservation are within these 1:100K maps. Many upper perennial mountain streams and springs can be found within the area. The Rio Rudiosa, Rio Bonita, Rio Tularosa, and Rio Penasco are the most important rivers. Rainfall varies from 2 cm in the extreme SE corner at Alamogordo to 62 cm directly east at Cloudcraft located in the Sacramento Mountains. Again, more that one-half of the total rainfall occurs between the months of July and September. The ecoregion identified in this part of the mapping area is almost entirely the Colorado Plateau Province (Gramma-Galleta Steepe and Juniper Pinyon Woodland Mosaic Section.) A very small section of the Chihuahua Desert Province (Grama-Tobasa Section) lies near Alamogordo.
III. BIOLOGICAL CHARACTERISTICS OF WETLAND HABITATS

**Marine:** Not present.

**Estuarine:** Not present.

**Riverine:**

Riverine systems were mostly observed as intermittent and labeled R4SBC or A, depending on presence of water in photo or field. However, there were a number of upper perennial mountain streams-R30WH (as listed in the previous section). USGS topos, in conjunction with stream condition in the field and photo, were used to determine perennial classifications. On some of the larger rivers, temporary flats were associated within the floodplains.

**Lacustrine:**

A few large, deep impounded water bodies greater than 20 acres were observed, mostly in higher elevations or near major developed areas (as in Elephant Butte Reservoir). These were labeled L10WHh accordingly and the seasonal flats associated with the change in water level L2USCh. Other significant lacustrine system within the mapping area were the large alkalai flats located east of Lordsburg. These were determined to be flooded less than yearly and classified L2USJ.

**Palustrine:**

Several different palustrine systems were identified. The most abundant were small excavated or impounded stock tanks of differing water permanence depending on elevation and proximity to ground water source. These range from PUSA and J in the lower desert to PUSC, POWF, and POWH in higher elevations. Small natural depressions and sinks containing water, hydric soil, or wetland emergents formed another significant palustrine wetland. These were classified according to water presence and dark green or red signature on photography, generally being no wetter than temporarily flooded. Numerous springs and spring-fed emergent marshes (dominated by Juncus sp., Carex sp., and Scirpus sp.) occurred mainly in the higher elevations of the Sacramento Mountains. Riparian zones and associated vegetational canopies occurred along the major and more developed drainages. Precedence was given to the vegetation class and labeled seasonal or temporary.
COMMON HERBACIOUS SPECIES

PEM1F-C

Typha sp. (cattail)
Polygonum sp. (smartweed)
Eleocharis sp. (spike rush)
Carex sp (sedge)

PEM1C-A

Scirpus sp. (bullrush)
Juncus sp. (rush)
Hystrix patula (bottlebrush)
Glycyrrhiza lepidota (wild licorice)

PEM1A-J

Sporobolus aierodes (alkalai sacaton)
Cirsium sp. (thistle)
Aesclepias sp. (milkweed)
Lesquerella gordonii (bladderpod)
Gutierrezia sarothrae (snakeweed)
Hymenoxys oderata (bitterweed)
Salsola rimbricata (russian thistle)

PAB5

Lemna sp (duckweed)
Nasturtium aquatica (watercress)
COMMON WOODY SPECIES

PFO1C-A
Salix sp. (willow)
Populus fremontii (Fremont cottonwood)
Populus tremuloides (quaking aspen)
Celtis sp. (hackberry)
Ulmus sp. (elm)
Juglans microcarpa (little walnut)

PSS1C
Salix sp (willow)

PSS1A-J
Salix lasiolepis (arroyo willow)
Juglans sp. (walnut)
Sambucus sp. (elderberry)
Atriplex sp. (saltbush)

PSS2A-J
Tamarix spp. (salt cedar)
IV. IMAGERY, DELINEATION AND FIELD CHECKING

The imagery consisted of two time groups—one taken in early October and the other in mid May to mid June, 1982. The October photos were wetter than the observed field conditions and the May - June photography was similar to field time.

The photography is of excellent to fair quality. A large portion of the film originally sent was rejected because of extreme darkness due to poor exposure or development. The returned photography was lightened. On some photos, this resulted in a bleaching effect prevalent in drainage and flood basin making accurate photo interpretation difficult. Most of the film has a green or blue tint to the emulsion. Detection of water was often difficult. In both cases, comparison to adjacent photography was used to help clarify the problem areas.

USGS 7.5' topos were available for most areas but in some areas only 15' topos were supplied. There was no photography available for Strip 4 and part of Strip 1 and 2 in Carlsbad NW, and Strip 4 in Roswell NW.

**Delineation and Field Checking**

In general, the eastern Roswell and Carlsbad areas were more mesic than the western Silver City, Clifton, and Tularosa area. The western slopes of the mountains and the valleys were generally the wettest.

USGS topos were used for the classification of streams (i.e. perennial, vs intermittent) unless collateral data was available to the contrary. Due to the unique geology of some of the area, streams and rivers can fluctuate between perennial and intermittent as shown of the topos.

Vegetation was given predominance when classifying streambeds and given the appropriate A or C water regime. Some expected wetland tree lines were determined to be remnants of historic floodplains and considered upland. In cases where the streambed was hidden by woody upland vegetation, only the streambed was delineated (e.g. ponderosa pine).

The majority of the reddish pink emergent tone in the flood plain of the major streams can be attributed to natural upland grasses and/or agriculture and not wetlands as it appears. Spring-fed marshes along streambeds in the higher elevations will give a red/white/green mottled signature (PEM1C, PEM1P). Occasionally there will be an adjacent area of reddish pink emergents (PEM1C, PEM1A) associated with these marshes that will be a slightly darker signature than the upland signature. These signatures can be confusing and not used as a general guide unless adjacent to other wetlands or observed in the field.
Sinkholes and depressions were observed to be mostly dry. A very strong pinkish-red tone or dark green will be used to distinguish the wetland and determine PEMlA or PEMlJ classification. The presence of water on the photo will distinguish PUSA and PUSJ classification in conjunction with the intermittent lake symbols on the topo.

Known springs can be marked by a POWF dot wetland even if no signature is evident on the photo. However, these should be limited to situations where field data or other information has been provided.

V. SUMMARY

The photography will inhibit accurate photo analysis in some areas due to the over-bleaching but in general should allow accurate cover typing and wetland classifying. The field checking was extensive and covered all the major ecological communities with the exception of a relatively small alpine areas in Carlsbad NW where access was prohibited.