BLM Denied due to High Cave Karst Area
Operator Rescinded Permit

Received 7/24/2015
NMOCD Dist 2

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Below grade tank registration
- ☒ Permit of a pit or proposed alternative method
- ☐ Closure of a pit, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.

Operator: OXY USA, Inc OGRID #: 160696

Address: PO B o x 50250 Midland, TX 79710,

Facility or well name: Peaches 19 Federal 4H API

Number: 30-015-42030 OCD Permit Number: 2-13-0029

U/L or Qtr/Qtr _____ Section 19 Township 25S Range 27E County: Eddy

Center of Proposed Design: Latitude 32.122l001 Longitude -104.2353361 NAD: ☒1927 ☐ 1983

Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.

☒ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC

Temporary: ☒ Drilling ☐ Workover

☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☒ no

☒ Lined ☐ Unlined Liner type: Thickness 30 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____

☒ String-Reinforced

Liner Seams: ☒ Welded ☐ Factory ☐ Other _Volume 12,325 barrels Dimensions: L 175 x 75 x D 6-8 feet below natural grade 12 feet below pad

3.

☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC

Volume: _____bbl Type of fluid: _____

Tank Construction material: _____

☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off

☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____

Liner type: Thickness _____mil ☐ HDPE ☐ PVC ☐ Other _____

4.

☐ **Alternative Method:**

Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.

Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☒ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☐ Alternate. Please specify_____

6.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. ☐ Yes ☐ No ☒ NA

- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . ☐ Yes ☒ No ☐ NA

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells **See Figures 1 & 2- and Forthcoming Auger Drilling Report**

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** **See Figure 5** ☐ Yes ☒ No

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** **See Figure 7** ☐ Yes ☒ No

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

Within an unstable area. **(Does not apply to below grade tanks)** **See Figure 8** ☐ Yes ☒ No

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

Within a 100-year floodplain. **(Does not apply to below grade tanks)** **See Figure 9** ☐ Yes ☒ No

- FEMA map

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). ☐ Yes ☐ No

- Topographic map; Visual inspection (certification) of the proposed site

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. ☐ Yes ☐ No

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) ☐ Yes ☐ No

- Topographic map; Visual inspection (certification) of the proposed site

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. ☐ Yes ☐ No

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. ☐ Yes ☐ No

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). **See Figure 3**
- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image. **See Figure 4**

☐ Yes ☒ No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site **See Figures 1 & 2**

☐ Yes ☒ No

Within 300 feet of a wetland. **See Figure 6**
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).
- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 500 feet of a wetland.
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.

Proposed Closure: 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit ☐ Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☒ On-site Closure Method (Only for temporary pits and closed-loop systems)
☒ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

14.

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☒ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No

Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No
	☐ Yes ☒ No

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☒ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Linsay Earle Title: Drilling Engineer

Signature: Linsay Earle Date: July 23, 2015

e-mail address: linsay_earle@oxy.com Telephone: 713-350-4921

18.
OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: BLM Denied due to High Cave/Karst **Approval Date:** Not Approved

Title: _____ **OCD Permit Number:** _____

19.
Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** _____

20.
Closure Method:

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☐ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☐ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature:_____ Date: _____

e-mail address:_____ Telephone: _____

July 2015

C-144 Permit Package for Peaches 19 Federal 4H Solids Burial Pit Sec 19 T25S R27E, Eddy Co.

View south toward constructed drilling pad. The erosion channel exposes the underlying gypsum bedrock of the upper Salado or lower Rustler Formation.

Prepared for:
Oxy USA
Houston, Texas

Prepared by:

R.T. Hicks Consultants, Ltd.
901 Rio Grande NW
F-142
Albuquerque, New Mexico

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745
Artesia ▲ Carlsbad ▲ Durango ▲ Midland

June 24, 2015

Ms. Heather Patterson
Mr. Mike Bratcher
NMOCD District 2
811 S. First Street
Artesia, New Mexico 88210
Via E-mail and US Mail

RE: C-144 for Oxy USA Peaches 19 Federal 4H
SHL Sec 19 T25S R27E, Eddy Co.

Dear Ms. Patterson and Mr. Bratcher:

An office evaluation of available data on this site would result in denial of this permit application because the proposed location:

- Is mapped as high cave/karst potential
- Exhibits a depth to groundwater that appears to be less than 25 feet below the bottom of the pit
- Appears to be in the "fill" of the drilling pad rather than the "cut"

Field evaluation of the site reveals the following characteristics

- Within a few hundred feet of the well, our foot survey found no evidence of karst features or unstable ground
- Within several thousand feet of the location, evaluation of the topographic map and air photographs show no evidence of karst features
- Groundwater appears to be limited to the alluvial material within the floodplain of South Hackberry Draw. No water supply wells are found on outcrop of the Salado Formation, which typically contains non-potable water.
- Oxy will conduct expert hydrogeologic logging of the auger boring for the installation of the conductor pipe (about 120 feet total depth) to determine if fresh water is present less than 50 feet below the proposed bottom of the pit. Approval of this permit is not expected prior to delivery of the logging report to OCD.
- The proposed pit will be constructed in the Salado Formation that underlies the northern portion of the constructed drilling pad – not in the fill. Because the pad thickness in the area of pit construction is about 6 feet, the south side (rig side) of the pit will be 6 feet below the natural grade (Salado Formation) but about 12 feet below the surface of the pad.
- For a truck loaded with a haul-off bin of drilling solids, the drive to pavement is about 60 minutes with another 2 hours to R360. Avoiding the haul of liquids and solids for the two wells (Peaches 3H and Peaches 4H) that can deliver solids and liquids to this pit will eliminate a significant amount of dust, diesel exhaust, road wear and traffic risk.

Therefore, on behalf of Oxy USA, Inc., R.T. Hicks Consultants, Ltd. is pleased to submit the attached permit for a temporary pit. Please note the following in the C-144 Package

1. The hydrogeologic data are not good for the area and expert logging of the 120-foot deep rathole is proposed to collect site-specific data.
2. My personal site inspection showed no signs of unstable ground within this high cave/karst potential area.
3. With respect to nearby watercourses, the pit meets the setback criteria.
4. The submission includes a variance request for pit side slopes of 1.5H:1V. This variance has been previously approved by OCD for other temporary pits.
5. The temporary pit generic plans are *almost* verbatim from previously-approved C-144 drilling pit permits. The difference in these plans is due to the fact that the pit is not a conventional circulating reserve pit and we have developed a set of Additional Operation and Closure Protocols to facilitate recycling of fluids and distribution of solids within the pit.
6. This letter and application are copied to the surface owner (BLM) as notification of the intent to bury drilling solids on-site.
7. Oxy plans to begin construction of the pit in mid-August to allow the pit to be used for the Peaches 3H well, which should spud around August 20. If you can review this permit before August 12, that would be much appreciated.

Please let me know if you have any questions or concerns. The geologic logging report for the Peaches 4H conductor pipe boring will be delivered to OCD prior to August 12.

Sincerely,
R.T. Hicks Consultants

Randall Hicks

Copy: Oxy USA
BLM Carlsbad (surface owner)

Statement Explaining Why the Applicant Seeks a Variance

The prescriptive mandates of the Rule that are the subject of this variance request are the following:

> 19.15.17.11 DESIGN AND CONSTRUCTION SPECIFICATIONS:.
> F(2) A temporary pit shall have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear. The operator shall construct a temporary pit so that the slopes are no steeper than two horizontal feet to one vertical foot (2H:1V). The appropriate division district office may approve an alternative to the slope requirement if the operator demonstrates that it can construct and operate the temporary pit in a safe manner to prevent contamination of fresh water and protect public health and the environment.

There are two reasons for the alternative slope for the solids burial pit:

1. The steeper slopes create a slightly smaller surface footprint and
2. The solids discharged to the burial pit will be relatively dry and the steeper slope will minimize the potential of the solids mounding below the discharge points.

Demonstration That the Variance Will Provide Equal or Better Protection of Fresh Water, Public Health and the Environment

Solids from the Peaches 19 Federal 3H will be transported to this pit and discharged by truck or bin directly into the pit from the elevation of the pad. Solids discharged during the drilling of the Peaches 4H well will also fall into the pit from the elevation of the pad. The steeper slope will minimize any mounding below the points of discharge and cause the solids to more easily fall to the bottom of the pit, below the natural grade, as planned.

The pit will be lined with 30-mil LLDPE (string reinforced) material to minimize the potential for mechanical stress on the liner during offloading of solids. This type of liner, which exceeds the criteria of the pit rule, provides equal or better protection of fresh water, public health and the environment.

Additional Operating and Closure Protocols
Peaches 19 Federal 4H

1. **The pit will not store liquids for more than four (4) days.** Liquids may be discharged into the pit from the above-ground steel pits from time to time. This discharge can occur when the mud system changes from fresh water to brine and from brine to the mud system(s) proposed for below the salt.
2. During this 4-day period. **fluid level in the pit will be 4 feet below the top of the liner** (3-feet below natural grade).
3. The pit design creates a footprint that is replaces part of the drilling pad but extends north beyond the pad. Thus, the depth of the pit will be about 12 feet beneath the elevation of the location on the rig side and 6 feet below natural grade. On the far side of the pit, the depth is 8 feet below the natural grade. As a result, **the stabilized cuttings will be buried at least 4-feet below natural grade**.
4. At this time, the plan is to re-build the production pad over part of the burial pit.

C-144 and Site Specific Information for Temporary Pit

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

Distance to Groundwater

Figure 1, Figure 2, the discussion below *suggest* that groundwater (fresh water as defined by NMOCD Rules) at the location is greater than 50 feet beneath the temporary pit that will contain fluids that cannot be classified as "low-chloride." The proposed examination of auger cuttings derived from boring the conductor pipe for the well will provide the site specific data needed for the requisite demonstration for this permit applicaiton

Figure 1 is a geologic/ topographic map that shows:

1. The location of staked well locations as hexagons.
2. The proposed pit is located at the Peaches 4H location. The pit will receive solids and liquids from the Peaches 3H well in addition to the Peaches 4H well.
3. Water wells from the OSE database are plotted as a blue triangle inside colored circles that indicate well depth, if such wells exist within the area of the map. OSE wells are often miss-located in the WATERS database as older wells are plotted in the center of the quarter, quarter, quarter, of the Section Township and Range.
4. Water wells from the USGS database as colored triangles, if such wells exist.
5. Water wells, which are not documented in the public databases but identified by field inspection or other published reports as colored squares.
6. The depth-to-water from the most recent available measurement for each well is provided adjacent to the well symbol.

Our examination of the geology of the area near the proposed temporary pit cause us to conclude that the uppermost water-bearing zone lay in Quaternary Alluvium adjacent to relatively large drainages, such as Hackberry Wash (e.g. USGS-379 near the site). We found no water supply wells near the site that were drilled on outcrop of the Salado or lower Rustler Formation that underlay the location. We examined aerial photography in the area of OSE well C 1368 as this well plotted on the Salado outcrop. We could find no evidence of a well within 2 miles of the location provided in the OSE database.

Based upon the evaporate lithology (e.g. anhydrite) of the exposed rocks near the proposed temporary pit[1], we believe fresh groundwater (<10,000 mg/L TDS) is probably not present at or near the site. Thus, we propose expert logging of the auger rig cuttings during the boring of the conductor pipe at the location. This examination will provide the data to clearly determine if fresh water exists within 50-feet of the bottom of the proposed pit.

Figure 2 is an area topographic map that shows:

1. The location of the staked locations as hexagons.
2. Water wells measured by the USGS or other parties, the total depth of the well and the calculated elevation of the groundwater surface.

While the Salado is not considered a potable aquifer, the Rustler Formation contains groundwater for beneficial use about 5 miles east of the area of the proposed pit. At the site, the

[1] See http://geoinfo.nmt.edu/publications/periodicals/nmg/downloads/10/n1/nmg_v10_n1_p1.pdf

lower Rustler is exposed in the hills to the south of the location and is clearly above any regional water table.

For Figure 2 we did not use any data from the OSE database as this data relies upon observed water levels by drillers during the completion of the water well. The OSE dataset provides some useful data in certain areas. For the area around the proposed pit, we relied upon the best and nearest data available: USGS 379 and USGS 371 that characterize the depth to fresh water in the alluvium of Hackberry Draw.

From these data, we conclude::

- Due north of the proposed pit, the elevation of the uppermost water bearing zone (Alluvium) is slightly lower than 3195 (USGS-379) and higher than 3063 (USGS-371) – probably about 3190 feet asl
- Given that the surface elevation of the natual grade (now under the location) is 3216 and a 10-foot deep temporary pit, the distance between the bottom of the pit and the groundwater surface of the nearby alluvium is only 16 feet (3216-10-3190)
- The nature of the bedrock beneath the proposed pit will cause one of two outcomes to be revealed by the proposed auger boring data
    - the groundwater beneath the pit is not fresh or
    - groundwater is found significantly deeper than 50-feet below the bottom of the pit
- Oxy could avoid the need to conduct the logging of the auger boring for the conductor pipe to gain OCD approval by permitting a burial trench on the southeast side of the location where the distance between the water table in the alluvium and the bottom of the trench is greater than 25 feet.
- One reason to locate a pit on the north side of the location is apparent from the discussion below regarding surface water

Distance to Surface Water

Figures 3a and 3b and the site visit demonstrates that the location is not within 300 feet of a continuously flowing watercourse or any other significant watercourse or 200 feet from lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). This temporary pit will also qualify for in-place closure as the location is not within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole or playa lake (measured from the ordinary high-water mark).

- No continuously flowing watercourses, significant watercourses, sinkhole or other water bodies, as defined by NMOCD Rules, exist within the prescribed setback criteria for the siting, trench burial, or in-place closure of a temporary pit at this location.
- The nearest significant watercourse is South Hackberry Draw, more than 1000 feet north of the proposed pit
- The area north the well location and proposed pit is an alluvial fan characterized by deposition of sediments derived from the exposed bedrock hills to the south
- The area south of the location is characterized by bedrock hills that are being eroded as evidenced by numerous small gullies
- The gullies described above end more than 600 feet from the nearest significant watercourse, Hackberry Draw

The site inspection photographs (Appendix A) combined with evaluation of Google Earth images provide a good visual description of the geologic and geomorphic nature of the area. Figures 3b, 3c and Plate 2 provide a good overview of the proposed pit location relative to the alluvial fan and bedrock hills subject to erosion.

Erosion of the bedrock hills is apparent in Images 1-2 of Appendix A. Image 3 shows where the regime changes from erosion to deposition of an alluvial fan – essentially due east of the northern edge of the drilling pad and the contact between the Salado and Rustler Formations, where the topographic slope changes (compare Figure 3a and 3b). Image 4 shows how diverted flow due to construction (of the pad, County Road and access road) created a new gully in the alluvial fan. Image 5 is about 300 feet downhill from Image 4 and shows the change from erosion to deposition. There is no watercourse in Image 5 or 6 that connects the gully to South Hackberry Draw.

Thus, from a geomorphic standpoint, the best location for an on-site closure of a pit (or trench burial) is outside of the area of active erosion and within an area of sediment deposition. Such a location exists on the north side of the drilling pad.

Distance to Permanent Residence or Structures

Figure 4 and the site visit demonstrates that the location is not within 300 feet from an occupied permanent residence, school, hospital, institution, church, or other structure in existence at the time of initial application. This also qualifies the location for in-place closure.

- The nearest structures are oil and gas wells and tank batteries.

Distance to Non-Public Water Supply

Figures 1 and Figure 2 demonstrates that the location is not within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1,000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. Additionally, this location is also not within 300 feet of a spring or private, domestic fresh water well used for domestic or stock watering purposes, thus qualifying for in-place closure.

- Figure 1 shows the locations of all area water wells, active or plugged.
- The nearest active water well is the windmill in South Hackberry Draw, about 1500 feet northwest of the location.
- There are no known domestic wells within 1,000 feet of this location.
- No springs were identified within the mapping area (see Figure 3).

Distance to Municipal Boundaries and Fresh Water Fields

Figure 5 demonstrates that the location is not within incorporated municipal boundaries or within defined municipal fresh water well fields covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. This also qualifies the location for in-place closure.

- The closest village is Black River Village, NM approximately 4.5 miles north.
- The closest public well field is located approximately 9 miles to the northwest.

Distance to Wetlands

Figure 6 demonstrates the location is not within 300 feet of wetlands. This also qualifies the location for in-place closure.

- The nearest designated wetlands are "freshwater pond" located approximately 1.5 miles east of the location

Distance to Subsurface Mines

Figure 7 and our general reconnaissance of the area demonstrate that the nearest mines are caliche pits. This location is not within an area overlying a subsurface mine.

- The nearest mapped caliche pit is located approximately 9 miles west

Distance to High or Critical Karst Areas

Figure 8 shows the location of the temporary pits with respect to current BLM Karst areas.

- The proposed temporary pit is mapped as a "high" potential karst area.
- No evidence of solution voids were observed near the site during the field inspection.
- No evidence of unstable ground was observed

Our field survey confirmed that the change in topographic slope effectively represents the contact between the Salado Formation and the overlying Rustler Formation. The Salado and underlying Castile Formations are composed of evaporates and will exhibit karst. This is especially true of the Castile Formation west of the proposed pit. In our foot survey, we saw no evidence of solution features, collapse features or other indications of unstable ground or karst.

One of the more important considerations in evaluating a permit for a fluid-filled pit in an area mapped as high karst is the possibility that solution features could create a direct pathway between drilling fluids and groundwater. The proposed logging of the auger hole could be decisive in determining if a threat to groundwater quality exists.

Distance to 100-Year Floodplain

Figure 9 demonstrates that the location is within Zone X as designated by the Federal Emergency Management Agency with respect to the Flood Insurance Rate 100-Year Floodplain.

- Zone X for this map is described as areas with minimal flood hazards. However, no flood hazard analysis has been conducted.
- Our field inspection and examination of the topography permits a conclusion that the location is not within any floodplain and has low risk for flooding.

Temporary Pit Design

Please refer to Plates 1-2 for the design of the temporary pit and the Design and Construction Plan at the end of this application.

Site Specific Information
Figures

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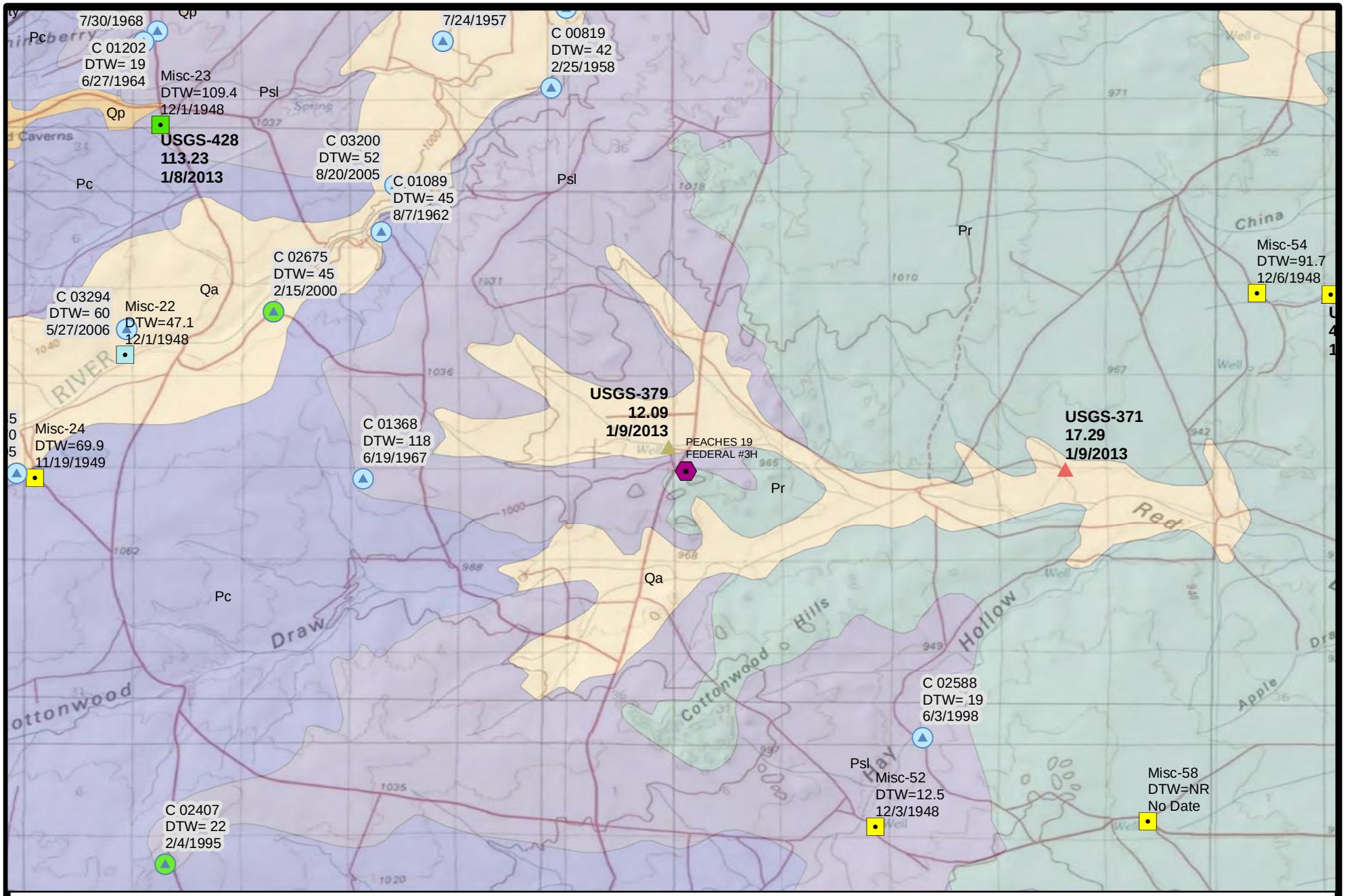
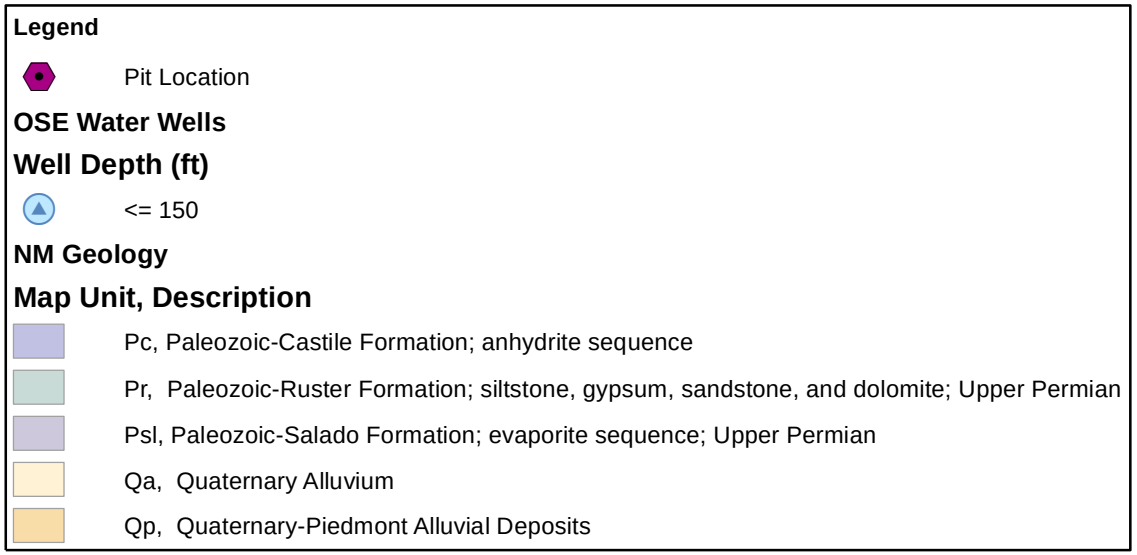
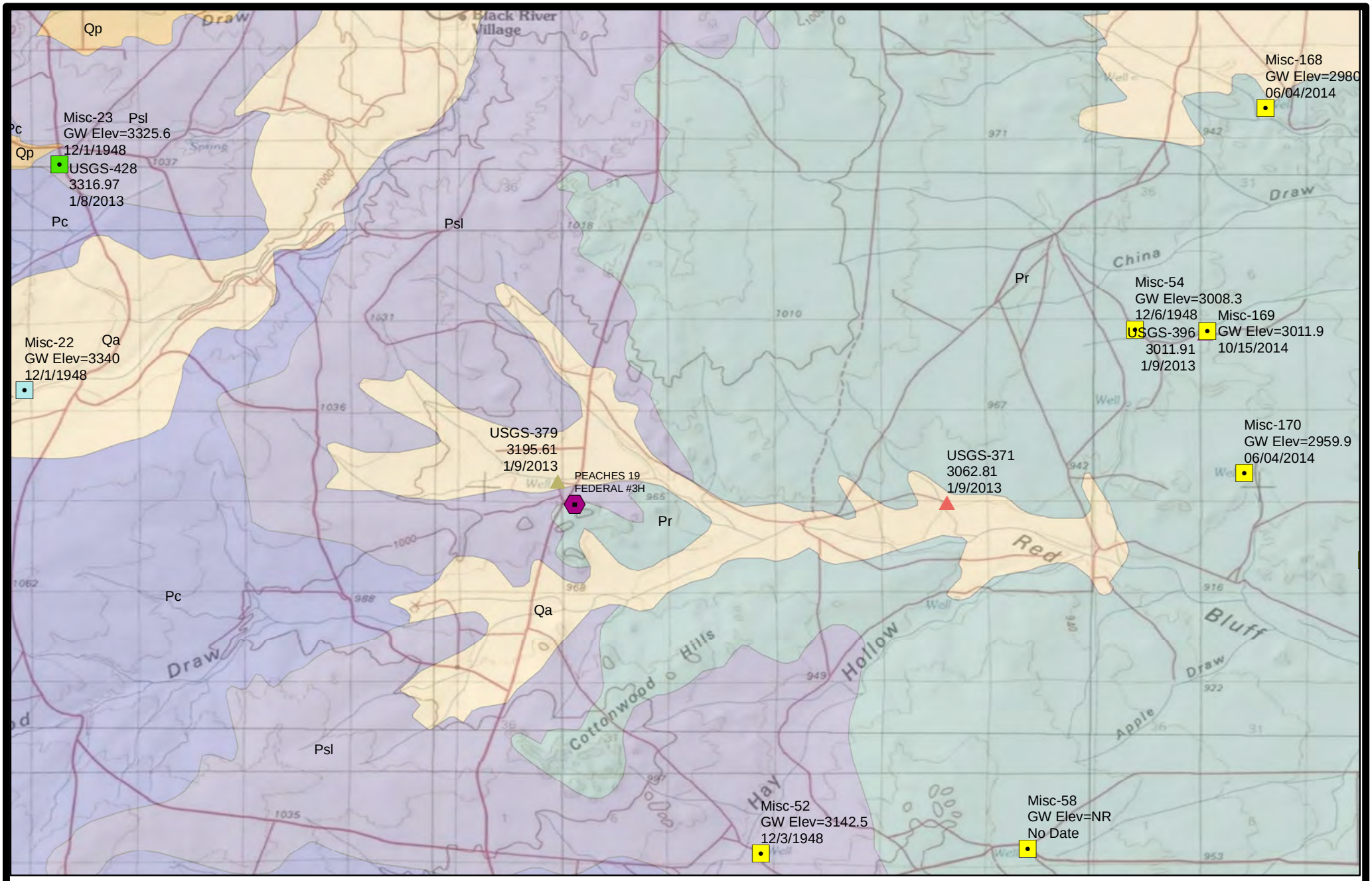


R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Depth to Groundwater and Geology	Figure 1
	Oxy USA - Peaches 19 Fed 4H	July 2015



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Legend Depth To Water and Geology	Figure 1 Legend
	Oxy USA - Peaches 19 Federal 4H	July 2015



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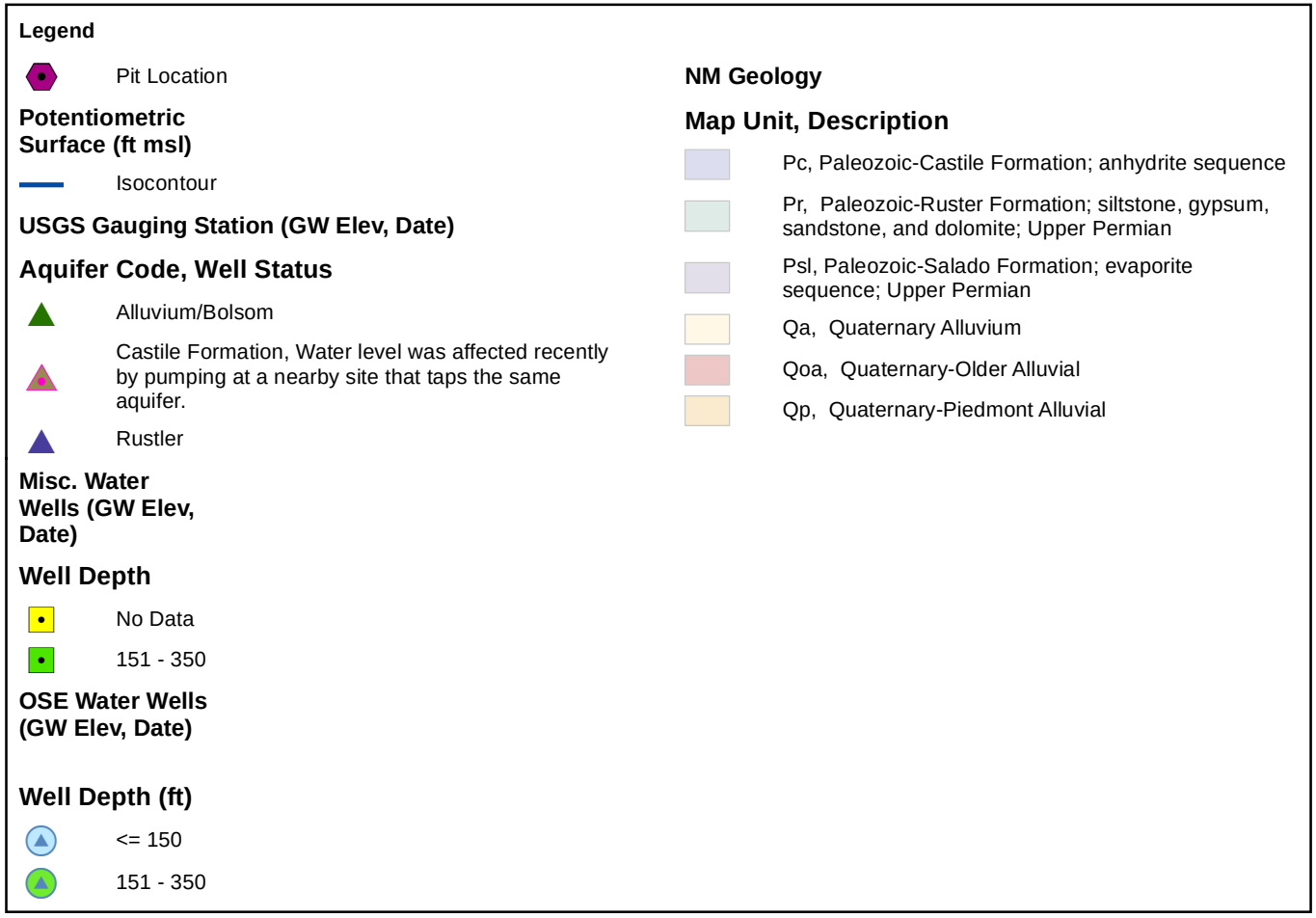
Elevation of Groundwater Surface and Geology

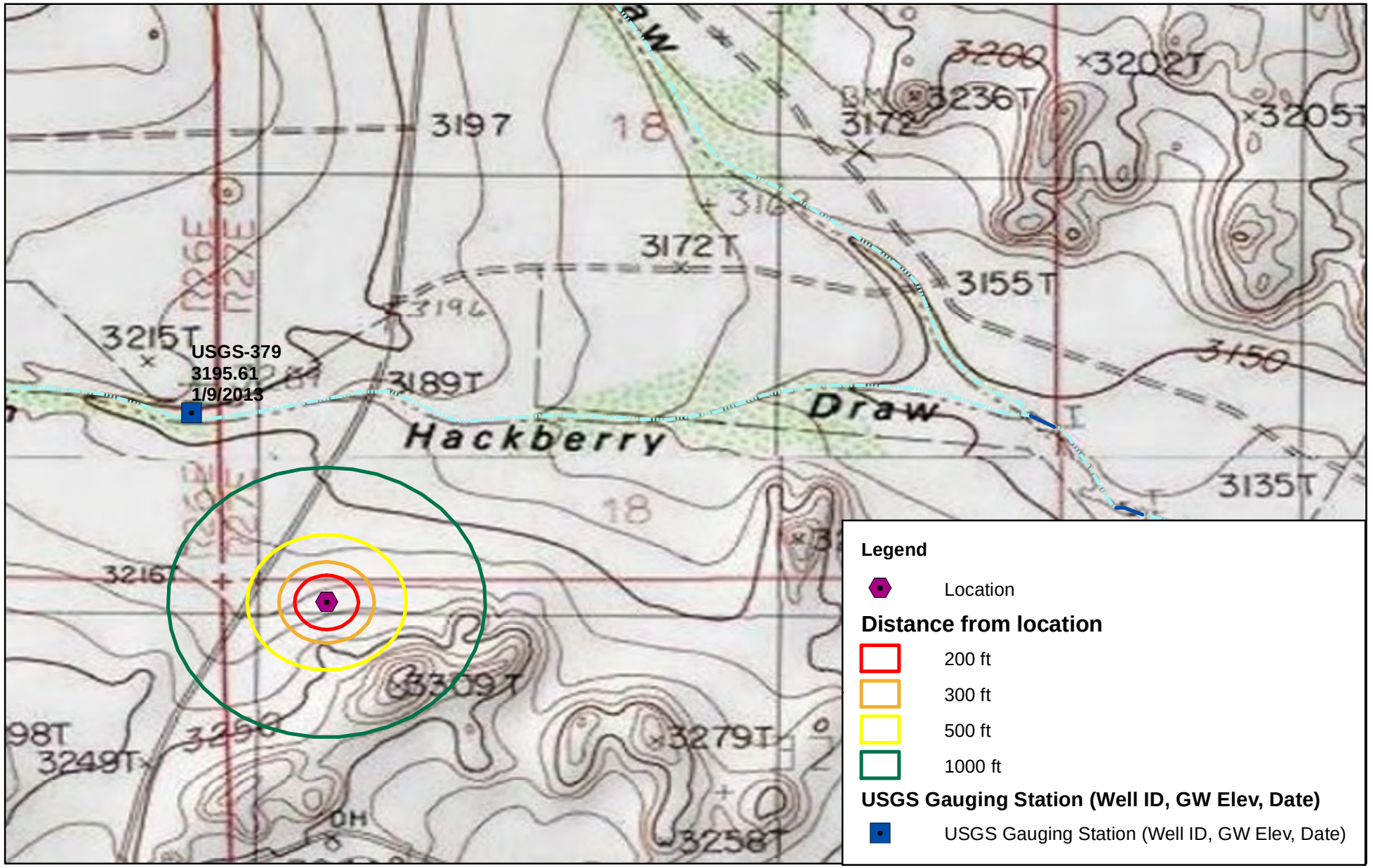
Figure 2

Oxy USA - Peaches 19 Fed 4H

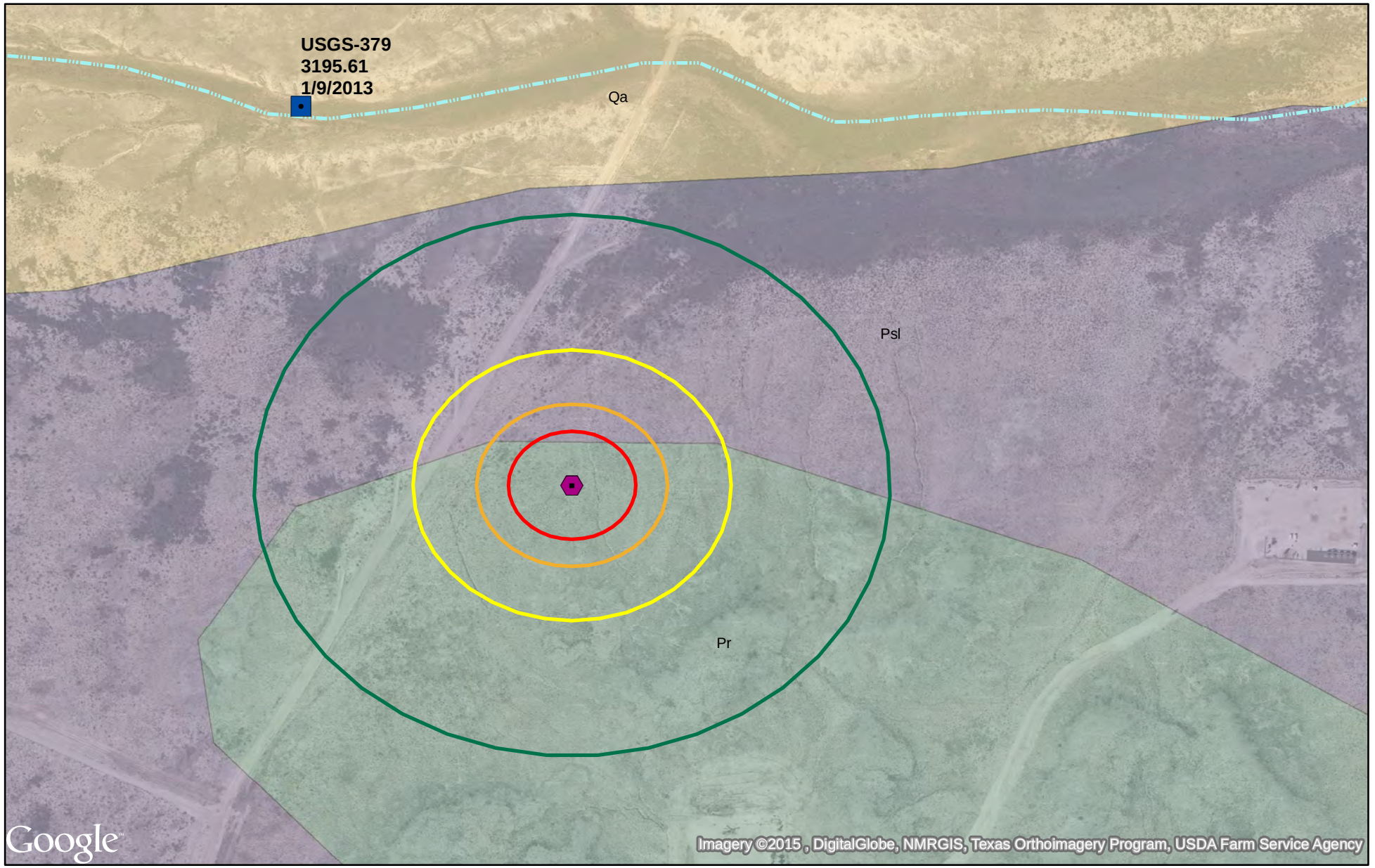
July 2015



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104	Potentiometric Surface and Groundwater Elevation at Nearby Water Wells	Figure 2 Legend
Phone: 505.266.5004	OXY USA - Peaches 19 Federal 4H	July 2015



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearby Surface Water	Figure 3a
	Oxy USA - Peaches 19 Fed 4H	July 2015



N
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0 600 Feet

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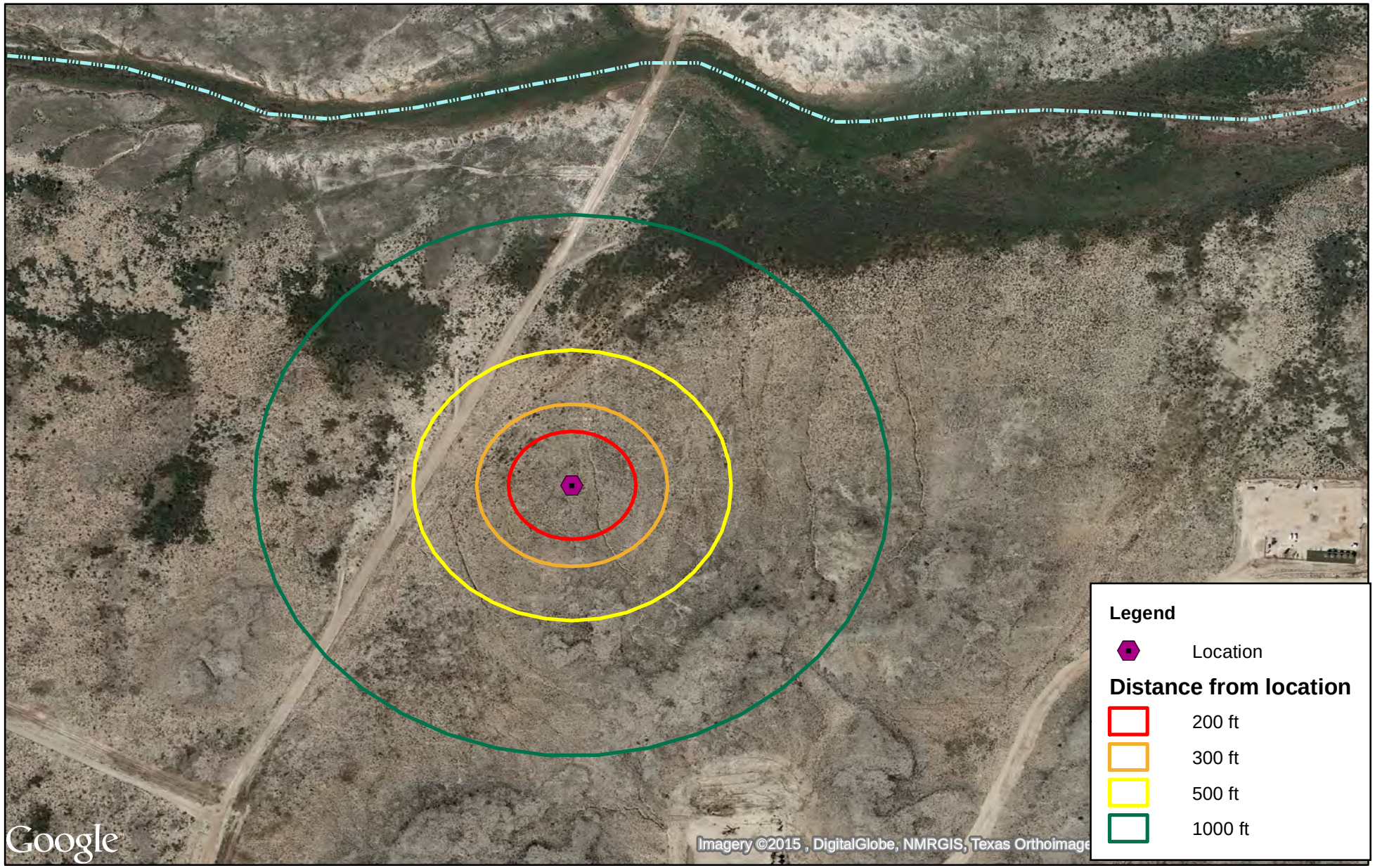
Nearby Surface Water, Geology and Groundwater Elevation

Figure 3b

Oxy USA - Peaches 19 Fed 4H

July 2015



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Nearby Surface Water

Figure 3c

Oxy USA - Peaches 19 Fed 4H

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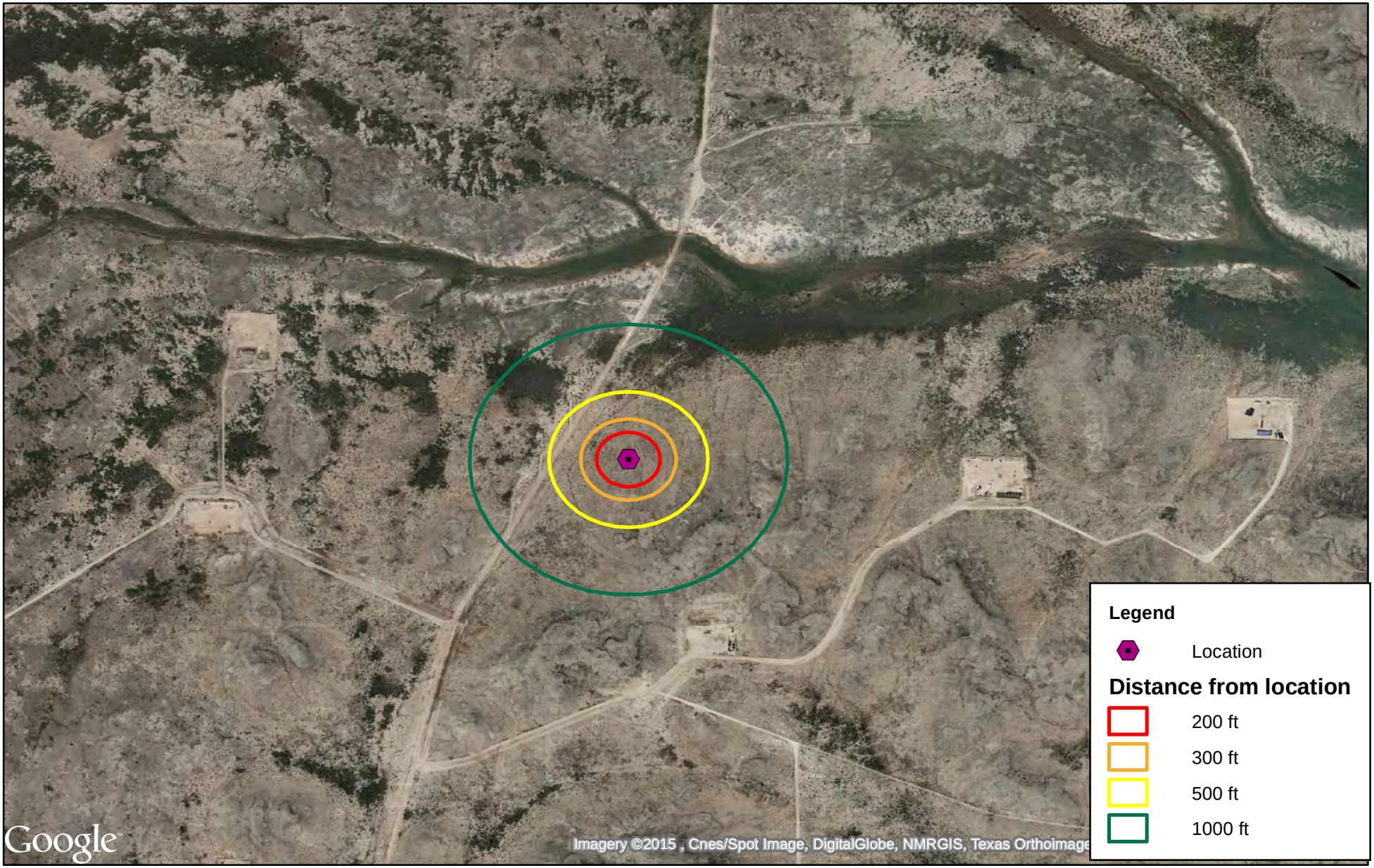

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Nearby Structures

Figure 4

Oxy USA - Peaches 19 Fed 4H

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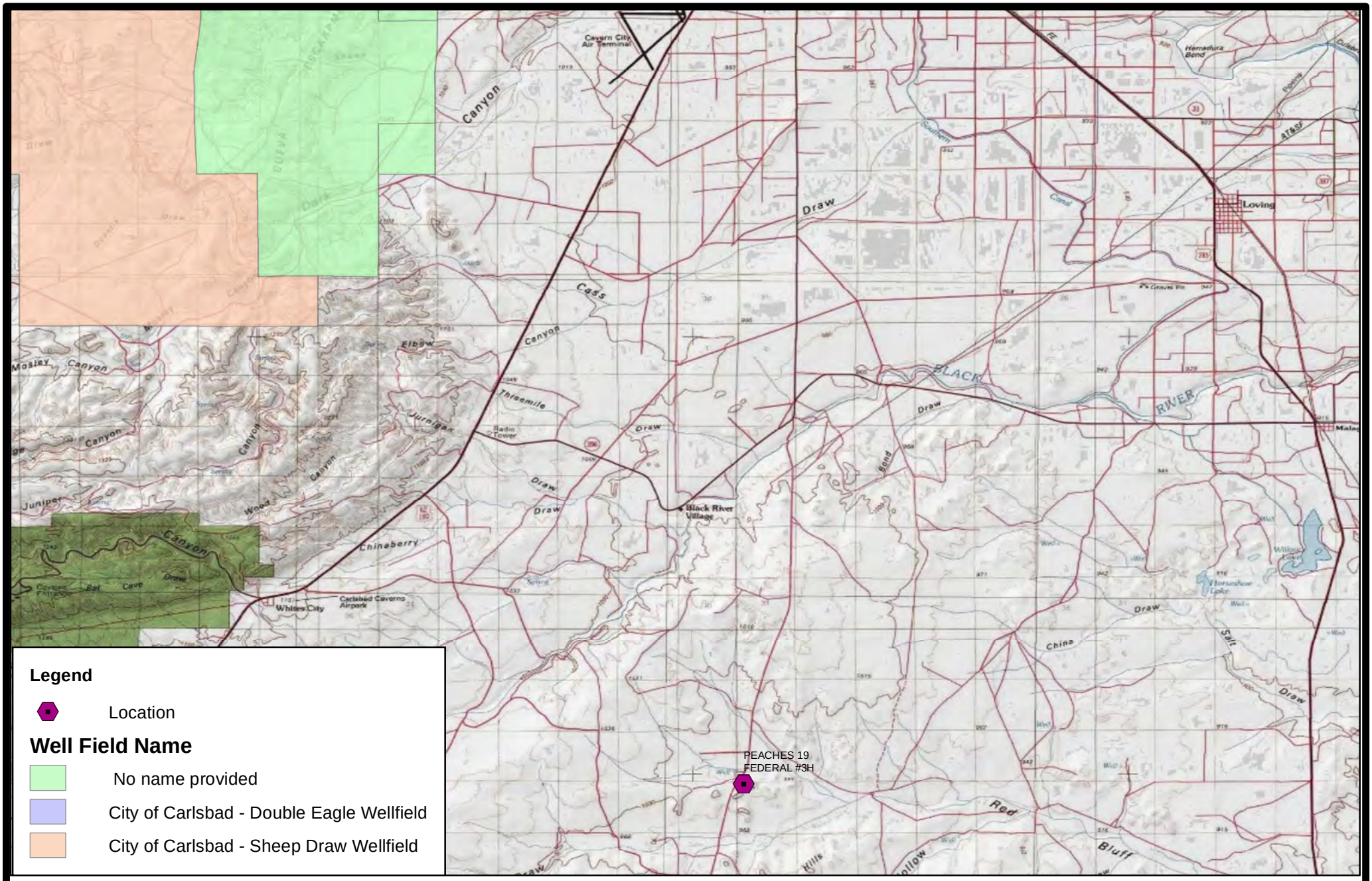

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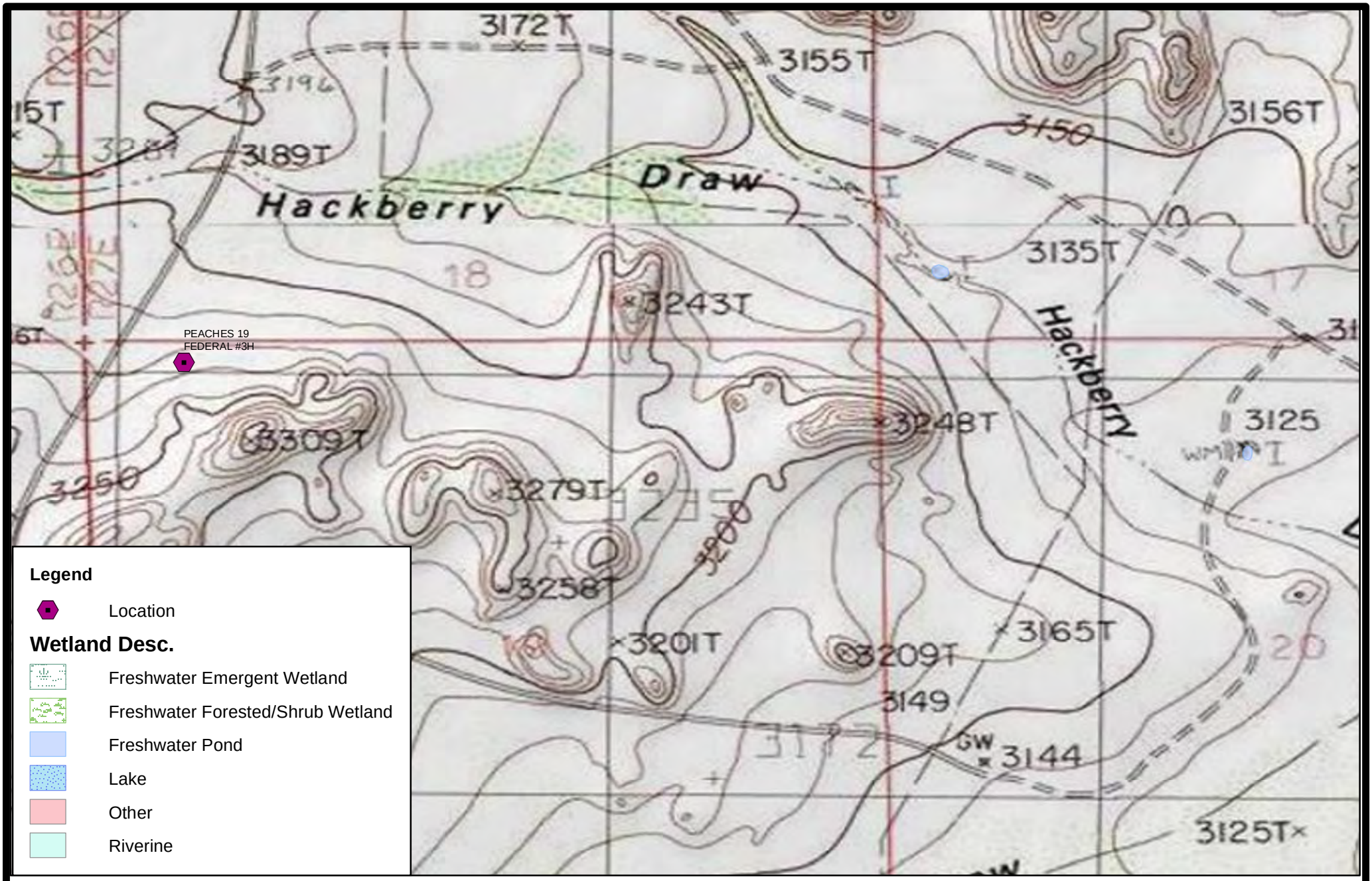
Municipalities and Wellfields

Figure 5

Oxy USA - Peaches 19 Fed 4H

July 2015



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Nearby Wetlands

Figure 6

Oxy USA - Peaches 19 Fed 4H

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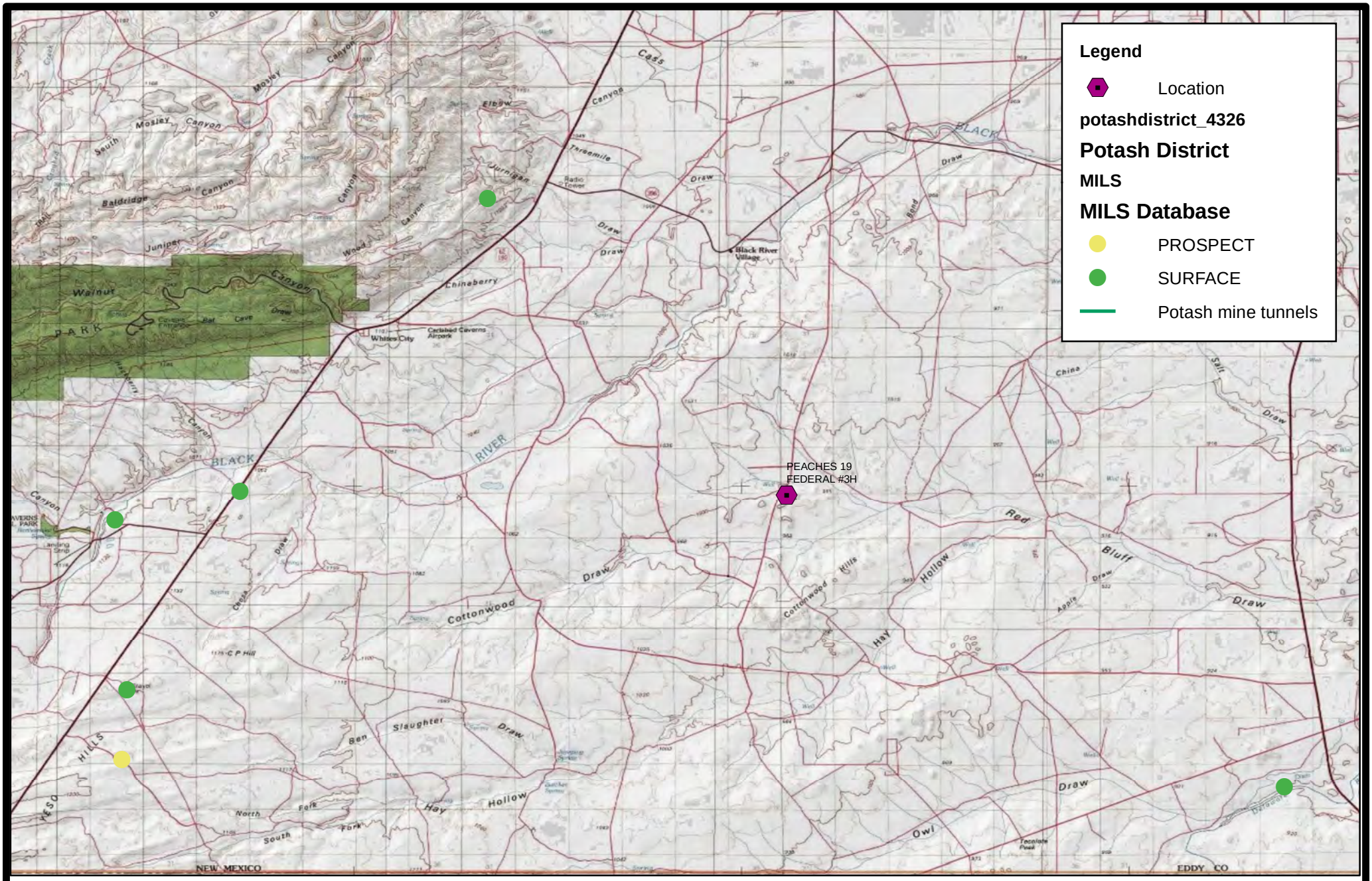

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Nearby Mines

Figure 7

Oxy USA - Peaches 19 Fed 4H

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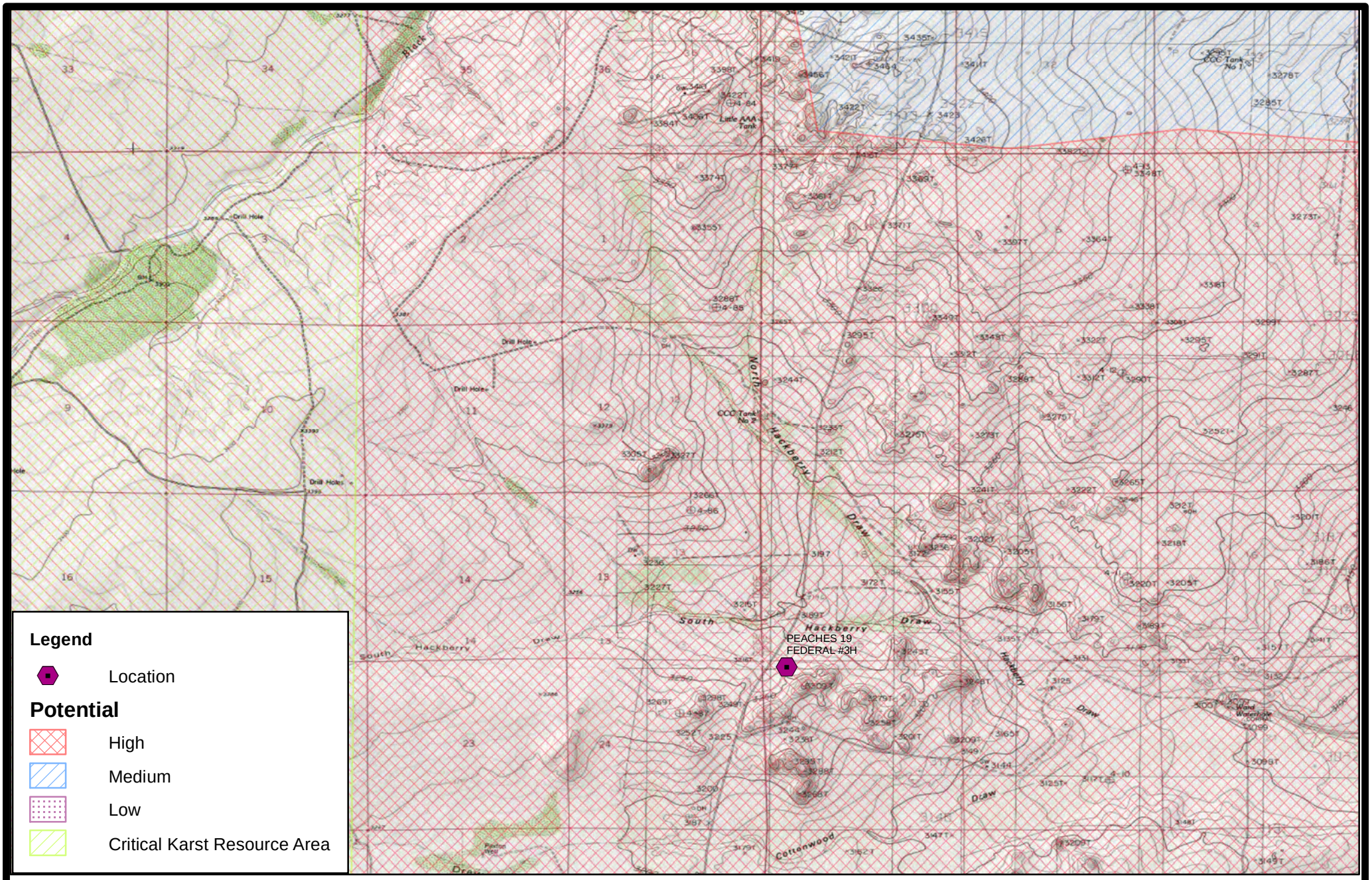

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Cave/Karst Potential

Figure 8

Oxy USA - Peaches 19 Fed 4H

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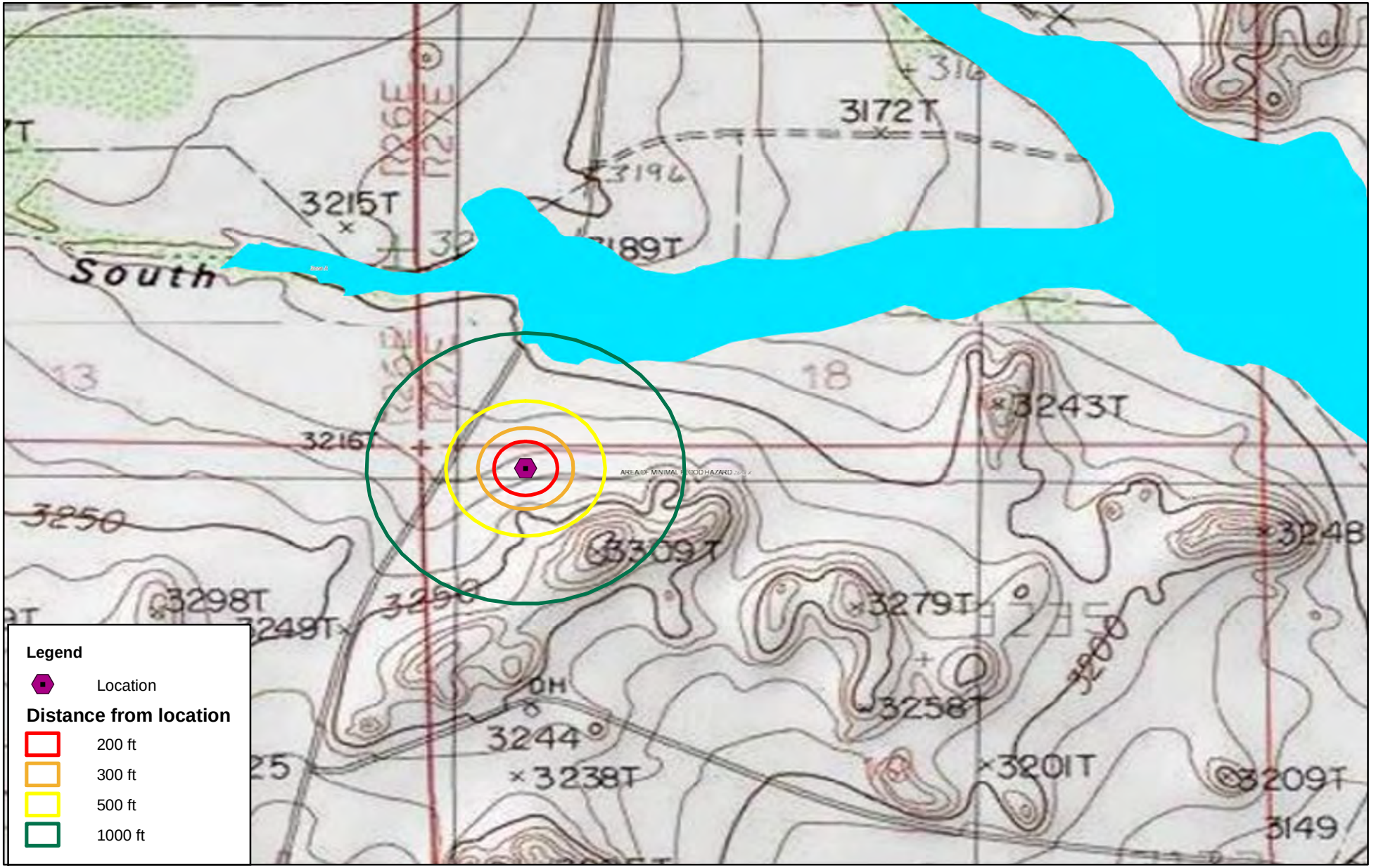

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FEMA 100-Year Floodplain

Figure 9

Oxy USA - Peaches 19 Fed 4H

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Site Specific Information Plates

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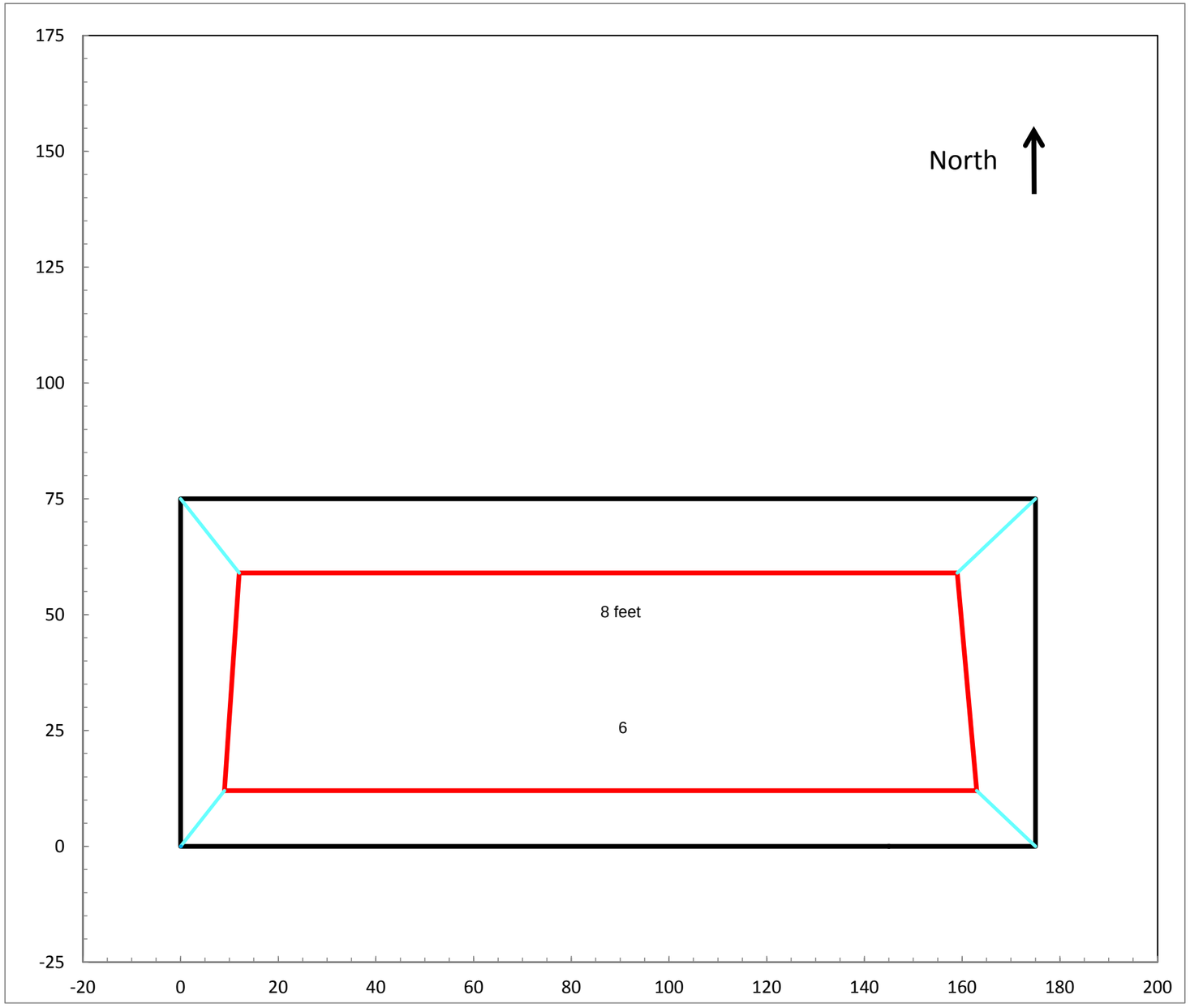


Drilling Cell Dimensions

Drilling Cell Total Width	175.0		
Drilling Cell Total Length	75.0		
Slope Dimensions			
Pit Slopes (Rise to Run)	1.00	to	2.00
Inner Shoe, Suction Side, (Rise to Run)	1.00	to	1.50
Outer Shoe, Suction Side, (Rise to Run)	1.00	to	1.50

Pit Dimensions

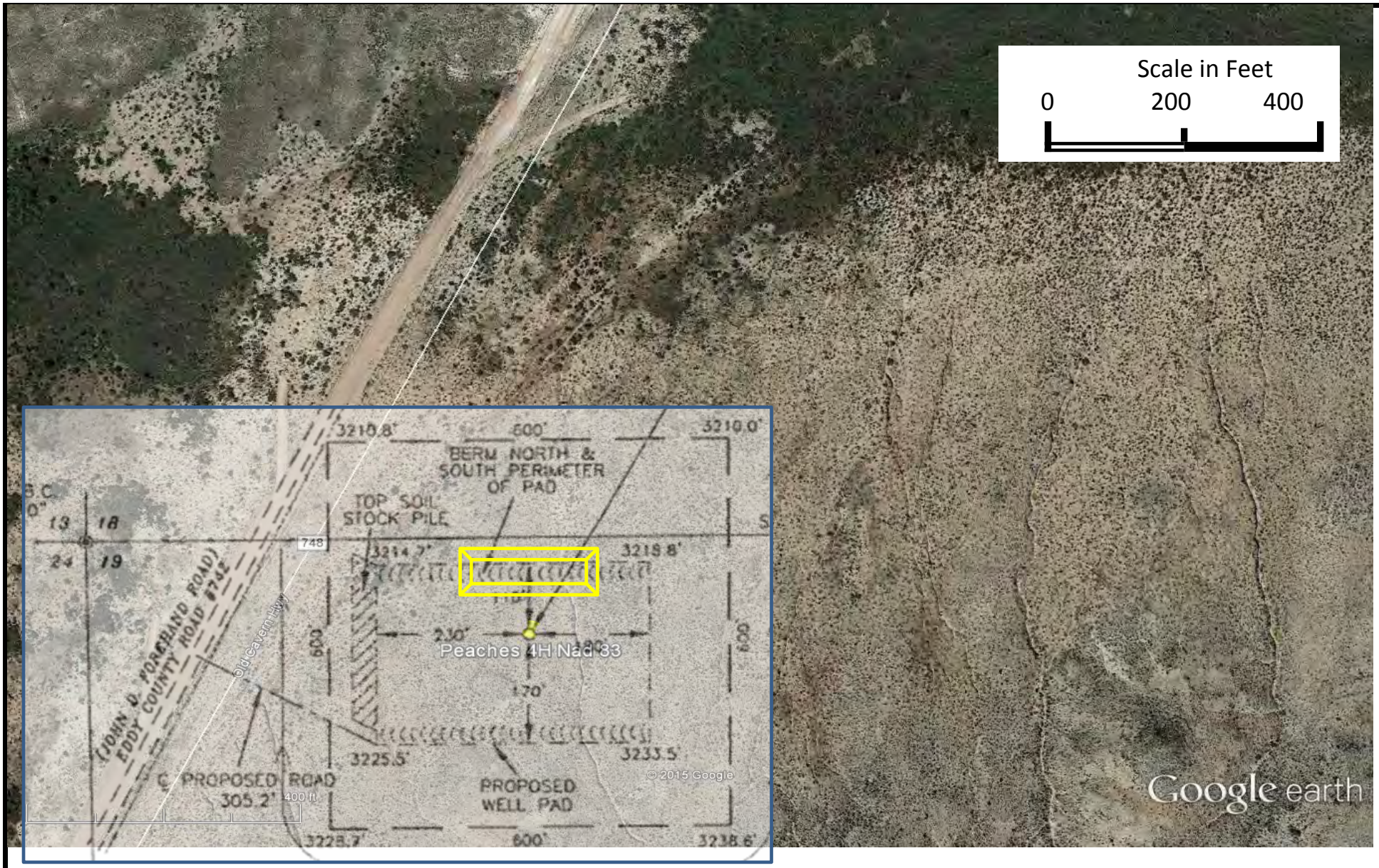
Total Width (left right)	175.0
Total Length (up down)	75.0

	Depth below natural grade	Depth below pad
Depth Rig Side	6.0	12.0
Depth Far Side	8.0	NA

Length of Divider	0.0
Divider Width	0.0
Width of discharge floor	0.0
Width of suction floor	154.0

Estimated Solids	**20,345**	**cubic feet**
	3,624	**bbls**
Solids Burial Pit Capacity	**69,208.96**	**cu ft**
	12,325.79	**bbls**
Capacity with 4-ft Freeboard	**24,363.00**	**cu ft**

RT Hicks Consultants 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, N. M. 87104	**Drilling Pit**	**Plate 1**
	Oxy USA - Peaches 19 Fed 4H	**July 2015**



R.T. Hicks Consultants 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, N. M. 87104	**Drawing of Pit Relative to Pad** **(overlay of pad location approximate)**	**Plate 2**
	Oxy - Peaches 4H & 3H	**July 2015**

Generic Plans for Temporary Pits

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Temporary Pit Design/Construction Plan

Plates 1 and 2 show the design of the temporary pit proposed for this project. Field conditions and the drilling rig layout will determine the final configuration of the pit, which will consist of single cell for the burial of drilling solids derived from a closed-loop system.

Although unlikely due to the nature of the operation, the operator may install a system that can drain water entrained in the drilling waste of the drilling pit. The drainage system may be installed in the entire cell. As described in the closure plan, this system of fabric-wrapped perforated pipe and drainage mats lie on the bottom of the pit over the liner. The system will drain to the lowest corner of pit where a standpipe rises from the depression to the top of the berm. The drainage system can remove water to an above-ground tank or directly to a truck for re-use or disposal.

The temporary storage of fluids, fluid reuse or fluid disposal will be conducted in a manner approved by division rules that prevents the contamination of fresh water and protects public health and the environment.

Although unlikely, for any temporary storage of fluids derived from the drilling pit and placed in an above-ground tank, the following will apply:

1. Construction, operation and maintenance of the temporary storage tank(s) will adhere to all applicable NMOCD Rules including but not limited to:
    a. Safety stipulations
    b. Protection from hydrogen sulfide mandates
    c. Signage and identification requirements
    d. Secondary containment requirements for temporary tanks
    e. Applicable netting requirements
2. Any cleaning of the temporary tank(s) will adhere to NMOCD Rules relating to tank cleaning.
3. Transportation of water or drilling fluids derived from the drilling pit will adhere to all applicable NMOCD Rules relating to transportation.
4. Storage of water or drilling fluids in temporary above-ground tanks will also adhere to all applicable Federal mandates.

During final closure of the pit, the tanks and any secondary containment system will be removed from the location and the area beneath the tank inspected for any leakage. If any leakage is suspected, the operator will sample the soil beneath the tanks and report any release pursuant to NMOCD Rules.

Construction/Design Plan of Temporary Pit

Stockpile Topsoil

Prior to constructing the pit the qualified contractor will strip and stockpile any topsoil for use as the final cover or fill at the time of closure.

Signage

The operator will post an upright sign in a conspicuous place in compliance with 19.15.16.8 NMAC as the pit and the well are operated by the same operator. Section 19.15.16.8 states in part:

> 19.15.16.8 SIGN ON WELLS:
> B. For drilling wells, the operator shall post the sign on the derrick or not more than 20 feet from the well.
> C. The sign shall be of durable construction and the lettering shall be legible and large enough to be read under normal conditions at a distance of 50 feet.
> F. Each sign shall show the:
> (1) well number;
> (2) property name;
> (3) operator's name;
> (4) location by footage, quarter-quarter section, township and range (or unit letter can be substituted for the quarter-quarter section);
> and
> (5) API number.

The sign will also provide emergency telephone numbers.

Fencing:

During drilling or workover operations, the operator will not fence the edge of the pit adjacent to the drilling or workover rig.

As the pit is not located within 1000 feet of a permanent residence, school, hospital, institution or church, the operator will fence the pit to exclude livestock with four-wire strands evenly spaced in the interval between one foot and four feet above ground level.

Earthwork

The temporary pit will have a properly constructed foundation and interior slopes consisting of a firm, unyielding base that is smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear.

The slopes of the pit will be no steeper than two horizontal feet to one vertical foot (2H:1V) unless in the transmittal letter the operator requested an alternative to the slope requirement with a demonstration that the pit can be operated in a safe manner to prevent contamination of fresh water and protect public health and the environment.

A berm or ditch will surround the temporary pit to prevent run-on of surface water.

If the transmittal letter identifies concerns relating to the presence of karst and associated instability, during construction of the pit the contractor will compact the earth material that forms the foundation for the pit liner. An expected proctor density of greater than 90% will be achieved by

1. adding water to the earth material as appropriate,
2. compacting the earth by walking a crawler-type tractor down the sides and bottom of the pit
3. repeating this process with a second 6-inch lift of earth material if necessary

Liner Installation

The geomembrane liner will consist of 20-mil string reinforced LLDPE (or better) as specified by OCD Rules.

The operator will direct the liner installation contractor to:

1. minimize liner seams and orient them up and down, not across a slope
2. use factory welded seams where possible
3. overlap liners four to six inches and orient seams parallel to the line of maximum slope, i.e., oriented along, not across, the slope, prior to any field seaming
4. minimize the number of welded field seams in comers and irregularly shaped areas
5. utilize only qualified personnel to weld field seams
6. avoid excessive stress-strain on the liner
7. place geotextile under the liner where needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity
8. anchor the edges of all liners in the bottom of a compacted earth-filled trench that is at least 18 inches deep
9. place additional material (liner, felt, etc.) to ensure that the liner is protected from any fluid force or mechanical damage at any point of discharge into or suction from the lined temporary pit.

A berm or ditch will surround the temporary pit to prevent run-on of surface water. During drilling operations, the operator may elect to remove run-on protection on the pit edge adjacent to the drilling or workover rig provided that the pit is being used to collect liquids escaping from the drilling or workover rig and this additional fluid will not cause a breach of the temporary pit.

The temporary pit will not be used to vent or flare gas and the volume of the temporary drilling pit, including freeboard, will not exceed 10 acre-feet.

Temporary Pit Operating and Maintenance Plan

The operator will maintain and operate the pit in accordance with the following plan to contain liquids and solids and maintain the integrity of the liner to prevent contamination of fresh water and protect public health and the environment.

If feasible, the operator will recycle, reuse or reclaim all drilling fluids in the temporary pit in a manner approved by division rules that prevents the contamination of fresh water and protects public health and the environment. Re-use of drilling fluids and workover fluids (stimulation flow-back) for drilling and stimulation of subsequent wells is anticipated. If re-use is not possible, fluids will be sent to disposal at a division-approved facility.

The operator will not discharge into or store any hazardous waste in the pit.

If the pit develops a leak or if any penetration of the pit liner occurs above the liquid's surface, then the operator will repair the damage or initiate replacement of the liner within 48 hours of discovery or will seek a variance from the division district office within this time period.

If the pit develops a leak or if any penetration of the pit liner occurs below the liquid's surface, then the operator will remove all liquid above the damage or leak line within 48 hours of discovery. The operator will also notify the district division office (19.15.29 NMAC) within this same 48 hours of the discovery and repair the damage or replace the pit liner.

The operator will ensure that the drilling contractor installs and uses a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes during injection or withdrawal of liquids.

During construction, the operator or qualified contractor will install diversion ditches and berms around the pit as necessary to prevent the collection of surface water run-on. As outlined in the Construction and Design Plan, during drilling operations, the edge of the temporary pit adjacent to the drilling or workover rig may not have run-on protection if the operator is using the temporary pit to collect liquids escaping from the drilling or workover rig and run-on will not result in a breach of the temporary pit.

The operator will maintain on site an oil absorbent boom to contain and remove oil from the pit's surface.

The operator will only discharge fluids or mineral solids (including cement) generated or used during the drilling, completion, or workover processes into the pit.

The operator will maintain the temporary pit free of miscellaneous solid waste or debris. Immediately after cessation of drilling or a workover operation, the operator will remove any visible or measurable layer of oil from the surface of the pit.

The operator will maintain at least two feet of freeboard for the temporary pit, except under extenuating circumstances, which will be noted on the pit inspection log as described below.

The operator will inspect the temporary pit containing drilling fluids daily while the drilling rig or workover rig is on site. After the rigs have left the site, the operator will inspect the pit weekly as long as liquids are present in the pit. The operator will maintain a log of the inspections. The operator will make the log available to the division district office upon request.

The operator will remove all free drilling fluids from the surface of the temporary pit within 60 days from the date that the last drilling or workover rig associated with the pit permit is released. The operator will note the date of this release upon Form C-105 or C-103 upon well or workover completion. The operator may request an extension up to two months from the division district office as long as this additional time does not exceed the temporary pit life span (Subsection R of 19.15.17.7 NMAC).

Temporary Pit In-Place Closure Plan

The wastes in the temporary pit are destined for in place burial at the drilling location. However, a transmittal letter may notify OCD that drilling waste from a nearby site on the same lease may be placed in the temporary pit (e.g. placed in the drilling or fluids cells of the temporary pit). A notice will include the name of the nearby well, the date that the drilling or workover rig moved from the temporary pit, an affirmation that the temporary pit will be closed in conformance with the mandates of the Rule, including the mandated lifetime of the pit.

The operator will not begin closure operations without approval of the closure plan submitted with the permit application.

Siting Criteria Compliance Demonstration
Compliance with siting criteria is described in the site-specific information appended to the C-144.

Proof of Surface Owner Notice
The application package was transmitted to the surface landowner via email, which serves as notification that the operator intends on-site burial of solids.

Construction/Design Plan of Temporary Pit
The design and construction protocols for the temporary pit are provided in the design and construction plan and in Plates 1-2. The optional drainage system described in the design and construction plan is not shown on the Plates but can be important element of the closure plan.

General Protocols and Procedures

- All free liquids from the pit will be recycled or disposed in a manner consistent with OCD Rules.
- Residual drilling fluids will be removed from the pit within 60 days of release of the last drilling or workover rig associated with the relevant pit permit.
- Water derived from the well stimulation program (flow-back or unused fresh water) that is significantly higher quality than the residual drilling fluids *may* discharge into the pit. The fresher water *may* discharge into the drainage system to flow through the solids or onto the solids in the pit.
- A low-flow pump *may* remove water from the drainage system to a tank or the fluids cell of the temporary pit; thereby further rinsing the residual solids in the pit.
- 20-60 days after placement of fresh or flow-back water into the drilling cell, any water in the pit will be removed for re-use or disposal.
- The residual drilling mud and cuttings will be stabilized to a capacity sufficient to support the 4-foot thick soil cover.
- The residual pit solids will not be mixed at a ratio greater than 1 part pit solids to 3 parts dry earth material (e.g. subsoil).
- The pit will not be closed until the stabilized pit contents pass the paint filter liquids test.

Waste Material Sampling Plan
Prior to closure, an eight-point composite sample of the residual solids in the drilling cell of the temporary pit and a five-point composite sample of any solids in the fluids cell of the temporary pit will be tested in a laboratory to demonstrate that the stabilized material will not exceed the

contaminant concentrations listed in Table II of 19.15.17.13 NMAC after being mixed in a ratio of 3:1 with the earth material to be used for stabilization of the residual cuttings and mud. A volumetric average of the laboratory result from the drilling cell solids and any fluid cells solids will be used to determine compliance with the standards of Table II.

In-place burial is the selected on-site disposal alternative.

If a concentration of a contaminant within the material mixed at a ratio not exceeding 3:1 is higher than the concentration given in Table II, closure will proceed in accordance with Subsection C of 19.15.17.13 NMAC.

In the event that on-site closure standards cannot be achieved, the operator will remove the solid pit contents and transfer to the following division-approved facility:

Disposal Facility Name: R360 Permit Number: NM 01-0006

Protocols and Procedures for Earthwork

Stabilization of the residual cuttings and mud is accomplished by mixing dry earth material within the temporary pit footprint. After stabilization the operator or qualified contractor will:

1. Place a geomembrane cover over the sloping surface of the stabilized waste material. It will be placed in a manner so as to prevent infiltration of water and so that infiltrated water does not collect on the geomembrane cover after the upper soil cover has been placed.
2. Use a geomembrane cover made of 20-mil string reinforced LLDPE liner
3. Over the sloping, stabilized material and liner, place the **Soil Cover** of:
    a. at least 3-feet of compacted, uncontaminated, non-waste containing earthen fill with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0.
    b. either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater, over the 3-foot earth material.
4. Contour the cover to
    a. blend with the surrounding topography
    b. prevent erosion of the cover and
    c. prevent ponding over the cover.

Closure Notice

The operator will notify the surface owner by certified mail, return receipt requested, that the operator plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. The notice will include the well name, API number, and location.

After approval for in-place burial, the operator shall notify the district office verbally and in writing at least 72 hours but not more than one week before any closure operation. Notice will include the operator's name and the location of the temporary pit. The location will include unit letter, section number, township and range. If the location is associated with a well, then the well's name, number and API number will be included.

Should onsite burial be on private land, the operator will file a deed notice including exact location of the burial with the county clerk of the county where the onsite burial is located.

Closure Report

Within 60 days of closure completion, the operator will submit a

i. closure report on form C-144, with necessary attachments
ii. a certification that all information in the report and attachments is correct, that the operator has complied with all applicable closure requirements and conditions specified in the approved closure plan
iii. a plat of the pit location on form C-l05
if burial includes solids derived from a nearby well on the same lease, the report will list the name, API # and location of the well(s) from which the solids originated

Unless the permit transmittal letter requests an alternative marker to comply with surface landowner specifications, the operator will place at the center of an onsite burial a steel marker that

- is not less than four inches in diameter
- is placed at the bottom of a three-foot deep hole (minimum) that is filled with cement to secure the marker
- is at least four feet above mean ground level
- permanently displays the operator name, lease name, well number, unit letter, section, township and range in welded or stamped legible letters/numbers

Timing of Closure

The operator will close the temporary pit within 6 months from the date the drilling rig was released from the first well using the pit. This date will be noted on form C-105 or C-103 filed with the division upon the well's completion (or re-completion in the case of a workover).

Reclamation and Re-vegetation Plan

In addition to the area of the in-place burial, the operator will reclaim the surface impacted by the temporary pit, including access roads associated with the pit, to a safe and stable condition that blends with the surrounding undisturbed area including:
Areas not reclaimed as described herein due to their use in production or drilling operations will be stabilized and maintained to minimize dust and erosion. This includes the area of the temporary pit if a transmittal letter to OCD proposes an alternative to the re-vegetation or recontouring requirement with

- a demonstration that the proposed alternative provides equal or better prevention of erosion, and protection of fresh water, public health and the environment
- written documentation that the alternative is agreed upon by the surface owner.

As stated above, the soil cover for burial in-place

A. consists of a minimum of three feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg (or background concentration) as analyzed by EPA Method 300.0 placed over the liner and stabilized solids
B. is capped by the background thickness of topsoil or 1-foot of suitable material to establish vegetation, whichever is greater
C. blends into surrounding topography
D. is graded to prevent ponding and to minimize erosion

For all areas disturbed by the closure process that will not be used for production operations

or future drilling, the operator will:

I. Replace topsoils and subsoils to their original relative positions
II. Grade so as to achieve erosion control, long-term stability and preservation of surface water flow patterns
III. Reseed in the first favorable growing season following closure

Re-vegetation and reclamation plans imposed by the surface owner will be outlined in communications with the OCD.

The operator will notify the division when the surface grading work element of reclamation is complete.

The operator will notify the division when the site meets the surface owner's requirements or exhibits a uniform vegetative cover that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

Additional Operating and Closure Protocols
Peaches 19 Federal 4H

1. **The pit will not store liquids for more than four (4) days.** Liquids may be discharged into the pit from the above-ground steel pits from time to time. This discharge can occur when the mud system changes from fresh water to brine and from brine to the mud system(s) proposed for below the salt.
2. During this 4-day period. **fluid level in the pit will be 4 feet below the top of the liner** (3-feet below natural grade).
3. The pit design creates a footprint that is replaces part of the drilling pad but extends north beyond the pad. Thus, the depth of the pit will be about 12 feet beneath the elevation of the location on the rig side and 6 feet below natural grade. On the far side of the pit, the depth is 8 feet below the natural grade. As a result, **the stabilized cuttings will be buried at least 4-feet below natural grade**.
4. At this time, the plan is to re-build the production pad over part of the burial pit.

Appendix A

Site Inspection Photographs

& Survey Information

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

Image 1
View north of constructed location from Rustler Formation hills. Erosion of the uplands forms small gullies as shown on the left side of the image that transmit water and sediment to the north. Location of this image is 32 7 15.94, -104 14 6.63.

Image 2
Panoramic view south-southeast shows the head of gullies in the uplands south of the location. Uphill from the gullies shown in the image there is no defined watercourse.

Image 3
Following the gully of the previous image downhill (and all other gullies in the area of the location) one finds that erosion of the underlying material ceases and deposition of the alluvial fan commences. North (downhill) of this erosion/deposition change, there is no evidence of any feature that could be defined as a watercourse. As expected, this change from erosion to deposition corresponds with the change in topographic gradient. The drilling pad is in the upper right of the image which provides a view to the south from latitude 32 7 22.5, longitude -104 14 6.52.

Image 4
Construction of the location and diversion of 1-2 small gullies to the south of the location and the construction of the nearby County Road directed flow to the gully shown in this image. This is a view to the south-southwest.

Image 5
Downhill from the gully in the previous image, deposition of alluvial fan sediment commences and any suggestion of a watercourse ceases as deposition of alluvial fan sediment occurs.

Image 6
This is a view south directly downhill from previous image. Exposures of the Rustler Formation exist in the hills south of the constructed location. The lLocation of this image is 32 7 26.46, -104 14 5.6699 and Hackberry Draw lies nearly 700 feet to the north.

Image 7
The windmill (USGS 379) within South Hackberry Draw is visible in distance.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015- 42030	97494	Cottonwood Draw Bone Spring (O)

Property Code	Property Name	Well Number
39207	PEACHES "19" FEDERAL	4H

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	3222.9'

Surface Location

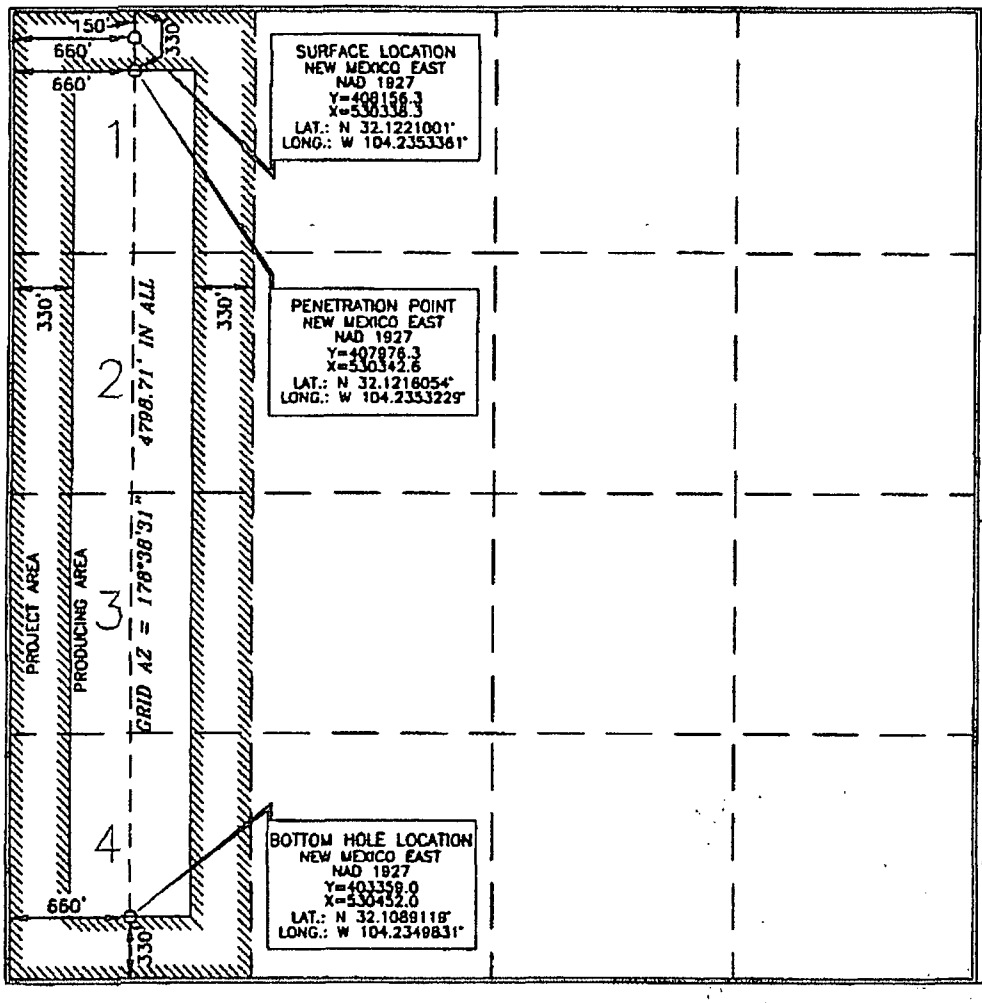
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	19	25 SOUTH	27 EAST, N.M.P.M.		150'	NORTH	660'	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	19	25 SOUTH	27 EAST, N.M.P.M.		330'	SOUTH	660'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
158	N		I-28 12108

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 9/30/13

David Stewart Sr. Reg. Adv.
Printed Name

david_stewart@oxy.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

15079
NEW MEXICO
PROFESSIONAL LAND SURVEYOR
JERRY JASO

MARCH 19, 2013
Date of Survey

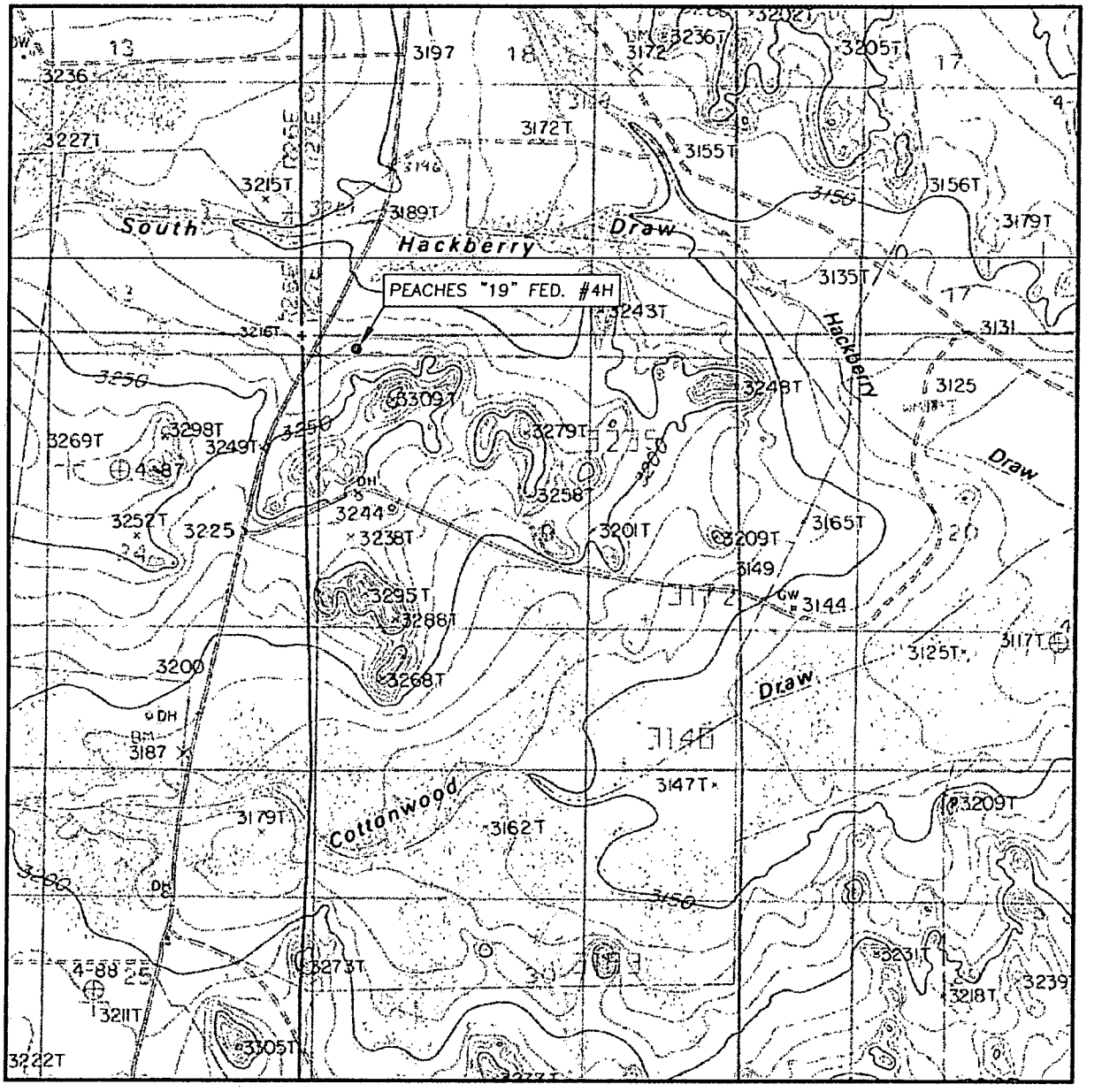
Signature and Seal of Professional Surveyor

Certificate Number 15079

WO# 130319WL-b (KA)

LUM

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 19 TWP. 25-S RGE. 27-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 150' FNL & 660' FWL

ELEVATION 3222.9'

OPERATOR OXY USA INC.

LEASE PEACHES "19" FED. #4H

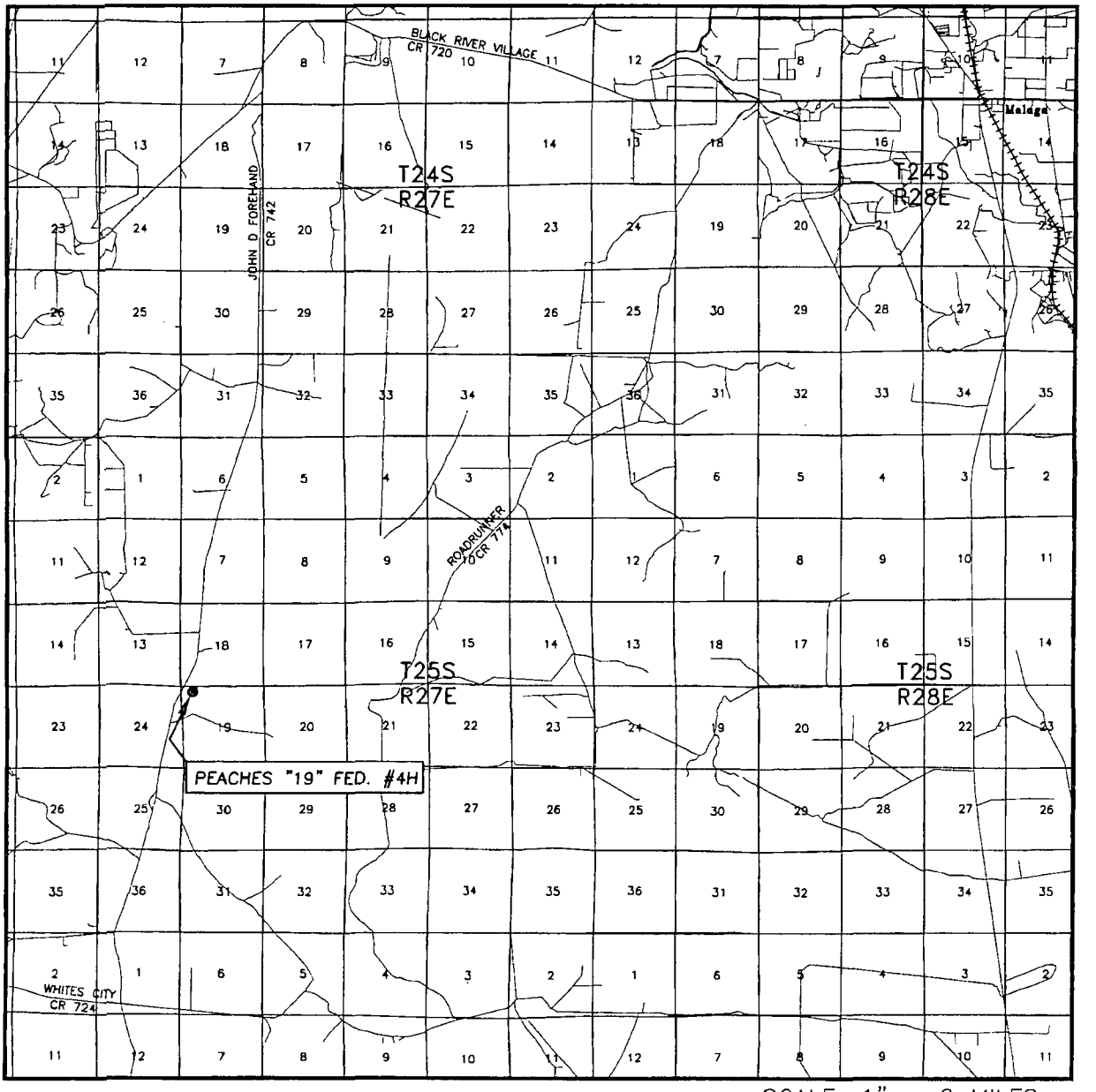
U.S.G.S. TOPOGRAPHIC MAP
COTTONWOOD HILLS, N.M.

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

UM

VICINITY MAP



SCALE: 1" = 2 MILES

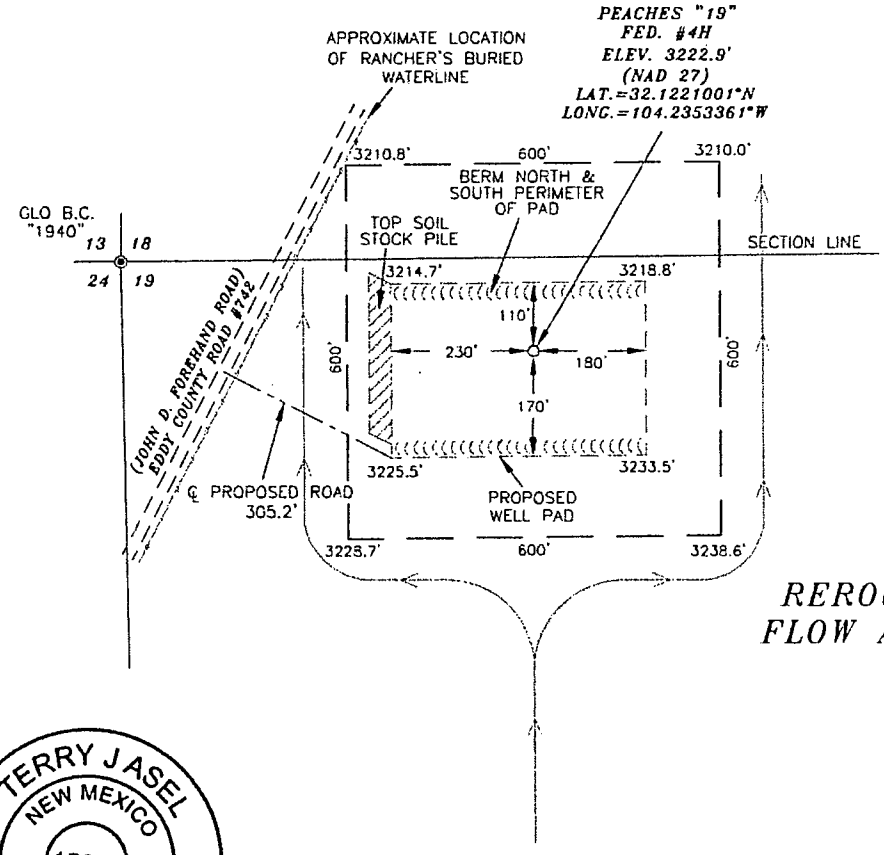
SEC. 19 TWP. 25-S RGE. 27-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 150' FNL & 660' FWL
ELEVATION 3222.9'
OPERATOR OXY USA INC.
LEASE PEACHES "19" FED. #4H

Asel Surveying
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

DIRECTIONS BEGINNING AT THE INTERSECTION OF U.S. HWY. #285 AND EDDY COUNTY ROAD #720 (BLACK RIVER VILLAGE ROAD), GO WEST ON EDDY COUNTY ROAD #720 FOR 9.1 MILES, TURN LEFT ON EDDY COUNTY ROAD #742 (JOHN D. FOREHAND ROAD) AND GO SOUTH FOR 7.8 MILES, TURN LEFT ON PROPOSED ROAD AND GO SOUTHEAST FOR 305.2 FEET TO LOCATION.

Wellsite Layout -2

OXY USA INC.
PEACHES "19" FED. #4H
SITE PLAN



REROUTE WATER FLOW AROUND PAD

TERRY J ASEL
NEW MEXICO
15079
PROFESSIONAL LAND SURVEYOR

LEGEND

- ▨ – DENOTES STOCK PILE AREA
- ⟨⟨⟨⟨ – DENOTES BERM
- – – – – DENOTES PROPOSED WELL PAD
- —— - —— DENOTES PROPOSED ROAD

300' 0 300' 600' FEET

SCALE: 1"=300'

SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel 8/28/2013

Terry J. Asel N.M. R.P.L.S. No. 15079

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

OXY USA INC.

PEACHES "19" FED. #4H WELL PAD LOCATED AT 150' FNL & 660' FWL IN SECTION 19, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 03/19/13	Sheet 1 of 1 Sheets	
W.O. Number: 130319WL-b	Drawn By: KA	Rev:
Date: 08/28/13	130319WL-b	Scale:1"=300'