

District I
1625 N French Dr, Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

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

8705

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

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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: HPOC, LLC OGRID #: 246238
Address: 113 Centennial Plaza, P.O. Box 5046, Buena Vista, CO 81211
Facility or well name: Ojo Encino 21 Federal #2DWS
API Number: 30-031- 2111 OCD Permit Number: _____
U/L or Qtr/Qtr: K (NE4/SW4) Section: 21 Township: 20N Range: 5W County: McKinley
Center of Proposed Design. Latitude: 35.94916°N Longitude: 107.37200°W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F or G of 19.15.17 11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☒ Lined ☐ Unlined Liner type: Thickness: 20mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☒ Welded ☒ Factory ☐ Other _____ Volume: 9,260 bbl Dimensions: L 130' x W 40' x D 10'

RCVD JUL 25 '11
OIL CONS. DIV.
DIST. 3

3.
☐ **Closed-loop System:** Subsection H of 19.15.17 11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness: _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☐ **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 _____

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

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 _____

7.

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)

8.

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 19.15.3.103 NMAC

9.

Administrative Approvals 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:

☒ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

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

10.

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. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.

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

☐ Yes ☒ No

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 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

(Applies to temporary, emergency, or cavitation pits and below-grade tanks)

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

☐ Yes ☒ No
☐ NA

Within 1000 feet from a permanent residence; school, hospital, institution, or church in existence at the time of initial application.

(Applies to permanent pits)

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

☐ Yes ☐ No
☒ NA

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 1000 horizontal feet of any other fresh water well or spring, 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 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 500 feet of a wetland

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

☐ 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

11

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. 30-031-21107 _____ or Permit Number. _____

12.

Closed-loop Systems 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.*

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - 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 _____
☐ Previously Approved Operating and Maintenance Plan API Number: _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

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 H₂S, 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

14.

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 ☐ Closed-loop System
☐ 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 (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15

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 F 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 I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ 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 I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

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 may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 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 between 50 and 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

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 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 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 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 1000 horizontal feet of any other fresh water well or spring, 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 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 500 feet of a wetland.

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

☐ 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

18.

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 F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 Subsection F of 19.15.17.13 NMAC

☒ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F 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 I of 19.15.17.13 NMAC

☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19

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) Michael S. Allen

Title: Project Manager

Signature

Michael S. Allen

Date: July 15, 2011

e-mail address: mallen@highplainsop.com

Telephone: (719)395-3584 (Office); (719)207-2848 (Cell)

20.

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

OCD Representative Signature:

Janet D. Kelly

Approval Date:

9/14/2011

Title:

Compliance Officer

OCD Permit Number:

21.

Closure Report (required within 60 days of closure completion): Subsection K of 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:

22.

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

23.

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name:

Disposal Facility Permit Number:

Disposal Facility Name:

Disposal Facility Permit Number:

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.

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)
☐ 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

25.

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:

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

Submit one copy to appropriate
District Office

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code 48030		3 Pool Name OJO ENCINO ENTRADA	
4 Property Code 37743		5 Property Name OJO ENCINO 21 FEDERAL			6 Well Number 2 DWS
7 OGRID No. 246238		8 Operator Name HPOC, LLC			9 Elevation 6790'

¹⁰ Surface Location

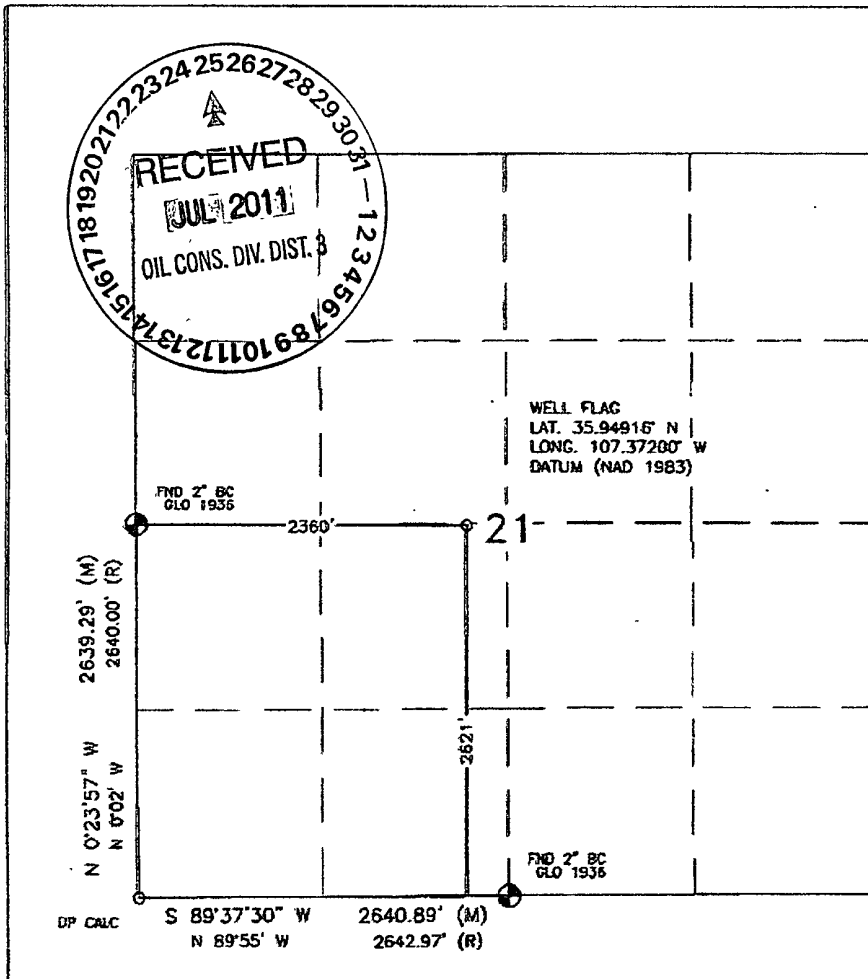
UL or lot no. K	Section 21	Township 20N	Range 5W	Lot Idn	Feet from the 2621'	North/South line SOUTH	Feet from the 2360'	East/West line WEST	County McKINLEY
--------------------	---------------	-----------------	-------------	---------	------------------------	---------------------------	------------------------	------------------------	--------------------

¹¹ 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
¹² Dedicated Acres 40.00 ACRES			¹⁵ Joint or Infill		¹⁴ Consolidation Code		¹³ Order No.		

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

18



17 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 bacteria 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 Antony W. Butcher Date 6/17/11

ARTHUR W. BUTLER III
Printed Name

bbutler@highplainsop.com
E-mail Address

18 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.

JUNE 14, 2011

Date of Survey _____

Signature and Seal of Professional Surveyor:

DAVID RUSSELL

Certificate Number 10201

WELL FLAG

LATITUDE: 35.94916° N
 LONGITUDE: 107.37200° W

DATUM: NAD 83

CENTER OF PIT

LATITUDE: 35.94935° N
 LONGITUDE: 107.37213° W

ELEVATION: 6779.0'

NAD83 & NAVD88

HPOC, LLC

OJO ENCINO 21 FEDERAL #2 DWS

2621' FSL & 2360' FWL

LOCATED IN THE NE/4 SW/4 OF SECTION 21,

T20N, R5W, N.M.P.M.,

McKINLEY COUNTY, NEW MEXICO

GROUND ELEVATION: 6790', NAVD 88

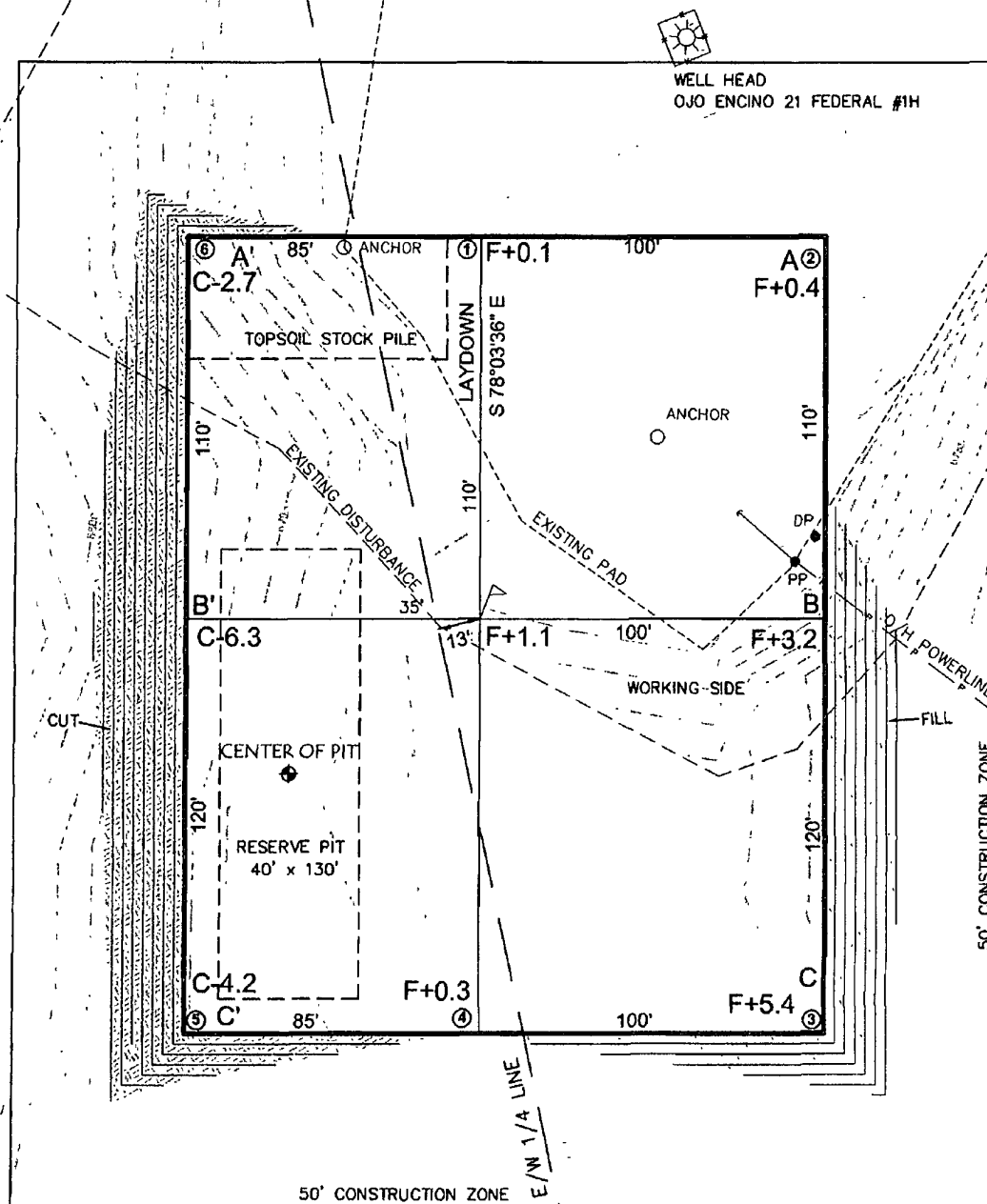
FINISHED PAD ELEVATION: 6791.0', NAVD 88



25' 0 25' 50'



SCALE = 50'



1 FOOT CONTOUR INTERVAL SHOWN

SCALE: 1" = 50'

JOB No.: HPOC003_REV1

DATE: 06/15/11

DRAWN BY: GRR



Russell Surveying

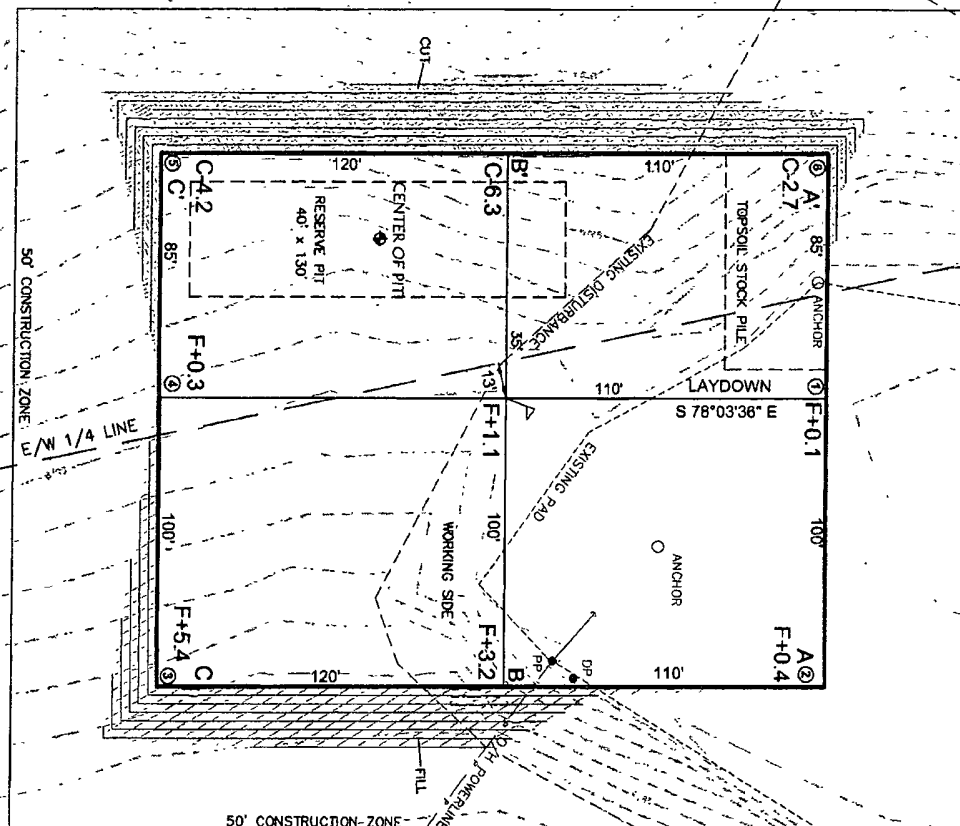
1409 W. Aztec Blvd. #2

Aztec, New Mexico 87410

(505) 334-8637

HPOC, LLC

OJO ENCINO 21 FEDERAL #2 DWS
2621' FSL & 2360' FWL
LOCATED IN THE NE/4 SW/4 OF SECTION 21,
T20N, R5W, N.M.P.M.,
McKINLEY COUNTY, NEW MEXICO
GROUND ELEVATION: 6790', NAVD 88
FINISHED PAD ELEVATION: 6791.0', NAVD 88



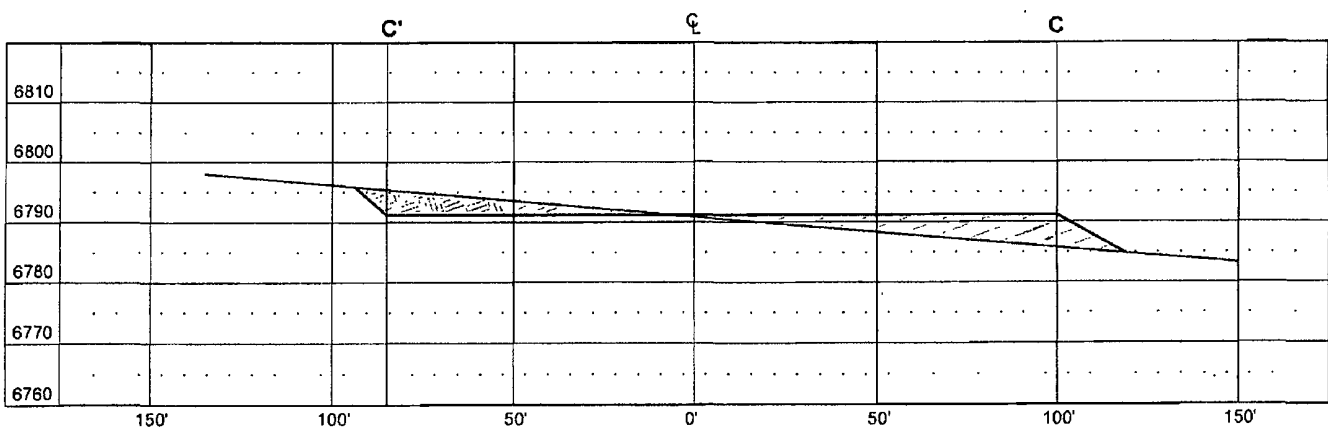
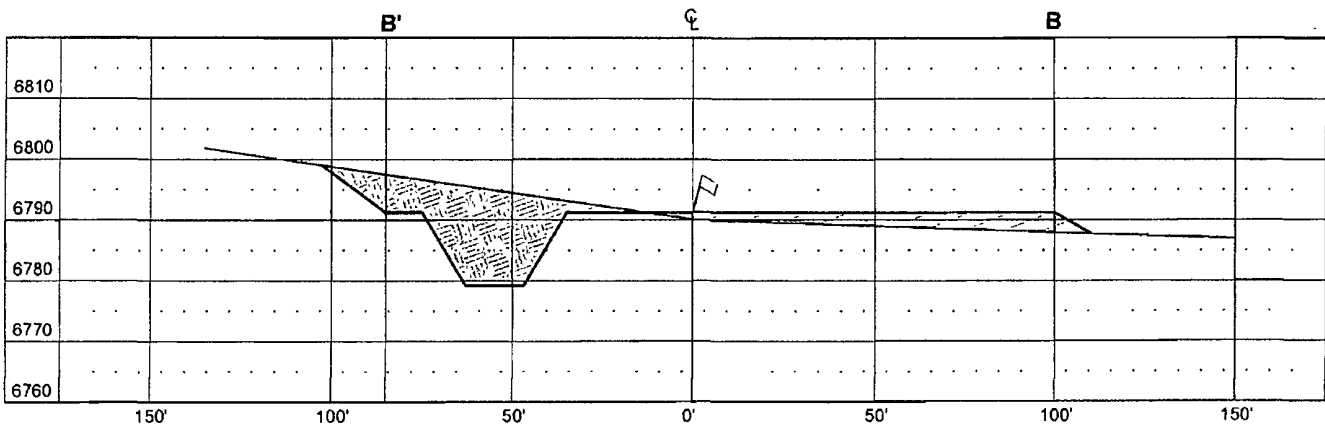
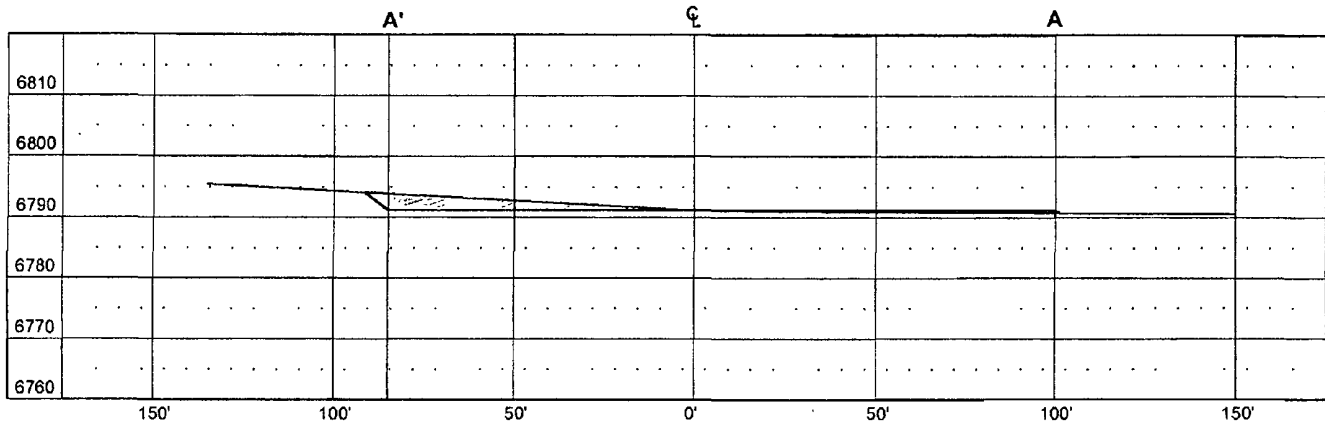
25' 0 25' 50'
SCALE = 50'

1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: HPOC003_REV1
DATE: 06/15/11
DRAWN BY: GRR

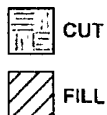


Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

OJO ENCINO 21 FEDERAL #2 DWS
2621' FSL & 2360' FWL
LOCATED IN THE NE/4 SW/4 OF SECTION 21,
T20N, R5W, N.M.P.M.,
McKINLEY COUNTY, NEW MEXICO
GROUND ELEVATION: 6790', NAVD 88
FINISHED PAD ELEVATION: 6791.0', NAVD 88



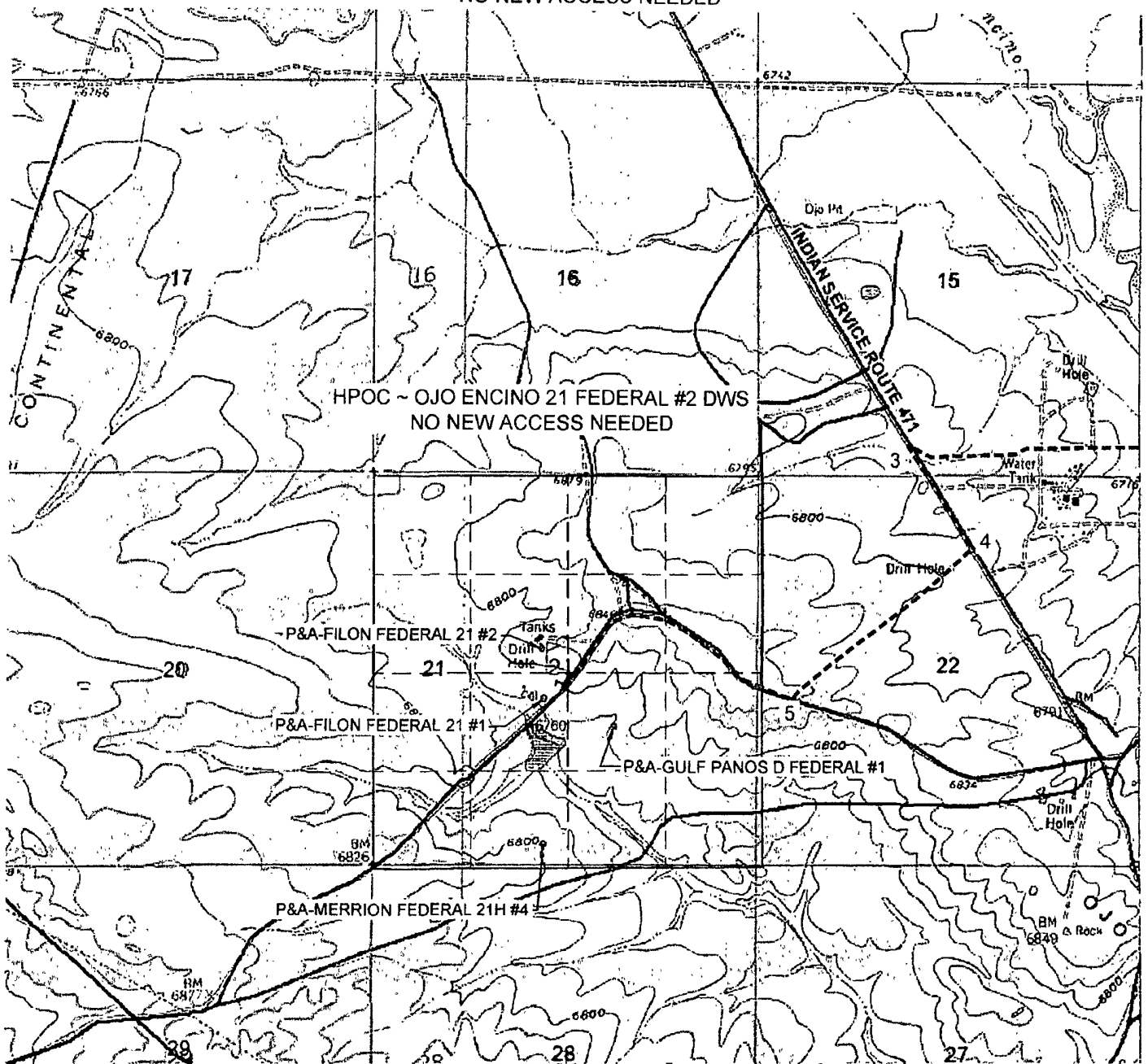
VERT. SCALE: 1" = 30'
HORIZ. SCALE: 1" = 50'
JOB No.: HPOC003_REV1
DATE: 06/15/11



Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

HPOC, LLC

OJO ENCINO 21 FEDERAL #2 DWS
2621' FSL & 2360' FWL
LOCATED IN THE NE/4 SW/4 OF SECTION 21,
T20N, R5W, N.M.P.M.,
McKINLEY COUNTY, NEW MEXICO
GROUND ELEVATION: 6790', NAVD 88
NO NEW ACCESS NEEDED



- 1) IN CUBA, NM., FROM THE INTERSECTION OF HWY 550 & HWY 197, TRAVEL WEST ON HWY 197 FOR 15.3 MILES TO THE OJO ENCINO SCHOOL ROAD (PAVED ROAD).
- 2) TURN RIGHT (WEST) ON OJO ENCINO SCHOOL ROAD AND TRAVEL FOR 13 MILES TO WHERE THE ROAD CURVES FROM DUE WEST TO DUE NORTH.
- 3) TURN LEFT, AT THE REC CENTER, ONTO DIRT ROAD AND GO 0.2 MILES.
- 4) TURN RIGHT AND GO 0.7 MILES.
- 5) TURN RIGHT, OVER CATTLE GUARD AND GO 0.7 MILES TO PROPOSED WELL PAD.

WELL FLAG LOCATED AT LAT. 35.94916° N, LONG. 107.37200° W (NAD 83)

U.S.G.S. QUAD: OJO ENCINO MESA
SCALE: 1" = 2000' (1:24,000)
JOB No.: HPOC003_REV1
DATE: 06/15/11

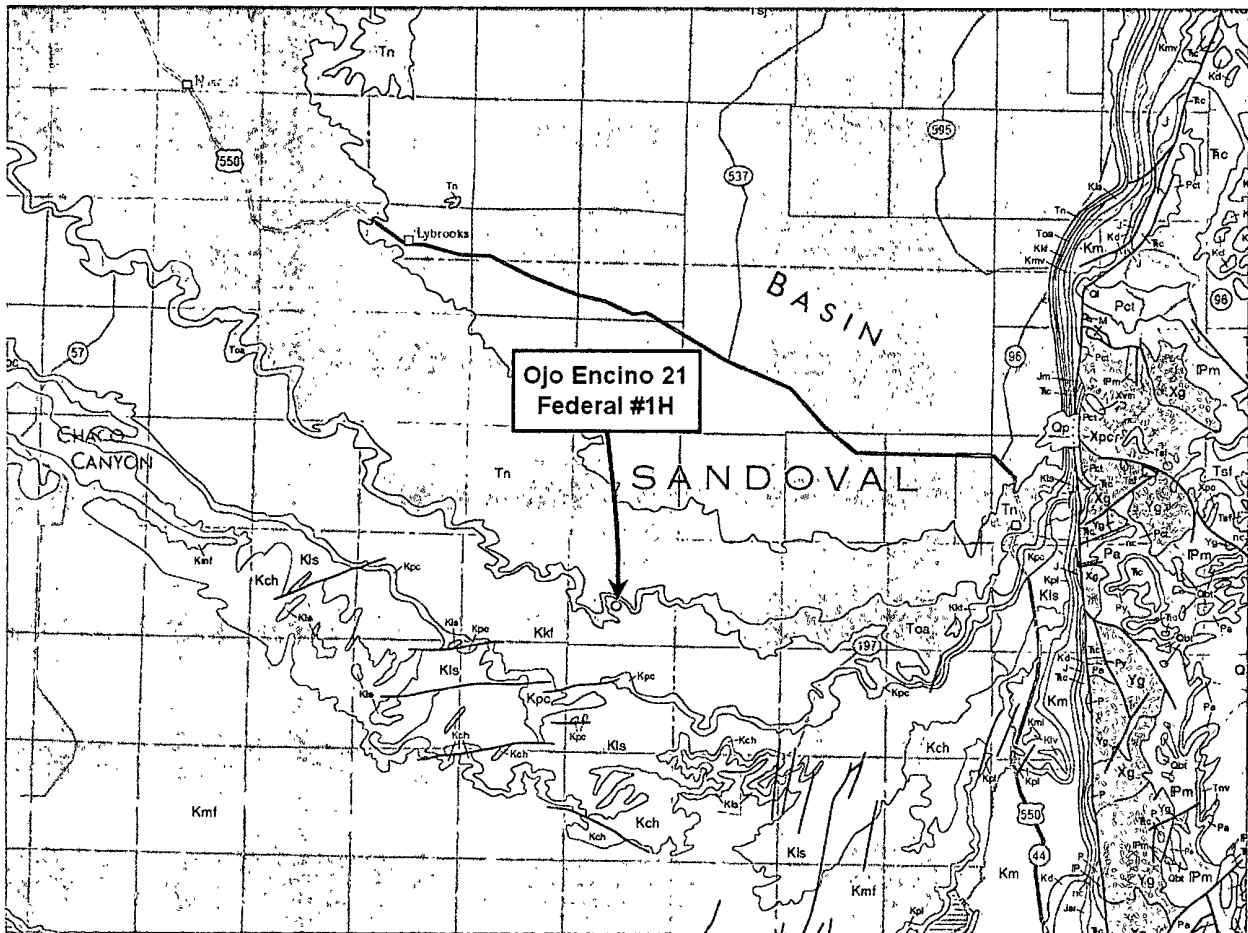
NEW OR RECONSTRUCTED ROADS MUST MEET
SMA DESIGN STANDARDS
INSTALL CULVERTS AS NEEDED



Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

Temporary Pit Hydrogeologic Data for Ojo Encino 21 Federal #2DWS

The Ojo Encino property lies on the gently dipping South Chaco Slope of the San Juan Basin. Cretaceous (Campanian) aged sediments of the Kirtland and Fruitland Formations outcrop at the surface, where exposed. See the yellow band in the geologic map below.

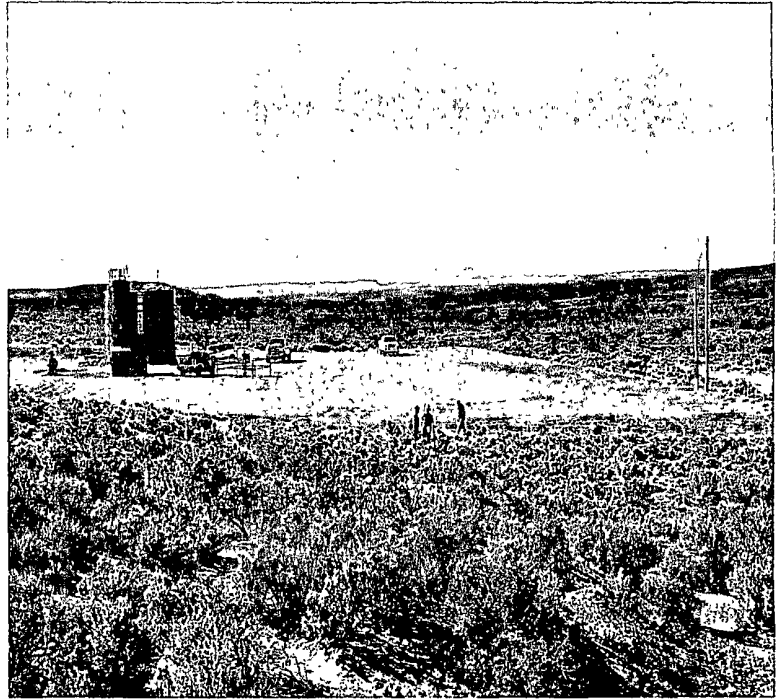


Fassett and Hinds, in USGS Professional Paper 676, state that the Fruitland formation is composed of interbedded sandstone, siltstone, shale, carbonaceous shale, carbonaceous sandstone and siltstone, and coal. Most of the rock units in the Fruitland are discontinuous, with individual beds pinching out laterally, normally within a few hundred feet. The Fruitland formation was deposited after the Upper Cretaceous seaway had retreated from the San Juan Basin. The deposits were laid down in coastal swamp, river, floodplain and lake environments.

The overlying Kirtland shale is divided into 2 members by Fassett and Hinds, a lower shale member, and the "Farmington Sandstone" and upper shale member. The lower shale member is composed of mostly gray shale with a few thin interbeds of siltstone and sandstone. The Farmington Sandstone and upper shale member are composed of a series of interbedded lenticular sandstones and shale. Lenticular sandstones are more common in the northern part of the basin, and become less frequent in the southern part. The lower shale member of the Kirtland contains little coal or carbonaceous material, which is used to differentiate the Kirtland from the underlying upper Fruitland formation.

The overall thickness of the Fruitland and Kirtland shale formation ranges from about 190 feet to 290 in the area of the Eagle Springs property. The Cretaceous Pictured Cliffs Sandstone underlies the Fruitland formation.

The area of the Ojo Encino 21 Federal #2DWS location lies on the south flank of a broad, gentle topographic high. A photo of the well site with a view to the south-east is at right. There are no formation outcrops, no fresh water wells and no live streams in the immediate project vicinity. There is an intermittent wash and old stock watering tank about 1,000' south of the location. See the NM Office of the State Engineer's POD reports and aerial and topographic maps in the next section of this report for further details. Due to this paucity of information concerning fresh water resources, it is difficult to determine solid, hydrogeologic data regarding water resources for this location.



References:

Fassett, J.E., and Hinds, J.S., 1971, Geology and Fuel Resources of the Fruitland Formation and Kirtland Shale of the San Juan Basin, New Mexico and Colorado: Geological Survey Professional Paper 676, 76 pgs and 3 plates

Temporary Pit Siting Criteria Compliance Demonstrations for Ojo Encino 21 Federal #2DWS

An exhaustive search of the water records on the New Mexico Office of the State Engineer's Web site using multiple criteria indicates no fresh water wells or "Points of Diversion" in the project area. See search results on this and following pages. All searches were conducted on August 3, 2009.



New Mexico Office of the State Engineer **Point of Diversion by Location** (with Drilling Information)

No PODs found

UTMAD83 Radius Search (in meters):

Easting (X): 286128

Northing (Y): 3980928

Radius: 2000

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability or suitability for any particular purpose of the data.

8/3/09 2 13 PM

Page 1 of 1

POINT OF DIVERSION BY LOCATION



New Mexico Office of the State Engineer **Water Column/Average Depth to Water**

No records found.

Basin/County Search:

Basin: San Juan

County: McKinley

UTMNAD83 Radius Search (in meters):

Easting (X): 286128

Northing (Y): 3980928

Radius: 2000



New Mexico Office of the State Engineer **Water Column/Average Depth to Water**

No records found.

Basin/County Search:

Basin: San Juan

County: McKinley

PLSS Search:

Section(s): 15-17

Township: 20N

Range: 05W



New Mexico Office of the State Engineer **Water Column/Average Depth to Water**

No records found.

Basin/County Search:

Basin: San Juan

County: McKinley

PLSS Search:

Section(s): 20-22

Township: 20N

Range: 05W



New Mexico Office of the State Engineer **Water Column/Average Depth to Water**

No records found.

Basin/County Search:

Basin: San Juan

County: McKinley

PLSS Search:

Section(s): 27-29

Township: 20N

Range: 05W



New Mexico Office of the State Engineer Wells with Well Log Information

No wells found.

Basin/County Search:

Basin: San Juan

County: McKinley

UTMNAD83 Radius Search (in meters):

Easting (X): 286128

Northing (Y): 3980928

Radius: 2000



New Mexico Office of the State Engineer Point of Diversion with Meter Attached

No PODs found

Basin/County Search:

Basin: San Juan

County: McKinley

UTMNAD83 Radius Search (in meters):

Easting (X): 286128

Northing (Y): 3980928

Radius: 2000



New Mexico Office of the State Engineer
Wells Without Well Log Information

No wells found.

Basin/County Search:

Basin: San Juan

County: McKinley

UTMNAD83 Radius Search (in meters):

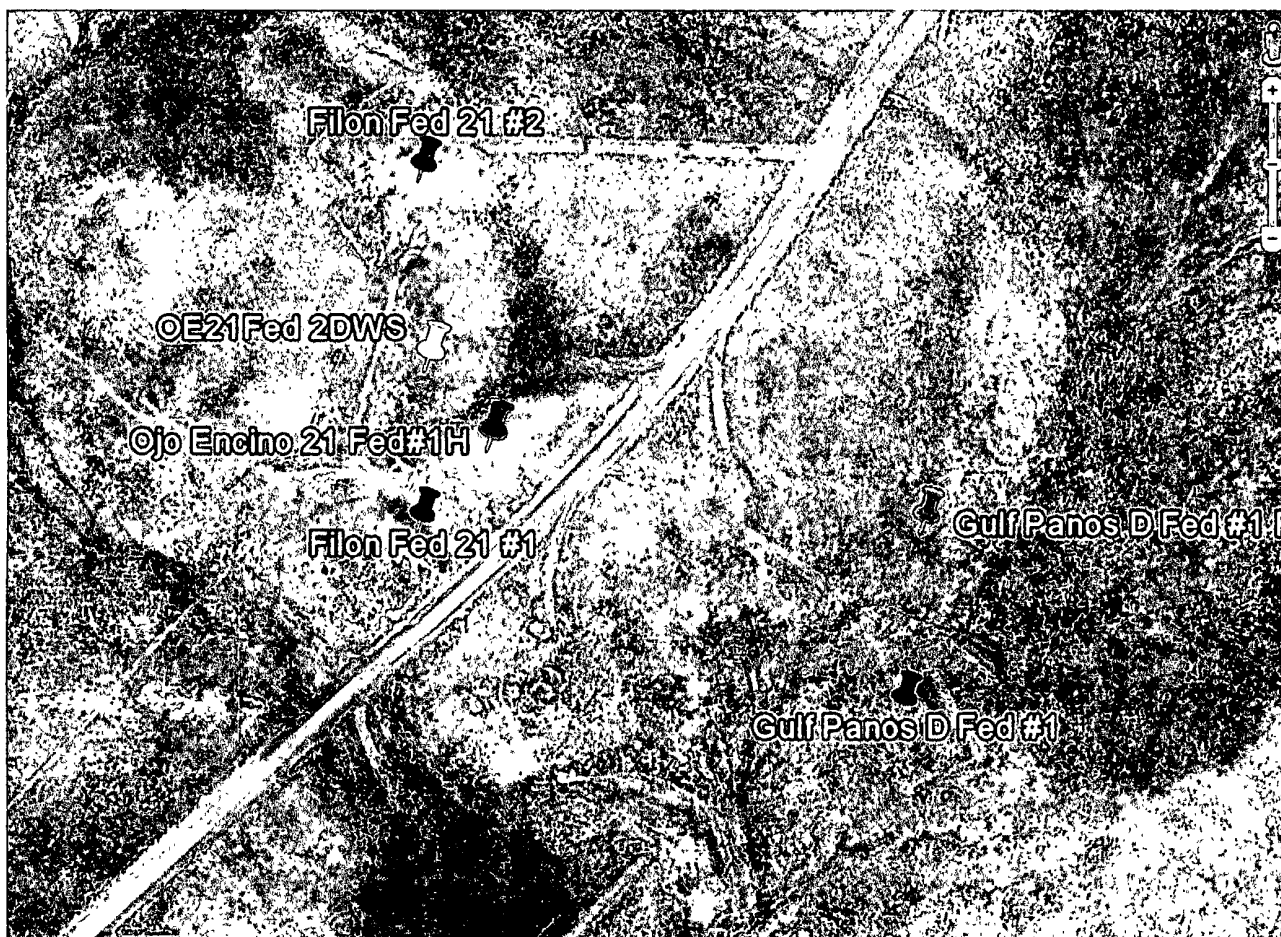
Easting (X): 286128

Northing (Y): 3980928

Radius: 2000

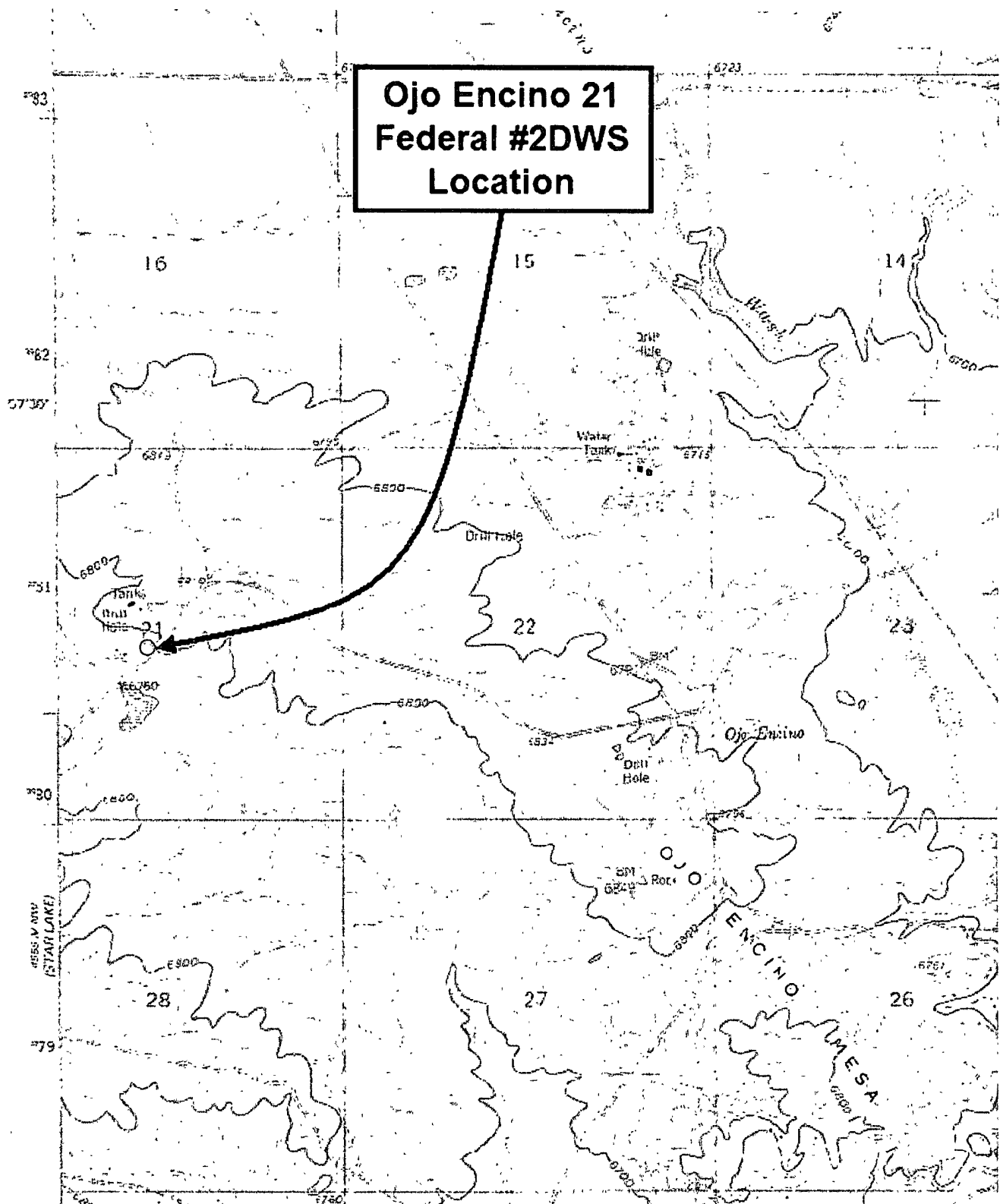
Aerial Photo

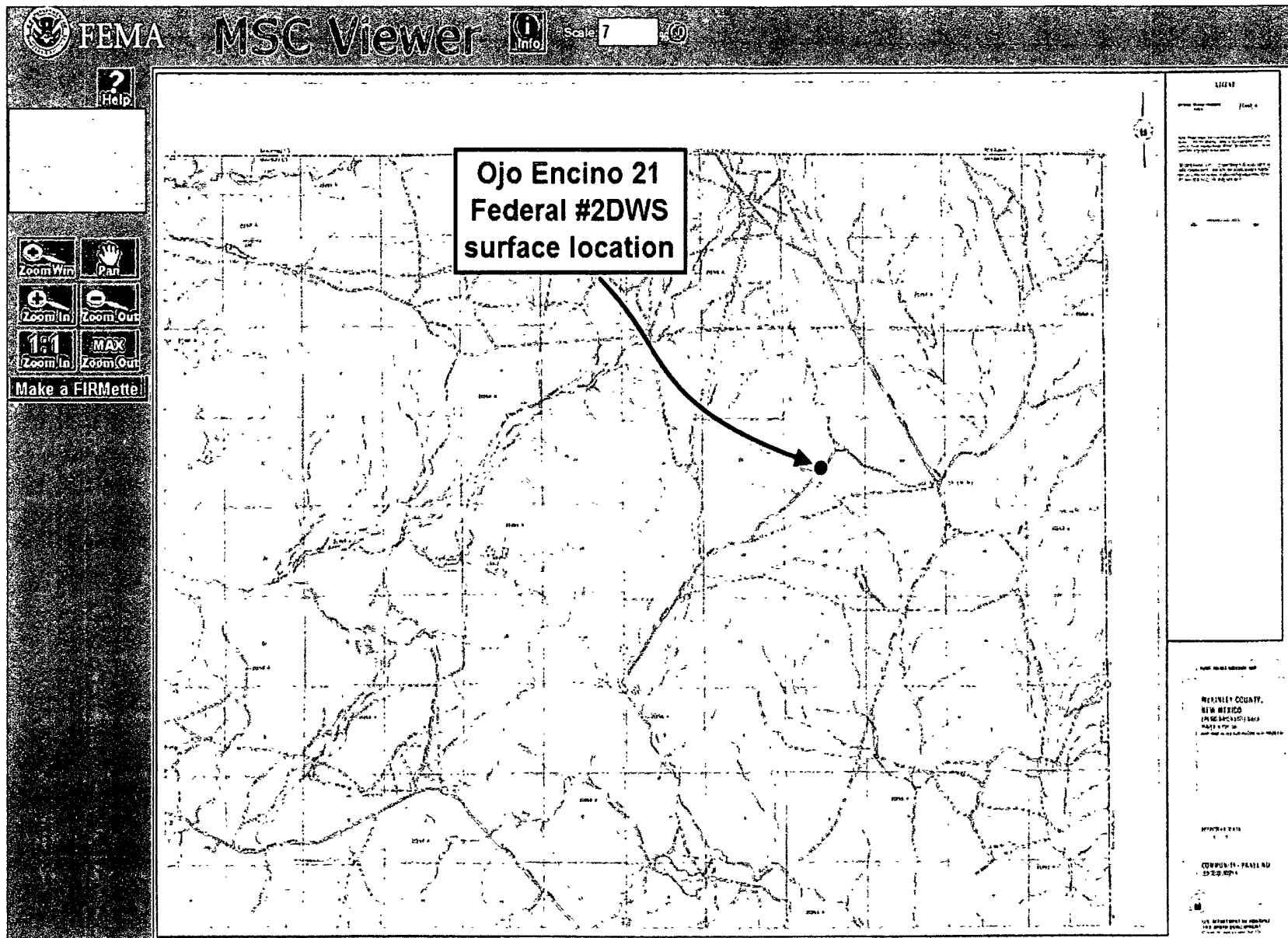
This project is a vertical, double-completion well in the Entrada Formation in the Ojo Encino Entrada Field. The aerial photo below shows the proposed HPOC Ojo Encino 21 Federal #2DWS location in yellow. Additionally, the locations of HPOC's 21 Federal #1H, the two Filon wells that produced in the field, as well as the Gulf Panos dry holes to the southeast are shown.



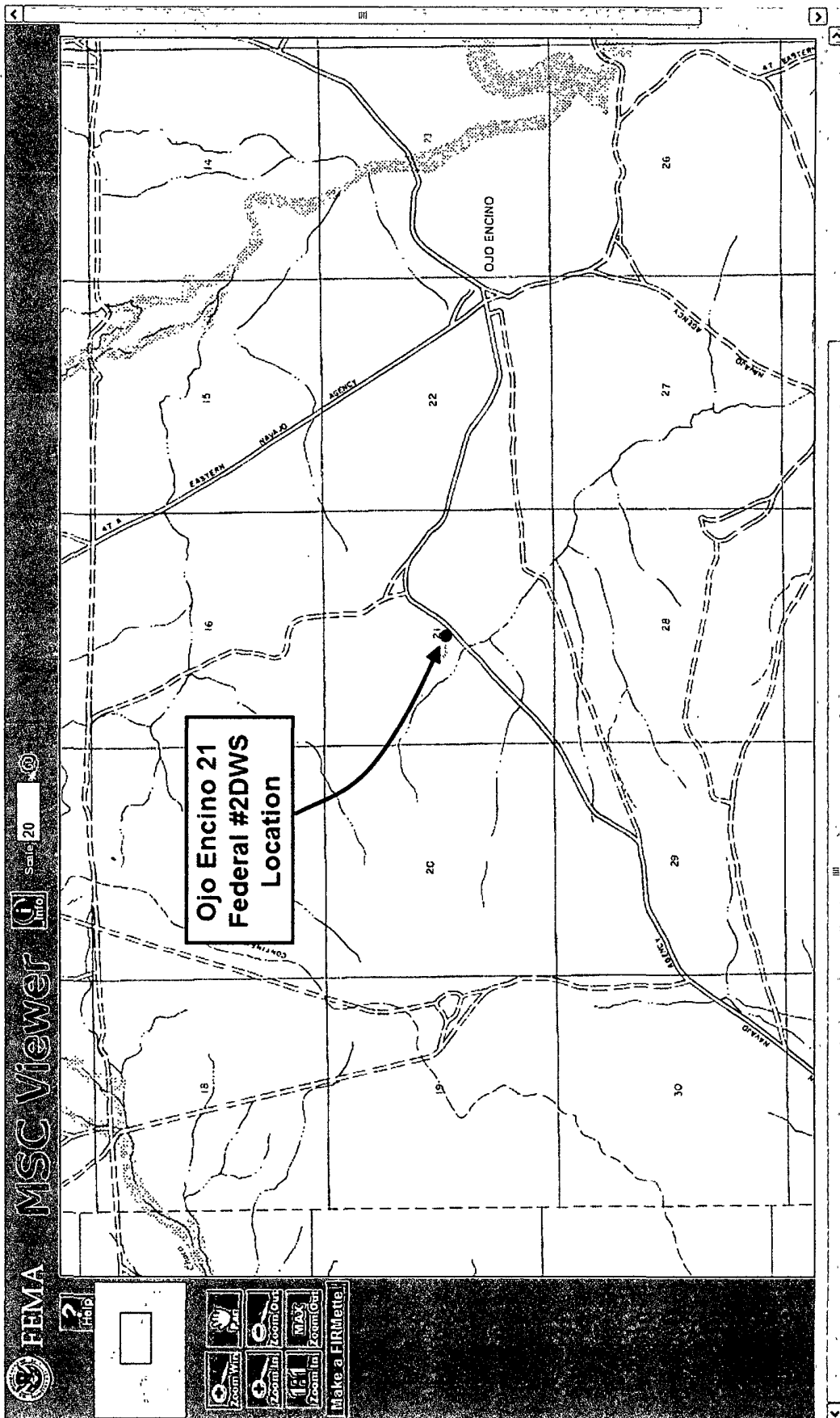
Topographic Map

A portion of the "Ojo Encino Mesa" 7.5 degree 1:24:000 topographic map is shown below.



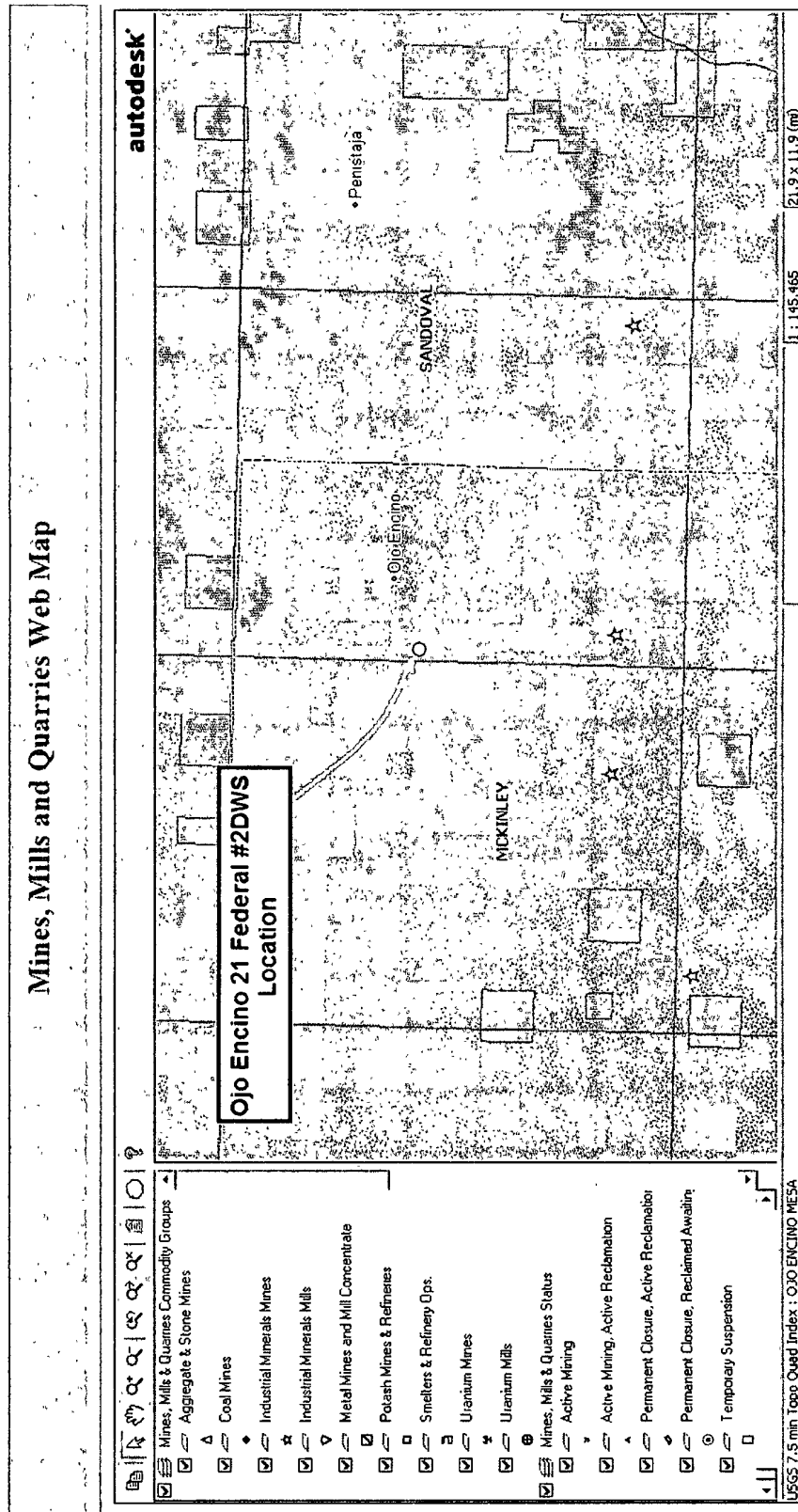


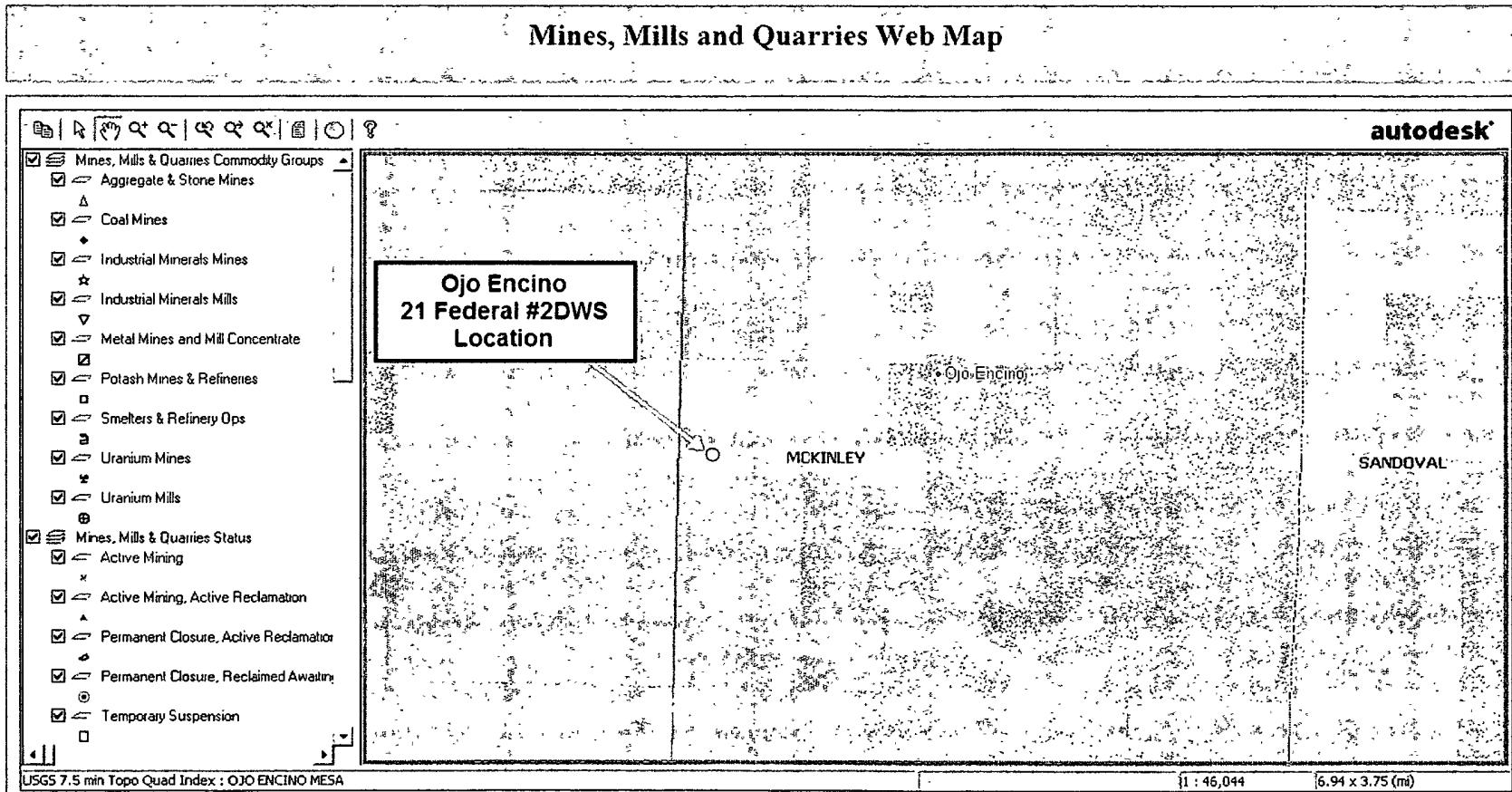
FEMA Floodplain Map—Community Map # 350039 0005A—Zoom of well location



Mines, Mills and Quarries Map

The Morningstar Humate mine approximately 4 miles south of the proposed well is closed. See Mines, Mills & Quarries report that follows.





Mines, Mills and Quarries report



NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
MINING AND MINERALS DIVISION

Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505
P: (505) 476-3400
F: (505) 476-3402

General Information

The following table provides general information for the selected mine:

Mine Name:	Morningstar Mine
County	McKinley
Status	Permanent Closure, Active Reclamation
Commodity Types	Humate
Site Types	Surface - Open Pit
MSHA Numbers	
Land Ownership	Federal
Mineral Ownership	Federal

Current Operators

This contains the current operators for this mine:

Operator Name:	Address:	Phone:
Morningstar Corporation	22 CR3957 Farmington NM 87499 USA	(505) 325-2401

On-Site Closure Plan—Proof of Surface Owner Notice

E-mail July 19, 2011

From: jlovato@blm.gov
To: rswitzer@blm.gov
Subject: Re: HPOC's 21 Fed #2DWS C-144 Pit Closure Notice
Date sent: Tue, 19 Jul 2011 07:34:45 -0600

Bob,
For your review and handling... thanks JL

From: Self <mallen@chaffeeco.net>
To: jim_lovato@blm.gov
Subject: HPOC's 21 Fed #2DWS C-144 Pit Closure Notice
Date sent: Mon, 18 Jul 2011 14:57:11 -0600

Dear Jim,

As you are aware HPOC, LLC has submitted to your office an APD for a new well (21 Federal #2DWS) in the Ojo Encino field in McKinley County. This APD includes the NM-OCB "Pit Permit" form C-144. Since HPOC will be utilizing a temporary reserve pit during our drilling operation which will be closed on-site, HPOC is required to notify the surface owner of such pit closure.

Please consider this email as notification of on-site closure of this temporary reserve pit. Details of the pit have been included in the APD and with the C-144. Please acknowledge this notification by return email and please contact me with any questions you may have.

Thank you,
Mike Allen

HPOC New Mexico Project Manager

Michael S. Allen
HPOC, LLC
P.O. Box 3063
Buena Vista, CO 81211
719.207.2848

Temporary Pit Design Plan for Ojo Encino 21 Federal #2DWS

HPOC's temporary pit for the Ojo Encino 21 Federal #2DWS will be designed and constructed following all rules in NMAC 19.15 Part 17, "PITS, CLOSED-LOOP SYSTEMS, BELOW-GRADE TANKS AND SUMPS," #11, "DESIGN AND CONSTRUCTION SPECIFICATIONS."

The top 6" of topsoil will be stripped and rolled up on the uphill side of the location to divert runoff and prevent erosion of the location per instructions from Craig Willems during the BLM onsite inspection. HPOC will post a sign not less than 12" X 24" prior to pit construction listing the operator, location of the well by unit letter, section, township and range with emergency telephone numbers. The temporary pit will be fenced with 48" field fence (hogwire) with a single strand of barbed wire above. During drilling or workover operations, HPOC will temporarily remove the side of the fence along the edge of the pit adjacent to the drilling or workover rig.

HPOC has requested from the BLM and requests here from NM-OCD an administrative waiver under the MOU between the BLM and NM-OCD from the maximum 2:1 (H:V) slope requirement due to the BLM's request during staking to minimize slope cut and site disturbance for the drill pad. HPOC will take all steps necessary to protect liner integrity along the nearer-vertical portions of the pit slope and will provide an escape ladder for worker safety.

NMAC 19.15.17.11; Subsection F Requirements

1. HPOC will design and construct the temporary pit to ensure the confinement of liquids to prevent unauthorized releases.
2. HPOC's temporary pit will 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. Per the aforementioned, HPOC has requested a waiver from the BLM under the MOU between the BLM and NM OCD from the two horizontal feet to one vertical foot (2H:1V) pit slope wall requirement.
3. HPOC's temporary pit will be constructed with a geomembrane liner consisting of 20-mil string reinforced LLDPE or equivalent liner material that the Aztec division district office approves. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A.
4. HPOC will minimize liner seams and orient them up and down, not across a slope. HPOC will use factory-welded seams where possible. Prior to field seaming, HPOC will overlap liners four to six inches and orient seams parallel to the line of maximum slope, *i.e.*, oriented along, not across, the slope. HPOC will minimize the number of field seams in corners and irregularly shaped areas. Qualified personnel shall perform field seaming. HPOC will weld any field liner seams necessary.
5. Construction will avoid excessive stress-strain on the liner.
6. HPOC will utilize geotextile under the liner where needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity.
7. HPOC will anchor the edges of all liners in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.
8. HPOC will 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.
9. HPOC will design and construct the temporary pit to prevent run-on of surface water. A berm, ditch, proper sloping or other diversion shall surround the temporary pit to prevent run-on of

surface water. During drilling operations, the edge of the temporary pit adjacent to the drilling or workover rig is not required to have run-on protection if HPOC 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.

Temporary Pit Operating and Maintenance Plan for Ojo Encino 21 Federal #2DWS

HPOC's temporary pit for the Ojo Encino 21 Federal #2DWS will be operated and maintained following all rules in NMAC 19.15 Part 17, "PITS, CLOSED-LOOP SYSTEMS, BELOW-GRADE TANKS AND SUMPS," #12, "OPERATIONAL REQUIREMENTS."

1. HPOC will operate and maintain the pit to contain liquids and solids and maintain the integrity of the liner, prevent contamination of fresh water and protect public health and the environment.
2. HPOC will recycle, reuse or reclaim or dispose of all drilling fluids in a manner approved by division rules that prevents the contamination of fresh water and protects public health and the environment. As required, drilling fluids will be disposed of at T-n-T Environmental, Inc.'s Commercial Surface Waste Management Facility Permit NM-01-0008 (evaporation ponds and landfarm).
3. HPOC will not discharge into or store any hazardous waste in the pit.
4. If the pit liner's integrity is compromised, or if any penetration of the liner occurs above the liquid's surface, then HPOC will notify the Aztec division district office within 48 hours of the discovery and repair the damage or replace the liner.
5. If the pit develops a leak, or if any penetration of the pit liner occurs below the liquid's surface, then HPOC will remove all liquid above the damage or leak line within 48 hours, notify the Aztec division district office within 48 hours of the discovery and repair the damage or replace the pit liner.
6. The injection or withdrawal of liquids from the pit shall be accomplished through 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.
7. HPOC will operate and install the pit to prevent the collection of surface water run-on.
8. HPOC will install, or maintain on site, an oil absorbent boom or other device to contain and remove oil from a pit's surface.
9. Only fluids used or generated during the drilling or workover process will be discharged into the temporary pit. HPOC will maintain the temporary pit free of miscellaneous solid waste or debris. Immediately after cessation of a drilling or workover operation, HPOC will remove any visible or measurable layer of oil from the surface of a drilling or workover pit.
10. HPOC will maintain at least two feet of freeboard for the temporary pit.
11. HPOC will inspect the temporary pit containing drilling fluids at least daily while the drilling or workover rig is on-site. Thereafter, HPOC will inspect the temporary pit weekly so long as liquids remain in the temporary pit. HPOC will maintain a log of such inspections and make the log available for the Aztec division district office's review upon request. HPOC will file a copy of the log with the Aztec division district office when the operator closes the temporary pit.
12. HPOC will remove all free liquids from the temporary pit within 30 days from the date of drilling or workover rig release. HPOC will note the date of the drilling or workover rig's release on form C-105 or C-103 upon well or workover completion. The Aztec division district office may grant an extension of up to three months upon HPOC's request.

Temporary Pits Closure Plan for Ojo Encino 21 Federal #2DWS

HPOC's temporary pit for the Ojo Encino 21 Federal #2DWS will be closed following all rules in NMAC 19.15 Part 17, "PITS, CLOSED-LOOP SYSTEMS, BELOW-GRADE TANKS AND SUMPS," #13, "CLOSURE REQUIREMENTS."

HPOC will close the temporary pit within six months from the date HPOC releases the drilling or workover rig. The Aztec division district office may grant an extension not to exceed three months upon HPOC's request. HPOC will remove all liquids from the temporary pit prior to closure and these fluids will be disposed of at T-n-T Environmental, Inc.'s Commercial Surface Waste Management Facility Permit NM-01-0008 (evaporation ponds and landfarm), or HPOC may recycle, reuse or reclaim the liquids in a manner that the Aztec division district office approves.

The proposed closure method of the temporary pit involves on-site burial. If the well is productive, HPOC will need to keep the production area obstruction free so will install a 24"x24" steel marker plate at the center of the on-site burial. If the well is abandoned after drilling or when HPOC has exhausted the well's production and abandons it, HPOC will re-grade the site and install a steel marker not less than four inches in diameter cemented in a three-foot (minimum) deep hole. The steel marker shall extend at least four feet above mean ground level and at least three feet below ground level. The operator name, lease name and well number and location, including unit letter, section, township and range, and that the marker designates an on-site burial location shall be welded, stamped or otherwise permanently engraved into the metal of the steel plate/marker. HPOC will report the exact location of the on-site burial on our well completion form filed with the BLM and on NM-OCD form C-105.

HPOC will perform interim reclamation of the temporary pit area by restoring the impacted surface area, exclusive of that needed for production operations, to the condition that existed prior to HPOC's operations by placement of the soil cover and re-vegetation as provided in Subsection H of 19.15.17.13 NMAC. Specifically, HPOC will cover the pit with 4 feet of clean soil including 1 foot of topsoil and match existing grade to prevent ponding and re-vegetate the soil cover for the first growing season using a seed mix with at least 70% of native perennials. HPOC will ensure vegetative cover that equals 70% of the native perennial vegetative cover consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons without artificial irrigation. HPOC shall repeat seeding or planting until it successfully achieves the required vegetative cover.

When the well is abandoned, HPOC will re-grade the well pad site to approximate the original slope that blends with the surrounding topography and will re-vegetate the area according to Subsection I of 19.15.17.13 NMAC.

HPOC will notify the BLM (surface owner) by certified mail, return receipt requested, that HPOC plans to close the temporary pit. HPOC will notify the Aztec division district office verbally or by other means at least 72 hours, but not more than one week, prior to any closure operation. HPOC will file a closure report within 60 days of closure completion on form C-144.

Following Paragraph (2) of Subsection F of 19.15.17.13 NMAC:

1. Prior to closing the temporary pit, HPOC will stabilize or solidify the contents to a bearing capacity sufficient to support the temporary pit's final cover. HPOC will not mix the contents with soil or other material at a mixing ratio of greater than 3:1, soil or other material to contents.
2. As the ground water is more than 100 feet below the bottom of the buried waste, HPOC will collect at a minimum, a five point, composite sample of the contents of the temporary pit after

treatment or stabilization, if treatment or stabilization is required, to demonstrate that benzene, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 0.2 mg/kg; total BTEX, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 50 mg/kg; the GRO and DRO combined fraction, as determined by EPA SW-846 method 8015M, does not exceed 500 mg/kg; TPH, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 2500 mg/kg; and chlorides, as determined by EPA method 300.1, do not exceed 1000 mg/kg or the background concentration, whichever is greater. HPOC may collect the composite sample prior to treatment or stabilization to demonstrate that the contents do not exceed these concentrations. However, if the contents collected prior to treatment or stabilization exceed the specified concentrations HPOC will collect a second five point, composite sample of the contents after treatment or stabilization to demonstrate that the contents do not exceed these concentrations.

3. Upon closure of the temporary pit, HPOC will cover the geomembrane lined, filled, temporary pit with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; re-contour and re-vegetate the site. The division-prescribed soil cover, re-contouring and re-vegetation shall comply with Subsections G, H and I of 19.15.17.13 NMAC.