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

4527

RCVD JAN 9 '12
OIL CONS. DIV.
DIST. 3

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 McElvain Oil & Gas Properties, Inc. OGRID #: 22044
Address: 1050 17th Street , Suite 1800, Denver, CO 80265
Facility or well name ORA 5
API Number: 30-039-24252 OCD Permit Number.
U/L or Qtr/Qtr O Section 21 Township 25N Range 3W County: Rio Arriba
Center of Proposed Design Latitude 36 37798 N Longitude 107.14808 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 mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams ☐ Welded ☐ Factory ☐ Other Volume: bbl Dimensions: L x W x D

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 35 bbl Type of fluid Oil & Water
Tank Construction material: Fiberglass
☐ 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

20

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____4 " Hog wire w/ top rail = 4'_____

7

Netting: Subsection E of 19.15 17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☒ Other___Nylon Mesh_____

☐ 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 _____ 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 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

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 indentify 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). Jim McKinney Title: _Operations Engineer

Signature. J. M. McKinney Jr. Date. 12/08/2011

e-mail address: jmm@mcelvain com Telephone: _303-893-0933, X-379

20
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Jonathan D. Kelly **Approval Date:** 1/10/2012

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 indentify 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:

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-78

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
Elliott Oil and Gas Company	Ora	5

Unit Letter	Section	Township	Range	County
O	21	25 North	3 West	Rio Arriba

Actual Footage Location of Well:
660 feet from the South line and 1980 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
7340	Gallup - Dakota	Lindrith Gallup - Dakota West	160 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

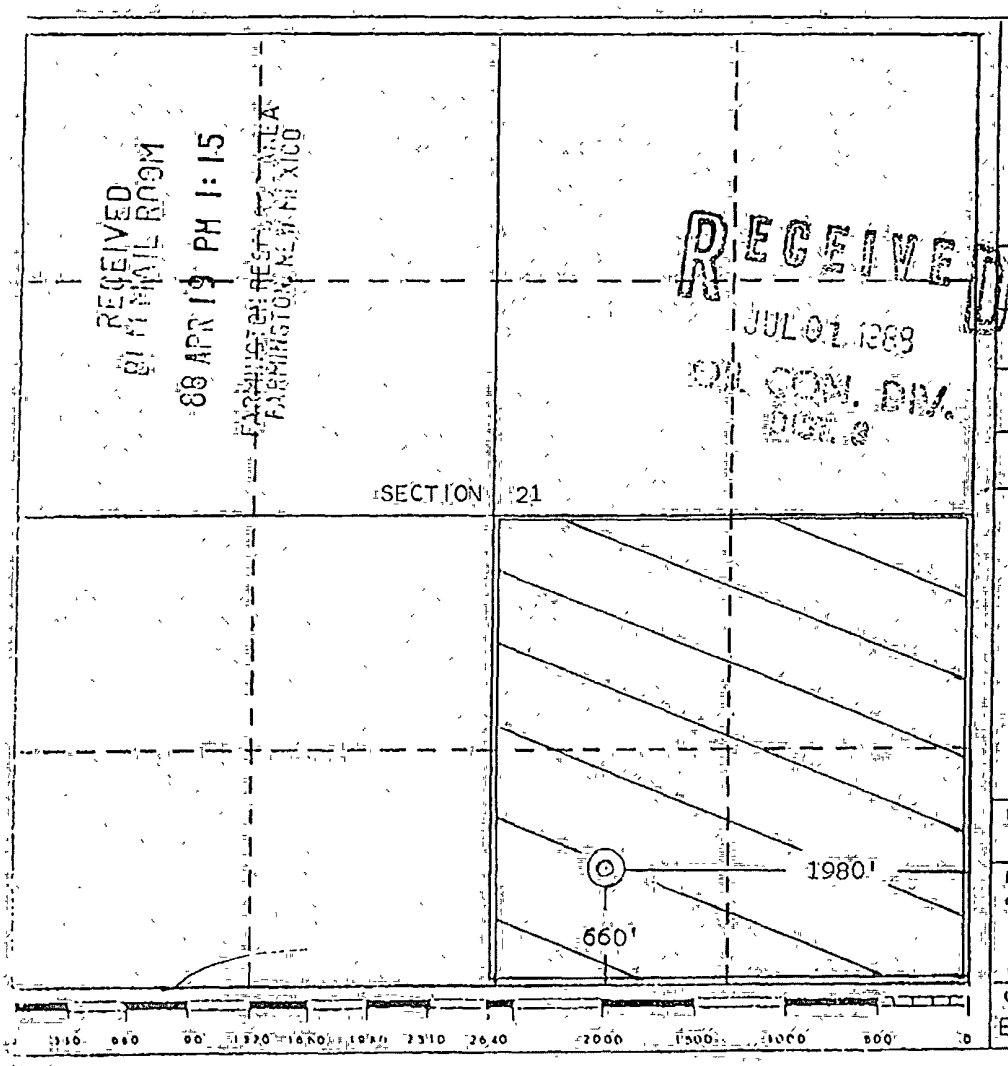
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name: Joe Elledge

Position: Agent

Company: Elliott Oil Co

Date: 3-21-1988

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 knowledge and belief.

EDGAR L. RISENHOOVER
NEW MEXICO
5979
REGISTERED LAND SURVEYOR

Date Surveyed: February 23, 1988

Registered Professional Engineer and/or Land Surveyor

Certificate No. 5979
Edgar L. Risenhoover, L.S.

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 25N Range: 03W Sections: 15,16,17,20,21,22,27,28,29

NAD27 X: Y: Zone: Search Radius:

County: Basin: SJ(San Juan) Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic ◉ All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/25/2008

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column
SJ 02520 DCL	25N	03W	22	2	2	3				1000	850	150
SJ 02520	25N	03W	22	2	2	3				1000	850	150
SJ 02519 DCL	25N	03W	27	2	1	3				1215	650	565
SJ 02519	25N	03W	27	2	1	3				1215	650	565

Record Count: 4

Hydrogeological Report For

Ora #5

Surface Formation:

San Jose Formation

Regional and Local Geology

The Tertiary San Jose Formation is a fluvial and alluvial deposit of Eocene age and is the youngest bedrock unit of the Tertiary in the San Juan Basin (Baltz, 1967). The San Jose is the surface formation in most of the central San Juan Basin to the eastern margin of the basin. Where it is buried, it is unconformably overlain by Quaternary sediments. It rests on an erosional surface over the Tertiary Nacimiento Formation south of the Colorado-New Mexico state line, and lies over the Cretaceous-Tertiary Animas north of the state line (Fassett, 1974). The San Jose has been differentially eroded, deeply in places, and has produced a varied to rugged physiography and a thickness range of less than 200' in the south to nearly 2700' in the eastern part of the basin (Stone et al., 1983).

Baltz (1967) subdivided the San Jose Formation into four members. In the area of this well, the lower third to half of the formation is made up of the Cuba Mesa Member, a conglomeratic arkosic sandstone containing lenticular shales and pebbles of volcanic rock in places. The Cuba Mesa Member is thought to have been deposited by streams flowing to the west and southwest from highlands east and northeast of the present basin boundary, composed of granite and metamorphic rocks of Precambrian age (Baltz, 1967).

The Llaves Member overlies the Cuba Mesa Member and contains massive beds of resistant arkosic conglomeratic sandstone, and numerous thin beds of clay, shale and mudstone. The Llaves Member is thought to be a large, narrow northwest-trending fan deposited in the deepest part of the central basin by streams flowing northwestward from a Precambrian terrain in the position of the present Brazos and Sangre de Cristo uplifts (Baltz, 1967). The Llaves Member inter-tongues and grades into the Regina Member where present, but is not present at this location.

In this location, the Tapacitos Member lies above a persistent sandstone in the Llaves Member (Baltz, 1967). The Tapacitos is a silty to sandy mudstone containing interbedded, thin, poorly-consolidated sandstone, claystone, and an abundance of swelling clays (Stone et al., 1983) which would act as an aquitard to the underlying Llaves and Cuba Mesa Members.

Hydraulic Properties

Tertiary and Quaternary hydrologic properties, regional flow patterns and water quality do not vary significantly from unit to unit. Where pumping levels and drilling depths are economically feasible and where water quality is suitable, the San Jose, Nacimiento and Animas Formations are a source of water for public-supply, commercial, private-domestic and livestock use. Water in the San Jose, Nacimiento and Animas Formations occurs under both water table and artesian conditions. Recharge to the aquifers is from infiltration of precipitation and stream flow on outcrops, and from vertical upward leakage of water from underlying strata (Levings et al., 1990). Rates of such leakage, however, are very low except in areas of intense fracturing (Stone et al., 1983).

Because of their lithology, the better-qualifying zones in the San Jose Formation would be the Cuba Mesa and Llaves Members. Cuba Mesa wells may yield 30 to 60 gallons per minute (gpm). Specific capacity of one well described is 0.23 gpm per foot of drawdown at 1 hour of pumping. The Cuba Mesa aquifer of the San Jose will yield water suitable for livestock and industrial use. The aquifers of Tertiary rocks yield water that is characteristically high in ions of sodium and sulfate. The removal of iron may be required (Stone et al., 1983).

Hydrology & Conclusion

A records search of the NM Office of the State Engineer iWaters database was conducted in a nine-section search centered on the section in which lies the Ora #5 well location, 25N 3W section 21. Two water wells with depth to water measurements were located. One in the NE/4 of section 22, measured depth to water at 850', ground elevation 7400'. The second in the NE/4 of section 27, depth to water 650', ground elevation 7370'. No water well records were located in section 21. Topography accounts for this range of depths to water. The Ora #5 location is at a ground elevation of 7340'. It can then be concluded that depth to water at the Ora #5 location is well over 100'.

References

Baltz, E.H., 1967, Stratigraphy and Regional Tectonic Implications of Part of Upper Cretaceous Rocks, East-Central San Juan Basin, New Mexico, USGS Professional Paper 552, 101p.

Fassett, J.E., 1974, Cretaceous and Tertiary Rocks of the Eastern San Juan Basin, in Guidebook of Ghost Ranch, Central-Northern New Mexico, New Mexico Geological Society, 25th Field Conference, 404p.

Levings, G.W., Craigg, S D., Dam, W.L., Kernodle, J.M., and Thorn, C.R., 1990, Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan Structural Basin, New Mexico, Colorado, Arizona, and Utah, USGS Hydrologic Investigations Atlas HA-720-A, 2 sheets.

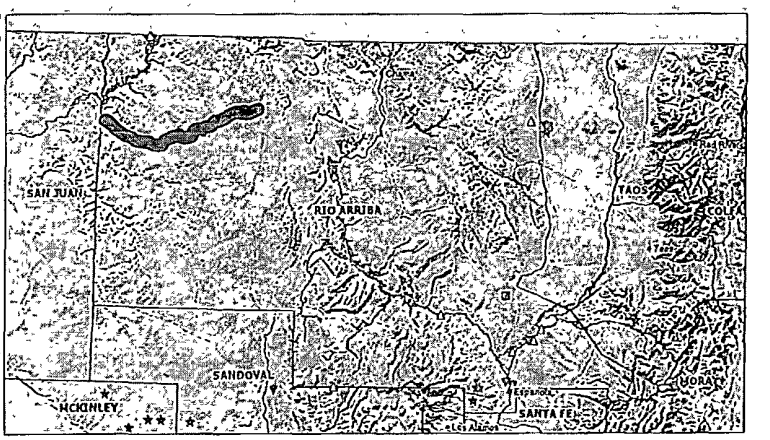
Scholle, P.A., 2003, Geologic Map of New Mexico 1:500,000, NM Bureau of Geology and Mineral Resources, published in cooperation with the USGS, 2 sheets.

Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T , 1983, Hydrogeology and water resources of San Juan Basin, New Mexico, New Mexico Bureau of Mines and Mineral Resources, Hydrologic Report 6, 70p.

Rio Arriba Mines, Mills And Quarries Web Map

Mines, Mills & Quarries Commodity Groups

- Aggregate & Stone Mines
- Coal Mines
- Industrial Minerals Mines
- Industrial Minerals Mills
- Metal Mines and Mill Concentrate
- Potash Mines & Refineries
- Smelters & Refinery Ops.
- Uranium Mines

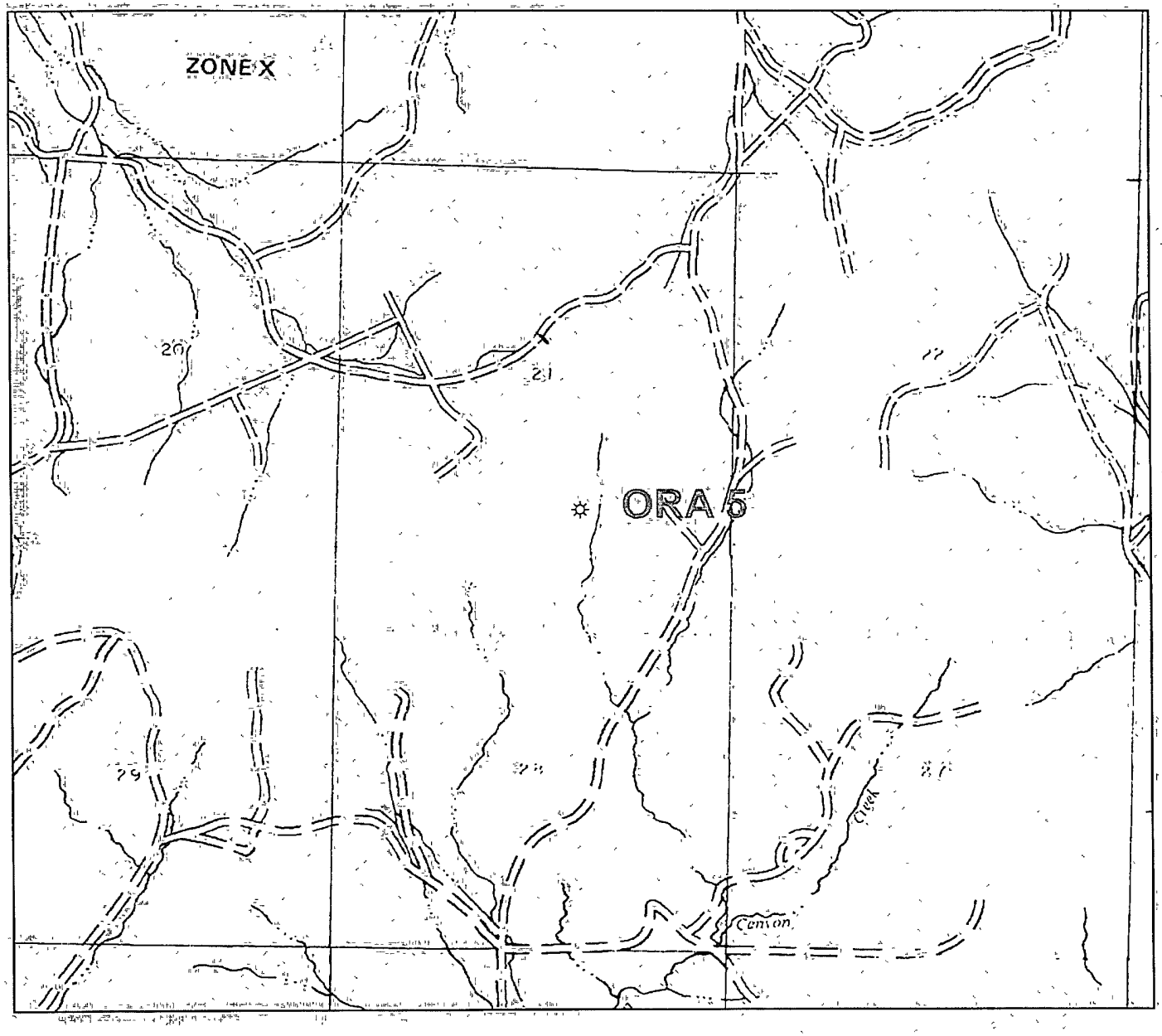


SCALE 1 : 2,371,842

20 0 20 40 60

MILES

N



1:24,000

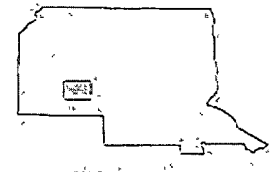
0 950 1,900 3,800 5,700 7,600 Feet

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

RIO ARRIBA COUNTY,
NEW MEXICO
UNINCORPORATED AREAS

PANEL 775 OF 1325
(SEE MAP INDEX FOR PANELS NOT PRINTED)

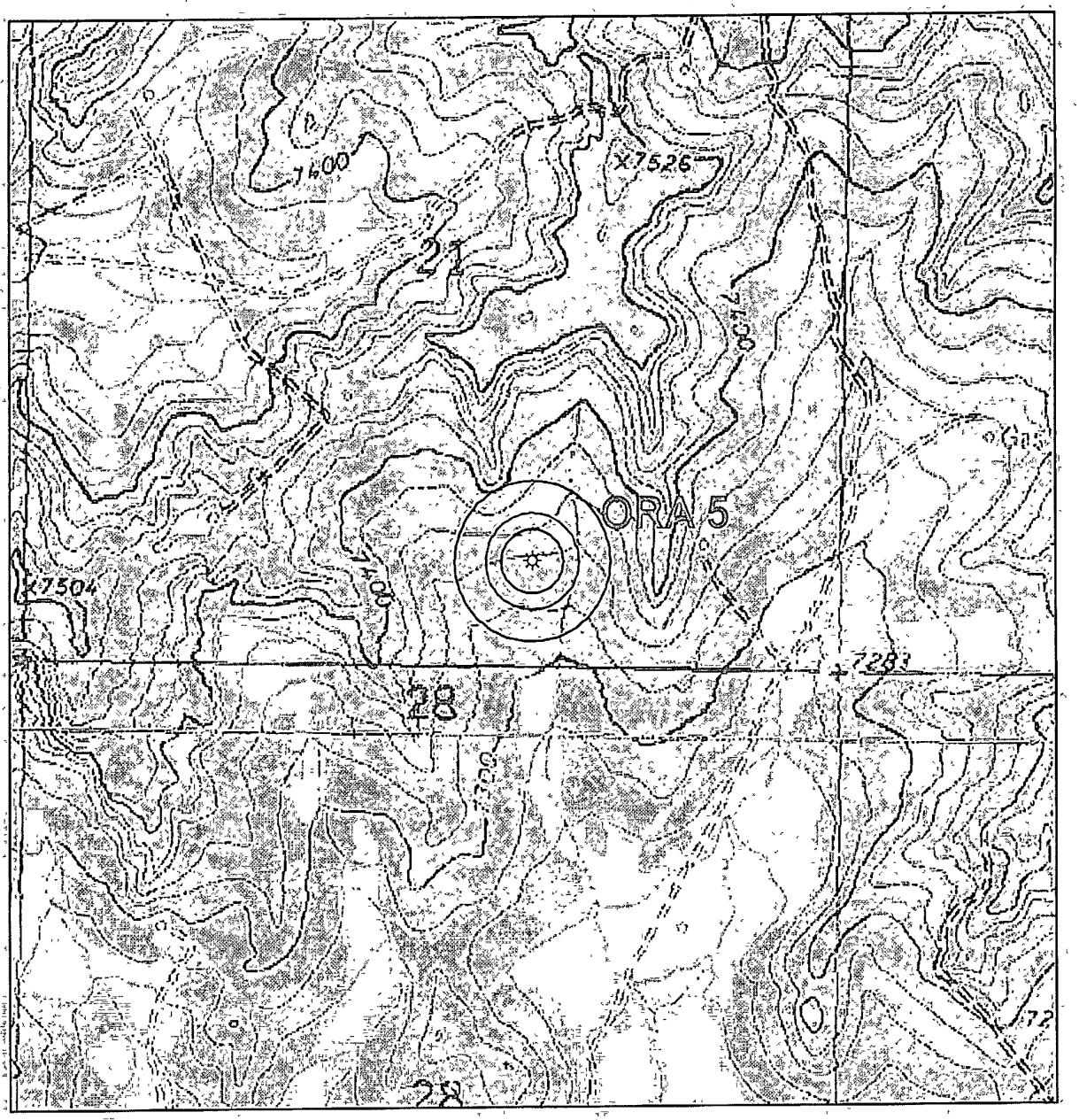


PANEL LOCATION

COMMUNITY-PANEL NUMBER
350049 0775 B

EFFECTIVE DATE:
JANUARY 5, 1989

Federal Emergency Management Agency



1:12,000

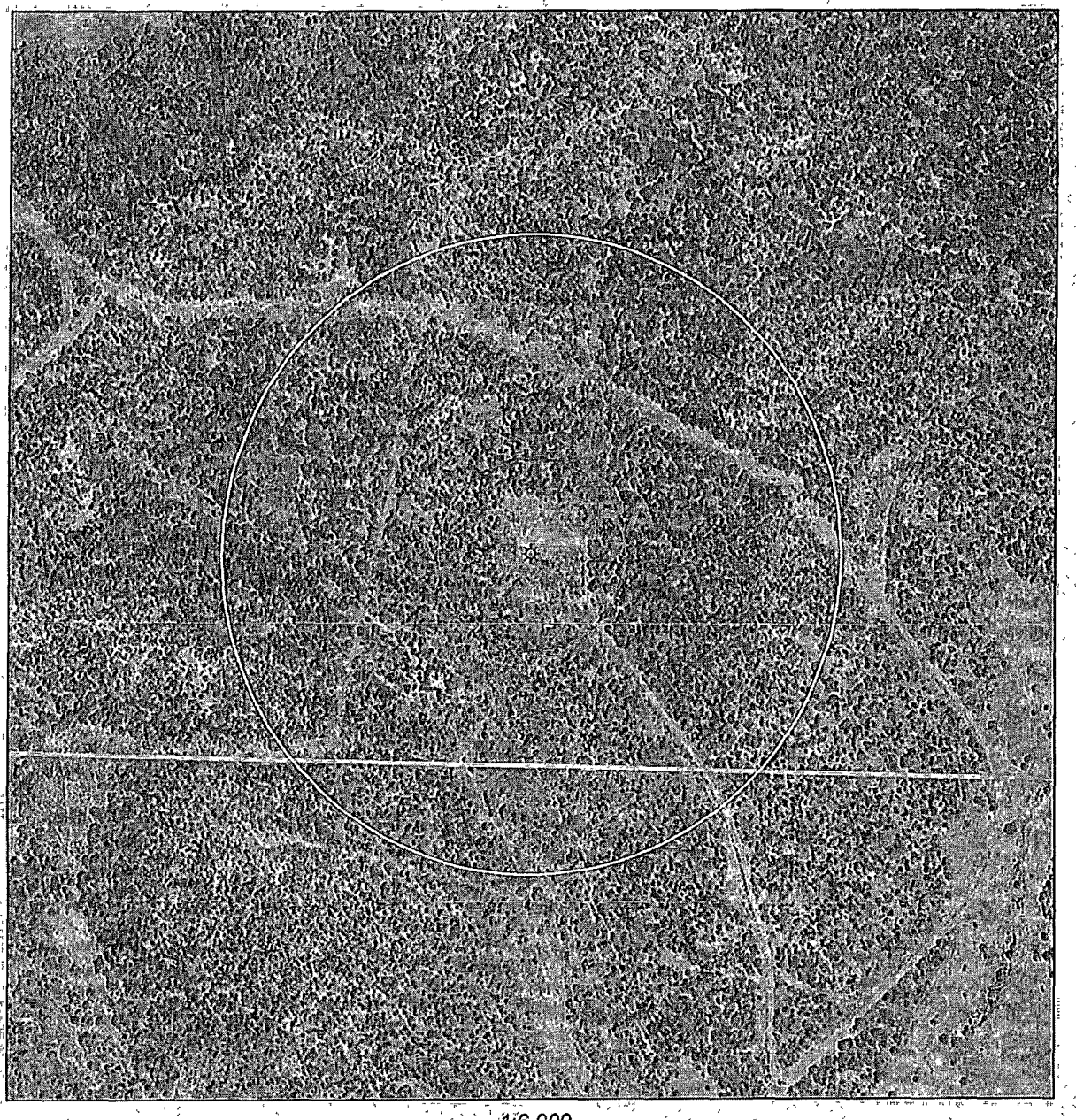
0 500 1,000 2,000 3,000 4,000 Feet

Legend

- McElvain Well & 200' Radius
- McElvain Well & 300' Radius
- McElvain Well & 500' Radius

Source: USGS 1:24,000 Scale Topographic Map Series

San Juan Basin
New Mexico
Township 25N 3W
Section 21



1:6,000

0 250 500 1,000 1,500 2,000 Feet

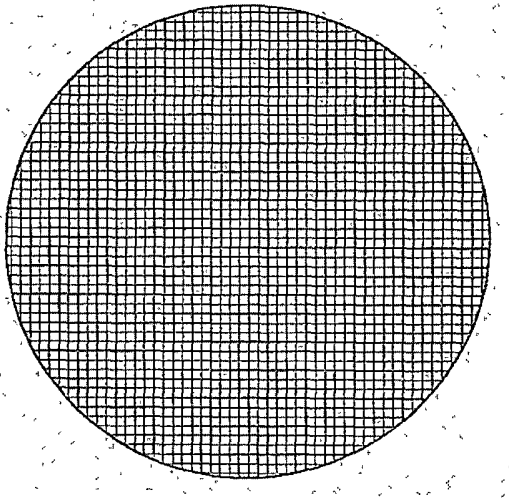
Legend

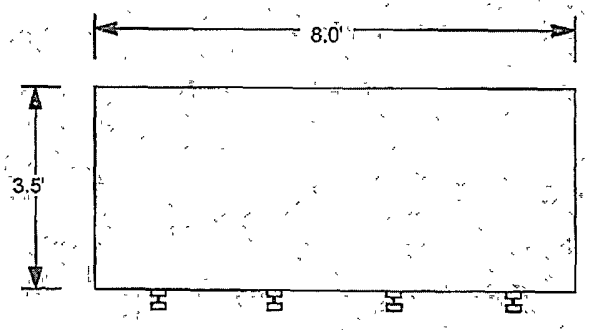
McElvain Well & 300' Radius

McElvain Well & 1000' Radius

Aerial Source: NM Resource Geographic Information System Program made available by the Univeristy of New Mexico and the State of New Mexico 2005-2006 vintage Digital Orthophoto Quarter-Quadrangles were derived from the New Mexico Statewide Orthophotography Project. Source imagery flown at 35,000' above average ground.

San Juan Basin
New Mexico
Township 25N 3W
Section 21





McElvain Oil & Gas Properties, Inc.

8' X 3.5' 34 BBL Single wall Fiberglass Pit Tank on I-Beams with Nylon Mesh cover

9-5-2008

ORA #3

Siting Criteria Compliance Demonstrations

Depth to ground water is more than 50' below the bottom of the Ora #5 below-grade tank (NM Office of the State Engineer – iWaters database).

The location of the Ora #5 below-grade tank is not located within 300' of any continuously flowing watercourse or 200' from any other water course (USGS Topographic Map Series).

The location of the Ora #8 below-grade tank is not located 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 a of any other fresh water well or spring, in existence at the time of initial application (NM Office of the State Engineer – iWaters database).

The Ora #5 well location is not within 500' of a wetland (USGS Topographic Map Series).

The Ora #5 well location is not located over a mine nor is it located on the side of a hill (NM EMNRD – Mining and Mineral Division Map).

Ora #5 well is not located in an unstable area (USGS Topographic Map Series).

Nor does the location exist within a FEMA mapped 100 year flood plain.

McElvain Oil & Gas Properties, Inc.
San Juan Basin
Below Grade Tank Design and Construction

In accordance with Rule 19.15.17 NMAC the following describes the as-built construction of the Below Grade Tank on the McElvain Oil & Gas Properties, Inc (MOG) Ora #5 well located in the SWSE of Sec 21, T25N, 3W.

As-built Installation:

1. The existing tank pit consists of an approximate 19 foot by 19 foot by 2 foot earth walled hole into which a 8 foot by 4 foot fiberglass, open sided, 35 bbl tank without leak detection is installed.
2. The tank walls are open for visual inspection to identify the occurrence of leaks.
3. There is a nylon meshed covering on the top of the below grade tank.
4. The tank pit is surrounded by a 30ft X 30ft X 2ft berm that is contained within a 50 ft X 140 ft berm that encloses the tank battery to prevent overflow or surface water run-on.
5. A general location sign is displayed on site.
6. The pit tank is fenced with 4 foot field fence with a top rail.

McElvain Oil & Gas Properties, Inc.
San Juan Basin
Below Grade Tank Maintenance and Operating Plan

In accordance with Rule 19.15.17 NMAC the following describes the below grade tank operation and maintenance plan for the McElvain Oil & Gas Properties, Inc (MOG) on the Ora #5 well located in the SWSE of Sec 21, T25N, 3W.

General Plan:

1. MOG shall operate and maintain the below grade tank to contain liquids and solids and prevent contamination of fresh water to protect the public health and environment.

2. MOG shall not allow a below grade tank to overflow or allow surface water run-on to enter the below grade tank.

3. MOG shall continuously remove any visible or measurable layer of oil from the fluid surface of a below grade tank in an effort to prevent significant accumulation of oil over time.

4. MOG shall inspect the below grade tank monthly and maintain a written record of each inspection for five years.

5. MOG shall maintain adequate freeboard to prevent overtopping of the below grade tank.

McElvain Energy, Inc.
San Juan Basin
Below Grade Tank Closure Plan

In accordance with Rule 19 15.17.13 NMAC the following information describes the closure requirements of Below Grade Tanks (BGTs) on McElvain Energy, Inc. locations. This is MCELVAIN ENERGY, INC.'s standard procedure for all BGTs. A separate plan will be submitted for any BGT which does not conform to this plan.

General Requirements.

1. MCELVAIN ENERGY, INC shall close a below-grade tank within the time periods provided in 19 15.17 13 NMAC, or by an earlier date that the division requires because of imminent danger to fresh water, public health or the environment

2. MCELVAIN ENERGY, INC shall close a permitted below-grade tank within 60 days of cessation of the below-grade tank's operation. The closure report will be filed on C-144

3 MCELVAIN ENERGY, INC. shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011). The liner will be disposed of at the San Juan County Landfill located on CR 3100.

4 MCELVAIN ENERGY, INC. will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. Documentation of how the below-grade tank was disposed of or recycled will be provided in the closure report

5. If there is any on-site equipment associated with a below-grade tank, then BR shall remove the equipment, unless the equipment is required for some other purpose.

6 MCELVAIN ENERGY, INC. shall test the soils beneath the below-grade tank to determine whether a release has occurred. MCELVAIN ENERGY, INC. shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides. MCELVAIN ENERGY, INC shall notify the division of its results on form C-141

Components	Tests Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	0 2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418 1	100
Chlorides	EPA 300 1	250

12/29/2011

7 If the samples exceed the limits above it will be determined that a release has occurred, then MCELVAIN ENERGY, INC shall comply with the applicable spill and release rules as appropriate.

8 If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19 15.17 13 NMAC, then MCELVAIN ENERGY, INC shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover, recontour and re-vegetate the site.

9. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following.
    i. Operator's name
    ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.

10. The surface owner shall be notified of MCELVAIN ENERGY, INC 's closing of the below-grade tank prior to closure as per the approved closure plan via certified mail, return receipt requested

11 Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.

12. MCELVAIN ENERGY, INC. shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) 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. Repeat seeding or planting will be continued until successful vegetative growth occurs.

13 A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.

14. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
    - Soil Backfilling and Cover Installation
    - Re-vegetation application rates and seeding techniques
    - Photo documentation of the site reclamation
    - Confirmation Sampling Results
    - Proof of closure notice