

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.

1045

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

- 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 17<sup>th</sup> Street, Suite 1800, Denver, CO 80265  
Facility or well name: Ora #8  
API Number: 30-039-29702 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr M Section 15 Township 25N Range 3W County: Rio Arriba  
Center of Proposed Design: Latitude 36.393836 deg. N Longitude -107.138155 deg. 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 \_\_\_\_\_

**RCVD JAN 9 '12**  
**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: 95 bbl Type of fluid: Oil & Water  
Tank Construction material: Steel  
☒ 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 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 Expanded Metal
- ☐ 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	
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)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Topographic map; Visual inspection (certification) of the proposed site	
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application ( <i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i> )	<input type="checkbox"/> Yes <input type="checkbox"/> No
- Visual inspection (certification) of the proposed site, Aerial photo; Satellite image	<input checked="" type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application ( <i>Applies to permanent pits</i> )	<input type="checkbox"/> Yes <input type="checkbox"/> No
- Visual inspection (certification) of the proposed site, Aerial photo; Satellite image	<input checked="" type="checkbox"/> 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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site	
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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Written confirmation or verification from the municipality; Written approval obtained from the municipality	
Within 500 feet of a wetland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	
Within the area overlying a subsurface mine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	
Within an unstable area.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources; USGS, NM Geological Society, Topographic map	
Within a 100-year floodplain	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- FEMA map	

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<sub>2</sub>S, 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  
☐ AlternativeProposed 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): Jim McKinney Title: Operations Engineer

Signature: Jim McKinney Date: 12/8/2011

e-mail address: jimm@McElvain.com Telephone: 303-893-0933\_X379

20.

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

OCD Representative Signature: Jonathan D. Kelly Approval Date: 1/09/2012

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: \_\_\_\_\_

District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer 00, Artesia, NM 88211-0719

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

2005 NOV 21 PM 12:12 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-039-29702</b>	Pool Code <b>39189</b>	Pool Name <b>LINDRITH GALLUP-DAKOTA, WEST</b>
Property Code <b>29123</b> ✓	Property Name <b>DRA</b> ✓	Well Number <b>8</b> ✓
GRID No. <b>22044</b> ✓	Operator Name <b>McELVAIN OIL &amp; GAS PROPERTIES</b>	Elevation <b>7306</b> ✓

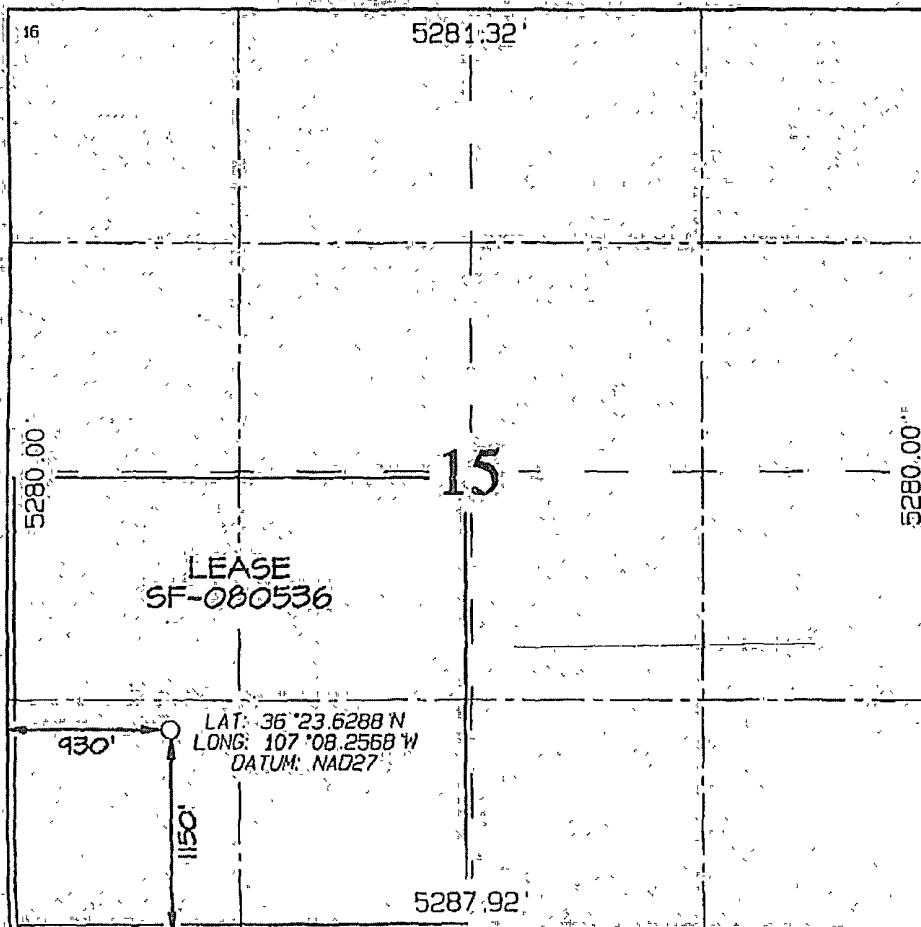
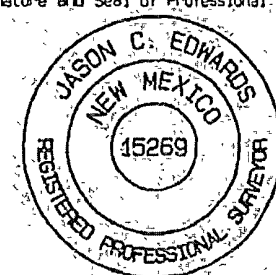
10 Surface Location

U. or lot no. <b>M</b>	Section <b>15</b>	Township <b>25N</b>	Range <b>3W</b>	Lot, Idn. <b></b>	Feet from the <b>1150</b>	North/South line <b>SOUTH</b>	Feet from the <b>930</b>	East/West line <b>WEST</b>	County <b>RIO ARriba</b>
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11 Bottom Hole Location If Different From Surface

U. or lot no. <b></b>	Section <b></b>	Township <b></b>	Range <b></b>	Lot, Idn. <b></b>	Feet from the <b></b>	North/South line <b></b>	Feet from the <b></b>	East/West line <b></b>	County <b></b>
Dedicated Acres <b>160.0 Acres - SW/4</b>					Joint or Infill <b></b>	Consolidation Code <b></b>	Order No. <b></b>		

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

	<p>16</p>	<p>5281.32'</p>	<p>15</p>	<p>5280.00'</p>	<p>5287.92'</p>
	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Robert E. Fielder</i> Signature <b>Robert E. Fielder</b> Printed Name <b>Agent</b> Title <b>November 18, 2005</b> Date</p> <p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Survey Date: <b>APRIL 22, 2005</b></p> <p>Signature and Seal of Professional Surveyor</p> <p> <b>JASON C. EDWARDS</b> Certificate Number <b>15269</b></p>				

**New Mexico Office of the State Engineer**  
**POD Reports and Downloads**

Township: 25N Range: 02W Sections: 9,10,11,14,15,16,21,22,23

NAD27 X: Y: Zone: Search Radius:

County: Basin: 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 09/10/2008**

(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 02477	25N	02W	09	4	3	1				260	100	16
SJ 02736	25N	02W	10	4	1	1				375	60	31
SJ 01751	25N	02W	11	1	2	3				372	90	28
SJ 03461	25N	02W	11	1	2	3	C	272432	1971609	265	160	10
SJ 01754	25N	02W	14	3						192	90	10
SJ 03292	25N	02W	14	3	3	4				260		
SJ 03028	25N	02W	16	1	1	1				230	105	12

Record Count: 7

# Hydrogeological Report For

## Ora #8

### 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 #8 well location, 25N 3W section 15. 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 SE/4 of section 23, depth to water 75', ground elevation 7220'. No water well records were located in section 15. Topography accounts for this range of depths to water. The Ora #8 location is at a ground elevation of 7306', an elevation between that of the two water wells. It can then be concluded that depth to water at the Ora #8 location is over 75'.

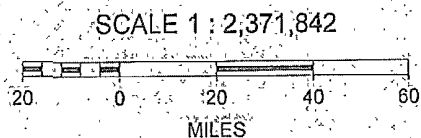
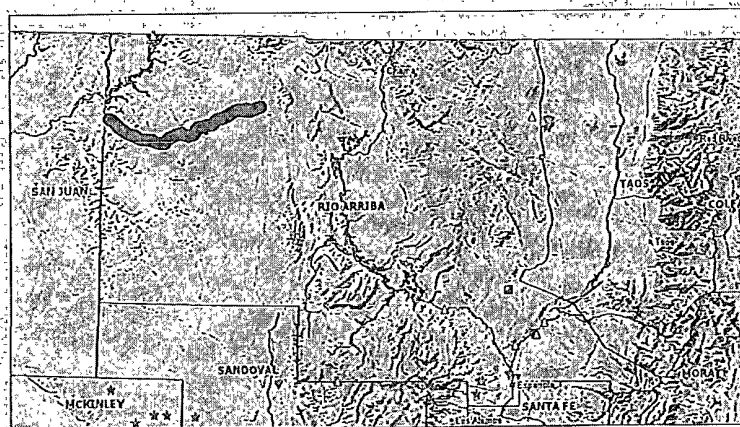
## References

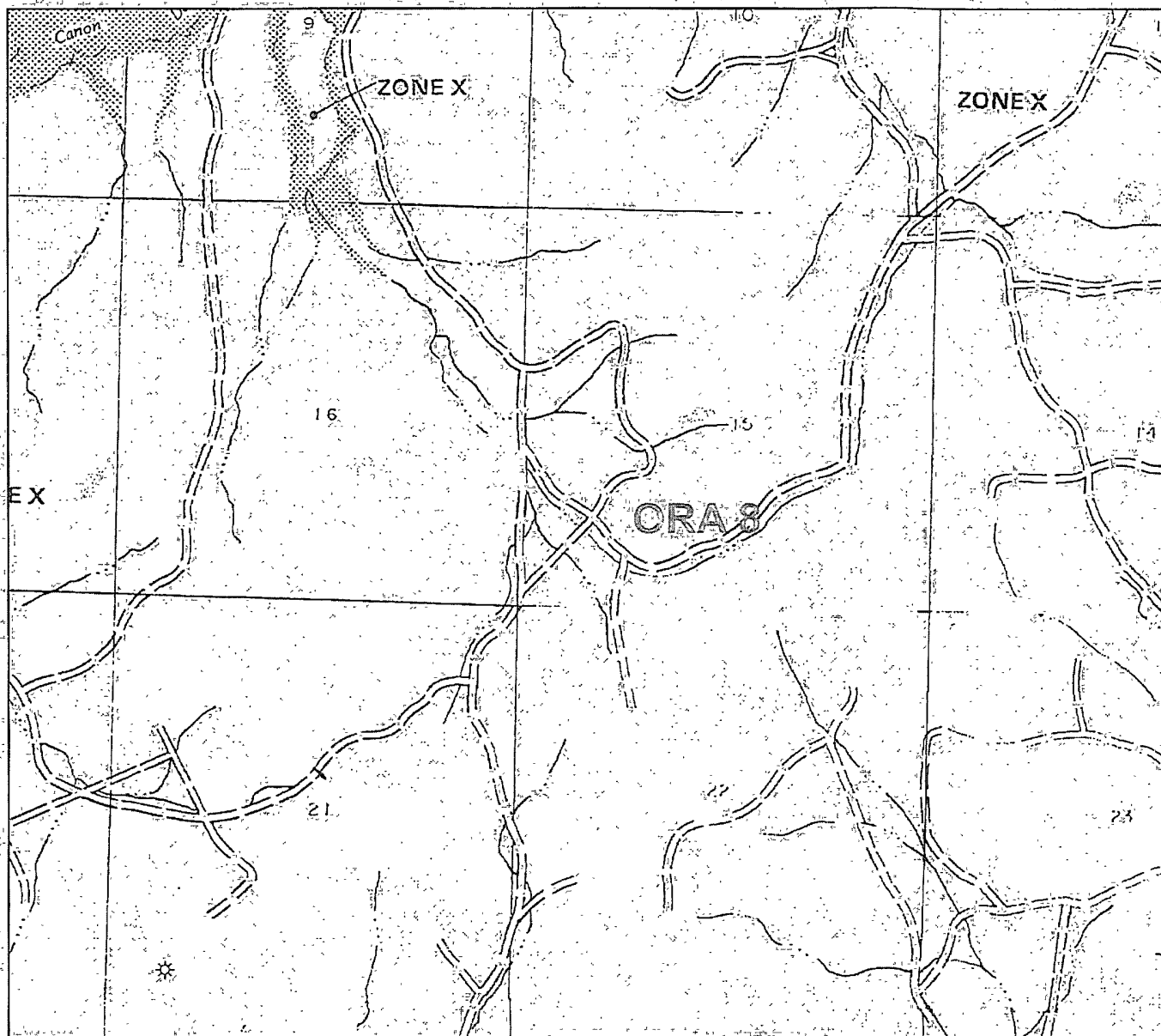
- Baltz, E.H., 1967, Stratigraphy and Regional Tectonic Implications of Part of Upper Cretaceous Rocks, East-Central San Juan Basin, New Mexico, USGS Professional Paper 552, 101p.
- Fassett, J.E., 1974, Cretaceous and Tertiary Rocks of the Eastern San Juan Basin, in Guidebook of Ghost Ranch, Central-Northern New Mexico, New Mexico Geological Society, 25<sup>th</sup> Field Conference, 404p.
- Levings, G.W., Craig, 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

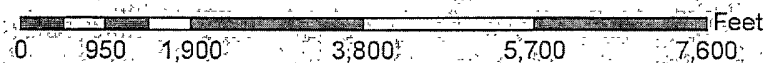
## Mines, Mills & Quarries Commodity Groups

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





1:24,000



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP

**RIO ARriba COUNTY,  
NEW MEXICO**  
UNINCORPORATED AREAS

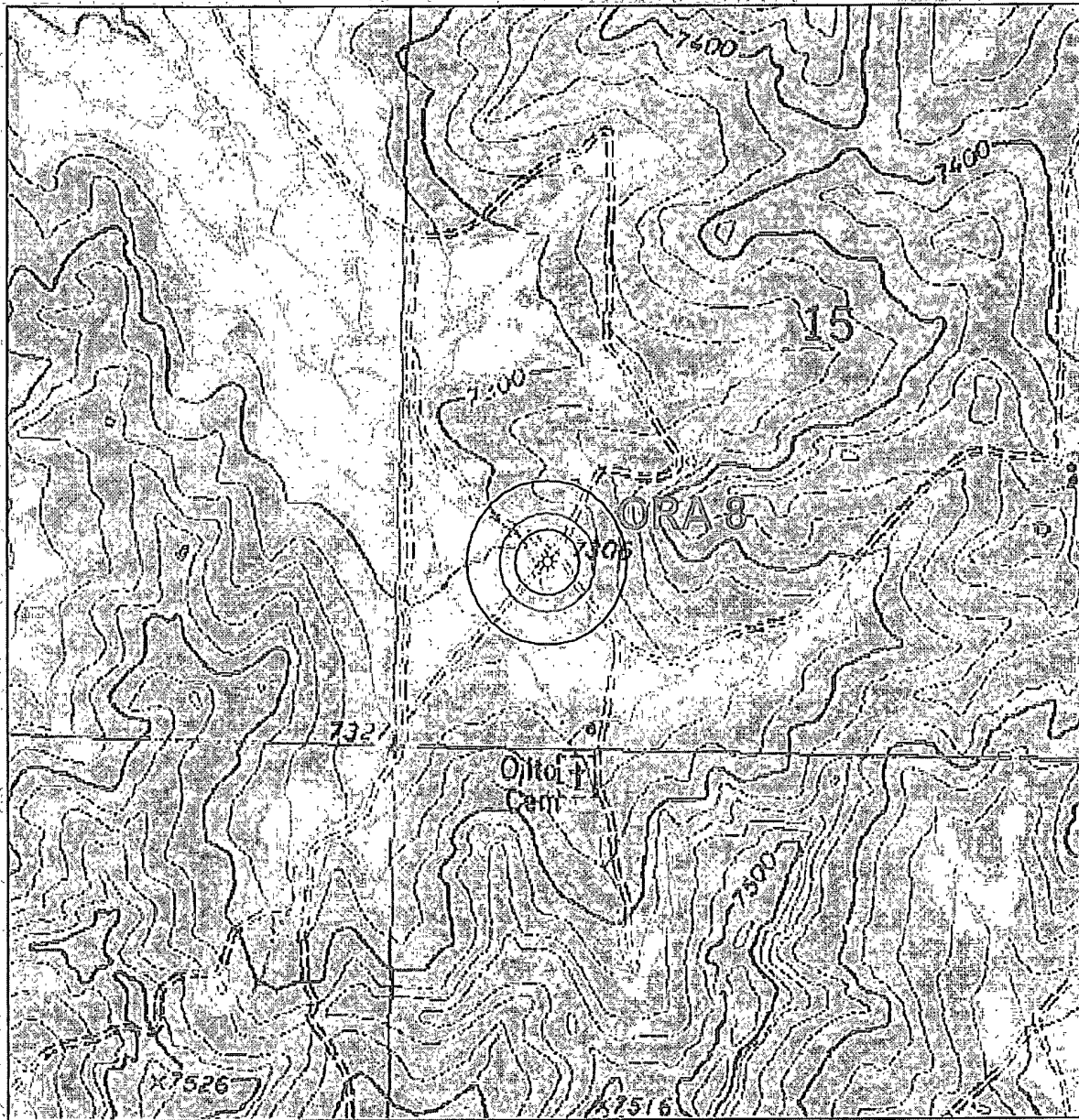
PANEL 775 OF 1325  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION




**COMMUNITY-PANEL NUMBER**  
350049.0775 B

**EFFECTIVE DATE:**  
JANUARY 5, 1989

Federal Emergency Management Agency

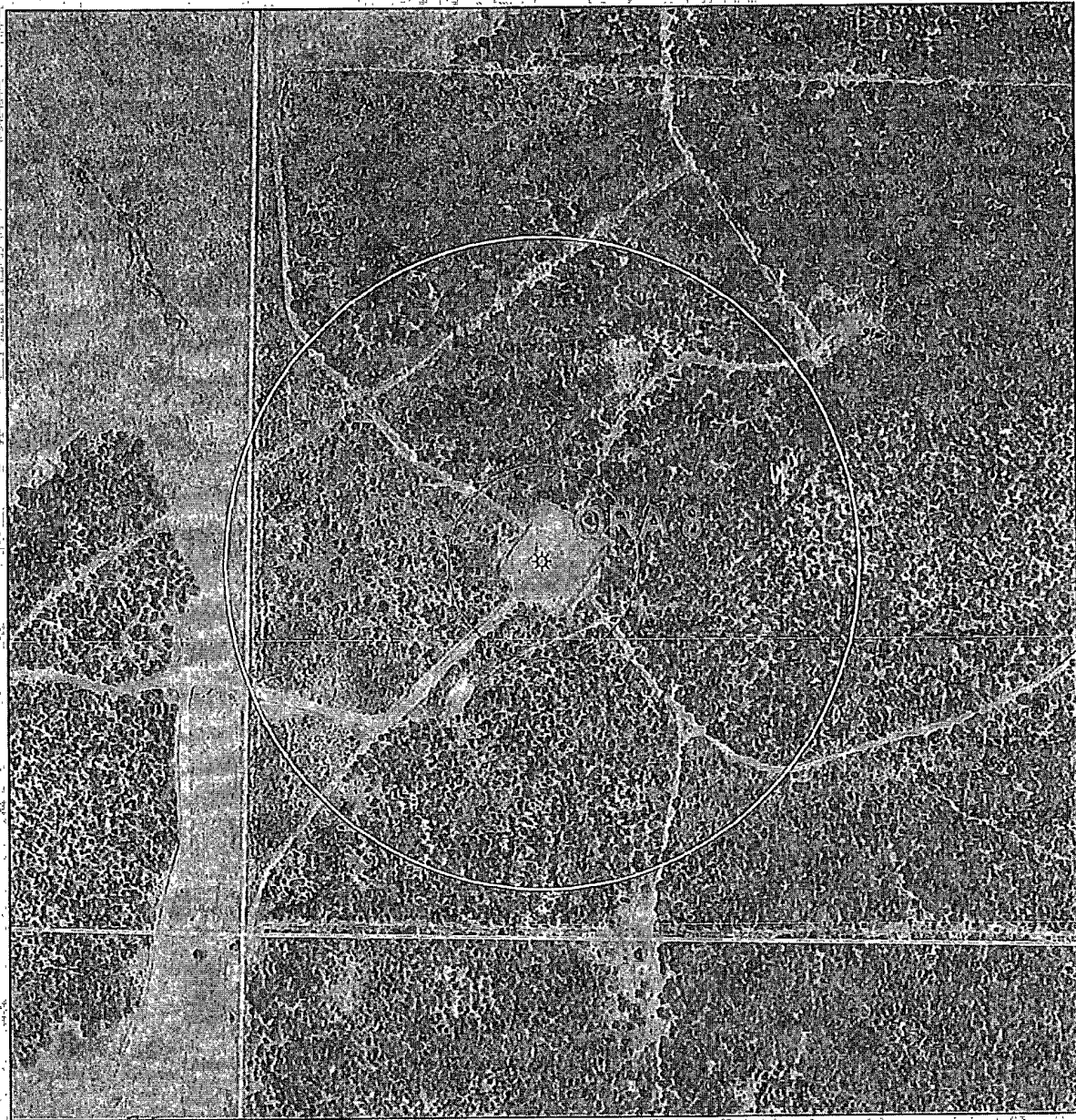


### Legend

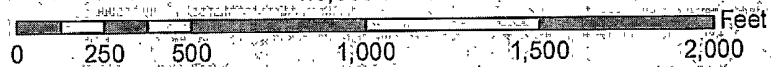
-  McElvain Well & 200' Radius
-  McElvain Well & 300' Radius
-  McElvain Well & 500' Radius

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

San Juan Basin  
New Mexico  
Township 25N 3W  
Section 15



1:6,000



### Legend



McElvain Well & 300' Radius

McElvain Well & 1000' Radius

Aerial Source: NM Resource Geographic Information System  
 Program made available by the University 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 15

### **Siting Criteria Compliance Demonstrations**

Depth to ground water is more than 50' below the bottom of the Ora #8 below-grade tank (NM Office of the State Engineer – iWaters database).

The location of the Ora #8 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 #8 well location is not within 500' of a wetland (USGS Topographic Map Series).

The Ora #8 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 #8 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.

[illegible]



**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 #8 well located in the SWSW of Sec 21, T25N, 3W.

**As-built Installation:**

1. The existing tank pit consists of an approximate 15 foot by 15 foot metal shored hole into which a 12 foot by 5 foot single walled, double bottomed, steel, 95 bbl tank with leak detection is installed.
2. The tank walls are open for visual inspection to identify the occurrence of leaks.
3. There is an expanded metal 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 #8 well located in the SWSW 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

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