

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
June 24, 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.

0435

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

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.

Operator: McElvain Oil & Gas Properties, Inc. OGRID #: 22044
Address: 1050 17th Street, Suite 1800
Facility or well name: Dewey #1 Pit extension Approved 5/2/2008 – Extended to 11/18/2008
API Number: 30-045-34323 OCD Permit Number: _____
U/L or Qtr/Qtr A Section 19 Township 30N Range 13W County: San Juan
Center of Proposed Design: Latitude 36.80389 N Longitude -108.24120W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ Steel Pit
☒ Lined ☐ Unlined
Liner type: Thickness 12 mil ☐ LLDPE ☐ HDPE ☐ PVC
☒ Other Woven CD12WB ☐ String-Reinforced
Seams: ☐ Welded ☒ Factory ☐ Other _____
Volume: 2850 bbl Dimensions: L 80 x W 25 x D 8

☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
☐ Drying Pad ☐ Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined
Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC
☐ Other _____
Seams: ☐ Welded ☐ Factory ☐ Other _____
Volume: _____ bbl _____ yd³
Dimensions: Length _____ x Width _____

☐ **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 _____

Fencing: Subsection D of 19.15.17.11 NMAC
☐ Chain link, six feet in height, two strands of barbed wire at top
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet **Four Feet –Hog wire- 1 Strand Barbed Wire - top**
Netting: Subsection E of 19.15.17.11 NMAC
☐ Screen ☐ Netting ☐ Other _____
☐ Monthly inspections
Signs: Subsection C of 19.15.17.11 NMAC
☒ 12"x24", 2' lettering, providing Operator's name, site location, and emergency telephone numbers
☐ Signed in compliance with 19.15.3.103 NMAC

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

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.



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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input 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. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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 - 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: _____

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 (required for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations (required 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 - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

NMAC

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

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

Proposed Closure: 19.15.17.13 NMAC

Type: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ 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)

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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> 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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> 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 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> 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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within 500 feet of a wetland.
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within the area overlying a subsurface mine.
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within an unstable area.
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within a 100-year floodplain.
- FEMA map | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

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

Waste Removal Closure For Closed-loop Systems That Utilize 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.*

Disposal Facility Name: JFJ Land Farm Disposal Facility Permit Number: NM1-10-B

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 and Design of Burial Trench (if applicable) 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

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): Deborah K Powell Title: Engineering Tech Supervisor

Signature: *Deborah K Powell* Date: 7/15/2008 re-10/31/2008

e-mail address: DebbyP@McElvain.com Telephone: 303-893-0933

OCD Approval: ☒ Permit Application (including closure plan) ☒ Closure Plan (only)

OCD Representative Signature: *Brandon Powell* Approval Date: 11-10-08

Title: *Enviro/spec* OCD Permit Number:

Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC

☐ Closure Completion Date:

Closure Method:

- ☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method
- ☐ If different from approved plan, please explain.

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
- ☐ Proof of Deed Notice (if applicable)
- ☐ Plot Plan
- ☐ Confirmation Sampling Analytical Results
- ☐ Waste Material Sampling Analytical Results
- ☐ 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

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
1825 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised October 12, 2005

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

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

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

OIL CONSERVATION DIVISION

1220 South St. Francis Dr. MAY 17 AM 11:34
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code 71629		3 Pool Name BASIN FRUITLAND COAL	
4 Property Code 23368		5 Property Name DEWEY			6 Well Number 1
7 OGRID No. 22044		8 Operator Name McELVAIN OIL AND GAS PROPERTIES, INC.			9 Elevation 5601'

10 Surface Location

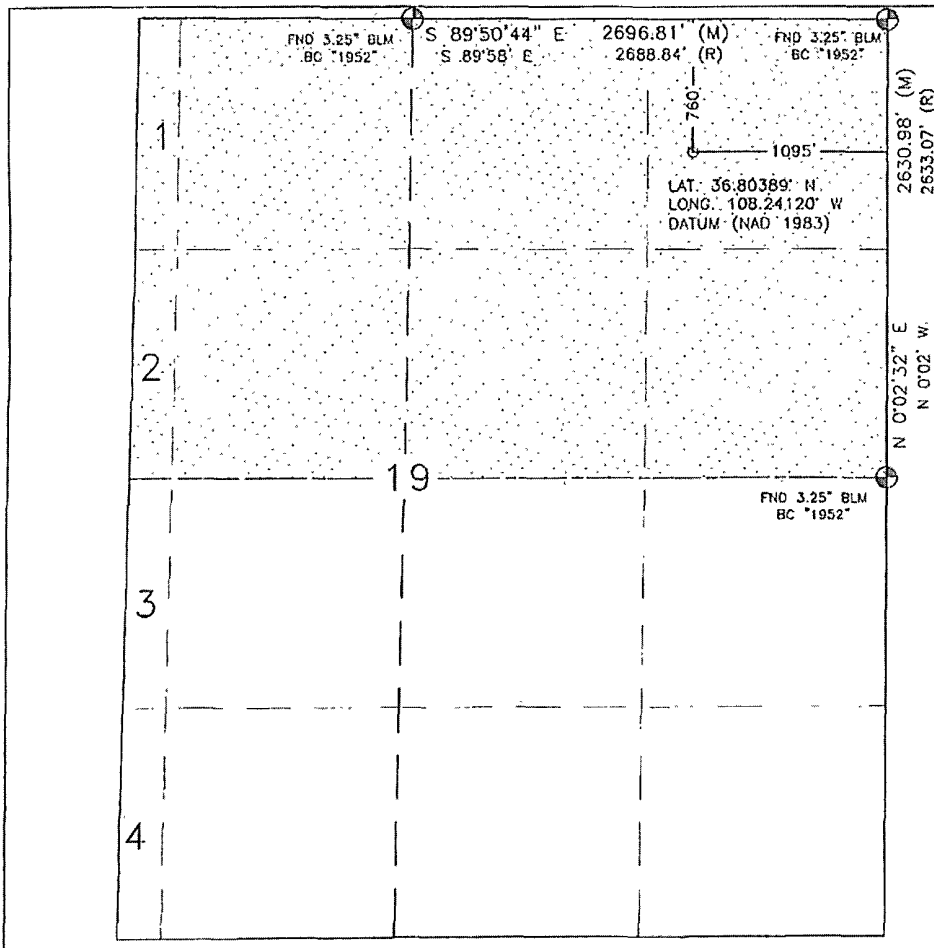
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	19	30N	13W		760'	NORTH	1095'	EAST	SAN JUAN

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 259.05 ACRES - N/2					13 Joint or Infill		14 Consolidation Code		15 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

16



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 bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner or a compulsory pooling order heretofore entered by the division.

Robert E. Felder 5/11/07
Signature Date

Robert E. Felder
Printed Name

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.

APRIL 20, 2007

Date of Survey

Signature and Seal of Professional Surveyor:

David R. Russell



DAVID RUSSELL

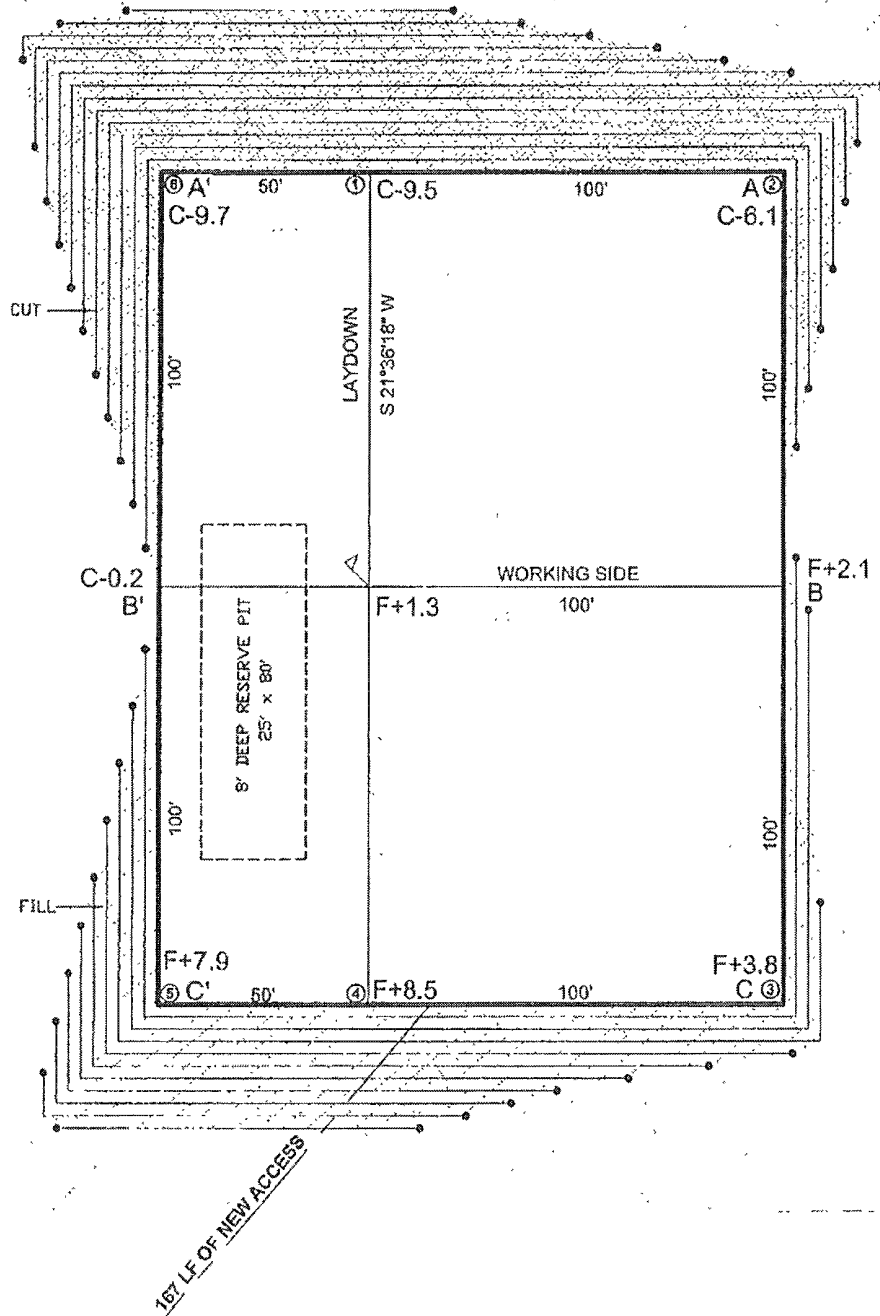
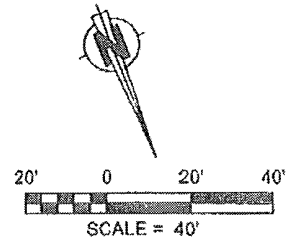
Certificate Number

10201

LATITUDE: 36.80389°N
LONGITUDE: 108.24120°W
DATUM: NAD 83

McELVAIN OIL AND GAS PROPERTIES, INC.

DEWEY #1
760' FNL & 1095' FEL
LOCATED IN THE NE/4 NE/4 OF
SECTION 19, T30N, R13W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 5601', NAVD 88
FINISHED PAD ELEVATION: 5601.8', NAVD 88



1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 40'
JOB No.: MCLV004
DATE: 04/24/07



Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637 GRR

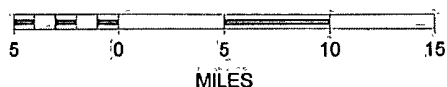
MMQonline Public Version

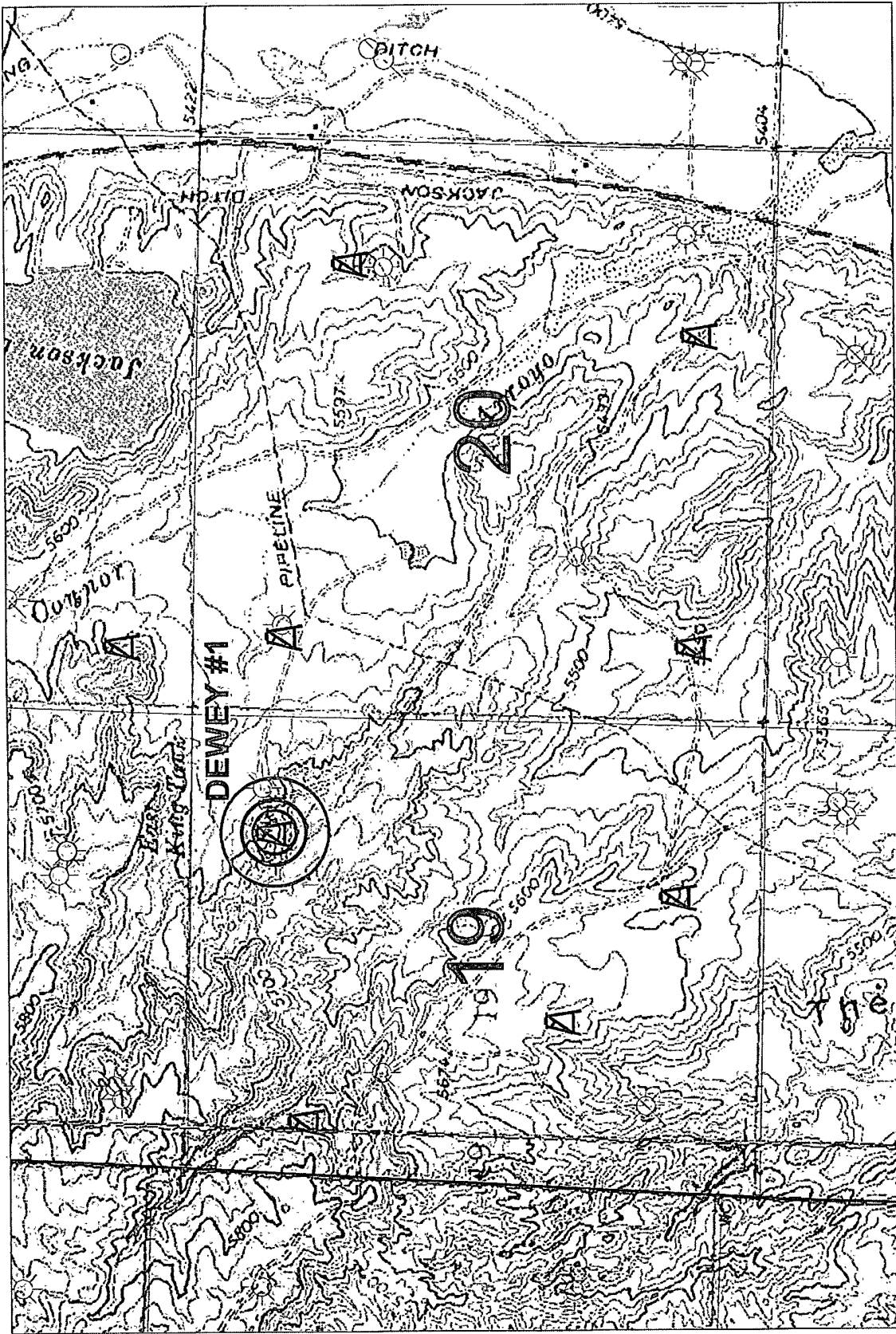
Mines, Mills & Quarries Commodity Groups


-  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 1:539,126





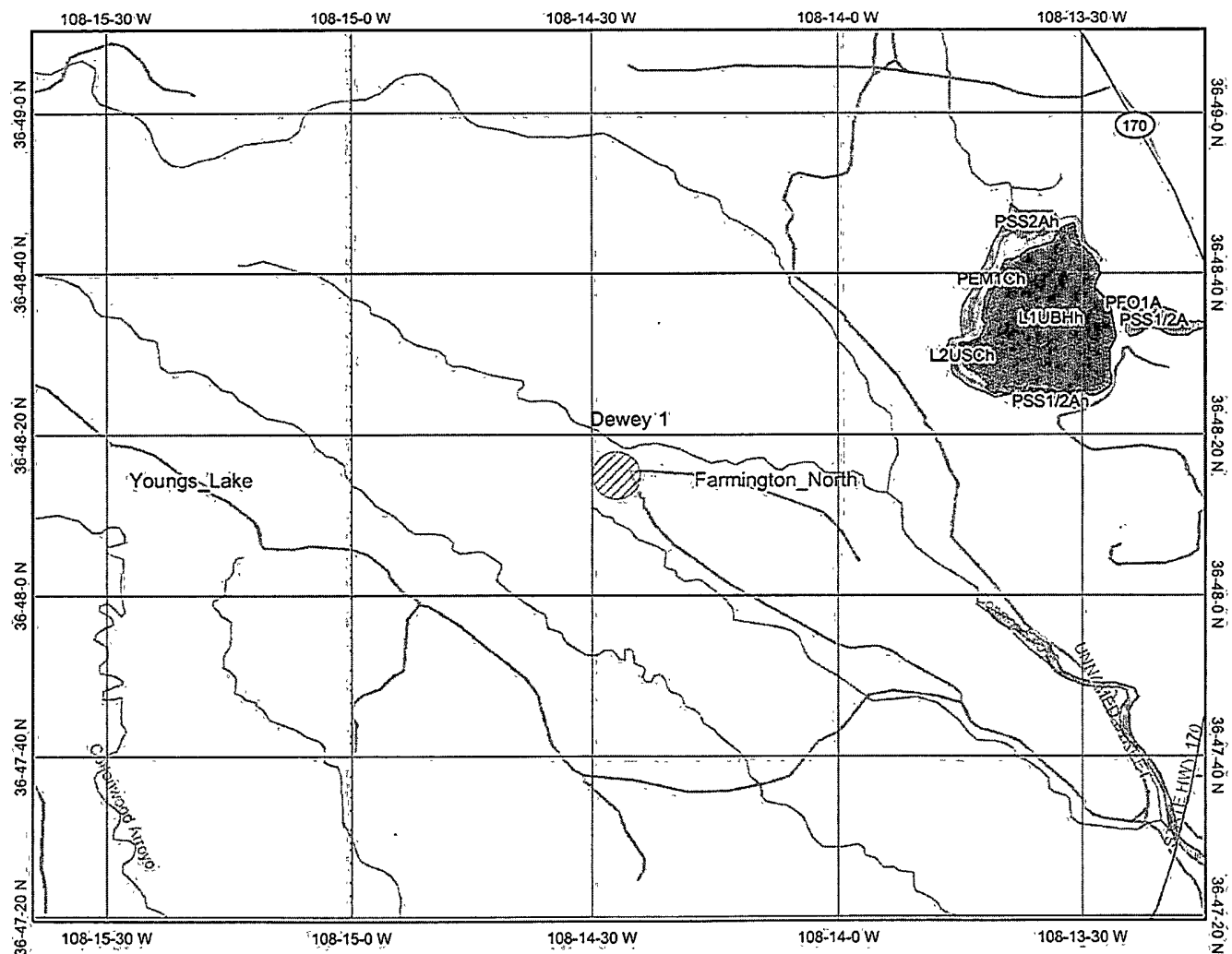


Mellbain Oil and Gas Properties, Inc.

<p>San Juan Basin Project Farmington Area DEWEY #1</p>	
<p>Contract: 1182</p>	<p>Date: 15 July, 2008 Drawn: Dewey #1</p>

- 200 FT
- 300 FT
- 500 FT

Dewey #1 NENE Sec 19, T30N, R13W



Legend

- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- NHD Streams
- Counties 100K
- South America
- North America



Scale: 1:24,000

Map center: 36° 48' 15" N, 108° 14' 27" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Wetlands data acquired from U.S. Fish and Wildlife - 300 ft boundary circle

Hydrogeological Report For

Dewey #1

Surface Formation:

Nacimientto and Animas Formations

Regional and Local Geology

The Tertiary Nacimientto Formation is a fluvial deposit of Paleocene age (Baltz, 1967). The Nacimientto is present at the surface in a wide swath inside the western margin of the basin from the Colorado-New Mexico state line to the south where the exposure area thins along the southern margin of the basin towards the town of Cuba, NM. From Cuba and north along the eastern margin of the basin, the Nacimientto is present at the surface as a very thin outcrop along the Nacimientto Uplift.

Much of the Nacimientto consists of shale, siltstone, and to a lesser extent limited fine- to medium-grained sandstone similar to the Cretaceous rocks of nearby regions and presumably derived by erosion from these rocks (Baltz, 1967). The Nacimientto is mainly composed of beds of clays and silts deposited in a low energy environment such as still or slowly moving water (Brimhall, 1973) or in lake-settings (Fassett, 1974). The Nacimientto's sandstone units were deposited in an environment of small, localized stream beds. Most of the sandstones extend only a few thousand feet. The Nacimientto is a non-resistant unit and typically erodes to low, rounded hills or forms badlands topography (Craig, 2001). The mudstones display popcorn weathering, characteristic of swelling clays. The slope-forming sediments are made up of poorly-consolidated sandstone, instead of shale as previously thought, possibly attributing a greater percentage of sand to the formation than previously considered (Stone et al., 1983).

The Nacimientto conformably overlies and intertongues with the Tertiary Ojo Alamo Formation in this area. Where buried, the contact of the Nacimientto with the overlying Tertiary San Jose Formation is an erosional and angular unconformity (Fassett, 1974). The Nacimientto grades laterally into late Cretaceous-early Tertiary Animas Formation in the northern third of the basin (Fassett, 1974). Therefore at this location, the Nacimientto and Animas Formations occupy the same stratigraphic interval.

The late Cretaceous-early Tertiary Animas Formation contains an abundance of material of volcanic origin. It is conglomeratic and characteristically contains boulders and pebbles of andesite in a tuffaceous matrix. The conglomeratic beds are interbedded with variegated shale and sandstone (Fassett, 1974). Less commonly, conglomerate beds contain pebbles of quartz, quartzite and chert (Fassett and Hinds, 1971). The Animas Formation is exposed at the surface only in a narrow belt at the NE margin of the basin and along the La Plata River valley north of Farmington to the Colorado-New Mexico state line.

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, Nacimientto and Animas Formations are a source of water for public-supply, commercial, private-domestic and livestock use. Water in the San Jose, Nacimientto 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).

Nacimientto and Animas sandstone "aquifers" are neither generally continuous over large distances nor do they all crop out. They grade laterally into clays and silts (Brimhall, 1973). Transmissivity for the San Jose, Nacimientto and Animas Formations is minimal. A low yield (10 gallons per minute or less) can be expected for Nacimientto and Animas Formations. However, these formations may have relatively high transmissivities in areas of small extent (Stone et al., 1983). Reported or measured discharge from 79 water wells completed in the San Jose, Nacimientto and/or Animas Formations ranges from 1-61 gallon per minute, median 6 gpm. The specific capacity of 12 of these 79 tests ranges from 0.03 to 2.30 gpm per foot of drawdown (Levings et al., 1990). 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

A records search of the NM Office of the State Engineer iWaters database was conducted on a 9-section area centered on the section in which lies the Dewey #1 well location, 30N 13W section 19. In section 17, 7 water wells were located. Average depth of water in these wells is 25', minimum 9'. In section 29, 13 wells were located; average depth of water is 31', minimum 15'. All but one well are domestic/private water wells, the one is commercial. All wells are located no closer than 5000' from the Dewey #1.

Conclusion

Based on topography and iWaters data, water depths in wells are found close to the La Plata River surface elevation. These wells are within 3500' lateral distance of the La Plata River. The Dewey #1 is located approx. 8000' from the La Plata River and 200' above the river's elevation. Considering a semi-horizontal water table, water depth at the Dewey #1 location should be at 200'.

References

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- Craig, S.D., 2001, Geologic Framework of the San Juan Structural Basin of New Mexico, Colorado, Arizona, and Utah, with Emphasis on Triassic Through Tertiary Rocks, USGS, Professional Paper 1420, scale 1:500000.
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- 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.

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

Township: Range: Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ☐ Non-Domestic ☐ Domestic ☒ All

WATER COLUMN REPORT 10/27/2008

(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 (in feet) Column
RG 22431	30N	13W	30	2						100	45	55
SJ 02943	30N	13W	17	2	1	2				60		
SJ 03029	30N	13W	17	2	2	1				65	45	20
SJ 03017	30N	13W	17	2	4	2				37	20	17
SJ 02574	30N	13W	17	2	4	4				26	9	17
SJ 00262	30N	13W	29	2						38	25	13
SJ 00868	30N	13W	29	2						49	25	24
SJ 01357	30N	13W	29	2	2					71	56	15
SJ 01040	30N	13W	29	2	2					49	20	29
SJ 03046	30N	13W	29	2	2	4				80	30	50
SJ 00448	30N	13W	29	4						45	20	25
SJ 01502	30N	13W	29	4						47	20	27
SJ 00215	30N	13W	29	4	3					55	35	20
SJ 02159	30N	13W	29	4	3					40	15	25
SJ 02754	30N	13W	29	4	4	4				65	65	
SJ 00467	30N	13W	30	4	4					36	21	15

Record Count: 16

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: Range: Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ☐ Non-Domestic ☐ Domestic ☒ All

WATER COLUMN REPORT 10/27/2008

(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 (in feet) Column
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No Records found, try again

McElvain Oil & Gas Properties, Inc.
San Juan Basin
Temporary Pit Closure Plan

In accordance with Rule 19.15.17.13 NMAC the following procedure describes the closure plan for the McElvain Oil & Gas temporary pit on the Dewey #1 well located in the NENE of Sec 19, T30N, 13W.

Closure Requirements:

1. The temporary pit will be closed in place by on-site burial prior to the pit extension closure date of November 18, 2008 as granted by the NMOCD.
2. The NMOCD district office will be notified at least 72 hours but no greater than one week in advance prior to on-site closure. Notice will include operator name, API number, and location (unit letter, section, township, and range).
3. The surface owner will be provided with the proposal by certified mail for the on-site closure procedure. Proof of notice will be attached to permit application. Also, proof of closure notice will be provided by certified mail to surface owner after closure. Proof of closure notice will be attached to final closure report.
4. All liquids will be removed from the pit prior to closure and the liquids disposed of at the Basin and/or Agua Moss disposal facilities.
5. Remove all fluids from temporary pit within 30 days and close before November 18, 2008 pit extension closure date.
6. Air dry pit contents and stabilize or solidify to a load bearing capacity sufficient to support the temporary pit's final cover.
7. A minimum five point composite sample of the pit contents will be analyzed for benzene, the GRO and DRO combined faction, BTEX, TPH, and chlorides to demonstrate that the levels do not exceed the standards as specified in 19.15.17.13 F(2)(c) or the background concentration, whichever is greater.

Components	Test Method	Limit (mg/kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8031B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	1000/500

8. Other methods if the standards in 19.15.17.9.B can not be met will include stabilization of pit contents by mixing a ratio of 3:1 with un-contaminated soil or other material. A second five point, composite sample will be taken after treatment to demonstrate that the contents do not exceed the standards. If the second soil analysis does not meet the standards, the operator will close the temporary pit using the waste excavation and removal method.
9. The pit liner will be cut off at the solids level, removed, and transported to a NMOCD approved disposal facility.
10. Stockpiled sub-surface soil will be used to backfill the pit and the well pad re-contoured so that it blends with the surrounding topography. A minimum of four feet of compacted, non-waste containing, earthen material will be used as backfill.
11. Stockpiled surface soil will be used as cover over the backfilled pit and the well pad areas no longer needed for production operations. The soil cover will include either the background thickness of top soil or one foot of suitable material to establish vegetation at the site whichever is greater.
12. The area will be re-seeded to comply with Subsections G, H, and I of 19.15.17.13 NMAC. Re-seeding will be repeated until 70% of the native natural cover is achieved and maintained for two consecutive growing seasons. The seeding method will be to drill on contour whenever possible.
13. The NMOCD will be notified once successful re-vegetation has been achieved.
14. A steel marker will be set at the center of the on-site burial following the pit closure. The marker will be 24" X 24" and will have the operator name, lease name, well number, location (UL, Sec., Twp., and Rge) and will designate "on-site burial location" lettering welded on the top side with a 4" threaded collar welded to the bottom side. The marker will be set at ground level and attached to a 4" diameter pipe that is cemented in a hole three feet deep. When the well is abandoned, a 4" diameter steel marker extending 4' above ground level will be welded to the pipe anchored in cement below the surface. The riser will have lettering welded on the side showing operator name, well number, location (US, Sec., Twp., Rge.) and that it designates an on-site burial location.
15. The closure report will be submitted within 60 days of closing and a deed notice filed with the appropriate county clerk where the on-site burial occurs.
16. Upon approval the reserve pit will be closed within 60 days from the OCD Approval date.

DENIED

Not Applied
for in the permit

McElvain Oil & Gas Properties, Inc.
San Juan Basin
Dig and Haul Pit Closure Plan

In accordance with Rule 19.15.17.13 NMAC the following procedure describes the closure plan for the McElvain Oil & Gas temporary pit on the Dewey #1 well located in the NENE of Sec 19, T30N, 13W.

Closure Requirements:

1. All free liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility.
2. The NMOCD district office will be notified at least 72 hours but no greater than one week in advance prior to on-site closure. Notice will include operator name, API number, and location (unit letter, section, township, and range).
3. The surface owner will be notified of closing of the temporary pit as per the approved closure plan by certified mail, return receipt requested.
4. All contents of the temporary pit including the pit liner will be excavated and hauled to the JFJ Land Farm. disposal facility located on CR 3150.
5. A minimum five point composite sample from the soil under the pit will be analyzed for benzene, the GRO and DRO combined faction, BTEX, TPH, and chlorides to demonstrate that the levels do not exceed the standards as specified in 19.15.17.13 B(1)(b) or the background concentration, whichever is greater.

Components	Test Method	Limit (mg/kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8031B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	1000/500

6. Upon testing standards being passed, the pit area will be backfilled with compacted, non-waste containing earthen material. The cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
7. Re-contouring of the location will match fit, shape, line, form and texture of the surrounding area. 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 placed 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.

8. Notification will be sent to the OCD when the reclaimed area is seeded.
9. The area will be re-seeded to comply with Subsections G, H, and I of 19.15.17.13 NMAC. Re-seeding will be repeated until 70% of the native natural cover is achieved and maintained for two consecutive growing seasons. The seeding method will be to drill on contour whenever possible.
10. The NMOCD will be notified once successful re-vegetation has been achieved.
11. A steel marker will be set at the center of the on-site burial following the pit closure. The marker will be 24" X 24" and will have the operator name, lease name, well number, location (UL, Sec., Twp., and Rge) and will designate "on-site burial location" lettering welded on the top side with a 4" threaded collar welded to the bottom side. The marker will be set at ground level and attached to a 4" diameter pipe that is cemented in a hole three feet deep. When the well is abandoned, a 4" diameter steel marker extending 4' above ground level will be welded to the pipe anchored in cement below the surface. The riser will have lettering welded on the side showing operator name, well number, location (US, Sec., Twp., Rge.) and that it designates an on-site burial location.
12. Upon approval the reserve pit will be closed within 60 days from the OCD approval date.

Siting Criteria Compliance Demonstrations

The Dewey #1 is not located in an unstable area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will be excavated and hauled due to the siting criteria not being met.

McELVAIN OIL & GAS PROPERTIES, INC.

1050 17th Street, Suite 1800
Denver, CO 80265

October 30, 2008

VIA CERTIFIED MAIL- RETURN RECEIPT REQUESTED
7000-1670-0008-8577-2503

Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

RE: Dewey #1
NENE Sec 19 T30N R13W
San Juan County, New Mexico

Dear Landowner,

Pursuant to paragraph 1 (b) of subsection F of 19.15.17.13 NMAC, an operator shall provide the surface owner of the operator's proposal to close the temporary pit on-site in compliance with the dig and haul closure methods specified in the same subsection of the NMAC. In compliance of this requirement, please consider this notification of McElvain's intent to close the temporary pit on the above referenced location.

If you have any questions please contact Ron Millet @ 303-893-0933 ex 375.

Sincerely

A handwritten signature in black ink, appearing to read "Deborah Powell".

Deborah Powell
Engineering Tech Supervisor