

July 21, 2008

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

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

60455

**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: Energen Resources Corporation OGRID #: 162928  
 Address: 2010 Afton Place, Farmington, NM 87401  
 Facility or well name CJ Holder #201S  
 API Number: 30045-34945 OCD Permit Number: \_\_\_\_\_  
 U/L or Qtr/Qtr B Section 27 Township 28N Range 13W County: San Juan  
 Center of Proposed Design: Latitude 36.63861 N Longitude 108.20367 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 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☒ String-Reinforced  
 Liner Seams: ☐ Welded ☒ Factory ☐ Other \_\_\_\_\_ Volume: 1200 bbl Dimensions: L 155 x W 85 x D 10

3  
☐ Closed-loop System: Subsection H of 19.15.17.11 NMAC  
 Type of Operation: ☐ P&A ☐ Drill  
☐ Drying Pad ☐ Above Ground ☐ Other \_\_\_\_\_  
☐ Lined ☐ Unlined Liner type: \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
 Liner Seams: ☐ Welded ☐ Factory  
 BY: Jonathan Kelly DATE: 7/23/2011 (505) 334-6178 Ext 122  
 applies to activities which require prior approval of a permit or notice of

4  
☐ Below-grade tank: Subsection I of 19.15.17.11 NMAC  
 Volume: \_\_\_\_\_ bbl Type of fluid: \_\_\_\_\_  
 Tank Construction material: \_\_\_\_\_  
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other \_\_\_\_\_  
 Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ 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.

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**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 \_\_\_\_\_

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

- ☐ Screen ☐ Netting ☐ Other
- ☐ Monthly inspections (If netting or screening is not physically feasible)

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**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

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**Administrative Approvals and Exceptions:**

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

- ☐ 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.

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**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
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

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**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. \_\_\_\_\_

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**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)

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**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  
☐ Quality Control/Quality Assurance Construction and Installation Plan the appropriate requirements of 19.15.17.11 NMAC  
☐ 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

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**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)

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**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 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

**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<br>- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is between 50 and 100 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><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).<br>- 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.<br>- 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.<br>- 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.<br>- 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.<br>- 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.<br>- 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.<br>- 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<br>- FEMA map  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |

**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

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**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): Jason Kincaid Title: Drilling Engineer  
 Signature: [Signature] Date: 2/2/2009  
 e-mail address: jkincaid@energen.com Telephone: 505 324-4163

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**OCD Approval:** ☐ Permit Application (incl

☐ OCD Conditions (see attachment)

**OCD Representative Signature:** \_\_\_\_\_

**Title:** \_\_\_\_\_

# DENIED

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**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: \_\_\_\_\_

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**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.

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

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

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

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

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

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

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

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**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

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**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: \_\_\_\_\_

### **Hydro-geologic Data:**

#### Site Specific:

The Ojo Alamo formation is the highest water bearing zone at this site. It is the lowest Tertiary rock unit in the San Basin. The formation occurs at the surface to a depth of 419' at this proposed CJ Holder #201s location and ranges from 250' to 500' in this township and range. Based on topographic maps and aerial photos, there did not appear to be any sandy areas located within drainages that may potentially hold shallow ground water. Drainages in the area with elevation changes suggest that ground water depths, if any, will be below 50'. The only potentially unstable areas in the region are over subsurface coal mines. This pit will not be located over a subsurface mine.

The New Mexico State Engineers Water Report shows no water wells in Sec. 27, Township 28N R13W.

#### Geologic Summary:

The Ojo Alamo is a sequence of interbedded sandstones, conglomeratic sandstone, and shales deposited in an alluvial and fluvial environment. The formation accumulated in broad, wet, alluvial aprons. Groundwater is associated with the alluvial and fluvial sandstone aquifers, hence it is controlled by the distribution of these sands.

#### Reference:

Stone W.J., Lyford F.P., Frenzel P.F., Mizell N.H., and Padgett E.T.: Hydrology and water resources of San Juan Basin, New Mexico Hydrologic Report 6, 1983.

**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

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

**WATER COLUMN REPORT 02/03/2009**(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are biggest to smallest)

Water (in feet)										Depth	Depth	
POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Well	Water	Column

No Records found, try again

## Temporary Pit Design Plan:

The pit will be designed and constructed in the following manner:

- 1) Top soil will be stripped, stockpiled and stored as designated on the attached well sight layout schematic. Storage will be in accordance with the requirements set forth as described in item B of the the siting requirements of 19.15.17.11 NMAC.
- 2) A sign will be posted on location in accordance with 19.15.3.103 NMAC.
- 3) A four strand barbwire fence will be constructed around the perimeter of the pit with the strands evenly spaced between one and four feet from the ground. This fence will be used to excluded livestock from inadvertently entering the pit. The side of the fence adjacent to the rig will be removed during operations. This fence if located within 1000 feet of a permanent residence, school, hospital, institution or church will be a six foot chain link fence with two strands of barbed wire at the top.
- 4) The pit will be designed to confine liquids, prevent unauthorized releases by constructing a foundation with interior slopes consisting of a firm and unyielding base that are smooth and free of rocks, debris or other sharp edges to prevent liner damage.
- 5) The slopes will be constructed with a 2:1 ratio of vertical to horizontal with a changing slope within five feet of the shale shakers trending towards horizontal.
- 6) The volume of the pit will no exceed 10 acre feet including freeboard.
- 7) The pit will be lined with a LLDPE geomembrane liner with a thickness of no less then 20mm. The liner material will be compatible with EPA SW-846 method 9090A.
- 8) Liner seams will be orientated perpendicular to the largest slope with an overlap of four to six inches.
- 9) If needed a geotextile will be place under the liner to reduce localized stress-strain that may compromise liner integrity.
- 10) The edges of the liner will be anchored in the bottom of a compacted earth-filled trench no less the 18 inches deep.
- 11) To prevent runon of surface water a berm no less then 12 inches high will be constructed around the perimeter of the pit. With drainage ditches being directed to the runoff requirements set forth in the APD Condition of Approval.

### Temporary Pit Operations Plan:

The pit will be operated and maintained; to contain liquids and solids, to insure liner and secondary containment integrity, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. To attain this goal the following steps will be followed;

- 1) The fluids in the pit remaining after rig release will be vacuumed out and transported to active drilling locations to be reused or disposed of with Agua Moss LLC in the Pretty Lady #1 (Disposal API Number # 30-048-30922) within 30 days. Residual fluids after vacuuming will be allowed to evaporate.
- 2) No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the pit. Only fluids or cuttings used or generated in the drilling process will be placed or stored in the pit.
- 3) The division district office will be notified within 48 hrs of the discovery of compromised liner integrity. Upon the discovery of the compromised liner repairs will be enacted immediately.
- 4) The division district office will be notified within 48 hrs of the discovery of compromised liner integrity below the fluid level unless more than 25 bbls is released in which case Rule 116's 24 hr notification will apply. All liquid above the damaged liner section will be removed to a level below the damage within 48 hrs and repairs will be enacted.
- 5) Precautionary measures will be taken to insure no liner damage is caused when adding or removing fluids and solids from the pit. This will be accomplished by gradually increasing the slope of the pit from negligible underneath the shale shakers to the 2:1 ratio required by 19.15.17.11 within five feet. A perforated pipe will be installed in the corner of the pit so that a vacuum hose can be run through it to remove fluids without damaging the liner.
- 6) Perimeter berms and ditches will be constructed around the exterior of the pit to prevent surface water run-on but the rig side may be left open to allow location drainage.
- 7) A oil absorbent boom will be maintained on site to remove oil from the pit's surface if necessary. Immediately on the cessation of drilling any accumulated oil will be removed from the surface of the pit.
- 8) A minimum of two feet of freeboard will be maintained at all times. Once fluid levels have the possibility of rising above the minimum freeboard fluid will be vacuumed out of the pit.
- 9) All of the above operations will be inspected and a log will be signed and dated. During drilling operations the inspection will be daily and after rig release they will be carried out weekly as long as there is fluid in the pit.

### Temporary Pit Closure Plan:

The pit will be closed with in place burial. The surface owner will be notified by certified mail and the return receipt will be included in the closure packet. The OCD will be verbally or by other means notified at least 72 hours and not more then one week prior to the pit closing. The following process will be used to close the pit:

- 1) The contents will be solidified to a bearing capacity sufficient to support the final cover. This will be accomplished by mixing the contents with soil at a mixing ratio no greater then 3:1 soil to contents.
- 2) At time of closure, all free standing fluids will be removed and the liner will be cut off at the mudline.
- 3) Sampling will be done by collecting a minimum of a five-point composite sample of the contents after stabilization. The sample will be analyzed for the following components;

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	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	1000

- 4) After demonstrating that the stabilized contents are under the limits listed above the contents will be covered with compacted non-waste containing earthen material to a minimum of three feet. If stabilized contents exceed a volume that can be covered with three feet of earth and a foot of topsoil the excess contents will be removed and sent to Envirotech (Permit NM-01-0011). If the stabilized contents do no meet the above stated limits the stabilized contents will all be hauled to Envirotech.
- 5) After the stabilized contents have been covered, the stockpiled topsoil will be replaced to a minimum depth of one foot. Topsoil cover will be graded to prevent ponding of water and erosion of the cover material. This will be accomplished within six months of rig release.
- 6) The precise location of the on-site burial will be reported to the Aztec field office on the C-105 form. A dead notice identifying the exact location of the on-site burial will be filed with the county clerk.
- 7) The disturbed area will be seeded or planted the first growing season after closing the pit. Seed will be drilled on the contour whenever practical or by other division-approved methods. The being to obtain vegetative cover that equals 70% of the native cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native plant species, including at least one grass but not including noxious weeds. Cover will be maintained through two successive growing seasons. During the two growing seasons that prove viability there shall be no artificial irrigation of the vegetation. Seeding or planting will continue until the required cover is reached. If conditions are not favorable to establishment of vegetation due to periods of drought or similar problems then the Aztec office of the OCD will

be notified. The Aztec office of the OCD will also be notified when the disturbed ground successfully achieves re-vegetation.

- 8) The final closure report (C-144) will be filled within 60 days of closure completion and include sampling results, plot plan, details on back filling, covering and inspections during the life of the pit.
- 9) Until the abandonment of the wells on the pad where the pit is located a steel marker no less than four inches in diameter will be cemented in a hole three feet deep in the center of the onsite burial. The top of this marker will be flush with the ground. Once all wells on the pad are abandoned a four foot tall riser will be welded on top of the marker with; operator name, lease name, well name and number, unit number, section, township and range, and a designation that it is an onsite burial location

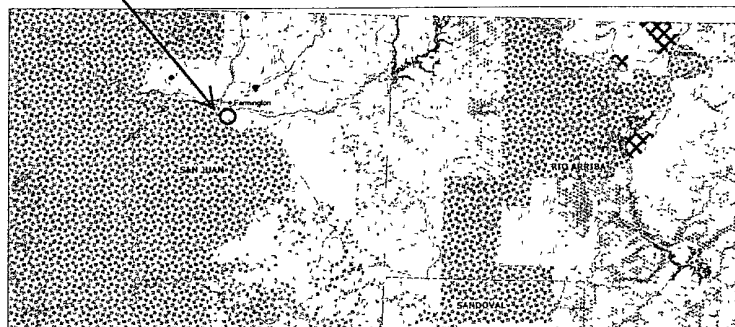
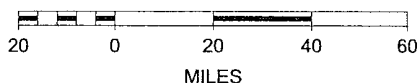
# MMQonline Public Version

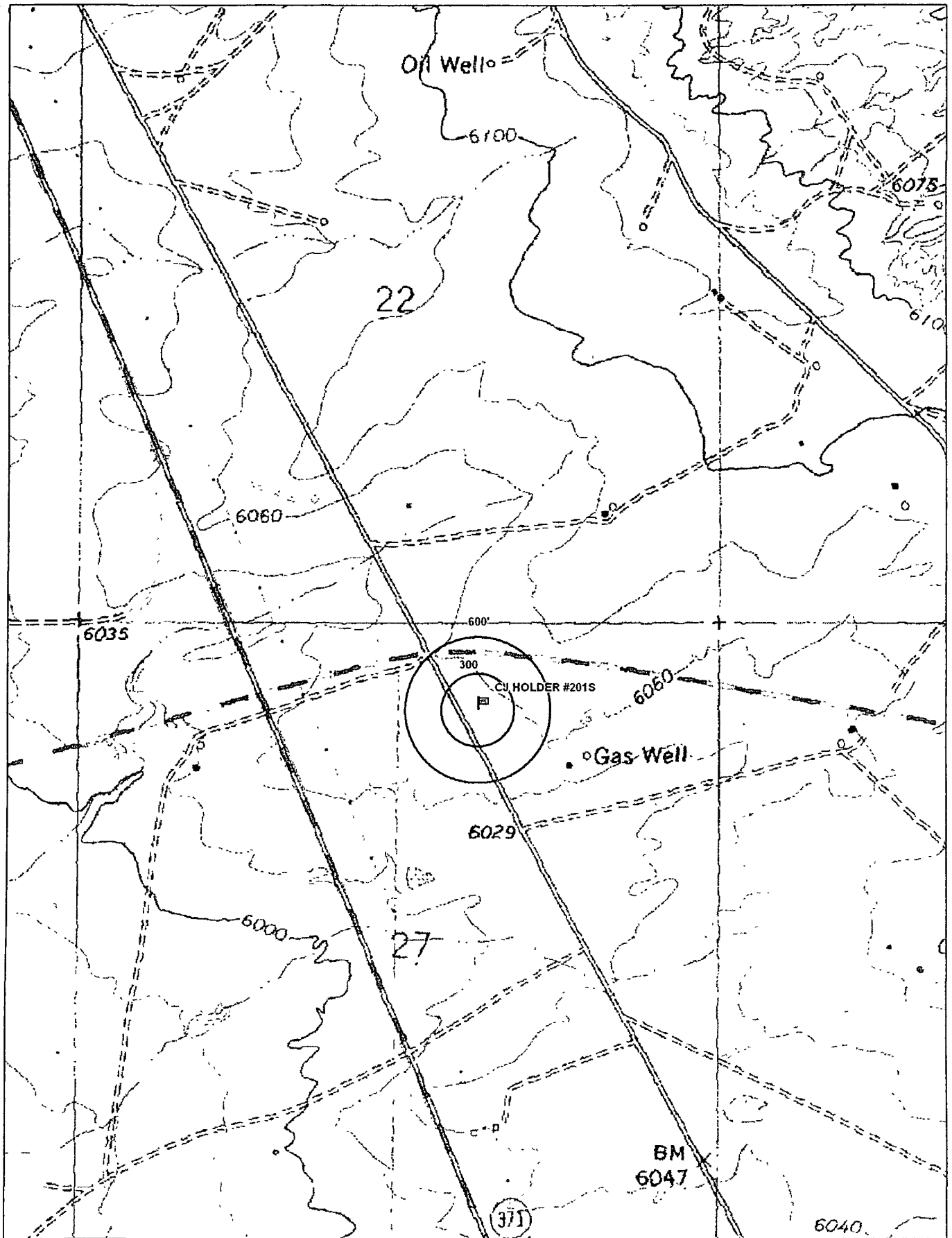
Area of Interest - CJ Holder #201S

## Mines, Mills & Quarries Commodity Groups

-  Aggregate & Stone Mines
-  Coal Mines
-  Industrial Minerals Mines
-  Industrial Minerals Mills
-  Metal Mines and Mill Concentrate
-  Potash Mines & Refineries

SCALE 1 : 2,325,225

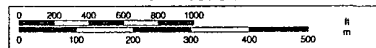




**DELORME**

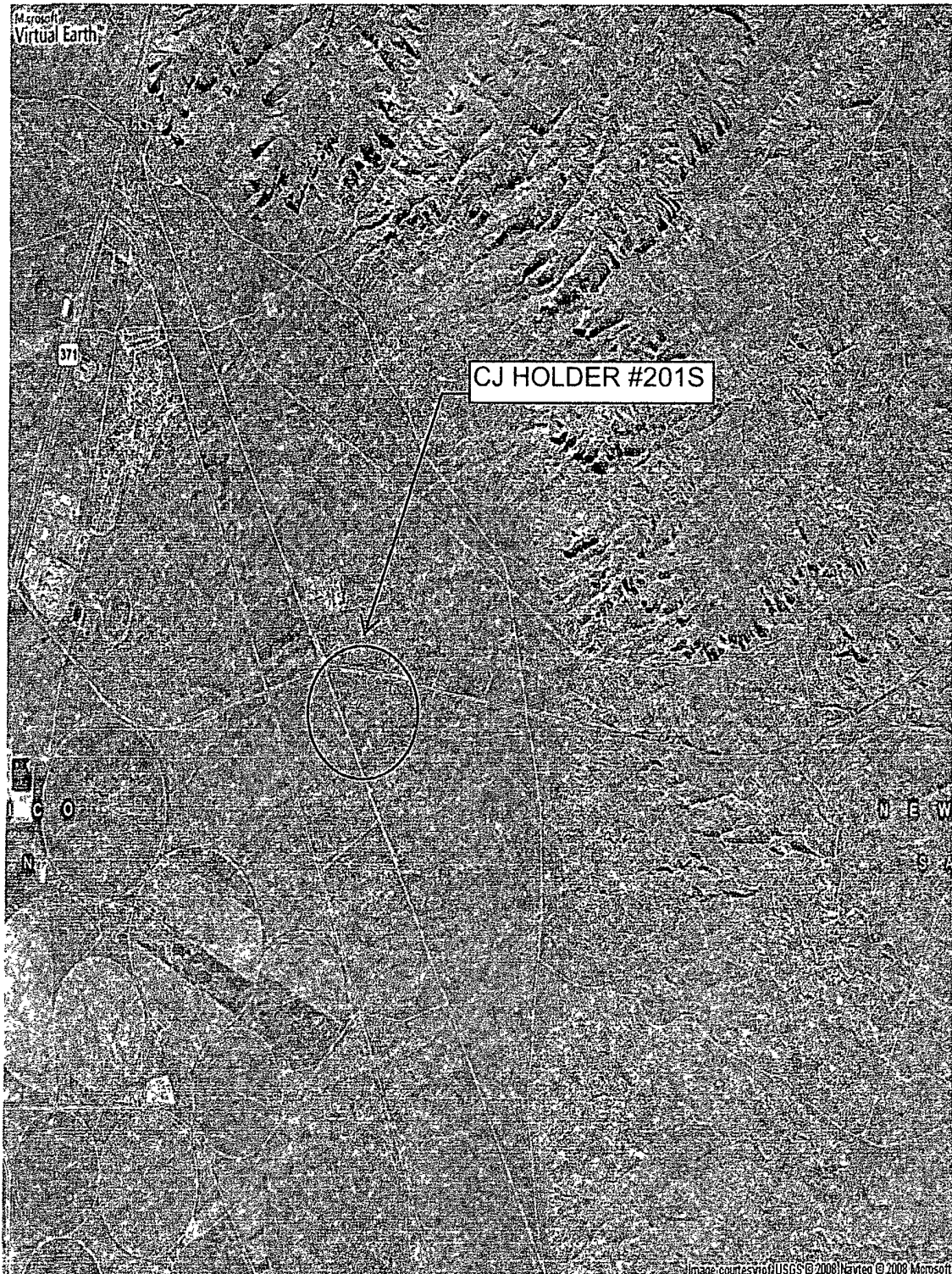
© 2002 DeLorme. 3-D TopoQuads®. Data copyright of content owner.  
www.delorme.com

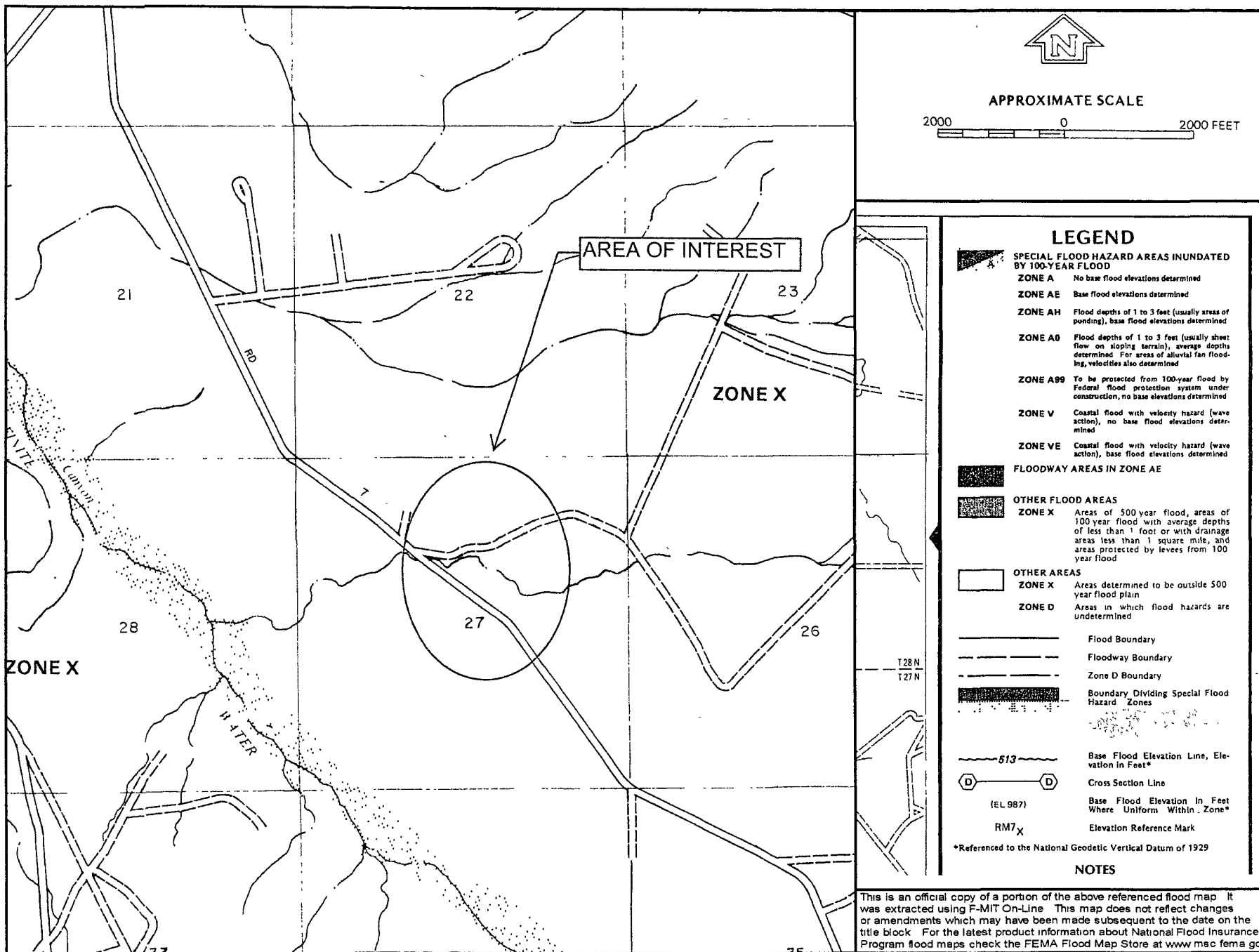
Scale 1 : 12,800  
1" = 1070 ft



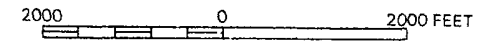
TN  
MN  
0°W

# AERIAL PHOTO: CJ HOLDER #201S





APPROXIMATE SCALE



# LEGEND

## SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- ZONE A** No base flood elevations determined
- ZONE AE** Base flood elevations determined
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding), base flood elevations determined
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain), average depths determined. For areas of alluvial fan flooding, velocities also determined
- ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction, no base elevations determined
- ZONE V** Coastal flood with velocity hazard (wave action), no base flood elevations determined
- ZONE VE** Coastal flood with velocity hazard (wave action), base flood elevations determined

## FLOODWAY AREAS IN ZONE AE

- OTHER FLOOD AREAS**
- ZONE X** Areas of 500-year flood, areas of 100 year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 100 year flood

- OTHER AREAS**
- ZONE X** Areas determined to be outside 500 year flood plain
- ZONE D** Areas in which flood hazards are undetermined

- Flood Boundary
- - - Floodway Boundary
- - - Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones
- 513 Base Flood Elevation Line, Elevation in Feet\*
- (D) Cross Section Line
- (EL 987) Base Flood Elevation in Feet Where Uniform Within Zone\*
- RM7<sub>X</sub> Elevation Reference Mark

\*Referenced to the National Geodetic Vertical Datum of 1929

## NOTES

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

District I  
1685 N. French Dr., Hobbs, N.M. 88240

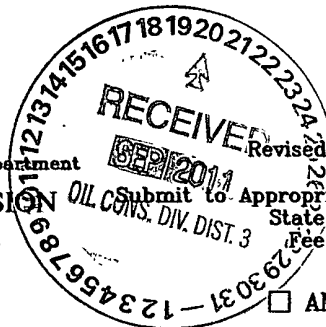
DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

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

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

State of New Mexico  
Energy, Minerals & Natural Resources Department

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



Form C-102  
Revised October 12, 2005

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 FC	
4 Property Code		5 Property Name CJ HOLDER			6 Well Number #201s
7 OGRID No. 162928		8 Operator Name ENERGEN RESOURCES			9 Elevation 6060'

10 Surface Location

UL or lot no. B	Section 27	Township 28-N	Range 13-W	Lot Idn	Feet from the 700'	North/South line NORTH	Feet from the 1802'	East/West line EAST	County SAN JUAN
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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		13 Joint or Infill		14 Consolidation Code		15 Order No.			

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

16	FD 2 1/2" BRASS CAP GLO 1913	589°59'W 80.12 Chains (R)	700'	N89°54'33"W 2642.85'(M)	CALC COR BY DOUBLE PROP.	1802'	N0°01'38"W 2638.05'(M)	FD 2 1/2" BRASS CAP GLO 1913		
									ENERGEN RESOURCES CJ HOLDER #201s LAT. 36.63861 N LONG. 108.20367 W	
										27

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 of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: Andrew Soto Date: 9-20-11  
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.

Date of Survey: 09/15/11  
Signature and Seal of Professional Surveyor: [Signature]  
Certificate Number: 8466

## Hydrogeologic Data:

### 100-year Floodplain:

The map available from FEMA does not indicate the well to be in the 100-year floodplain for the subject well, Charlie Hosh #1. It is located in San Juan County, NM, in FEMA zone X which is outside the 500 year flood plain.

### Site Specific:

The Nacimiento formation is the highest water bearing zone at this site with the exception of possible perched water. It is a Tertiary bedrock unit in the San Juan Basin. The formation occurs at the surface at the CJ Holder Com #201S location and ranges from 0' to 500' in this township and range. There are no potentially unstable areas in the region. This below grade tank is not located over a subsurface mine.

The New Mexico State Engineers Water Report shows no water wells in Sec. 27, Township 28N, Range 13W, however based on the topographic map the depth to groundwater could occur at 400'. This well sits on a mesa that is surrounded by dry washes that either run into the Gallegos Canyon or the San Juan River 400' lower in elevation. Any ground water higher than 400' would have seeped out over geologic time.

### Geologic Summary:

The Nacimiento sandstone is in the middle Tertiary sequence in the San Juan Basin. This sequence consists because of its slope forming habit is often assumed to be mostly mudstone, however it also contains medium to very coarse grained sandstones. The mudstones display a popcorn weathering characteristic of swelling clays. The Nacimiento ranges in thickness from 413' to 2,232'. Groundwater is associated with the coarser and more continuous sandstone bodies. The Nacimiento conformably overlies the Ojo Alamo formation.

### Reference:

Stone W.J., Lyford F.P., Frenzel P.F., Mizell N.H., and Padgett E.T.: Hydrology and water resources of San Juan Basin, New Mexico Hydrologic Report 6, 1983.

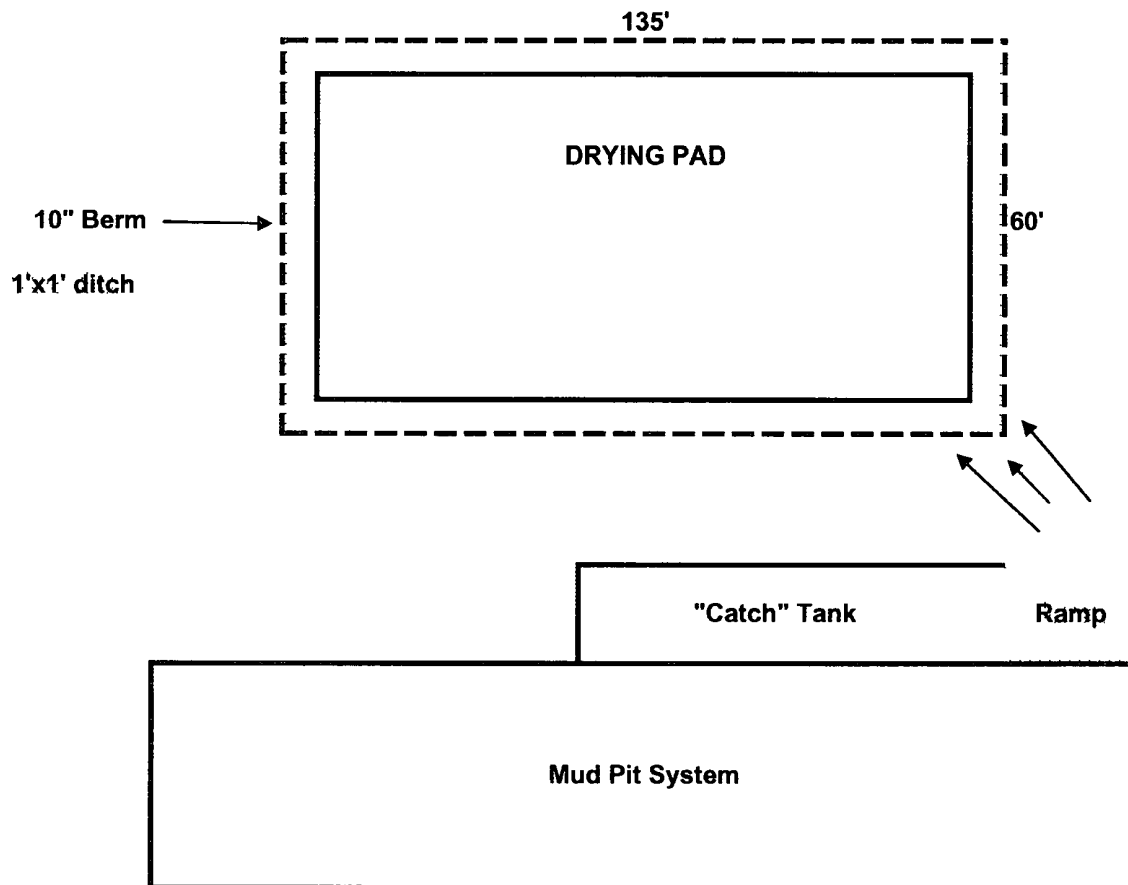
### CLOSED LOOP SYSTEM SCHEMATIC

Hole (in)	Depth (ft)	Length (ft)	Volume (ft <sup>3</sup> )
12 1/4	150	150	123
7 7/8	1800	1800	609

Estimated Gauge Hole Volume      732

Length (ft)	Width (ft)	Height (ft)	Volume (ft <sup>3</sup> )
155	85	3	39525

Waste Vol. Estimate for one cuttings pile



## **Plan of Operations: Closed Loop System & Drying Pad**

### **Closed Loop Design:**

The closed loop system will not incorporate a temporary pit or below grade tank. The closed loop system will include a drying pad and sumps to facilitate the collection of liquids derived from drill cuttings, as specified per subsection H of 19.15.17.11 and an above ground steel tank suitable for holding the cuttings and fluids generated during rig operations. The tank will be of sufficient volume to maintain a safe free board for periodic removal and disposal of cuttings and fluids. Frac tanks will be utilized on site for fresh water.

- 1) Fencing is not required for an above ground closed-loop system.
- 2) The drying pad will be constructed by 6 inches of clay dirt over a 20-mil string-reinforced LLDPE liner to prevent infiltration of any draining liquid.
- 3) Run-off will be prevented from lined ditches on the perimeter of the drying pad.
- 4) Berms will also be constructed on the outside perimeter to prevent run-on of water or fluids.
- 5) It will be signed in compliance with 19.15.3.103 NMAC.

### **Closed Loop Operations and Maintenance Plan:**

A modified steel tank will be operated and maintained; to contain liquids and drill cuttings, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. To attain this goal the following steps will be followed:

- 1) The liquids in the closed-loop tank will be re-circulated through the mud system or vacuumed and disposed of at Envirotech (Permit Number NM-01-0011) or IEI/JFJ Landfarm (#NM-01-0010B) on a periodic basis to prevent over topping. Reuse may include the relocating of liquids to be used in other permitted drilling operations.
- 2) As drill solids are generated, a front-end loader removes the waste and will begin stacking it on a drying pad.
- 3) Small amounts of dirt or lime may be added to aid in drying.
- 4) No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the tank. Only fluids or cuttings used or generated by rig operations will be placed or stored in the tank.
- 5) The division district office will be notified within 48 hours of the discovery of compromised integrity of the closed-loop tank. Upon the discovery of the compromised tank, repairs will be enacted immediately.
- 6) All of the above operations will be inspected and a log will be signed and dated. During rig operations the inspection will be daily.

### **Closed Loop Closure Plan:**

- 1) Upon completion of the drilling operations, all solids and liquids will be removed and disposed of at **Envirotech** (Permit # NM-01-0011) or **IEI/JFL Landfarm** (# NM-01-0010B). In the event that a drying pad is utilized, the solids contained on the pad will remain on site to allow sufficient drying and will then be transported to one of the above mentioned disposal facilities. The tanks will be removed from location as part of the rig move. The APD Conditions of Approval will be followed for site reclamation.
- 2) After the drying pad is removed, the surface below the pad will be visually inspected for any contamination. If contamination is discovered, a five point composite sample will be taken of the drying pad area using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13. (i.e. dig and haul).

- 3) In the event that a drying pad is used, the area where the drying pad will be located will be part of the actual well pad and will still be in use throughout the operation of the well. Upon final P&A of the well, the following will be done:
- a. Re-contouring of location will match fit, shape, line, form and texture of the surroundings. Re-shaping will include drainage control and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour will have a uniform appearance with a smooth surface that fits the natural landscape.
  - b. Will re-seed the reclaimed area after the final P&A of the well. The pad will be re-seeded the first growing season after the final P&A of the site. Seeding will be accomplished by drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands.

### **Completion Plan**

A closed-loop tank will be set on location once drilling operations have ceased. The closed-loop tank will measure 20 ft height by 12 ft diameter (400 BBL) or 20 ft height by 10 ft 6 in diameter (300 BBL). It will be designed, operated, maintained and closed according to the attached Closed-loop Design Plan, Closed-loop Operating and Maintenance Plan, and Closed-loop Closure Plan.