

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 NMOC District Office.  
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOC District Office.

**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: Jicarilla West #8M  
API Number: 30-039-26323 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr I Section 06 Township 26N Range 05W County: Rio Arriba  
Center of Proposed Design: Latitude 36.51633 N Longitude 107.39392 W NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

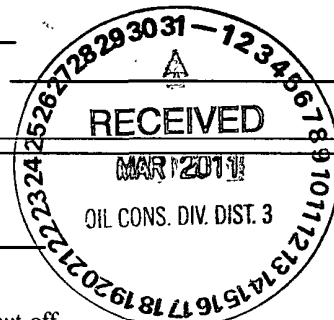
2.  
☒ Pit: Subsection F or G of 19.15.17.11 NMAC  
Temporary: ☒ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A  
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☒ String-Reinforced  
Liner Seams: ☐ Welded ☒ Factory ☐ Other \_\_\_\_\_ Volume: 1500 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 ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)  
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other \_\_\_\_\_  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_

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

7

**Netting:** Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)

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

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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

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  
☐ 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 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 Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal  
☐ Waste Removal (Closed-loop systems only)  
☒ On-site Closure Method (Only for temporary pits and closed-loop systems)  
☒ In-place Burial ☐ On-site Trench Burial  
☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

**Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC  
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)  
☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

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**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

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**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 type="checkbox"/> Yes <input checked="" 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

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**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): Andrew Soto Title: Drilling Engineer  
 Signature: [Signature] Date: 3/30/11  
 e-mail address: asoto@energen.com Telephone: 505-325-6800

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

OCD Representative Signature: [Signature] Approval Date: 7/21/2011  
 Title: Compliance Officer OCD Permit Number: \_\_\_\_\_

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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: \_\_\_\_\_

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised July 10, 2010

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

Submit one copy to appropriate  
District Office

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number	<sup>2</sup> Pool Code	<sup>3</sup> Pool Name
<sup>4</sup> Property Code	<sup>5</sup> Property Name JICARILLA WEST	<sup>6</sup> Well Number 8M
<sup>7</sup> GRID No.	<sup>8</sup> Operator Name ENERGEN RESOURCES CORPORATION	<sup>9</sup> Elevation 6578'

<sup>10</sup> Surface Location

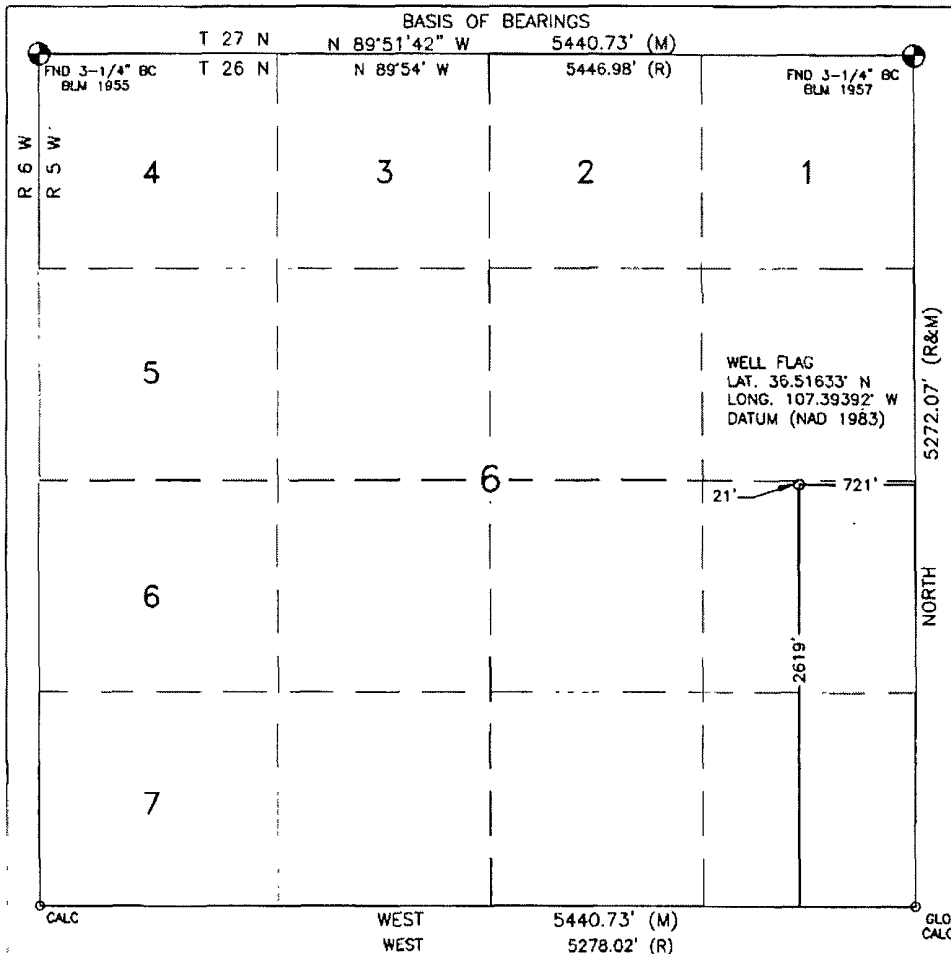
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	6	26N	5W		2619'	SOUTH	721'	EAST	RIO ARriba

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres					<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> 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

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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 and has agreed to drill this well at this location pursuant to a contract with an owner of such a mineral working interest, or has voluntarily entered into a pooling agreement, or a compulsory pooling order heretofore entered by the division.

Signature

Date

Printed Name

E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief

NOVEMBER 3, 2010

Date of Survey

Signature of Registered Professional Surveyor

DAVID H. RUSSELL

10201

DAVID RUSSELL

Certificate Number

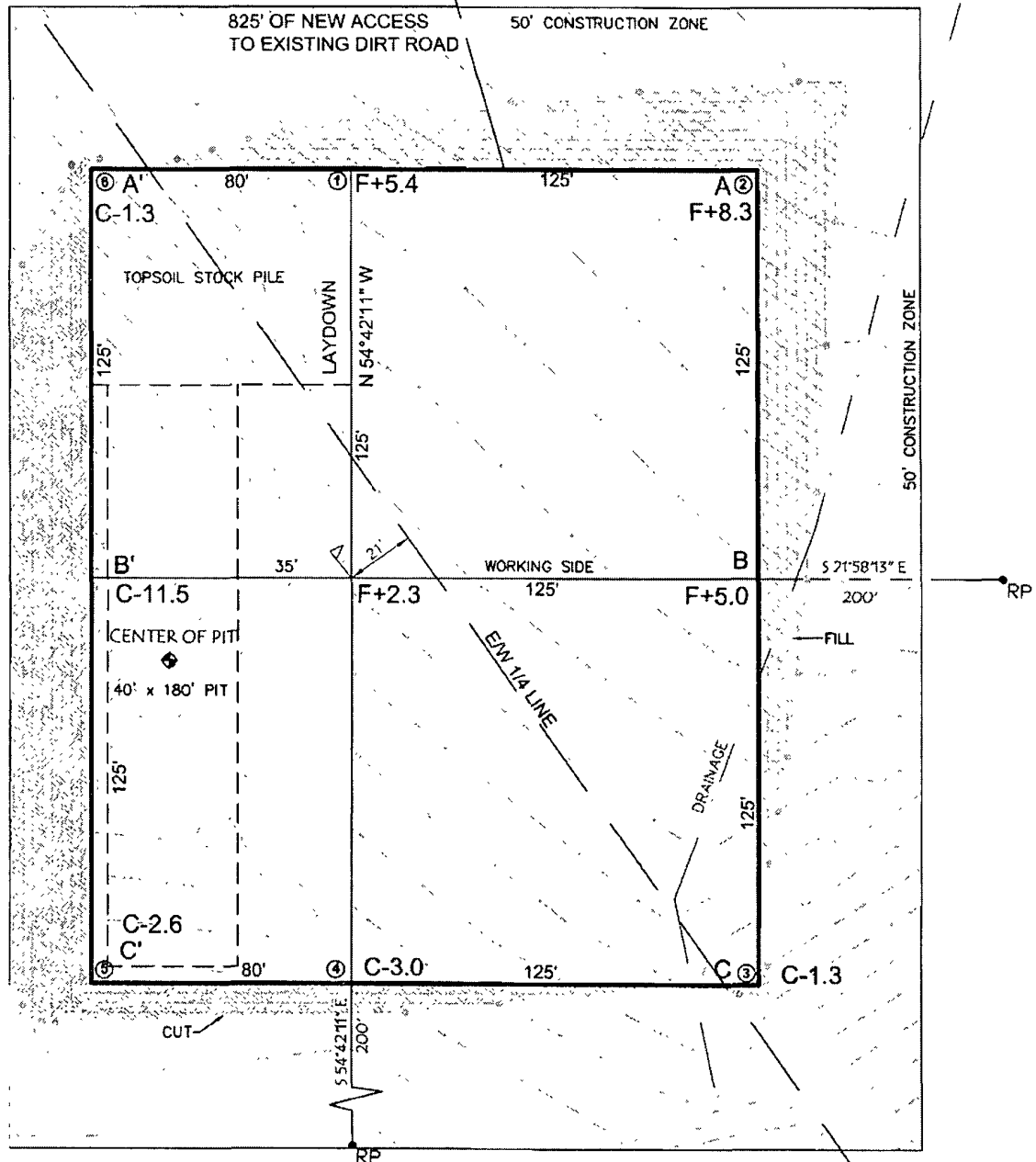
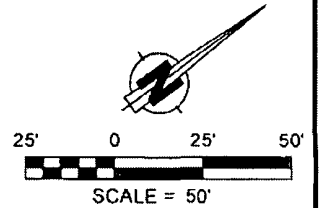
10201

**WELL FLAG**

LATITUDE: 36.51633° N  
 LONGITUDE: 107.39392° W  
 DATUM: NAD 83  
**CENTER OF PIT**  
 LATITUDE: 36.51614° N  
 LONGITUDE: 107.39378° W  
 ELEVATION: 6568.0'  
 NAD83 & NAVD88

**ENERGEN RESOURCES CORPORATION**

JICARILLA WEST #8M  
 2619' FSL & 721' FEL  
 LOCATED IN THE NE/4 SE/4 OF SECTION 6,  
 T26N, R5W, N.M.P.M.,  
 RIO ARRIBA COUNTY, NEW MEXICO  
 GROUND ELEVATION: 6578', NAVD 88  
 FINISHED PAD ELEVATION: 6580.0', NAVD 88



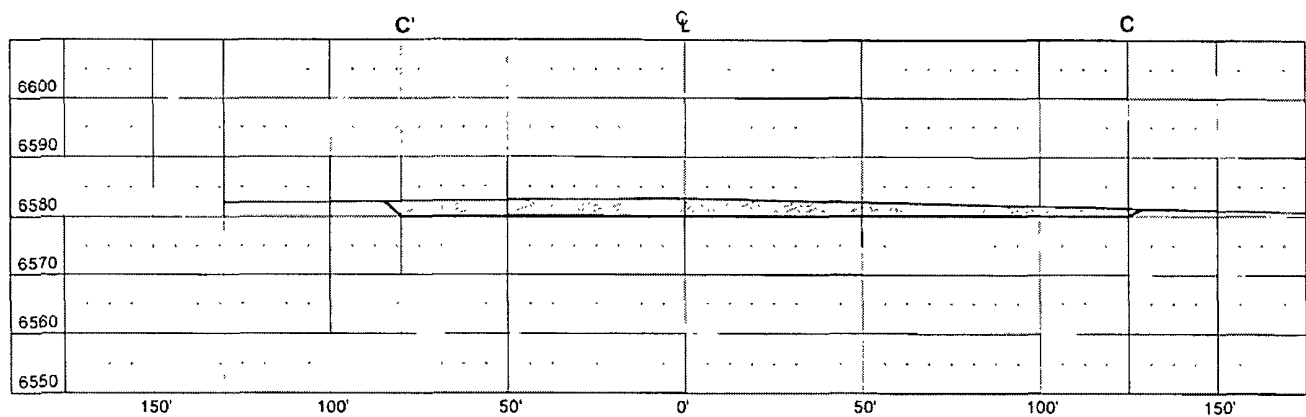
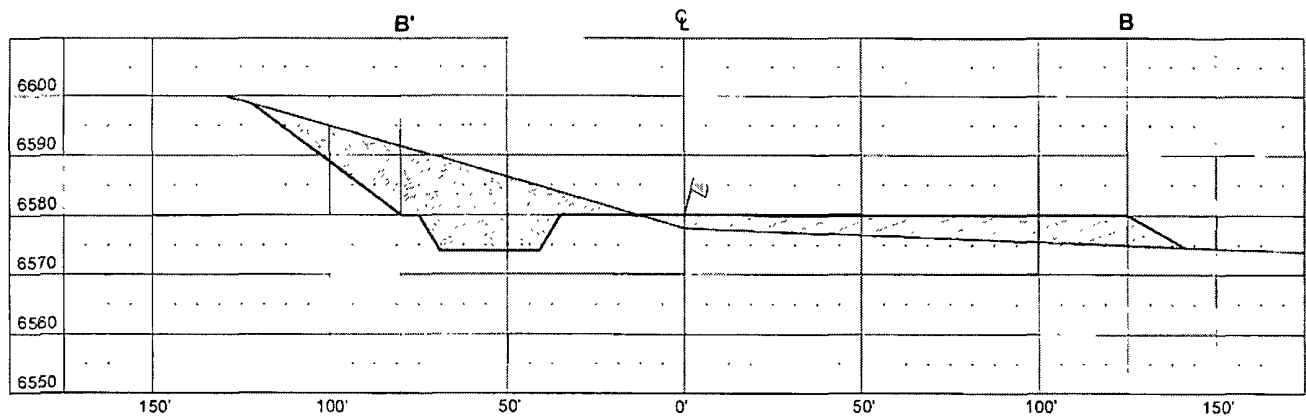
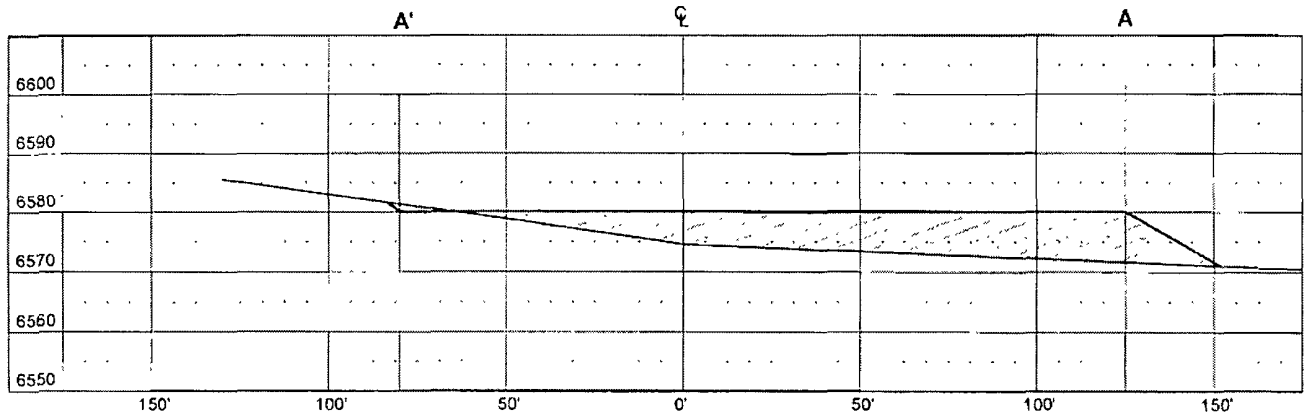
1 FOOT CONTOUR INTERVAL SHOWN  
 SCALE: 1" = 50'  
 JOB No.: ERG299\_REV1  
 DATE: 11/14/10  
 DRAWN BY: GRR



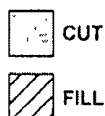
**Russell Surveying**  
 1409 W. Aztec Blvd. #2  
 Aztec, New Mexico 87410  
 (505) 334-8637

# ENERGEN RESOURCES CORPORATION

JICARILLA WEST #8M  
 2619' FSL & 721' FEL  
 LOCATED IN THE NE/4 SE/4 OF SECTION 6,  
 T26N, R5W, N.M.P.M.,  
 RIO ARRIBA COUNTY, NEW MEXICO  
 GROUND ELEVATION: 6578', NAVD 88  
 FINISHED PAD ELEVATION: 6580.0', NAVD 88



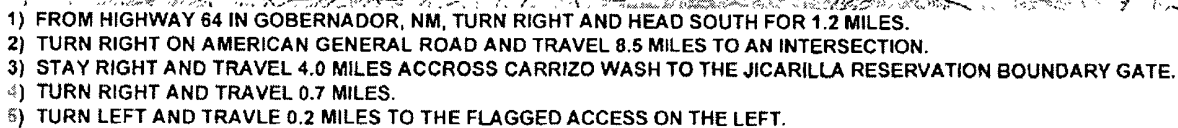
VERT. SCALE: 1" = 30'  
 HORZ. SCALE: 1" = 50'  
 JOB No.: ERG299\_REV1  
 DATE: 11/14/10



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



JICARILLA WEST #8M  
2619' FSL & 721' FEL  
LOCATED IN THE NE/4 SE/4 OF SECTION 6,  
T26N, R5W, N.M.P.M.,  
RIO ARriba COUNTY, NEW MEXICO  
GROUND ELEVATION: 6578', NAVD 88  
825' NEW ACCESS ACROSS JICARILLA TRIBAL LANDS



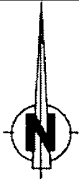
U.S.G.S. QUAD: SANTOS PEAK  
SCALE: 1" = 2000' (1:24,000)  
JOB No.: ERG299\_REV1  
DATE: 11/14/10

~~RS~~

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(505) 334-8637

# ENERGEN RESOURCES CORPORATION

PROPOSED ACCESS FOR  
JICARILLA WEST #8M  
LOCATED IN THE SE/4 NE/4 AND  
THE SW/4 NE/4 OF SECTION 6,  
T26N, R5W, N.M.P.M.,  
RIO ARriba COUNTY, NEW MEXICO

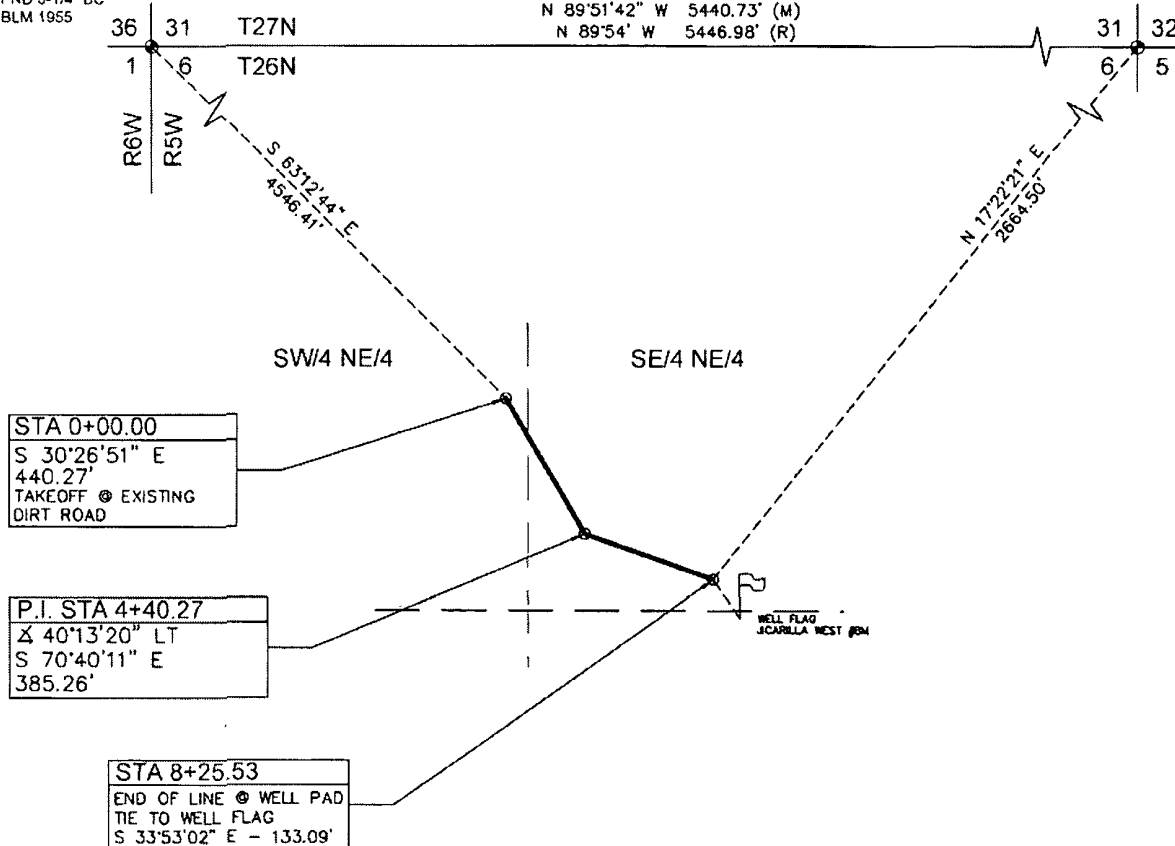


500' 0 250' 500'  
SCALE = 500'

FND 3-1/4" BC  
BLM 1955

BASIS OF BEARINGS  
N 89°51'42" W 5440.73' (M)  
N 89°54' W 5446.98' (R)

FND 3-1/4" BC  
BLM 1957



## NOTES

1) BASIS OF BEARING: BETWEEN FOUND MONUMENTS AT THE NORTHEAST CORNER AND THE NORTHWEST CORNER OF SECTION 6, TOWNSHIP 26 NORTH, RANGE 5 WEST, N.M.P.M., RIO ARriba COUNTY, NEW MEXICO  
LINE BEARS: N 89°51'42" W, A DISTANCE OF 5440.73 FEET AS MEASURED BY G.P.S.

2) LOCATION OF UNDERGROUND UTILITIES DEPICTED ARE APPROXIMATE PRIOR TO EXCAVATION UNDERGROUND UTILITIES SHOULD BE FIELD VERIFIED. ALL CONSTRUCTION ACTIVITIES SHOULD BE FIELD VERIFIED WITH NEW MEXICO ONE-CALL AUTHORITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION

I, DAVID R. RUSSELL, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.



~ SURFACE OWNERSHIP ~	
JICARILLA TRIBAL LANDS	
SECTION 6	
0+00.00 TO 8+25.53	
825.63 FT/ 50.03 RODS	
DATE OF SURVEY	11/03/10 J.R. GR

*David R. Russell*  
DAVID R. RUSSELL, PLS  
NEW MEXICO L.S. #10201

DATE: Nov 15, 2010

RXS

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

JOB No.: ERG299\_REV1 DATE: 11/14/10

### **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 than 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 placed 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 than 18 inches deep.
- 11) To prevent runoff of surface water a berm no less than 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) An 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**

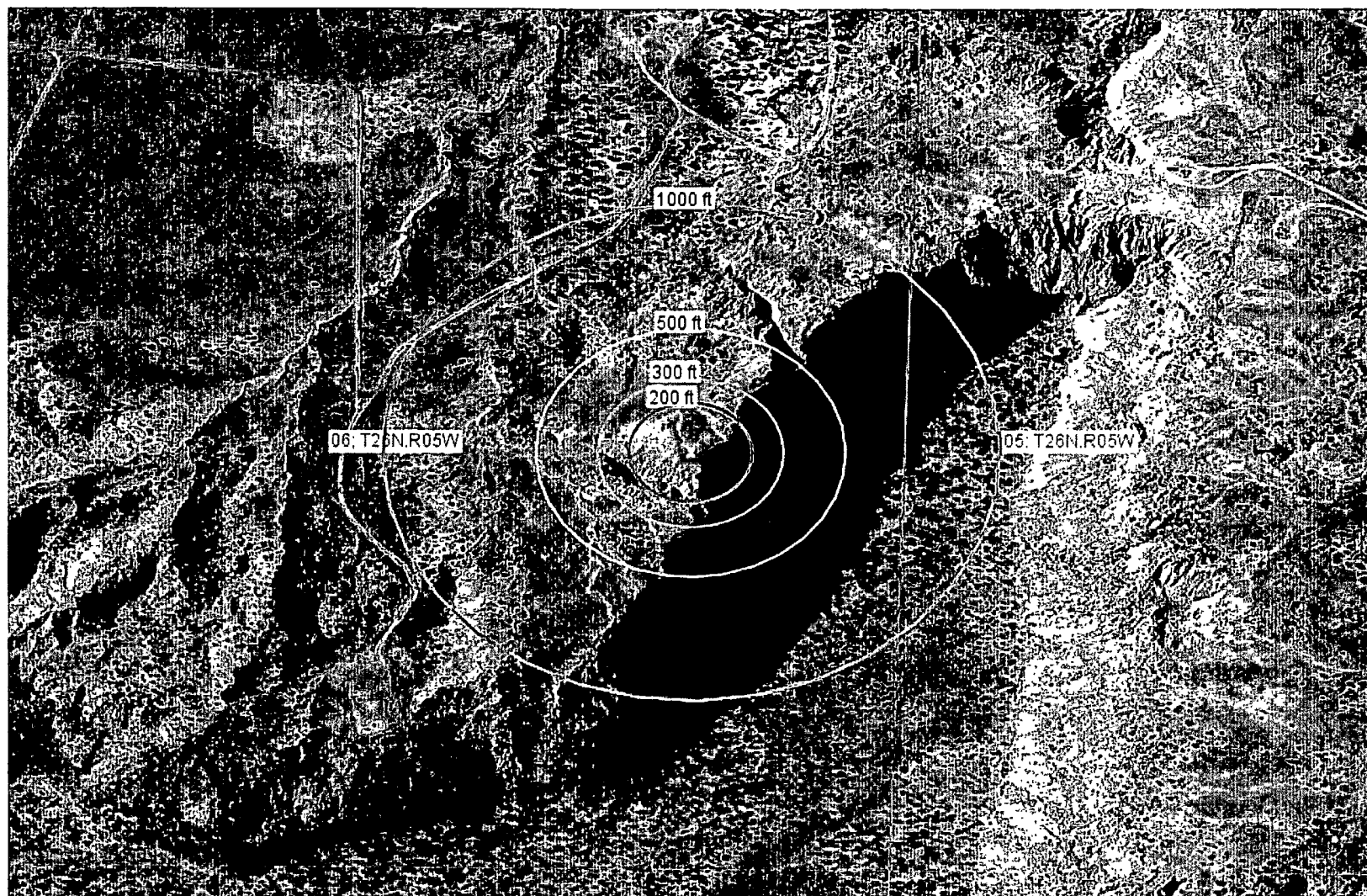
The pit will be closed with in place burial. If the pit is located on private surface, the surface owner will be notified prior to closure by certified mail and the return receipt will be included in the closure packet. The OCD will be verbally or by other means notified at least 72 hours and not more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

- 1) At time of closure, all free standing fluids will be removed and reused or disposed with Agua Moss LLC in the Pretty Lady #1 (Disposal API Number # 30-048-30922) or an Energen operated permitted disposal well. 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 than 3:1 soil to contents.
- 2) The liner will be cut off at the mudline of the stabilized contents.
- 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 (if the groundwater is less than 100 feet below the pit but greater than 50 feet, testing for chlorides will be done to the lower limit);

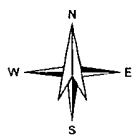
<b>Components</b>	<b>Tests Method</b>	<b>Limit (mg/Kg)</b>
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	500/1000

- 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) or IEI Landfarm (Permit NM-01-0010B). If the stabilized contents do not meet the above stated limits the stabilized contents will all be hauled to Envirotech pursuant to excavation and removal guidelines (19.15.17.13 B1).
- 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 exact location of the on-site burial will be reported to the Aztec field office on the C-105 form. A deed notice identifying the exact location of the on-site burial will be filed with the county clerk if the pit is on private surface.
- 7) The final closure report (C-144) will be filed within 60 days of closure completion and include sampling results, plot plan, details on backfilling / covering and inspections during the life of the pit.

- 8) If the pit is located on federal or tribal surface, seeding will be deferred to BLM requirements per the BLM / OCD MOU. Otherwise, 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 goal 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.
- 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



0 200 400ft



Distance (ft): 200 300 500 1000

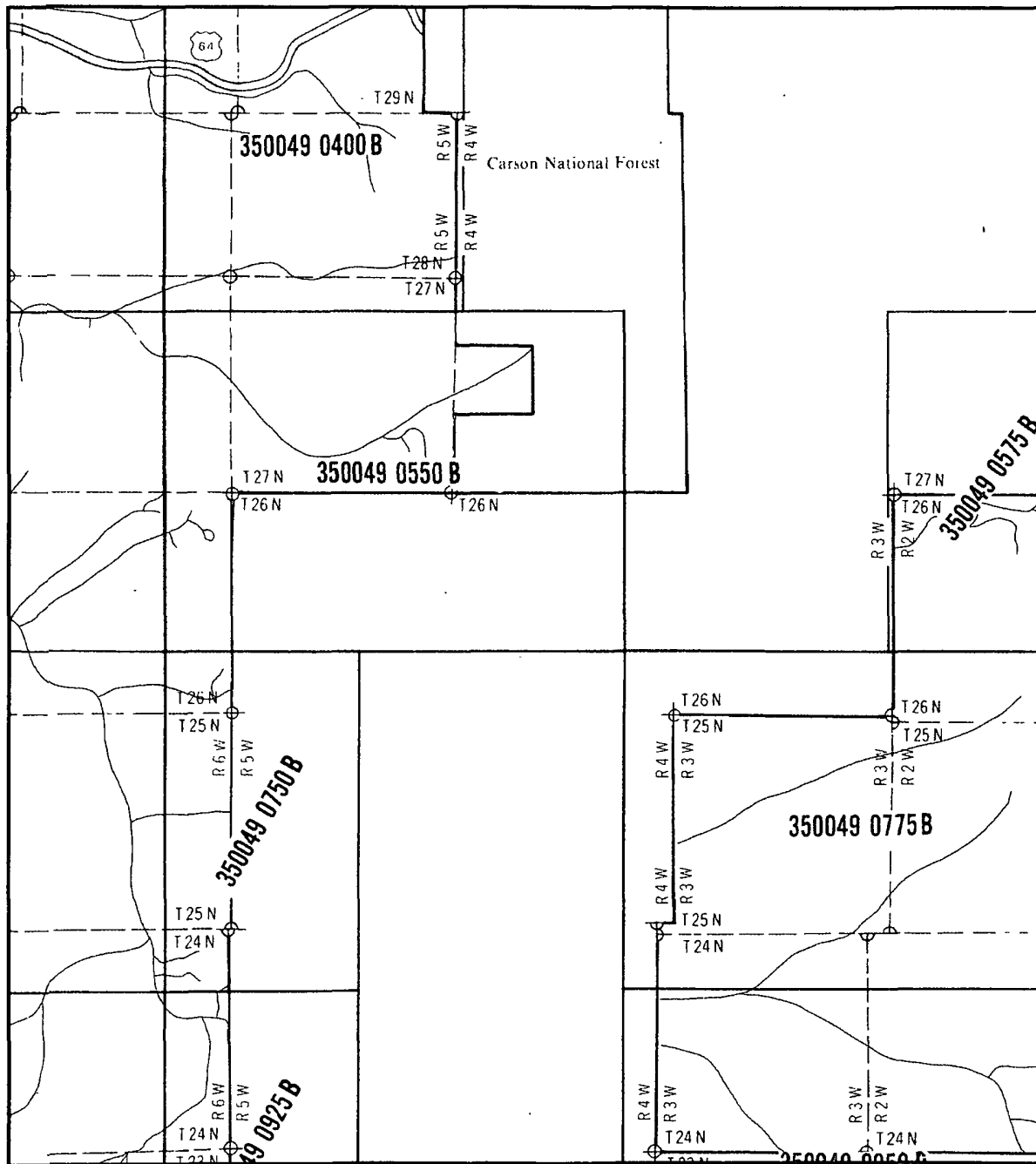
Petroleum Recovery  
Research Center

Aerial Photo

Figure:

Energen Resources/Jicarilla West #8M

Mar 30, 2011



# **NATIONAL FLOOD INSURANCE PROGRAM**

## **FIRM FLOOD INSURANCE RATE MAP**

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

## **MAP INDEX**

**PANELS PRINTED:** 25, 50, 75, 95, 100, 125, 150, 175, 200, 225, 250, 260, 275, 300, 325, 350, 375, 400, 425, 450, 475, 500, 525, 550, 575, 600, 625, 650, 675, 700, 725, 750, 775, 800, 825, 850, 875, 900, 925, 950, 975, 1000, 1025, 1050, 1070, 1075, 1090, 1125, 1150, 1175, 1180, 1190, 1200, 1205, 1225, 1270, 1275, 1280, 1285, 1290, 1325

## **COMMUNITY-PANEL NUMBERS**

**350049 0001-1325**

**MAP REVISED:  
AUGUST 5, 1997**



**Federal Emergency Management Agency**

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)



#### Hydrogeologic Data:

##### 100-year Floodplain:

There is no map available from FEMA depicting a 100-year floodplain for the subject well, Jicarilla West #8M located in Rio Arriba County, NM.

##### Site Specific:

The San Jose formation is the highest water bearing zone at this site with the exception of possible perched water. It is the youngest Tertiary bedrock unit in the San Juan Basin. The formation occurs at the surface for the Jicarilla West #8M location and ranges from 0' to 1,600' 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.

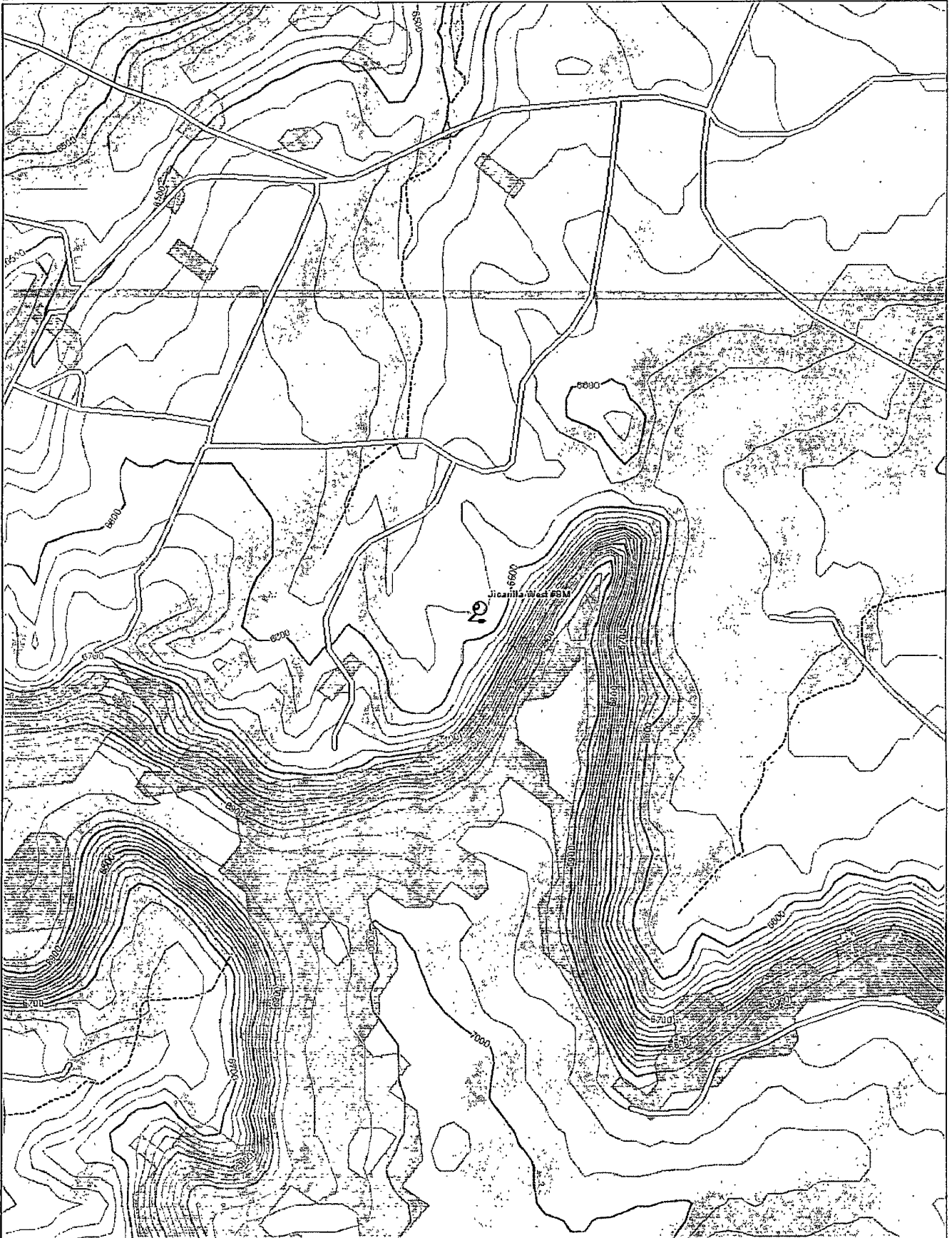
The New Mexico State Engineers Water Report shows no water wells in Sec. 06, Township 26N, Range 5W.

##### Geologic Summary:

The San Jose is a sequence of interbedded sandstones and mudstones 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. The San Jose ranges in thickness from 200' to 2,700'. The San Jose can further be broken into four members: Cuba Mesa, Regina, Llaves, and Tapicitos (in ascending order). The first two, Cuba Mesa and Regina, are predominately sandstone and the latter two, Llaves and Tapicitos, are predominately mudstone.

##### 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.



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Data Zoom 14-0



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

No records found.

**PLSS Search:**

**Section(s):** 6

**Township:** 26N

**Range:** 05W

**Usage Filter:**

**Use:** All Usages

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

# MMQonline Public Version

