

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.

**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 67 #21  
API Number: 30-039-3022 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr E Section 19 Township 25N Range 05W County: Rio Arriba  
Center of Proposed Design: Latitude 36.38575 N Longitude 107.40775 W NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

RCVD DEC 8 '11

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

OIL CONS. DIV.

DIST. 3

3. ☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC  
Type of Operation ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)  
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other \_\_\_\_\_  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_

4. ☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC  
Volume: \_\_\_\_\_ 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.

6	<p><b>Fencing:</b> Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)</p> <p><input type="checkbox"/> Chain link, six feet in height, two strands of barbed wire at top (<i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i>)</p> <p><input type="checkbox"/> Four foot height, four strands of barbed wire evenly spaced between one and four feet</p> <p><input type="checkbox"/> Alternate. Please specify _____</p>																				
7	<p><b>Netting:</b> Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)</p> <p><input type="checkbox"/> Screen <input type="checkbox"/> Netting <input type="checkbox"/> Other</p> <p><input type="checkbox"/> Monthly inspections (If netting or screening is not physically feasible)</p>																				
8	<p><b>Signs:</b> Subsection C of 19.15.17.11 NMAC</p> <p><input type="checkbox"/> 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers</p> <p><input type="checkbox"/> Signed in compliance with 19.15.3.103 NMAC</p>																				
9	<p><b>Administrative Approvals and Exceptions:</b>  Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.</p> <p><input type="checkbox"/> Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.</p> <p><input type="checkbox"/> Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.</p>																				
10	<p><b>Siting Criteria (regarding permitting):</b> 19.15.17.10 NMAC</p> <p><i>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.</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 85%;"> <p>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p> </td> <td style="width: 15%; text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>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).</p> <p>- Topographic map; Visual inspection (certification) of the proposed site</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> NA </td> </tr> <tr> <td> <p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (<i>Applies to permanent pits</i>)</p> <p>- Visual inspection (certification) of the proposed site, Aerial photo; Satellite image</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>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.</p> <p>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>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.</p> <p>- Written confirmation or verification from the municipality; Written approval obtained from the municipality</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within 500 feet of a wetland.</p> <p>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within the area overlying a subsurface mine.</p> <p>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within an unstable area.</p> <p>- Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within a 100-year floodplain.</p> <p>- FEMA map</p> </td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> </table>	<p>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>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).</p> <p>- Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (<i>Applies to permanent pits</i>)</p> <p>- Visual inspection (certification) of the proposed site, Aerial photo; Satellite image</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>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.</p> <p>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>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.</p> <p>- Written confirmation or verification from the municipality; Written approval obtained from the municipality</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within 500 feet of a wetland.</p> <p>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within the area overlying a subsurface mine.</p> <p>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within an unstable area.</p> <p>- Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within a 100-year floodplain.</p> <p>- FEMA map</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
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<p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA																				
<p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (<i>Applies to permanent pits</i>)</p> <p>- Visual inspection (certification) of the proposed site, Aerial photo; Satellite image</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
<p>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.</p> <p>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
<p>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.</p> <p>- Written confirmation or verification from the municipality; Written approval obtained from the municipality</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
<p>Within 500 feet of a wetland.</p> <p>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
<p>Within the area overlying a subsurface mine.</p> <p>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
<p>Within an unstable area.</p> <p>- Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
<p>Within a 100-year floodplain.</p> <p>- FEMA map</p>	<input type="checkbox"/> Yes <input 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: \_\_\_\_\_

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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)

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

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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

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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

17  
**Siting Criteria (regarding on-site closure methods only:** 19.15.17.10 NMAC

*Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.*

Ground water is less than 50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

18  
**On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC  
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)  
☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19

**Operator Application Certification:**

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

**OCD Representative Signature:** Jonathan D. Kelly **Approval Date:** 12/13/2011  
**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: 11/30/11

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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 indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

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

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

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

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

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

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

24

**Closure Report Attachment Checklist:** Instructions Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.

☒ Proof of Closure Notice (surface owner and division)  
☐ Proof of Deed Notice (required for on-site closure)  
☒ Plot Plan (for on-site closures and temporary pits)  
☐ Confirmation Sampling Analytical Results (if applicable)  
☒ Waste Material Sampling Analytical Results (required for on-site closure)  
☒ Disposal Facility Name and Permit Number  
☒ Soil Backfilling and Cover Installation  
☒ Re-vegetation Application Rates and Seeding Technique  
☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude 36.23093 Longitude -107.29262 NAD: ☐ 1927 ☒ 1983

25

**Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Anna Stotts Title: Regulatory Analyst  
 Signature: Anna Stotts Date: 12/3/11  
 e-mail address: astotts@energen.com Telephone: 505-324-4154

## **Well Name: Jicarilla 67 #21**

### **Reserve Pit – Final Closure Report**

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:

**Notification to the Jicarilla Agency is included in this closure report package. Surface owner notification not required.**

- 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.

**Fluids were removed and properly disposed in the Aqua Miss Pretty Lady #1. The pit contents were solidified by mixing the contents with soil at a mixing ratio of approximately 3:1.**

- 2) The liner will be cut off at the mud line of the stabilized contents.

**The liner was cut off at the mud line 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>	<b>Results (mg/Kg)</b>
Benzene	EPA SW-846 8021B or 8260B	0.2	.0016
BTEX	EPA SW-846 8021B or 8260B	50	.645
TPH	EPA SW-846 418.1	2500	2256
GRO/DRO	EPA SW-846 8015M	500	16.7
Chlorides	EPA 300.1	<del>500</del> /1000	240

**Sampling results are listed in the above table.**

- 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).

**The contents were covered with three feet of compacted non-waste containing material.**

- 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.

**The stockpiled topsoil was replaced to a depth of one foot and graded to prevent ponding and erosion.**

- 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.

**The C-105 form is attached. This pit is located on public surface. Proof of Deed notice not required unless pit is located on private surface (per NMOCD FAQ dated 10/30/09).**

- 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.

**This closure report includes sampling results, plot plan, closure details, inspections, and photos.**

- 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 is 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.

**The pit is located on Federal or Tribal surface, seeding is deferred to BLM requirements per the BLM / OCD MOU.**

- 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 number, well name and number, unit number, section, township and range, and a designation that it is an onsite burial location.

**The marker was installed in the center of the closed pit. The marker is set flush to the ground until final abandonment. At the time of abandonment, a four foot riser will be installed and marked as follows: Energen Resources – Lease # Jicarilla Contract 67 – Jicarilla 67 #21 – Unit E – Sec. 19, T25N, R05W – Pit Burial Site.**



Submit to Appropriate District Office Five Copies <b>District I</b> 1625 N French Dr, Hobbs, NM 88240 <b>District II</b> 1301 W Grand Avenue, Artesia, NM 88210 <b>District III</b> 1000 Rio Brazos Rd, Aztec, NM 87410 <b>District IV</b> 1220 S St Francis Dr, Santa Fe, NM 87505		<b>State of New Mexico</b> <b>Energy, Minerals and Natural Resources</b>  <b>OIL CONSERVATION DIVISION</b> 1220 South St. Francis Dr. Santa Fe, NM 87505				<b>Form C-105</b> July 17, 2008														
		1. WELL API NO.		30-039-31022																
		2. Type Of Lease		<input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/> FED/INDIAN																
		3. State Oil & Gas Lease No.																		
<b>WELL COMPLETION OR RECOMPLETION REPORT AND LOG</b>																				
4 Reason for filing. <input type="checkbox"/> <b>COMPLETION REPORT</b> (Fill in boxes #1 through #31 for State and Fee wells only) <input checked="" type="checkbox"/> <b>C-144 CLOSURE ATTACHMENT</b> (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33, attach this and the plat to the C-144 closure report in accordance with 19 15.17.13.K NMAC)				5 Lease Name or Unit Agreement Name <b>Jicarilla 67</b>  6 Well Number <b>#21</b>																
9 Type of Completion <input type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input checked="" type="checkbox"/> OTHER <b>pit closure</b>																				
8. Name of Operator <b>Energen Resources Corporation</b>				9. OGRID Number <b>162928</b>																
10 Address of Operator <b>2010 Afton Place, Farmington, NM 87401</b>				11 Pool name or Wildcat <b>Basin Dakota</b>																
12 Location	Unit Letter	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County										
Surface	<b>E</b>	<b>19</b>	<b>25 N</b>	<b>05W</b>																
BH																				
13 Date Spudded		14 Date T.D. Reached		15 Date Rig Released <b>5/24/11</b>		16 Date Completed (Ready to Produce)		17. Elevations (DF & RKB, RT, GR, etc )												
18. Total Measured Depth of Well			19 Plug Back Measured Depth		20 Was Directional Survey Made		21 Type Electric and Other Logs Run													
22 Producing Interval(s), of this completion - Top, Bottom, Name																				
<b>23. CASING RECORD (Report all strings set in well)</b>																				
CASING SIZE		WEIGHT LB./FT		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED										
<b>24. LINER RECORD</b>						<b>25. TUBING RECORD</b>														
SIZE	TOP	BOTTOM	SACKS CEMENT		SCREEN	SIZE	DEPTH SET	PACKER SET												
26. Perforation record (interval, size, and number)						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DEPTH INTERVAL</th> <th>AMOUNT AND KIND MATERIAL USED</th> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>					DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED								
DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED																			
<b>28. PRODUCTION</b>																				
Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)					Well Status (Prod or Shut-in)													
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl	Gas - Oil Ratio													
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl	Gas - MCF	Water - Bbl	Oil Gravity - API -(Corr )														
29. Disposition of Gas (Sold, used for fuel, vented, etc )							30. Test Witnessed By													
31 List Attachments																				
32 If a temporary pit was used at the well, attach a plat with the location of the temporary pit.																				
33 If an on-site burial was used at the well, report the exact location of the on-site burial																				
				Latitude	<b>36.23093</b>	Longitude	<b>-107.29262</b>	NAD:	<b>1927 X 1983</b>											
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief																				
Signature <b>Anna Stotts</b>			Printed Name <b>Anna Stotts</b>		Title <b>Regulatory Analyst</b>		Date <b>11/25/11</b>													
E-mail address <b>astotts@energen.com</b>																				

DISTRICT I  
1825 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

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

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

OIL CONSERVATION DIVISION

1220 South St. Francis Dr. Farmington Field Office  
Santa Fe, NM 87505 Bureau of Land Management

FEB 09 2011 Submit one copy to appropriate District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-039-31022</b>	<sup>2</sup> Pool Code <b>71599</b>	<sup>3</sup> Pool Name <b>BASIN DAKOTA</b>
<sup>4</sup> Property Code <b>21935</b>	<sup>5</sup> Property Name <b>JICARILLA 67</b>	<sup>6</sup> Well Number <b>21</b>
<sup>7</sup> OGRID No. <b>162928</b>	<sup>8</sup> Operator Name <b>ENERGEN RESOURCES CORPORATION</b>	<sup>9</sup> Elevation <b>6623'</b>

<sup>10</sup> Surface Location

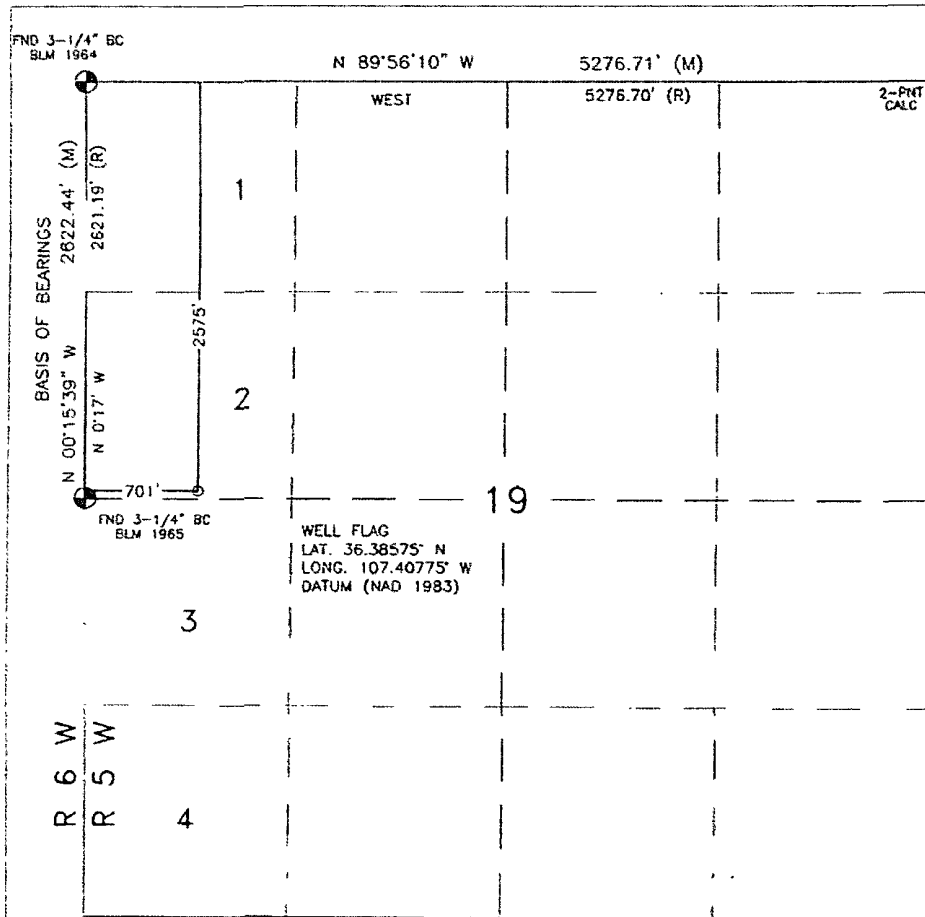
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>E</b>	<b>19</b>	<b>25N</b>	<b>5W</b>	<b>2</b>	<b>2575'</b>	<b>NORTH</b>	<b>701'</b>	<b>WEST</b>	<b>RIO ARriba</b>

<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 <b>W/2 - 319.24 ACRES</b>					<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

16



<sup>17</sup> 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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Andrew Soto* 2-2-11  
Signature Date  
Andrew Soto  
Printed Name

E-mail Address

<sup>18</sup> 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

SEPTEMBER 28, 2010

Date of Survey

Signature and Seal of Professional Surveyor:

*David Russell*  
DAVID R. RUSSELL  
REGISTERED PROFESSIONAL LAND SURVEYOR  
10201  
Certificate Number 10201

# ENERGEN RESOURCES CORPORATION

JICARILLA 67 #21

2575' FNL & 701' FWL

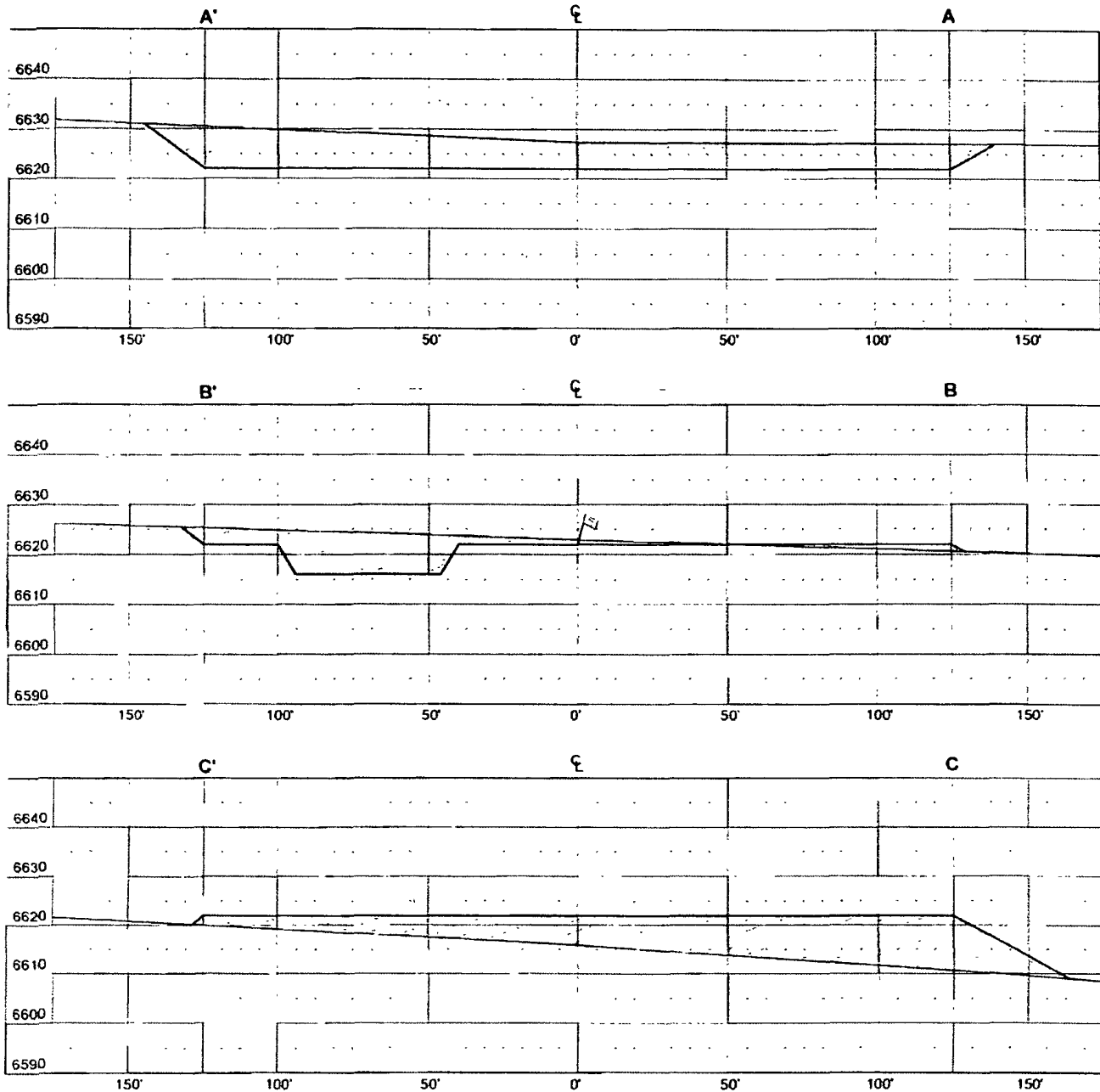
LOCATED IN THE SW/4 NW/4 OF SECTION 19,

T25N, R5W, N.M.P.M.,

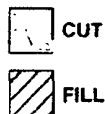
RIO ARriba COUNTY, NEW MEXICO

GROUND ELEVATION: 6623', NAVD 88

FINISHED PAD ELEVATION: 6622.0', NAVD 88



VERT. SCALE: 1" = 30'  
HORZ. SCALE: 1" = 50'  
JOB No.: ERG293  
DATE: 10/18/10



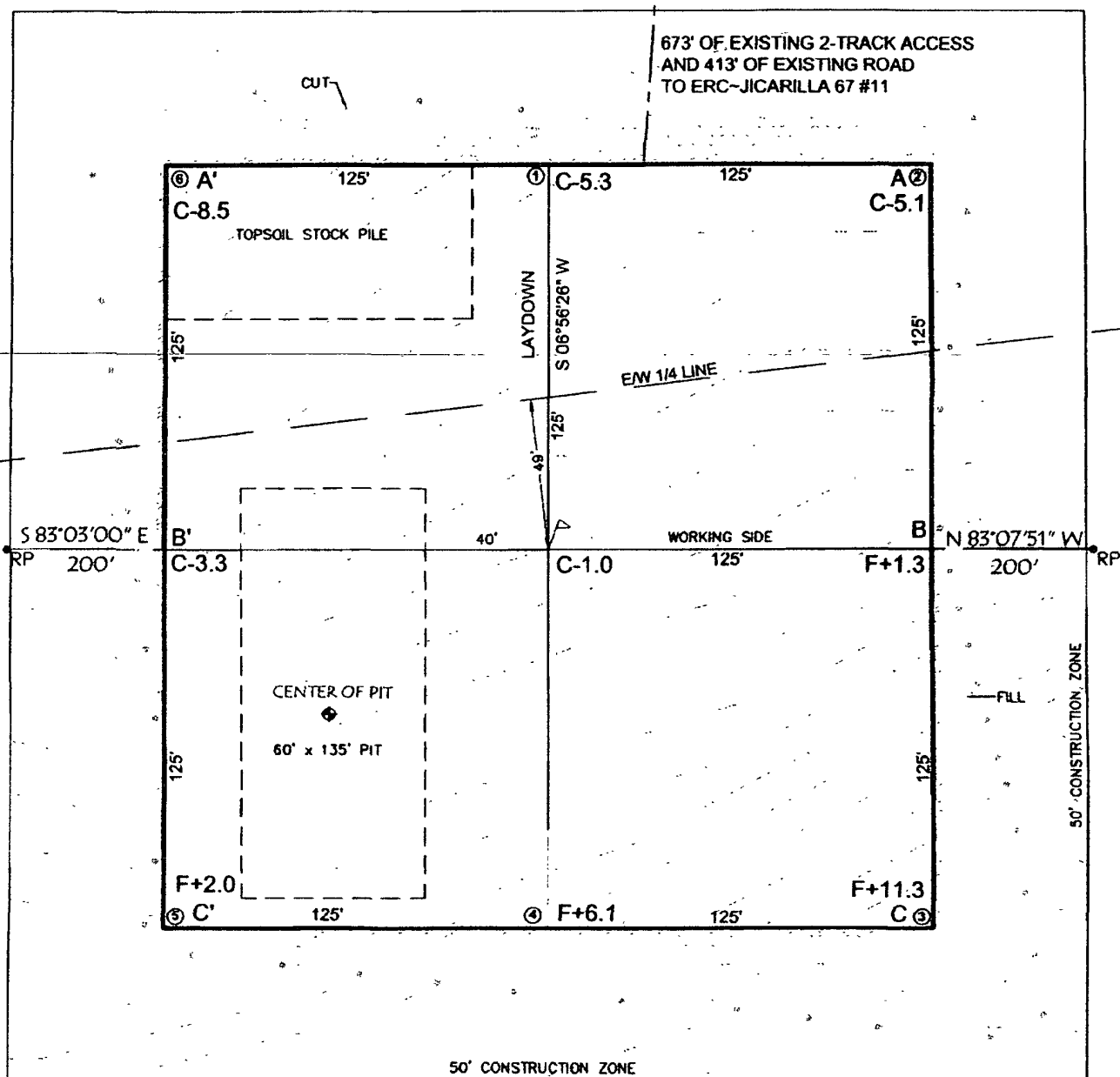
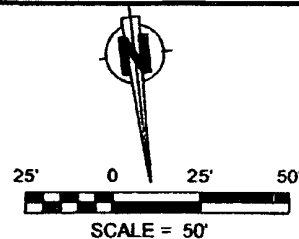
**Russell Surveying**  
1409 W. Aztec Blvd. #2  
Aztec, New Mexico 87410  
(505) 334-8637

**WELL FLAG**

LATITUDE: 36.38575° N  
 LONGITUDE: 107.40775° W  
 DATUM: NAD 83  
**CENTER OF PIT**  
 LATITUDE: 36.38586° N  
 LONGITUDE: 107.40742° W  
 ELEVATION: 6610.0'  
 NAD83 & NAVD88

**ENERGEN RESOURCES CORPORATION**

JICARILLA 67 #21  
 2575' FNL & 701' FWL  
 LOCATED IN THE SW/4 NW/4 OF SECTION 19,  
 T25N, R5W, N.M.P.M.,  
 RIO ARriba COUNTY, NEW MEXICO  
 GROUND ELEVATION: 6623', NAVD 88  
 FINISHED PAD ELEVATION: 6622.0', NAVD 88



1 FOOT CONTOUR INTERVAL SHOWN  
 SCALE: 1" = 50'  
 JOB No.: ERG293  
 DATE: 10/18/10  
 DRAWN BY: GRR



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

## **Anna Stotts**

---

**From:** Ed Hasely  
**Sent:** Tuesday, July 12, 2011 7:14 AM  
**To:** Anna Stotts  
**Subject:** FW: Reserve Pit - Jicarilla 67 #21  
**Attachments:** Energen-Jicarilla 67 #21.pdf

FYI - Documentation that Michael contacted the Jicarilla concerning the upcoming closure of this reserve pit.

**Ed Hasely**  
**Energen Resources Corporation**

**From:** Michael Dean  
**Sent:** Monday, July 11, 2011 7:58 AM  
**To:** 'bbvac@windstream.net'; 'brycehammond@jicarillaoga.com'  
**Cc:** Ed Hasely  
**Subject:** FW: Reserve Pit - Jicarilla 67 #21

We will get set up and cover this pit as soon as possible included is copies of the samples taken from the pit.

**Michael L. Dean**  
**Energen Resources**  
Construction Foreman  
(505)-330-0342



### **Proof of Closure Notice**

The OCD notification on this closure was inadvertently missed by the contractor. Energen Resources notified the contractor that the notification is mandatory and must be made.



# United States Department of the Interior

## BUREAU OF INDIAN AFFAIRS

Jicarilla Agency

P.O. Box 167

Dulce, New Mexico 87528



IN REPLY REFER TO:  
Branch of Real Property

AUG 09 2011

Mr. David M. Poage  
Energen Resources Corporation  
2010 Afton Place  
Farmington, New Mexico 87401

Dear Mr. Poage:

This is in reference to your request for permission to perform work on the following location that is on TRIBAL SURFACE:

**Jicarilla 67 #21:**

Section 19, Township 25 North, Range 5 West, County of Rio Arriba, State of New Mexico

**Scope of Work:**

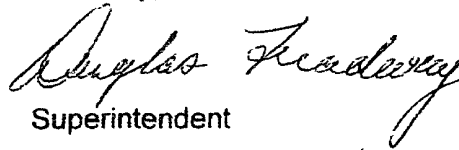
Perform/complete dirt reclamation of the, Jicarilla 67 #21 well pad location.

The Bureau of Indian Affairs, Jicarilla Agency, hereby grants, Energen Resources Corporation and Triple F Construction & Field Service, LLC, permission to perform work on the above mentioned location.

Bureau of Indian Affairs, hereby request an Affidavit of Completion and final report, when the project is completed.

If you have any questions, please contact Kurt Sandoval, Petroleum Engineer Technician, at (575) 759-3936.

Sincerely,

  
Superintendent

cc: Ms. Deidra Florez, Triple F Construction & Field Service, LLC



EPA METHOD 8021  
AROMATIC VOLATILE ORGANICS

Client:	Energen Res.	Project #:	03022-0168
Sample ID:	Reserve Pit	Date Reported:	07-06-11
Laboratory Number:	58751	Date Sampled:	06-29-11
Chain of Custody:	12072	Date Received:	06-30-11
Sample Matrix:	Sludge	Date Analyzed:	07-05-11
Preservative:	Cool	Date Extracted:	07-01-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.6	0.9
Toluene	15.9	1.0
Ethylbenzene	7.8	1.0
p,m-Xylene	28.4	1.2
o-Xylene	10.8	0.9
Total BTEX	64.5	


ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	104 %
	Bromochlorobenzene	108 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla 67 #21

  
\_\_\_\_\_  
Analyst

  
\_\_\_\_\_  
Review





**envirotech**  
Analytical Laboratory

**EPA METHOD 418.1  
TOTAL PETROLEUM HYDROCARBONS**

Client:	Energen Res.	Project #:	03022-0168
Sample ID:	Reserve Pit	Date Reported:	07/01/11
Laboratory Number:	58751	Date Sampled:	06/29/11
Chain of Custody No:	12072	Date Received:	06/30/11
Sample Matrix:	Sludge	Date Extracted:	07/01/11
Preservative:	Cool	Date Analyzed:	07/01/11
Condition:	Intact	Analysis Needed:	TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	2,256	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: Jicarilla 67 #21

Analyst

Review



**EPA METHOD 8015 Modified  
Nonhalogenated Volatile Organics  
Total Petroleum Hydrocarbons**


Client:	Energen Res.	Project #:	03022-0168
Sample ID:	Reserve Pit	Date Reported:	07-06-11
Laboratory Number:	58751	Sampled:	06-29-11
Chain of Custody No:	12072	Date Received:	06-30-11
Sample Matrix:	Sludge	Date Extracted:	07-01-11
Preservative:	Cool	Date Analyzed:	07-05-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	16.7	0.1
Total Petroleum Hydrocarbons	16.7	

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla 67 #21

  
\_\_\_\_\_  
Analyst

  
\_\_\_\_\_  
Review

Client:	Energen	Project #:	03022-0168
Sample ID:	Reserve Pit	Date Reported:	07/06/11
Lab ID#:	58751	Date Sampled:	06/29/11
Sample Matrix:	Sludge	Date Received:	06/30/11
Preservative:	Cool	Date Analyzed:	07/05/11
Condition:	Intact	Chain of Custody:	12072

Parameter	Concentration (mg/Kg)
-----------	-----------------------

**Total Chloride****240**

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.  
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Jicarilla 67 #21**



Analyst



Review

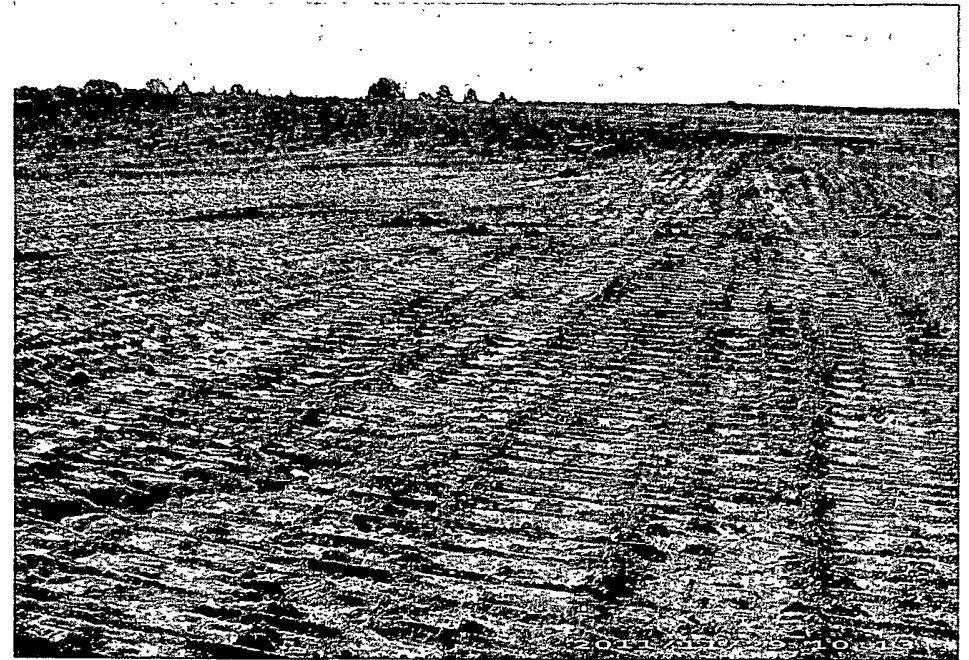
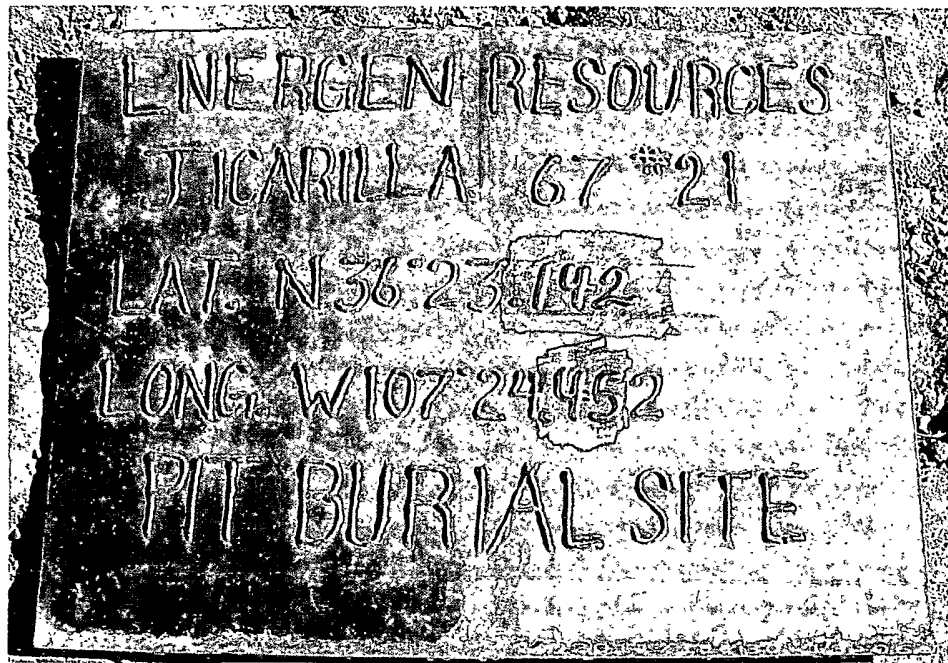


## Pit Inspection Log Sheet

(daily while rig is on-site, then weekly as long as liquids remain in the pit)

<b>Well Name:</b> <u>JICARILLA 67 #21</u>		<b>API:</b> <u>302039-31022</u>
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-10-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-11-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-12-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-13-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-14-11</u>
Note Any Deficiencies:		
Name (Print): <u>William Begay</u>	Signature: <u>William Begay</u>	Date: <u>5-15-11</u>
Note Any Deficiencies:		
Name (Print): <u>William Begay</u>	Signature: <u>William Begay</u>	Date: <u>5-16-11</u>
Note Any Deficiencies:		
Name (Print): <u>William Begay</u>	Signature: <u>William Begay</u>	Date: <u>5-17-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-18-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-19-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-20-11</u>
Note Any Deficiencies:		
Name (Print): <u>Kevin Hackett</u>	Signature: <u>K. Hackett</u>	Date: <u>5-21-11</u>
Note Any Deficiencies:		
Name (Print): <u>William Begay</u>	Signature: <u>William Begay</u>	Date: <u>5-22-11</u>
Note Any Deficiencies:		
Name (Print): <u>William Begay</u>	Signature: <u>William Begay</u>	Date: <u>5-23-11</u>
Note Any Deficiencies:		
Name (Print): <u>William Begay</u>	Signature: <u>William Begay</u>	Date: <u>5-24-11</u>
Note Any Deficiencies:		
Name (Print):	Signature:	Date:
Note Any Deficiencies:		





**ENERGEN**  
R E S O U R C E S  
C O R P O R A T I O N

JICARILLA 67 #21  
2575' FNL 701' FWL  
SHL UNIT E SEC 19 T25N R05W  
LATITUDE 36.38575°  
LONGITUDE -107.40775°  
API # 30-039-31022 ELEV. 6623'  
LEASE # JICARILLA CONTRACT 67  
RIO ARriba COUNTY, NEW MEXICO  
BASIN DAKOTA