

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Department  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-144  
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.  
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

60367

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**

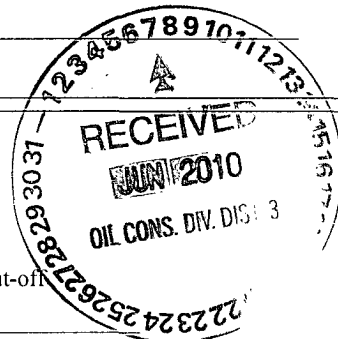
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.  
Operator: Energen Resources OGRID #: 162928  
Address: 2010 Afton Place, Farmington, New Mexico 87401  
Facility or well name: Jicarilla 96 9  
API Number: 3003982347 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr O Section 2 Township 26N Range 03W County: Rio Arriba  
Center of Proposed Design: Latitude 36.51082 Longitude -107.10993 NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

2.  
☐ **Pit:** Subsection F or G of 19.15.17.11 NMAC  
Temporary: ☐ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☐ String-Reinforced  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

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: Produced Water  
Tank Construction material: \_\_\_\_\_  
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☒ Visible sidewalls only ☐ Other \_\_\_\_\_  
Liner type: Thickness \_\_\_\_\_ mil ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_



5.  
☐ **Alternative Method:**  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

**Fencing:** Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☐ Alternate. Please specify \_\_\_\_\_

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)

8.

**Signs:** Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☐ Signed in compliance with 19.15.3.103 NMAC

9.

**Administrative Approvals and Exceptions:**

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

**Please check a box if one or more of the following is requested, if not leave blank:**

- ☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

**Instructions:** The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input 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 type="checkbox"/> No
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> ) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input 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. ( <i>Applies to permanent pits</i> ) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input 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 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 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 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 type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<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: \_\_\_\_\_

12.

**Closed-loop Systems Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC  
*Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9  
☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC  
☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_  
☐ Previously Approved Operating and Maintenance Plan API Number: \_\_\_\_\_ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC  
*Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC  
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Climatological Factors Assessment  
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Quality Control/Quality Assurance Construction and Installation Plan  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan  
☐ Emergency Response Plan  
☐ Oil Field Waste Stream Characterization  
☐ Monitoring and Inspection Plan  
☐ Erosion Control Plan  
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

**Proposed Closure:** 19.15.17.13 NMAC  
*Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.*

- Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Closed-loop System  
☐ 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

16.

**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)

**Instructions:** Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

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

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

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

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

☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

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

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

Ground water is less than 50 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

☐ NA

Ground water is between 50 and 100 feet below the bottom of the buried waste

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

☐ NA

Ground water is more than 100 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

☐ NA

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

18.

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

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

**Operator Application Certification:**

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

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

20.

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

OCD Representative Signature: \_\_\_\_\_ Approval Date: 11/04/11

Title: Compliance Officer OCD Permit Number: \_\_\_\_\_

21.

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

*Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

☒ Closure Completion Date: 5/25/10

22.

**Closure Method:**

☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)  
☐ If different from approved plan, please explain.

23.

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

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

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

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

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

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

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

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

24.

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

- ☒ Proof of Closure Notice (surface owner and division)  
☐ Proof of Deed Notice (required for on-site closure)  
☐ Plot Plan (for on-site closures and temporary pits)  
☐ Confirmation Sampling Analytical Results (if applicable)  
☐ Waste Material Sampling Analytical Results (required for on-site closure)  
☒ Disposal Facility Name and Permit Number --- TNT Landfarm (WM-1-008)  
☐ Soil Backfilling and Cover Installation  
☐ Re-vegetation Application Rates and Seeding Technique  
☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude \_\_\_\_\_ Longitude \_\_\_\_\_ NAD: ☐ 1927 ☐ 1983

25.

**Operator Closure Certification:**

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

Name (Print): Ed Hasely Title: Sr. Environmental Engineer

Signature: [Signature] Date: 6/3/10

e-mail address: ed.hasely@energen.com Telephone: (505) 324-4131

# **BELOW-GRADE TANK CLOSURE REPORT**

ENERGEN RESOURCES  
Jicarilla 96 #9

## **CLOSURE STEPS:** (Closure Report information is in **bold**)

(1) Notify the surface owner by certified mail, return receipt requested, of the plans to close the below-grade tank.

**Attached**

(2) Notify the Aztec OCD office (Brandon Powell – 334-6178, Ext 15) verbally or by other means at least 72 hours, but not more than one week, prior to the planned closure operation.

**Attached**

(3) Remove liquids from the below-grade tank. Dispose of the liquids and sludge in a division-approved facility.

**No disposal of liquids was required.**

(4) Remove the below-grade tank for re-use in an above-ground setup or for disposal in a division-approved manner.

**Tank removed.**

(5) Unless the equipment is required for some other purpose, remove any on-site equipment associated with the below-grade tank.

**All remaining equipment was removed due to the well being P&A'd.**

(6) Test the soils beneath the below-grade tank to determine whether a release has occurred.

- Collect, at a minimum, a five point, composite sample;  
**Sample collected.**
- Collect individual grab samples from any area that is wet, discolored or showing other evidence of a release;

**No additional sampling was required.**

Analyze for BTEX, TPH and chlorides to demonstrate:

- Benzene concentration does not exceed 0.2 mg/kg, as determined by EPA SW-846 methods 8021B or 8260B
- Total BTEX concentration does not exceed 50 mg/kg, as determined by EPA SW-846 methods 8021B or 8260B
- TPH concentration does not exceed 100 mg/kg, as determined by EPA method 418.1
- Chloride concentration does not exceed 250 mg/kg, as determined by EPA method 300.1 or the background concentration, whichever is greater.

Constituent	Limit (mg/kg)	Actual Results (mg/kg)
Benzene	0.2	0.006
Total BTEX	50.0	0.014
TPH (418.1)	100	6624 (exceedance)
Chlorides	250	20

(7) IF the soil analyses show that the soils meet the concentrations specified in (6) above, backfill the excavation with compacted, non-waste containing, earthen material in a manner that will prevent ponding or erosion. If the area will not be needed for operations, reclaim the area as described in the "RECLAMATION" section.

**Not applicable.**

(8) IF the soil analyses show that the soils exceed one or more of the concentrations specified in (6) above, notify the Aztec OCD office (Brandon Powell – 334-6178, Ext 15) and proceed per 19.15.3.116 NMAC.

**Proceeded per 19.15.29 and 19.15.30.**

NOTE: If groundwater is encountered at any time during the closure process, the OCD office will be notified and a specific closure plan will be submitted to the Aztec and Santa Fe OCD offices for approval.

**Not applicable.**

#### **FINAL CLOSURE REPORT:**

Within 60 days of closure completion, submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results.

**This submittal is the closure report.**

#### **RECLAMATION:**

If the area is not needed for operations, reclaim the area to a safe and stable condition that blends with the surrounding undisturbed area. Restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover, recontour the location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate.

(A) Construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material. The soil cover shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.


(B) Seed or plant the disturbed areas the first growing season after closing the below-grade tank. Drill on the contour whenever practical or by other division-approved methods. The goal is to obtain vegetative cover that equals 70% of the native perennial vegetative 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, and maintain that cover through two successive growing seasons. During the two successive growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.

(C) Repeat seeding or planting until it successfully achieves the required vegetative cover.

(D) If conditions are not favorable for the establishment of vegetation, such as periods of drought, contact the Aztec OCD office to discuss possibly delaying seeding or planting until soil moisture conditions become favorable or using additional techniques such as mulching, fertilizing, irrigating, fencing or other practices.

(E) Notify the Aztec OCD office (Brandon Powell – 334-6178, Ext 15) when the area has been seeded or planted and when it successfully achieves re-vegetation.

**Seeding is deferred to the BLM / Tribal requirements per the BLM / OCD MOU.**

PAGE NO: <u>1</u> OF <u>2</u>	 <b>envirotech</b> (205) 632-0315 (200) 362-1879 6706 U.S. Hwy 64, Farmington, NM 87401	ENVIRONMENTAL SPECIALIST: <u>TCM</u>
DATE STARTED: <u>5/18/10</u>		LAT: <u>N 36°30.6540</u>
DATE FINISHED: <u>5/18/10</u>		LONG: <u>W 107°6.6748</u>

### FIELD REPORT: BGT / PIT CLOSURE VERIFICATION

LOCATION: NAME: <u>Jicarilla</u>	WELL #: <u>9</u>	TEMP PIT: <u></u>	PERMANENT PIT: <u></u>	BGT: <u>X</u>
LEGAL ADD: UNIT: <u>0</u>	SEC: <u>2</u>	TWP: <u>26 N</u>	RNG: <u>03 W</u>	PM: <u>NM</u>
QTR/FOOTAGE: <u>890' FSL &amp; 1750' FEL</u>		CNTY: <u>Rio Arriba</u> ST: <u>New Mexico</u>		
EXCAVATION APPROX: <u>NA</u> FT. X <u>NA</u> FT. X <u>NA</u> FT. DEEP	CUBIC YARDAGE: <u>N/A</u>			
DISPOSAL FACILITY: <u>NA</u>	REMEDATION METHOD: <u>NA</u>			
LAND OWNER: <u>Jicarilla</u>	API: <u>30-039-82347</u>	BGT / PIT VOLUME: <u>N/A</u>		
CONSTRUCTION MATERIAL: <u>N/A</u>	DOUBLE-WALLED, WITH LEAK DETECTION: <u>N/A</u>			
LOCATION APPROXIMATELY: <u>64'</u> FT. <u>312°</u> FROM WELLHEAD				
DEPTH TO GROUNDWATER: <u>7100</u>				

- ☐ TEMPORARY PIT - GROUNDWATER 50-100 FEET DEEP  
 BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 500 mg/kg
- ☐ TEMPORARY PIT - GROUNDWATER ≥100 FEET DEEP  
 BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 1000 mg/kg
- ☒ PERMANENT PIT OR BGT  
 BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, TPH (418.1) ≤ 100 mg/kg, CHLORIDES ≤ 250 mg/kg

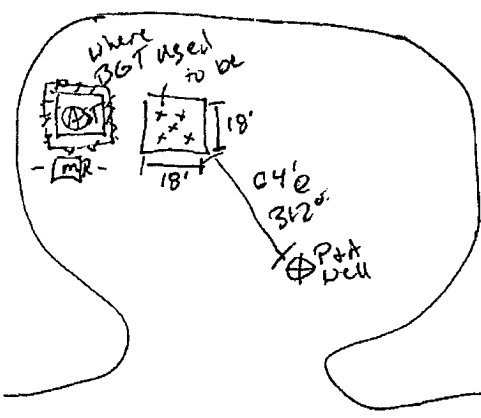

#### FIELD 418.1 ANALYSIS

TIME	SAMPLE I.D.	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (mg/kg)
13:45	18200-STD					183	
14:00	5pt comp	1	5	20	4	1856	6.624
		2					
		3					
		4					
		5					
		6					

#### PERIMETER

#### FIELD CHLORIDES RESULTS

#### PROFILE

	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>READING</th> <th>CALC. (mg/kg)</th> </tr> </thead> <tbody> <tr><td>5+D/100</td><td></td><td></td></tr> <tr><td>1</td><td>0.0</td><td>0.0</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </tbody> </table>	SAMPLE ID	READING	CALC. (mg/kg)	5+D/100			1	0.0	0.0													<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">PID RESULTS</th> </tr> <tr> <th>SAMPLE ID</th> <th>RESULTS (ppm)</th> </tr> </thead> <tbody> <tr><td>5+D/100</td><td>98</td></tr> <tr><td>1</td><td>0.0</td></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> </tbody> </table> <div style="margin-top: 20px;">  <p>8' deep hole where BGT used to be</p> </div>	PID RESULTS		SAMPLE ID	RESULTS (ppm)	5+D/100	98	1	0.0								
SAMPLE ID	READING	CALC. (mg/kg)																																					
5+D/100																																							
1	0.0	0.0																																					
PID RESULTS																																							
SAMPLE ID	RESULTS (ppm)																																						
5+D/100	98																																						
1	0.0																																						

#### LAB SAMPLES

SAMPLE ID	ANALYSIS	RESULTS
	BENZENE	
	BTEX	
	GRO & DRO	
	CHLORIDES	

#### NOTES:

Strong oily odor coming from Pit.  
 Date conducted 5/13/10

WORKORDER #

WHO ORDERED



Client: *Energizer*envirotech  
(800) 632-0015 (800) 362-1670

5706 U.S. Hwy 64, Farmington, NM 87401

Location No:

C.O.C. No:

## FIELD REPORT: SPILL CLOSURE VERIFICATION

PAGE NO: 2 OF 2DATE STARTED: 5/18/10DATE FINISHED: 5/18/10LOCATION: NAME: Jicarilla 96 WELL #: 9QUAD/UNIT: 0 SEC: 2 TWP: 26N RNG: 34 PM: NM CNTY: SJ ST: NMTR/FOOTAGE: 890' FSC & 1750' FEL CONTRACTOR: NONE

ENVIRONMENTAL

SPECIALIST: TCMEXCAVATION APPROX: NA FT. X NA FT. X NA FT. DEEP CUBIC YARDAGE: NADISPOSAL FACILITY: NA REMEDIATION METHOD: NALAND USE: Grazing LEASE: NA LAND OWNER: JicarillaCAUSE OF RELEASE: BGT MATERIAL RELEASED: Incidental oilPILL LOCATED APPROXIMATELY: 64' FT. 3/20 FROM well headDEPTH TO GROUNDWATER: 7100' NEAREST WATER SOURCE: 71000' NEAREST SURFACE WATER: ~215'IMOC D RANKING SCORE: 10 NMOCD TPH CLOSURE STD: 1,000 PPM

## OIL AND EXCAVATION DESCRIPTION:

To be dug out at a later date.

However, Jicarilla Regulations  
are 100 ppm TPH & 100 ppm OV

SAMPLE DESCRIPTION	TIME	SAMPLE I.D.	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm
Spt. Composite	14:00	1	1	5	20	4	1686	6624
182 Standard	13:45	—	—	—	—	—	183	—

## SPILL PERIMETER

OVM  
RESULTS

## SPILL PROFILE

See  
Pg 1

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	0.0

## LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

See  
Pg  
1

TRAVEL NOTES: \_\_\_\_\_ CALLED OUT: \_\_\_\_\_ ONSITE: \_\_\_\_\_



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	Energen Resources	Project #:	03022-0171
Sample No.:	1	Date Reported:	5/24/2010
Sample ID:	5 pt Composite	Date Sampled:	5/13/2010
Sample Matrix:	Soil	Date Analyzed:	5/13/2010
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----------	--------------------------	--------------------------

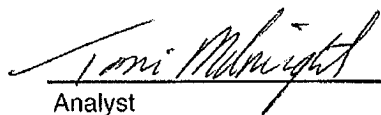
<b>Total Petroleum Hydrocarbons</b>	<b>6,620</b>	<b>5.0</b>
-------------------------------------	--------------	------------

ND = Parameter not detected at the stated detection limit.

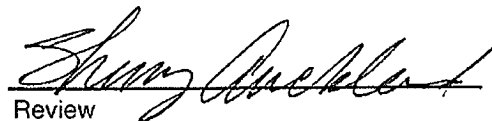
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Jicarilla 96 #9**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
\_\_\_\_\_  
Analyst

Toni McKnight  
Printed

  
\_\_\_\_\_  
Review

Sherry Auckland  
Printed



EPA METHOD 8021  
AROMATIC VOLATILE ORGANICS

Client:	Energen	Project #:	03022-0171
Sample ID:	Composite	Date Reported:	05-20-10
Laboratory Number:	54232	Date Sampled:	05-13-10
Chain of Custody:	9356	Date Received:	05-14-10
Sample Matrix:	Soil	Date Analyzed:	05-19-10
Preservative:	Cool	Date Extracted:	05-17-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	5.5	0.9
Toluene	1.6	1.0
Ethylbenzene	1.3	1.0
p,m-Xylene	2.8	1.2
o-Xylene	2.6	0.9
Total BTEX	13.8	

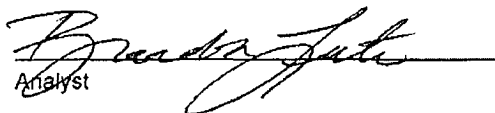
ND - Parameter not detected at the stated detection limit.

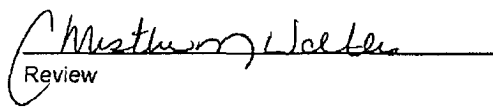
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	87.9 %
	1,4-difluorobenzene	86.9 %
	Bromochlorobenzene	98.2 %

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: BGT Closure / Jicarilla 96 #9

  
Analyst

  
Review



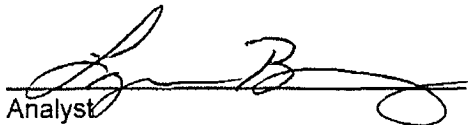
## Chloride

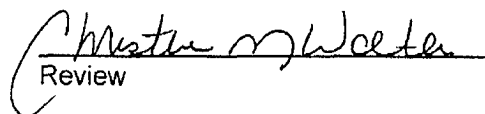
Client:	Energen	Project #:	03022-0171
Sample ID:	Composite	Date Reported:	05-19-10
Lab ID#:	54232	Date Sampled:	05-13-10
Sample Matrix:	Soil	Date Received:	05-14-10
Preservative:	Cool	Date Analyzed:	05-18-10
Condition:	Intact	Chain of Custody:	9356

Parameter	Concentration (mg/Kg)
Total Chloride	20

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: BGT Closure / Jicarilla 96 #9

  
Analyst

  
Review

**Ed Hasely**

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**From:** Ed Hasely  
**Sent:** Tuesday, May 11, 2010 4:22 PM  
**To:** 'Powell, Brandon, EMNRD'  
**Cc:** 'Dixon Sandoval'; Billy Stalcup  
**Subject:** BGT Closure - Jicarilla 96 #9

This email is to notify you that Energen plans to close the below grade tank on the subject location in the near future. The recently plugged well is located in Unit Letter O, Section 2 – T26N – R03W, Rio Arriba County, New Mexico. Please let me know if you have questions. Thanks.

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

Sr. Environmental Engineer  
[ed.hasely@energen.com](mailto:ed.hasely@energen.com)  
Office: (505) 324-4131  
Cell: (505) 330-3584



May 12, 2010

Jicarilla Apache Nation  
Environmental Protection Office  
P.O. Box 507  
Dulce, NM 87528  
Attn: Mr. Dixon Sandoval, Environmental Specialist

Re: Below Grade Tank Closure  
Jicarilla 96 #9

Dear Sirs:

Energen Resources plans to close a below grade tank located on the subject location. You are on record as the surface owner where this tank is located. New Mexico Oil Conservation Division (NMOCD) rules require notification to the surface owner of our plans to close the below grade tank. NMOCD rules and guidelines will be followed. The well is located in Unit Letter O, Section 2, Township 26N, Range 3W in Rio Arriba County, New Mexico.

If there are any questions or concerns, please contact me at 505-324-4131.

Sincerely,

Ed Hasely  
Sr. Environmental Engineer  
Energen Resources

Cc: Well File  
Correspondence

Certified Mail

7007 1490 0000 5397 4646

U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
OFFICIAL USE	
Postage	\$
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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$
Sent To	
Street, Apt. No., or PO Box No.	
City, State, ZIP+4	
PS Form 3800, August 2006 See Reverse for Instructions	

96 #9 B61	
SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"><li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li><li>Print your name and address on the reverse so that we can return the card to you.</li><li>Attach this card to the back of the mailpiece, or on the front if space permits.</li></ul>	<p>A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) C. Date of Delivery</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p>
1. Article Addressed to: Jicarilla Apache Nation EPO PO Box 507 Dulce, NM 87528 Attn: Dixon Sandoval	3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.
2. Article Number (Transfer from service label)	4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes

7007 1490 0000 5397 4646

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

Jicacilla 96 #9