District L 1625 N. French Dr., Hobbs, NM 88240 District H 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

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

	District Office.
Pit, Closed-Loop System, Pranaged Alternative Method Perm	
Proposed Alternative Method Perm	in or Closure Plan Application
☐ Closure of a pit, closed-loop system☐ 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 alte	
Instructions: Please submit one application (Form C-144) per individ	ual 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 s environment. Nor does approval relieve the operator of its responsibility to comply with	
Operator: Energen Resources Corporation	OGRID#: 162928
Address: 2010 Afton Place, Farmington, NM 87401	
Facility or well name: Jicarilla 115E #13A	
API Number: 30-039-31040	OCD Permit Number:
U/L or Qtr/Qtr F Section 03 Township 26	N Range 03W County: Rio Arriba
Center of Proposed Design: Latitude 36.51756 N I	ongitude 107.13512 W NAD: 1927 X 1983
Surface Owner: Federal State Private Tribal Trust or Indian All	
Pit: Subsection F or G of 19.15.17.11 NMAC	
	
Temporary: Drilling Workover	
Permanent Emergency Cavitation P&A	
Lined Unlined Liner type: Thicknessmil LLDPE	HDPE PVC Other
String-Reinforced	
Liner Seams: Welded Factory Other	Volume:bbl_Dimensions: L x Wx D
3,	
X Closed-loop System: Subsection H of 19.15.17.11 NMAC	
Type of Operation: P&A X Drilling a new well X Workover or Drillin	
intent)	POPE HDPE PVC Other
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other	
X Lined ☐ Unlined Liner type: Thickness	DPE HDPE PVC Other
Liner Seams: Welded X Factory Other	
4.	Milis 2011
Below-grade tank: Subsection I of 19.15.17.11 NMAC	OIL CONS DAY
Volume: bbl Type of fluid:	
Tank Construction material:	6-inch lift and automatic overflow shut-off
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, of	5-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other	
Liner type: Thicknessmil LLDPE HDPE HDPE	
5.	

☐ Alternative Method:

Şubmittal 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, scho institution or church)	ol, hospital,
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)	
iviolatily inspections (it netting or screening is not physicany feasible)	
Signs: Subsection C of 19.15.17.11 NMAC	
12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers	
X 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.	
Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Burconsideration of approval.	reau office for
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of ac material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the ap office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drabove-grade tanks associated with a closed-loop system.	propriate district of approval.
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	☐ Yes ☐ 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	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ 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 search; 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

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:
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)
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 19.15.17.11 NMAC Nuisance or Hazardous Odors, including H2S, Prevention Plan Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Proposed Closure: 19.15.17.13 NMAC 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)
Waste Excayation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached. Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Grou' Instructions: Please indentify the facility or facilities for the disposal of liquids	nd Steel Tanks or Haul-off Bins Only: (19.15.17.13, drilling fluids and drill cuttings. Use attachment if mo	D NMAC) ore than two
facilities are required. Disposal Facility Name: Envirotech	Disposal Facility Permit Number: NM-01-0011	
Disposal Facility Name: IEI	Disposal Facility Permit Number: NM-01-0010B	
Will any of the proposed closed-loop system operations and associated activities	s occur on or in areas that will not be used for future se	rvice and
operations? Yes (If yes, please provide the information below) No		•
Required for impacted areas which will not be used for future service and opera Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection Plan - based upon the appropria	priate requirements of Subsection H of 19.15.17.13 NM etion I of 19.15.17.13 NMAC	AC
Siting Criteria (regarding on-site closure methods only: 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in provided below. Requests regarding changes to certain siting criteria may request be considered an exception which must be submitted to the Santa Fe Environment and/or demonstrations of equivalency are required. Please refer to 19.15.17.1	the closure plan. Recommendations of acceptable soi juire administrative approval from the appropriate dis mental Bureau office for consideration of approval	trict office or may
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
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
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other 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 chu - Visual inspection (certification) of the proposed site; Aerial photo; Sat		☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that watering purposes, or within 1000 horizontal feet of any other fresh water well - NM Office of the State Engineer - iWATERS database; Visual inspect	or spring, in existence at the time of initial application.	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh vadopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written ap		Yes No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; V	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-Mi	ining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geosciety; Topographic map	ology & Mineral Resources; USGS; NM Geological	Yes No
Within a 100-year floodplain FEMA map		☐ Yes ☐ No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each o by a check mark in the box, that the documents are attached.	f the following items must be attached to the closure pl	an. Please indicate,
Siting Criteria Compliance Demonstrations - based upon the appropriate recompliance Demonstrations - based upon the appropriate requirements of Construction/Design Plan of Burial Trench (if applicable) based upon the a Construction/Design Plan of Temporary Pit (for in-place burial of a drying Protocols and Procedures - based upon the appropriate requirements of 19.1 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Disposal Facility Name and Permit Number (for liquids, drilling fluids and Soil Cover Design - based upon the appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	of Subsection F of 19.15.17.13 NMAC ppropriate requirements of 19.15.17.11 NMAC pad) - based upon the appropriate requirements of 19.15.17.13 NMAC quirements of Subsection F of 19.15.17.13 NMAC of Subsection F of 19.15.17.13 NMAC drill cuttings or in case on-site closure standards cannot H of 19.15.17.13 NMAC of 19.15.17.13 NMAC	

Operator Application Certification: I hereby certify that the information submitted with this application is true, accurate a	nd complete to the best of my knowledge and belief.
Name (Print): Andrew Soto	Title: Drilling Engineer
Signature:	Date: 3/8/11
e-mail address: _asoto@energen.com	Telephone: 505-325-6800
OCD Approval: Permit Application (including closure plan) Closur OCD Representative Signature:	e Plan (only) OCD Conditions (see attachment) Approval Date: 5/26/20(/
Title: Compliance Office OCD	Permit Number:
Closure Report (required within 60 days of closure completion): Subsection K of Instructions: Operators are required to obtain an approved closure plan prior to im report. The closure report is required to be submitted to the division within 60 days complete this section of the form until an approved closure plan has been obtained to	plementing any closure activities and submitting the closure of the completion of the closure activities. Please do not
Closure Method: Waste Excavation and Removal On-Site Closure Method Alternative Clo	osure Method
23. Closure Report Regarding Waste Removal Closure For Closed-loop Systems Tha Instructions: Please indentify the facility or facilities for where the liquids, drilling than two facilities were utilized. Disposal Facility Name:	fluids and drill cuttings were disposed. Use attachment if more
Disposal Facility Name: Dispos	al Facility Permit Number:
Were the closed-loop system operations and associated activities performed on or in a Yes (If yes, please demonstrate compliance to the items below) No	reas that will not be used for future service and operations?
Required for impacted areas which will not be used for future service and operations: Site Reclamation (Photo Documentation) Boil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	
Closure Report Attachment Checklist: Instructions: Each of the following items 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	ust be attached to the closure report. Please indicate, by a check NAD: 1927 1983
25.	
Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure repobelief. I also certify that the closure complies with all applicable closure requirements	
Name (Print):	Title:
Signature:	Date:
e-mail address:	Telephone:



CLOSED-LOOP SYSTEM

Design Plan

The closed loop system will include a drying pad and sump to facilitate the collection of liquids derived from drill cuttings and an above ground steel holding tank suitable for generated cuttings and fluids during rig operations. The tank will be of sufficient volume to maintain a safe free board between disposal of the liquids and solids from rig operations.

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

Operating and Maintenance Plan

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

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

Closure Plan

The closed loop holding tank will be closed in accordance with 19.15.17.13. To accomplish this, all cuttings on the drying pad and any remaining fluids in the holding tank will be hauled to **Envirotech** (Permit # NM-01-0011) or **IEI/JFL Landfarm** (# NM-01-0010B) immediately following rig operations. The tanks will be removed from location as part of the rig move, and stacked cuttings to a commercial disposal site mentioned above. The APD Conditions of Approval will be followed for cite reclamation.

Completion Plan

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

CLOSED LOOP SYSTEM SCHEMATIC

Hole	Depth	Length	Volume
(in)	(ft)	(ft)	(ft³)
12 1/4	250	250	205
8 3/4	4082	3832	1600
6 1/4	7985	3903	832

Estimated Gauge Hole Volume 2636

Length	Width	Height	Volume
(ft)	(ft)	(ft)	(ft ³)
135	60	3	24300

Waste Vol. Estimate for one cuttings pile

