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.

Proposed Alternative Method Permit or Closure Plan Application				
<u> </u>				
	ystem, below-grade tank, or proposed alternative method			
☐ Closure of a pit, closed-loop ☐ Modification to an existing p	system, below-grade tank, or proposed alternative method			
	for an existing permitted or non-permitted pit, closed-loop system,			
below-grade tank, or proposed alternative method	or an emissing permitted or non-permitted pit, closed loop system,			
Instructions: Please submit one application (Form C-144) per in	ndividual pit, closed-loop system, below-grade tank or alternative request			
	ibility should operations result in pollution of surface water, ground water or the			
nvironment. Nor does approval relieve the operator of its responsibility to com	ply with any other applicable governmental authority's rules, regulations or ordinances.			
Operator: Koch Exploration Company, LLC	OGRID#: 12807			
Address: PO Box 489, Aztec, NM 87410				
API Number: 30-045-35022	OCD Permit Number:			
	Range 9W County: San Juan			
	Longitude <u>107° 47′ 96" W</u> NAD: □1927 ⊠ 1983			
Surface Owner: Federal State Private Tribal Trust or Indian				
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 W x D			
Subsection H of 19.15.17.11 NMAC				
· · · · · · · · · · · · · · · · · · ·	lling (Applies to activities which require prior approval of a permit or notice of			
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other				
□ Lined □ Unlined Liner type: Thickness 20 mil □ LI	_DPE HDPE PVC Other 910			
Liner Seams:	RECEIVED S			
	/6 DECEIVED 8			
Below-grade tank: Subsection I of 19.15.17.11 NMAC				
Volume:bbl Type of fluid:	OIL CONS. DIV. DIST. 3			
Tank Construction material:	(E) 150			
Drying Pad Above Ground Steel Tanks				
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other				
Liner type: Thicknessmil				

Alternative Method:

Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

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 consideration of approval.	office for		
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 accept	table source		
material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appro office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a	priate district		
Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dryi			
above-grade tanks associated with a closed-loop system.	☐ Yes ☐ No		
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			
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).	☐ Yes ☐ No		
- Topographic map; Visual inspection (certification) of the proposed site			
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)	☐ Yes ☐ No ☐ NA		
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image			
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	☐ Yes ☐ No ☐ NA		
 (Applies to permanent pits) Visual inspection (certification) of the proposed site; Aerial photo; Satellite image 			
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock	☐ Yes ☐ No		
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			
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	☐ Yes ☐ No		
adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality			
Within 500 feet of a wetland.	☐ Yes ☐ No		
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site			
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	☐ Yes ☐ No		
Society; Topographic map			
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 19.15.17.12 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: 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 ₂ S, Prevention Plan Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Erosion Control Plan Erosion Control 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			
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 G of 19.15.17.13 NMAC			

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC) Instructions: Please indentify 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: JFJ Landfarm, LLC Disposal Facility Permit Number: NM-01-0010	000		
Disposal Facility Name: <u>Basin Disposal, Inc. / Key Disposal</u> Disposal Facility Permit Number: <u>NM-01-005 / NM-01-0</u>			
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future services [If yes, please provide the information below] No	vice and operations?		
Required for impacted areas which will not be used for future service and operations: Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC			
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.			
Ground water is less than 50 feet below the bottom of the buried waste. - 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			

Operator Application Certification: I hereby certify that the information submitted with this application is t	true, accurate and complete to the bes	t of my knowledge and belief.		
Name (Print): John Clark	Title: District Superi	intendent		
Signature:	Date:	12-09		
e-mail address: <u>clark23j@kovhind.com</u>	Telephone: _(505) 334-	9111		
OCD Approval: Permit Application (including closure plan)	Closure Plan (only) OCD Cond	litions (see attachment)		
OCD Representative Signature:		Approval Date: 10-14-09		
Title: Endin/spec	OCD Permit Number:_			
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	n Date:		
22. Closure Method: ☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ ☐ If different from approved plan, please explain.	Alternative Closure Method	Waste Removal (Closed-loop systems only)		
Closure Report Regarding Waste Removal Closure For Closed-loop Instructions: Please indentify the facility or facilities for where the litture facilities were utilized.	quids, drilling fluids and drill cutting	gs weré disposed. Use attachment if more than		
Disposal Facility Name:		Number:		
Disposal Facility Name:		Number:		
Were the closed-loop system operations and associated activities perfor Yes (If yes, please demonstrate compliance to the items below)	□ No	ed for future service and operations?		
Required for impacted areas which will not be used for future service at Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	nd operations:			
24. Closure Report Attachment Checklist: Instructions: Each of the fo		a classica manant. Planta indicata hu a chaoli		
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 Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation)	-	e ciosure report. Frieuse maicaie, by a check		
On-site Closure Location: Latitude	Longitude	NAD: 1927 1983		
Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.				
Name (Print):	Title:			
Signature:				
e-mail address:	Telephone:			

Attachment to Form C-144 Closed Loop System Permit Application A. B. Geren 6B API #30-045-35022

Design Specifications

Koch Exploration Company, LLC (KEC) will design a closed loop system without incorporating a temporary pit or below grade tank during drilling operations. The system will utilize an above ground tank suitable for holding solids and liquids generated during the drilling process. The tank volume shall be sufficient enough to maintain an adequate free-board that allows for periodic removal and disposal of solids and liquids.

KEC may incorporate the use of a drying pad constructed of a 20 mil, string reinforced, LLDPE liner with factory welded seams, to reduce the volume of fluids to be disposed of. The drying pad will be designed to prevent contamination of fresh water and protect public health and environment. The drying pad will have sumps to facilitate the collection of liquids derived from drill cuttings, and berms that prevent run-on of surface water or fluids, as specified in 19.15.17.11(H) NMAC. The drying pad will be placed in the area previously designated for the temporary reserve pit. KEC will sign the well location in compliance with 19.15.3.103. Frac tanks will be utilized on location for fresh water storage or excess drill fluids.

Operational and Maintenance Requirements

KEC will operate and maintain the closed loop system to contain liquids and solids to prevent contamination of fresh water and protect public health and environment.

- 1. KEC will conserve drilling fluids by transferring liquids to frac tanks to assist in moving the rig tanks, whenever possible. All other drilling fluids will be disposed at Basin Disposal Inc., OCD Permit NM-01-005 or Key Disposal, OCD Permit NM-01-009, or other OCD approved facility.
 - 2. KEC will not discharge into or store any hazardous waste in the closed loop system.
- **3.** Drilling solids will be recovered from the location and disposed at JFJ Landfarm, LLC (Permit # NM-01-0010), aka IEI, periodically as required to maintain a safe free board in the cuttings tank. No onsite burial of the cuttings will occur.
- **4.** In the event that the closed loop system should develop a leak, then KEC shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage immediately.

Closure Plan

- 1. Upon completion of the drilling operations, KEC shall remove any remaining liquids and dispose of them at Basin Disposal Inc., OCD Permit NM-01-005 or Key Disposal, OCD Permit NM-01-0009, and any remaining solids will be disposed at JFJ Landfarm, LLC (Permit # NM-01-0010) or other OCD approved facilities.
- 2. In the event a drying pad is utilized, the solids will be disposed at JFJ Landfarm, LLC (Permit # NM-01-0010), and any remaining liquids will be disposed at Basin Disposal Inc., OCD Permit NM-01-005 or Key Disposal, OCD Permit NM-01-0009 or other OCD approved facilities, and the liner will be disposed of at the San Juan County Land fill located on CR 3100. The drying pad will be closed within 6 months from the date that the drilling rig is released.
- **3.** After the drying pad is removed and disposed of the surface below will be visually inspected for any possible contamination. If contamination is discovered, KEC will test, and clean the site as follows: A five point composite sample will be collected to demonstrate that the following parameters aren't exceeded:

Benzene	EPA SW-846 8021 B or 8260B	0.2 mg/kg
BTEX	EPA SW-846 8021 B or 8260B	50 mg/kg
TPH	EPA SW-846, 418.1	2500 mg/kg
GRO/DRO	EPA SW-846 8015M	500 mg/kg
Chlorides	EPA 300.1	Greater of 500 mg/kg or background

- **4.** KEC shall reclaim the areas associated with the closed loop system that are not determined to be part of the well site work area to a safe and stable condition that blends with the surrounding undisturbed area. Recontouring of the closed loop system area will match fit, shape, line, form and texture of the surrounding area. Reshaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed where needed to prevent erosion on a large scale. Final recontour shall have a uniform appearance with smooth surface, fitting the natural landscape. A soil cover will be installed per 19.15.17.13(H) and revegetation will be done in accordance with 19.15.17.13.(I).
- 5. KEC will seed the disturbed areas the first growing season after closing the closed loop system. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) 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. Repeat seeding or planting will be continued until successful vegetative growth occurs. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation. KEC will notify the division when seeding and planting is done and when revegetation is complete.