State of New Mexico Minerals and Natural District I 1625 N French Dr., Hobbs, NM 88246 de 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. District II Department 1301 W. Grand Avenue, Artesia, NM 8 District III Oil Conservation Division 18 1000 Rio Brazos Road, Aztec, NM 87410 III 22 2008 1220 South St. Francis Dr District IV anta Fe, NM 8750508850 1220 S St Francis Dr , Santa Fe, NM 87

## Pit. Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

X Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method Type of action: Closure of a 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 theoperator of liability should operations result in pollution of surface water, ground water or the proval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

environment. 1401 does approval reneve the operator of its responsionity to con-	
Operator: Range Operating New Mexico, Inc OGE	RID#: <u>227588</u>
Address: 100 Throckmorton Street, Fort Worth, TX 76102	
Facility or well name: Hill #2	
Facility or well name: Hill #2  API Number: 30 -021-39062 OCD Permit Number:	1-1-00244
U/L or Qtr/Qtr 10 Section 4 Township 21S	Range 37E County: Lea
Center of Proposed Design: Latitude 32.513971°N Long	itude103.166485°W NAD: X 1927 _ 1983
Surface Owner: Federal XState Private Tribal Trust or Indian A	llotment
Pit: Subsection F or G of 19.15.17.11 NMAC	X Closed-loop System: Subsection H of 19.15.17.11 NMAC
Temporary. Drilling Workover	☐ Drying Pad X Tanks X Haul-off Bins ☐ Other
Permanent Emergency Cavitation X Steel Pit	Lined Unlined
☐ Lined ☐ Unlined	Liner type: Thicknessmil
Liner type: Thicknessmil	Other
Other String-Reinforced	Seams:  Welded  Factory  Other
Seams:  Welded  Factory  Other	Volume:bblyd <sup>3</sup>
Volumebbl         Dimensions: L x W x D	Dimensions Length x Width
Below-grade tank: Subsection I of 19.15.17 11 NMAC	Fencing: Subsection D of 19.15.17.11 NMAC
Volume:bbl	☐ Chain link, six feet in height, two strands of barbed wire at top
Type of fluid:	Four foot height, four strands of barbed wire evenly spaced between one and
Tank Construction material:	four feet
Secondary containment with leak detection	Netting: Subsection E of 19.15.17.11 NMAC
Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off	Screen Netting Other
☐ Visible sidewalls and liner	Monthly inspections
☐ Visible sidewalls only	Signs: Subsection C of 19.15 17.11 NMAC
Other	12'x24', 2' lettering, providing Operator's name, site location, and
Liner type: Thicknessmil	emergency telephone numbers
Other	Signed in compliance with 19.15.3.103 NMAC
Alternative Method: Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration	Administrative Approvals and Exceptions:  Justifications and/or demonstrations of equivalency are required. Please refer to 19 15.17 NMAC for guidance.
of approval	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.

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	☐ 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 ☐ 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	☐ 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 - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC			
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 deattached.  Geologic and Hydrogeologic Data (required for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of Siting Criteria Compliance Demonstrations (required for on-site closure) - based upon the appropriate requirements of 19.15.17.10 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 - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC	19.15.17.9		

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC	4
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the do	cuments 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	
<ul> <li>☐ Monitoring and Inspection Plan</li> <li>☐ Erosion Control Plan</li> <li>☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC</li> </ul>	
Proposed Closure: 19.15.17.13 NMAC	
Type: X Drilling Workover Emergency Cavitation Permanent Pit Below-grade Tank X 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 co	nsideration)
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

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) In closure plan. Please indicate, by a check mark in the box, that the documents are a Protocols and Procedures - based upon the appropriate requirements of 19.15.1 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.1 Disposal Facility Name and Permit Number (for liquids, drilling fluids and drilling Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection 1 Compared to the State Reclamation Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the supposition Plan - based upon the appropriate requirements of Subsection 1 Compared to the sup	7.13 NMAC rements of Subsection F of 19.15.17.13 NMAC 1 cuttings) urrements of Subsection H of 19.15.17.13 NMAC of 19.15.17.13 NMAC 1 G of 19.15.17 13 NMAC		
Waste Removal Closure For Closed-loop Systems That Utilize Haul-off Bins Only or facilities for the disposal of liquids, drilling fluids and drill cuttings.  Disposal Disposal	Facility Permit Number: NM-01-0003		
Disposal Facility Name Sundance Disposal Disposal I  On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the property of	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 S Construction and Design of Burial Trench (if applicable) based upon the appropriate requirements of S Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15 1  Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of S Disposal Facility Name and Permit Number (for liquids, drilling fluids and dri Soil Cover Design - based upon the appropriate requirements of Subsection H Re-vegetation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection Plan - based upon the appropriate requirements of Subsection Plan - based upon the appropriate requirements of Subsection Plan - based upon the appropriate requirements of Subsection Plan - based upon the appropriate requirements of Subsection Plan - based	rements of 19.15.17.10 NMAC ubsection F of 19.15.17.13 NMAC operate requirements of 19.15.17.11 NMAC 7.13 NMAC rements of Subsection F of 19.15.17.13 NMAC ubsection F of 19.15.17.13 NMAC Il cuttings or in case on-site closure standards cannot be achieved) 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	and complete to the best of my knowledge and belief.		
·	itle: Regulatory Analyst		
Signature: Signature:	Date:		
V-mail address.	Telephone: (817) 869-4145		
OCD Approval: Permit Application (including closure plan) Closure Plan	(only)		
OCD Representative organization	Approval Date: _ : 8 / 1/60		
	CD Permit Number: P1-00244		
Closure Report (required within 60 days of closure completion): Subsection K of the completion of the	of 19.15.17.13 NMAC Closure Completion Date: 12/01/09		
Closure Method: Waste Excavation and Removal On-Site Closure Method Alternative If different from approved plan, please explain. Closed Loop			
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 Proof of Deed Notice (if applicable) Plot Plan Confirmation Sampling Analytical Results Waste Material Sampling Analytical Results 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: LatitudeLongitude	e NAD: □1927 □ 1983		
Operator Closure Certification:  I hereby certify that the information and attachments submitted with this closure republished. I also certify that the closure complies with all applicable closure requirements.	ts and conditions specified in the approved closure plan.		
Name (Print). Paula Hale	Title: Sr. Reg. Sp.		
Signature Signature	Date: 3-17-2009 ·		
e-mail address:phale@rangeresources.com	Telephone: 817-869-4216		
	approved steady taking		

Oil Concercation Division

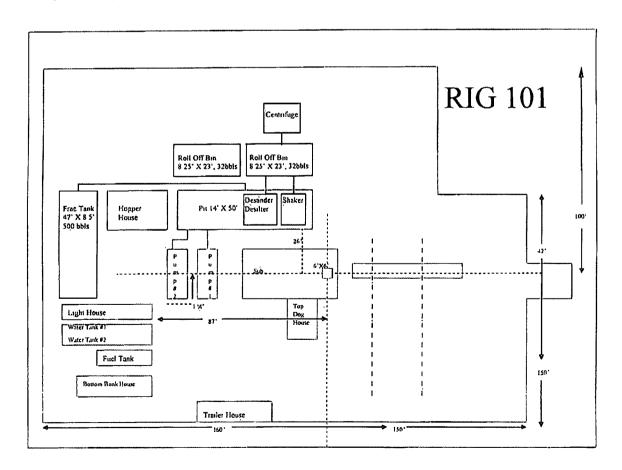
Envienmental Engr. NMOCD-Hollis

## Design/Operating Plan: Closed Loop System

A closed loop system will be used to drill the Hill #2. Below is a schematic of the rig footprint, which includes the closed loop system. During drilling operations, all fluid circulated out of the hole will first come across a primary shaker. The primary shaker will remove the bulk of the solids from the fluid. The solid waste will pass over the shaker screens into the roll off bin. The fluid will fall through the shaker screen into the first compartment of the steel pit. The fluid then is sucked out of the steel pit and circulated through a 16 cone mud cleaner system which consists of desanders and desilters. The desanders and desilters work to remove finer solids from the fluid. The solid waste will be dumped into the roll off bin while the fluids will be dumped into the second compartment of the steel pit. The fluid is then sucked from the steel pit and circulated through a centrifugal pump. This will remove all the remaining solids in the fluid. The solid waste will be dumped into the roll of bin while the fluid is dumped into the third compartment of the steel pit. The roll off bins will be changed out once they reach 80% capacity. This will be done to ensure that no waste is spilt on location when the bins are lifted onto the hauling trucks. In the event that the roll off bins become full too fast for removal, a frac tank will be available to flow fluids into.

During drilling operations, all liquids, fluids, and cuttings will be hauled offsite to Sundance disposal. (Permit #NM-01-0003) No closure will be necessary on the well site. CRI will be our back-up disposal site located in Hobbs, NM (Permit #R9166).

After drilling operations, a five point sample will be taken before and after operations are completed to verify that the ground was not contaminated.



Work Order: 8123112 Post-Drilling Analytical Data

## **Summary Report**

Chris Garcia

Range Operating-Eunice

P. O. Box 1570 Eunice, NM 88231 Report Date: January 12, 2009

Page Number: 1 of 2

Work Order: 8123112 

Project Name:

Post-Drilling Analytical Data Project Number: Hill State #2 Post-Drilling Pad

			Date	$\mathbf{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
183844	Post-Drilling Pad N Side	soil	2008-12-30	13:55	2008-12-31
183845	Post-Drilling Pad S Side	soil	2008-12-30	14:05	2008-12-31
183846	Post-Drilling Pad E Side	$\operatorname{soil}$	2008-12-30	14:15	2008-12-31
183847	Post-Drilling Pad W Side	soil	2008-12-30	14:25	2008-12-31

	TPH DRO	TPH GRO
	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)
183844 - Post-Drilling Pad N Side	< 50.0	<1.00
183845 - Post-Drilling Pad S Side	< 50.0	<1.00
183846 - Post-Drilling Pad E Side	< 50.0	<1.00
183847 - Post-Drilling Pad W Side	< 50.0	<1.00

Sample: 183844 - Post-Drilling Pad N Side

Param	$\operatorname{Flag}$	Result	Units	RL
Chloride		161	mg/Kg	3.25

Sample: 183845 - Post-Drilling Pad S Side

Param	Flag	Result	Units	RL
Chloride		<32.5	mg/Kg	3.25

Sample: 183846 - Post-Drilling Pad E Side

Report Date: January 12, 2009 Hill State #2 Post-Drilling Pad Work Order: 8123112 Post-Drilling Analytical Data Page Number: 2 of 2

Param	$\operatorname{Flag}$	Result	Units	RL
Chloride		<32.5	mg/Kg	3.25

Sample: 183847 - Post-Drilling Pad W Side

Param	Flag	Result	Units	RL
Chloride		<32.5	mg/Kg	3.25