1301 W. Grand Avenue, Artesia, NM 88210       E       Department       below-g         District III       1000 Rio Brazos Road, Aztec, NM 87410       E       E       V       District III       NMOCE         District IV       1220 South St. Francis Dr.       Helow-g       NMOCE	Form C-144 July 21, 2008 porary pits, closed-loop systems, and rade tanks, submit to the appropriate District Office. manent pits and exceptions submit to a Fe Environmental Bureau office and a copy to the appropriate NMOCD Office.
Pit, Closed-Loop System, Below-Grade Tank, o	
Proposed Alternative Method Permit or Closure Plan Ap	
Type of action: Closure of a pit, closed-loop system, below-grade tank, or proposed Closure of a pit, closed-loop system, below-grade tank, or proposed Modification to an existing permit Closure plan only submitted for an existing permitted or non-permited below grade tank	ed alternative method
below-grade tank, or proposed alternative method	and a damb an allow adir a second
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below- Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental	of surface water, ground water or the
1.         Operator:       Four Star Oil & Gas Company         OGRID #:       131944	
Address: P.O. Box 36366 Houston, TX 77236	
Facility or well name: Federal 1 #1	
API Number:          OCD Permit Number:	
U/L or Qtr/Qtr Section _1 Township _31N Range _13W County: Sa	n Juan
Center of Proposed Design: Latitude <u>36_55523°</u> Longitude <u>108_08922°</u>	NAD: 1927 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment	
<ul> <li>2.</li> <li>Pit: Subsection F or G of 19.15.17.11 NMAC</li> <li>Temporary: Drilling Workover</li> <li>Permanent Emergency Cavitation P&amp;A</li> <li>Lined Unlined Liner type: Thickness mil LLDPE HDPE PVC Other</li> <li>String-Reinforced</li> <li>Liner Seams: Welded Factory Other below</li> </ul>	
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 potice of
intent)	
Drying Pad Above Ground Steel Tanks Haul-off Bins Other	
Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other	
Liner Seams: Welded Factory Other	
4. ■ Below-grade tank: Subsection 1 of 19.15.17.11 NMAC	
Volume:         95 bbl         Type of fluid:         Produced Water	
Tank Construction material: <u>Steel</u>	
Secondary containment with leak detection 🗌 Visible sidewalls, liner, 6-inch lift and automatic overflow shu	
Visible sidewalls and liner Visible sidewalls only Other	
Liner type: Thicknessmil 🗌 HDPE 🗋 PVC 🗋 Other	
5.	
Alternetive Methods	
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 <u>Self supporting cattle panel.</u>

Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)

#### Screen 🗌 Netting 🛛 Other Solid

6

7

Monthly inspections (If netting or screening is not physically 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

Signed in compliance with 19.15.3.103 NMAC

#### 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:

$\boxtimes$	Administrative approval(s):	Requests must	be submitted t	o the appropriate	division district or the	Santa Fe E	Environmental	Bureau of	ffice for
conside	eration 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

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 a							
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.							
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - Please reference hydrogeologic report and printout from iWATERS database.	🗌 Yes 🛛 No						
<ul> <li>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).</li> <li>Please reference the attached topographic map with distance rings. In addition, a field visit was conducted by Envirotech in July 2008 certifying that, at the time, there were no watercourses within the distance specified above.</li> </ul>	Yes No						
<ul> <li>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>(Applies to temporary, emergency, or cavitation pits and below-grade tanks)</li> <li>Please reference the attached aerial photo. In addition, a field visit was conducted by Envirotech in July 2008 certifying that, at the time, there were no referenced buildings within the distance specified above.</li> </ul>	☐ Yes ⊠ No ☐ NA						
<ul> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits)</li> <li>Please reference the attached aerial photo. In addition, a field visit was conducted by Envirotech in July 2008 certifying that, at the time, there were no referenced buildings within the distance specified above.</li> </ul>	☐ Yes ☐ No ⊠ NA						
<ul> <li>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.</li> <li>Please reference the attached iWATERS printout. In addition, a field visit was conducted by Envirotech in July 2008 certifying that, at the time, there were no wells or springs within the distances specified above.</li> </ul>	☐ 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. The site is not within any known incorporated municipal boundaries, please reference the attached topographic map.	Yes No						
<ul> <li>Within 500 feet of a wetland.</li> <li>Please reference the attached topographic map with distance rings. In addition, a field visit was conducted by Envirotech in July 2008 certifying that, at the time, there were no wetlands within the distance specified above</li> </ul>	🗌 Yes 🛛 No						
Within the area overlying a subsurface mine.       -       Please reference the attached topographic map	🗌 Yes 🔯 No						
<ul> <li>Within an unstable area.</li> <li>Please reference the attached topographic map which includes FEMA flood map data. The map indicates the well site is outside of any known 100 year floodplains.</li> </ul>	🗋 Yes 🛛 No						
Within a 100-year floodplain.							

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.
<ul> <li>Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC</li> <li>Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Design Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC</li> </ul>
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
<ul> <li>Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>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</li> </ul>
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            Quality Control/Quality Assurance Construction and Installation Plan            Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC            Preeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC            Monitoring and Inspection Plan - based upon Plan            Emergency Response Plan             Oil Field Waste Stream Characterization             Monitoring and Inspection Plan             Errosion Control Plan             Errosion Control Plan             Closure Plan - based upon the appropriat
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         Alternative       Emergency       Cavitation       P&A         Proposed Closure Method:       Waste Excavation and Removal       Below-grade Tank       Closed-loop System         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)
<ul> <li>15.</li> <li>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.</li> <li> 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</li></ul>

11.

<sup>16.</sup> <u>Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Ste</u> <i>Instructions: Please indentify the facility or facilities for the disposal of liquids, drill</i> <i>facilities are required.</i>	el Tanks or Haul-off Bins Only: (19.15.17.13.D ling fluids and drill cuttings. Use attachment if n	NMAC) nore than two
	sposal Facility Permit Number:	
	sposal Facility Permit Number:	
Will any of the proposed closed-loop system operations and associated activities occur 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 rec         Re-vegetation Plan - based upon the appropriate requirements of Subsection I of         Site Reclamation Plan - based upon the appropriate requirements of Subsection	F 19.15.17.13 NMAC	2
<sup>17.</sup> Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the close provided below. Requests regarding changes to certain siting criteria may require and considered an exception which must be submitted to the Santa Fe Environmental Bu demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for p	dministrative approval from the appropriate distr areau office for consideration of approval. Justi	rict office or may be
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 ob	stained 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 of	stained 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 ob	stained from nearby wells	Yes No
<ul> <li>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significate (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	cant watercourse or lakebed, sinkhole, or playa	🔲 Yes 🗌 No
Within 300 feet from a permanent residence, school, hospital, institution, or church in - Visual inspection (certification) of the proposed site; Aerial photo; Satellite im		Yes No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less th watering purposes, or within 1000 horizontal feet of any other fresh water well or spring - NM Office of the State Engineer - iWATERS database; Visual inspection (certain content of the state engineer - iWATERS database) water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that less the state engineer - iWATERS database water well or spring that the state engineer - iWATERS database water well or spring that the state engineer - iWATERS database water well or spring that the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engineer - iWATERS database water well or spring the state engin	ng, in existence at the time of initial application.	Yes No
<ul> <li>Within incorporated municipal boundaries or within a defined municipal fresh water w adopted pursuant to NMSA 1978, Section 3-27-3, as amended.</li> <li>Written confirmation or verification from the municipality; Written approval confirmation or verification from the municipality.</li> </ul>		🗌 Yes 🗌 No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual ir	spection (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 an	d Mineral Division	Yes No
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Society; Topographic map</li> </ul>	Mineral Resources; USGS; NM Geological	🗌 Yes 🗌 No
Within a 100-year floodplain. - FEMA map		🗋 Yes 🗌 No
<ul> <li>18.</li> <li>On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the factory of the box, that the documents are attached.</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of Successful Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of a drying pad)</li> <li>Protocols and Procedures - based upon the appropriate requirements of 19.15.17</li> <li>Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Successful Construction/Design Plan - based upon the appropriate requirements of Successful Confirmation Sampling Plan - based upon the appropriate requirements of Successful Cover Design - based upon the appropriate requirements of Successful Cover Design - based upon the appropriate requirements of Subsection H on Re-vegetation Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsection I of Subsection Plan - based upon the appropriate requirements of Subsect</li></ul>	ements of 19.15.17.10 NMAC bsection F of 19.15.17.13 NMAC opriate requirements of 19.15.17.11 NMAC - based upon the appropriate requirements of 19.1 2.13 NMAC ements of Subsection F of 19.15.17.13 NMAC osection F of 19.15.17.13 NMAC cuttings or in case on-site closure standards cannot f 19.15.17.13 NMAC	15.17.11 NMAC

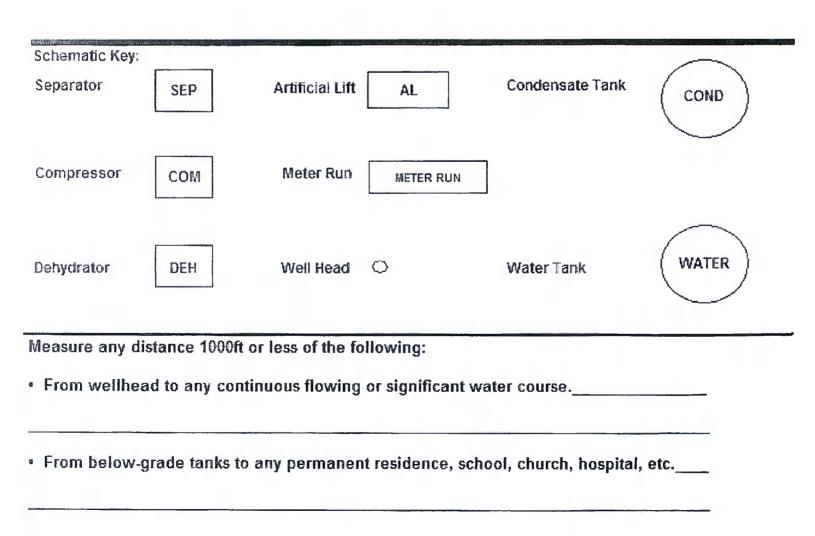
Site Reclamation Plan - based upon the appropriate requirements of Subsection 1 of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

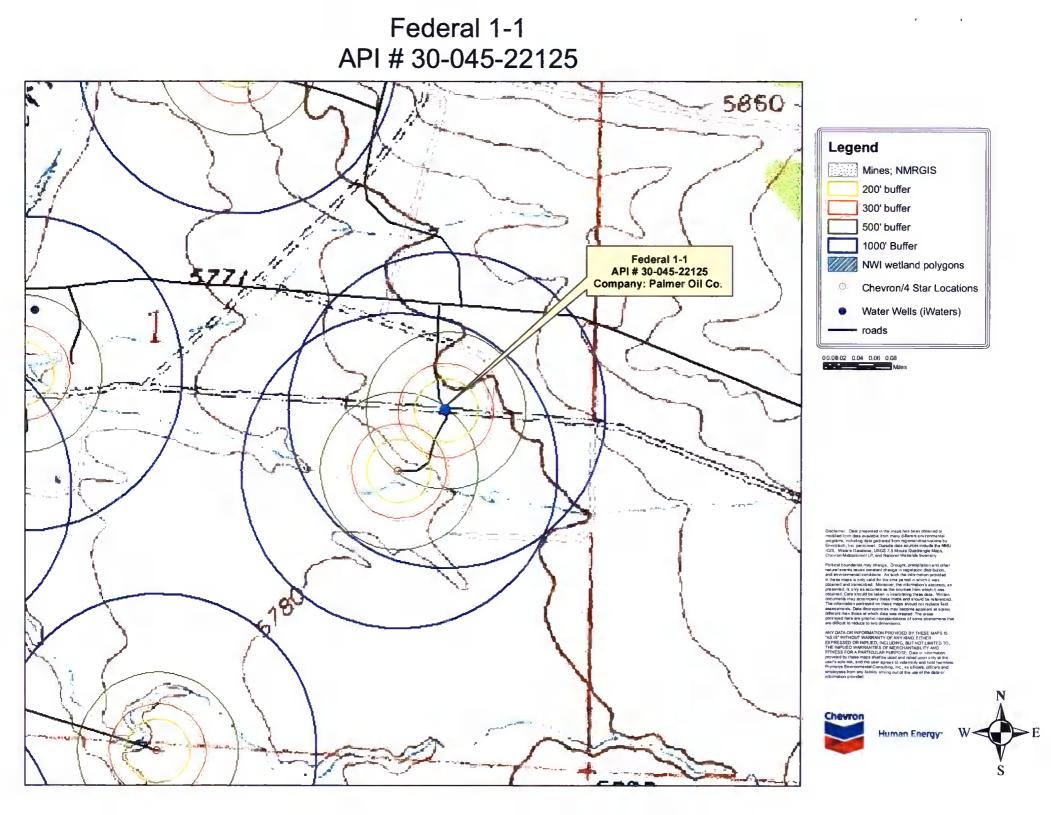
19. Operator Application Certification:		
I hereby certify that the information submitted with this application	is true, accurate and complete to	the best of my knowledge and belief.
Name (Print): <u>Rodney Bailey</u>	Title: Was	te & Water Group Lead
Signature:	Date: <u>Mar</u>	rch 1, 2010
e-mail address: <u>Bailerg@chevron.com</u>	Telephone:	(432) 687 7123
20. OCD Approval: Permit Application (including closure plan) [	Closure Plan (only) OCI	D Conditions (see attachment)
OCD Representative Signature:		Approval Date:
Title:		nber:
<sup>21.</sup> Closure Report (required within 60 days of closure completion): Instructions: Operators are required to obtain an approved closur The closure report is required to be submitted to the division within section of the form until an approved closure plan has been obtain	Subsection K of 19.15.17.13 N re plan prior to implementing any n 60 days of the completion of the	o closure activities and submitting the closure report. e closure activities. Please do not complete this e been completed.
22.		-
Closure Method: Waste Excavation and Removal On-Site Closure Method If different from approved plan, please explain.	Alternative Closure Method	d 🔲 Waste Removal (Closed-loop systems only)
<sup>23.</sup> Closure Report Regarding Waste Removal Closure For Closed- Instructions: Please indentify the facility or facilities for where the two facilities were utilized.		
Disposal Facility Name:	Disposal Facility I	Permit Number:
Disposal Facility Name:	Disposal Facility	Permit Number:
Were the closed-loop system operations and associated activities per Yes (If yes, please demonstrate compliance to the items below	rformed on or in areas that <i>will no w</i> ) D No	t be used for future service and operations?
Required for impacted areas which will not be used for future servic         Site Reclamation (Photo Documentation)         Soil Backfilling and Cover Installation         Re-vegetation Application Rates and Seeding Technique	e and operations:	
<ul> <li>24.</li> <li>Closure Report Attachment Checklist: Instructions: Each of the mark in the box, that the documents are attached.</li> <li>Proof of Closure Notice (surface owner and division)</li> <li>Proof of Deed Notice (required for on-site closure)</li> <li>Plot Plan (for on-site closures and temporary pits)</li> <li>Confirmation Sampling Analytical Results (if applicable)</li> <li>Waste Material Sampling Analytical Results (required for on-Disposal Facility Name and Permit Number</li> <li>Soil Backfilling and Cover Installation</li> <li>Re-vegetation Application Rates and Seeding Technique</li> <li>Site Reclamation (Photo Documentation)</li> <li>On-site Closure Location: Latitude</li> </ul>	-site closure)	
25.		
<b>Operator Closure Certification:</b> I hereby certify that the information and attachments submitted with belief. I also certify that the closure complies with all applicable clo		
Name (Print):	Title:	
Signature:	Date:	un fai
e-mail address:	Telephone:	

	Wall Name & Numbers - O a a	10 1 10 17 10	
	Well Name & Number: <u>Feder</u> API #: <u>(30)4522125</u>		Plata DATE: 1/22/(
	Lease #:		Initials: 1177
	Quarter/Quarter SUD/ME Section	Townshin	(310 Paras 1311)
	Lat 36° 55.523′ Long		
•	Pit Tank #A: Manufacturer: <u>Fac</u>	de Maldir	
0		OM: 8/2007	Size 95 bbl
	• If N/A – Dimensions: Diamete		Height
	$\mathbf{X}$	Galvanized	0
	Tank Configuration: Double Wall	/	
	Contents: Produced Water	<u> </u>	cled Oil No+ (abee
0	Tank Top Covering: Solid/Cone-top	Netting (Solid	$\frac{1}{10+100}$
	Secondary Containment: Yes N		FIDer)
	Fencing around berm: Yes N		
	• Fence Type: Cattle Panel		
	o rence Type: Cattle Faller	Field Fence	Barbwire
•	4 Pit Tank #2: Manufacturer: Εα	de mald	
		()	
0		юм: <u>8/2007</u>	$\_$ Size <u>45</u> bbl
	• If N/A – Dimensions: Diamete		Height
0		alvanized	Fiberglass
đ	Tank Configuration: Double Wall		
0	Contents: Produced Water C	ondensate Recy	cled Oil
0	Tank Top Covering: Solid/Cone-top	Netting (Solid	Fiber )
•	Tank Top Covering: Solid/Cone-top_ Secondary Containment: Yes X No.	Netting (Solid	Fiber)
0 0 0	Secondary Containment: Yes 🔀 N	Netting (Solid_ o	Fiber)
9 9 9	Secondary Containment: Yes No Fencing around berm: Yes No	Netting (Solid_ o o	Fiber)
0 0	Secondary Containment: Yes 🔀 N	Netting (Solid_ o o	Fiber)
9 9 9	Secondary Containment: Yes X No Fencing around berm: Yes No • Fence Type: Cattle Panel X	Netting (Solid o o Field Fence	Fiber) Barbwire
0	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel X Above-Ground Tank #1: Manufac	Netting (Solid_ o o Field Fence turer:	Fiber) Barbwire
0	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: De	Netting (Solid_ o Field Fence turer: OM:	Fiber) Barbwire Sizebbl
0	Secondary Containment: Yes No Fencing around berm: Yes No o Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do o If N/A – Dimensions: Diameter	Netting (Solid_ o o Field Fence turer: OM: r	Fiber) Barbwire Sizebbl Height
6 0 9	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga	Netting (Solid_ o Field Fence turer: OM: r alvanized	Fiber) Barbwire Sizebbl Height Fiberglass
6 0 0	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga Contents: Produced Water Co	Netting (Solid_ o o Field Fence turer: OM: r alvanized ondensate (State #)	Fiber) Barbwire Sizebbl Height Fiberglass
6 0 0	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga	Netting (Solid_ o o Field Fence turer: OM: r alvanized ondensate (State #)	Fiber) Barbwire Sizebbl Height Fiberglass
6 9 9 9 9	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga Contents: Produced Water Co Secondary Containment: Yes No	Netting (Solid_ o o Field Fence turer: OM: oM: r alvanized ondensate (State # o	Fiber) Barbwire Sizebbl Height Fiberglass) Recycled Oil
6 9 6 0 0	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga Contents: Produced Water Co Secondary Containment: Yes No Above-Ground Tank #2: Manufac	Netting (Solid_ o o Field Fence eturer: OM: oM: oM: alvanized ondensate (State # o turer:	Fiber) Barbwire Sizebbl Height Fiberglass) Recycled Oil
6 9 9 9 9	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga Contents: Produced Water Co Secondary Containment: Yes No Above-Ground Tank #2: Manufact Serial #: Do	Netting (Solid_ o o Field Fence oturer: OM: alvanized ondensate (State # o turer: OM:	Fiber) Barbwire Sizebbl Height Fiberglass) Recycled Oil
6 9 6 6 6	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga Contents: Produced Water Co Secondary Containment: Yes No Above-Ground Tank #2: Manufact Serial #: Do • If N/A – Dimensions: Diameter	Netting (Solid_ o o Field Fence eturer: OM: alvanized ondensate (State # o turer: OM:	Fiber) BarbwireSizebbl Height Fiberglass) Recycled Oil Sizebbl Height
6 9 6 6 6	Secondary Containment: Yes No Fencing around berm: Yes No • Fence Type: Cattle Panel Above-Ground Tank #1: Manufac Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga Contents: Produced Water Co Secondary Containment: Yes No Above-Ground Tank #2: Manufact Serial #: Do • If N/A – Dimensions: Diameter Material: Steel Ga	Netting (Solid_ o o Field Fence cturer: OM: alvanized o turer: OM: c oM: alvanized	Fiber) BarbwireSizebbl Height Fiberglass) Recycled Oil Meight Fiberglassbbl Height Fiberglass
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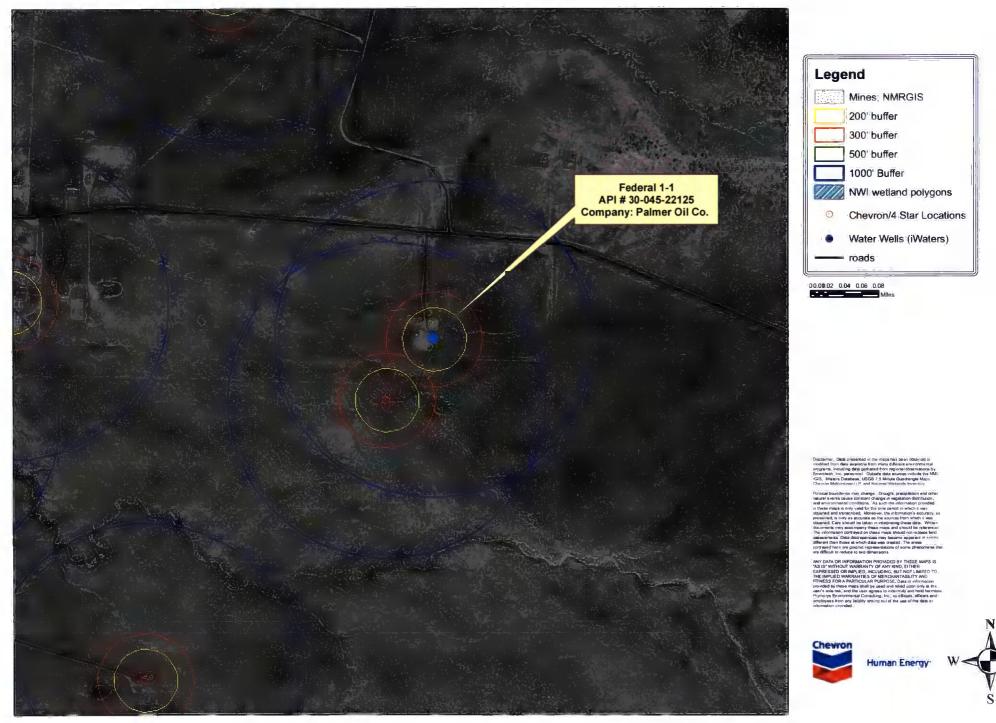
**Well Schematic** 



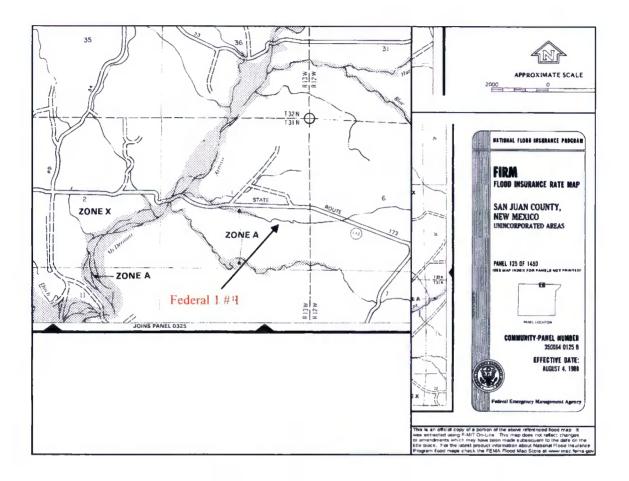




# Federal 1-1 API # 30-045-22125



Federal 1 # 1 API # 30-045-22125 NE <sup>1</sup>/<sub>4</sub> SE <sup>1</sup>/<sub>4</sub> Sec. 1 T31N R13W



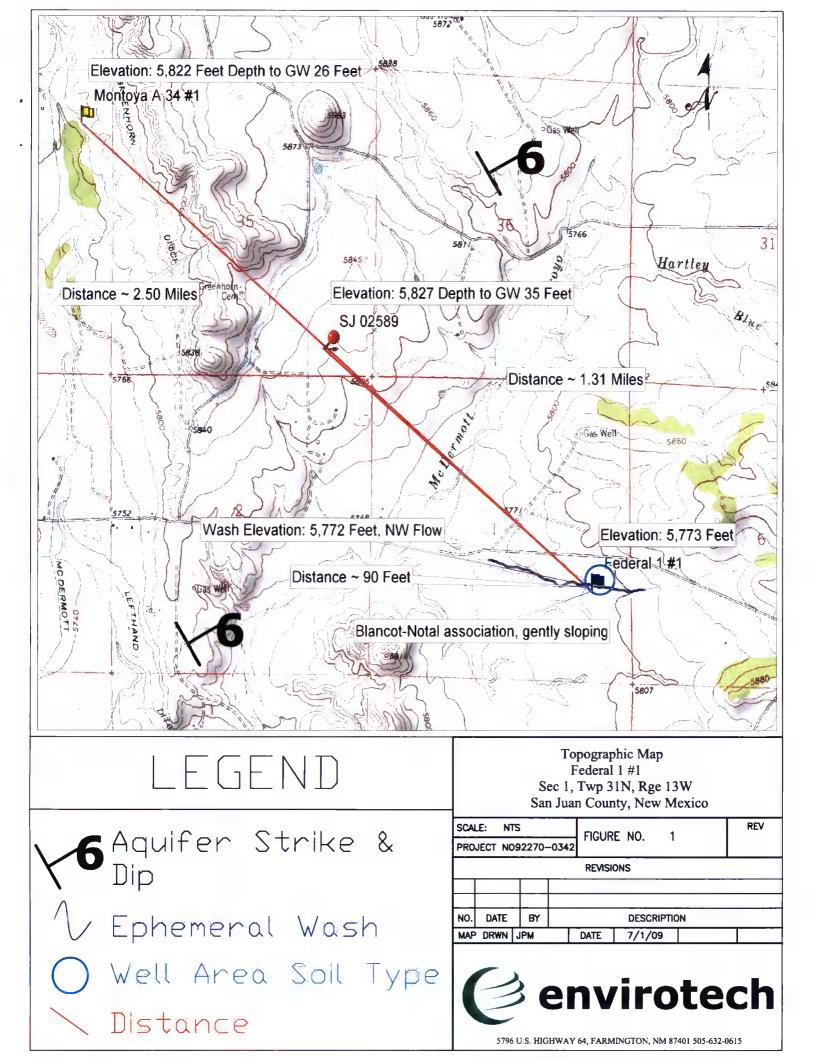
#### Federal 1 #1 Groundwater Statement

The attached iWATERS database search and topographic map shows a water well approximately 1.31 miles to the north-west with a depth to groundwater of 35 feet. This water well is labeled on the topographic map with a red point. As evidenced on the attached topographic map, the water well is at an elevation approximately 54 feet higher than the Federal 1 #1 well site, which is represented by a blue flag on the topographic map. The attached cathodic well data sheet for a cathodic well drilled in 1990 for the Montoya A-34 #1 well site shows that groundwater was encountered at 26 feet. This cathodic well data sheet is stamped as being accepted by the OCD in January of 1991. The Montoya A-34 #1 well site is approximately 2.50 miles north-west of the Federal 1 #1 well site at an elevation approximately 49 feet higher than the Federal 1 #1 well site. The Montoya A-34 #1 well site is labeled on the topographic map with a yellow flag. The soil type at the Federal 1 #1 well site is a Blancot-Notal association, gently sloping. This is a well drained soil, characterized by stream and fan alluvium derived from sandstone and shale, with a high to low water capacity. The nearest wash is approximately 90 feet to the north of the Federal 1 #1 well site at an elevation of 5,772 feet. This is a north-west flowing ephemeral wash which only flows during periods of heavy precipitation. This wash is a first order tributary of the McDermott Arroyo. The Federal 1 #1 well site lies in the Nacimiento Formation Aquifer which dips at 6 degrees to the north-east (Frenzel, 1983); see Topographic Map for aquifer dip direction. The Nacimiento Formation lies at the surface in a broad belt at the western and southern edges of the central basin and dips beneath the San Jose Formation in the basin center. (Frenzel, 1983) These findings indicate that the depth to groundwater may not be greater than 50 feet from the bottom of the BGT at the Federal 1 #1 well site. All above information, excluding the aquifer dip, was confirmed by a visual inspection performed by Envirotech, Inc.

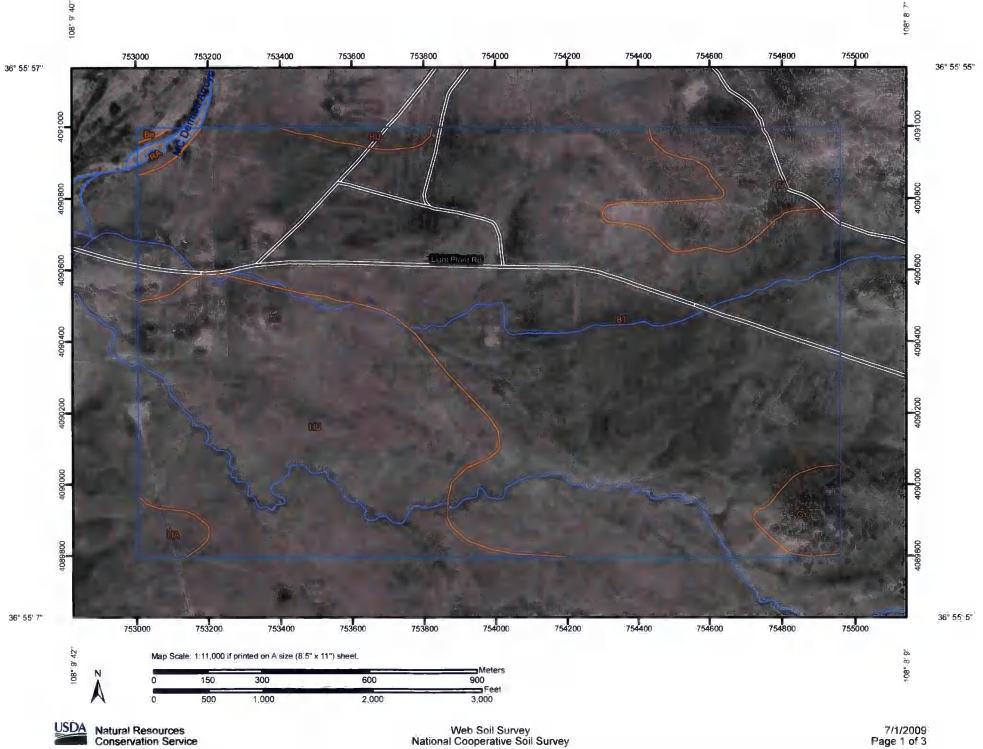
The Nacimiento Formation (Tn) is Paleocene in age and grades laterally into the Animas Formation (Tka) around Dulce, New Mexico thickening considerably around Durango, Colorado. The Animas occurs at the same stratigraphic interval as the Nacimientos (Fassett and Hinds, 1971, p. 34). The Nacimiento sits unconformably to conformably below the San Jose Formation, outcrops in a broad band inside the southern and western boundaries of the central basin and rises structurally as a narrow band along the west side of the Nacimiento Uplift (Baltz, 1967, p. 35). The Nacimiento is the surface formation in the eastern third of the San Juan Basin, and being nonresistant, erodes to low rounded hills or the formation of badlands-type physiography distinctive from the much more resistant overlying San Jose Formation. The Nacimiento Formation is present in only the southern two-thirds of the Basin where it conformably both overlies and intertongues with the much thinner Ojo Alamo Sandstone (Fassett, 1974, p. 229). Thickness ranges from 800 feet in the southern part to nearly 2232 feet (Stone, etal, 1983, p. 30) in the subsurface of the northern part. In the eastern outcrops, the thickness is less than 500 feet to nearly 1400 feet due to folding and erosion (Baltz, 1967, p. 1). In general, the total thickness of the Nacimiento thickens from the basin margins towards the basin center. The Nacimiento in the southern area is comprised predominantly of drab interbedded black and gray claystones and siltstones with some discontinuous

relatively unconsolidated white, medium to coarse-grained arkosic sandstone with a few interbedded resistant sandstone strata (Stone, etal, 1983, p.30). To the north, the Naciemento Formation contains a much greater proportion of sandstone, and at some localized places more than 50 percent (Baltz, 1967, p. 1), although most of the sandstones extend only a few thousand feet (Brimhall, 1973, p. 201). Overall, the environment of deposition is predominantly lake deposits and to a lesser extent localization in stream channels (Brimhall, 1973, p. 201).

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Soil Map—San Juan County, New Mexico, Eastern Part (Federal 1 #1)



7/1/2009 Page 1 of 3

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	MAPL	EGEND	)	MAP INFORMATION			
Area of Ir	iterest (AOI)	۵	Very Stony Spot	Map Scale: 1:11,000 if printed on A size (8.5" × 11") sheet.			
	Area of Interest (AOI)	*	Wet Spot	The soil surveys that comprise your AOI were mapped at 1:63,36			
Soils			Other	Please rely on the bar scale on each map sheet for accurate ma			
	Soil Map Units	Special	Line Features	measurements.			
Specia (1)	Point Features Blowout	12	Gully	Source of Map: Natural Resources Conservation Service			
_	Borrow Pit	6. T	Short Steep Slope	Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: UTM Zone 12N NAD83			
		11	Other	This product is generated from the USDA-NRCS certified data as			
*	Clay Spot	Political F	eatures	the version date(s) listed below.			
•	Closed Depression	۲	Cities	Soil Survey Area: San Juan County, New Mexico, Eastern Pa			
×	Gravel Pit	Water Fea		Survey Area Data: Version 9, Feb 20, 2009			
	Gravelly Spot		Oceans	Date(s) aerial images were photographed: 10/13/1997			
0	Landfill	$\sim$	Streams and Canals	The orthophoto or other base map on which the soil lines were			
٨	Lava Flow Transportation March or swamp Hill Rails		compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shift				
علد	Marsh or swamp	1 Chandler		of map unit boundaries may be evident.			
*	Mine or Quarry	-	Interstate Highways				
0	Miscellaneous Water	N	US Routes				
۲	Perennial Water		Major Roads				
~	Rock Outcrop	~	Local Roads				
+	Saline Spot						
	Sandy Spot						
-	Severely Eroded Spot						
٥	Sinkhole						
þ	Slide or Slip						
ø	Sodic Spot						
8	Spoil Area						
	Stony Spot						



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e'

# Map Unit Legend

San Juan County, New Mexico, Eastern Part (NM618)							
Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI				
Be	Beebe loamy sand	0.5	0.1%				
ВТ	Blancot-Notal association, gently sloping	365.0	62.9%				
FA	Farb-Persayo-Rock outcrop complex, moderately steep	34.7	6.0%				
GY	Gypsiorthids-Badland-Stumble complex, moderately steep	10.7	1.9%				
НА	Haplargids-Blackston-Torriorthents complex, very steep	5.9	1.0%				
HU	Huerfano-Muff-Uffens complex, gently sloping	159.9	27.6%				
RA	Riverwash	3.1	0.5%				
Totals for Area of Inte	rest	580.0	100.0%				

## San Juan County, New Mexico, Eastern Part

### BT—Blancot-Notal association, gently sloping

### **Map Unit Setting**

*Elevation:* 5,600 to 6,400 feet *Mean annual precipitation:* 6 to 10 inches *Mean annual air temperature:* 51 to 55 degrees F *Frost-free period:* 140 to 160 days

### **Map Unit Composition**

Blancot and similar soils: 55 percent Notal and similar soils: 25 percent

### **Description of Blancot**

### Setting

Landform: Fan remnants Landform position (three-dimensional): Tread Down-slope shape: Convex Across-slope shape: Convex Parent material: Fan alluvium derived from sandstone and shale

### **Properties and qualities**

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/ cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 9.7 inches)

### Interpretive groups

Land capability (nonirrigated): 6c Ecological site: Loamy (R035XB001NM)

### **Typical profile**

0 to 2 inches: Loam 2 to 15 inches: Sandy clay loam 15 to 60 inches: Clay loam

### **Description of Notal**

### Setting

Landform: Stream terraces Landform position (three-dimensional): Talf Down-slope shape: Linear

USDA

Across-slope shape: Linear Parent material: Stream alluvium derived from sandstone and shale

### **Properties and qualities**

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Very slightly saline to slightly saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Low (about 5.4 inches)

#### Interpretive groups

Land capability classification (irrigated): 3s Land capability (nonirrigated): 7c Ecological site: Salt Flats (R035XB005NM)

### **Typical profile**

0 to 3 inches: Silty clay loam 3 to 60 inches: Clay

### **Data Source Information**

Soil Survey Area: San Juan County, New Mexico, Eastern Part Survey Area Data: Version 9, Feb 20, 2009

30-045-24399

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS NORTHWESTERN NEW MEXICO (Submit 3 copies to OCD Aztec Office)

Operator UNOCAL Location: Unit Sec. 34 Twp 32 Rng 13 Name of Well/Wells or Pipeline Serviced Montoya Well No. 1-A34

Elevation \_\_\_\_ Completion Date 12-15-90 Total Depth 200' Land Type\* P

Casing, Sizes, Types & Depths '40' deep with 6" dimeter schedule 40 PVC casing pipe.

If Casing is cemented, show amounts & types used NA=NONE

If Cement or Bentonite Plugs have been placed, show depths & amounts used NA=NONE

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc.26' to 36' deep=10' thick zone of water, gravel

and rocks (cased from O' to 40' deep).

Depths gas encountered: NA=NONE

200' deep with carbo 40=99.9% carbon coke= Type & amount of coke breeze used: 1,400 lbs.

Depths anodes placed: 130', 140', 150', 160', 170', 180'

Depths vent pipes placed: 0' to 200' deep

Vent pipe perforations: From 100% to 200' deep - laser slotted

Remarks:\_\_\_\_

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included

may be shown: or Indian, add	F-Federal; I-Indian; Lease Number.	S-State; P-Fee.
		JAN 3 0 1991
		OIL CON. DIV
		DIST 2



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

a har and a first of the state	Sub pasin Use DOM IRR DOM DOM DOM	SJ SJ SJ SJ	Q 64	Q	Q	<b>Sec</b> 22		Rng	(NAD83 UTM			(In feet Depth \ WaterC	Water
POD Number         t           SJ 00339	Dominia Use Dominia IRR Dominia Dominia	SJ SJ SJ SJ	<b>64</b> 1	16 1 1	4	22	For the second second		X	10 A			· · · · · · · · · · · · · · · · · · ·
SJ 00339 SJ 00340 SJ 00736	Dom IRR Dom Dom Dom	SJ SJ SJ SJ	1	1	4	22	For the second second		and the second		derrichten Praireit		
SJ 00736	DOM DOM DOM	SJ SJ	3		4	00		1244	216027	4096502*	50	12	38
	DOM DOM	SJ		1		22	32N	13W	216027	4096302*	50	12	38
SJ 00906 X	DOM				4	22	32N	13W	216128	4096403*	40	15	25
				4	3	22	32N	13W	215702	4096009*	86	26	60
SJ 00922		SJ	4	1	3	22	32N	13W	215415	4096322*	27	12	15
SJ 01079	DOM	SJ		3	3	34	32N	13W	215206	4092785*	100	30	70
SJ 01187	DOM	SJ	4	4	3	10	32N	13W	215912	4099125*	24	9	15
SJ 01285	MON	SJ	4	1	3	28	32N	13W	213760	4094770*	27		
SJ 01353	DOM	SJ		3	4	10	32N	13W	216219	4099216*		38	
SJ 01439	DOM	SJ		3	4	10	32N	13W	216219	4099216*	45	25	20
SJ 01549	DOM	SJ		1	2	15	32N	13W	216212	4098819*	47	28	19
SJ 01943	IRR	SJ			4	34	32N	13W	216209	4092951*	8	3	5
SJ 02068	DOM	SJ			2	15	32N	13W	216407	4098623*	45	16	29
SU 02350	DOM	SJ	1	3	2	15	32N	13W	216105	4098521*	26		
SJ 02558	DOM	SJ	4	2	3	15	32N	13W	215880	4097928*	41	23	18
SJ 02577	DOM	SJ		4	4	34	32N	13W	216409	4092731*	30	15	15
SJ 02589	DOM	SJ	2	3	3	35	32N	13W	216909	4092811*	60	35	25
SJ 02704	DOM	SJ	2	4	1	22	32N	13W	215840	4096916*	25	12	13
SJ 02705	DOM	SJ	2	4	1	22	32N	13W	215840	4096916*	25	12	13
SJ 02783	DOM	SJ	4	3	3	35	32N	13W	216909	4092611*	62	48	14
SJ 02847	MIN	SJ	1	4	4	22	32N	13W	216408	4096089*	1255	0	1255
SJ 02848	MIN	SJ	3	4	2	22	32N	13W	216444	4096695*	608	50	558
SJ 02865	DOM	SJ	2	3	2	15	32N	13W	216305	4098521*	44	29	15
SJ 02890	DOM	SJ	2	1	4	15	32N	13W	216299	4098116*	55	30	25
SJ 02901	DOM	SJ	2	2	4	34	32N	13W	216523	4093246*	50		
SJ 02918	DOM	SJ	2	4	3	22	32N	13W	215801	4096108*	51	30	21
SJ 02934	DOM	SJ	1	1	4	15	32N	13W	216099	4098116*	34	18	16
SJ 02985	DOM	SJ	2	1	2	15	32N	13W	216311	4098918*	47	25	22
SJ 03037	DOM	SJ	3	4	1	34	32N	13W	215524	4093478*	100		

\*UTM location was derived from PLSS - see Help

(quarters are	1=NW 2=	ENE 3=SW	4=SE)
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(quarters are smallest to largest) (NAD83 UTM in meters)

													1	
POD Number	Sub basin	Use	County		Q 16			Tws	Rng	x		Depth D Well W		
SJ 03066		sтк	SJ	2	2	2	34	32N	13W	216545	4094053*	41	28	1
SJ 03090		DOM	SJ	1	1	3	35	32N	13W	216725	4093232*	59	47	1
SJ 03111		DOM	SJ	4	1	2	22	32N	13W	216270	4097108*	19	6	1:
SJ 03123		DOM	SJ	1	4	3	27	32N	13W	215543	4094485*	30		
SJ 03256		DOM	SJ	2	4	1	34	32N	13W	215724	4093678*	21	6	1
SJ 03524		STK	SJ	1	4	3	27	32N	13W	215543	4094485*	33	10	23
SJ 03525		STK	SJ	1	3	4	27	32N	13W	215948	4094470*	71	12	59
SJ 03635		DOM	SJ	4	2	4	34	32N	13W	216523	4093046*		35	ş
										Aver	Average Depth to Water: Minimum Depth:		21 fee	эt
													0 fee	ət
											Maximu	m Depth:	50 fee	et

### Record Count: 37

PLSS Search:

Township: 32N R

Range: 13W

### \*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

(In feet)

# BELOW GRADE TANK (BGT) DESIGN AND CONSTRUCTION PLAN

SUBMITTED TO:

## ENVIRONMENTAL BUREAU,

## NEW MEXICO OIL CONSERVATION DIVISION

ON BEHALF OF:

CHEVRON USA INC., CHEVRON MIDCONTINENT, L.P., AND FOUR STAR OIL & GAS COMPANY P.O. Box 730 Aztec, New Mexico 87410 (505) 333-1901

### Chevron

# San Juan Basin Below Grade Tank Design and Construction Plan

### INTRODUCTION

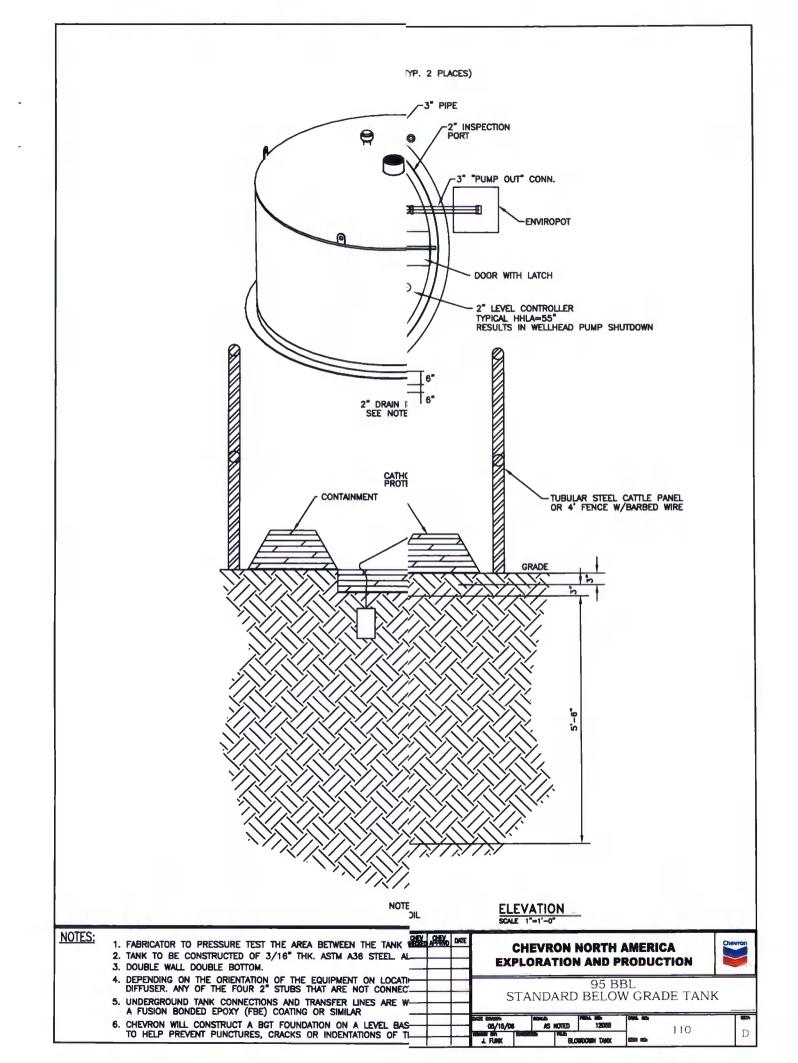
In accordance with NMAC §§ 19.15.17.9(B)(4) and 19.15.17.11 Chevron (representing Chevron USA Inc, Chevron Midcontinent, L.P., and Four Star Oil & Gas Company) submits this Design and Construction Plan for below grade tanks (BGTs) in New Mexico. This Plan contains standard conditions that attach to multiple BGTs.

- 1. Chevron will design and construct a BGT to contain liquids and solids, prevent contamination of fresh water, and protect public health and the environment. NMAC § 19.15.17.11(A).
- 2. Chevron will post an upright sign not less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the BGT, unless the BGT is located on a site where there is an existing well, signed in compliance with NMAC § 19.15.16.8, that is operated by Chevron. Chevron will post the sign in a manner and location such that a person can easily read the legend. The sign will provide the following information: Chevron's name; the location of the site by quarter-quarter or unit letter, section, township and range; and emergency telephone numbers. NMAC § 19.15.17.11(C).
- 3. Chevron will fence or enclose a BGT in a manner that prevents unauthorized access and will maintain the fences in good repair. Fences are not required if there is an adequate surrounding perimeter fence that prevents unauthorized access to the well site or facility, including the BGT. NMAC § 19.15.17.11(D)(1).
- 4. Chevron will fence or enclose a BGT located within 1000 feet of a permanent residence, school, hospital, institution or church with a chain link security fence, at least six feet in height with at least two strands of barbed wire at the top. Chevron will close and lock all gates associated with the fence when responsible personnel are not on-site. NMAC § 19.15.17.11(D)(2).
- 5. Chevron will fence BGTs to exclude livestock with a four foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level. NMAC § 19.15.17.11(D)(3). Chevron may install tubular steel cattle panels, as it determines appropriate (photo of cattle

panel fence submitted to NMOCD, 24 June 2009). As illustrated on the attach photo.

- 6. Chevron will screen the permanent opening on the tank top with expanding steel mesh in order to render it non-hazardous to wildlife, including migratory birds. NMAC § 19.15.17.11(E).
- 7. Chevron's BGTs will be constructed with the design features illustrated on the attached drawing.
- 8. Only double-walled, double-bottomed BGTs will be installed.
- 9. Chevron will use 3/16" carbon steel which is resistant to the anticipated contents and resistant to damage from sunlight. NMAC § 19.15.17.11(I)(1).
- 10. Chevron will construct a BGT foundation on a level base free of rocks, debris, sharp edges or irregularities to help prevent punctures, cracks or indentations of the liner or tank bottom. NMAC § 19.15.17.11(I)(2).
- 11. Chevron will construct a BGT to prevent overflow and the collection of surface water run-on. NMAC § 19.15.17.11(I)(3). Chevron, or a contractor representing Chevron, will install a level control device to help prevent overflow from the BGT and will use berms and/or a diversion ditch to prevent surface run on from entering the BGT. NMAC §§ 19.15.17.11(I)(3), 19.15.17.12(A)(7), and 19.15.17.12(D)(1).
- 12. All BGTs, in which the side walls are not open for visible inspection for leaks, will be double walled with leak detection capability. NMAC § 19.15.17.11(I)(4)(b).
- 13. Chevron, as the operator of a below-grade tank constructed and installed prior to June 16, 2008 that does not meet all the requirements in Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC and is not included in Paragraph (6) of Subsection I of 19.15.17.11 NMAC, is not required to equip or retrofit the below-grade tank to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC so long as it demonstrates integrity. If the existing below-grade tank does not demonstrate integrity, the operator shall promptly remove that below-grade tank and install a below-grade tank that complies with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC.

14. Chevron, as the operator of a below-grade tank constructed and installed prior to June 16, 2008 that is single walled and where any portion of the tank sidewall is below the ground surface and not visible, shall equip or retrofit the below-grade tank to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, or close it, within five years after June 16, 2008. If the existing below-grade tank does not demonstrate integrity, Chevron shall promptly remove that below-grade tank and install a below-grade tank that complies with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, as illustrated in the approved drawing. Chevron shall comply with the operational requirements of 19.15.17.12 NMAC.



# BELOW GRADE TANK (BGT) OPERATING AND MAINTENANCE PLAN

SUBMITTED TO:

### ENVIRONMENTAL BUREAU,

NEW MEXICO OIL CONSERVATION DIVISION

ON BEHALF OF:

CHEVRON USA INC., CHEVRON MIDCONTINENT, L.P., AND FOUR STAR OIL & GAS COMPANY

P.O. Box 730

AZTEC, NEW MEXICO 87410

(505) 333-1901

### Chevron

### San Juan Basin

### **Below Grade Tank Operating and Maintenance Plan**

### **INTRODUCTION**

In accordance with NMAC §§ 19.15.17.9(B)(4) and 19.15.17.12 Chevron (representing Chevron USA Inc, Chevron Midcontinent, L.P., and Four Star Oil & Gas Company) submits this Operating and Maintenance Plan (O&M Plan) for below grade tanks (BGTs) in New Mexico. This O&M Plan contains standard conditions that attach to multiple BGTs. If needed for a particular BGT, a modified O&M Plan will be submitted to the New Mexico Oil Conservation Division (NMOCD or the division) for approval prior to implementation.

### **GENERAL PLAN:**

- 1. Chevron, or a contractor representing Chevron, will operate and maintain a BGT to contain liquids and solids to prevent contamination of fresh water and to protect public health and environment. NMAC § 19.15.17.12(A)(1).
- 2. Chevron will not discharge into or store any hazardous waste in a BGT. NMAC § 19.15.17.12(A)(3).
- 3. If a BGT develops a leak or is penetrated below the liquid surface, Chevron will remove liquid above the damage within 48 hours, notify the appropriate division district office within 48 hours of discovery and will promptly repair the BGT. If a BGT develops a leak Chevron will remove liquid above the damage within 48 hours, notify the appropriate division district office within 48 hours of discovery and will promptly repair or replace the BGT. If replacement is required, the BGT will meet all specification included in the attached approved design drawing and comply with 19.15.17.11(I)(1-4).
- 4. If Chevron as an operator of a below-grade tank that was constructed and installed prior to June 16, 2008 that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC and discovers that the below-grade tank does not demonstrate integrity or that the below-grade tank develops any of the conditions identified in Paragraph (5) of Subsection A of 19.15.17.12 NMAC, then Chevron or their representative shall close the existing below-grade tank pursuant to the closure requirements of 19.15.17.13 NMAC and install a below-grade tank that complies with the requirements of Paragraphs

(1) through (4) of Subsection I of 19.15.17.11 NMAC. NMAC § 19.15.17.12(D)(5). If replacement is required, the BGT will meet all specification included in the attached approved design drawing.

- 5. If Chevron as the operator of the below-grade tank that was constructed and installed prior to June 16, 2008 that does not comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC and equips or retrofits the existing tank to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, then Chevron or their representative shall visually inspect the area beneath the below-grade tank during the retrofit and document any areas that are wet, discolored or showing other evidence of a release on form C-141. Chevron shall demonstrate to the division whether the evidence of contamination indicates that an imminent threat to fresh water, public health, safety or the environment exists. If the division determines that the contamination does not pose an imminent threat to fresh water, public health, safety or the environment, the operator shall complete the retrofit or the replacement of the below-grade tank. If Chevron or division determines that the contamination poses an imminent threat to fresh water, public health, safety or the environment, then Chevron shall close the existing below-grade tank pursuant to the closure requirements of 19.15.17.13 NMAC prior to initiating the retrofit or replacement. NMAC § 19.15.17.12(D)(6). If replacement is required, the BGT will meet all specification included in the attached approved design drawing.
- 6. Chevron, or a contractor representing Chevron, will use berms and/or diversion ditches to prevent surface run-on from entering the BGT by diverting surface water run-on away from the bermed area. NMAC §§ 19.15.17.12(A)(7) and 19.15.17.12(D)(1).
- 7. Chevron, or a contractor representing Chevron, will not allow a BGT to overflow and will maintain adequate freeboard on existing BGTs by routine inspections utilizing pumper trucks whose routes are timed based on known production rates. Fluid is pumped out on this schedule. For newly constructed BGTs Chevron, or a contractor representing Chevron, will maintain adequate freeboard by installing level control devices that automatically shut off inflow to alleviate potential overtopping. NMAC § 19.15.17.12(D)(1) and 19.15.17.12(D)(4).
- **8.** Chevron, or a contractor representing Chevron, will remove a visible or measurable layer of oil from the fluid surface of a BGT. NMAC § 19.15.17.12(D)(2).
  - **9.** Chevron, or a contractor representing Chevron, will inspect the BGT to assess compliance with NMAC § 19.15.17.12, Operational Requirements, at least once monthly and maintain a written record of each inspection for at least five (5) years. The approved inspection form is attached.

# Chevron: New Mexico Inspection Form for Below Grade Tanks

Inspection Date:\_\_\_\_\_

Below Grade Tank (BGT) Location:

Does the BGT have adequate freeboard to prevent overflow;	yes	no						
Does the tank have visible leaks or sign of corrosion;	yes	no						
Do tank valves, flanges and hatches have visible leaks;	yes	no						
Is there evidence of significant spillage of produced liquids;	yes	ņo						
Is this a single of double wall tank;								
Are berms and/or diversion ditches in place to prevent surface								
run-on from entering the BGT;	yes	no						
Have visible or measurable layers of oil been removed from								
liquid surface fluid;	yes	no						

# BELOW GRADE TANK (BGT) CLOSURE PLAN

SUBMITTED TO:

# ENVIRONMENTAL BUREAU,

## NEW MEXICO OIL CONSERVATION DIVISION

### ON BEHALF OF:

CHEVRON USA INC., CHEVRON MIDCONTINENT, L.P., AND FOUR STAR OIL & GAS COMPANY P.O. Box 730 Aztec, New Mexico 87410 (505) 333-1901

## Chevron San Juan Basin Below Grade Tank Closure Plan

### INTRODUCTION

In accordance with NMAC §§ 19.15.17.9(B)(4) and 19.15.17.13, Chevron (representing Chevron USA Inc, Chevron Midcontinent, L.P., and Four Star Oil & Gas Company) submits this Closure Plan for below grade tanks (BGTs) in New Mexico. This Closure Plan contains standard conditions that attach to multiple BGTs. If needed for a particular BGT, a modified Closure Plan for a proposed alternative closure will be submitted to the New Mexico Oil Conservation Division (NMOCD or the division) for approval prior to closure.

### CLOSURE PLAN PROCEDURES AND PROTOCOLS (NMAC §§ 19.15.17.9(C) and 19.15.17.13).

- 1) Chevron, or a contractor acting on behalf of Chevron, will close a BGT within the time periods provided in NMAC § 19.15.17.13(A), or by an earlier date required by NMOCD to prevent an imminent danger to fresh water, public health, or the environment. NMAC § 19.15.17.13(A).
- 2) Chevron, or a contractor acting on behalf of Chevron, will close an existing BGT that does not meet the requirements of NMAC § 19.15.17.11(I)(1 through 4) or is not included in NMAC § 19.15.17.11(I)(5) within five years after June 16, 2008, if not retrofitted to comply with § 19.15.17.11(I)(1 through 4). NMAC § 19.15.17.13(A)(4).
- 3) Chevron shall close an existing below-grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, if not retrofitted to comply with Paragraphs 1) through (4) of Subsection I of 19.15.17.11 NMAC, prior to any sale or change of operator pursuant to 19.15.9.9 NMAC.
- 4) Chevron, or a contractor acting on behalf of Chevron, will close a permitted BGT within 60 days of cessation of the BGT's operation or as required by the transitional provisions of NMAC § 19.15.17.17(B) in accordance with a closure plan that the appropriate division district office approves. NMAC §§ 19.15.17.13(A)(9) and 19.15.17.9(C).
- 5) In accordance with NMAC § 19.15.17.13(J)(1), Chevron will notify the surface owner by certified mail, return receipt requested, of its plans to close a BGT prior to beginning closure activities. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance. Chevron will also notify the appropriate division district office verbally or by other means at least 72 hours, but not more than one week, prior to any closure operation. The notice shall include the operator's name and the location to be closed by unit letter, section, township and range. If the closure is associated with a particular well, then the notice shall also include the well's name, number and API number. NMAC § 19.15.17.13(J)(2).

6) Chevron, or a contractor acting on behalf of Chevron, will remove liquids and sludge from a BGT prior to implementing a closure method and will dispose of the liquids and sludge in a division approved facility. NMAC § 19.15.17.13(E)(1). A list of Chevron currently approved disposal facilities is included at the end of this document.

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- 7) The proposed method of closure for this Closure Plan is waste excavation and removal. NMAC §§ 19.15.17.13 (E)(1).
- 8) Chevron, or a contractor acting on behalf of Chevron, shall remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. When required, prior approval for disposal will be obtained. NMAC § 19.15.17.13(E)(2). Documentation regarding disposal of the BGT and its associated liner, if any, will be included in the closure report.
- 9) Waste generated during closure will be handled and disposed of in accordance with applicable laws. NMAC § 19.15.35.8(C)(1)(m) provides that plastic pit liners may be disposed at a solid waste facility without testing before disposal, provided they are cleaned well.
- 10) Chevron, or a contractor acting on behalf of Chevron, will remove on-site equipment associated with a BGT unless the equipment is required for some other purpose. NMAC § 19.15.17.13(E)(3).
- 11) Chevron, or a contractor acting on behalf of Chevron, will test the soils beneath the BGT to determine whether a release has occurred. At a minimum, 5 point composite samples will be collected along with individual grab samples from any area that is wet, discolored, or showing other evidence of a release. Samples will be analyzed for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or EPA method that the division approves, does not exceed 0.2mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2mg/kg; total BTEX method 418.1 or other EPA method that the division approves, does not exceed 100mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250mg/kg; or the background concentration, whichever is greater. Chevron, or a contractor acting on behalf of Chevron, will notify the NMOCD Division District office of its results on form C-141. NMAC § 19.15.17.13(E)(4).
- 12) If Chevron or the division determines that a release has occurred, Chevron will comply with NMAC §§ 19.15.29 and 19.15.30, as appropriate. NMAC § 19.15.17.13(E)(5).
- 13) If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in NMAC § 19.15.17.13(E)(4), Chevron will backfill the excavation with compacted, non-waste containing, earthen materials; construct a division prescribed soil cover; re-contour and re-vegetate the site. The division-prescribed soil cover, recontouring and re-vegetation requirements shall comply with NMAC § 19.15.17.13)(G, H and I). NMAC § 19.15.17.13(E)(6).

- 14) As per NMAC § 19.15.17.13(G)(1), once Chevron has closed a BGT or is no longer using the BGT or an area associated with the BGT, Chevron will reclaim the BGT location and all areas associated with it including associated access roads not needed by the surface estate owner to a safe and stable condition that blends with the surrounding undisturbed area. Chevron will substantially restore impacted surface area to the condition that existed prior to its oil and gas operations by placement of soil cover as provided in NMAC § 19.15.17.13(H) (see below), recontour the location and associated areas to a contour that approximates the original contour and blends with the surrounding topography, and re-vegetate according to NMAC § 19.15.17.13(I). NMAC § 19.15.17.13(G)(1).
- 15) Chevron may propose an alternative to the re-vegetation requirement of NMAC § 19.15.17.13(G)(1) if it demonstrates that the proposed alternative effectively prevents erosion, and protects fresh water, human health and the environment. The proposed alternative must be agreed upon in writing by the surface owner. Chevron will submit the proposed alternative, with written documentation that the surface owner agrees to the alternative, to the division for approval. NMAC § 19.15.17.13(G)(2).
- 16) Soil cover for closures where Chevron has removed the pit contents or remediated the contaminated soil to the division's satisfaction will consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. NMAC § 19.15.17.13(H)(1).
- 17) Chevron will construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material. NMAC § 19.15.17.13(H)(3).
- 18) As per NMAC § 19.15.17.13(I)(1) and 19.15.17.13(G)(2), Chevron will seed or plant disturbed areas during the first growing season after it is no longer using a BGT or an area associated with the BGT including access roads unless needed by the surface estate owner as evidenced by a written agreement with the surface estate owner, if any and written approval by NMOCD.
- 19) Seeding will be accomplished by drilling on the contour whenever practical or by other division approved methods. Chevron will 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 growing seasons that prove viability, Chevron will not artificially irrigate the vegetation. NMAC § 19.15.17.13(I)(2).
- 20) Chevron will notify the division when it has seeded or planted and when it successfully achieves re-vegetation. NMAC § 19.15.17.13(I)(5).
- 21) Seeding or planting will be repeated until Chevron successfully achieves the required vegetative cover. NMAC § 19.15.17.13(I)(3).

22) When conditions are not favorable for the establishment of vegetation, such as periods of drought, the division may allow Chevron to delay seeding or planting until soil moisture conditions become favorable or may require Chevron to use additional cultural techniques such as mulching, fertilizing, irrigating, fencing or other practices. NMAC § 19.15.17.13(I)(4).

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- 23) As per NMAC § 19.15.17.13(K), within 60 days of closure completion, Chevron will submit a closure report containing the elements required by NMAC § 19.15.17.13(K) including:
  - i) Confirmation sampling results,
  - ii) A plot plan,
  - iii) Details on back-filling, capping and covering, where applicable, including revegetation application rates and seeding technique,
  - iv) Proof of closure notice to the surface owner, if any, and the division,
  - v) Name and permit number of disposal facility, and
  - vi) Photo documentation.
- 24) The closure report will be filed on NMOCD Form C-144. Chevron will certify that all information in the closure report and attachments is correct and that it has complied with all applicable closure requirements and conditions specified in the approved closure plan. NMAC § 19.15.17.13(K).
- 25) As requested, the following are the current Chevron approved Waste Disposal Sites for the identified waste streams:

### Soils and Sludges

i) Envirotech Inc. Soil Remediation Facility, Permit No. NM-01-0011

### Solids

ii) San Juan County Regional Land Fill (NMAC § 19.15.35.8 items only, with prior NMOCD approval when required)

### <u>Liquids</u>

- i) Key Energy Disposal Facility, Permit No. NM-01-0009
- ii) Basin Disposals Facility, Permit No. NM-01-005.
- 26) These waste disposal sites are subject to change if their certification is lost or they are closed or other more appropriate, equally protective sites become available. Chevron will provide notice if such a change is affected.