District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

Alternative Method:

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

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.

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

## Pit Closed I con System Relaw Grade Tank or

Proposed Alternative Method Permit or Closure Plan Application
Type of action:  Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method  Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method  Modification to an existing permit  Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request.  Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the
environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
I. Operator: Four Stor Oil & Cas Company
Operator: Four Star Oil & Gas Company OGRID #: 131944  Address: P.O. Box 36366 Houston, TX 77236
Facility or well name: Bunce Federal Com 1
API Number: 30-045-08113 OCD Permit Number:
U/L or Qtr/Qtr Otr/Qtr A Section 19 Township 29 N Range 10W County: San Juan
Center of Proposed Design: Latitude 36.715779 Longitude 107.919852 NAD: 1927 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment
Pit: Subsection F or G of 19.15.17.11 NMAC  Temporary: Drilling Workover Permanent Emergency Cavitation P&A Lined Unlined Liner type: Thickness mil LLDPE HDPE PVC Other String-Reinforced Liner Seams: Welded Factory Other Volume: bbl Dimensions: L x W x D
Closed-loop System:       Subsection H of 19.15.17.11 NMAC         Type of Operation:       □ P&A □ Drilling a new well □ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)         □ Drying Pad □ Above Ground Steel Tanks □ Haul-off Bins □ Other □         □ Lined □ Unlined Liner type: Thickness □ mil □ LLDPE □ HDPE □ PVC □ Other □         Liner Seams: □ Welded □ Factory □ Other □
4.    Mathematical Subsection I of 19.15.17.11 NMAC
Liner type: Thicknessmil

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, institution or church)	hospital,							
Four foot height, four strands of barbed wire evenly spaced between one and four feet								
□ Alternate. Please specify None								
7.								
Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)  ☐ Screen ☑ Netting ☐ Other								
Monthly inspections (If netting or screening is not physically feasible)								
8.								
Signs: Subsection C of 19.15.17.11 NMAC								
12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers								
Signed in compliance with 19.15.3.103 NMAC								
9. Administrative Approvals and Exceptions:								
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.  Please check a box if one or more of the following is requested, if not leave blank:								
Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau	office for							
consideration of approval.  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.								
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the approoffice 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 dry above-grade tanks associated with a closed-loop system.	priate district pproval.							
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							
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).  - 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.	☐ 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)  - 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.	Yes No							
<ul> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>(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>	│							
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.  - 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.	☐ 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							
Within 500 feet of a wetland.  - 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	Yes No							
Within the area overlying a subsurface mine Please reference the attached topographic map	☐ Yes ☑ No							
Within an unstable area.  - 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.	☐ Yes ☑ No							
Within a 100-year floodplain.								

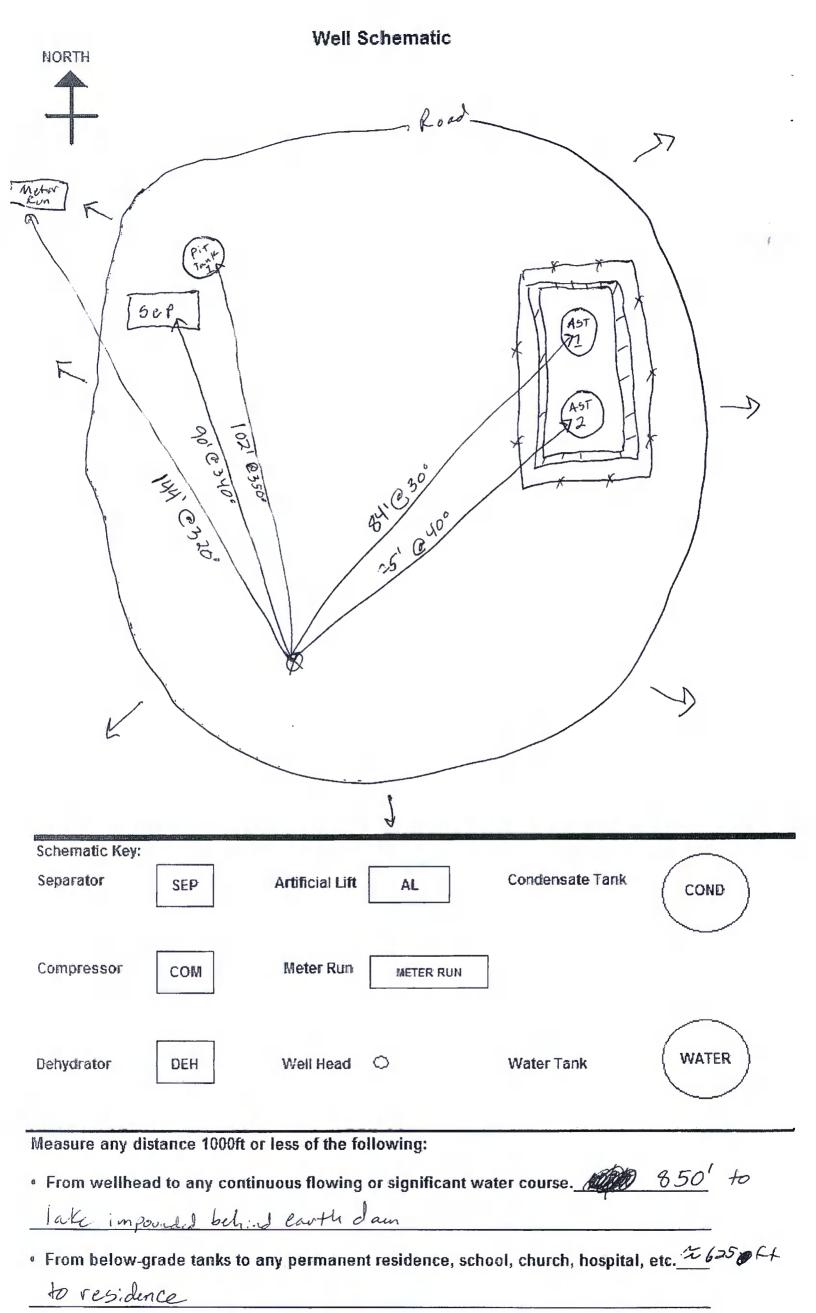
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.    Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC   Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC   Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC   Design Plan - based upon the appropriate requirements of 19.15.17.12 NMAC   Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC   Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design) API Number: or Permit Number:
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.  Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9 Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC  Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design)  API Number:
Previously Approved Operating and Maintenance Plan API Number:
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   Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC   Nuisance or Hazardous Odors, including H <sub>2</sub> S, Prevention Plan   Emergency Response Plan   Oil Field Waste Stream Characterization   Monitoring and Inspection Plan   Erosion Control Plan   Erosion Control Plan   Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Proposed Closure: 19.15.17.13 NMAC  Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.  Type: □ Drilling □ Workover □ Emergency □ Cavitation □ P&A □ Permanent Pit ☑ Below-grade Tank □ Closed-loop System □ Alternative  Proposed Closure Method: ☑ Waste Excavation and Removal □ Waste Removal (Closed-loop systems only) □ On-site Closure Method (Only for temporary pits and closed-loop systems) □ In-place Burial □ On-site Trench Burial □ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.  □ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC □ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC □ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) □ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC □ Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Oil Conservation Division

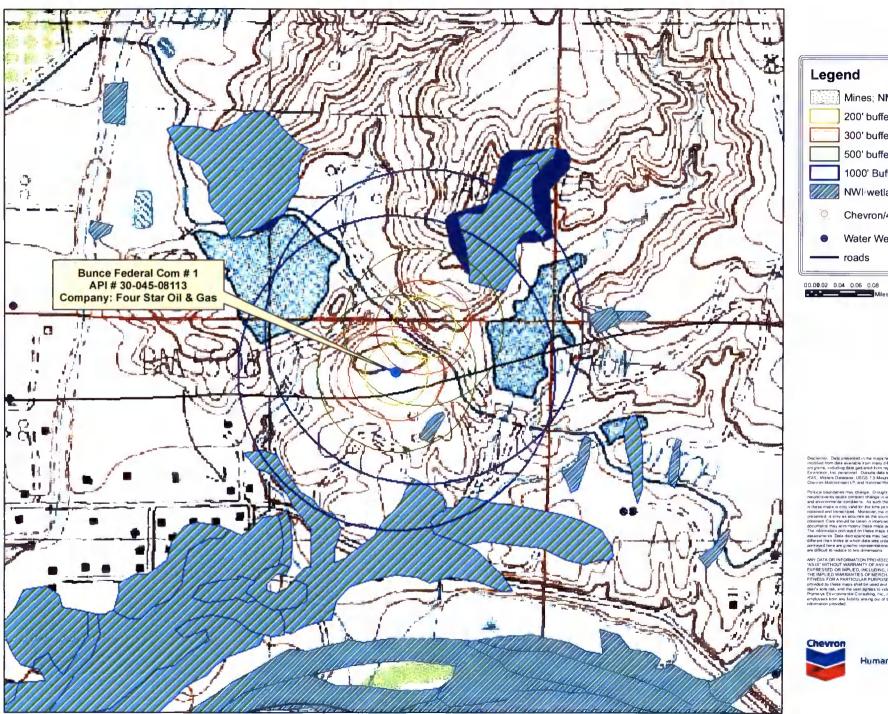
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.I Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if facilities are required.	O NMAC) more than two							
Disposal Facility Name: Disposal Facility Permit Number:								
Disposal Facility Name: Disposal Facility Permit Number:								
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations?  Yes (If yes, please provide the information below) \( \subseteq \text{No} \)								
Required for impacted areas which will not be used for future service and operations:  Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC  Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	C							
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 sour provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate dist considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justi demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	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 obtained from nearby wells	Yes No							
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No							
Ground water is more than 100 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No							
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other 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							
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan by a check mark in the box, that the documents are attached.  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC  Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.  Protocols and Procedures - based upon the appropriate requirements of 9.15.17.13 NMAC  Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC  Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	15.17.11 NMAC							

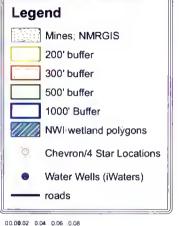
Operator Application Certification:  I hereby certify that the information submitted with this application	is true, accurate and complete	e to the best of my knowledge and belief.
Name (Print): Rodney Bailey	Title:	Waste & Water Group Lead
Signature:	Date:	March 1, 2010
e-mail address: Bailerg@chevron.com	Telepho	one: (432) 687 7123
OCD Approval: Permit Application (including closure plan)	Closure Plan (only)	OCD Conditions (see attachment)
OCD Representative Signature:		Approval Date:
Title:	OCD Permit	Number:
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	e plan prior to implementing n 60 days of the completion o led and the closure activities	any closure activities and submitting the closure report.  If the closure activities. Please do not complete this
Closure Method:  Waste Excavation and Removal On-Site Closure Method If different from approved plan, please explain.	Alternative Closure Me	ethod Waste Removal (Closed-loop systems only)
Closure Report Regarding Waste Removal Closure For Closed-Instructions: Please indentify the facility or facilities for where the two facilities were utilized.	e liquids, drilling fluids and d	drill cuttings were disposed. Use attachment if more than
Disposal Facility Name:		lity Permit Number:
Disposal Facility Name:		lity Permit Number:
Were the closed-loop system operations and associated activities per Yes (If yes, please demonstrate compliance to the items below		<i>Il not</i> be used for future service and operations?
Required for impacted areas which will not be used for future service  Site Reclamation (Photo Documentation)  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique	e and operations:	
24.		
Closure Report Attachment Checklist: Instructions: Each of the mark in the box, that the documents are attached.  Proof of Closure Notice (surface owner and division)  Proof of Deed Notice (required for on-site closure)  Plot Plan (for on-site closures and temporary pits)  Confirmation Sampling Analytical Results (if applicable)  Waste Material Sampling Analytical Results (required for on-Disposal Facility Name and Permit Number  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique  Site Reclamation (Photo Documentation)	site closure)	
On-site Closure Location: Latitude	Longitude	NAD: □1927 □ 1983
Operator Closure Certification:  I hereby certify that the information and attachments submitted with belief. I also certify that the closure complies with all applicable clo	sure requirements and condit	ions specified in the approved closure plan.
Name (Print):		
Signature:	Date:	
e-mail address:	Telephon	e:

Well Name & Number: Bunce Federal com #7 DATE: 7-28-08 API#: 3004508113 Initials: RUK Lease #: Quarter/Quarter: A Section: 19 Township: 29N Range: 10W • Lat: 36,715779 Long: -107.919852 Pit Tank #1: Manufacturer:\_\_\_ Serial #:\_\_\_\_\_ DOM: Height\_2 o If N/A – Dimensions: Diameter 8 Material: Steel\_\_\_\_ Galvanized\_ Fiberglass\_\_\_\_ Tank Configuration: Double Wall\_\_\_\_ Single Wall\_X (Buried\_\_\_ or Exposed X Walls) Contents: Produced Water X Condensate Recycled Oil Tank Top Covering: Solid/Cone-top\_\_\_\_ Netting\_X\_ (Solid\_\_ FiberX\_) Secondary Containment: Yes\_\_\_\_ No\_X Fencing around berm: Yes o Fence Type: Cattle Panel\_\_\_\_ Field Fence\_\_\_ Barbwire\_\_ Pit Tank #2: Manufacturer:\_\_\_\_ Serial #:\_\_\_\_\_\_ DOM:\_\_\_\_ Size bbl ○ If N/A – Dimensions: Diameter\_\_\_\_\_ Height\_\_\_\_ \_\_\_\_ Galvanized\_\_\_\_\_ Material: Steel Fiberglass\_\_\_\_ Tank Configuration: Double Wall\_\_\_\_ Single Wall\_\_\_\_ (Buried\_\_\_\_ or Exposed Walls) Contents: Produced Water\_\_\_ Condensate\_\_\_ Recycled Oil\_\_\_ Tank Top Covering: Solid/Cone-top\_\_\_\_ Netting\_\_\_ (Solid\_ Fiber\_\_) Secondary Containment: Yes\_\_\_\_ No\_\_\_ Fencing around berm: Yes\_\_\_\_ No\_\_\_\_ o Fence Type: Cattle Panel\_\_\_\_ Field Fence\_\_\_ Barbwire Above-Ground Tank #1: Manufacturer: National Welder froduction Tout Serial #: <u>E18574</u> DOM: <u>Not on Plate</u> Size <u>210</u> bbl ○ If N/A – Dimensions: Diameter\_\_\_\_\_ Height\_\_\_\_ • Material: Steel X Galvanized Fiberglass\_\_\_ • Contents: Produced Water Condensate X (State # GF 600 ) Recycled Oil Secondary Containment: Yes\_\_\_\_ No\_\_\_\_ Above-Ground Tank #2: Manufacturer: American Tank and Steel Coop. Serial #: 6557 DOM: 1978 Size 210 bbl o If N/A – Dimensions: Diameter\_\_\_\_\_ Height\_\_\_\_ Material: Steel X Galvanized Fiberglass Contents: Produced Water Condensate X (State # GI - 900) Recycled Oil Secondary Containment: Yes X No Above-Ground Tank #3: Manufacturer: DOM: Size bbl Serial #: ○ If N/A – Dimensions: Diameter\_\_\_\_\_ Height\_\_\_\_ Galvanized\_\_\_\_ Material: Steel\_\_\_\_ Fiberglass\_\_\_\_ Contents: Produced Water\_\_\_\_ Condensate\_\_\_\_ (State #\_\_\_\_\_) Recycled Oil\_\_\_\_ Secondary Containment: Yes\_\_\_\_ No\_\_\_\_



## Bunce Federal Com # 1 API # 30-045-08113





Declarmer: Data presented in the maps has been obtained or modified from data available from many different error come no programs, will during data grained from promotine observations. Environment, inc. personnel. Outside data sources include the PCSS. Water Dateonse, USGS 7.5 Meute Quartering Maps. Desvice Medicational LP, and National Metands havening.

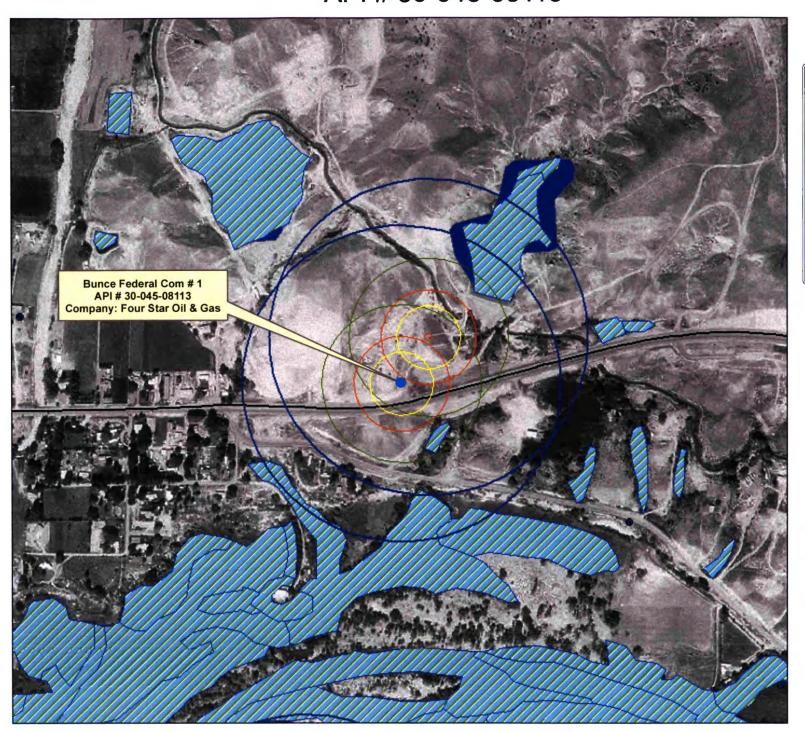
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## Bunce Federal Com # 1 API # 30-045-08113





Disclaimer, Data presented in the maps has to an obtained or modified from data available from many different a netromental programs, neutring data gathered from ground observations by Envirolatch, Inc., paraonnai. Outside data sources violude the NMU Thirten Distallment, USGS 7.5 Minuse Quadrangle Naleps. Che von Mictoriannai 1.P. and Naponal Walfants Weshishi Wenting.

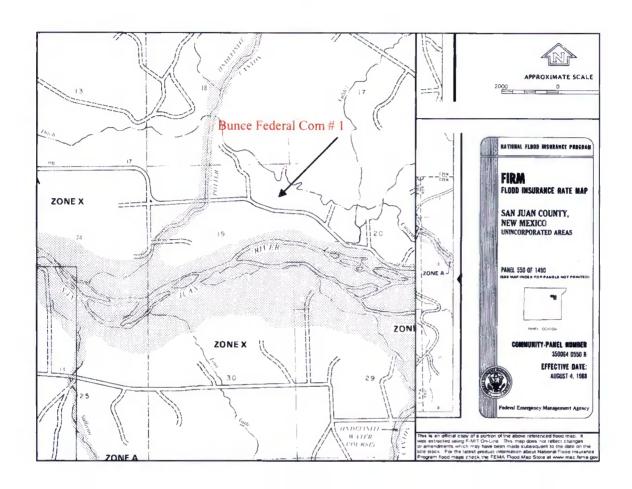
Chair on indicordinant UP, and Yasonal Wasterda Inventory. Policial boundars any change. Drogly, recognision and other natural events make constain Inlange in sugestion distribution, and environmental conditions. As such in the information provided in that a most is only said for the lams part of in when I was provided in the properties of the internation of the internation of the properties of the internation of the internation.

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## Bunce Federal Com # 1 API # 30-045-08113 NE ½ NE ½ Sec. 19T29N R10W

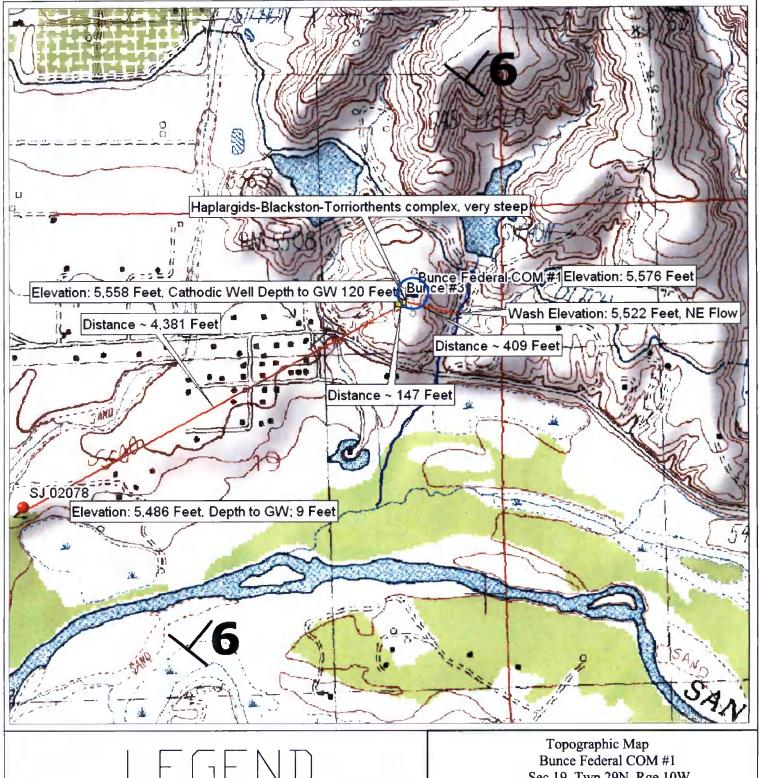


#### Bunce Federal COM #1 Groundwater Statement

The attached iWATERS database search and topographic map shows a water well approximately 4,381 feet to the south-west with a depth to groundwater of 9 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 90 feet lower than the Bunce Federal COM #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 1995 for the Bunce #3 well site, owned and operated by Burlington Resources, shows that groundwater was encountered at 120 feet. This cathodic well data sheet is stamped as being received by the OCD in January of 1996. The Bunce #3 well site is located approximately 147 feet to the south-west of the Bunce Federal COM #1 well site at an elevation approximately 18 feet lower than the Bunce Federal COM #1 well site. The Bunce #3 well site is represented on the map with a yellow flag. The soil type at the Bunce Federal COM #1 well site is a Haplargids-Blackston-Torriorthents complex, very steep. This is a well drained soil, characterized by mixed alluvium, with a low to very low available water capacity. The nearest surface water is approximately 409 feet to the east of the Bunce Federal COM #1 well site at an elevation of 5,522 feet. This is a northeast flowing ephemeral wash, only flowing during periods of heavy precipitation. This wash is a first order tributary of Citizens Ditch. The Bunce Federal COM #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 is greater than 50 feet from the bottom of the BGT at the Bunce Federal COM #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, et al., 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).



## EGEND

Sec 19, Twp 29N, Rge 10W San Juan County, New Mexico

6 Aquifer Strike &

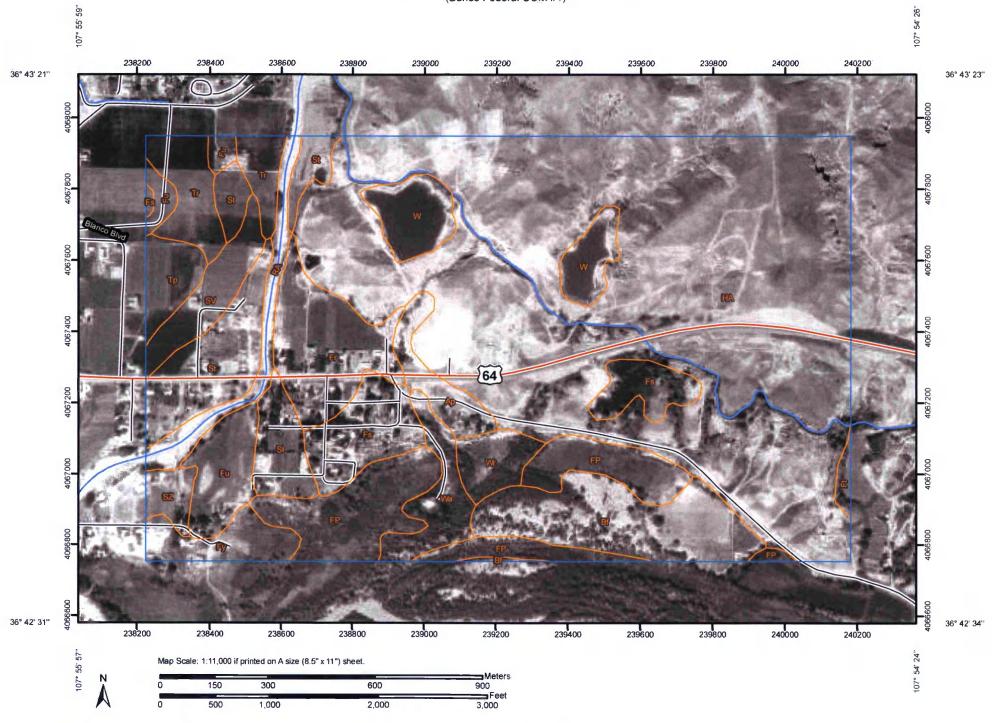
Ephemeral Wash

Well Area Soil Type Distance

CAI	E: N	rs		FIGUR	FNO 1		REV
PRO	JECT NO	92270-	-0342				
				REVISION	ONS		
١٥.	DATE	BY			DESCRIPTI	ON	
WAP	DRWN	JPM		DATE	6/22/09		



5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615



## MAP LEGEND

#### Area of Interest (AOI)

Area of Interest (AOI)

#### Soils

10115

Soil Map Units

#### **Special Point Features**

Blowout

Borrow Pit

※ Clay Spot

Closed Depression

X Gravel Pit

.. Gravelly Spot

Landfill

▲ Lava Flow

Marsh or swamp

☆ Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

+ Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

b Slide or Slip

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

#### Special Line Features

∵ G

Gully

Short Steep Slope

Other

#### **Political Features**

0

100

Cities

#### Water Features

Oceans

Streams and Canals

#### **Transportation**

1,111

Later.

Interstate Highways

~

**US Routes** 



Major Roads



Local Roads

### MAP INFORMATION

Map Scale: 1:11.000 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:63,360.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: UTM Zone 13N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

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

Date(s) aerial images were photographed: 10/9/1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## **Map Unit Legend**

San Juan County, New Mexico, Eastern Part (NM618)							
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI				
Ap	Apishapa clay loam	9.3	1.6%				
Bf	Beebe variant loamy sand	33.6	5.8%				
FP	Fluvaquents, ponded	41.8	7.2%				
Fr	Fruitland sandy loam, 0 to 2 percent slopes	25.4	4.4%				
Fs	Fruitland sandy loam, 2 to 5 percent slopes	25.1	4.4%				
Ft	Fruitland sandy loam, wet, 0 to 2 percent slopes	1.7	0.3%				
Fu	Fruitland loam, 1 to 3 percent slopes	17.4	3.0%				
Fy	Fruitland-Slickspots complex, 0 to 3 percent slopes	10.6	1.8%				
НА	Haplargids-Blackston-Torriorthents complex, very steep	282.1	48.8%				
RA	Riverwash	11.6	2.0%				
St	Stumble loamy sand, 0 to 3 percent slopes	39.2	6.8%				
SV	Stumble sandy clay loam, gently sloping	11.8	2.0%				
SZ	Stumble-Slickspots complex, gently sloping	4.8	0.8%				
Тр	Turley clay loam, 0 to 1 percent slopes	7.9	1.4%				
Tr	Turley clay loam, 1 to 3 percent slopes	17.3	3.0%				
W	Lakes, rivers, reservoirs	17.6	3.0%				
Wa	Walrees loam	12.3	2.1%				
Wr	Werlog loam	8.1	1.4%				
Totals for Area of Inte	rest	577.6	100.0%				

## San Juan County, New Mexico, Eastern Part

## HA—Haplargids-Blackston-Torriorthents complex, very steep

## **Map Unit Setting**

Elevation: 4,800 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**

Haplargids and similar soils: 45 percent Blackston and similar soils: 30 percent Torriorthents and similar soils: 20 percent

## **Description of Haplargids**

### Setting

Landform: Escarpments

Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex Parent material: Mixed alluvium

### Properties and qualities

Slope: 8 to 50 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: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/

cm)

Available water capacity: Moderate (about 7.3 inches)

#### Interpretive groups

Land capability (nonirrigated): 7e

Ecological site: Loamy (R035XB001NM)

## Typical profile

0 to 7 inches: Cobbly sandy loam7 to 26 inches: Cobbly sandy clay loam26 to 60 inches: Cobbly sandy clay loam

#### **Description of Blackston**

#### Setting

Landform: Escarpments

Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex



Parent material: Mixed alluvium

### **Properties and qualities**

Slope: 8 to 40 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: 30 percent

Maximum salinity: Very slightly saline to slightly saline (4.0 to 8.0

mmhos/cm)

Available water capacity: Low (about 4.5 inches)

#### Interpretive groups

Land capability (nonirrigated): 7e Ecological site: Limy (R035XB003NM)

## **Typical profile**

0 to 11 inches: Gravelly loam 11 to 26 inches: Very gravelly loam 26 to 60 inches: Very gravelly sand

## **Description of Torriorthents**

#### Setting

Landform: Escarpments

Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex Parent material: Mixed alluvium

## Properties and qualities

Slope: 8 to 50 percent

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low

to moderately high (0.00 to 0.20 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: Very low (about 2.2 inches)

## Interpretive groups

Land capability (nonirrigated): 7e Ecological site: Hills (R042XB027NM)

## Typical profile

0 to 3 inches: Cobbly loam



3 to 15 inches: Cobbly clay loam 15 to 60 inches: Bedrock

## **Data Source Information**

Soil Survey Area: San Juan County, New Mexico, Eastern Part

Survey Area Data: Version 9, Feb 20, 2009

## DATA SHEET FOR DEEP GROUND BED CATHODIC. PROTECTION WELLS NORTHWESTERN NEW MEXICO

Operator Metidian Oil INC. Location: Unit A Sec. 19 Twp 29 Rng 10
Name of Well/Wells.or Pipeline Serviced
Bunce #2 AND #3
Elevation 5558 Completion Date 1/24/95 Total Depth 428 Land Type
Casing Strings, Sizes, Types & Depths 1/18 SeT 100 of 8 Puc Casing.
NO GAS OF WATER, BUT 16 (14'-30') of Boulders Wete ENCOUNTERED During CASING
If Casing Strings are cemented, show amounts & types used Cemen Ted
WITH 20 SACKS.
If Cement or Bentonite Plugs have been placed, show depths & amounts used
None.
Depths & thickness of water zones with description of water: Fresh, Clear,
Salty, Sulphur, Etc. HiT Fresh WATER AT 120. A WATER
SAMPLE WAS TAKEN.
Depths gas encountered: None
Ground bed depth with type & amount of coke breeze used: 428 DepTH.
Used 54 SACKS of Loresco SW (5400#)
Depths anodes placed: 405, 395, 360, 315, 305, 295, 280, 270, 265, 188, 180, 170, 160, 150, + 140.
Depths vent pipes placed: Surface To 428.
Vent pipe perforations: Bellom 300.
Remarks: JAN 1 1 1998
OIL COM. DIV.
Didio 3

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

Land Type may be shown: F-Federal: I-Indian; S-State; F-Fee. If Federal or Indian, add Lease Number.



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

(quarters are 1=NW 2=NE 3=SW 4=SE)

			(quarte	rs a	re s	sma	allest	to larg	est)	(NAD83 UTM	l in meters)		(In feet	)
	Sub				Q							Depth D		
POD Number	basin	Use	County	64	16	4	Sec	Tws	Rng	X	Y	Well V	VaterCo	olumn
RG 36732 DCL		STK	TA			2	25	29N	10W	247000	4065389*	500	450	50
SJ 00092		DOM	SJ	2	4	2	24	29N	10W	247387	4066834*	33		
SJ 00303		DOM	SJ		3	3	19	29N	10W	238091	4066265*	20	5	15
SJ 00473		DOM	SJ		4	2	30	29N	10W	239254	4065447*	58	10	48
SJ 00497		DOM	SJ	3	2	3	29	29N	10W	239929	4064927*	85	35	50
SJ 00506		DOM	SJ		3	4	28	29N	10W	242019	4064555*	78	55	23
SJ 00662		DOM	SJ	3	4	4	28	29N	10W	242329	4064439*	93	70	23
SJ 00680		DOM	SJ		2	2	13	29N	10W	247321	4068735*	40	10	30
SJ 00785 S		MDW	SJ	2	4	2	04	29N	10W	242705	4071829*	20		
SJ 00785 S		MUN	SJ	2	4	2	04	29N	10W	242705	4071829*	20		
SJ 00785 S	SJAR	MUN	SJ	2	4	2	04	29N	10W	242705	4071829*	20		
SJ 00785 S-2		MDW	SJ			4	13	29N	10W	247091	4067752*	60	20	4
SJ 01019		DOM	SJ	3	3	4	26	29N	10W	245080	4064362*	50	4	4
SJ 01050		STK	SJ		4	1	36	29N	10W	246301	4063632*	85	38	4
SJ 01051		DOM	SJ	2	2	2	35	29N	10W	245645	4064158*	90	30	6
SJ 01056		DOM	SJ		2	3	27	29N	10W	243228	4064917*	50	31	1
SJ 01140		DOM	SJ	2	2	3	20	29N	10W	240176	4066740*	25	6	1
SJ 01474		DOM	SJ		4	4	21	29N	10W	242439	4066161*	25		
SJ 01990		DOM	SJ		1	4	20	29N	10W	240472	4066632*	40	12	2
SJ 02078		DOM	SJ	1	1	3	19	29N	10W	238004	4066763*	40	9	3
SJ 02122		DOM	SJ		1	4	25	29N	10W	246769	4064788*	60	12	4
SJ 02151		DOM	SJ	2	1	2	28	29N	10W	242149	4065947	37	20	1
SJ 02216		DOM	SJ		2	1	28	29N	10W	241638	4065789*	30	7	2
SJ 02275		DOM	SJ	2	4	1	24	29N	10W	246558	4066842*	40	20	2
SJ 02547		DOM	SJ		4	4	20	29N	10W	240859	4066221*	12	2	1
SJ 02548		DOM	SJ		4	4	20	29N	10W	240859	4066221*	12	2	1
SJ 02802		DOM	SJ	2	1	3	24	29N	10W	246131	4066459*	132	30	10
SJ 02820		DOM	SJ	1	1	4	23	29N	10W	245143	4066542*	82	16	6
SJ 02840		DOM	SJ	1	4	3	28	29N	10W	241508	4064670*	55	32	2

\*UTM location was derived from PLSS - see Help

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

	Sub	(400.10	Q	Q			.0 .0.9		(NADOO O NA		Depth D	enth !	Water
POD Number	basin Use	County				Sec	Tws	Rng	X		Well V		
SJ 02860	DOM	SJ	4	4	4	19	29N	10W	239382	4066150*	21	2	19
SJ 02896	DOM	SJ	1	4	1	24	29N	10W	246358	4066842*	110	34	76
SJ 02900	SAN	SJ	2	1	3	20	29N	10W	239781	4066749*	70		
SJ 02907	DOM	SJ	3	2	3	24	29N	10W	246347	4066251*	60		
SJ 03023	DOM	SJ	1	3	1	18	29N	10W	238077	4068756*	90	65	25
SJ 03081	DOM	SJ	4	1	3	18	29N	10W	238263	4068158*	20		
SJ 03142	DOM	SJ	2	2	2	28	29N	10W	242533	4065853*	38	22	16
SJ 03180	DOM	SJ	4	4	4	21	29N	10W	242538	4066060*	50	15	35
SJ 03441	DOM	SJ	3	3	4	21	29N	10W	241942	4066077*	40	30	10
SJ 03455	STK	SJ	1	3	3	21	29N	10W	241151	4066312*	20	17	3
SJ 03456	STK	SJ	2	3	3	21	29N	10W	241351	4066312*	20	17	3
SJ 03470	DOM	SJ	4	3	4	21	29N	10W	242142	4066077*	20	7	13
SJ 03502	DOM	SJ	1	3	1	18	29N	10W	238077	4068756*	150		
SJ 03535	STK	SJ	3	2	3	21	29N	10W	241554	4066498*	15		
SJ 03582	DOM	SJ	3	3	1	28	29N	10W	241125	4065299*	10	4	6
SJ 03582 POD2	DOM	SJ	3	3	2	28	29N	10W	241930	4065264*	28	5	23
SJ 03637	DOM	SJ	1	3	2	28	29N	10W	241930	4065464*	21	10	11
SJ 03652	DOM	SJ	1	2	2	28	29N	10W	242333	4065853*	34	6	28
SJ 03713 POD1	DOM	SJ		3	2	22	29N	10W	243649	4066950*	265	20	245
SJ 03743 POD1	DOM	SJ	3	4	4	33	29N	10W	242213	4062837*	490	140	350
SJ 03777 POD1	DOM	SJ	2	4	4	29	29N	10W	240870	4064657	100	50	50

Average Depth to Water:

34 feet

Minimum Depth:

2 feet

Maximum Depth: 450 feet

**Record Count: 50** 

PLSS Search:

Township: 29N

Range: 10W

# 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

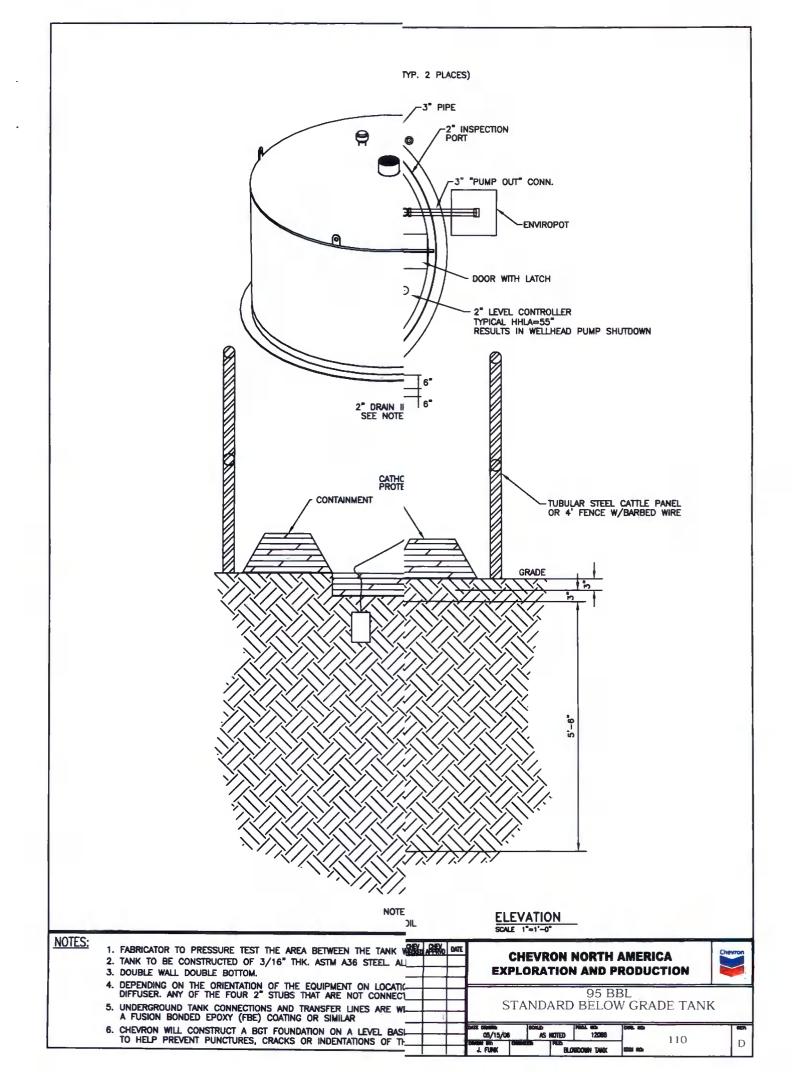
#### INTRODUCTION

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, as illustrated in the approved drawing. Chevron shall comply with the operational requirements of 19.15.17.12 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:
	<u> </u>

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	no
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;	ves	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.
- 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 50mg/kg; the TPH concentration, as determined by EPA 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).
- 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.