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

1000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505	1220 South St. Francis Dr. Santa Fe, NM 87505	For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.
	sed-Loop System, Below-Grade ative Method Permit or Closure	
Type of action: Permit of Closure of Modifica	a pit, closed-loop system, below-grade tank of a pit, closed-loop system, below-grade tan tion to an existing permit blan only submitted for an existing permitted	s, or proposed alternative method k, or proposed alternative method
	n (Form C-144) per individual pit, closed-loop s	
Please be advised that approval of this request does not re- environment. Nor does approval relieve the operator of it		It in pollution of surface water, ground water or the governmental authority's rules, regulations or ordinances.
1. Operator: _Chevron Midcontinent, LP	OGRID	#: 241333
-		
Facility or well name: <u>Alberding 3 #002</u>		
API Number: <u>30-045-28792</u>	OCD Permit Number:	
U/L or Qtr/Qtr _ <u>Qtr/Qtr_H</u> Section _3	Township _ <u>31 N</u> Range _ <u>13W</u>	County: _San Juan
Center of Proposed Design: Latitude <u>36_558898°</u>	Longitude _ <u>108.11134</u>	<u>9°</u> NAD: []1927 [] 1983
Surface Owner: 🗌 Federal 🗌 State 🔀 Private 🗌 7	Fribal Trust or Indian Allotment	
2.     [ Pit: Subsection F or G of 19.15.17.11 NMAC Temporary: Drilling Workover     Permanent Emergency Cavitation P&     Lined Unlined Liner type: Thickness     String-Reinforced Liner Seams: Welded Factory Other	mil 🔲 LLDPE 🗌 HDPE 🗌 PVC 🗌	
intent) Drying Pad Above Ground Steel Tanks Drying Pad Liner type: Thickness Liner Seams: Welded Factory Other	I       Workover or Drilling (Applies to activities         Haul-off Bins       Other        mil       LLDPE       HDPE       PVC	
4.	of fluid: <u>Produced Water</u>  Visible sidewalls, liner, 6-inch lift and automatic s only D Other	c overflow shut-off
5.		

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 Four foot, pipe frame with square wire mesh.

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

Screen 🗌 Netting 🗌 Other\_

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:

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.

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 acception of acception of acception of the second s	
material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate the second secon	
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 dry	ng pads or
above-grade tanks associated with a closed-loop system.	
<ul> <li>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</li> <li>Please reference hydrogeologic report and printout from iWATERS database.</li> </ul>	🛛 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).	🗌 Yes 🕅 No
<ul> <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>	
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	☐ Yes ⊠ No □ NA
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)	🗌 NA
<ul> <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 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	🗌 Yes 🗌 No
(Applies to permanent pits)	🖾 NA
<ul> <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.	🛛 Yes 🗌 No
<ul> <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
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.	
<ul> <li>Please reference the attached topographic map</li> </ul>	🗌 Yes 🛛 No
Within an unstable area.	
<ul> <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 floodnlain	

- FEMA map

11.       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 19.15.17.10 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         □       Previously Approved Design (attach copy of design)       API Number:
12.         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            Previously Approved Design (attach copy of design) API Number:
13.         Permanent Pits Permit Application Checklist:       Subsection B of 19.15.17.9 NMAC         Instructions:       Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. <ul> <li>Hydrogeologic Report - based upon the requirements of Paragraph (1) 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>Climatological Factors Assessment</li> <li>Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Quality Control/Quality Assurance Construction and Installation Plan</li> <li>Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan</li> <li>Emergency Response Plan</li> <li>Oil Field Waste Stream Characterization</li> <li>Monitoring and Inspection Plan</li> <li>Erosion Control Plan</li> <li>Closure Plan - based upon the appropriate requirements of 19.15.17.9 NMAC and 19.15.17.13 NMAC</li> </ul>
<sup>14.</sup> 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       Nate Excavation and Removal       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)         15.       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.         M Protocols and Procedures - based upon the appropriate requirements 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 I of 19.15.17.13 NMAC         Revegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC         Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

<sup>16.</sup> Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.)	D NMAC)					
Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if a facilities are required.	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 <i>will not</i> be used for future service and operations? 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 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	С					
<sup>17.</sup> <u>Siting Criteria (regarding on-site closure methods only)</u> : 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. Just demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	rict office or may be					
<ul> <li>Ground water is less than 50 feet below the bottom of the buried waste.</li> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	□ Yes □ No □ NA					
<ul> <li>Ground water is between 50 and 100 feet below the bottom of the buried waste</li> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	□ Yes □ No □ NA					
<ul> <li>Ground water is more than 100 feet below the bottom of the buried waste.</li> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	☐ Yes ☐ No ☐ NA					
<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>Topographic map; Visual inspection (certification) of the proposed site</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>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	🗌 Yes 🗌 No					
<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>NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site</li> </ul>						
<ul> <li>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.</li> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> </ul>	🗌 Yes 🗌 No					
<ul> <li>Within 500 feet of a wetland.</li> <li>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No					
<ul> <li>Within the area overlying a subsurface mine.</li> <li>Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</li> </ul>	🗌 Yes 🗌 No					
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	🗌 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 following items must be attached to the closure plot a check mark in the box, that the documents are attached.</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC</li> </ul>	an. Please indicate,					

Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

□ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

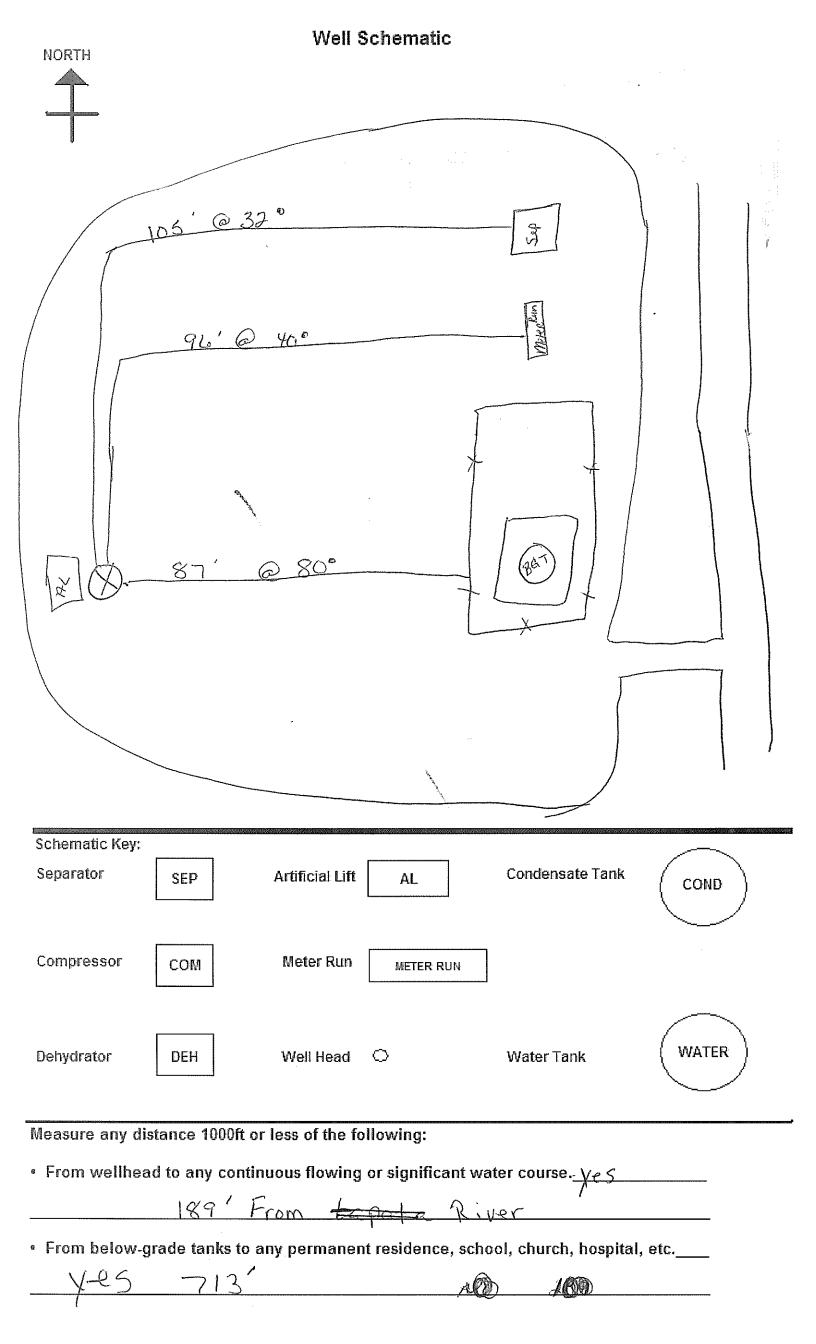
Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
 Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

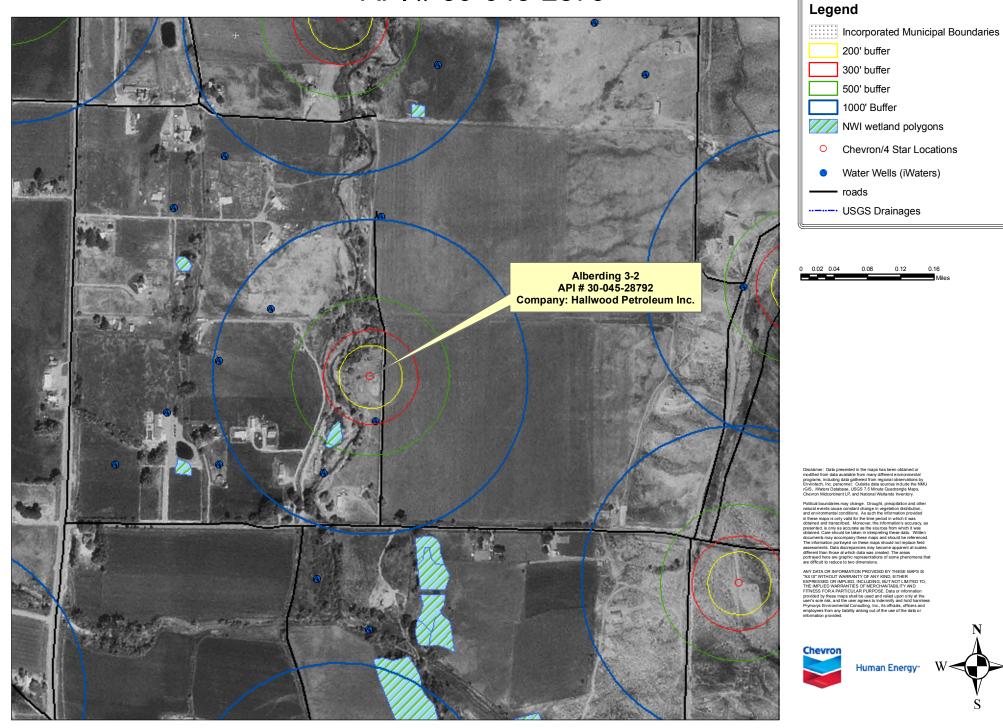
Site Reclamation Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

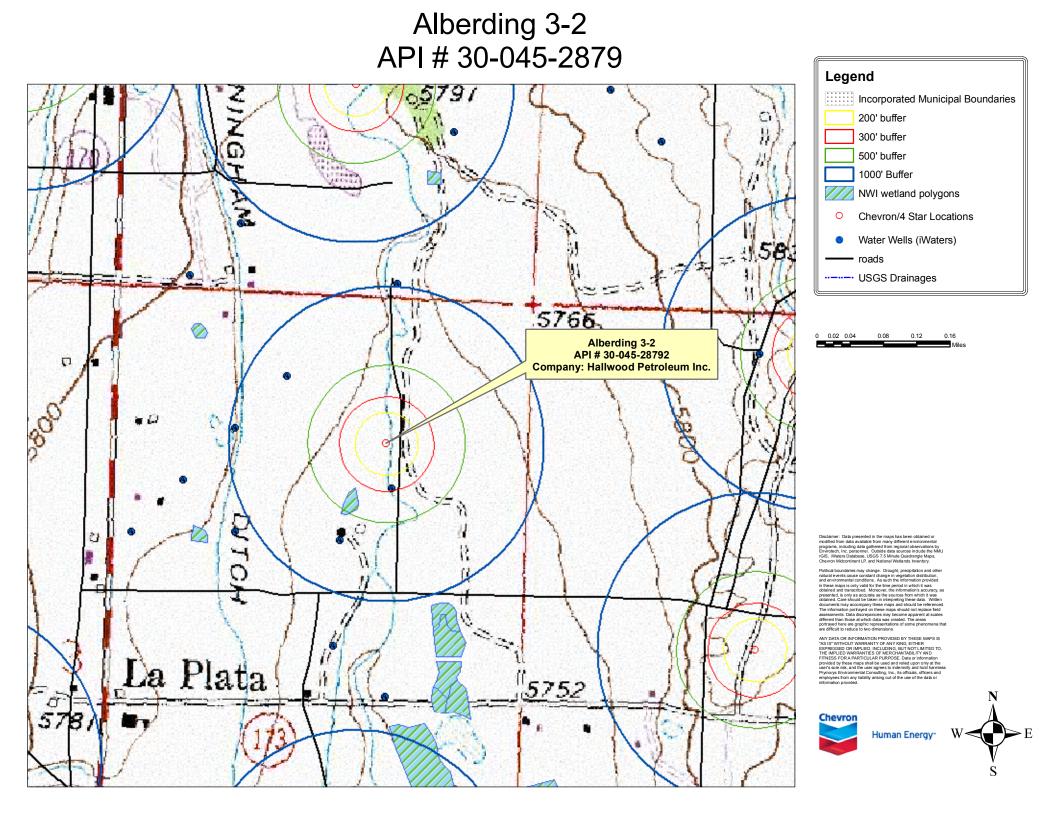
19. Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.
Name (Print): <u>Rodney Bailey</u> Title: <u>Waste &amp; Water Group Lead</u>
Signature: Date: March 1, 2010
e-mail address: <u>Bailerg@chevron.com</u> Telephone: (432) 687 7123
20.         OCD Approval:       Permit Application (including closure plan)         Image: Closure Plan (only)       OCD Conditions (see attachment)         OCD Representative Signature:       Image: Closure Plan (only)         Image: Approval Date:       14May18
Title:     Hydrologist     OCD Permit Number:     na
21. Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.           Closure Completion Date:
22. Closure Method: Waste Excavation and Removal On-Site Closure Method Alternative Closure Method Waste Removal (Closed-loop systems only) If different from approved plan, please explain.
23. <u>Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:</u> Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.
Disposal Facility Name: Disposal Facility Permit Number:
Disposal Facility Name: Disposal Facility Permit Number:
Were the closed-loop system operations and associated activities performed on or in areas that <i>will not</i> be used for future service and operations? Yes (If yes, please demonstrate compliance to the items below) No
Required for impacted areas which will not be used for future service and operations:         Site Reclamation (Photo Documentation)         Soil Backfilling and Cover Installation         Re-vegetation Application Rates and Seeding Technique
<ul> <li>24.</li> <li><u>Closure Report Attachment Checklist</u>: Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.</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-site closure)</li> <li>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 Longitude NAD: [1927 ] 1983</li> </ul>
25. Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.
Name (Print): Title:
Signature: Date:
e-mail address: Telephone:

		Site Inventory Sheet	
0	Well Name & Number: <u>ALDay</u>	-ding 3-2	DATE: 7-23-0
9	API #: 3004528792	J	Initials: mp
0	Lease #:/14		WPT Alberding 3-2
9	Quarter/Quarter: <u>H</u> Se		
9	Lat: <u>N</u> 34. 658898	Long:[1] 108.111349	
6	Pit Tank #1: Manufacturer: <u>F</u> Serial #: <u>8103</u>	agle welding J	inc
•	Serial #: <u>5103</u>	DOM: <u>8'-04</u>	Size $\frac{75}{5}$ bbl
	• If N/A – Dimensions: Dia		
0		Galvanized	
\$			uried 🖉 or Exposed 🗹 Walls)
\$	Contents: Produced Water		
ø	Tank Top Covering: Solid/Cone	-top Netting_/ (Solid	⊻ Fiber)
8	Secondary Containment: Yes_/	/	
0	Fencing around berm: Yes_1/		
	• Fence Type: Cattle Panel	Field Fence <u>//</u>	Barbwire
_	Develop 1 Hot Bar e v		JP.
9	Pit Tank #2: Manufacturer: Serial #:		f m
0			
_	<ul> <li>If N/A – Dimensions: Dian</li> <li>Material: Steel</li> </ul>		
v	Tank Configuration: Dauble We	Gaivanized	Fiberglass uried or ExposedWalls)
0	Contents: Produced Water	III Single wali(Bt	tried or ExposedWalls)
Ğ	Tank Top Covering: Solid/Cone- Secondary Containment: Yes		Flber)
8	Fencing around berm: Yes		
	• Fence Type: Cattle Panel		Devilation
	• Fence Type: Cattle Faner_	Field Bence	Bardwire
ø	Above-Ground Tank #1: Man	ufacturer	
0	Serial #:	X	bbl
	• If N/A – Dimensions: Diar		001
0	Material: Steel		Fiberglass
ø	Contents: Produced Water		
0	Secondary Containment: Yes		
	/		
0	Above-Ground Tank #2: Man	ufacturer:	
0	Serial #:		bbl
	<ul> <li>If N/A – Dimensions: Diar</li> </ul>		Height
۵	Material: Steel		Fiberglass
0	Contents: Produced Water		
	Secondary Containment: Yes		
	• /		
٥	Above-Ground Tank #3: Man	ufacturer:	$\backslash$
0	Serial #:		Size bbl
	• If N/A – Dimensions: Dian		Height
0		Galvanized	
0	Contents: Produced Water		
6	Secondary Containment: Yes	No	

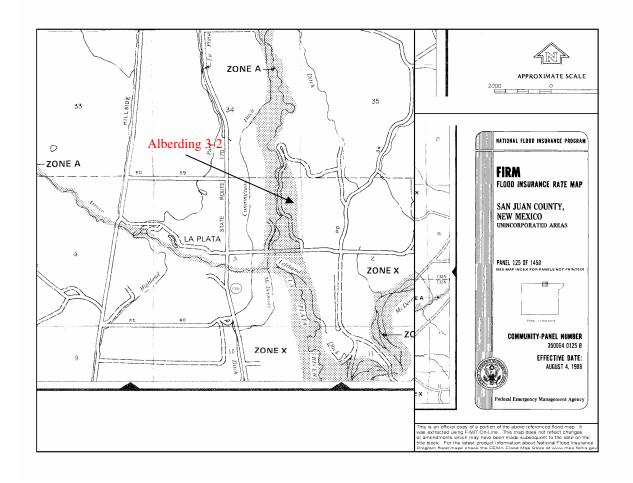


# Alberding 3-2 API # 30-045-2879





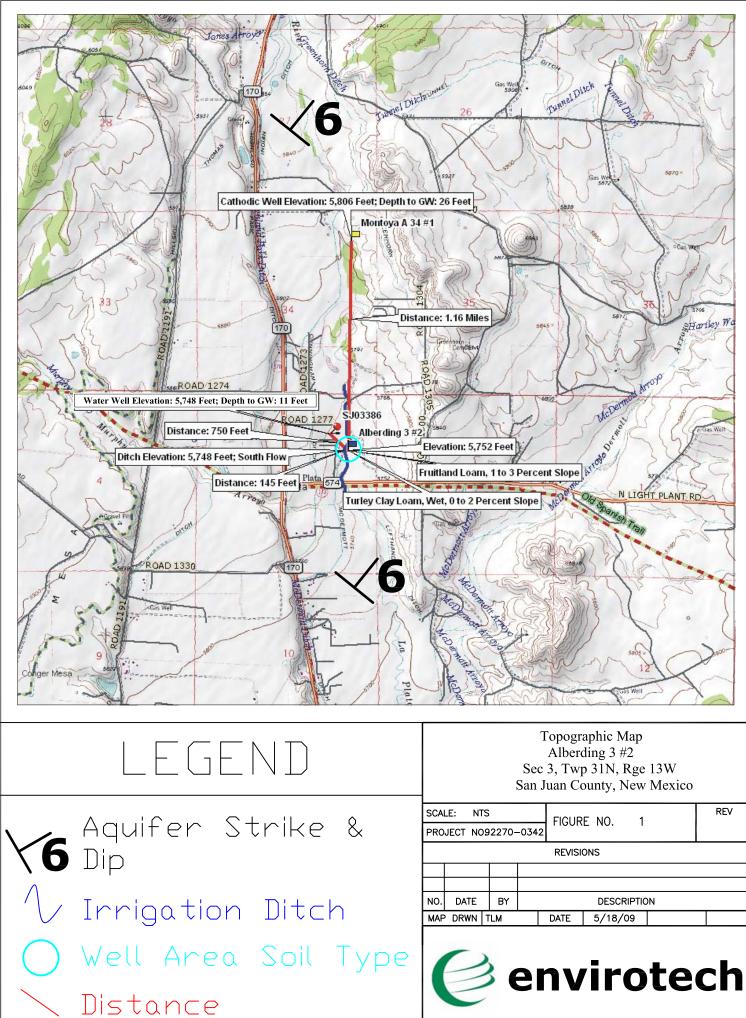
Alberding 3-2 API # 30-045-28792 NE ¼ NE ¼ Sec. 3 T31N R13W



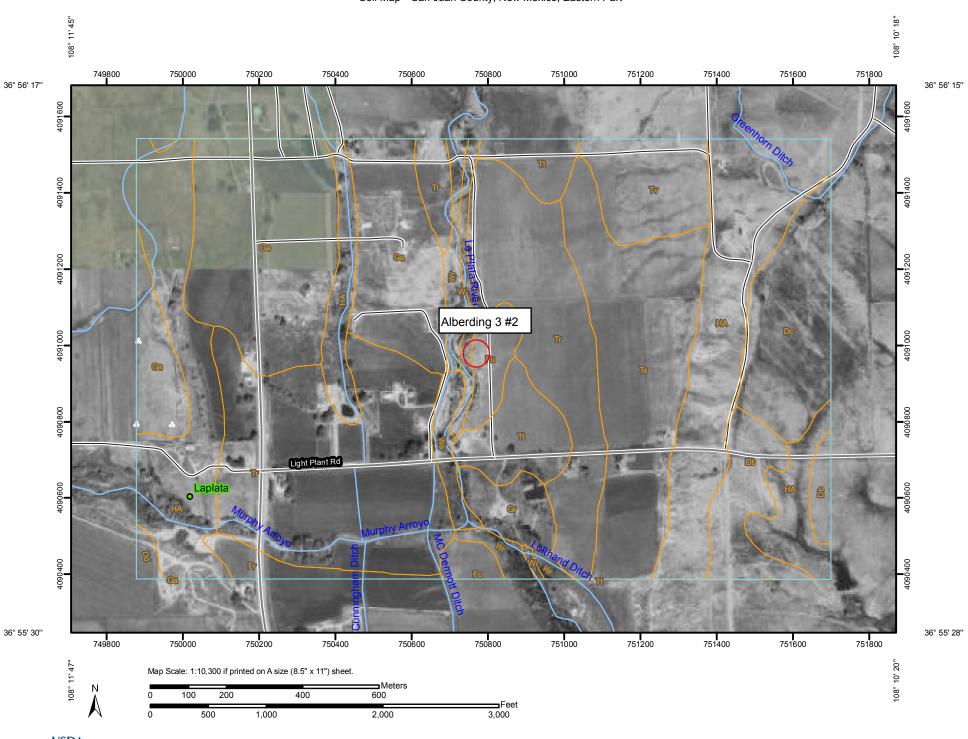
#### Alberding 3 #2 Groundwater Statement

The attached iWATERS database search and topographic map shows a water well approximately 750 feet to the north-west with a depth to groundwater of 11 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 4 feet lower than the Alberding 3 #2 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, owned and operated by Energen Resources Corporation, 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 1.16 miles north of the Alberding 3 #2 well site and is approximately 54 feet higher in elevation. The Montoya A-34 #1 well site is labeled on the topographic map with a yellow flag. The soil types at the Alberding 3 #2 well site are the Fruitland Loam, 1 to 3 percent slope and the Turley Clay Loam, wet, 0 to 2 percent slope. The Fruitland Loam is a well drained soil, characterized by loamy material and a moderately high to high available water capacity. The Turley Clay Loam is a moderately well drained soil, characterized by clayey material and a high available water capacity. The nearest surface water is the McDermott Ditch approximately, 145 feet to the west of the Alberding 3 #2 well site at an elevation of 5,748 feet. This is a south flowing ditch that is used for irrigation. The Alberding 3 #2 well site lies in the Ojo Alamo Sandstone Formation Aquifer which dips at 6 degrees to the north-east (Frenzel, 1983); see Topographic Map for aquifer dip direction. The Ojo Alamo Sandstone Formation dips towards the basin center to a maximum depth of 3,645 feet (Frenzel, 1983). These findings give definitive proof that the depth to groundwater may not be greater than 50 feet from the bottom of the BGT at the Alberding 3 #2 well site. All above information, excluding the aquifer dip, was confirmed by a visual inspection performed by Envirotech, Inc.

The **Ojo Alamo Sandstone (Toa)** of Paleocene age is the basal Tertiary unit within the eastern San Juan Basin and grades into the overlying silts and clays of the Nacimientos/Animas Formations (Brimhall, 1983, p. 200). The Ojo Alamo disconformably overlies the Kirtland Shale in the subsurface although in some places along the eastern side of the basin, the Ojo Alamo unconformity completely cut out the Kirtland to Fruitland Formations and rests directly on the Lewis Shale (Fassett, 1974, p. 228). The thickness of the overall section ranges from 72 to 313 feet (Stone, etal, 1983, p. 31). The unit is comprised predominantly a cross-bedded, moderately consolidated, medium to very coarse-grained, frequently pebbly immature lithic conglomeratic sandstones (Stone, etal, 1983, p. 31). The depositional environment of the sandstone beds is fluvial (Fassett, 1973) and interbedded with clay and silt beds. Where it structurally outcrops along a narrow band, the Ojo Alamo forms well-pronounced cliffs.



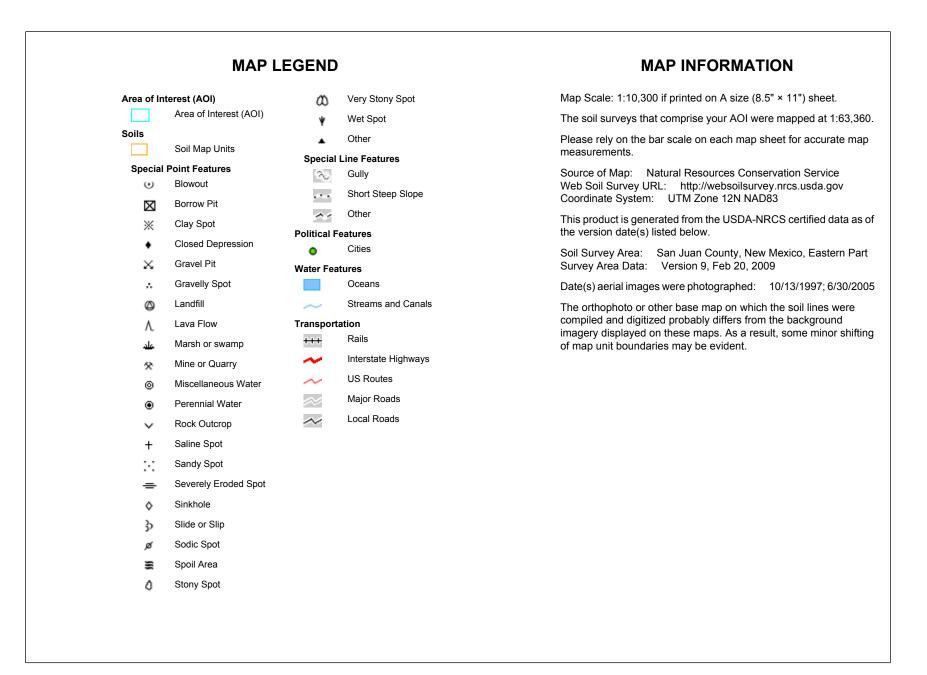
5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615



#### Soil Map—San Juan County, New Mexico, Eastern Part

Natural Resources Conservation Service

Web Soil Survey 2.2 National Cooperative Soil Survey 5/18/2009 Page 1 of 3



## Map Unit Legend

San Juan County, New Mexico, Eastern Part (NM618)								
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI					
Db	Doak loam, 1 to 3 percent slopes	18.7	3.6%					
Dc	Doak loam, 3 to 5 percent slopes	5.6%						
Dd	Doak clay loam, 0 to 2 percent slopes	1.7	0.3%					
Fr	Fruitland sandy loam, 0 to 2 percent slopes	5.8	1.1%					
Fu	Fruitland loam, 1 to 3 percent slopes	10.8	2.1%					
Ga	Garland loam	92.6	17.8%					
Gr	Green River fine sandy loam	9.1	1.8%					
НА	Haplargids-Blackston-Torriorthents complex, very steep	108.9	21.0%					
Tr	Turley clay loam, 1 to 3 percent slopes	125.7	24.2%					
Ts	Turley clay loam, 3 to 5 percent slopes	55.4	10.7%					
Tt	Turley clay loam, wet, 0 to 2 percent slopes	21.1	4.1%					
Tv	Turley-Slickspots complex, 0 to 3 percent slopes	19.0	3.7%					
W	Lakes, rivers, reservoirs	5.3	1.0%					
Wa	Walrees loam	5.6	1.1%					
Wr	Werlog loam	10.0	1.9%					
Totals for Area of Inte	Totals for Area of Interest518.9100.0%							

## San Juan County, New Mexico, Eastern Part

#### Fu—Fruitland loam, 1 to 3 percent slopes

#### Map Unit Setting

*Elevation:* 4,800 to 6,000 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

Fruitland and similar soils: 95 percent

#### **Description of Fruitland**

#### Setting

Landform: Alluvial fans, stream terraces Landform position (three-dimensional): Tread, rise Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium derived from sandstone and shale

#### **Properties and qualities**

Slope: 1 to 3 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 Gypsum, maximum content: 1 percent Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/ cm) Sodium adsorption ratio, maximum: 2.0 Available water capacity: Moderate (about 7.5 inches)

#### Interpretive groups

Land capability classification (irrigated): 2e Land capability (nonirrigated): 7e Ecological site: Loamy (R035XB001NM)

#### **Typical profile**

0 to 8 inches: Loam 8 to 60 inches: Sandy loam

## **Data Source Information**

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

### San Juan County, New Mexico, Eastern Part

#### Tt—Turley clay loam, wet, 0 to 2 percent slopes

#### Map Unit Setting

*Elevation:* 4,800 to 6,000 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

Turley variant and similar soils: 90 percent

#### **Description of Turley Variant**

#### Setting

Landform: Alluvial fans Landform position (three-dimensional): Rise Down-slope shape: Linear Across-slope shape: Linear Parent material: Fan alluvium derived from sandstone and shale

#### **Properties and qualities**

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 24 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/ cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 10.2 inches)

#### Interpretive groups

Land capability classification (irrigated): 2w Land capability (nonirrigated): 6w Ecological site: Clayey (R035XB004NM)

#### **Typical profile**

0 to 9 inches: Clay loam 9 to 60 inches: Clay loam

## **Data Source Information**

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



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

		(qua	arters	s ar	re 1	I=NW	/ 2=NE	E 3=SW 4	4=SE)					
		(qua	(quarters are smallest to largest)				argest)	(NAD83 UTM in meters)			(In feet)			
POD Number	Sub basin Use	County	Q 64			Sec	Tws	Rng	x	ΥI	ا Distance	Depth Do Well W	•	
SJ 03386	DOM	SJ			2	03	31N	13W	216185	4092159*	130	80	11	69
SJ 02879	DOM	SJ	2	3	2	03	31N	13W	216083	4092057*	269	30		
SJ 02990	DOM	SJ	4	3	2	03	31N	13W	216083	4091857*	417	100	22	78
SJ 02577	DOM	SJ		4	4	34	32N	13W	216409	4092731*	530	30	15	15
SJ 03137	STK	SJ	3	3	2	03	31N	13W	215883	4091857*	550	50		
SJ 02783	DOM	SJ	4	3	3	35	32N	13W	216909	4092611*	724	62	48	14
SJ 01943	IRR	SJ			4	34	32N	13W	216209	4092951*	746	8	3	5
SJ 02590	DOM	SJ	3	2	1	02	31N	13W	217099	4092201*	794	114	70	44
SJ 02589	DOM	SJ	2	3	3	35	32N	13W	216909	4092811*	851	60	35	25
SJ 03635	DOM	SJ	4	2	4	34	32N	13W	216523	4093046*	863	44	35	9
SJ 02901	DOM	SJ	2	2	4	34	32N	13W	216523	4093246*	1058	50		
SJ 03090	DOM	SJ	1	1	3	35	32N	13W	216725	4093232*	1104	59	47	12
SJ 01079	DOM	SJ		3	3	34	32N	13W	215206	4092785*	1239	100	30	70
SJ 00089	IRR	SJ	1	1	2	10	31N	13W	215849	4090850*	1434	80	18	62
SJ 03037	DOM	SJ	3	4	1	34	32N	13W	215524	4093478*	1488	100		
										Averag	e Depth to	Water:	30 fee	et
											Minimum	Depth:	3 fee	et
											Maximum	Depth:	70 fee	et
Record Count: 15														

#### UTMNAD83 Radius Search (in meters):

Easting (X): 216304.81

Northing (Y): 4092210.52

Radius: 1500

\*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.

# 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**

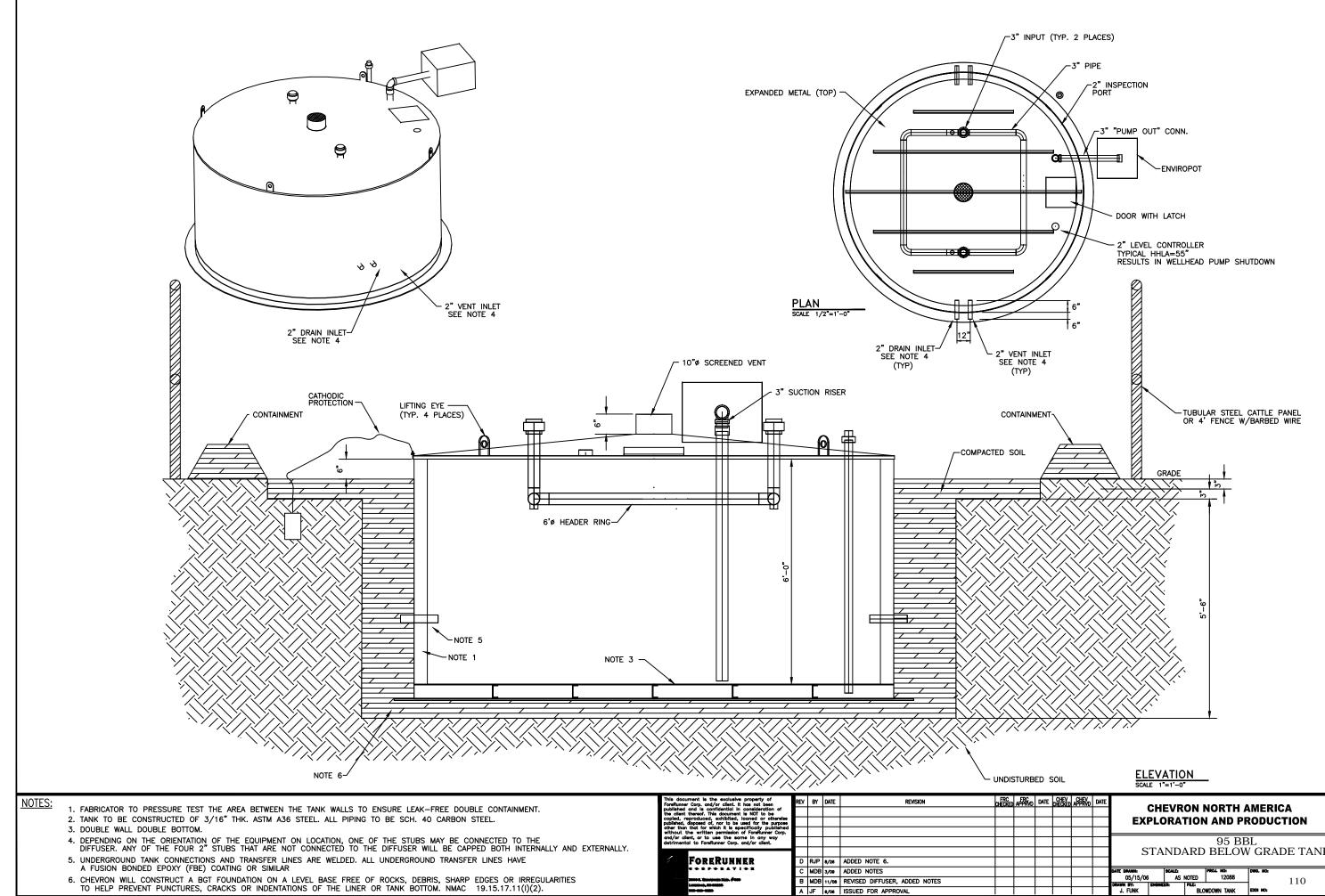
In accordance with NMAC §§ 19.15.17.9(B)(4) and 19.15.17.11 Chevron (representing Chevron USA Inc, Chevron Midcontinent, L.P., and Four Star Oil & Gas Company) submits this Design and Construction Plan for below grade tanks (BGTs) in New Mexico. This Plan contains standard conditions that attach to multiple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



Chevron											
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95 BBL											
STANDARD BELOW GRADE TANK											
REV:											
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