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

RECEIVED
2010 MAR 4 PM 1 29

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

Form C-144
July 21, 2008

**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-Loop System, Below-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.

1.
Operator: Four Star Oil & Gas Company OGRID #: 131944
Address: P.O. Box 36366 Houston, TX 77236
Facility or well name: Federal B #3
API Number: 30-045-33361 OCD Permit Number:
U/L or Qtr/Qtr Qtr/Qtr Section 12 Township 31N Range 13W County: San Juan
Center of Proposed Design: Latitude 36.917450° Longitude 108.159670° NAD: ☐ 1927 ☐ 1983
Surface Owner: ☐ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☐ **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_____

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or 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.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 95 bbl Type of fluid: Produced Water
Tank Construction material: Steel
☒ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____mil ☐ HDPE ☐ PVC ☐ Other _____

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

**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 Self supporting cattle panel.

7.

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

☐ Screen ☐ Netting ☒ Other Solid

☐ 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.

10.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

***Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance.*** **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**

| | |
|---|---|
| Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.<br>- 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).<br>- 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)*<br>- 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<br>☐ NA |
| Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)*<br>- 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<br>☒ NA |
| Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.<br>- 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.<br>The site is not within any known incorporated municipal boundaries, please reference the attached topographic map. | ☐ Yes ☒ No<br>☐ Yes ☒ No |
| Within 500 feet of a wetland.<br>- 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.<br>- Please reference the attached topographic map | ☐ Yes ☒ No |
| Within an unstable area.<br>- 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.<br>- 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 19.15.17.11 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: _____ or Permit 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 and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ *(Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

13.
**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC
***Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including $H_2S$, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection 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

14.
**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)

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.***

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.
**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)
***Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.***

Disposal Facility Name: _____ 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) ☐ 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

17.
**Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC
***Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.***

| | |
|---|---|
| Ground water is less than 50 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No<br>☐ NA |
| Ground water is between 50 and 100 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No<br>☐ NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No<br>☐ NA |
| Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).<br>- 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.<br>- 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.<br>- 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.<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☐ No |
| Within 500 feet of a wetland.<br>- 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.<br>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division | ☐ Yes ☐ No |
| Within an unstable area.<br>- 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.<br>- FEMA map | ☐ Yes ☐ No |

18.
**On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

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): Rodney Bailey Title: Waste & Water Group Lead

Signature: Date: March 1, 2010

e-mail address: Bailerg@chevron.com Telephone: (432) 687 7123

20.
**OCD Approval:** ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

**OCD Representative Signature:** **Approval Date:**

**Title:** **OCD Permit Number:**

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.
**Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

***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 *will not* 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

24.
**Closure Report Attachment Checklist:** ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)
On-site Closure Location: Latitude Longitude NAD: ☐ 1927 ☐ 1983

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

- Well Name & Number: Federal B 003 DATE: 7/23/08
- API #: 3004633361 Initials: 8
- Lease #: NM - 10183 - A FBB
- Quarter/Quarter: _____ Section: 12 Township: 31N Range: 13W
- Lat: N36.917460 Long: W108.156670

- Pit Tank #1: Manufacturer: Eagle Welding
- Serial #: CHE 010055 DOM: 8-2007 Size 95 bbl
  - If N/A – Dimensions: Diameter 12' Height 8'
- Material: Steel X Galvanized _____ Fiberglass _____
- Tank Configuration: Double Wall X Single Wall ____ (Buried ____ or Exposed X Walls)
- Contents: Produced Water X Condensate _____ Recycled Oil ____
- Tank Top Covering: Solid/Cone-top X Netting ____ (Solid __ Fiber __)
- Secondary Containment: Yes X No ____
- Fencing around berm: Yes X No ____
  - Fence Type: Cattle Panel X Field Fence ____ Barbwire ____

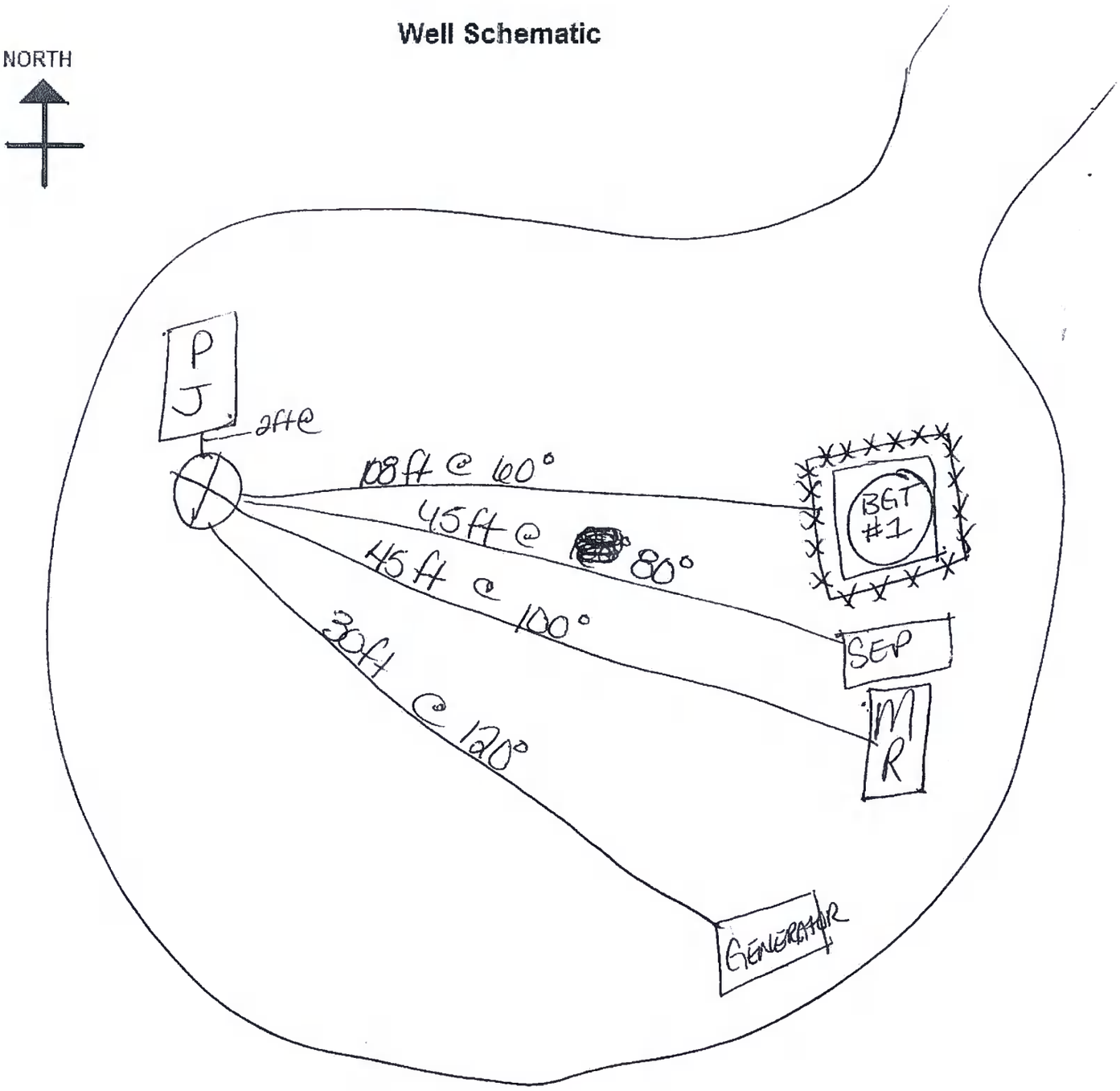
- Pit Tank #2: Manufacturer: _____
- Serial #: _____ DOM: _____ Size _____ bbl
  - If N/A – Dimensions: Diameter _____ Height _____
- Material: Steel _____ Galvanized _____ Fiberglass _____
- Tank Configuration: Double Wall ____ Single Wall ____ (Buried ____ or Exposed ____ Walls)
- Contents: Produced Water ____ Condensate _____ Recycled Oil ____
- Tank Top Covering: Solid/Cone-top ____ Netting ____ (Solid __ Fiber __)
- Secondary Containment: Yes ____ No ____
- Fencing around berm: Yes ____ No ____
  - Fence Type: Cattle Panel ____ Field Fence ____ Barbwire ____

- Above-Ground Tank #1: Manufacturer: _____
- Serial #: _____ DOM: _____ Size _____ bbl
  - If N/A – Dimensions: Diameter _____ Height _____
- Material: Steel _____ Galvanized _____ Fiberglass _____
- Contents: Produced Water ____ Condensate _____ (State # _____) Recycled Oil ____
- Secondary Containment: Yes ____ No ____

- Above-Ground Tank #2: Manufacturer: _____
- Serial #: _____ DOM: _____ Size _____ bbl
  - If N/A – Dimensions: Diameter _____ Height _____
- Material: Steel _____ Galvanized _____ Fiberglass _____
- Contents: Produced Water ____ Condensate _____ (State # _____) Recycled Oil ____
- Secondary Containment: Yes ____ No ____

- Above-Ground Tank #3: Manufacturer: _____
- Serial #: _____ DOM: _____ Size _____ bbl
  - If N/A – Dimensions: Diameter _____ Height _____
- Material: Steel _____ Galvanized _____ Fiberglass _____
- Contents: Produced Water ____ Condensate _____ (State # _____) Recycled Oil ____
- Secondary Containment: Yes ____ No ____

# Well Schematic




Schematic Key:

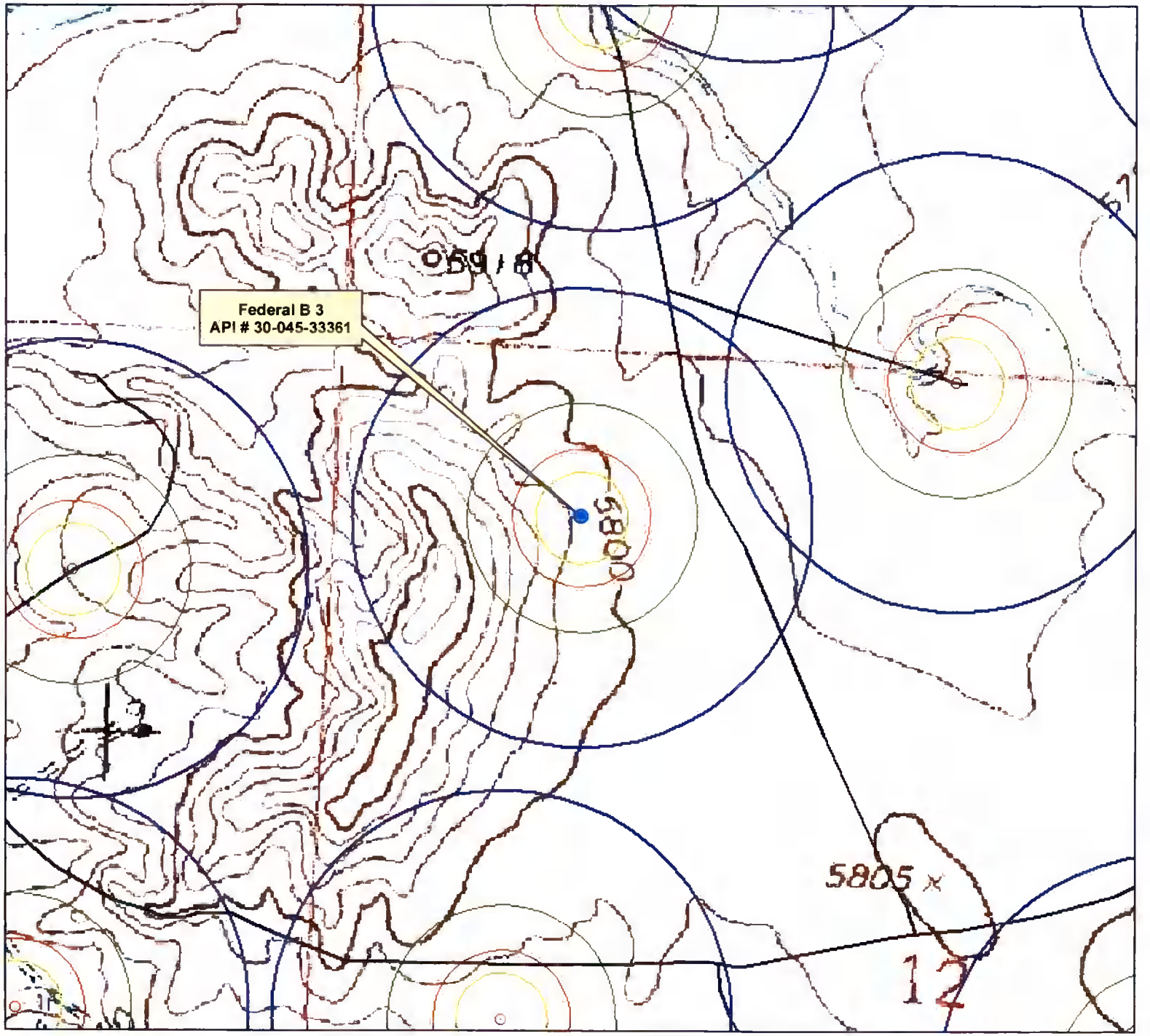
| | | | | | |
|---|---|---|---|---|---|
| Separator | SEP | Artificial Lift | AL | Condensate Tank | COND |
| Compressor | COM | Meter Run | METER RUN | | |
| Dehydrator | DEH | Well Head | ○ | Water Tank | WATER |

**Measure any distance 1000ft or less of the following:**

- **From wellhead to any continuous flowing or significant water course.** N/A

- **From below-grade tanks to any permanent residence, school, church, hospital, etc.** N/A

# Federal B 3
# API # 30-045-33361




**Legend**

- Mines; NMRGIS
- 200' buffer
- 300' buffer
- 500' buffer
- 1000' Buffer
- NWI wetland polygons
- Chevron/4 Star Locations
- Water Wells (iWaters)
- roads

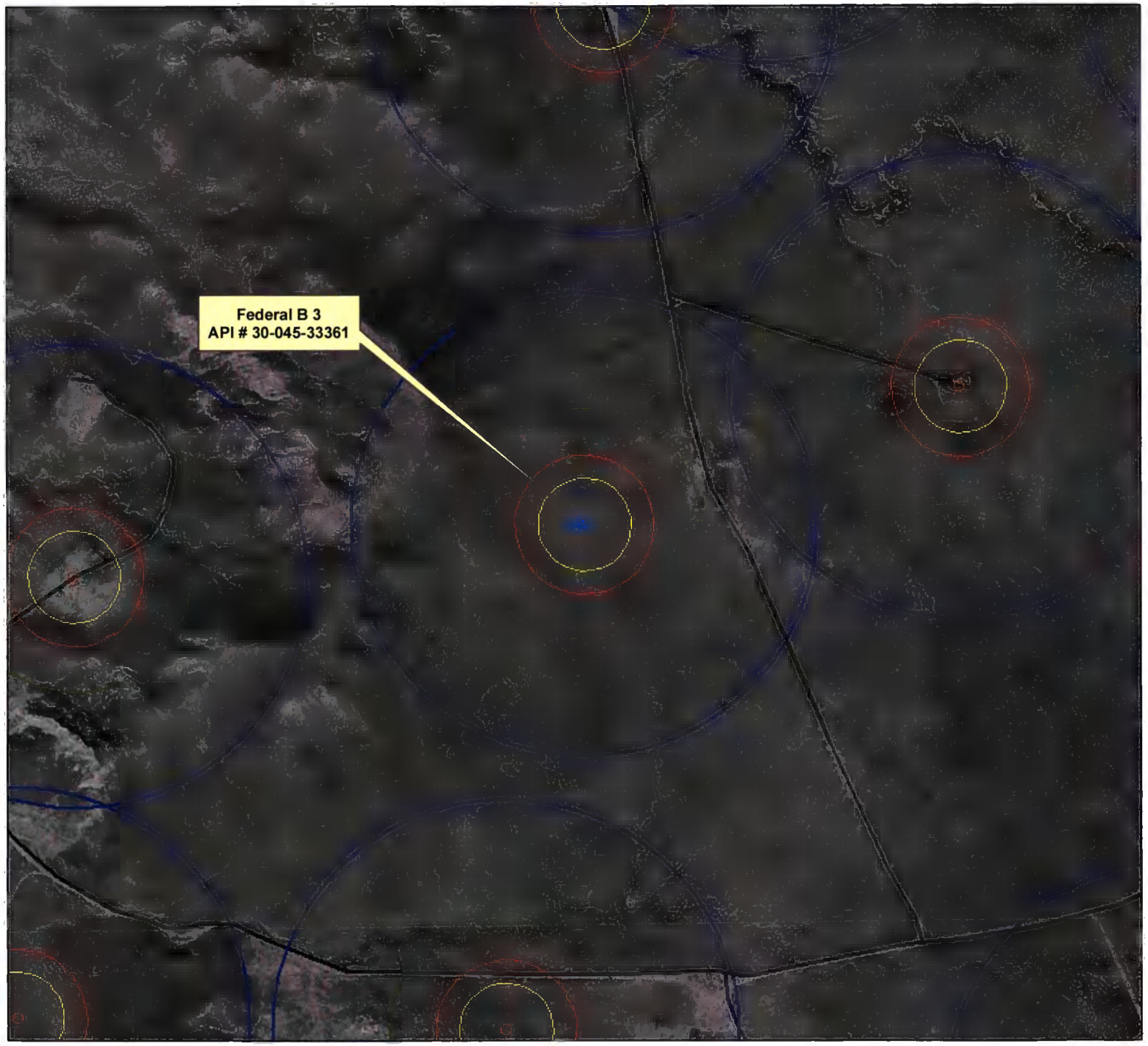
0 0.01 0.02 0.04 0.06 0.08 Miles



Chevron Human Energy

N W E S

# Federal B 3
# API # 30-045-33361




**Legend**

- Mines, NMRGIS
- 200' buffer
- 300' buffer
- 500' buffer
- 1000' Buffer
- NWI wetland polygons
- Chevron/4 Star Locations
- Water Wells (iWaters)
- roads

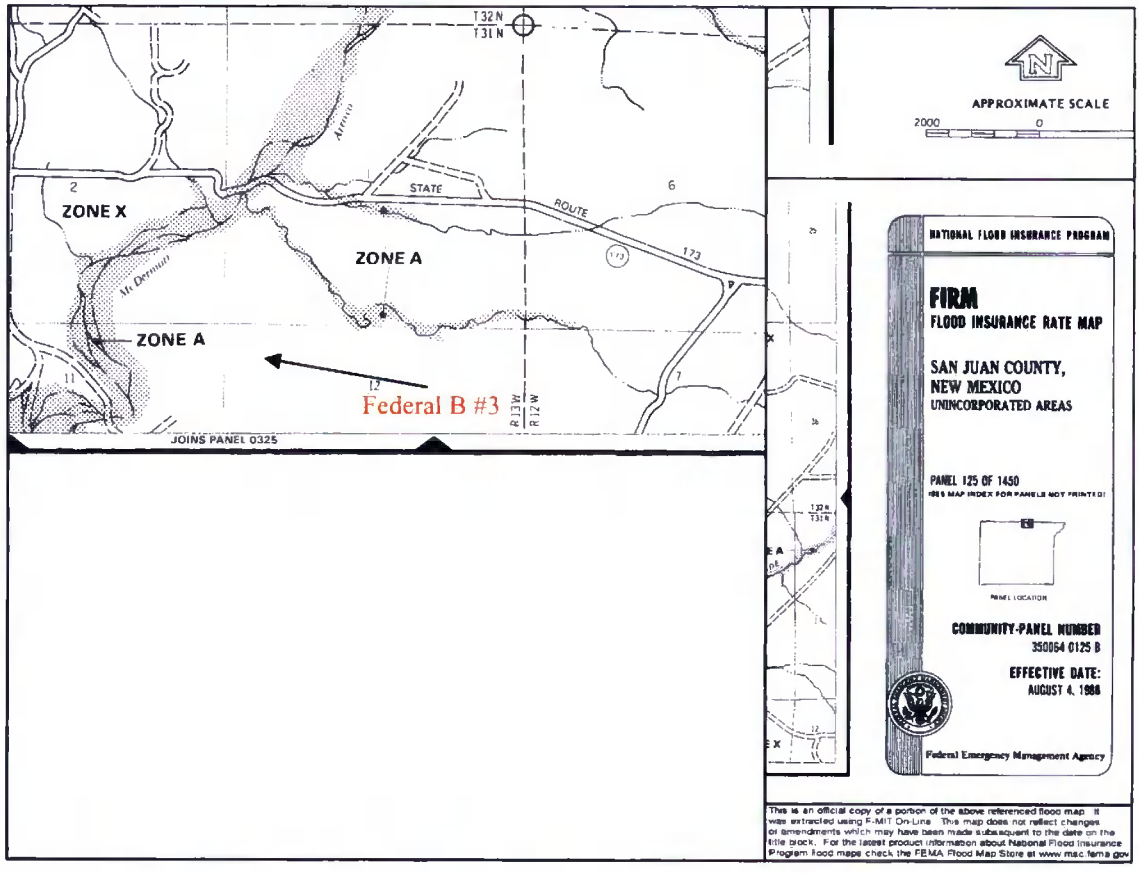
0 0.01 0.02 0.04 0.06 0.08
Miles



Chevron Human Energy

N
W E
S

Federal B #3
API # 30-045-33361
NW ¼ NW ¼ Sec. 12 T31N R13W

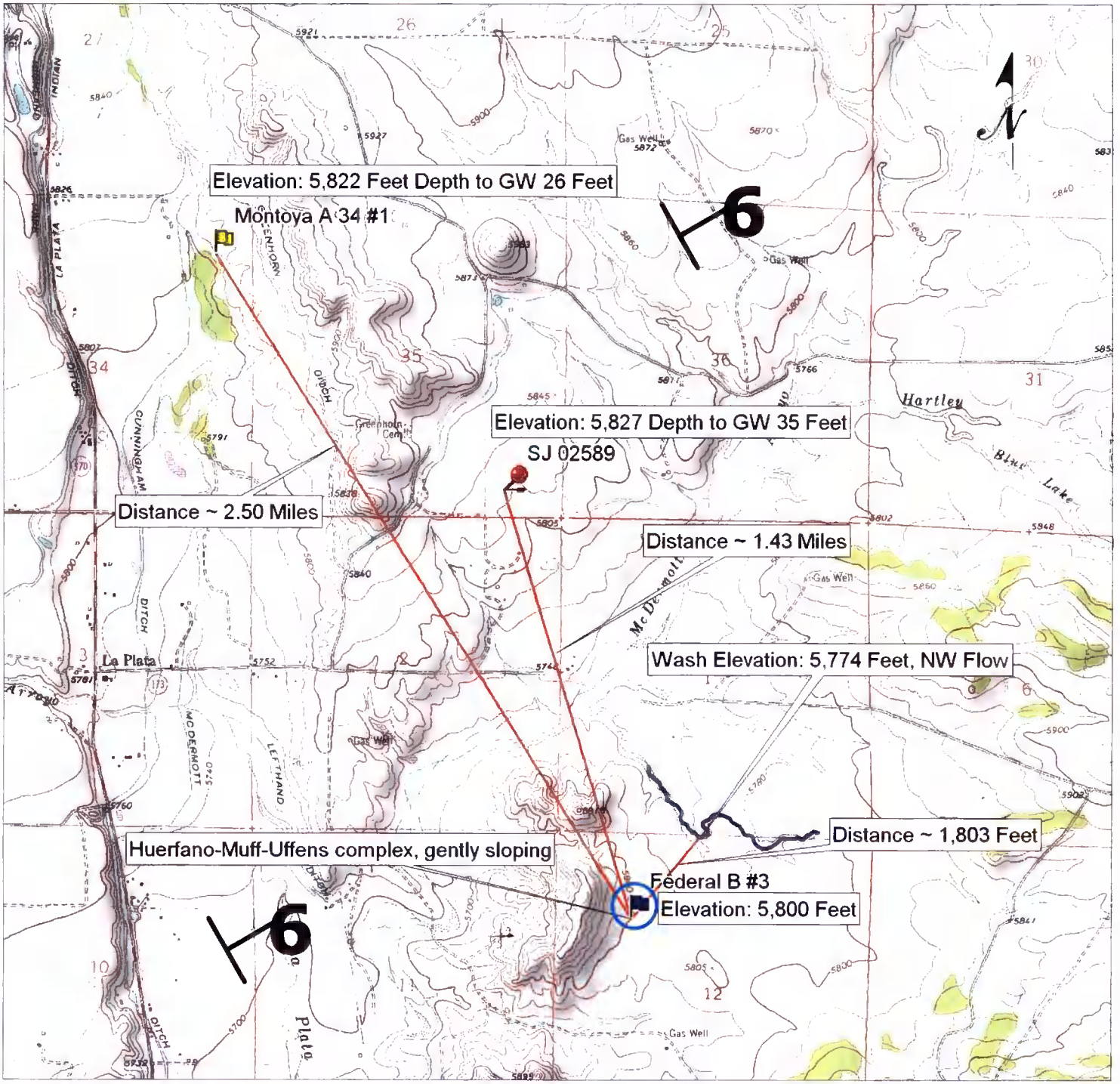


**Federal B #3 Groundwater Statement**

The attached iWATERS database search and topographic map shows a water well approximately 1.43 miles to the north-west with a depth to groundwater of 35 feet. This water well is labeled on the topographic map with a red point. As evidenced on the attached topographic map, the water well is at an elevation approximately 27 feet higher than the Federal B #3 well site, which is represented by a blue flag on the topographic map. The attached cathodic well data sheet for a cathodic well drilled in 1990 for the Montoya A-34 #1 well site shows that groundwater was encountered at 26 feet. This cathodic well data sheet is stamped as being accepted by the OCD in January of 1991. The Montoya A-34 #1 well site is approximately 2.50 miles north-west of the Federal B #3 well site at an elevation approximately 22 feet higher than the Federal B #3 well site. The Montoya A-34 #1 well site is labeled on the topographic map with a yellow flag. The soil type at the Federal B #3 well site is a Huerfano-Muff-Uffens complex, gently sloping. This is a well drained soil, characterized by alluvium derived from sandstone and shale over residuum weathered from shale, with a low to very low available water capacity. The nearest wash is approximately 1,803 feet to the north-east of the Federal B #3 well site at an elevation of 5,774 feet. This is a north-west flowing ephemeral wash which only flows during periods of heavy precipitation. This wash is a first order tributary of the McDermott Arroyo. The Federal B #3 well site lies in the Nacimiento Formation Aquifer which dips at 6 degrees to the north-east (Frenzel, 1983); see Topographic Map for aquifer dip direction. The Nacimiento Formation lies at the surface in a broad belt at the western and southern edges of the central basin and dips beneath the San Jose Formation in the basin center. (Frenzel, 1983) These findings indicate that the depth to groundwater may not be greater than 50 feet from the bottom of the BGT at the Federal B #3 well site. All above information, excluding the aquifer dip, was confirmed by a visual inspection performed by Envirotech, Inc.

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

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




# LEGEND

Aquifer Strike & Dip

Ephemeral Wash

Well Area Soil Type

Distance

Topographic Map
Federal B #3
Sec 12, Twp 31N, Rge 13W
San Juan County, New Mexico

| SCALE: NTS | FIGURE NO. 1 | REV |
|---|---|---|
| PROJECT NO92270-0342 | | |

REVISIONS

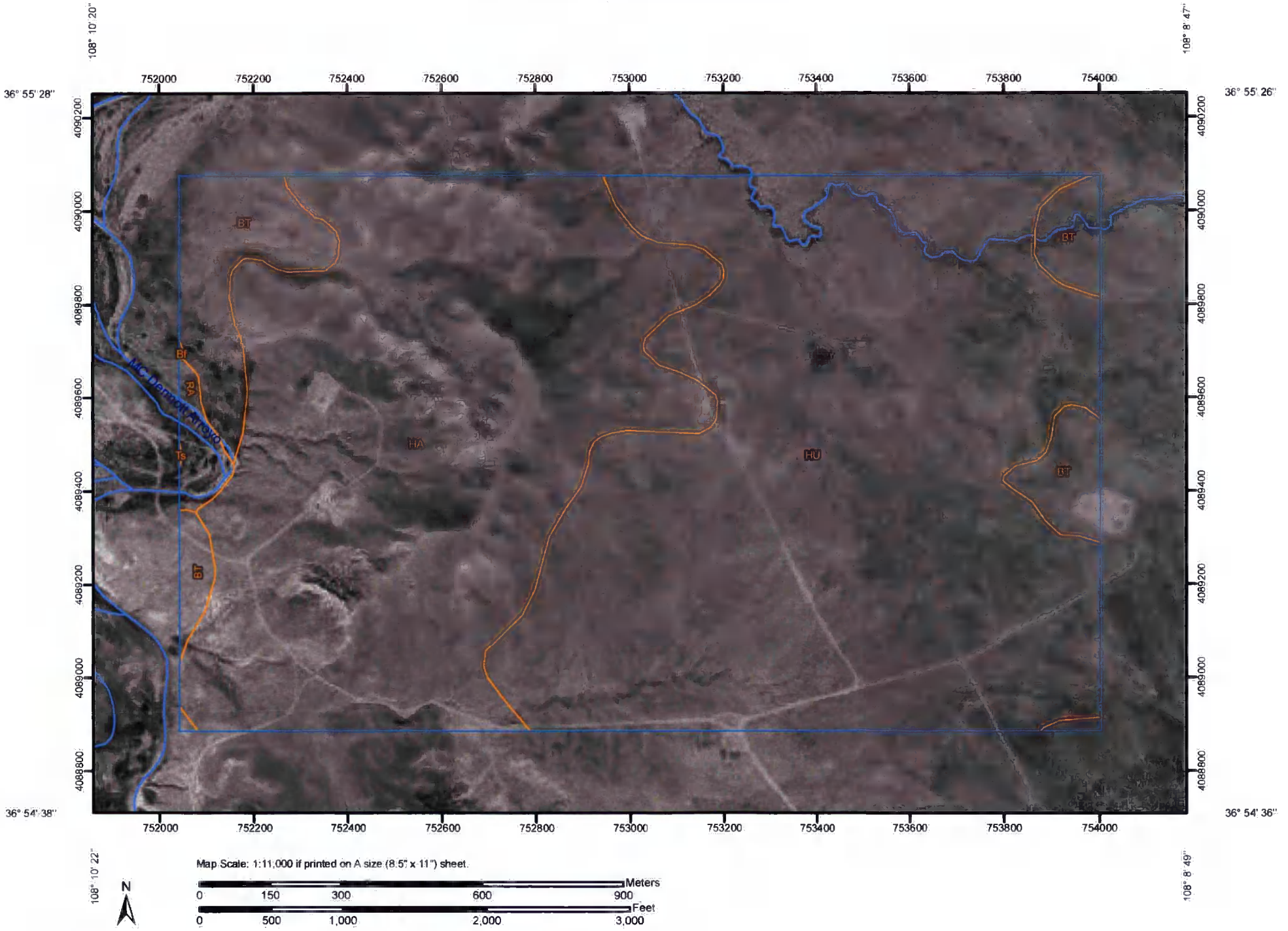
| NO. | DATE | BY | DESCRIPTION |
|---|---|---|---|
| | | | |
| | | | |

| MAP DRWN | JPM | DATE | 7/2/09 |
|---|---|---|---|

envirotech

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

Soil Map—San Juan County, New Mexico, Eastern Part
(Federal B #3)



## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Units

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- 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
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

**Special Line Features**
- Gully
- Short Steep Slope
- Other

**Political Features**
- Cities

**Water Features**
- Oceans
- Streams and Canals

**Transportation**
- Rails
- 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 12N 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: 10/13/1997

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** |
| Bf | Beebe variant loamy sand | 0.1 | 0.0% |
| BT | Blancot-Notal association, gently sloping | 44.8 | 7.8% |
| HA | Haplargids-Blackston-Torriorthents complex, very steep | 229.1 | 39.8% |
| HU | Huerfano-Muff-Uffens complex, gently sloping | 296.6 | 51.5% |
| RA | Riverwash | 5.5 | 1.0% |
| Ts | Turley clay loam, 3 to 5 percent slopes | 0.1 | 0.0% |
| **Totals for Area of Interest** | | **576.1** | **100.0%** |

# San Juan County, New Mexico, Eastern Part

## HU—Huerfano-Muff-Uffens complex, gently sloping

### Map Unit Setting

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

### Map Unit Composition

*Huerfano and similar soils:* 40 percent
*Muff and similar soils:* 30 percent
*Uffens and similar soils:* 20 percent

### Description of Huerfano

#### Setting

*Landform:* Terraces
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from sandstone over residuum weathered from shale

#### Properties and qualities

*Slope:* 0 to 3 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:* Very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm)
*Sodium adsorption ratio, maximum:* 25.0
*Available water capacity:* Very low (about 2.5 inches)

#### Interpretive groups

*Land capability (nonirrigated):* 7s
*Ecological site:* Salt Flats (R035XB005NM)

#### Typical profile

*0 to 2 inches:* Sandy clay loam
*2 to 15 inches:* Sandy clay loam
*15 to 20 inches:* Bedrock

### Description of Muff

#### Setting

*Landform:* Terraces

*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from shale

**Properties and qualities**

*Slope:* 0 to 8 percent
*Depth to restrictive feature:* 20 to 40 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:* 15 percent
*Gypsum, maximum content:* 4 percent
*Maximum salinity:* Very slightly saline to slightly saline (4.0 to 8.0 mmhos/cm)
*Sodium adsorption ratio, maximum:* 30.0
*Available water capacity:* Very low (about 2.6 inches)

**Interpretive groups**

*Land capability (nonirrigated):* 6s
*Ecological site:* Salt Flats (R035XB005NM)

**Typical profile**

*0 to 4 inches:* Very fine sandy loam
*4 to 24 inches:* Clay loam
*24 to 40 inches:* Bedrock

## Description of Uffens

**Setting**

*Landform:* Terraces
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from shale

**Properties and qualities**

*Slope:* 0 to 5 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.60 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:* Moderately saline (16.0 mmhos/cm)
*Sodium adsorption ratio, maximum:* 30.0
*Available water capacity:* Low (about 5.1 inches)

**Interpretive groups**

*Land capability (nonirrigated):* 7s
*Ecological site:* Salt Flats (R035XB005NM)

**Typical profile**

*0 to 9 inches:* Fine sandy loam
*9 to 20 inches:* Clay loam
*20 to 60 inches:* Sandy clay loam

## Data Source Information

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

30-045-24399

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

Operator UNOCAL Location: Unit ___ Sec. 34 Twp 32 Rng 13

Name of Well/Wells or Pipeline Serviced Montoya Well No. 1-A34

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

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

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

If Cement or Bentonite Plugs have been placed, show depths & amounts used

NA=NONE

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

Fresh, Clear, Salty, Sulphur, Etc. 26' to 36' deep=10' thick zone of water, gravel and rocks (cased from 0' to 40' deep).

Depths gas encountered: NA=NONE

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

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

Depths vent pipes placed: 0' to 200' deep

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

Remarks:

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

*Land Type may be shown: F-Federal; I-Indian; S-State; P-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)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

| POD Number | Sub basin | Use | County | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X | Y | Depth Well | Depth Water | Water Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 00339 | | DOM | SJ | 1 | 1 | 4 | 22 | 32N | 13W | 216027 | 4096502* | 50 | 12 | 38 |
| SJ 00340 | | IRR | SJ | 3 | 1 | 4 | 22 | 32N | 13W | 216027 | 4096302* | 50 | 12 | 38 |
| SJ 00736 | | DOM | SJ | | 1 | 4 | 22 | 32N | 13W | 216128 | 4096403* | 40 | 15 | 25 |
| SJ 00906 X | | DOM | SJ | | 4 | 3 | 22 | 32N | 13W | 215702 | 4096009* | 86 | 26 | 60 |
| SJ 00922 | | DOM | SJ | 4 | 1 | 3 | 22 | 32N | 13W | 215415 | 4096322* | 27 | 12 | 15 |
| SJ 01079 | | DOM | SJ | | 3 | 3 | 34 | 32N | 13W | 215206 | 4092785* | 100 | 30 | 70 |
| SJ 01187 | | DOM | SJ | 4 | 4 | 3 | 10 | 32N | 13W | 215912 | 4099125* | 24 | 9 | 15 |
| SJ 01285 | | MON | SJ | 4 | 1 | 3 | 28 | 32N | 13W | 213760 | 4094770* | 27 | | |
| SJ 01353 | | DOM | SJ | | 3 | 4 | 10 | 32N | 13W | 216219 | 4099216* | | 38 | |
| SJ 01439 | | DOM | SJ | | 3 | 4 | 10 | 32N | 13W | 216219 | 4099216* | 45 | 25 | 20 |
| SJ 01549 | | DOM | SJ | | 1 | 2 | 15 | 32N | 13W | 216212 | 4098819* | 47 | 28 | 19 |
| SJ 01943 | | IRR | SJ | | | 4 | 34 | 32N | 13W | 216209 | 4092951* | 8 | 3 | 5 |
| SJ 02068 | | DOM | SJ | | | 2 | 15 | 32N | 13W | 216407 | 4098623* | 45 | 16 | 29 |
| SJ 02350 | | DOM | SJ | 1 | 3 | 2 | 15 | 32N | 13W | 216105 | 4098521* | 26 | | |
| SJ 02558 | | DOM | SJ | 4 | 2 | 3 | 15 | 32N | 13W | 215880 | 4097928* | 41 | 23 | 18 |
| SJ 02577 | | DOM | SJ | | 4 | 4 | 34 | 32N | 13W | 216409 | 4092731* | 30 | 15 | 15 |
| SJ 02589 | | DOM | SJ | 2 | 3 | 3 | 35 | 32N | 13W | 216909 | 4092811* | 60 | 35 | 25 |
| SJ 02704 | | DOM | SJ | 2 | 4 | 1 | 22 | 32N | 13W | 215840 | 4096916* | 25 | 12 | 13 |
| SJ 02705 | | DOM | SJ | 2 | 4 | 1 | 22 | 32N | 13W | 215840 | 4096916* | 25 | 12 | 13 |
| SJ 02783 | | DOM | SJ | 4 | 3 | 3 | 35 | 32N | 13W | 216909 | 4092611* | 62 | 48 | 14 |
| SJ 02847 | | MIN | SJ | 1 | 4 | 4 | 22 | 32N | 13W | 216408 | 4096089* | 1255 | 0 | 1255 |
| SJ 02848 | | MIN | SJ | 3 | 4 | 2 | 22 | 32N | 13W | 216444 | 4096695* | 608 | 50 | 558 |
| SJ 02865 | | DOM | SJ | 2 | 3 | 2 | 15 | 32N | 13W | 216305 | 4098521* | 44 | 29 | 15 |
| SJ 02890 | | DOM | SJ | 2 | 1 | 4 | 15 | 32N | 13W | 216299 | 4098116* | 55 | 30 | 25 |
| SJ 02901 | | DOM | SJ | 2 | 2 | 4 | 34 | 32N | 13W | 216523 | 4093246* | 50 | | |
| SJ 02918 | | DOM | SJ | 2 | 4 | 3 | 22 | 32N | 13W | 215801 | 4096108* | 51 | 30 | 21 |
| SJ 02934 | | DOM | SJ | 1 | 1 | 4 | 15 | 32N | 13W | 216099 | 4098116* | 34 | 18 | 16 |
| SJ 02985 | | DOM | SJ | 2 | 1 | 2 | 15 | 32N | 13W | 216311 | 4098918* | 47 | 25 | 22 |
| SJ 03037 | | DOM | SJ | 3 | 4 | 1 | 34 | 32N | 13W | 215524 | 4093478* | 100 | | |

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

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

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

| POD Number | Sub basin | Use | County | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X | Y | Depth Well | Depth Water | Water Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 03066 | | STK | SJ | 2 | 2 | 2 | 34 | 32N | 13W | 216545 | 4094053* | 41 | 28 | 13 |
| SJ 03090 | | DOM | SJ | 1 | 1 | 3 | 35 | 32N | 13W | 216725 | 4093232* | 59 | 47 | 12 |
| SJ 03111 | | DOM | SJ | 4 | 1 | 2 | 22 | 32N | 13W | 216270 | 4097108* | 19 | 6 | 13 |
| SJ 03123 | | DOM | SJ | 1 | 4 | 3 | 27 | 32N | 13W | 215543 | 4094485* | 30 | | |
| SJ 03256 | | DOM | SJ | 2 | 4 | 1 | 34 | 32N | 13W | 215724 | 4093678* | 21 | 6 | 15 |
| SJ 03524 | | STK | SJ | 1 | 4 | 3 | 27 | 32N | 13W | 215543 | 4094485* | 33 | 10 | 23 |
| SJ 03525 | | STK | SJ | 1 | 3 | 4 | 27 | 32N | 13W | 215948 | 4094470* | 71 | 12 | 59 |
| SJ 03635 | | DOM | SJ | 4 | 2 | 4 | 34 | 32N | 13W | 216523 | 4093046* | 44 | 35 | 9 |

Average Depth to Water: **21 feet**

Minimum Depth: **0 feet**

Maximum Depth: **50 feet**

**Record Count:** 37

**PLSS Search:**

**Township:** 32N **Range:** 13W

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

# 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).

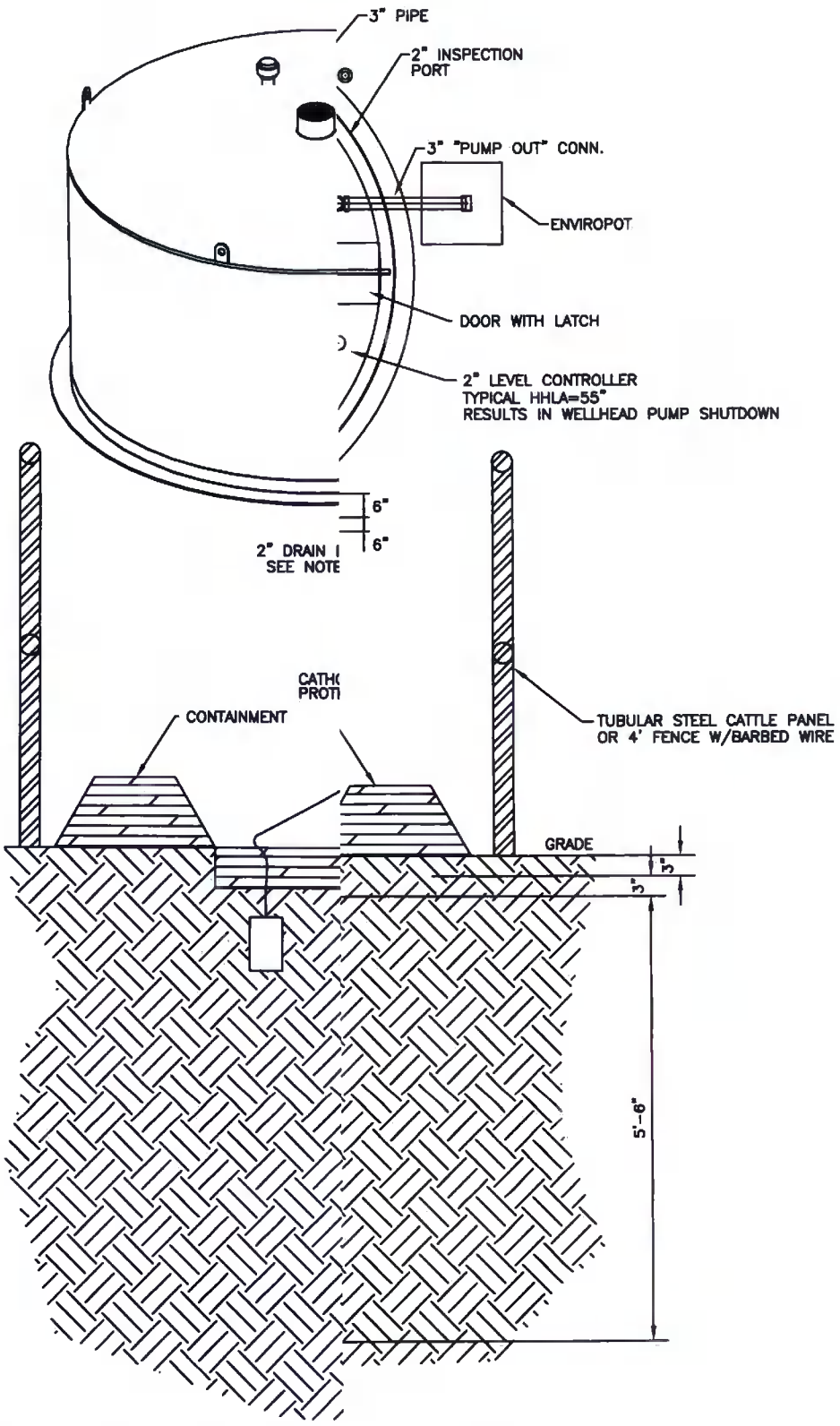
11. Chevron will construct a BGT to prevent overflow and the collection of surface water run-on. NMAC § 19.15.17.11(I)(3). Chevron, or a contractor representing Chevron, will install a level control device to help prevent overflow from the BGT and will use berms and/or a diversion ditch to prevent surface 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.

YP. 2 PLACES)




ELEVATION
SCALE 1"=1'-0"

NOTES:

1. FABRICATOR TO PRESSURE TEST THE AREA BETWEEN THE TANK W
2. TANK TO BE CONSTRUCTED OF 3/16" THK. ASTM A36 STEEL. AL
3. DOUBLE WALL DOUBLE BOTTOM.
4. DEPENDING ON THE ORIENTATION OF THE EQUIPMENT ON LOCATI DIFFUSER. ANY OF THE FOUR 2" STUBS THAT ARE NOT CONNEC
5. UNDERGROUND TANK CONNECTIONS AND TRANSFER LINES ARE W A FUSION BONDED EPOXY (FBE) COATING OR SIMILAR
6. CHEVRON WILL CONSTRUCT A BGT FOUNDATION ON A LEVEL BAS TO HELP PREVENT PUNCTURES, CRACKS OR INDENTATIONS OF TI

| CHEV REVISED | CHEV APPROVED | DATE |
|---|---|---|
| | | |

**CHEVRON NORTH AMERICA**
**EXPLORATION AND PRODUCTION**

95 BBL
STANDARD BELOW GRADE TANK

| DATE DRAWN | SCALE | PROJ. NO. | DWG. NO. | REV |
|---|---|---|---|---|
| 05/15/08 | AS NOTED | 12088 | 110 | D |
| ENGINEER | CHECKED | FILE | EDM NO. | |
| J. FUNK | | BLOWDOWN TANK | | |

# BELOW GRADE TANK (BGT) OPERATING AND MAINTENANCE PLAN

SUBMITTED TO:

ENVIRONMENTAL BUREAU,

NEW MEXICO OIL CONSERVATION DIVISION

ON BEHALF OF:

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

P.O. BOX 730

AZTEC, NEW MEXICO 87410

(505) 333-1901

# Chevron

# San Juan Basin

# Below Grade Tank Operating and Maintenance Plan

**INTRODUCTION**

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

**GENERAL PLAN:**

1. Chevron, or a contractor representing Chevron, will operate and maintain a BGT to contain liquids and solids to prevent contamination of fresh water and to protect public health and environment. NMAC § 19.15.17.12(A)(1).

2. Chevron will not discharge into or store any hazardous waste in a BGT. NMAC § 19.15.17.12(A)(3).

3. If a BGT develops a leak or is penetrated below the liquid surface, Chevron will remove liquid above the damage within 48 hours, notify the appropriate division district office within 48 hours of discovery and will promptly repair the BGT. If a BGT develops a leak Chevron will remove liquid above the damage within 48 hours, notify the appropriate division district office within 48 hours of discovery and will promptly repair or replace the BGT. If replacement is required, the BGT will meet all specification included in the attached approved design drawing and comply with 19.15.17.11(I)(1-4).

4. If Chevron as an operator of a below-grade tank that was constructed and installed prior to June 16, 2008 that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC and discovers that the below-grade tank does not demonstrate integrity or that the below-grade tank develops any of the conditions identified in Paragraph (5) of Subsection A of 19.15.17.12 NMAC, then Chevron or their representative shall close the existing below-grade tank pursuant to the closure requirements of 19.15.17.13 NMAC and install a below-grade tank that complies with the requirements of Paragraphs

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

5. If Chevron as the operator of the below-grade tank that was constructed and installed prior to June 16, 2008 that does not comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC and equips or retrofits the existing tank to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, then Chevron or their representative shall visually inspect the area beneath the below-grade tank during the retrofit and document any areas that are wet, discolored or showing other evidence of a release on form C-141. Chevron shall demonstrate to the division whether the evidence of contamination indicates that an imminent threat to fresh water, public health, safety or the environment exists. If the division determines that the contamination does not pose an imminent threat to fresh water, public health, safety or the environment, the operator shall complete the retrofit or the replacement of the below-grade tank. If Chevron or division determines that the contamination poses an imminent threat to fresh water, public health, safety or the environment, then Chevron shall close the existing below-grade tank pursuant to the closure requirements of 19.15.17.13 NMAC prior to initiating the retrofit or replacement. NMAC § 19.15.17.12(D)(6). If replacement is required, the BGT will meet all specification included in the attached approved design drawing.

6. Chevron, or a contractor representing Chevron, will use berms and/or diversion ditches to prevent surface run-on from entering the BGT by diverting surface water run-on away from the bermed area. NMAC §§ 19.15.17.12(A)(7) and 19.15.17.12(D)(1).

7. Chevron, or a contractor representing Chevron, will not allow a BGT to overflow and will maintain adequate freeboard on existing BGTs by routine inspections utilizing pumper trucks whose routes are timed based on known production rates. Fluid is pumped out on this schedule. For newly constructed BGTs Chevron, or a contractor representing Chevron, will maintain adequate freeboard by installing level control devices that automatically shut off inflow to alleviate potential overtopping. NMAC § 19.15.17.12(D)(1) and 19.15.17.12(D)(4).

8. Chevron, or a contractor representing Chevron, will remove a visible or measurable layer of oil from the fluid surface of a BGT. NMAC § 19.15.17.12(D)(2).

9. Chevron, or a contractor representing Chevron, will inspect the BGT to assess compliance with NMAC § 19.15.17.12, Operational Requirements, at least once monthly and maintain a written record of each inspection for at least five (5) years. The approved inspection form is attached.

# Chevron: New Mexico Inspection Form for Below Grade Tanks

Inspection Date:_____

Below Grade Tank (BGT) Location:_____

| | | |
|---|---|---|
| Does the BGT have adequate freeboard to prevent overflow; | yes | no |
| Does the tank have visible leaks or sign of corrosion; | yes | no |
| Do tank valves, flanges and hatches have visible leaks; | yes | no |
| Is there evidence of significant spillage of produced liquids; | yes | 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; | yes | no |

# BELOW GRADE TANK (BGT) CLOSURE PLAN

SUBMITTED TO:

ENVIRONMENTAL BUREAU,

NEW MEXICO OIL CONSERVATION DIVISION

ON BEHALF OF:

CHEVRON USA INC., CHEVRON MIDCONTINENT, L.P., AND FOUR STAR OIL & GAS COMPANY
P.O. BOX 730
AZTEC, NEW MEXICO 87410
(505) 333-1901

# Chevron
# San Juan Basin
# Below Grade Tank Closure Plan

INTRODUCTION

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

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

1) Chevron, or a contractor acting on behalf of Chevron, will close a BGT within the time periods provided in NMAC § 19.15.17.13(A), or by an earlier date required by NMOCD to prevent an imminent danger to fresh water, public health, or the environment. NMAC § 19.15.17.13(A).

2) Chevron, or a contractor acting on behalf of Chevron, will close an existing BGT that does not meet the requirements of NMAC § 19.15.17.11(I)(1 through 4) or is not included in NMAC § 19.15.17.11(I)(5) within five years after June 16, 2008, if not retrofitted to comply with § 19.15.17.11(I)(1 through 4). NMAC § 19.15.17.13(A)(4).

3) Chevron shall close an existing below-grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, if not retrofitted to comply with Paragraphs 1) through (4) of Subsection I of 19.15.17.11 NMAC, prior to any sale or change of operator pursuant to 19.15.9.9 NMAC.

4) Chevron, or a contractor acting on behalf of Chevron, will close a permitted BGT within 60 days of cessation of the BGT's operation or as required by the transitional provisions of NMAC § 19.15.17.17(B) in accordance with a closure plan that the appropriate division district office approves. NMAC §§ 19.15.17.13(A)(9) and 19.15.17.9(C).

5) In accordance with NMAC § 19.15.17.13(J)(1), Chevron will notify the surface owner by certified mail, return receipt requested, of its plans to close a BGT prior to beginning closure activities. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance. Chevron will also notify the appropriate division district office verbally or by other means at least 72 hours, but not more than one week, prior to any closure operation. The notice shall include the operator's name and the location to be closed by unit letter, section, township and range. If the closure is associated with a particular well, then the notice shall also include the well's name, number and API number. NMAC § 19.15.17.13(J)(2).

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

    Liquids

    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.