District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

14033

OIL CONS. DIV DIST. 3

DEC 17 2015

Type of action:
- ☒ Below grade tank registration
- ☐ Permit of a pit or proposed alternative method
- ☐ Closure of a pit, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, 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 and Gas Co. OGRID #: 131994
Address: 1600 Smith Street, Houston, TX 77002
Facility or well name: Shiatoni CDP 5
API Number: CDP OCD Permit Number:
U/L or Qtr/Qtr F Section 4 Township 29N Range 12W County: San Juan
Center of Proposed Design: Latitude 36.757759 Longitude -108.104787 NAD: ☐1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment NAD83 36.758327, -108.104817

2.
☐ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ 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.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC – **BGT #2**
Volume: 95 bbl Type of fluid: Recycled Oil
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 _____

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
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 Field Fence

LD

6.

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

☒ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

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 19.15.16.8 NMAC

8.

Variances 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:

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

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. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☒ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
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. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. **(Does not apply to below grade tanks)** - 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. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☒ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.

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: _____

11.

Multi-Well Fluid Management Pit 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.

☐ 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
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ 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
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

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

12.

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

13.

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 ☐ Multi-well Fluid Management Pit ☐ 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

14.

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 C 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 H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

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 require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

16.
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 E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K 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 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements 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 H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
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): April E Pohl Title: Permitting Specialist

Signature: April E Pohl Date: 12/17/15

e-mail address: April.Pohl@chevron.com Telephone: 505-333-1941

18.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: _____ **Approval Date:** 02/18/2016

Title: Environmental Specalist **OCD Permit Number:** _____

19.
Closure Report (required within 60 days of closure completion): 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:** _____

20.
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.

21.
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 for private land only)
- ☐ 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

22.

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: _____

FOUR STAR
OIL & GAS COMPANY

332 Road 3100
Aztec, New Mexico 87410
Tel: 505-333-1941
Cell: 505-386-8074
Fax: 505-334-7134

January 8, 2016

Mr. Cory Smith
New Mexico Oil & Gas Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: BGT permits delivered December 17, 2015

Dear Mr. Smith:

It was found an error was made in our latest BGT permit applications.

Item 10 of the closure plan erroneously incorrectly cites NMAC 19.15.29 and 19.50-30.

The correct rule, NMAC 19.15.17.13.c(3) will replace the rules listed in error.

Thank you,

April E. Pohl
Permitting Specialist
332 Road 3100
Aztec, New Mexico 87410
505-333-1941
April.Pohl@chevron.com

Shiatoni CDP 5 Hydrogeologic Report

Topography and Surface Hydrology

The Shiatoni CDP 5 well site is located in what is considered the Colorado River Basin. The largest, continuously flowing streams of the Colorado River Basin are the Animas and San Juan Rivers. The Animas River is the closest continuously flowing waterway to the site and is approximately 6,600 feet northwest of the site; see attached ***Topographic Map***. Most stream channels within the Colorado River Basin are ephemeral, with some being intermittent (Stone et al., 1983). The tributaries of the San Juan River that contribute large quantities of water during precipitation events are Canyon Largo, Gallegos Canyon, Chaco River, Animas River, and La Plata River. The nearest significant watercourse to the Shiatoni CDP 5 is the Animas River approximately 6,600 feet northwest of the below grade tank and is a first order tributary of San Juan River; see attached ***Topographic Map***. The nearest wash is approximately 543 feet to the north of the Shiatoni CDP 5 well site at an elevation of 5,626 feet. This is a southwest flowing ephemeral wash that only exists during periods of heavy precipitation. This wash is a first order tributary of a larger wash that flows to the Animas River. The general topographic slope of the site is to the east. Storm water runoff flows off of the Shiatoni CDP 5 site toward the northwest and then follows storm water channels toward an unnamed wash to the Animas River. The Shiatoni CDP 5 well site lies in the Nacimiento Formation Aquifer which dips at 7 degrees to the east (Frenzel, 1983). 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).

The nearest wetland area to the Shiatoni CDP 5 well site is approximately 5,068 miles northwest of the BGT. This wetland area is identified as Freshwater Pond in accordance with the attached ***U.S. Fish and Wildlife Service National Wetlands Inventory Map.***

There are no named or unnamed lake beds or playa lakes within 100 feet for the proposed BGT location; see attached ***Topographic Map*** (scale at 1:24,000, nearest named lake bed or playa lake are beyond the map boundaries).

Geology

The area geology is comprised of mostly sandstone, mudstone, and siltstone. The underlying geologic unit in the area of the Navajo O 12-2 well site is the Nacimiento Formation. 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 2,232 feet (Stone, et al, 1983, p. 30) in the subsurface of the northern part. In the eastern outcrops, the thickness is less than 500 feet to nearly 1,400 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, et al, 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).

The local underlying geology of the basin is not conducive to sinkhole features, more predominant in soluble rocks such as limestone and dolomite, creating what is considered to be Karst features. Karst features are formed by the

dissolution of soluble rocks, such as limestone and dolomite, and can be characterized by springs, caves, and sinkholes. There are no documented Karst features within 50 miles of Shiatoni CDP 5 well site in accordance with the ***United States Geological Survey (USGS)***; see attached ***Karst Image***.

Groundwater Hydrology

Most water supplies in the San Juan Basin are from groundwater that is accessed through wells completed within the surficial valley-fill deposits of Quaternary age and sandstones of Tertiary, Cretaceous, Jurassic, and Triassic age. The Shiatoni CDP 5 well site lies in the Nacimiento Formation Aquifer which dips between 7 and 8 degrees to the southeast toward the center of the San Juan Basin (Frenzel, 1983). 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).

There are no registered water wells within 200 feet (~60 meters) of the Shiatoni CDP 5 well site determined by a nearby Section, Township, and Range search of the BGT on the well site; see attached ***New Mexico Office of the State Engineer Water Column/Average Depth to Water Report***. A cathodic well report was not identified for the Shiatoni CDP 5 well site. The attached iWATERS database search shows a water well approximately 1,567 feet to the northwest with a depth to groundwater of 172 feet. The SJ 01031 water well is labeled on the topographic map with a blue point; see attached ***Topographic Map***. The soil type at the Shiatoni CDP 5 well site is Avalon loam and Haplargids-Blackston-Torriorthents complex, very steep. Avalon loam is characterized by Eolian deposits over slope alluvium derived from sandstone and shale, high permeability, and high water capacity. Haplargids-Blackston-Torriorthents complex is characterized by mixed alluvium, high permeability, and moderate water capacity; see attached ***USDA Custom Soil Resource Report.***

Resources

New Mexico Office of the State Engineer (NMOSE) New Mexico Water Right Reporting System (iWaters Database)

Stone et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico: Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

United States Geological Survey, Karst in the United States: A Digital Map Compilation and Database; Weary, David J., and Doctor, Daniel H.

New Mexico Mining and Minerals Division (www.nmmines.com)

Chevron Midcontinent, LP
Below Grade Tank Registration Siting Criteria Compliance Demonstration
Shiatoni CDP 5

- **Groundwater is not less than 25 feet below the bottom of the below-grade tank (BGT):** Groundwater will be approximately 156 feet below the bottom of the BGT. This was calculated using information from the closest water well located approximately 1,567 feet northeast of the Shiatoni CDP 5. The depth of the water well is 275 feet and the depth to groundwater is recorded as 172 feet; see the *attached* ***New Mexico Office of the State Engineer (NMOSE) Water Column/Average Depth to Water Sheet***. The topographic map indicates the site elevation to be 5,723 feet; see ***Topographic Map***. The BGT is buried 6 feet below ground surface which gives a bottom of the BGT elevation of 5,716 feet. The difference between the BGT bottom elevation and groundwater elevation is 156 feet.

- **The below grade tank is not within 100 feet of a continuously flowing watercourse, significant water course, lake bed, sinkhole, wetland or playa lake:**

    - The nearest continuously flowing watercourse is the Animas River estimated to be 6,600 feet northwest of the BGT location and the Shiatoni CDP 5 well site; see attached ***Topographic Map***.
    - The nearest significant watercourse is the Animas River, a first order tributary to the San Juan River. The tributary is approximately 6,600 feet northwest of the BGT location; see attached ***Topographic Map***.
    - There are no named or unnamed lake beds or playa lakes within 100 feet for the BGT location; see attached ***Topographic Map*** (scale at 1:24,000, nearest named lake bed or playa lake is beyond the map boundaries).
    - The nearest wetland is located approximately 5,068 feet northwest of the BGT location; see attached ***U.S. Fish and Wildlife Service National Wetlands Inventory Map.***
    - There are no sinkholes located within 100 feet of the BGT location at the Shiatoni CDP 5 well site; see attached ***Hydrogeologic Report*** and ***Karst Image.***

- **The below grade tank is not within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption:**

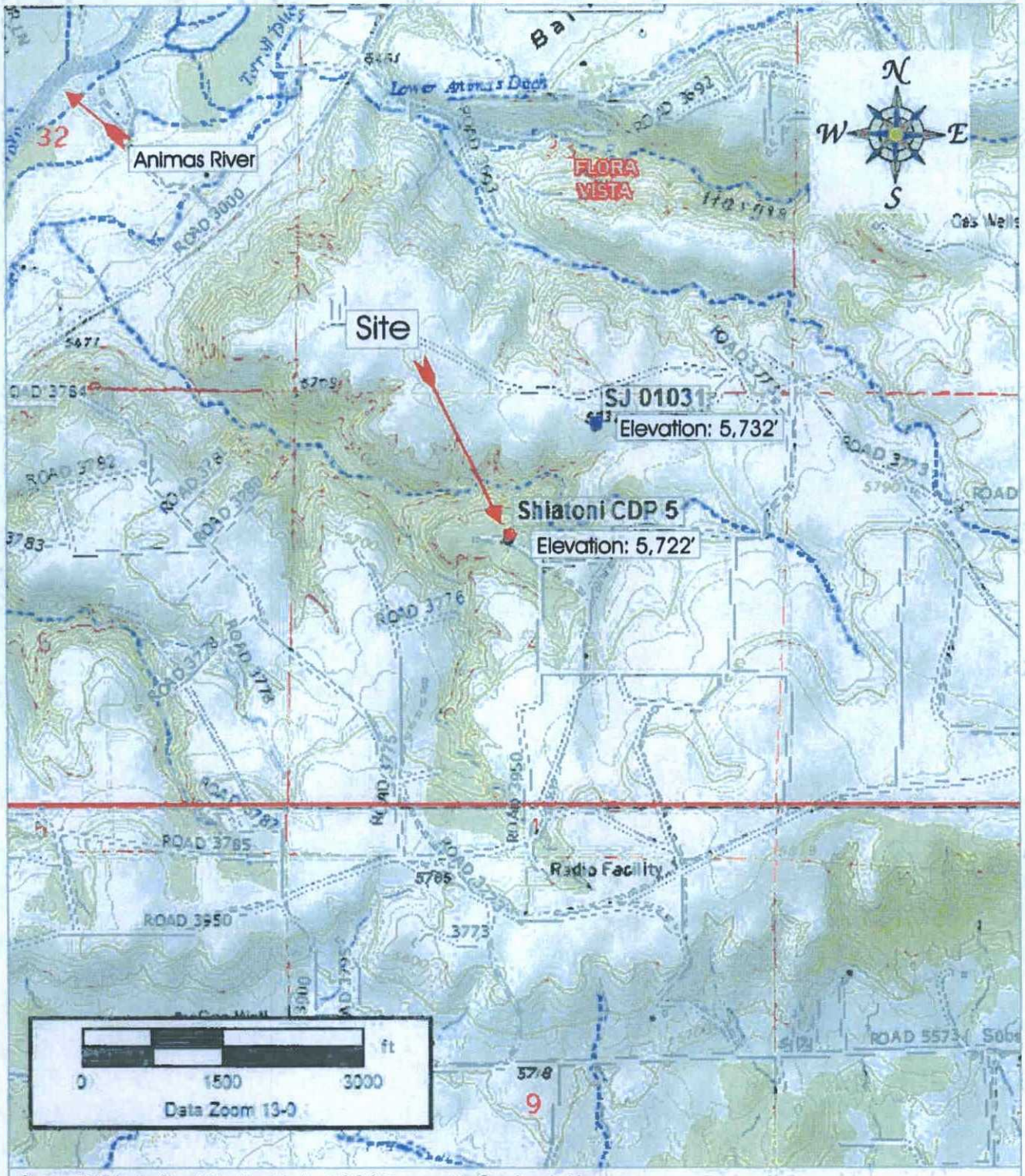
    - There are no registered water wells located within 200 feet of the BGT location at the Shiatoni CDP 5 well site; see attached ***New Mexico Office of the State Engineer (NMOSE) Water Column/Average Depth to Water Sheet*** (search of the BGT's Township and Range).

- **The below grade tank is not 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:**
    - The BGT location resides outside all local municipal boundaries; see attached ***Municipal Boundary Map.***

- **The below grade tank is not within the area overlying a subsurface mine:**
    - There are no registered mines underlying the BGT on the Shiatoni CDP 5; see attached ***Mines of San Juan County Map.***

- **The below grade tank does not lie within a 100 year floodplain:**
    - The BGT lies approximately 10,560 feet southeast of the nearest floodplain; see attached ***FEMA FIRM.***

- **The below grade tank is not within 300 feet of an occupied residence, school, hospital, institution or church:**
    - The BGT is not within 300 feet of any of the aforementioned structures; see attached ***Site Map***.



Source: 7.5 Minute, Flora Vista, New Mexico U.S.G.S. Topographic Quadrangle Map
Scale: 1:24,000

Chevron North America Shiatoni CDP 5 Section 4, Township 29N, Range 12W San Juan County, New Mexico	envirotech ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 Farmington, New Mexico 87401 505.632.0615	Topographic Map Figure #1
PROJECT Number:92270-1311 | Date Drawn: 4/21/15		DRAWN BY: Falynn Burns | PROJECT MANAGER: Greg Crabtree

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

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RG 42665		TA				13	29N	12W	227579	4068846*	140	105	35
SJ 00112		SJ		4	3	26	29N	12W	225611	4065116*	47	26	21
SJ 00121		SJ		1	1	07	29N	12W	219083	4071342*	160	90	70
SJ 00254		SJ	2	3	3	06	29N	12W	219196	4071843*	90	26	64
SJ 00338		SJ	3	3	3	20	29N	12W	220381	4066809*	28	10	18
SJ 00399		SJ	2	2	4	26	29N	12W	226523	4065593*	45	25	20
SJ 00400		SJ		4	3	24	29N	12W	227265	4066668*	83	35	48
SJ 00548		SJ		1	1	14	29N	12W	225368	4069558*	180	60	120
SJ 00567		SJ	4	4	3	19	29N	12W	219411	4066823*	28	28	0
SJ 00570		SJ		1	3	25	29N	12W	226824	4065478*	36	18	18
SJ 00572		SJ		1	3	27	29N	12W	223627	4065598*	35	28	7
SJ 00617		SJ	3	4	1	25	29N	12W	227136	4065756*	47	20	27
SJ 00652		SJ		4	1	25	29N	12W	227237	4065857*	42	20	22
SJ 00657		SJ	4	1	4	19	29N	12W	219818	4067225*	85	38	47
SJ 00666		SJ	4	3	1	27	29N	12W	223737	4065905*	35	17	18
SJ 00706		SJ		4	1	25	29N	12W	227237	4065857*	49	20	29
SJ 00711		SJ	4	2	1	29	29N	12W	220963	4066391*	20	8	12
SJ 00726		SJ	1	3	1	27	29N	12W	223537	4066105*	50	30	20
SJ 00763		SJ		3	4	25	29N	12W	227606	4065063*	60	20	40
SJ 00777		SJ		1	2	26	29N	12W	226048	4066310*	47	20	27
SJ 00786		SJ	4	1	1	29	29N	12W	220567	4066403*	21	8	13
SJ 00799		SJ	4	1	1	29	29N	12W	220567	4066403*	20	8	12
SJ 00827		SJ	3	3	1	27	29N	12W	223537	4065905*	55	30	25
SJ 00833		SJ	2	3	1	29	29N	12W	220553	4066197*	17	9	8
SJ 00842		SJ	4	1	1	29	29N	12W	220567	4066403*	15	5	10
SJ 00872		SJ		2	2	30	29N	12W	220078	4066510*	25	8	17

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(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00881		SJ	2	2	1	06	29N	12W	219626	4073047*	137	18	119
SJ 00901		SJ	3	1	3	27	29N	12W	223526	4065497*	32	15	17
SJ 00904		SJ	1	1	3	27	29N	12W	223526	4065697*	32	14	18
SJ 00938		SJ		2	1	25	29N	12W	227251	4066262*	80	40	40
SJ 00952		SJ		4	4	19	29N	12W	220092	4066915*	76	40	36
SJ 00961		SJ	2	3	1	29	29N	12W	220553	4066197*			
SJ 00966		SJ	3	3	1	29	29N	12W	220353	4065997*	18	3	15
SJ 01008		SJ	3	3	1	27	29N	12W	223537	4065905*	51	20	31
SJ 01031		SJ		1	2	04	29N	12W	223138	4072846*	275	172	103
SJ 01070		SJ	1	3	4	19	29N	12W	219601	4067019*	38	14	24
SJ 01109		SJ	1	1	2	26	29N	12W	225947	4066409*	100	70	30
SJ 01133		SJ	4	1	4	27	29N	12W	224526	4065462*	24	7	17
SJ 01194		SJ		4	2	26	29N	12W	226437	4065895*	38	12	26
SJ 01322		SJ		4	1	25	29N	12W	227237	4065857*	42	20	22
SJ 01326		SJ		2	4	26	29N	12W	226424	4065494*	50	27	23
SJ 01383		SJ			1	07	29N	12W	219270	4071141*	125	80	45
SJ 01385		SJ	4	3	1	06	29N	12W	219223	4072445*	31	4	27
SJ 01431		SJ	4	1	1	29	29N	12W	220567	4066403*	19	7	12
SJ 01442		SJ		2	2	30	29N	12W	220078	4066510*	35	6	29
SJ 01466		SJ		4	2	25	29N	12W	228045	4065806*	27	14	13
SJ 01504		SJ		1	2	04	29N	12W	223138	4072846*	180	155	25
SJ 01510		SJ	3	4	1	15	29N	12W	224060	4069108*	155	75	80
SJ 01517		SJ		1	2	30	29N	12W	219689	4066516*	20	8	12
SJ 01565		SJ		2	2	30	29N	12W	220078	4066510*	27	4	23
SJ 01566		SJ	3	1	3	08	29N	12W	220538	4070446*	105	60	45
SJ 01566 CLW227534	O	SJ	2	1	3	08	29N	12W	220738	4070646*	105	60	45
SJ 01590		SJ		3	1	27	29N	12W	223638	4066006*	63	30	33
SJ 01597		SJ		2	3	24	29N	12W	227290	4067056*	40	15	25
SJ 01643		SJ	4	3	2	27	29N	12W	224539	4065869*	65	30	35

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(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 01662			SJ	1	3	3	06	29N	12W	218996	4071843*	25	8	17
SJ 01677			SJ			2	33	29N	12W	222996	4064603*	51	35	16
SJ 01690			SJ	1	1	3	27	29N	12W	223526	4065697*	25	10	15
SJ 01695			SJ		2	2	30	29N	12W	220078	4066510*	13	4	9
SJ 01700			SJ		1	3	27	29N	12W	223627	4065598*	87	48	39
SJ 01728			SJ		1	3	27	29N	12W	223627	4065598*	25	11	14
SJ 01775			SJ		1	1	34	29N	12W	223604	4064782*	15		
SJ 01802			SJ		2	4	26	29N	12W	226424	4065494*	70	18	52
SJ 01802 POD2	R		SJ	3	2	4	26	29N	12W	226257	4065365	34	11	23
SJ 01828			SJ	4	3	1	27	29N	12W	223737	4065905*	45	25	20
SJ 01839			SJ		4	1	10	29N	12W	224211	4070825*	212	175	37
SJ 01894			SJ		3	1	06	29N	12W	219124	4072546*	29	28	1
SJ 01954			SJ		1	3	26	29N	12W	225225	4065528*	55	20	35
SJ 01956			SJ		1	3	26	29N	12W	225225	4065528*	50	18	32
SJ 01991			SJ		2	4	27	29N	12W	224826	4065545*	50	13	37
SJ 01996			SJ		2	3	26	29N	12W	225624	4065519*	75	17	58
SJ 02041			SJ		3	2	27	29N	12W	224440	4065970*	37	8	29
SJ 02047			SJ		2	4	28	29N	12W	223224	4065612*	40	25	15
SJ 02058			SJ				27	29N	12W	224218	4065793*	60	25	35
SJ 02061			SJ		2	4	28	29N	12W	223224	4065612*	39	23	16
SJ 02070			SJ	4	3	3	19	29N	12W	219028	4066828*	21	6	15
SJ 02074			SJ		3	2	27	29N	12W	224440	4065970*	60	25	35
SJ 02082			SJ		1	1	25	29N	12W	226852	4066282*	30	3	27
SJ 02118			SJ			1	27	29N	12W	223839	4066207*	29	6	23
SJ 02131			SJ		1	1	27	29N	12W	223651	4066408*	80		
SJ 02131 S			SJ	2	3	3	22	29N	12W	223762	4066908*	400		
SJ 02132			SJ	1	3	4	25	29N	12W	227505	4065162*	40	12	28
SJ 02169			SJ				27	29N	12W	224218	4065793*	36	19	17
SJ 02183			SJ		1	4	27	29N	12W	224427	4065563*	40	26	14

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(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 02228		SJ			1	29	29N	12W	220655	4066299*	19	8	11
SJ 02274		SJ	4	3	2	27	29N	12W	224539	4065869*	47	22	25
SJ 02299		SJ	3	1	1	29	29N	12W	220367	4066403*	27	7	20
SJ 02338		SJ	2	3	4	36	29N	12W	227671	4063521*	64	40	24
SJ 02363		SJ		4	4	22	29N	12W	224867	4066767*	300	185	115
SJ 02370		SJ	2	2	1	29	29N	12W	220963	4066591*	16	5	11
SJ 02496		SJ	4	1	1	26	29N	12W	225351	4066241*	35	20	15
SJ 02497		SJ	2	3	1	29	29N	12W	220553	4066197*	17	8	9
SJ 02501		SJ	2	3	1	29	29N	12W	220553	4066197*	17	17	0
SJ 02502		SJ	3	1	4	27	29N	12W	224326	4065462*	40		
SJ 02506		SJ	2	1	4	27	29N	12W	224526	4065662*	44	20	24
SJ 02555		SJ		3	3	24	29N	12W	226865	4066683*	21	6	15
SJ 02633		SJ	1	4	4	36	29N	12W	227873	4063508*	85	19	66
SJ 02638		SJ	1	1	4	35	29N	12W	225876	4063978*	21	4	17
SJ 02640		SJ	3	1	4	27	29N	12W	224326	4065462*	31	18	13
SJ 02654		SJ	1	3	1	27	29N	12W	223537	4066105*	62	32	30
SJ 02658		SJ	1	2	4	28	29N	12W	223123	4065711*	42	24	18
SJ 02830		SJ	1	4	1	36	29N	12W	227088	4064344*	50	0	50
SJ 02849		SJ	1	2	4	36	29N	12W	227883	4063908*	40	20	20
SJ 02850		SJ	3	2	4	36	29N	12W	227883	4063708*	65		
SJ 02851		SJ	1	1	2	04	29N	12W	223037	4072945*	370	310	60
SJ 02864		SJ	2	2	4	28	29N	12W	223323	4065711*	50		
SJ 02870		SJ	4	3	1	27	29N	12W	223737	4065905*	39	24	15
SJ 02872		SJ	1	2	4	36	29N	12W	227883	4063908*	15	10	5
SJ 02875		SJ	2	2	2	30	29N	12W	220177	4066609*	35		
SJ 02950		SJ	3	1	4	36	29N	12W	227480	4063723*	38	11	27
SJ 02969		SJ	4	1	4	27	29N	12W	224526	4065462*	40		
SJ 02973		SJ	2	1	2	33	29N	12W	222901	4064910*	130	50	80
SJ 03007		SJ	3	2	4	36	29N	12W	227883	4063708*	37	10	27

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(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 03011		SJ	1	2	4	36	29N	12W	227883	4063908*	40	20	20
SJ 03024		SJ	1	2	4	36	29N	12W	227883	4063908*	38	18	20
SJ 03052		SJ	4	1	3	26	29N	12W	225324	4065427*	29	15	14
SJ 03061		SJ	2	1	3	07	29N	12W	219154	4070638*	280	180	100
SJ 03104		SJ	2	4	4	26	29N	12W	226509	4065193*	50		
SJ 03105		SJ	2	3	3	27	29N	12W	223714	4065289*	19	9	10
SJ 03151		SJ	1	3	4	19	29N	12W	219601	4067019*	50		
SJ 03167		SJ	1	2	1	29	29N	12W	220763	4066591*	21	10	11
SJ 03168		SJ	1	2	1	29	29N	12W	220763	4066591*	21	10	11
SJ 03169		SJ	1	2	1	29	29N	12W	220763	4066591*	21	10	11
SJ 03170		SJ	1	2	1	29	29N	12W	220763	4066591*	21	10	11
SJ 03171		SJ	1	2	1	29	29N	12W	220763	4066591*	21	10	11
SJ 03173		SJ	2	4	3	25	29N	12W	227306	4065169*	60	10	50
SJ 03186		SJ	1	4	2	06	29N	12W	220238	4072656*	21	8	13
SJ 03192		SJ	1	3	1	36	29N	12W	226688	4064362*	50		
SJ 03205		SJ	4	3	3	06	29N	12W	219196	4071643*	127	118	9
SJ 03244		SJ	3	4	3	35	29N	12W	225463	4063387*	60		
SJ 03255		SJ	4	3	4	19	29N	12W	219801	4066819*	17	5	12
SJ 03270		SJ	2	3	4	19	29N	12W	219801	4067019*	43	24	19
SJ 03277		SJ	4	2	1	01	29N	12W	227636	4072515*	180	120	60
SJ 03293		SJ	4	1	1	05	29N	12W	220863	4072856*	68	45	23
SJ 03299		SJ	3	4	2	36	29N	12W	227894	4064108*	20		
SJ 03312		SJ	4	1	2	34	29N	12W	224499	4064646*	13	2	11
SJ 03325		SJ	1	4	4	26	29N	12W	226309	4065193*	45	14	31
SJ 03327		SJ	1	4	4	26	29N	12W	226309	4065193*	95	70	25
SJ 03329		SJ	3	4	4	26	29N	12W	226309	4064993*	40	12	28
SJ 03335		SJ	4	3	3	35	29N	12W	225262	4063400*			
SJ 03337		SJ	2	2	1	26	29N	12W	225749	4066425*	50		
SJ 03338		SJ	2	2	1	26	29N	12W	225749	4066425*	50		

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POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 03339			SJ	2	2	1	26	29N	12W	225749	4066425*	50		
SJ 03340			SJ	3	3	3	25	29N	12W	226708	4064976*	45	12	33
SJ 03341			SJ	3	4	4	26	29N	12W	226309	4064993*	50		
SJ 03363			SJ		3	4	19	29N	12W	219702	4066920*	19	3	16
SJ 03370			SJ	2	2	2	15	29N	12W	225069	4069674*	166	86	80
SJ 03372			SJ	3	4	4	19	29N	12W	219991	4066814*	10	2	8
SJ 03376			SJ	3	1	4	27	29N	12W	224326	4065462*	27	13	14
SJ 03384			SJ	4	3	1	27	29N	12W	223737	4065905*	41	30	11
SJ 03388			SJ	2	2	2	15	29N	12W	225069	4069674*	159	80	79
SJ 03394			SJ	4	4	2	27	29N	12W	224938	4065851*	59	15	44
SJ 03405			SJ		1	2	35	29N	12W	226000	4064698*	54	16	38
SJ 03410			SJ	4	3	3	11	29N	12W	225484	4069859*	75		
SJ 03414			SJ	2	1	1	14	29N	12W	225524	4069656	90	70	20
SJ 03422			SJ	2	3	1	27	29N	12W	223737	4066105*	41	31	10
SJ 03439			SJ	4	2	3	36	29N	12W	227279	4063739*	46	10	36
SJ 03451			SJ	4	4	3	35	29N	12W	225663	4063387*	85	50	35
SJ 03501			SJ	4	4	2	35	29N	12W	226488	4064172*	20	6	14
SJ 03507			SJ	1	4	3	24	29N	12W	227164	4066767*	60		
SJ 03509			SJ	4	4	2	35	29N	12W	226488	4064172*	50		
SJ 03528			SJ	4	2	1	06	29N	12W	219626	4072847*	21	5	16
SJ 03529			SJ	1	4	1	06	29N	12W	219413	4072648*	21	5	16
SJ 03537			SJ	3	1	3	35	29N	12W	225073	4063802*	35	10	25
SJ 03553			SJ	2	2	1	07	29N	12W	219571	4071449*	150		
SJ 03563			SJ	3	1	4	19	29N	12W	219618	4067225*	100		
SJ 03564			SJ	3	1	4	19	29N	12W	219618	4067225*	100		
SJ 03569			SJ	2	1	2	15	29N	12W	224670	4069691*	150		
SJ 03580	O		SJ	4	4	3	25	29N	12W	227306	4064969*	20	4	16
SJ 03580 POD1			SJ	4	4	3	25	29N	12W	227306	4064969*	20	4	16
SJ 03634			SJ	2	2	1	29	29N	12W	220963	4066591*	18	10	8

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

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 03686 POD1		SJ	3	4	2	36	29N	12W	227894	4064108*	41	21	20
SJ 03711 POD1		SJ	1	4	1	29	29N	12W	220751	4066185*	20	8	12
SJ 03735 POD1		SJ	1	4	3	24	29N	12W	227164	4066767*	100	15	85
SJ 03786 POD1		SJ	1	4	3	24	29N	12W	227128	4066819	35	11	24
SJ 03789 POD1		SJ	3	2	4	26	29N	12W	226392	4065383	40	14	26
SJ 03792 POD1		SJ	1	3	3	27	29N	12W	223604	4065351	21	10	11
SJ 03870		SJ	1	2	2	08	29N	12W	221835	4071357	375	300	75
SJ 03876 POD1		SJ	1	2	2	08	29N	12W	221758	4071356	395	300	95
SJ 03921 POD1		SJ	3	4	4	36	29N	12W	227849	4063301	62	17	45
SJ 03931 POD1		SJ	3	1	4	27	29N	12W	224425	4065457	53	30	23
SJ 03985 POD1		SJ	1	2	3	36	29N	12W	227161	4064018	42	12	30
SJ 03986 POD1		SJ	3	4	1	36	29N	12W	227073	4064062	44	12	32
SJ 04024 POD1		SJ	4	1	1	34	29N	12W	223714	4064589	27	10	17
SJ 04037 POD1		SJ	1	2	4	27	29N	12W	224757	4065678	43	23	20

Average Depth to Water: **32 feet**

Minimum Depth: **0 feet**

Maximum Depth: **310 feet**

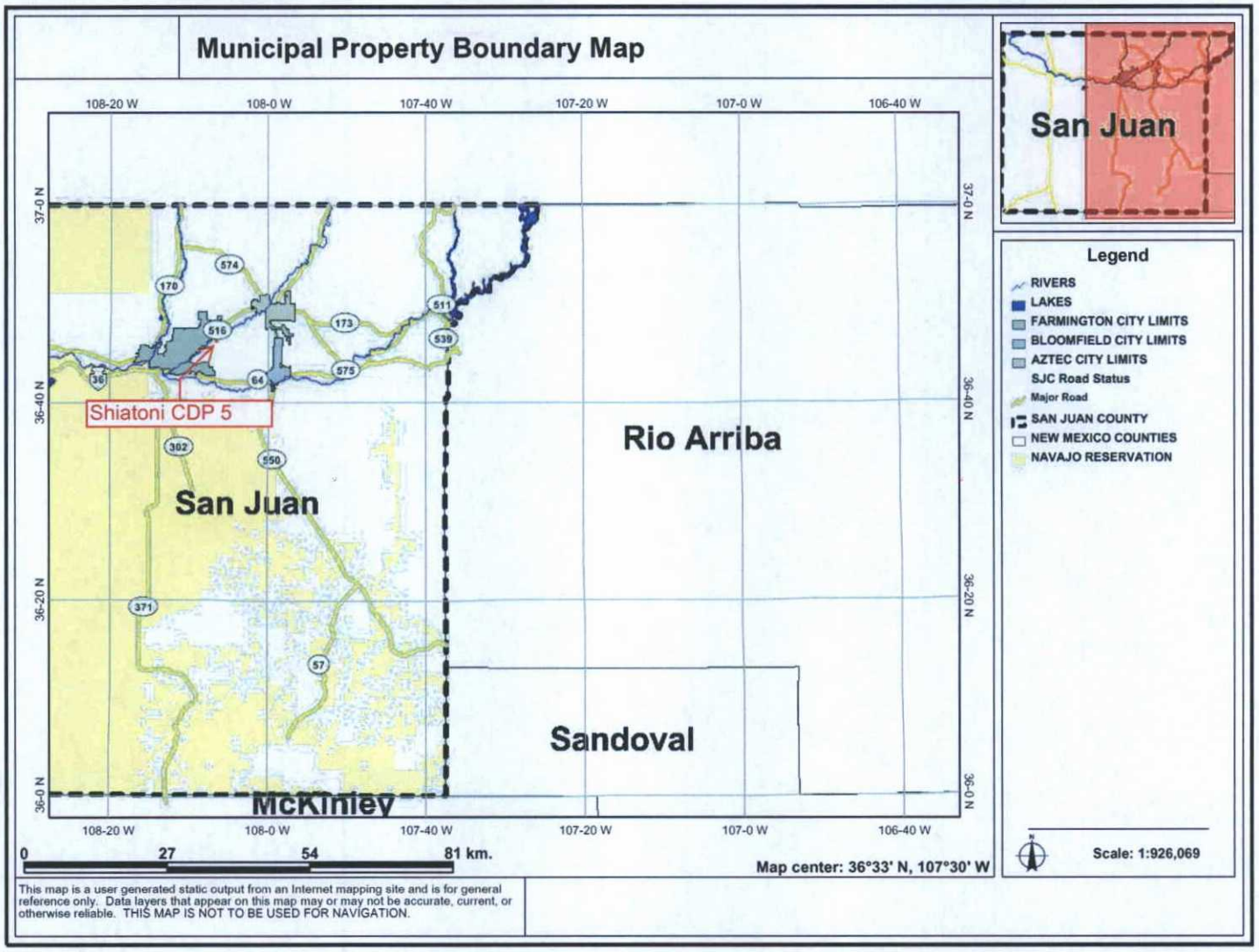
Record Count: 185

PLSS Search:

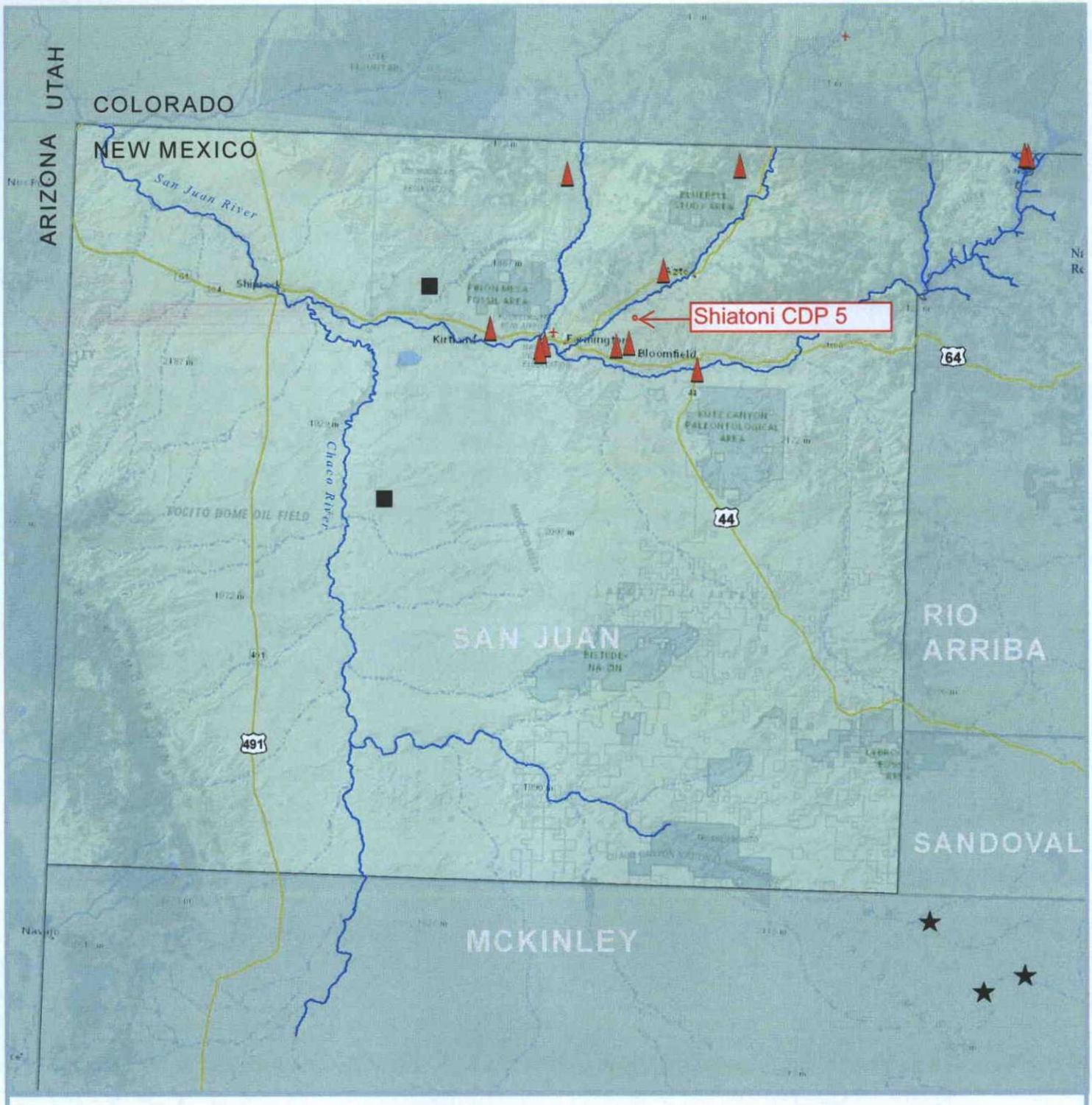
Township: 29N **Range:** 12W

***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.


Municipal Property Boundary Map
108-20 W
108-0 W
107-40 W
107-20 W
107-0 W
106-40 W
37-0 N
36-40 N
36-20 N
36-0 N
Shiatoni CDP 5
San Juan
Rio Arriba
Sandoval
McKinley
574
170
516
173
511
539
575
64
36
302
550
371
57
0
27
54
81 km.
Map center: 36°33' N, 107°30' W
San Juan
Legend
RIVERS
LAKES
FARMINGTON CITY LIMITS
BLOOMFIELD CITY LIMITS
AZTEC CITY LIMITS
SJC Road Status
Major Road
SAN JUAN COUNTY
NEW MEXICO COUNTIES
NAVAJO RESERVATION
Scale: 1:926,069
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Active Mines in San Juan County, New Mexico, November 2014



Metals

Coal
Potash
Copper
Gold & Silver
Molybdenum

Industrial Minerals

Calcite
Gemstone
Gypsum
Humate
Perlite
Pumice
Salt
Silica / Flux
Silver Silica
Zeolites

Aggregate & Stone

Aggregate
Caliche
Clay & Shale
Dimension & Flagstone
Limestone
Red Dog
Scoria
Travertine

Data: November 2014 database query, Mining & Minerals Division, Mine Registration, Reporting & Safeguarding Program.
Basemap: Esri ArcGIS Online, National Geographic.
Map: Linda S. DeLay, GISP

NAD 83 UTM NM Zone13

N
W
E
S

0 5 10 20
Miles

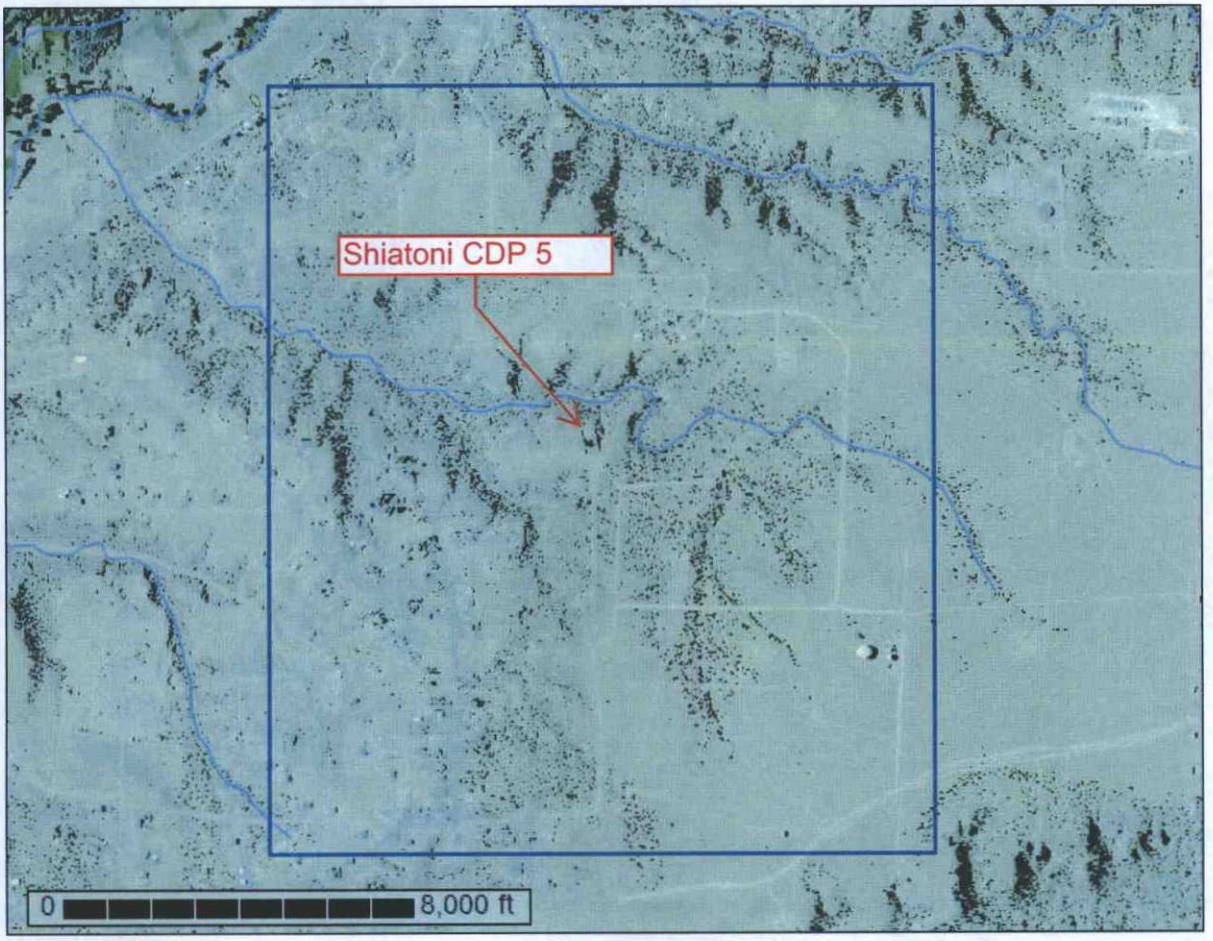
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Juan County, New Mexico, Eastern Part



April 24, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

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

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:63,400.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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 12, Sep 26, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 21, 2010—Nov 5, 2010

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**
Av	Avalon sandy loam, 2 to 5 percent slopes	109.2	11.2%
Ax	Avalon sandy loam, 5 to 8 percent slopes	52.9	5.4%
Ay	Avalon loam, 0 to 3 percent slopes	243.0	24.8%
Bk	Blackston loam, 0 to 3 percent slopes	25.9	2.7%
Bm	Blackston gravelly loam, 3 to 8 percent slopes	141.0	14.4%
Db	Doak loam, 1 to 3 percent slopes	0.6	0.1%
HA	Haplargids-Blackston-Torriorthents complex, very steep	393.9	40.3%
RA	Riverwash	10.5	1.1%
Su	Stumble loamy sand, 3 to 8 percent slopes	1.0	0.1%
Totals for Area of Interest		**978.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used.

Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Juan County, New Mexico, Eastern Part

Av—Avalon sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1wvy
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
Farmland classification: Farmland of statewide importance

Map Unit Composition

Avalon and similar soils: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Avalon

Setting

Landform: Mesas
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Typical profile

A - 0 to 14 inches: sandy loam
Bk - 14 to 53 inches: loam
Ck - 53 to 72 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
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 in profile: 20 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Limy (R035XB003NM)

Ax—Avalon sandy loam, 5 to 8 percent slopes

Map Unit Setting

National map unit symbol: 1wvz
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
Farmland classification: Farmland of statewide importance

Map Unit Composition

Avalon and similar soils: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Avalon

Setting

Landform: Mesas
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Typical profile

A - 0 to 16 inches: sandy loam
Bk - 16 to 80 inches: loam
Ck - 80 to 84 inches: gravelly sandy loam

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
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 in profile: 20 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Limy (R035XB003NM)

Ay—Avalon loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1ww0
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
Farmland classification: Farmland of statewide importance

Map Unit Composition

Avalon and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Avalon

Setting

Landform: Mesas
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Typical profile

A - 0 to 18 inches: loam
Bk - 18 to 60 inches: sandy clay loam
Ck - 60 to 64 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
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 in profile: 20 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Limy (R035XB003NM)

Bk—Blackston loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1wwb
Elevation: 4,800 to 6,400 feet
Mean annual precipitation: 6 to 10 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Blackston and similar soils: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blackston

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stream alluvium derived from igneous and sedimentary rock

Typical profile

A - 0 to 11 inches: loam
Bk - 11 to 27 inches: very gravelly loam
Ck - 27 to 80 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
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 in profile: 20 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Limy (R035XB003NM)

Bm—Blackston gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 1wwc
Elevation: 4,800 to 6,400 feet
Mean annual precipitation: 6 to 10 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Blackston and similar soils: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blackston

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stream alluvium derived from igneous and sedimentary rock

Typical profile

A - 0 to 9 inches: gravelly loam
Bk - 9 to 25 inches: very gravelly loam
Ck - 25 to 60 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
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 in profile: 20 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Limy (R035XB003NM)

Db—Doak loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1wwj
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
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Doak and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doak

Setting

Landform: Stream terraces, fan remnants, mesas
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Alluvium derived from sandstone and shale

Typical profile

A - 0 to 4 inches: loam
Btk - 4 to 33 inches: clay loam
Ck - 33 to 60 inches: clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
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 in profile: 10 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Loamy (R035XB001NM)

HA—Haplargids-Blackston-Torriorthents complex, very steep

Map Unit Setting

National map unit symbol: 1wx2
Elevation: 4,800 to 6,400 feet
Mean annual precipitation: 6 to 10 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Haplargids and similar soils: 45 percent
Blackston and similar soils: 30 percent
Torriorthents and similar soils: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Haplargids

Setting

Landform: Escarpments
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

A - 0 to 7 inches: cobbly sandy loam
Bt1 - 7 to 26 inches: cobbly sandy clay loam
Bt2 - 26 to 60 inches: cobbly sandy clay loam

Properties and qualities

Slope: 8 to 50 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
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 in profile: 10 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Loamy (R035XB001NM)

Description of Blackston

Setting

Landform: Escarpments
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

A - 0 to 11 inches: gravelly loam
Bk - 11 to 26 inches: very gravelly loam
Ck - 26 to 60 inches: very gravelly sand

Properties and qualities

Slope: 8 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
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 in profile: 30 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Limy (R035XB003NM)

Description of Torriorthents

Setting

Landform: Escarpments
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

C1 - 0 to 3 inches: cobbly loam
C2 - 3 to 15 inches: cobbly clay loam
R - 15 to 60 inches: bedrock

Properties and qualities

Slope: 8 to 50 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
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 in profile: 2 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: Cobbly slopes 10-14" p.z. (R035XC328AZ)

RA—Riverwash

Map Unit Setting

National map unit symbol: 1wxb
Elevation: 4,800 to 6,400 feet
Mean annual precipitation: 6 to 10 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Riverwash, clayey: 35 percent
Riverwash, sandy: 35 percent
Riverwash, gravelly: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash, Sandy

Setting

Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stream alluvium derived from igneous and sedimentary rock

Typical profile

C1 - 0 to 6 inches: sand
C2 - 6 to 60 inches: stratified coarse sand to sandy loam

Properties and qualities

Slope: 0 to 3 percent
Natural drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 0 to 24 inches

Frequency of flooding: Frequent
Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w

Description of Riverwash, Clayey

Setting
Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stream alluvium derived from igneous and sedimentary rock

Typical profile
C1 - 0 to 6 inches: clay
C2 - 6 to 60 inches: clay

Properties and qualities
Slope: 0 to 1 percent
Natural drainage class: Poorly drained
Runoff class: Very high
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: About 0 to 6 inches
Frequency of flooding: Frequent
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w

Description of Riverwash, Gravelly

Setting
Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stream alluvium derived from igneous and sedimentary rock

Typical profile
C1 - 0 to 6 inches: gravelly sand
C2 - 6 to 60 inches: stratified extremely gravelly coarse sand to gravelly sand

Properties and qualities
Slope: 0 to 3 percent
Natural drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: Frequent
Available water storage in profile: Very low (about 1.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8w

Su—Stumble loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 1wxw
Elevation: 4,800 to 6,400 feet
Mean annual precipitation: 6 to 10 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Stumble and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stumble

Setting

Landform: Dunes
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits derived from sandstone

Typical profile

A - 0 to 5 inches: loamy sand
C1 - 5 to 49 inches: loamy sand
C2 - 49 to 60 inches: gravelly loamy sand
C3 - 60 to 81 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Sandy (R035XB002NM)

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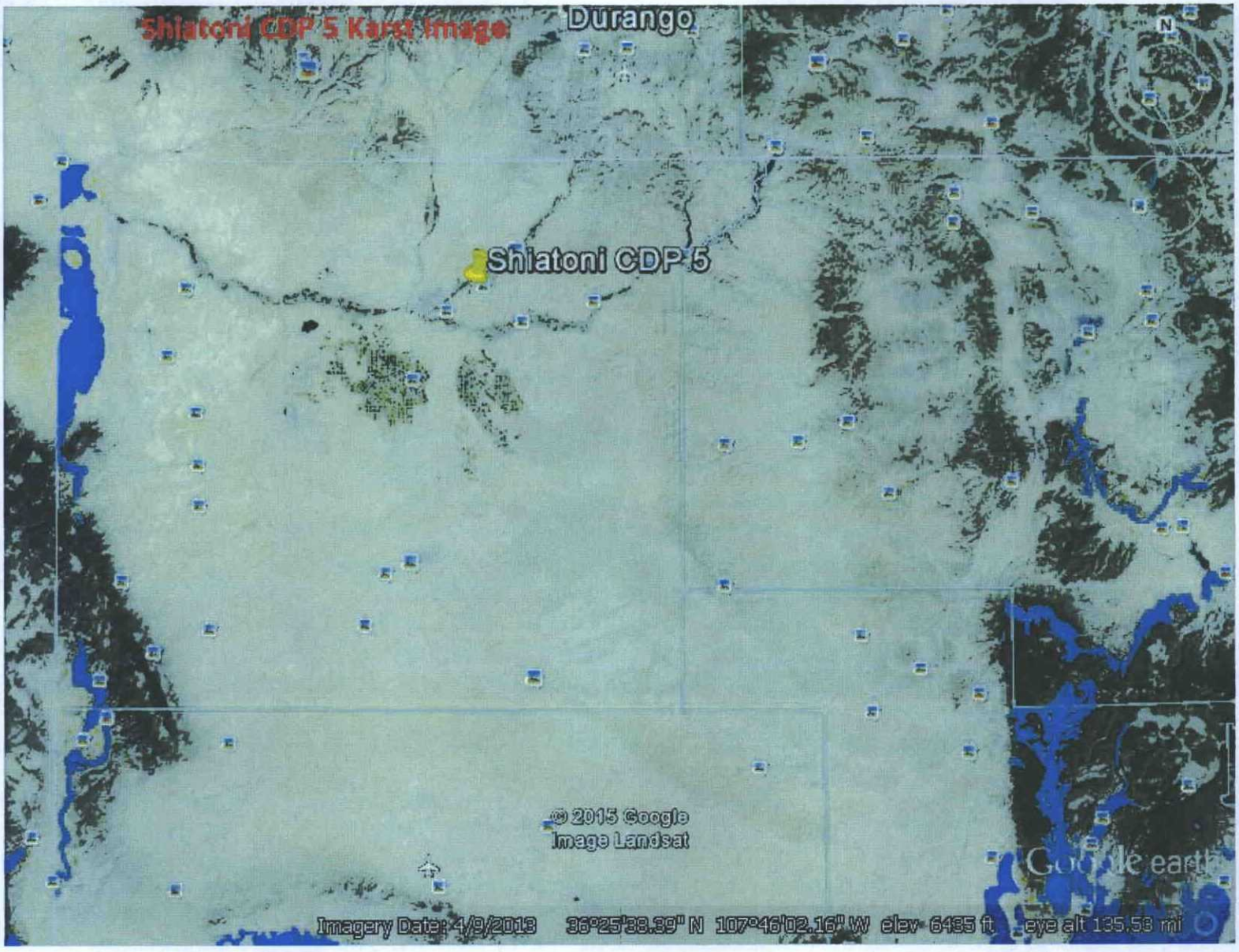
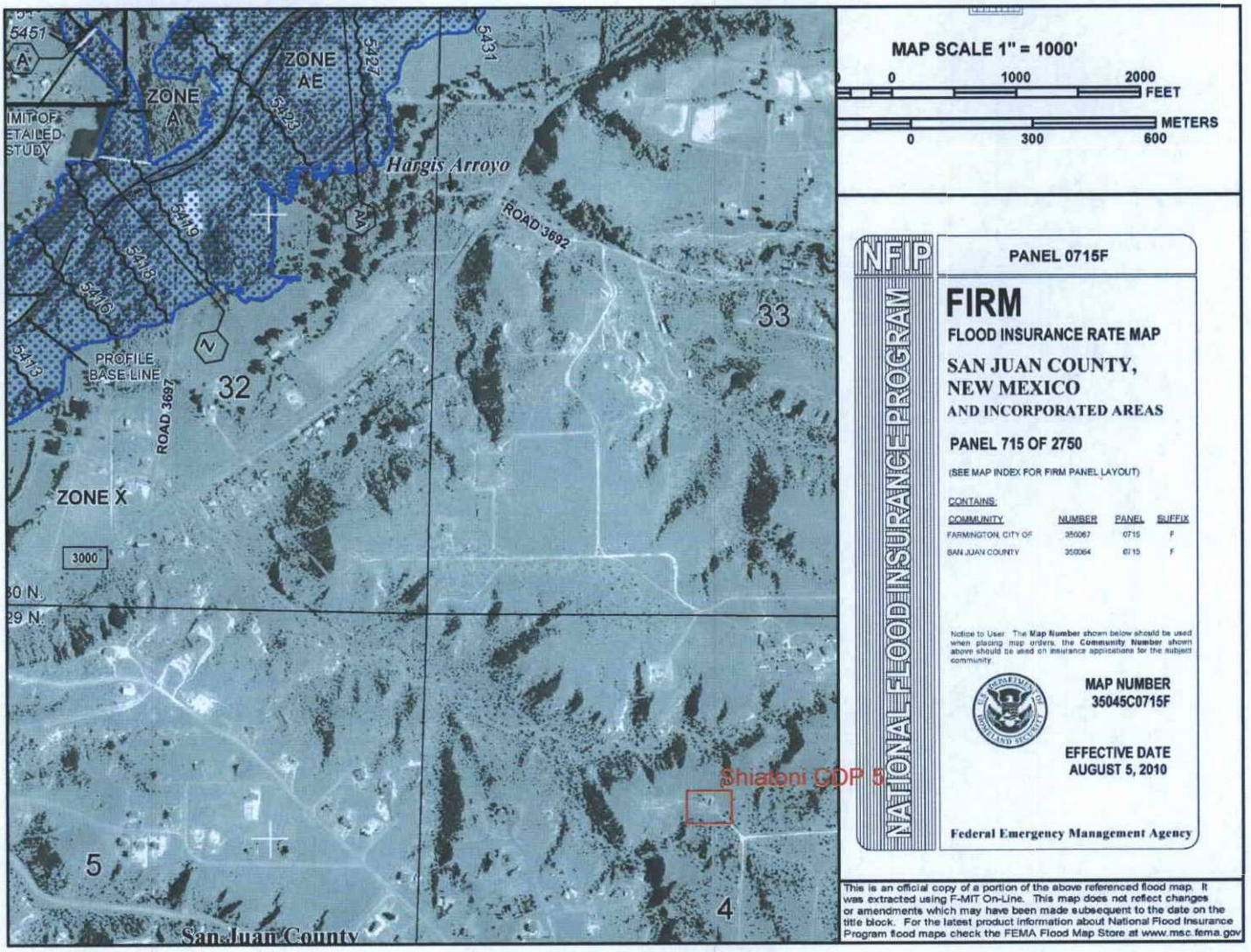
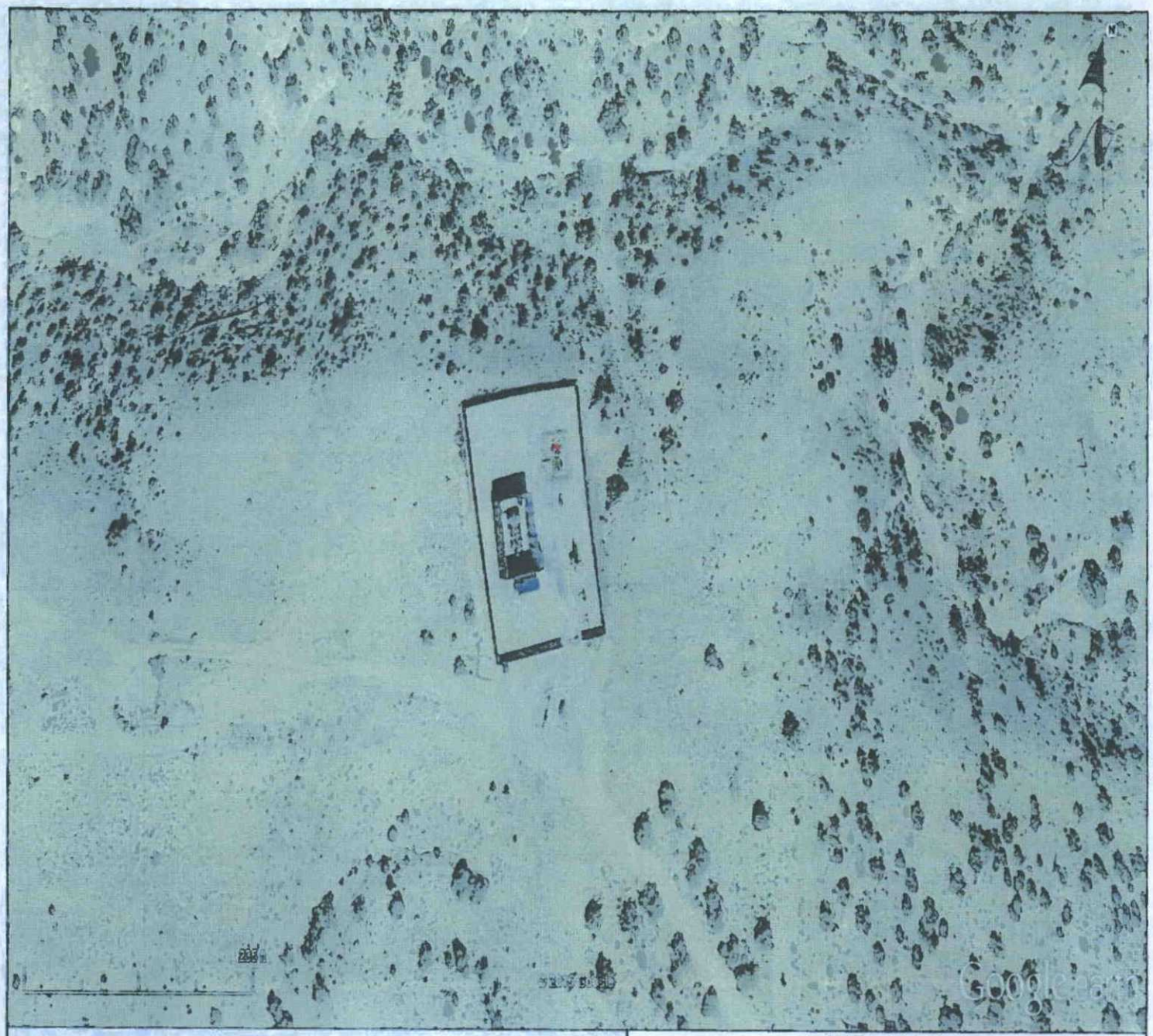

Shiatoni CDP 5 Karst Image
Durango
Shiatoni CDP 5
© 2015 Google
Image Landsat
Google earth
Imagery Date: 4/9/2013 36°25'38.39" N 107°46'02.16" W elev 6435 ft eye alt 135.58 mi

Shiatoni CDP 5





The below grade tank (BGT) on the Shiatoni CDP 5 well site is not within 300 feet of:

- an occupied residence
- a school
- hospital
- institution or church

X BGT #1

X BGT #2

SITE MAP
Chevron North America
Shiatoni CDP 5
SECTION 4, TWP 29 NORTH, RANGE 12 WEST
SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS	FIGURE NO. 2	REV
PROJECT NO.92270-1311		

REVISIONS

NO.	DATE	BY	DESCRIPTION

MAP DRWN	FB	10/21/15	BASE DRWN		

envirotech

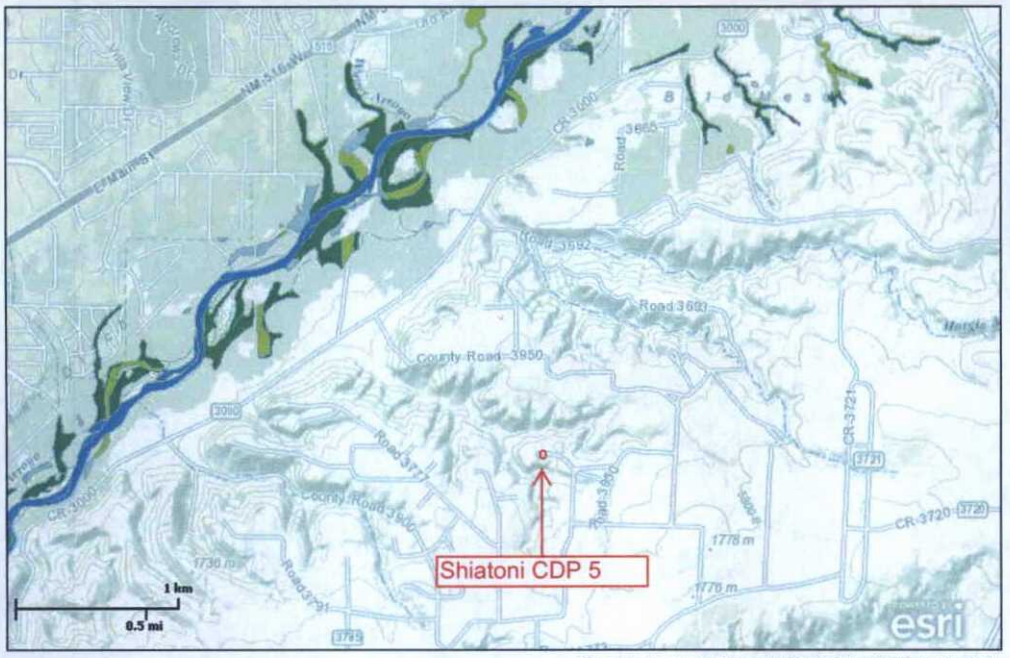
5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

U.S. Fish and Wildlife Service

National Wetlands Inventory

Shiatoni CDP 5

May 5, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Chevron North America

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)(3) 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 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).

5. 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).

6. Chevron's BGTs will be constructed with the design features illustrated on the attached drawing.

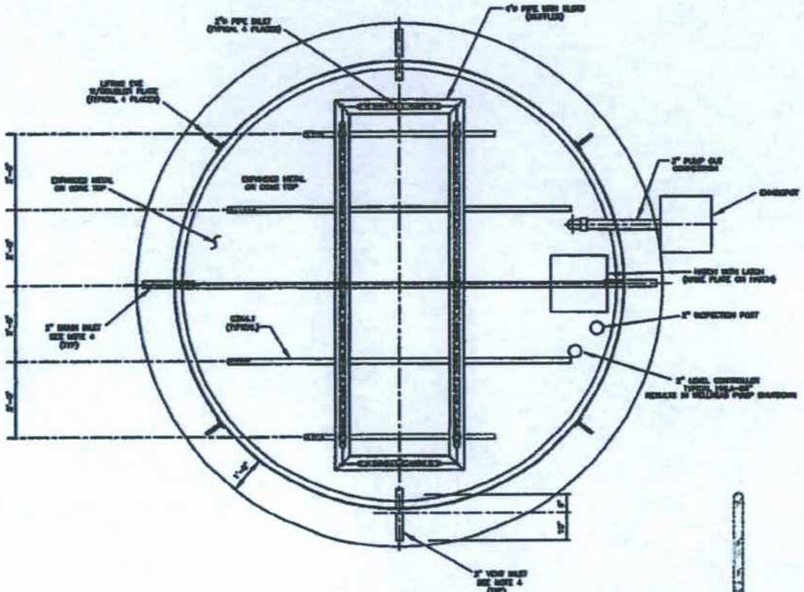
7. Only double-walled, double-bottomed BGTs will be installed.

8. 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).

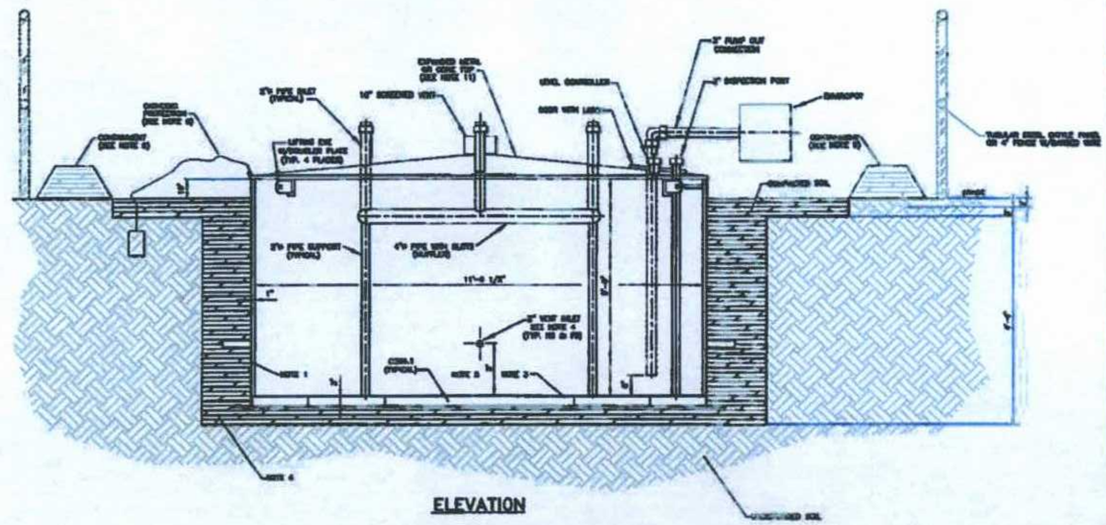
9. Chevron will construct a BGT foundation on a level base free of rocks, debris, sharp edges or irregularities to help prevent punctures, cracks or indentations of the liner or tank bottom. NMAC § 19.15.17.11(I)(2).

10. 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).

11. 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).



PLAN



ELEVATION

NOTES

1. FABRICATOR TO PRESSURE TEST THE AREA BETWEEN THE TANK WALLS TO ENSURE LEAK-FREE DOUBLE CONTAINMENT.
2. TANK TO BE CONSTRUCTED OF 3/16" THK. ASTM A36 STEEL. ALL PIPING TO BE SCH. 40 CARBON STEEL.
3. DOUBLE WALL DOUBLE BOTTOM.
4. DEPENDING ON THE ORIENTATION OF THE EQUIPMENT ON LOCATION, ONE OF THE STUBS MAY BE CONNECTED TO THE DIFFUSER. ANY OF THE FOUR 2" STUBS THAT ARE NOT CONNECTED TO THE DIFFUSER WILL BE CAPPED BOTH INTERNALLY AND EXTERNALLY. THESE FOUR NOZZLES WILL NOT BE USED FOR THE MAJORITY OF PIT TANK INSTALLATIONS, SO THERE INTERNAL AND EXTERNAL CAPS SHALL BE SHOP-WELDED BY MANUFACTURE.
5. UNDERGROUND TANK CONNECTIONS AND TRANSFER LINES ARE WELDED. ALL UNDERGROUND TRANSFER LINES HAVE A FUSION BONDED EPOXY (FBE) COATING OR SIMILAR
6. 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).
7. EXPANDED METAL TOP SHALL BE BOLTED, NOT WELDED.
8. EXTERNAL CATHODIC PROTECTION IS OPTIONAL.
9. CONTAINMENT SHALL BE BUILT TO THE SAN JUAN BERM COMPACTION SOP.
10. INTERNAL ANODES SHALL BE INSTALLED ONSITE.
11. EXPANDED METAL TOP WILL BE STANDARD AND SHOULD BE USED FOR THE MAJORITY OF PIT TANK INSTALLATIONS. CONE ROOF TOPS SHOULD BE CONSIDERED IN RESIDENTIAL AREAS.

MidContinent/Alaska SBU
Chevron North America
Exploration and Production

AREA: SAN JUAN FIELD:
PROPERTY UNIQUE:
PROPERTY COMMON:
PROJECT:
DRAWING: 95 BBL DOUBLE WALL BELOW GRADE TANK 8'x12'
REVISIONS
FILE:
SCALE -
A2085
6/24/2011

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 signs 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 or 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)(3) 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 §§ 19.15.17.13).

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(G)(4), 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(G){4).

2) Chevron, or a contractor acting on behalf of Chevron, shall remove liquids and sludge from a below grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division approved facility within 60 days of cessation of the BGT's operation. NMAC §§ 19.15.17.13(G)(4.a). A list of Chevron currently approved disposal facilities is included at the end of this document.

3) 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(GX4.b). Documentation regarding disposal of the BGT and its associated liner, if any, will be included in the closure report.

4) In accordance with NMAC § 19.15.17.13(E)(l), Chevron will notify the surface owner by certified mail, return receipt requested, of its plans to close a BGT, at least 72 hours, but not more than one (1) week, prior to beginning closure activities. Chevron will notify the landowner by email if the landowner is determined to be a state, federal, or tribal entity. The notice shall include well name, API number and location. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance.

5) Chevron will also notify the appropriate division district office verbally and in writing 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(EX2).

6) The proposed method of closure for this Closure Plan is waste excavation and removal.
NMAC §§ 19.15.17.13 (C).

7) Waste generated during closure will be handled and disposed of in accordance with applicable laws. NMAC § 19.15.35.8(C)(l)(m) provides that plastic pit liners may be disposed at a solid waste facility without testing before disposal, provided they are cleaned well.

8) Chevron, or a contractor acting on behalf of Chevron, will remove all contents and, if applicable, synthetic liners and transferring those materials to a division approved facility. NMAC § 19.15.17.13(C)(2).

9) Chevron, or a contractor acting on behalf of Chevron, will collect at a minimum, a five point composite sample to include any obvious stained or wet soils, or other evidence of contamination shall be taken under the liner or the below-grade tank and that sample shall be analyzed for the constituents listed in Table I of 19.15.17.13 NMAC.

Table I 19.15.17.13 NMAC
Shiatoni CDP 5 Well Site
Depth to Groundwater, Beneath BGT (>100 feet)

Constituent	Method	Unit
Chloride	EPA 300.0	20,000 mg/Kg
TPH	EPASW-846 Method 418.1	2,500 mg/Kg
GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

10) 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(C)(3).

11) If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Table I of NMAC § 19.15.17.13, 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, re-contouring and re-vegetation requirements shall comply with NMAC § 19.15.17.13(H).

12) As per NMAC § 19.15.17.13(H), 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, andre-vegetate according to NMAC § 19.15.17.13(H).

13) Chevron may propose an alternative to the re-vegetation requirement of NMAC § 19.15.17.13(H)(l) 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(H)(l).

14) 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)(2).

15) 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)(4).

16) As per NMAC § 19.15.17.13(H)(5), 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.

17) 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(HX5).

18) Chevron will notify the division when it has seeded or planted and when it successfully achieves re-vegetation. NMAC § 19.15.17.13(H)(5).

19) Seeding or planting will be repeated until Chevron successfully achieves the required vegetative cover. NMAC § 19.15.17.13(H)(5).

20) 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(H)(5).

21) As per NMAC § 19.15.17.13(F), within 60 days of closure completion, Chevron will submit a closure report containing the elements required by NMAC § 19.15.17.13(F) including:

i) Confirmation sampling results,
ii) A plot plan ,
iii) Details on back-filling, capping and covering, where applicable, including re-vegetation 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.

22) 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(F).

23) As requested, the following are the current Chevron approved Waste Disposal Sites for the identified waste streams:

Soils and Sludge

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) Agua Moss Crouch Mesa Facility, Sunco SWD #I Permit No. NM-01-0009

ii) Basin Disposals Facility, Permit No. NM-01-005.

24) 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.