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

13115

OIL CONS. DIV DIST. 3

SEP 18 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

45.10949

- ☐ 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.

OIL CONS. DIV DIST. 3

SEP 28 2015

Operator: Williams Four Corners LLC OGRID #:
Address: 188 County Road 4900, Bloomfield, NM 87413
Facility or well name: Grenier #14
API Number: 45-10952 OCD Permit Number:
U/L or Qtr/Qtr NE/4 NW/4 Section 07 Township 31N Range 11W County: San Juan
Center of Proposed Design: Latitude 36.917897 Longitude -108.034885 NAD: ☐ 1927 ■ 1983
Surface Owner: ☐ Federal ■ State ☐ Private ☐ Tribal Trust or Indian Allotment

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
Volume: 45 bbl Type of fluid: Produced Water
Tank Construction material: Steel
■ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
■ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

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 _____

23

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): Kelsey Christiansen Title: Environmental Specialist

Signature: Kelsey Christiansen Date: 9/15/2015

e-mail address: kelsey.christiansen@williams.com Telephone: 505-632-4606

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

OCD Representative Signature: [signature] **Approval Date:** 10/5/15

Title: Environmental Spec. **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

Smith, Cory, EMNRD

From: Christiansen, Kelsey <Kelsey.Christiansen@williams.com>
Sent: Thursday, October 22, 2015 7:43 AM
To: Smith, Cory, EMNRD
Subject: RE: BGT Removal Notification
Attachments: Grenier 14 BGT C-144.pdf

Categories: BGT Closures

Cory,

I have attached the updated C-144. The new wellsite is Grenier 14 (API: 3004510949) with updated GPS 36.917722, -108.034286. I will have LT update their hydrological reports ASAP.

Please let me know if you need anything else.
-Kelsey

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Thursday, October 22, 2015 7:33 AM
To: Christiansen, Kelsey <Kelsey.Christiansen@williams.com>
Subject: RE: BGT Removal Notification

Kelsey,

Can you please email me the correction for the name.

That way I can give you approval prior to closure plan approval.

Just mention that you're going to be following the standard Williams Closure plan that follow 19.15.17.13 NMAC.

From: Christiansen, Kelsey [mailto:Kelsey.Christiansen@williams.com]
Sent: Tuesday, October 20, 2015 12:21 PM
To: Smith, Cory, EMNRD
Subject: RE: BGT Removal Notification

I am waiting to hear back from operations, I will let you know when I do.

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Tuesday, October 20, 2015 6:58 AM
To: Christiansen, Kelsey <Kelsey.Christiansen@williams.com>
Subject: RE: BGT Removal Notification

Good Morning Kelsey,

Do you know the approximate time Williams will be pulling the BGT on the 22nd?

Thanks.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Christiansen, Kelsey [mailto:Kelsey.Christiansen@williams.com]
Sent: Monday, October 19, 2015 4:04 PM
To: Smith, Cory, EMNRD; kdiemer@blm.gov
Cc: Ruybalid, Tristen; Webre, Matt
Subject: BGT Removal Notification

Cory,

Pursuant to the requirements of the New Mexico Oil Conservation District (OCD), Williams hereby provides notice of the intent to remove the BGT at the following location:

Grenier #004 API No. 3004510949 Section 07, Township 31N, Range 11W

Williams operated the BGT to capture liquids from our pipeline system. The BGT will not be replaced.

BGT removal is schedule to begin on Thursday, October 22, 2015.

Katherina,

A hardcopy of the attached notification will be mailed to your office today.

Please contact me if you have any questions regarding the proposed BGT removal and/or schedule.

Williams.
Kelsey Christiansen | Environmental Specialist, Environmental Services - FCA | Operational Excellence | Williams O: 505-632-4606 | C: 505-215-7433
kelsey.christiansen@williams.com

"Achieving environmental excellence through stewardship, common sense, and innovation for our company, customers and communities."

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: _____

SITING CRITERIA
SUMMARY INFORMATION SHEET
19.15.17.10 NMAC

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970-385-1096

GENERAL INFORMATION

Site Name:	Grenier #004	**Operator:**	Williams Four Corners LLC
Pit Type:	Below Grade Tank	**Date:**	9/15/2015
		Prepared by:	LT Environmental

GENERAL SITE LOCATION INFORMATION

Geologic Formation: Nacimiento Formation
Soil Type: Gypsiorthids-Badland-Stumble c
Annual Precipitation: Aztec Ruins 9.79"

SEC: 07 **TWN:** 31N **RNG:** 11W
Latitude: 36.917897 **Longitude:** -108.034886

GENERAL SITING CRITERIA

Is groundwater less than 25 feet below the bottom of below grade tank? Greater then 100 feet
See Figure 3 and attached iWaters Data

BELOW GRADE TANK SITING CRITERIA

Within 100 feet of a continuously flowing watercourse? NO See Figure 1

5.0 miles west to the Animas River

Within 100 feet of a significant watercourse? YES See Figure 1 and Figure 3

62.52 feet west to first order tributary of Estes Arroyo.

Within 100 feet of a lakebed, playa lake, or sinkhole? NO See Figure 2

Within 200 horizontal feet of a spring or a freshwater well used for public or livestock consumption? NO See Figure 3 and attached iWaters data

0.84 miles south to an unnamed stock pond.

ATTACHED DOCUMENTS:

Hydrogeologic Report
Figure 1: Topographic Map
Figure 2: Aerial Photograph
Figure 3: Mines, Mills, and Quarries Map
Figure 4: Municipal Boundaries
Figure 5: Municipal Boundaries
iWaters Data
BGT Closure Plan

ADDITIONAL COMMENTS:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.

2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

Grenier #004
Hydrogeologic Report for Siting Criteria

General Geology and Hydrology

The San Juan Basin is a typical Rocky Mountain basin with a gently dipping southern flank and a steeply dipping northern flank. Asymmetrically layered Tertiary sandstones and shales, along with Quaternary alluvial deposits dominate surficial geology (Dane and Bachman, 1965). The below ground tank location is located on a gentle slope due east of the La Plata River and east-northeast of La Plata, New Mexico. Within the reaches of the La Plata River, the Tertiary Nacimiento Formation is exposed, along with Quaternary alluvial and aeoloian sands surrounding the center of the wash.

Cretaceous and Tertiary sandstones, as well as Quaternary alluvial deposits serve as the primary aquifers in the San Juan. In most of the area, the Nacimiento Formation lies at the surface. Thickness of the Nacimiento ranges from 418 feet to 2,232 feet, aquifers within the coarser and continuous sandstone bodies are between 0 feet and 1,000 feet deep in this section of the San Juan Basin (Stone et al., 1983). Groundwater within these aquifers flows toward the nearby San Juan River and its tributaries.

The prominent soil type at the below-grade grade tank are aridisols, which are defined as soils that do not show any profile development. Soils are basically unaltered from their parent rock. Miles of arroyos, washes, and intermittent streams exist as part of the drainage network toward the San Juan River (www.emnrd.state.nm.us). These features often cut into soil and other unconsolidated materials, contributing to sedimentation downstream. The sudden influx of water from storm events easily erodes soils that cover the area.

Dry and arid weather further prohibit active recharge. The climate of the region is arid, averaging approximately 9.79 inches of rainfall annually. As is typical of the southwestern United States monsoonal weather patterns, most precipitation falls from August through October. The heaviest rainfall occurs in the summer in isolated, intense cloudbursts. November through June is relatively dry. Snow generally falls from December to mid-February and averages less than one-half inch in depth. However, most recharge occurs during the winter months during snowmelt periods from the upper elevations (Western Regional Climate Center www.wrcc.dri.edu). The predominant vegetation are sagebrush and grasses with a more restricted pinon-juniper association (Dick-Peddie, 1993).

Site-Specific Hydrogeology

Depth to groundwater is estimated to be greater than 100 feet beneath the bottom of the below-grade tank. This estimation is based on data from Stone et al. (1983), the United States

Geological Survey (USGS) *Groundwater Atlas of the United States*. Additionally, local topography and proximity to surface hydrologic features are taken into consideration. When available, permitted water well logs and cathodic protection well logs are referenced to infer depth to groundwater near the site.

Local aquifers include sandstones within the Nacimiento Formation, which range from 0 feet to 1,000 feet below ground surface in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1,000-foot depth range for Nacimiento aquifers covers an area greater than 20 miles wide in the central San Juan Basin and depth decreases toward the margins of the San Juan Basin.

The below-grade tank is located in a region incised by washes, gullies, and arroyos, with the Estes Arroyo being the predominant topographic feature. The below-grade tank is located within the upper reaches of the Estes Arroyo at an elevation of approximately 6,326 feet. .

Groundwater data are sparse in this region; the nearest iWaters data point with similar topographical characteristics is well number SJ 01660 which is located approximately 0.71 miles to the northwest. Depth to groundwater in the permitted water well is listed as 275 feet below ground surface, indicating that groundwater is greater than 100 feet beneath the below-grade tanks on site. Groundwater data available from the New Mexico State Engineer's iWaters database for wells near the below-grade tank are attached.

References

Dane, C.H. and G.O. Bachman, 1965, *Geologic Map of New Mexico*: U.S. Geological Survey, 1 sheet, scale 1:500,000.

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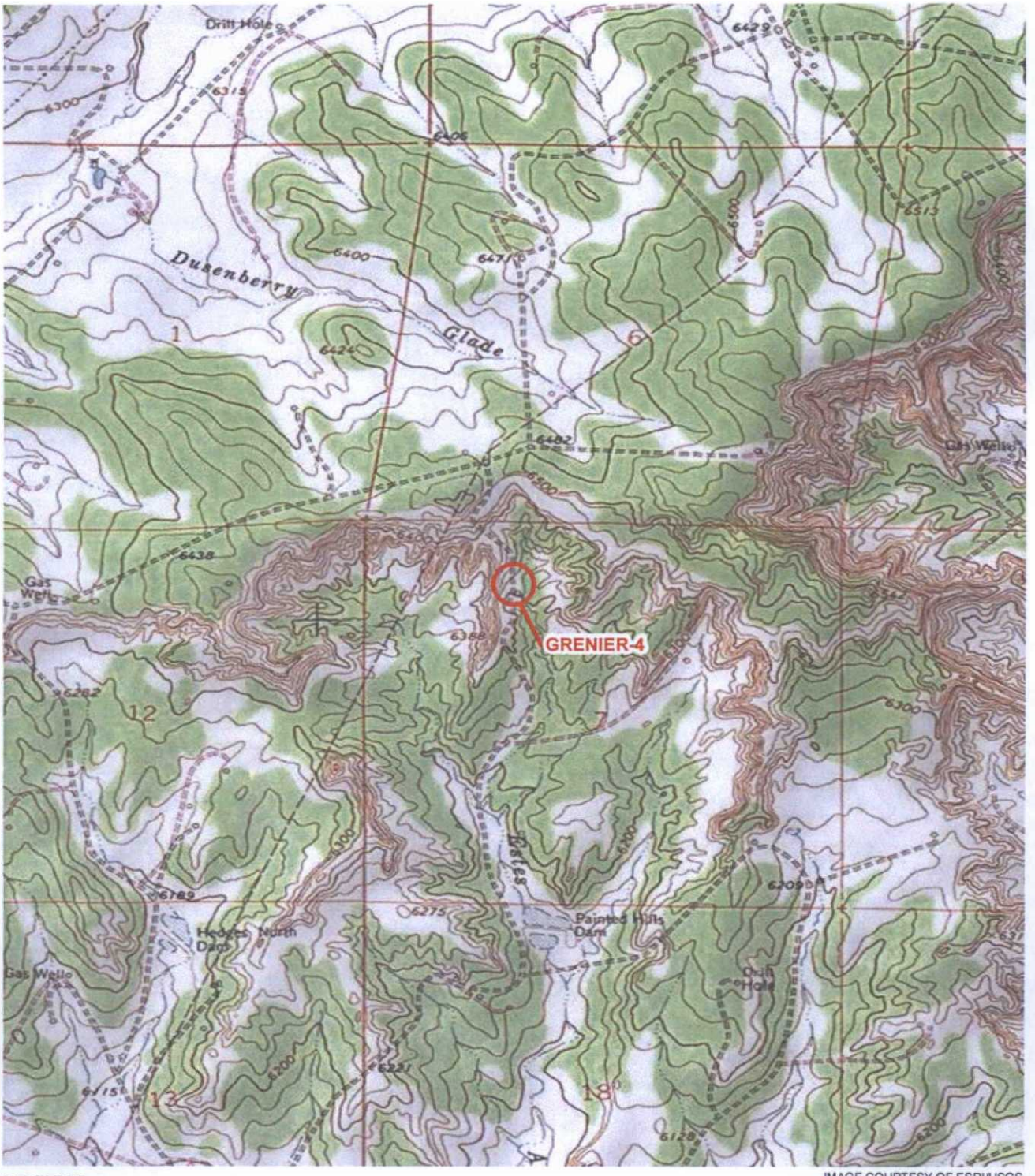

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

BGT: BELOW GRADE TANK

0 2,000 4,000

Feet

N

FIGURE 1
TOPOGRAPHIC MAP
GRENIER-4
NE/NW SEC 7 T31N R11W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS

P:\Williams Four Corners\GIS\MXD\034015004_PIT_PERMITS\034015004_PIT PERMIT MAPBOOK FIG01 TOPO.mxd

LEGEND

- BGT: BELOW GRADE TANK
- 100-FOOT RADIUS
- 200-FOOT RADIUS

IMAGE COURTESY OF ESRI

0 100 200

Feet

N

FIGURE 2
AERIAL PHOTOGRAPHIC MAP
GRENIER-4
NE/NW SEC 7 T31N R11W
SAN JUAN COUNTY, NEW MEXICO

WILLIAMS FOUR CORNERS

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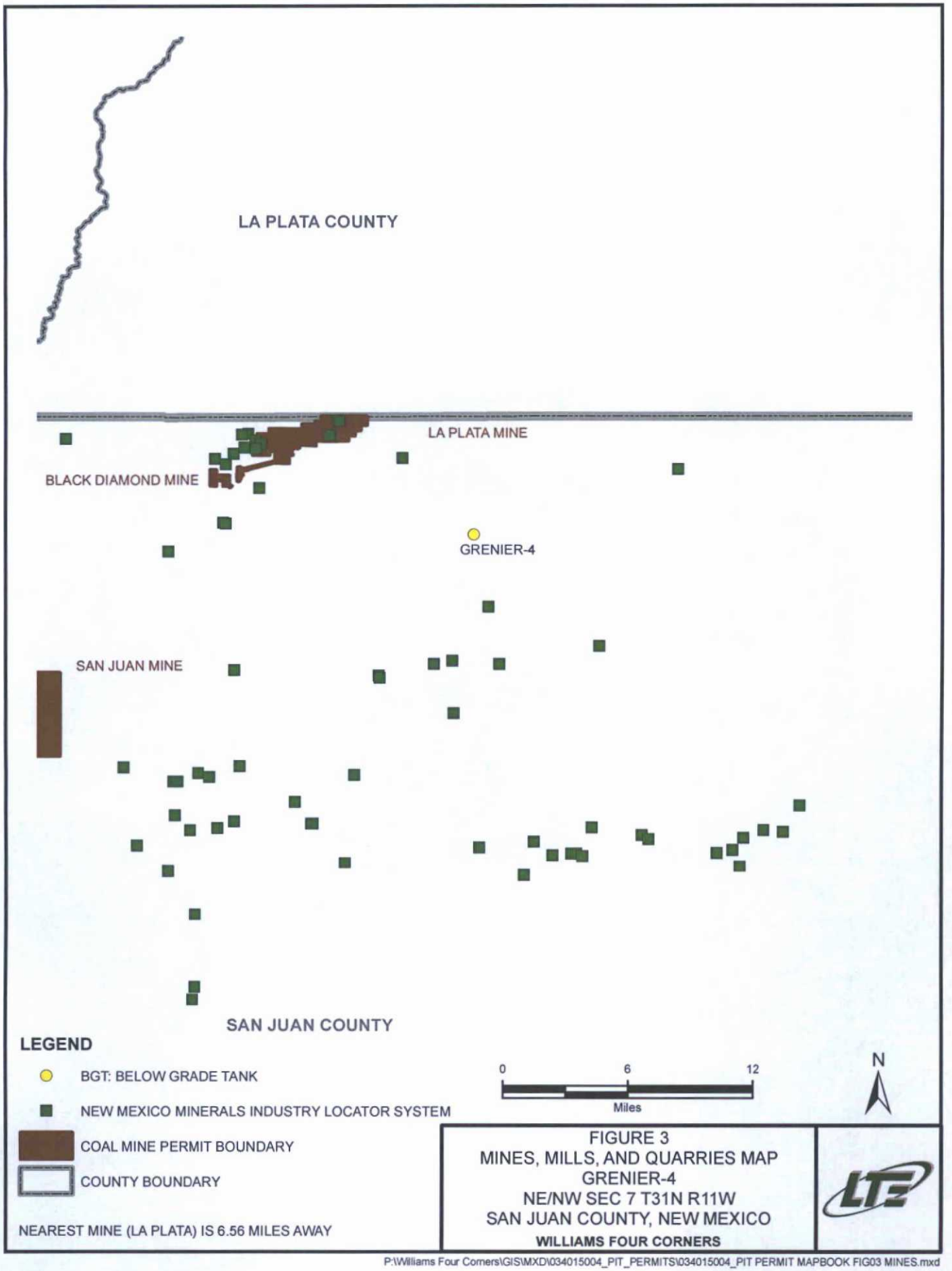

FIGURE 3
MINES, MILLS, AND QUARRIES MAP
GRENIER-4
NE/NW SEC 7 T31N R11W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS

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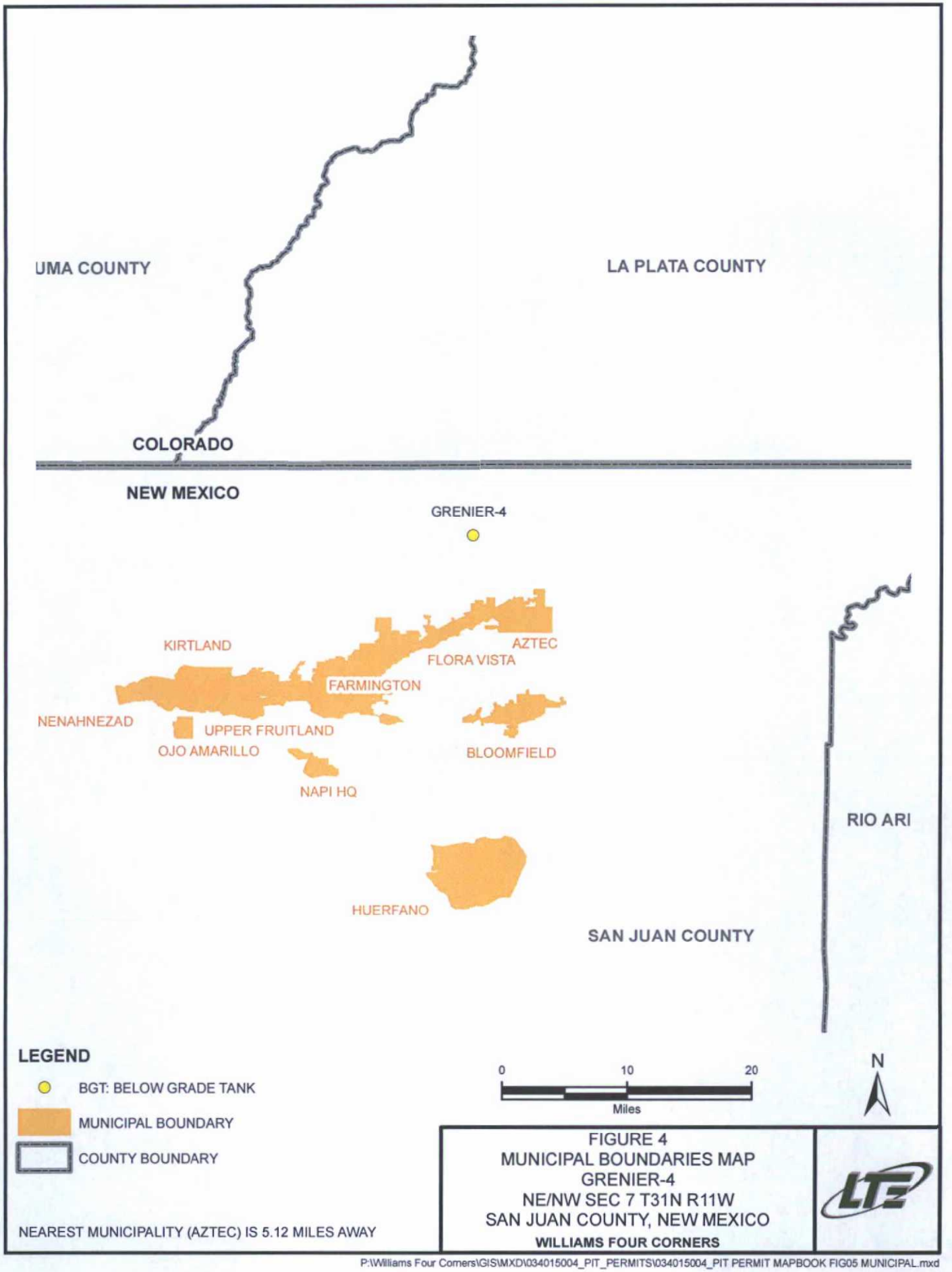

FIGURE 4
MUNICIPAL BOUNDARIES MAP
GRENIER-4
NE/NW SEC 7 T31N R11W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS

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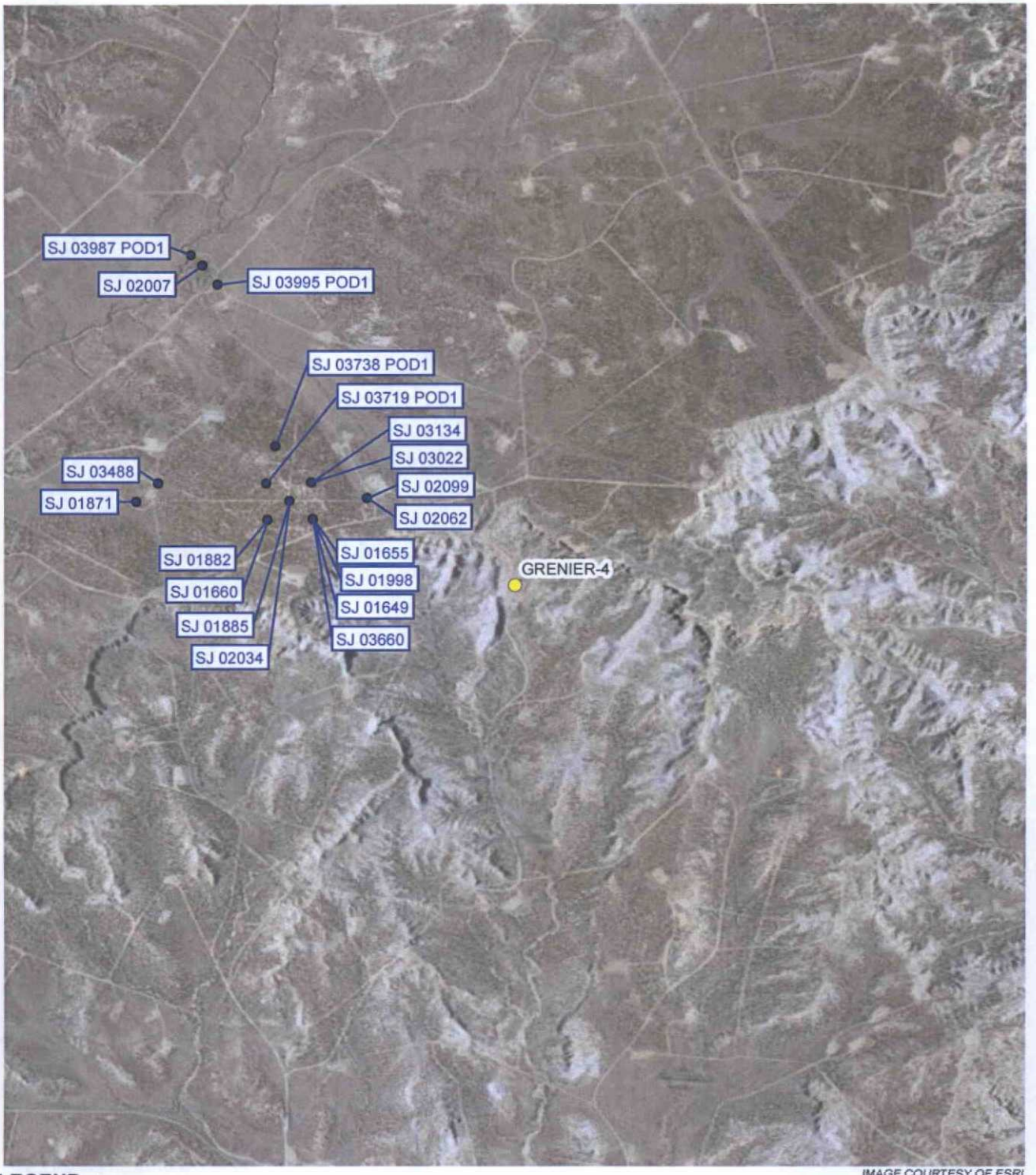

IMAGE COURTESY OF ESRI

LEGEND

- WATER WELL
- BGT: BELOW GRADE TANK

0 0.5 1
Miles

N

FIGURE 5
WATER WELL MAP
GRENIER-4
NE/NW SEC 7 T31N R11W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS

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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.)

(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	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 01649		SJ	4	3	4	01	31N	12W	228764	4090461*	220	161	59
SJ 01660		SJ	3	3	4	01	31N	12W	228564	4090461*	320	275	45
SJ 02034		SJ		3	4	01	31N	12W	228665	4090562*	85	55	30
SJ 02099		SJ		4	4	01	31N	12W	229006	4090568*	95		
SJ 03022		SJ	2	3	4	01	31N	12W	228764	4090661*	490	250	240
SJ 03134		SJ	2	3	4	01	31N	12W	228764	4090661*	80	20	60
SJ 03488		SJ	2	3	3	01	31N	12W	228084	4090678*	150		
SJ 03660		SJ	4	3	4	01	31N	12W	228764	4090461*	70	42	28
SJ 03738 POD1		SJ	3	1	4	01	31N	12W	228612	4090866*	115	50	65
SJ 03987 POD1		SJ	1	2	1	01	31N	12W	228272	4091932	90	70	20
SJ 03995 POD1		SJ		2	1	01	31N	12W	228385	4091765	160	50	110

Average Depth to Water: **108 feet**

Minimum Depth: **20 feet**

Maximum Depth: **275 feet**

Record Count: 11

PLSS Search:

Section(s): 1 **Township:** 31N **Range:** 12W

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

Williams Four Corners LLC
Closure Plan - Below Grade Tanks
San Juan Basin – New Mexico

Background

The following Closure Plan has been developed to satisfy requirements of the "Pit Rule" as defined in Title 19 Chapter 15 Part 17 of the New Mexico Administrative Code (NMAC) and describes the requirements and procedures to be used by Williams Four Corners LLC (Williams) when removing below grade tanks (BGTs). The plan will be used when closing BGT locations owned or operated by Williams.

Certain BGTs targeted under this closure plan were, in some cases, installed subsequent to earthen pit closures and were constructed in conformance with New Mexico Oil Conservation Division (NMOCD) approved criteria. All BGTs have been operating in general compliance with NMOCD regulations developed prior to the new Pit Rule enacted in June 2013.

Applicability

This plan shall be implemented when any BGT is retired or removed from service due to operational considerations or when tank integrity is compromised beyond repair. Closure shall commence within 60 days of cessation of use or sooner if directed by NMOCD. Williams will remove the BGT 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. If there is any equipment associated with a below-grade tank, then the operator shall remove the equipment, unless the equipment is required for some other purpose.

The plan shall also be used if any leaking BGT is not retrofitted or modified to comply with applicable design criteria defined in the Pit Rule or when it is determined that continued operation of the BGT represents an imminent danger to fresh water, human health, or the environment. All BGTs with or without completely visible sidewalls, and that do not meet current design standards, shall be closed prior to sale, transfer, or change of Operator or will be retrofitted to meet current design standards.

If there are conditions at a BGT location which prevent or limit adherence to this plan, a separate site specific plan will be developed. Such a plan will be prepared and submitted to the NMOCD for approval and serve as a new, site specific closure plan.

Site Description – Grenier #004

This plan shall be implemented when the Grenier #004 BGT is retired or removed from service. The BGT is located in Section 07, Township 31N, Range 11W in San Juan County, New Mexico. A hydrogeologic report is attached to this closure plan. The depth to groundwater in the area is greater than 100 feet below ground surface.

Williams Four Corners LLC
Closure Plan - Below Grade Tanks
San Juan Basin – New Mexico

Background

The following Closure Plan has been developed to satisfy requirements of the "Pit Rule" as defined in Title 19 Chapter 15 Part 17 of the New Mexico Administrative Code (NMAC) and describes the requirements and procedures to be used by Williams Four Corners LLC (Williams) when removing below grade tanks (BGTs). The plan will be used when closing BGT locations owned or operated by Williams.

Certain BGTs targeted under this closure plan were, in some cases, installed subsequent to earthen pit closures and were constructed in conformance with New Mexico Oil Conservation Division (NMOCD) approved criteria. All BGTs have been operating in general compliance with NMOCD regulations developed prior to the new Pit Rule enacted in June 2013.

Applicability

This plan shall be implemented when any BGT is closed. The plan shall also be used if any leaking BGT is not retrofitted or modified to comply with applicable design criteria defined in the Pit Rule or when it is determined that continued operation of the BGT represents an imminent danger to fresh water, human health, or the environment. All BGTs with or without completely visible sidewalls, and that do not meet current design standards, shall be closed prior to sale, transfer, or change of Operator or will be retrofitted to meet current design standards.

If there are conditions at a BGT location which prevent or limit adherence to this plan, a separate site specific plan will be developed. Such a plan will be prepared and submitted to the NMOCD for approval and serve as a new, site specific closure plan.

Description of Work

Prior to initiating BGT closure work, notification will be made to the appropriate division district office at least 72 hours, but not more than one week, prior to any closure operation. As indicated on the variance page, notifications to NMOCD will be made in writing via email and will include the legal location of the BGT, and the well name / number and American Petroleum Institute (API) number if the BGT is associated with a well. Verbal notifications to the NMOCD will be provided at the request of the division district office.

In addition, the landowner of record (obtained through county tax records) will be notified in advance by certified mail with return receipt at least 72 hours, but not more than one week, prior to any closure operation. Notifications will provide operator identity, and legal location of the BGT, and the well name / number and API number if the BGT is associated with a well. Public entities including the Bureau of Land Management (BLM), State of New Mexico, local government/municipalities, and/or tribal agencies may be

notified via email based on their notification preferences (as indicated on the variance page).

Removal of liquids and sludge from the BGT will commence within 60 days of cessation of operations. The liquids and sludge removed from the BGT will be disposed at a division-approved facility. Removal of the BGT and any equipment associated with the BGT will commence within 6 months of cessation of operations. Williams will remove the BGT 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.

Table 1 provides a summary of waste materials and the facility proposed for disposal or recycling. Williams may utilize other facilities which may be approved by the NMOCD in the future. As such, the selected disposal site will be identified on the closure form (C-144) prepared for each discrete closure action.

Table 1 - Summary of Waste Materials and Disposal Facilities

Waste Materials	Disposal Facility
Steel Tank	SJ County Landfill or Steel Recycling
Fiberglass Tank	SJ County or Bondad Landfill * or Re-use
Liner (cleaned – absent soil / sludge)	SJ County or Bondad Landfill
Sludge	Envirotech, IEI, TNT, or Bondad Landfill
Liquids (Water / Hydrocarbons)	Basin Disposal, Key Energy, TNT
Contaminated Soil	Envirotech, IEI, TNT, or Bondad Landfill
Fencing / Miscellaneous	Re-use or scrap

*The tank must be empty, cut up or shredded and EPA clean

The use of any disposal or recycling facility will be identified on the C-144 form submitted to the NMOCD as part of the closure report. Any and all ancillary equipment related to the tank will also be removed, including any synthetic liner material(s) and fencing. Williams will ensure that liners and liner material will be free of soil and sludge material and disposed of at a NMOCD approved solid waste facility (e.g. San Juan County Landfill or Permitted Colorado Facility).

Steel or fiberglass tanks will be removed and transported to a storage yard where the condition of each tank will be evaluated for recycling, reuse, or disposal. If the tank is not in a condition allowing reuse, it will either be shipped to a permitted recycling facility (for steel tanks) or it will be disposed of at the San Juan County Landfill (NMED Permit SWM-052426) or other NMOCD approved solid waste disposal site. Specific waste acceptance conditions of the landfill could necessitate further actions as appropriate. Such actions include, but may not be limited to, cutting, shredding, or sizing; emptying or cleaning of tanks or liner material, and otherwise those necessary to conform with permit conditions for Subtitle D disposal and conditions identified in 19.15.35.8 NMAC.

After the tank and equipment have been removed, soils beneath the tank will be tested and evaluated to determine if there is hydrocarbon impact or otherwise if a release event has occurred. Specific sampling protocol will follow the description provided in the Pit Rule which calls for a five point composite sample (see Sampling and Lab Analyses section) to include any obvious staining, or when wet or discolored soil exists, or if there is other evidence of contamination will be collected under the liner or BGT. Samples will

be shipped to an off-site environmental testing laboratory for proper analyses. Results will be submitted to the NMOCD on Form C-141. Further sampling may be required if NMOCD determines additional assessment work is necessary.

If there has been no release to underlying soils as demonstrated by soil analyses (i.e. lab results), or if impacts are below closure limits provided in the table below, then the depression (i.e., excavation) will be backfilled with "non-waste containing" fill material. Sampling of the excavated material is detailed in the Sampling and Laboratory Analyses section later in this plan. Depending on site conditions and operating needs, the backfilled area will be reclaimed with prescribed topsoil and reseeded.

Due to the fact that a majority of Williams BGTs are located on active well sites, reclamation efforts may be deferred in order to avoid impact to ongoing lease operations. In this event, the area of the retired BGT will be incorporated into the overall well site reclamation effort with Williams documenting surface owner and lease operator approval of the proposed alternative.

The BGT site will nevertheless be prepared to prevent erosion, and protect fresh water, human health, and the environment. Williams will submit this documentation to the NMOCD for approval.

Reclamation will be performed as early as possible with the goal of matching original conditions or the final land use. Restoration efforts shall incorporate proper contouring as described in the Pit Rule and shall be constructed in a manner to provide dust control, prevent ponding, and minimize erosion, utilizing drainage controls such as water bars and/or silt traps as appropriate. Topsoils and subsoils will be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. Soil cover suitable for vegetative growth will be equivalent to the background thickness of topsoil or a minimum one foot depth (or background thickness whichever is greater). The area will be contoured in a manner blending soil into/with the surrounding grade. Reclamation shall target the location of the BGT along with associated access roads (not used for production operations) and be implemented to ensure a safe and stable condition that blends with the surrounding undisturbed area.

Re-vegetation efforts will conform with NMOCD approved methods and recommendations including seed type and application rates. The reclaimed area will be reseeded in the first favorable growing season following closure of the BGT. Reclamation and revegetation will be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

Any other obligations imposed by tribal or federal agencies will be adhered to if such obligations provide equal or better protection of fresh water, human health, and the environment. Williams will notify the NMOCD once reclamation and re-vegetation are complete.

Sampling and Laboratory Analyses

A minimum five point composite sample shall be collected from the soils beneath the BGT which will include any obvious stained, wet, or discolored soils, or soil showing other evidence of a release. Soil will be placed in clean glass jars and chilled and maintained at 4ºC. Samples will be packaged and shipped under United States Environmental Protection Agency (USEPA) Chain-of-Custody protocol to an approved and certified environmental laboratory.

Soil samples collected from the earthen containment (i.e. BGT excavation) will be analyzed by an approved environmental laboratory by the listed test methods or as may be directed by the NMOCD. Table 2 summarizes the constituents of concern (COC), testing methods, and the closure limits defining action levels:

Table 2 - Summary of COCs, Test Methods, and Closure Limits

Depth below bottom of pit to groundwater less than 10,000 mg/L TDS	Constituents of Concern	Test Methods	Closure Limits (mg/Kg)**
≤50 feet	Chlorides	EPA 300.0	600
	TPH	EPA SW-846 Method 418.1	100
	GRO + DRO	EPA SW-846 Method 8015M	100
	BTEX	EPA SW-846 Method 8021B or 8260B	50
	Benzene	EPA SW-846 Method 8021B or 8015M	10
51 feet – 100 feet	Chlorides	EPA 300.0	10,000
	TPH	EPA SW-846 Method 418.1	2,500
	GRO + DRO	EPA SW-846 Method 8015M	1,000
	BTEX	EPA SW-846 Method 8021B or 8260B	50
	Benzene	EPA SW-846 Method 8021B or 8015M	10
>100 feet	Chlorides	EPA 300.0	20,000
	TPH	EPA SW-846 Method 418.1	2,500
	GRO + DRO	EPA SW-846 Method 8015M	1,000
	BTEX	EPA SW-846 Method 8021B or 8260B	50
	Benzene	EPA SW-846 Method 8021B or 8015M	10

*** Or background concentration – whichever is greater.*

If any contaminant concentration is higher than the parameters listed in Table I of 19.15.17.13 NMAC, the division may require additional delineation upon review of the results and Williams must receive approval before proceeding with closure. If all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, then Williams will proceed to backfill the excavation with non-waste containing, uncontaminated, earthen material.

Sampling of any excavated or stockpiled material, if required, shall conform with standard environmental sampling protocol. Samples from excavated materials (excavated to facilitate the BGT removal) will be composite samples comprised of at least five discrete samples from the inside and on the surface of the soil pile. A minimum of one composite will be collected from each 100 cubic yards of soil (i.e. one fraction from each cubic yard). Additional samples may be required at the direction of the

NMOCD. Every effort will be made to collect composite fractions from the inside and outside of the soil pile such that a "representative" sample is analyzed.

Stockpile sampling will be facilitated by utilizing a clean soil probe inserted into the soil pile at least three feet or by turning the soil pile with mechanized equipment to expose new soil. The goal is to collect a sample representative of the "whole". These samples will be handled and packaged as described above and be analyzed by the methods listed in Table 2. Soil with contaminant concentrations at or below the Closure Limits may be returned to the BGT excavation prior to initiating reclamation work.

Records and Documentation

All closure activities will be properly documented and include preparation of Form C-144 which shall be submitted to the NMOCD within 60 days of completing closure tasks. Information to be included in the closure report filing shall include, but not necessarily be limited to, the following:

- Proof of closure notice to NMOCD division and surface owner
- Confirmation sampling and analytical reports (results)
- Disposal facility name and permit information
- Description of capping and reclamation actions (i.e. revegetation rates)
- Photo documentation of site reclamation
- Other information required to complete applicable sections of C-144

As stated above, should conditions at any location necessitate a change to the approach described herein, separate site specific closure details will be provided as an addendum to this plan.