

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.

14441  
45-21790

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

OIL CONS. DIV DIST. 3

APR 19 2016

- 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: Williams Four Corners LLC OGRID #: \_\_\_\_\_  
Address: 1755 Arroyo Drive, Bloomfield, NM 87413  
Facility or well name: Florance Gas Com J No. 016A  
API Number: 30-045-21790 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr P Section 6 Township 30N Range 9W County: San Juan  
Center of Proposed Design: Latitude 36.835162 Longitude -107.816092 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 \_\_\_\_\_

\*Conditions of Approval Attached

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 6 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 \_\_\_\_\_

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State of New Mexico  
Energy, Minerals and Natural Resources Department

**Susana Martinez**  
Governor

**David Martin**  
Cabinet Secretary

**Tony Delfin**  
Deputy Cabinet Secretary

**David R. Catanach, Division Director**  
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.5.11

Application Type:

- P&A   
  Drilling/Casing Change   
  Location Change  
  
 Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84)  
  
 Other: C-144 Below Grade Tank Closure Plan

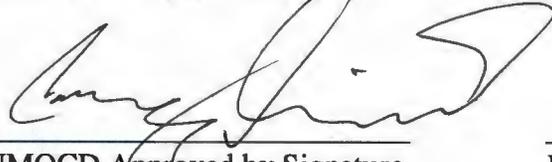
API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-045-21790-00-00	FLORANCE GAS COM J	016A	BP AMERICA PRODUCTION COMPANY	G	A	San Juan	F	P	6	30	N	9	W

Conditions of Approval:

Williams Four Corners LLC submitted Below Grade Tank (BGT) Closure Plan for the Metering/Separator BGT located at the BP Well site Florance Gas Com J 16A. Williams BGT was registered in 2010, during 2013 Williams modified the BGT from the original Permit without notification to install a liner. To ensure that no contamination was covered by any possible backfill during construction Williams Closure Plan has been approved with the following Conditions:

- Williams will collect a 5 point composite sampled as describe in 19.15.17.13 NMAC at a depth of at least 2 feet below the Tank/liner.

If you have any questions please feel free to contact me at your leisure.

  
 \_\_\_\_\_  
 NMOCD Approved by Signature

4/22/16  
 \_\_\_\_\_  
 Date

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. **Variations 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

<p>Within 100 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Temporary Pit Non-low chloride drilling fluid</u></b></p>	
<p>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).</p> <ul style="list-style-type: none"> <li>- Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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;</p> <ul style="list-style-type: none"> <li>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Permanent Pit or Multi-Well Fluid Management Pit</u></b></p>	
<p>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).</p> <ul style="list-style-type: none"> <li>- Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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.</p> <ul style="list-style-type: none"> <li>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 500 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> 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<sub>2</sub>S, 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.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is between 25-50 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> 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).<br>- Topographic map; Visual inspection (certification) of the proposed site                        | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  | <input type="checkbox"/> Yes <input type="checkbox"/> 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.<br>- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet of a wetland.<br>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |

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.*

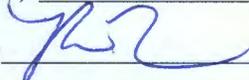
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate 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): Matt Webre

Title: EH&S Supervisor

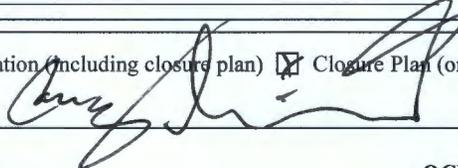
Signature: 

Date: 4/19/2016

e-mail address: matt.webre@williams.com

Telephone: 505-632-4442

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

OCD Representative Signature: 

Approval Date: 4/22/16

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

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: \_\_\_\_\_

Variance Request:

Williams requests a variance request from Subsection E(1) of 19.15.17.13 New Mexico Administrative Code (NMAC) which states:

*The operator shall notify the surface owner by certified mail, return receipt requested that the operator plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. 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 with this requirement.*

The variance will allow Williams to notify public agencies such as the Bureau of Land Management (BLM), State of New Mexico, local government/municipalities, and/or tribal agencies via email based on their notification preferences

**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:** Florance Gas Com J 16A  
**Pit Type:** Below Grade Tank

**Operator:** Williams Four Corners LLC  
**Date:** 04/18/2016  
**Prepared by:** LT Environmental

**GENERAL SITE LOCATION INFORMATION**

**Geologic Formation:** San Jose Formation  
**Soil Type:** Travessilla-Weska Complex  
**Annual Precipitation:** 9.79 inches

**SEC:** 6 **TWN:** 30N **RNG:** 9W  
**Latitude:** 36.835162° **Longitude:** -107.816092°

**GENERAL SITING CRITERIA**

**Is groundwater less than 25 feet below the bottom of below grade tank?** 25 to 50 feet  
See Figure 3, attached iWaters Data, and Table 2 of Site Assessment Report

**BELOW GRADE TANK SITING CRITERIA**

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

The San Juan River is located approximately 5.90 miles southeast of the site.

**Within 100 feet of a significant watercourse?** NO See Figure 1 and Figure 3

A secondary tributary of Caballo Canyon is located approximately 0.30 miles south of the site.

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

No lakebeds, playa lakes, or sinkholes are located within the immediate area.

**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

Water well SJ 00009 with iWaters data is located approximately 0.40 miles northwest of the site. Monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 are located on the well pad. Three seeps are located approximately 205 feet, 225 feet, and 325 to the southwest of the site. Valancia Spring is located 0.37 miles to the east of the site.

**ATTACHED DOCUMENTS:**

Hydrogeologic Report Figure 2 of CB&I Site Assessment Report  
Figure 1: Topographic Map Table 2 of CB&I Site Assessment Report  
Figure 2: Aerial Photograph  
Figure 3: Water Well and Surface Water Features  
iWaters Data

**ADDITIONAL COMMENTS:**



## Florance Gas Com J 16A 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. The below-grade tank is located in the upper reaches of Caballo Canyon, northeast of Blanco, New Mexico. The predominant geologic formation is the San Jose Formation of Tertiary age, which underlies surface soils and is often exposed (Dane and Bachman, 1965). Deposits of Quaternary alluvial and aeolian sands occur prominently near the surface of the area, especially near streams and washes.

Cretaceous and Tertiary sandstones, as well as Quaternary alluvial deposits, serve as the primary aquifers in the San Juan Basin. In most of the area, the San Jose Formation lies at the surface and overlies the Nacimiento Formation. Thickness of the San Jose Formation ranges from 200 feet to 2,700 feet, thickening from west to east across the region of interest. Aquifers occur within the coarser and continuous sandstone bodies of the San Jose Formation, and groundwater within these aquifers flows toward the San Juan River. Little specific hydrogeologic data are available for the San Jose Formation system, but numerous wells and springs are used for stock and domestic supplies (Stone et al., 1983).

The prominent soil type at the below-grade tank is Travessilla-Weska Complex, which are defined as soils that exhibit little to no profile development ([www.emnrd.state.nm.us](http://www.emnrd.state.nm.us)). 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. These features often cut into soil and other unconsolidated materials, contributing to sedimentation downstream. The sudden influx of water from storm events easily erodes the soils that cover the area and prohibits effective recharge to the underlying aquifers.

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](http://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 between 25 and 50 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.

Beds of water-yielding sandstone are present in the San Jose Formation, which are fluvial in origin and are interbedded with mudstone, siltstone, and shale. “Extensive intertonguing” of different members of this formation is reported. Porous sandstones form the principal aquifers, while relatively impermeable shales and mudstones form confining units between the aquifers. Most aquifers exist within the San Jose Formation at depths greater than 100 feet, and thicknesses of the aquifers can be up to several hundred feet (USGS, *Groundwater Atlas of the United States*; Stone et al., 1983).

The below-grade tank is located in the upper reaches of Caballo Canyon. Regional topography of the area is composed of mesas dissected by deep, narrow canyons and arroyos. The mesas are composed of cliff-forming sandstone, and systems of dry washes and their tributaries composed of alluvium are evident on the attached aerial image. The below-grade tank is located at an elevation of approximately 6,507 feet above Caballo Canyon.

Depth to groundwater is between 25 and 50 feet beneath the below-grade tank. This estimation is based on nearby monitoring water well data, domestic water well data, and topographic features. Groundwater data available from the New Mexico State Engineer’s iWaters database for wells near the below-grade tank are attached. Groundwater data are sparse in this region; the nearest iWaters data point is well number SJ 00009 located approximately 0.40 miles northwest of the site. Depth to groundwater in the permitted water well is 60 feet below ground surface. According to Figure 2 and Table 2 of the CB&I *Site Assessment Report* (January 14, 2016), groundwater monitoring wells surrounding the well pad indicate that groundwater averages approximately 38 feet bgs (attached).

### References

CB&I Environmental & Infrastructure, Inc., January 14, 2016, *Site Assessment Report*, *Florance Gas Com J 16A*, prepared for Williams Four Corners, LLC, San Juan County, New Mexico.

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



Dick-Peddie, W.A., 1993, *New Mexico Vegetation – Past, Present and Future*: Albuquerque, New Mexico, University of New Mexico Press, 244 p.

Stone, W.J., F.P. Lyford, P.F. Frenzel, N.H. Mizell, and E.T. Padgett, 1983, *Hydrogeology and Water Resources of the San Juan Basin, New Mexico*: HR-6 New Mexico Bureau of Geology and Mineral Resources Hydrology Report 6.

USGS, Groundwater Atlas of the United States: Arizona, Colorado, New Mexico, Utah, HA 730-C: (<http://www.pubs.usgs.gov>).

Western Region Climate Center, 2008, New Mexico climate summaries: Desert Research Institute at <http://www.wrcc.dri.edu/summary/climsmnm.html>.

New Mexico Energy, Minerals and Natural Resources Department, [www.emnrd.state.nm.us](http://www.emnrd.state.nm.us).



IMAGE COURTESY OF ESRI/USGS

**LEGEND**

 SITE LOCATION



NEW MEXICO

**FIGURE 1**  
**TOPOGRAPHIC MAP**  
**FLORANCE GAS COM J16A**  
**SESE SEC 6 T30N R9W**  
**SAN JUAN COUNTY, NEW MEXICO**  
**WILLIAMS FOUR CORNERS LLC**

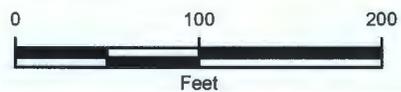




IMAGE COURTESY OF GOOGLE EARTH

**LEGEND**

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



**FIGURE 2**  
AERIAL PHOTOGRAPHIC MAP  
FLORANCE GAS COM J16A  
SESE SEC 6 T30N R9W  
SAN JUAN COUNTY, NEW MEXICO  
WILLIAMS FOUR CORNERS LLC



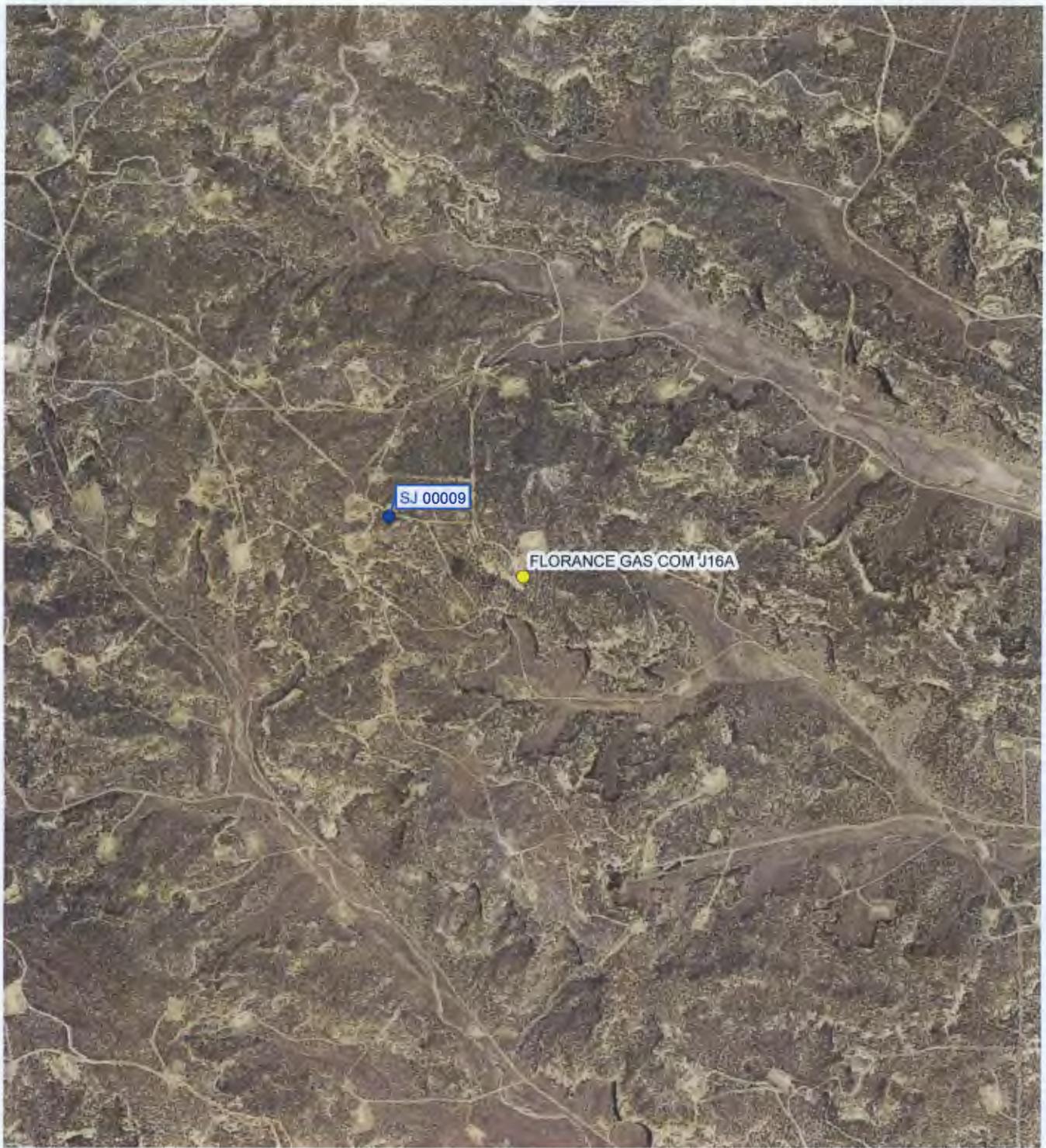


IMAGE COURTESY OF ESRI/USGS

**LEGEND**

- WATER WELL
- BELOW GRADE TANK



**FIGURE 3**  
**WATER WELL MAP**  
**FLORANCE GAS COM J16A**  
**SESE SEC 6 T30N R9W**  
**SAN JUAN COUNTY, NEW MEXICO**  
**WILLIAMS FOUR CORNERS LLC**





# 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-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<a href="#">SJ 00009</a>			SJ	3	06	30N	09W			248261	4080567*	396	60	336

Average Depth to Water: **60 feet**  
 Minimum Depth: **60 feet**  
 Maximum Depth: **60 feet**

**Record Count: 1**

**PLSS Search:**

**Section(s): 6**

**Township: 30N**

**Range: 09W**

\*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.



Table 2  
LIQUID LEVEL GAUGING DATA  
FLORANCE GAS COM J 16A  
WILLIAMS FOUR CORNERS, LLC

ID.	LAT	LONG	Total Depth (ft below TOC)	Top of Casing Elevation (ft Relative)	Date	Depth to GW (ft below TOC)	Depth to Product (ft below TOC)	Product Thickness (ft)	Corrected GW Elevation (ft) (1)
MW-1	36.835316	-107.816524	42.40	101.09	5/26/2015	38.67			62.42
	36.835316	-107.816524	42.40	101.09	5/27/2015	38.68			62.41
	36.835316	-107.816524	42.40	101.09	5/28/2015	38.69			62.40
	36.835316	-107.816524	42.40	101.09	6/1/2015	38.67			62.42
	36.835316	-107.816524	42.40	101.09	6/3/2015	38.65			62.44
	36.835316	-107.816524	42.40	101.09	6/5/2015	38.66			62.43
	36.835316	-107.816524	42.40	101.09	6/8/2015	38.66			62.43
	36.835316	-107.816524	42.40	101.09	6/10/2015	38.63			62.46
	36.835316	-107.816524	42.40	101.09	6/16/2015	38.61			62.48
	36.835316	-107.816524	42.40	101.09	6/24/2015	38.60			62.49
	36.835316	-107.816524	42.40	101.09	6/25/2015	38.59			62.50
	36.835316	-107.816524	42.40	101.09	6/30/2015	38.57			62.52
36.835316	-107.816524	42.40	101.09	12/2/2015	38.48			62.61	
MW-2	36.835291	-107.816085	42.42	100.70	5/26/2015	38.89			61.81
	36.835291	-107.816085	42.42	100.70	5/27/2015	38.81			61.89
	36.835291	-107.816085	42.42	100.70	5/28/2015	38.81			61.89
	36.835291	-107.816085	42.42	100.70	6/1/2015	38.80			61.90
	36.835291	-107.816085	42.42	100.70	6/3/2015	38.78			61.92
	36.835291	-107.816085	42.42	100.70	6/5/2015	38.80			61.90
	36.835291	-107.816085	42.42	100.70	6/8/2015	38.82			61.88
	36.835291	-107.816085	42.42	100.70	6/10/2015	38.77			61.93
	36.835291	-107.816085	42.42	100.70	6/16/2015	38.77			61.93
	36.835291	-107.816085	42.42	100.70	6/24/2015	38.77			61.93
	36.835291	-107.816085	42.42	100.70	6/25/2015	38.77			61.93
	36.835291	-107.816085	42.42	100.70	6/30/2015	38.77			61.93
36.835291	-107.816085	42.42	100.70	12/2/2015	38.60			62.10	
MW-3	36.835061	-107.816197	42.38	98.84	5/26/2015	37.74	37.54	0.20	61.24
	36.835061	-107.816197	42.38	98.84	5/27/2015	37.72	37.52	0.20	61.26
	36.835061	-107.816197	42.38	98.84	6/1/2015	37.83	37.48	0.35	61.26
	36.835061	-107.816197	42.38	98.84	6/3/2015	37.52	37.20	0.32	61.55
	36.835061	-107.816197	42.38	98.84	6/5/2015	37.91	37.47	0.44	61.25
	36.835061	-107.816197	42.38	98.84	6/8/2015	37.80	37.45	0.35	61.29
	36.835061	-107.816197	42.38	98.84	6/10/2015	37.77	37.42	0.35	61.32
	36.835061	-107.816197	42.38	98.84	6/16/2015	38.06	37.37	0.69	61.28
	36.835061	-107.816197	42.38	98.84	6/24/2015	38.14	37.31	0.83	61.30
	36.835061	-107.816197	42.38	98.84	6/25/2015	38.05	37.36	0.69	61.29
	36.835061	-107.816197	42.38	98.84	6/30/2015	38.03	37.34	0.69	61.31
	36.835061	-107.816197	42.38	98.84	12/2/2015	39.07	36.69	2.38	61.48
MW-4	36.83552	-107.816127	42.23	100.72	5/26/2015	39.66			61.06
	36.83552	-107.816127	42.23	100.72	5/27/2015	39.22			61.50
	36.83552	-107.816127	42.23	100.72	5/28/2015	39.63			61.09
	36.83552	-107.816127	42.23	100.72	6/1/2015	38.38			62.34
	36.83552	-107.816127	42.23	100.72	6/3/2015	37.52			63.20
	36.83552	-107.816127	42.23	100.72	6/5/2015	36.62			64.10
	36.83552	-107.816127	42.23	100.72	6/8/2015	35.75			64.97
	36.83552	-107.816127	42.23	100.72	6/10/2015	35.49			65.23
	36.83552	-107.816127	42.23	100.72	6/16/2015	35.49			65.23
	36.83552	-107.816127	42.23	100.72	6/24/2015	35.44			65.28
	36.83552	-107.816127	42.23	100.72	6/25/2015	35.43			65.29
	36.83552	-107.816127	42.23	100.72	6/30/2015	35.40			65.32
36.83552	-107.816127	42.23	100.72	12/2/2015	34.92			65.80	
MW-5	36.835297	-107.816264	42.20	101.21	6/25/2015	38.87			62.34
	36.835297	-107.816264	42.20	101.21	6/30/2015	38.85			62.36
	36.835297	-107.816264	42.20	101.21	7/1/2015	38.85			62.36
	36.835297	-107.816264	42.20	101.21	12/2/2015	38.69			62.52

Relative Elevation based on Middle Flange of Florance GC J 16A Gas Well set at 100.00  
Depth to water measured from casing top of monitor well.

NM Not Measured

ft feet

TOC Top of Casing

(1) 0.72 specific gravity used for corrected groundwater elevations



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

In accordance with Rule 19.15.17.13 of the New Mexico Administrative Code (NMAC), the following information describes the general closure requirements of Below Grade Tanks (BGTs) on Williams Four Corners LLC (Williams) locations. This is Williams' standard procedure for all BGTs. Any BGTs with or without completely visible sidewalls, and that do not meet current design standards, shall be closed or retrofitted to meet current design standards prior to sale, transfer, or change of Operator.

A separate closure plan will be submitted for any BGT closure which does not conform to this plan.

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.

**General Requirements:**

1. Williams shall not commence closure of any BGT without first obtaining approval of the closure plan submitted with the permit application or registration pursuant to 19.15.17.9 NMAC.
2. Williams shall close a BGT pursuant to the closure requirements of 19.15.17.13 NMAC within the time periods provided in Subsection A of 19.15.17.13 NMAC. This will include:
  - Within 60 days of closure completion: for all permitted BGTs; or
  - Immediately: If Williams discovers that any BGT does not demonstrate integrity, it shall be promptly drained, removed from service and closed.
  - Within 48 hours of discovery of any leak: If Williams discovers that the BGT develops a leak, or develops any of the conditions identified in Paragraph (5) of Subsection A of 19.15.17.12 NMAC. Williams shall remove all liquid above the damage or leak within 48 hours of discovery, notify the appropriate NMOCD office pursuant to 19.15.29 NMAC and repair the damage or replace the BGT as applicable.
  - An earlier date that the NMOCD requires because of imminent danger to fresh water, public health or the environment.
  - A single walled BGT constructed and installed prior to June 16, 2008 that has the side walls open for visual inspection and that does not meet all the requirements in Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC is not required to be equipped or retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC so long as it demonstrates integrity.

- A double walled BGT constructed and installed prior to June 16, 2008 and which does not meet all the requirements in Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC is not required to be equipped or retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC so long as it demonstrates integrity.

**Closure Notice**

- Williams shall notify the surface owner by certified mail, return receipt requested that the operator plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. 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 will be provided with the closure report to demonstrate compliance with this requirement.
- Williams shall notify the appropriate NMOCD 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.
- If, state, federal or tribal lands are involved, Williams will notify the appropriate agency or land office prior to BGT closure, as applicable.

**Closure Methods**

- Within 60 days of cessation of operations, Williams shall remove liquids and sludge from a BGT prior to implementing a closure method and shall dispose of the liquids and sludge in a NMOCD-approved facility.
- Within six months of cessation of operations, Williams shall remove the BGT and dispose of it in a NMOCD-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate NMOCD district office approves. Waste Materials and Disposal Facilities are summarized below:

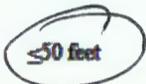
**Summary of Waste Materials and Disposal Facilities**

<b>Waste Materials</b>	<b>Disposal Facility</b>
Steel Tank	San Juan County Landfill (NMED Registration Number 241102) or Steel Recycling
Fiberglass Tank	San Juan County or Bondad Landfill (V-SU=0047-07.00) * or Re-use
Liner (cleaned – absent soil / sludge)	San Juan County or Bondad Landfill
Sludge	Envirotech (Permit #NM-01-011), IEI (NM01-0010B), or TNT landfarms (Permit # NM-01-008), or Bondad Landfill
Liquids (Water / Hydrocarbons)	Basin Disposal (Permit #NM-01-005), Key Energy, TNT landfarm
Contaminated Soil	Envirotech, IEI, or TNT landfarms, or Bondad Landfill
Fencing / Miscellaneous	Re-use or scrap

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

- If there is any equipment associated with a BGT, then Williams shall remove the

- equipment, unless the equipment is required for some other purpose.
9. Williams shall visually inspect the area beneath the BGT and document any areas that are wet, discolored or showing other evidence of a release on form C-141.
  10. Williams shall collect, at a minimum, a five point, composite sample from any obvious stained or wet soils, or where other evidence of contamination is observed under the BGT and analyze for the constituents listed in Table I of 19.15.17.13 NMAC (below).
  11. If any contaminant concentration is higher than the parameters listed in Table I of 19.15.17.13 NMAC, the NMOCDC may require additional delineation upon review of the results and Williams must receive approval before proceeding with closure.
  12. If there is no wet or discolored soil or if the concentration of contaminants in the wet or discolored soil is less than the standard set forth in Table I of 19.15.17.13 NMAC, then Williams shall proceed with the closure requirements of 19.15.17.13 NMAC.

<b>Table I Closure Criteria for Soils Beneath Below-Grade Tanks, Drying Pads Associated with Closed-Loop Systems and Pits where Contents are Removed</b>			
Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
 <50 feet	Chloride	EPA 300.0	600 mg/kg
	TPH	EPA SW-846 Method 418.1	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
51 feet-100 feet	Chloride	EPA 300.0	10,000 mg/kg
	TPH	EPA SW-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
> 100 feet	Chloride	EPA 300.0	20,000 mg/kg
	TPH	EPA SW-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

\*Or other test methods approved by the division

\*\*Numerical limits or natural background level, whichever is greater

## **Site Reclamation**

13. All areas disturbed by the closure of BGTs, except areas reasonably needed for production operations or for subsequent drilling operations, shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.
14. Topsoils and subsoils shall 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. The disturbed area then shall be reseeded in the first favorable growing season following closure of a BGT.
15. Reclamation of all disturbed areas no longer in use shall 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.
16. The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies on lands managed by those agencies shall supersede NMOCD provisions and govern the obligations of any operator subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.
17. Williams shall notify the NMOCD when reclamation and re-vegetation are complete.

## **Closure Report**

18. Within 60 days of BGT closure completion, Williams shall submit a closure report on form C-144, with necessary attachments to document all closure activities including
  - Proof of closure notice
  - Sampling results;
  - Information required by 19.15.17 NMAC;
  - Details on back-filling, capping and covering, where applicable;
  - Re-vegetation application rates and seeding techniques; and
  - Photo documentation of the site reclamation.
19. In the closure report, Williams shall certify that all information in the report and attachments is correct and that Williams has complied with all applicable closure requirements and conditions specified in the approved closure plan.