

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.

BGT B

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

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

DENIED

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: BP AMERICA PROD. CO. OGRID #: 778
Address: 1199 Main Ave., Suite 101, Durango, CO 81301
Facility or well name: FLORANCE Z 040A
API Number: 3004522145 OCD Permit Number: _____
U/L or Qtr/Qtr I Section 21.0 Township 30.0N Range 08W County: San Juan County
Center of Proposed Design: Latitude 36.793870 Longitude -107.675994 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 _____

**Denied, BGT does not meet minimum Design Requirements per 19.15.17.11 NMAC
No liner Information/Design plan dosnt specifiy**

3.
 Below-grade tank: Subsection I of 19.15.17.11 NMAC **TANK ID: B**
Volume: 105.0 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 SINGLE WALLED SINGLE BOTTOMED
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 _____

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.

<u>General siting</u>	
<u>Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.</u> - <input checked="" type="checkbox"/> NM Office of the State Engineer - iWATERS database search; <input type="checkbox"/> USGS; <input type="checkbox"/> Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
<u>Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.</u> NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. (Does not apply to below grade tanks) - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No
<u>Below Grade Tanks</u>	
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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<u>Temporary Pit using Low Chloride Drilling Fluid</u> (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	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> 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 H₂S, 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <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). - 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. - 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. - 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. 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	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> 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): Steve Moskal Steven Moskal Title: Environmental Coordinator

Signature:  2020.03.30 15:10:08 Date: 3/30/2020
 -06'00'

e-mail address: steven.moskal@bpx.com Telephone: (505) 330-9174

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

OCD Representative Signature: DENIED **Approval Date:** _____

Title: _____ **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: _____

SITING AND HYDRO-GEOLOGICAL REPORT FLORANCE Z 040A

SITING CRITERIA 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be 32 feet (ft.) below ground surface (bgs). This estimation is based on data deciphered from data obtained from the New Mexico State Engineer's Office (NMOSE) as well as the New Mexico Oil Conservation Division. Stone and others (1983), local topography, and proximity to adjacent water features were also reviewed.

There are no water wells permitted by the NMOSE within 200 ft. from the below-grade tank (BGT) (Figure 1). A topographic map (Figure 2) demonstrates that the BGT is not within 100 feet of any continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland, or playa lake as measured from the ordinary high water mark.

LOCAL GEOLOGY AND HYDROLOGY

This particular site is located on a slope south of the San Juan River within a first order drainage of Gobernador Canyon. The site is hundreds of feet higher in elevation than the San Juan River. The mesa is composed of the Nacimiento Formation. Broad shaley hills are interspersed with occasional sandstone outcrops, and systems of canyons and drainages lead north to the San Juan River, which is approximately 1 mile away, but hundreds of feet lower in elevation.

Groundwater at the site is estimated at 32 ft. bgs. This estimation is based on Google Earth's aerial photography (Imagery date: 4/6/2019) elevation difference between the site's ground level (5,780 ft.) and test/monitor wells (attached) water elevation of 5,748 ft. SJ03841 POD3 is located approximately at 36.794472,-107.684699, or approximately 0.5 miles, N85W from the BGT (see Figure 3A & 3B).

REGIONAL GEOLOGY AND HYDROLOGY

The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, the only permanent stream in the Navajo Section of the Colorado Plateau. The San Juan River is a tributary of the Colorado River. Major tributaries include the Animas, Chaco and La Plata Rivers. Flow of the San Juan River across the basin is regulated by the Navajo Dam, located about 30 miles northeast of Farmington, New Mexico. The climate is arid to semiarid with an average annual precipitation of 8 to 10 inches. Soils within the basin consist of weathered parent rock derived from predominantly physical means mostly from eolian depositional system with fluvial having a lesser impact.

Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial deposits, serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). The Nacimiento Formation of Paleocene age occurs at the surface in a broad belt at the western and southern edges of the central San Juan Basin and dips beneath the San Jose Formation in the center. The lower part of the Nacimiento Formation is composed of interbedded black, carbonaceous mudstones and white coarse-grained sandstones. The upper part is comprised of mudstone and sandstone. It is generally slope-forming, even within the sandstone units. Thickness of the Nacimiento ranges from 418 to 2,232 feet. Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1,000 feet deep in this section of the basin. Wells within these bodies flow from 16 to 100 gallons per minute (gpm), and transmissivities are expected to be 100 ft²/d (Stone et al, 1983). Groundwater within these aquifers flows toward the San Juan River.

REFERENCES

Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

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



New Mexico Office of the State Engineer Wells with Well Log Information

(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	Source	q	q	q	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number	
SJ 03841 POD10		SJ	SJ	Shallow	6	4	16	4	3	34	30N	11W	261236	7	07/18/2013	07/19/2013	08/08/2013	42	30	WD1210 MATTHEW CAIN, NATIONAL EWP INC.	

Record Count: 1

Basin/County Search:

Basin: San Juan **County:** San Juan **Subbasin:** San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 261234.65 **Northing (Y):** 4075347 **Radius:** 60.96

SJ03841 POD10
 Apparent Incorrect coordinates. Actually associated with Hilcorp's Howell K 001 well site
(see Figure 3B)

(K) Section 21, T30N, R08W
 API #: 3004509313
 GL Elev.: 5,778 ft.
 Google Earth GPS Coord.: 36.794472,-107.684699
 UTM Coord.: 260459.66 Easting; 4075435.61 Northing; Zone: 13S

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.



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)		
		(quarters are smallest to largest)		(NAD83 UTM in meters)
Well Tag	POD Number	Q64 Q16 Q4	Sec Tws Rng	X Y
	SJ 03841 POD10		3 34 30N 11W	261236 4075354

Driller License:		Driller Company:		
Driller Name: WD1210 MATTHEW CAIN, NATIONAL EWP INC.				
Drill Start Date: 07/18/2013	Drill Finish Date: 07/19/2013	Plug Date:		
Log File Date: 08/08/2013	PCW Rcv Date:	Source: Shallow		
Pump Type:	Pipe Discharge Size:	Estimated Yield: 0 GPM		
Casing Size: 2.00	Depth Well: 42 feet	Depth Water: 30 feet		

Water Bearing Stratifications:	Top	Bottom	Description
	0	42	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	22	42

SJ03841 POD10

Apparent Incorrect coordinates. Actually associated with Hilcorp's Howell K 001 well site

(see Figure 3B)

(K) Section 21, T30N, R08W
 API #: 3004509313
 GL Elev.: 5,778 ft.
 Google Earth GPS Coord.: 36.794472,-107.684699
 UTM Coord.: 260459.66 Easting; 4075435.61 Northing; Zone: 13S



New Mexico Office of the State Engineer Active & Inactive Points of Diversion (with Well Drill Dates & Depths)

(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)
C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	County	POD Number	Well Tag	Code Grant	Source	q q q			X	Y	Start Date	Finish Date	(in feet)	
									64	16	4					Sec	Tws
SJ 03841	SJ	MON	0	SJ	SJ 03841 POD1			Shallow				260421	4075469	08/14/2008	08/14/2008	36	26
				SJ	SJ 03841 POD10			Shallow				261236	4075354	07/18/2013	07/19/2013	42	30
				SJ	SJ 03841 POD11							260410	4075458				
				SJ	SJ 03841 POD12							260069	4063319				
				SJ	SJ 03841 POD2			Shallow				260420	4075438	08/13/2008	08/13/2008	40	30
				SJ	SJ 03841 POD3			Shallow				260507	4075425	08/13/2008	08/13/2008	40	30
				SJ	SJ 03841 POD4			Shallow				224479	4076948	08/12/2008	08/12/2008	32	21
				SJ	SJ 03841 POD5			Shallow				224502	4076947			40	25
				SJ	SJ 03841 POD6			Shallow				224458	4077024	08/12/2008	08/12/2008	30	21
				SJ	SJ 03841 POD7			Shallow				252890	4083245	08/15/2008	08/15/2008	60	55
				SJ	SJ 03841 POD8			Shallow				252905	4083219	08/15/2008	08/15/2008	58	50
				SJ	SJ 03841 POD9			Shallow				252800	4083193	08/15/2008	08/15/2008	65	40

Record Count: 12

POD Search:

POD Number: SJ 03841

Sorted by: File Number

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.



New Mexico Office of the State Engineer

Wells Without Well Log Information

No wells found.

Basin/County Search:

Basin: San Juan

County: San Juan

Subbasin: San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 261234.65

Northing (Y): 4075347

Radius: 60.96



New Mexico Office of the State Engineer
Point of Diversion with Meter Attached

No PODs found.

Basin/County Search:

Basin: San Juan

County: San Juan

Subbasin: San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 261234.65

Northing (Y): 4075347

Radius: 60.96

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.

FIGURE 1

BPX - FLORANCE Z 40A

(I) Section 21, T30N, R8W
API #: 3004522145

Imagery date: 4/6/2019
WH GPS Coord.: 36.794056,-107.675689
105 BGT GPS Coord.: 36.793870,-107.675994

200 ft. radius
from 105 bbl bgt center

WH

105 bbl BGT
GPS Coordinates:
36.793870,-107.675994
Ground Level Elevation: 5,780 ft.

Groundwater & Water Well Proximity
per 19.15.17.10 NMAC



100 ft

Google Earth

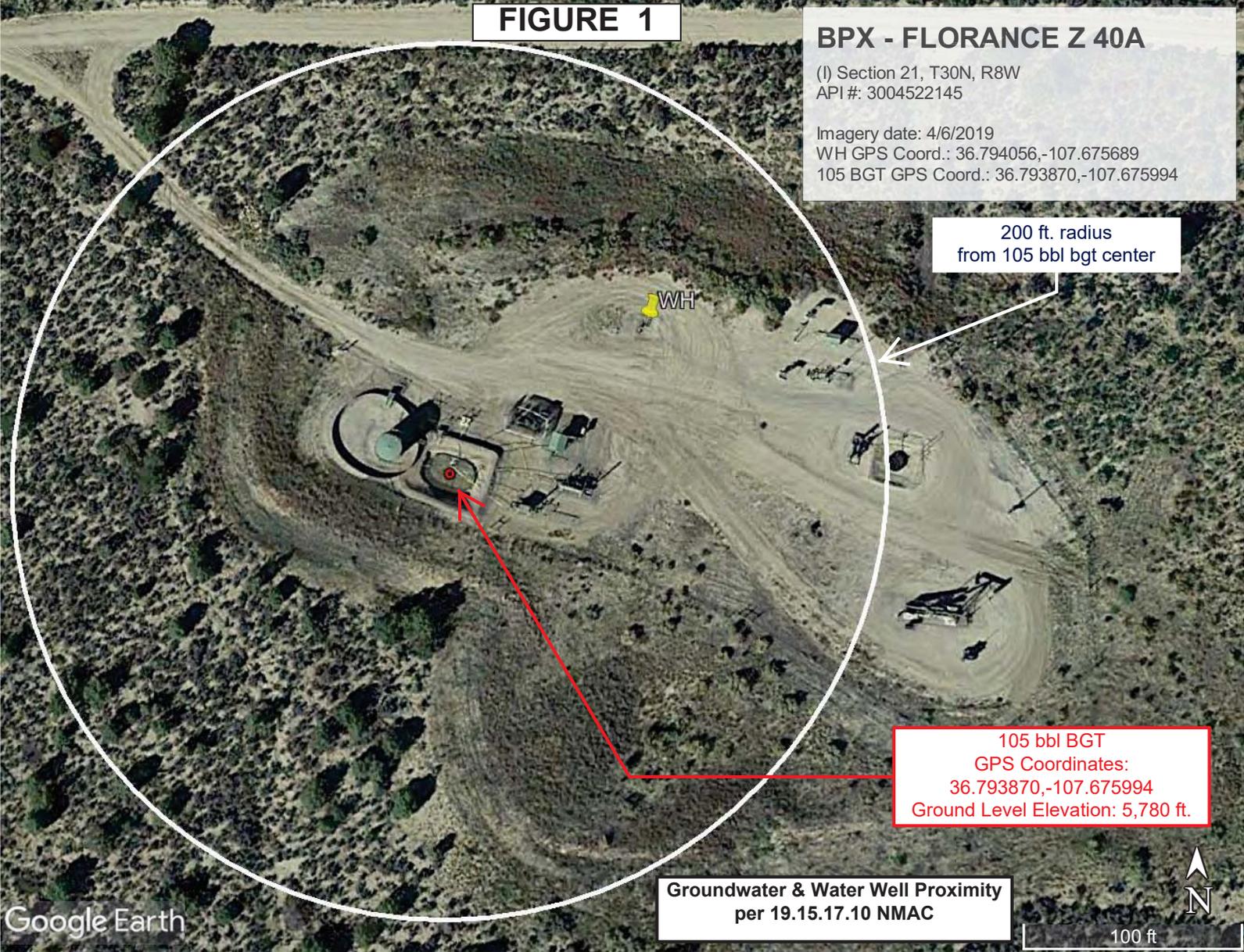
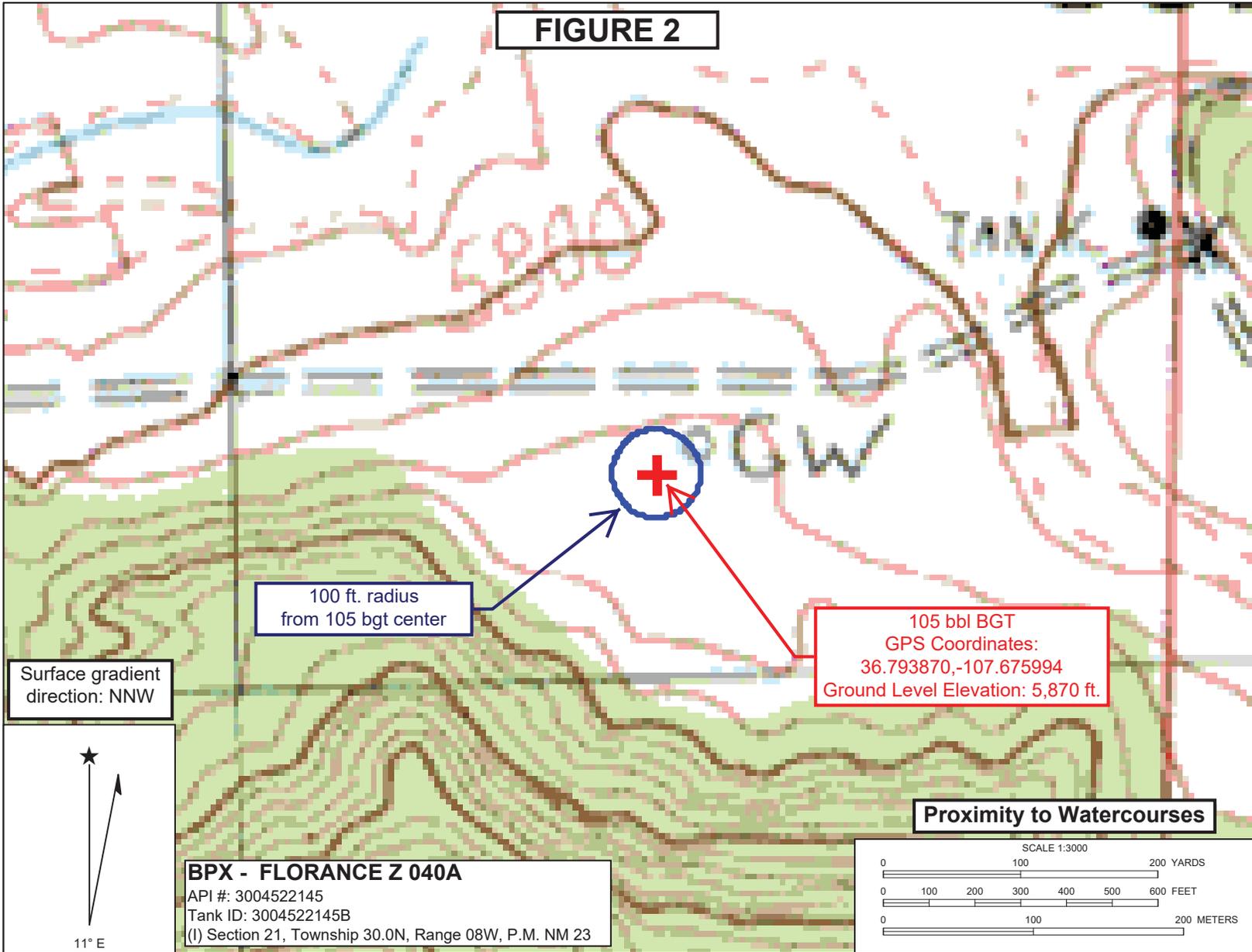
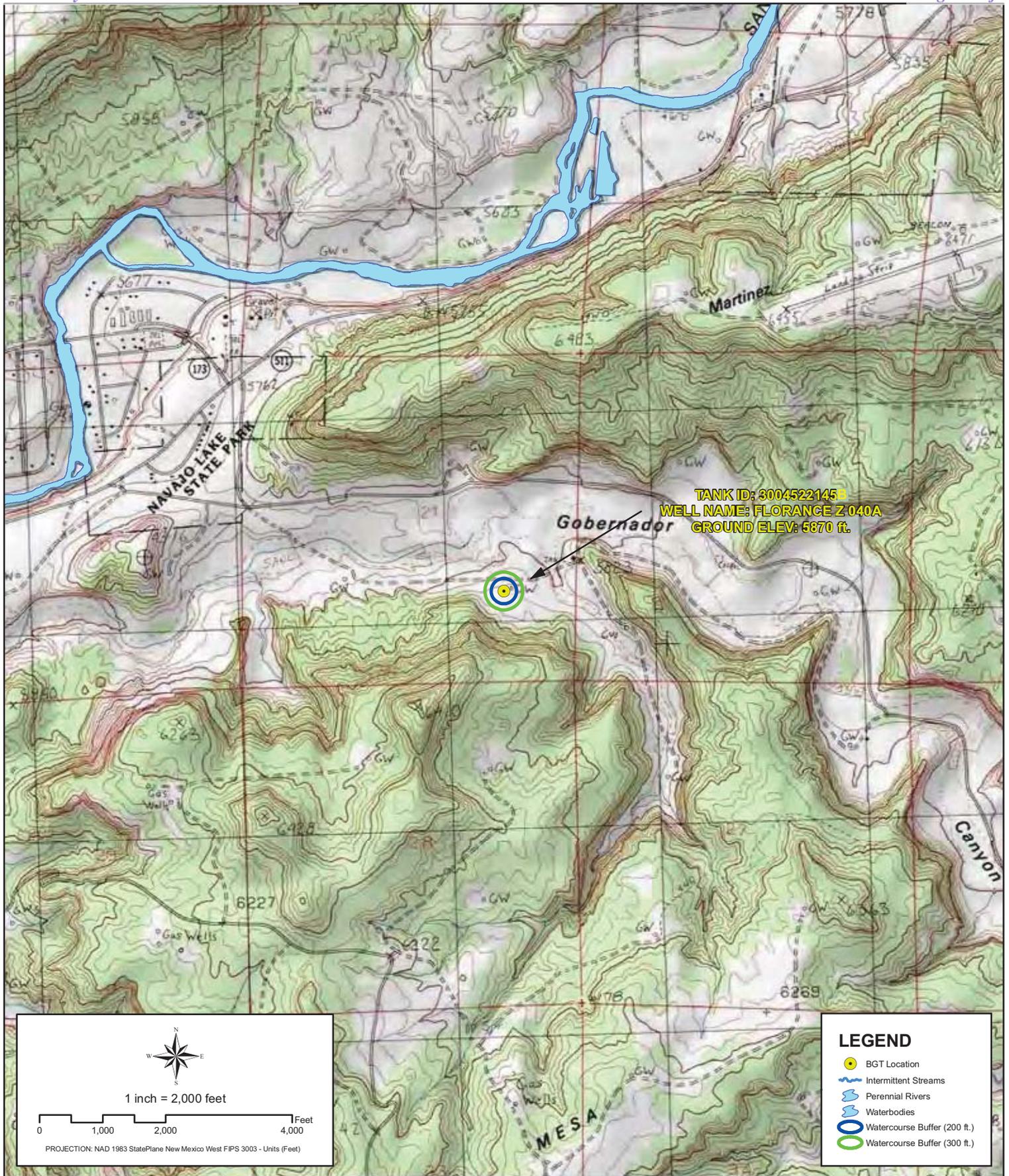


FIGURE 2





Creation Date: 4/29/2010

Created by: EBB

File Path: X:\BP\PASS\Sector_6\Sector_6B\MXDs\3004522145A.mxd

Reviewed by: AGH



PROXIMITY TO WATERCOURSES

WELL NAME: FLORANCE Z 040A

API NUMBER: 3004522145 TANK ID: 3004522145B

SECTION 21, TOWNSHIP 30.0N, RANGE 08W, P.M. NM23

FIGURE 2A

LEGEND

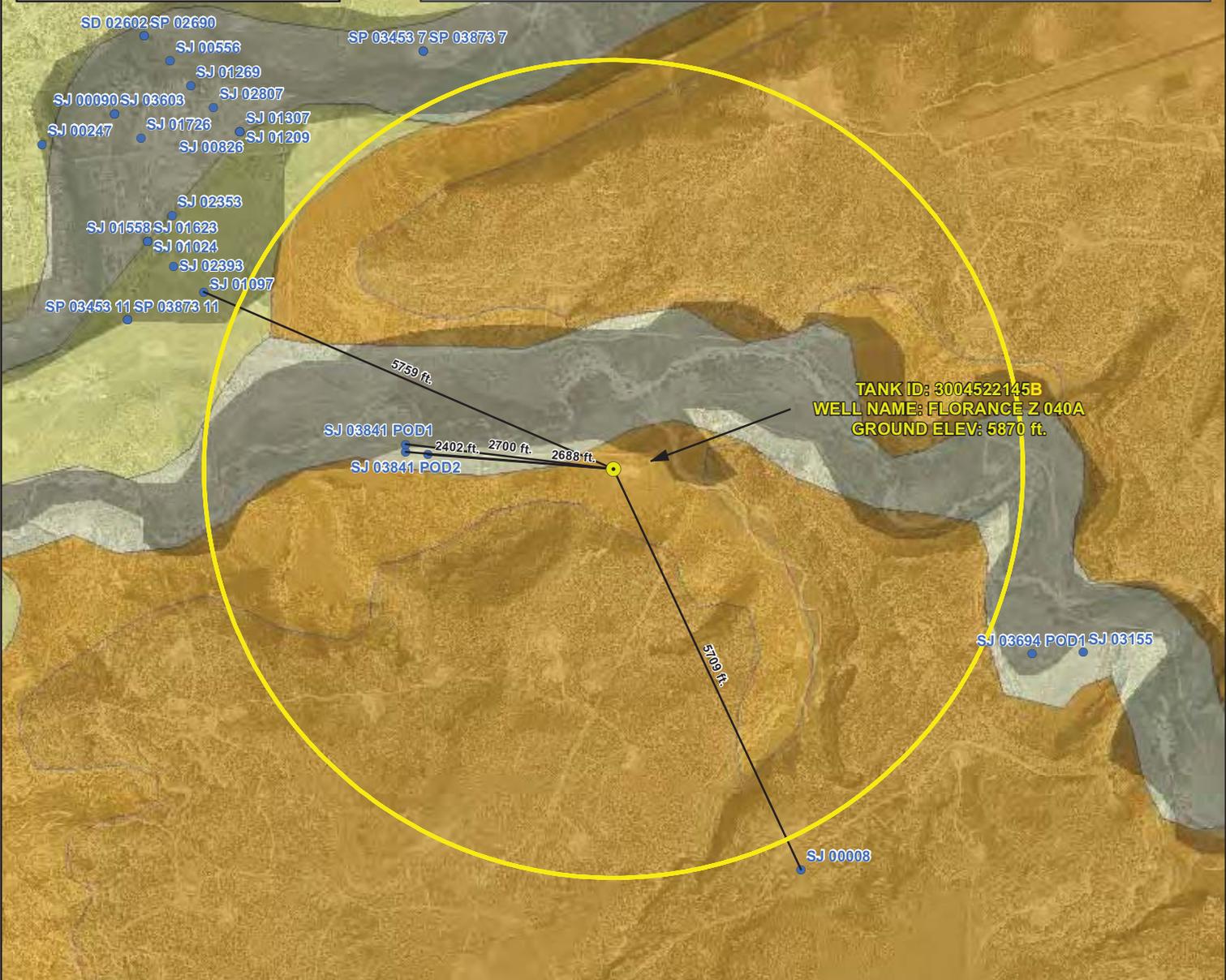
- BGT Location
- Water Well Location
- Distance to BGT (Line of Sight)
- 1 Mile Buffer

Groundwater Evaluation (Alluvial Geology)

- Groundwater Likely Less Than 50 Feet BGS
- Groundwater Suspected to be Less Than 50 Feet BGS

Surficial Geology Units

<ul style="list-style-type: none"> Ka - Animas formation Kch - Cliff House sandstone Kf - Fruitland formation Kkl - Kirtland shale, lower shale member Kkm - Kirtland shale, Farmington sandstone member Kku - Kirtland shale, upper shale member Kl - Lewis shale Kmf - Menefee formation Koa - Ojo Alamo sandstone 	<ul style="list-style-type: none"> Kpc - Pictured Cliffs sandstone Kpl - Point Lookout sandstone Lake Qa - Alluvium Qal - Alluvium Qap - Pediment gravel Qat - Terrace gravel Qes - Eolian sand 	<ul style="list-style-type: none"> Qg - Terrace gravel Qgs - Gravelly sand Qsw - Sheetwash alluvium Tbg - Bridgetimber Gravel Ti - Intrusive rocks Tn - Nacimiento formation Tsc - Cuba Mesa Member Tsj - San Jose Formation Tsr - Regina Member
--	---	--



1 inch = 2,000 feet

PROJECTION: NAD 1983 StatePlane New Mexico West FIPS 3003 - Units (Feet)

POD Number	Well Depth	Water Depth	Elevation
SJ 00008	535	0	6168
SJ 03841 POD3	40	30	5779
SJ 03841 POD2	40	30	5770
SJ 03841 POD1	36	26	5763
SJ 01097	40	27	5754

Creation Date: 4/29/2010 Created by: EBB
 File Path: X:\BP\PASS\Sector_6\Sector_6B\MXDs\3004522145A.mxd Reviewed by: AGH



GROUNDWATER LESS THAN 50 FT.

WELL NAME: FLORANCE Z 040A

API NUMBER: 3004522145 TANK ID: 3004522145B

SECTION 21, TOWNSHIP 30.0N, RANGE 08W, P.M. NM23

FIGURE 3

FIGURE 3A

BPX - FLORANCE Z 40A

(I) Section 21, T30N, R8W
API #: 3004522145

Imagery date: 4/6/2019
WH GPS Coord.: 36.794056,-107.675689
105 BGT GPS Coord.: 36.793870,-107.675994

Approximately 0.50 miles
N85W from 105 BGT

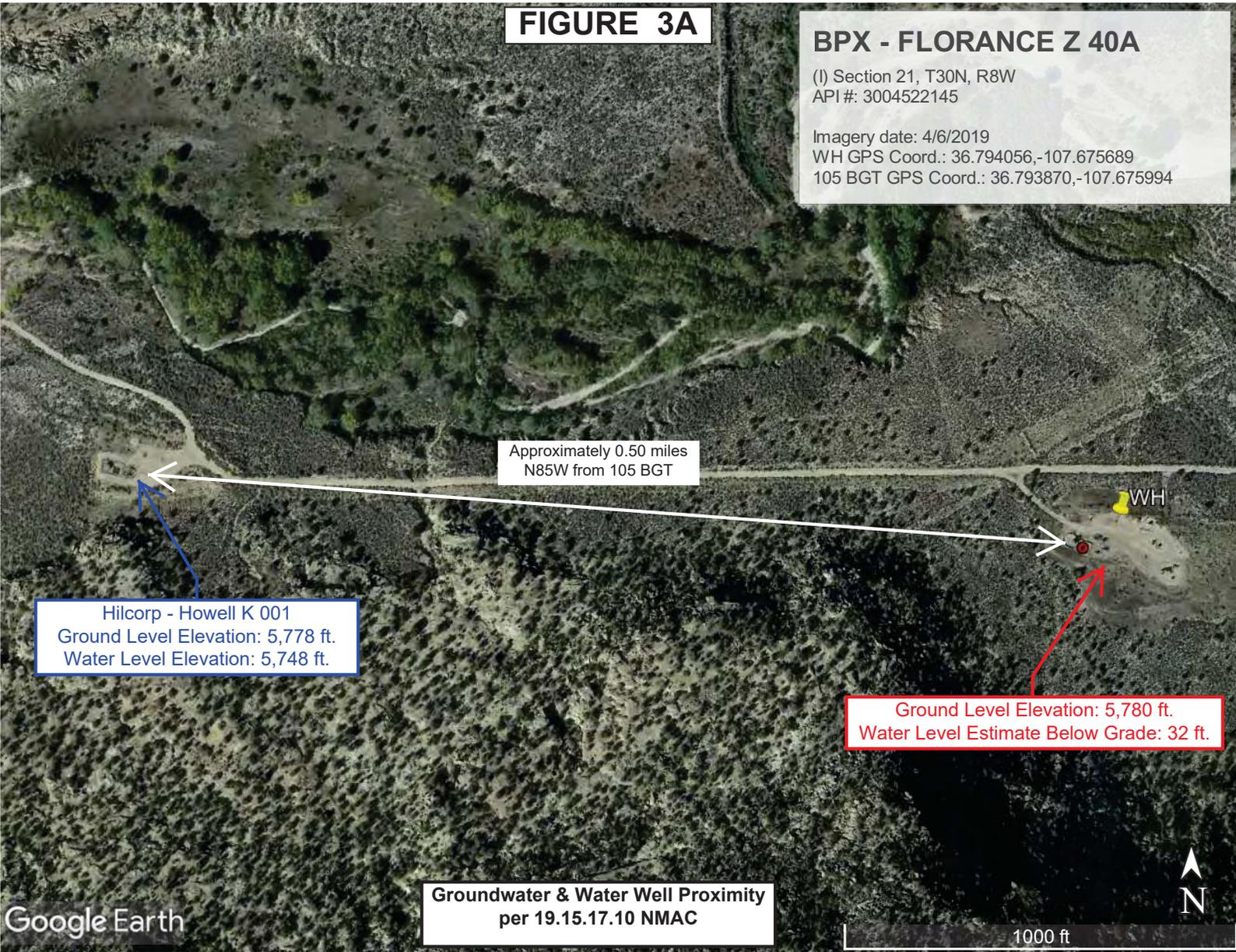
Hilcorp - Howell K 001
Ground Level Elevation: 5,778 ft.
Water Level Elevation: 5,748 ft.

Ground Level Elevation: 5,780 ft.
Water Level Estimate Below Grade: 32 ft.

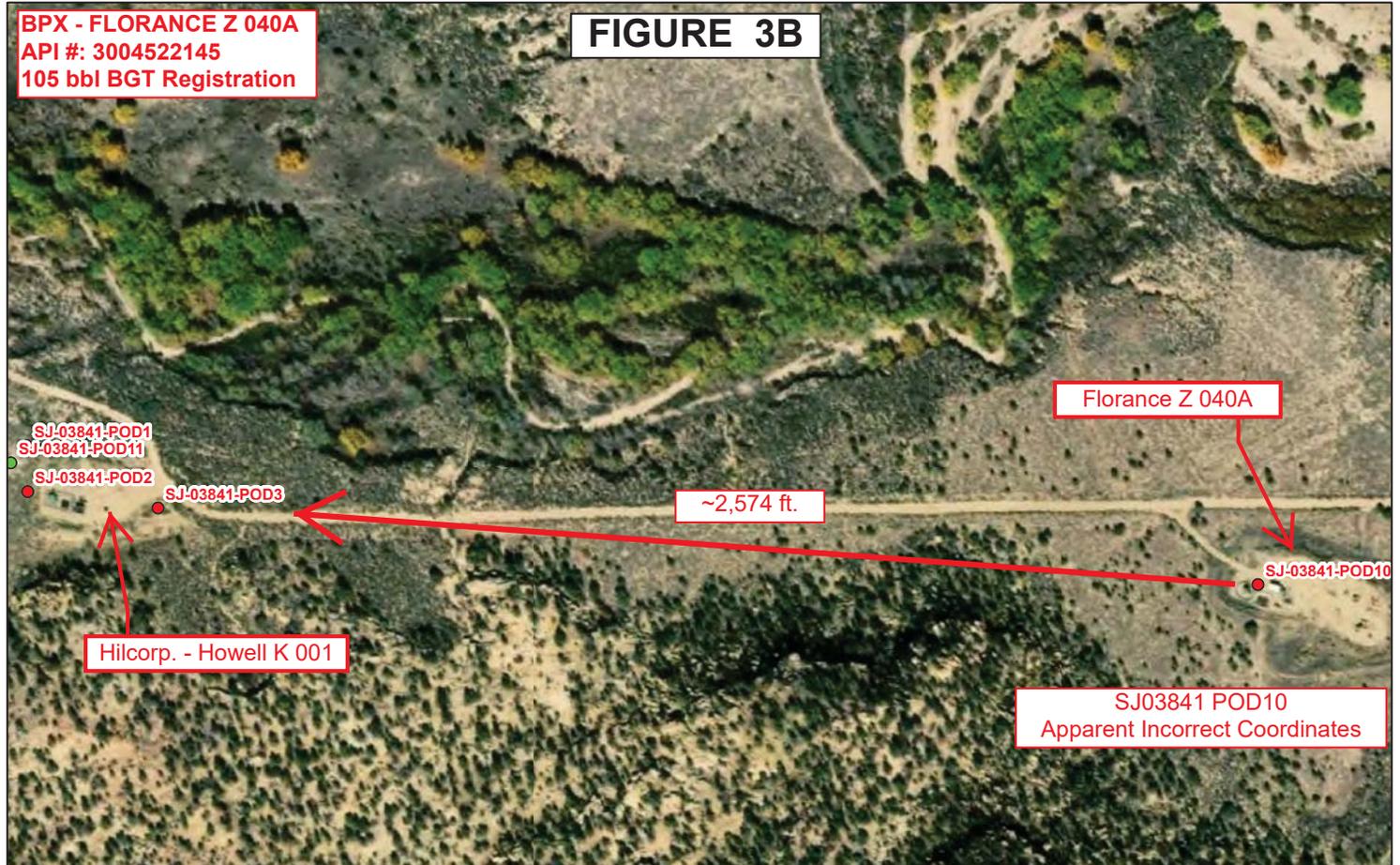
Groundwater & Water Well Proximity
per 19.15.17.10 NMAC

Google Earth

1000 ft

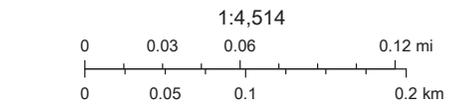


OSE PUBLIC PRINT

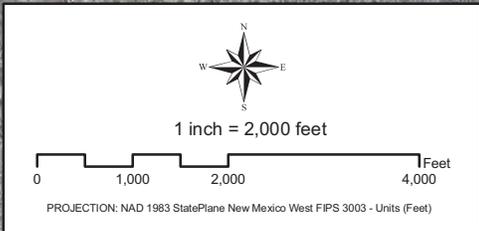
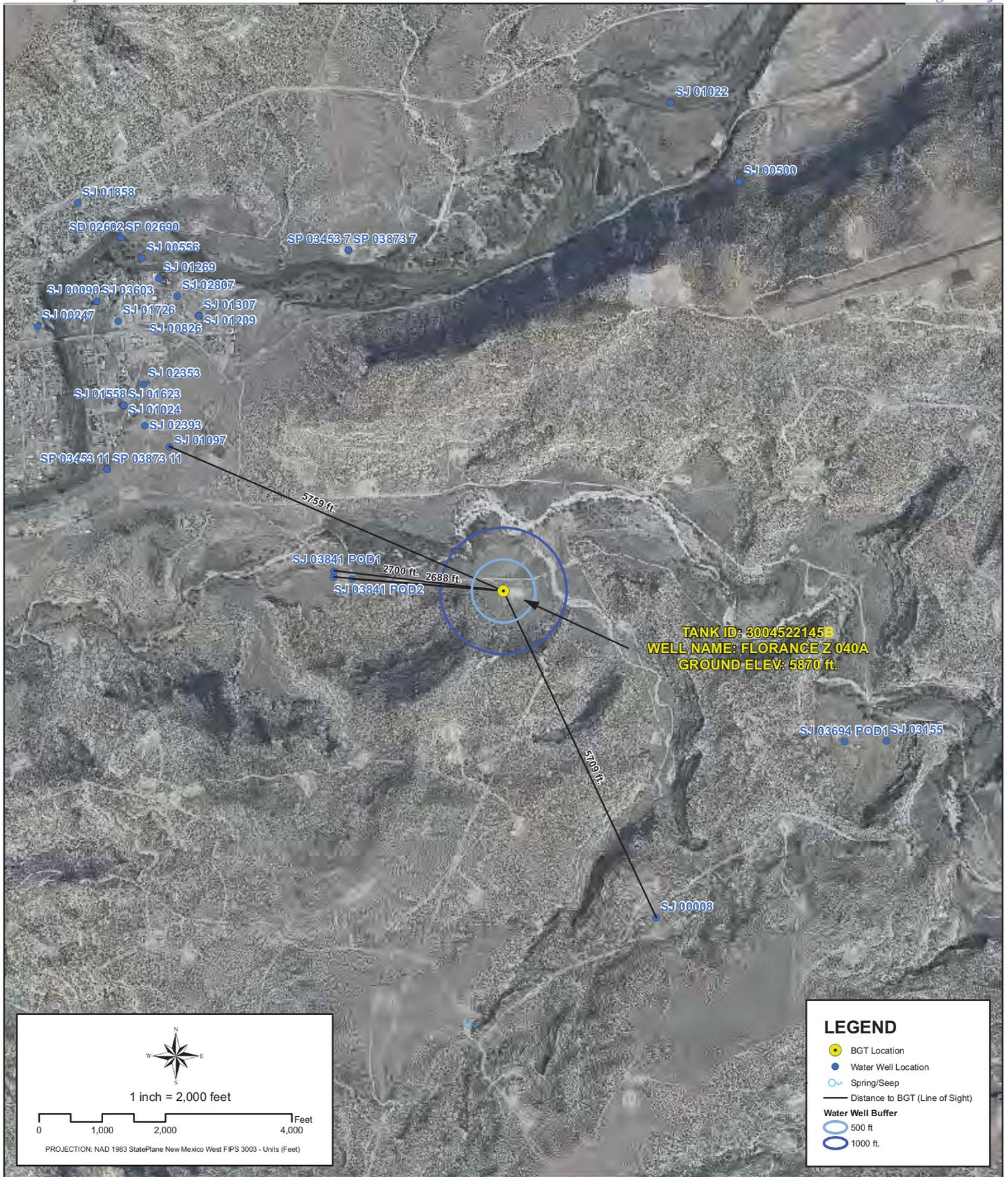


2/18/2020, 7:43:43 AM

- OSE District Boundary
- GIS WATERS PODs**
- Pending
- Plugged



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin,
Printed from Public Web Map
Unofficial Map from OSE POD Locations Web Application



Creation Date: 4/29/2010

Created by: EBB

File Path: X:\BP\PASS\Sector 6\Sector 6\BIMXD\3004522145A.mxd

Reviewed by: AGH



PROXIMITY TO WATER WELLS

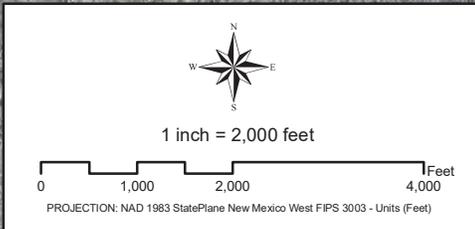
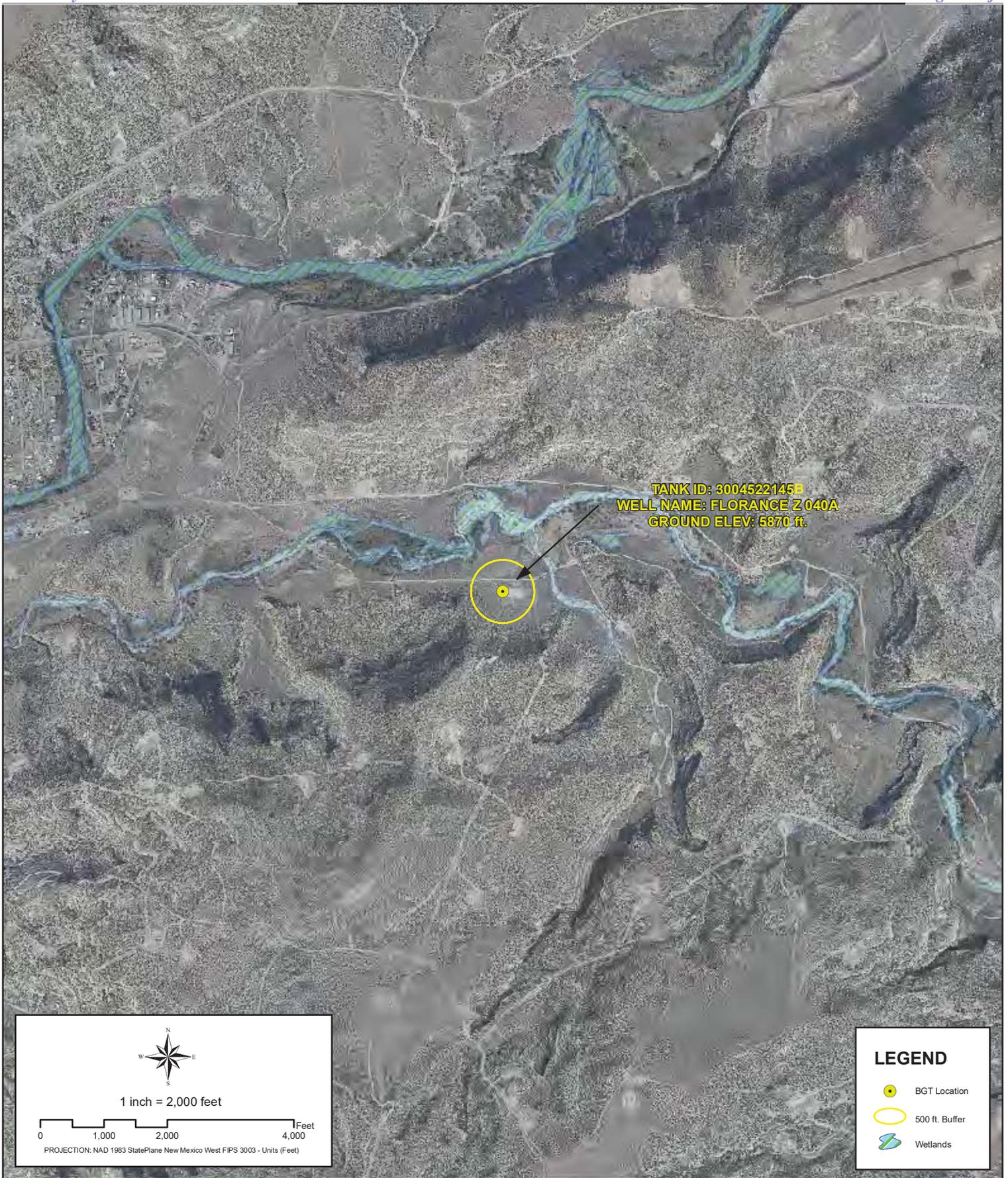
WELL NAME: FLORANCE Z 040A

API NUMBER: 3004522145 TANK ID: 3004522145B

SECTION 21, TOWNSHIP 30.0N, RANGE 08W, P.M. NM23

FIGURE

4



Creation Date: 4/29/2010

Created by: EBB

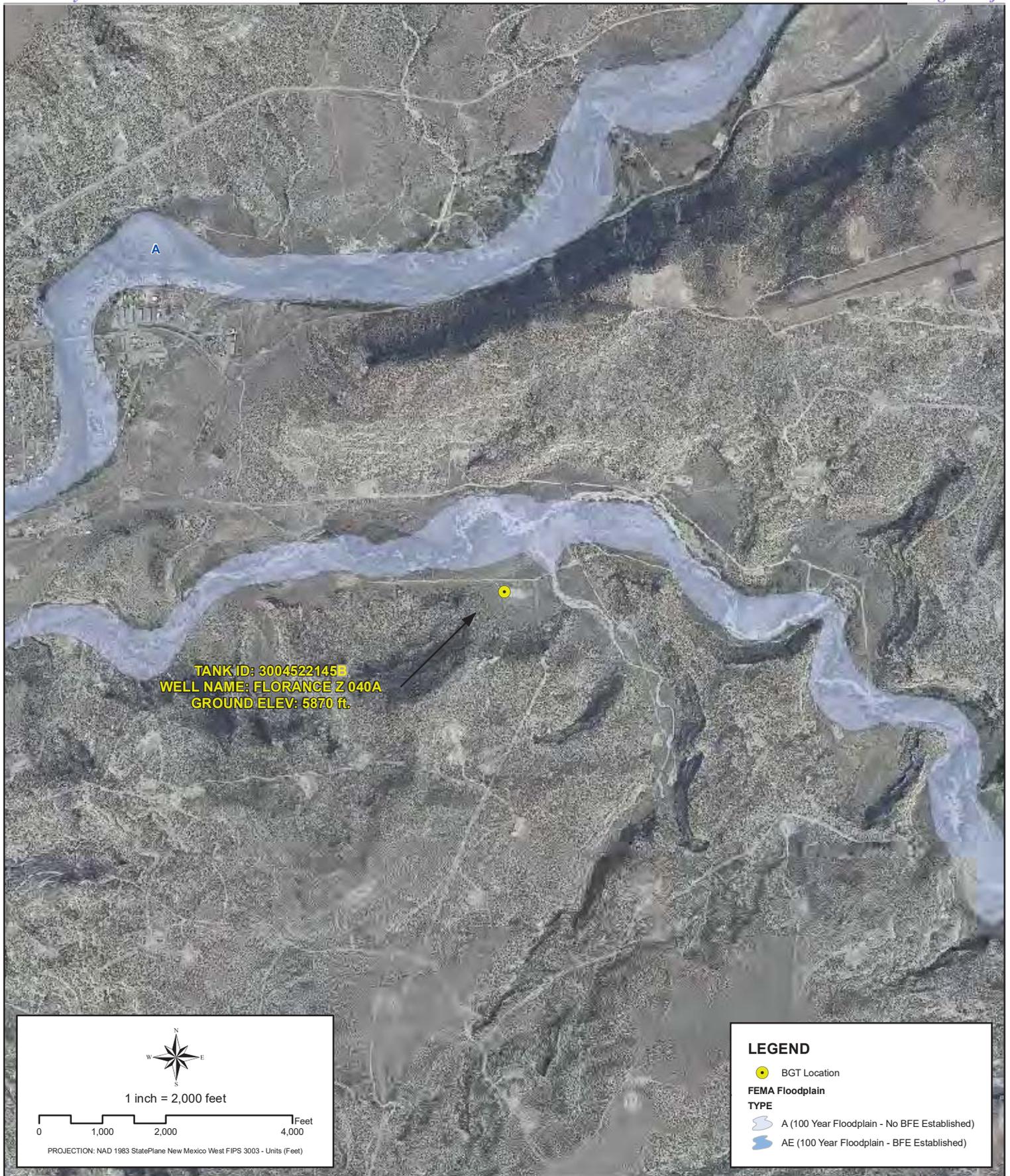
File Path: X:\BP\PASS\Sector_6\Sector_6BIMXD\3004522145A.mxd

Reviewed by: AGH



PROXIMITY TO WETLANDS
WELL NAME: FLORANCE Z 040A
 API NUMBER: 3004522145 TANK ID: 3004522145B
 SECTION 21, TOWNSHIP 30.0N, RANGE 08W, P.M. NM23

FIGURE
5



File Path: X:\BP\PASS\Sector_6\Sector_6B\MXDs\3004522117A.mxd



PROXIMITY TO FLOODPLAIN

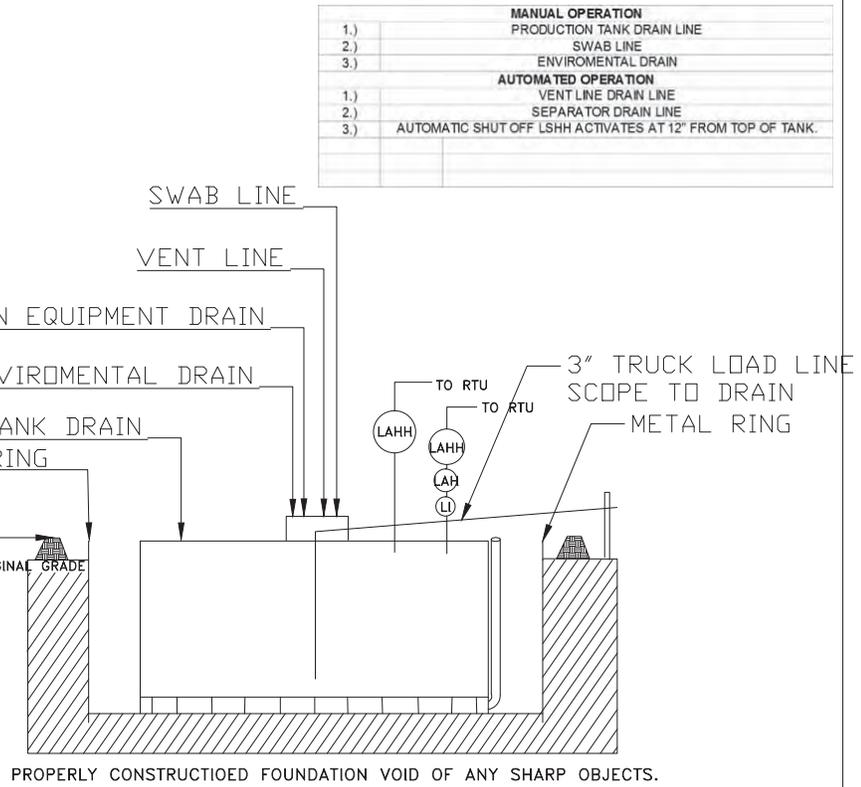
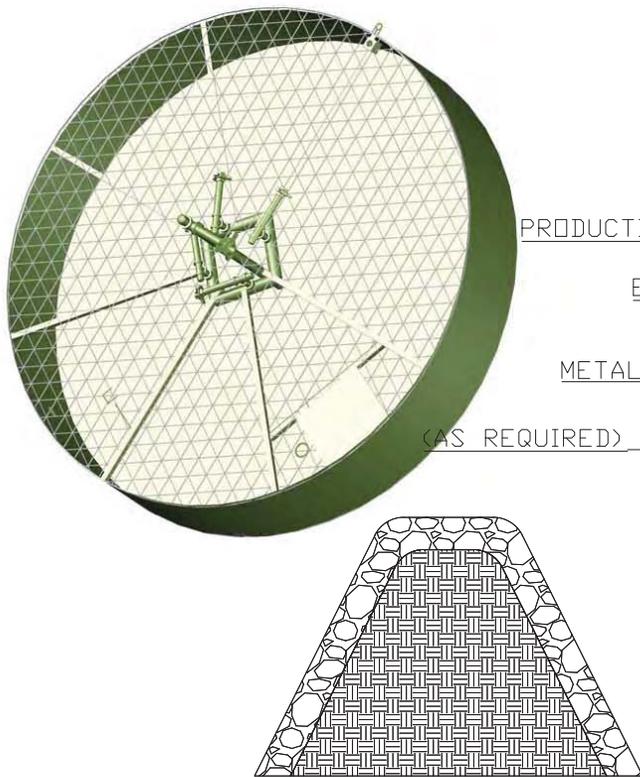
WELL NAME: FLORANCE Z 040A

API NUMBER: 3004522145 TANK ID: 3004522145B

SECTION 21, TOWNSHIP 30.0N, RANGE 08W, P.M. NM23

FIGURE 6

SINGLE WALLED BGT



MANUAL OPERATION	
1.)	PRODUCTION TANK DRAIN LINE
2.)	SWAB LINE
3.)	ENVIROMENTAL DRAIN
AUTOMATED OPERATION	
1.)	VENT LINE DRAIN LINE
2.)	SEPARATOR DRAIN LINE
3.)	AUTOMATIC SHUT OFF LSHH ACTIVATES AT 12" FROM TOP OF TANK.

PROPERLY CONSTRUCTIOED FOUNDATION VOID OF ANY SHARP OBJECTS.

SAN JUAN OPERATIONS CENTER FARMINGTON, NEW MEXICO BP AMERICA PRODUCTION COMPANY	
FACILITIES LAYOUT STAND ALONE PIT	
Date Issued: _____ Drawn By: _____ Title: _____	Checked By: _____ Date: _____ Title: _____
Filename: P116886-02-0117-01-01.dwg	

BP AMERICA PRODUCTION COMPANY
SAN JUAN BASIN, NORTHWEST NEW MEXICO
BELOW-GRADE TANK OPERATING AND MAINTENANCE PLAN

Pursuant to Rule 19.15.17.12 NMAC, BP America Production Company (BP) shall maintain and operate a below-grade tank (BGT) by following the plan shown below. Deviations from this plan will be addressed with a submittal to the New Mexico Oil Conservation Division (NMOCD) using form C-144 at the time of the BGT registration or modification to an existing BGT registration.

Operating and Maintenance Plan

1. BP's BGTs will be operated to contain liquids and solids. BP will maintain the integrity of the BGT and secondary containment system as to prevent impacts to fresh water and to protect public health and the environment. BP will use automated high fluid level alarms and automated shut-off valves to insure that liquids are contained within the vessel and that the vessel does not overflow. These alarms and shut-off valves will be consistent with those demonstrated in the design plan.
2. BP will not knowingly discharge to or store any hazardous waste in a BGT.
3. If a BGT develops a leak below the liquid surface, BP shall remove all liquid above the damage or leak within 48 hours of discovery, notify the appropriate division office pursuant to 19.15.29 NMAC and repair the damage or replace the BGT as applicable.
4. BP will adhere to Subsection D of 19.15.17.12 NMAC. The requirements are as follows;
 - a. BP shall not allow a below-grade tank to overflow or allow surface water run-on to enter the BGT.
 - b. BP shall remove any measurable layer of oil from the fluid surface of a BGT.
 - c. BP shall inspect the BGT for leakage and damage at least monthly and will document the integrity of each tank at least annually and maintain a written record of the integrity for five years.
 - d. BP shall maintain adequate freeboard to prevent overtopping of the below-grade tank.
 - e. If BP discovers that the BGT tank does not demonstrate integrity or that the BGT develops any of the conditions identified in Paragraph (5) of Subsection A of 19.15.17.12 NMAC, BP shall repair the damage or close the existing BGT pursuant to the closure requirements of 19.15.17.13 NMAC.
 - f. If any of BP's BGTs are equipped or retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, then BP shall visually inspect the area beneath the BGT during the retrofit and document any areas that are wet, discolored or showing other evidence of a release on form C-141. BP will attempt to measure and report to the division the concentration of contaminants in the wet or discolored soil with respect to the standards set forth in Table I of 19.15.17.13 NMAC. 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 BP shall proceed with the closure requirements of 19.15.17.13 NMAC prior to initiating the retrofit or replacement.

Managed Form NOP-5878 Revision 1

San Juan Lease Inspection

Custodian: Field Environmental Coordinator

Date: _____ Run: _____

Location: _____ Name of Inspector: _____

Yes _____ Action _____ N/A _____

Required Signs

Does location have Well Sign and emergency phone number?

Do compressor engines have Hearing Protection signs?

Hydrogen Sulfide Signs (where applicable)

Chemical containers and tanks have proper Hazcom label or BP Multi-Product Hazcom numbers?

Yes _____ Action _____ N/A _____

Location- General

Housekeeping satisfactory?

Tripping or falling hazards are absent? **If NO, identify and report to FSC.**

Rig anchors/Deadmen adequately marked and visible if they present a hazard to drivers?

Driving hazards such as risers are marked or flagged?

Painting meets safety standards?

Cattleguards/gates properly maintained?

Tarps in good repair?

Seeps, drips, or leaks are absent?

Is weed control adequate?

Stains on ground are absent? **If NO, remediate immediately, identify and report to FEC.**

Are there any open ended valves that are not plugged?

Yes _____ Action _____ N/A _____

Vessel/Tank

Adequate fencing around below grade tank?

Are the dike/berm walkover in place, used and stable?

Are dikes/berms in good condition?

Is there adequate and safe access to pit for gauging?

Does the pit have a high level alarm?

Are stairways and catwalks properly maintained and in good condition?

Toprail, midrail and toeboard in place?

Are thief hatches in good condition, seal properly, and in the closed position?

Is tank vent line equipped with a PV valve? (Enardo)

Does the tank have a high level alarm?

Are open ended load lines and pipes capped?

Is soil around load lines clean of oil stains?

Is tank area free of any evidence of seeps or leaks (including manway cover)?

Are there proper seals on sales and drain valves?

Are all suspected dump lines well supported?

Are above ground dump lines marked with t-posts and plastic covers?

Have all fiberglass drip pits been removed?

Yes _____ Action _____ N/A _____

Treaters/Separators/Compressors/Pump Jacks

If there is a block valve upstream of the relief valve, is the block valve secured in the open position?

Are relief valve discharge and blow downs piped to a safe area and secured against movement?

Has flame arrestor been inspected within the last 5 years?

Is flame port closed?

Do all lines pass through a super muffler or swirl pot to the pit/tank? If not, are all lines secured?

Is starting gas vented to a safe area, at least 10' vertically?

No excessive vibration, knocking or unusual noises anywhere on unit or piping?

Are site glasses in operating condition?

Are environmental rails piped to a pit in a dedicated line?

Do all blow downs, relief valve discharges, and risers have rain caps?

Stuffing box leaks are absent?

Are the weight guards and belt guard in place?

Are skids in good condition?

Are concrete bases / foundations in good condition?

Are concrete bases free from erosion or settlement problems?

Is secondary containment in place for day tanks?

Comments: _____

Signature of Inspector: _____

My signature assures that this location is SAFE, is in compliance with the LAW, and exhibits high standards of Pride, Ownership and Excellence.

BP AMERICA PRODUCTION COMPANY
SAN JUAN BASIN, NORTHWEST NEW MEXICO

BELOW-GRADE TANK CLOSURE PLAN

This plan will address the method, procedures, and protocols for closure of below-grade tanks (BGTs) on BP America Production Company (BP) well sites pursuant to Subsection A of 19.15.17.13 NMAC. As stipulated in Paragraph (1) of Subsection C of 19.15.17.13 NMAC, BP will not commence closure without first obtaining approval of the closure plan submitted pursuant to Paragraph (3) of Subsection B of 19.15.17.9 NMAC. If deviations from this plan are necessary, BP will request preapproval from the Division District III office of any specific changes and will be included on form C-144. BP shall close its BGTs within 60 days of cessation of the operation as required by Paragraph (4) of Subsection G of 19.15.17.13 NMAC.

General Closure Plan

1. BP shall notify the surface owner by certified mail; return receipt requested that it plans to close a BGT. Notice given will be at least 72 hours in advanced, but not more than one week prior to any closure operation. The notice shall include the well name, API number, and legal description of the location. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records demonstrates compliance with this requirement.
2. BP shall notify the Division District III 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 of the BGT to be closed by unit letter, section, township and range. If the BGT closure is associated with a particular well, then the notice shall also include the well's name, number and API number.
3. Within 60 days of cessation of operations, BP shall remove liquids and sludge from the BGT prior to implementing a closure method and dispose of the liquids and sludge in a NMOCD approved facility. The facilities to be used are:
 - a. BP Crouch Mesa Landfarm, Permit NM-02-003 (Solids)
 - b. JFJ Landfarm, Permit NM-01-010(B) (Solids and Sludge)
 - c. Basin Disposal, Permit NM-01-0005 (Liquids)
 - d. Envirotech Inc Soil Remediation Facility, Permit NM-01-0011 (Solids and Sludge)
 - e. BP Operated E.E. Elliott SWD #1, API 30-045-27799 (Liquids)
 - f. BP Operated 13 GCU SWD #1, API 30-045-28601 (Liquids)
 - g. BP Operated GCU 259 SWD, API 30-045-20006 (Liquids)
 - h. BP Operated GCU 306 SWD, API 30-045-24286 (Liquids)
 - i. BP Operated GCU 307 SWD, API 30-045-24248 (Liquids)
 - j. BP Operated GCU 328 SWD, API 30-045-24735 (Liquids)
 - k. BP Operated Pritchard SWD #1, API 30-045-28351 (Liquids)
4. BP shall remove the BGT and dispose of it in a NMOCD approved facility or recycle, reuse, or reclaim it in a manner that the Division District III office approves. Documentation as to the final disposition of the removed BGT will be provided in the final closure report.
5. Within six months of cessation of operations, BP shall remove any on-site equipment associated with a BGT unless the equipment is required for some other purpose.
6. BP shall test the soils beneath the BGT to determine whether a release has occurred. BP shall collect at a minimum: a five (5) point composite sample to include any obvious stained or wet soils, or other evidence of a release under the BGT. The composite sample shall be collected and analyzed as required for the constituents listed in Table I within Subparagraph (a) of Paragraph (3) of Subsection C of 19.15.17.13 NMAC (see Table 1 on following page).

<p align="center">Table 1 Closure Criteria for Soils Beneath Below-Grade Tanks</p>			
Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
 <p align="center"><50 feet</p>	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
<p align="center">51 feet-100 feet</p>	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
<p align="center">> 100 feet</p>	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

Notes: mg/Kg = milligram per kilogram, BTEX = benzene, toluene, ethylbenzene, and total xylenes, TPH = total petroleum hydrocarbons, TDS = total dissolved solids.
 * - Or other test methods approved by the division
 ** - Numerical limits or natural background level, whichever is greater

7. If any contaminant concentration exceeds those standards set in Table I, BP will acknowledge NMOCD’s position to require additional delineation upon review of the results. BP will not proceed with any further closure activities until approval is first granted by NMOCD.
8. If the sampling demonstrates that all contaminant constituents do not exceed the concentrations specified in Table I, then BP shall backfill the excavation, with non-waste containing, uncontaminated, earthen material.
9. BP shall reclaim the BGT location and all areas associated with the BGT including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area. BP shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover as provided in Paragraph (2) of Subsection H of 19.15.17.13 NMAC, re-contour the BGT location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate according to Paragraph (5) of Subsection H of 19.15.17.13 NMAC.
10. BP may propose an alternative to the re-vegetation or recontouring requirement if it can demonstrate to the NMOCD’s District III office that the proposed alternative provides equal or greater prevention of erosion, and protection of fresh water, public health and the environment. BP will seek surface owner approval of the proposed alternative and provide written documentation of the surface owner’s approval to NMOCD for its approval.
11. Areas reasonably needed for production operations or for subsequent drilling operations shall be compacted, covered, paved, or otherwise stabilized and maintained in such a way as to minimize dust and erosion to the extent practicable.

12. The soil cover for closures after site contouring, where the BGT has been removed and if necessary remediated beneath the BGT to chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, shall consist of the background thickness of topsoil or one foot or suitable material, whichever is greater.
13. The soil cover will be constructed to the site's existing grade and all practicable efforts will be made to prevent ponding of water and erosion of the cover material.
14. All areas disturbed by the closure of the BGT, 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.
15. 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 the BGT.
16. 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.
17. The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of BP subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.
18. Pursuant to Subparagraph (e) of Paragraph (5) of Subsection H of 19.15.17.13 NMAC, BP shall notify the NMOCD when reclamation and re-vegetation has been successfully achieved.
19. Within 60 days of closure completion, BP shall submit a closure report on NMOCD's form C-144, and will include the following;
 - a. necessary attachments to document all closure activities
 - b. sampling results
 - c. information required by 19.15.17 NMAC
 - d. details on back-filling, capping and covering, where applicable.
20. BP shall certify that all information in the report and attachments is accurate, truthful, and compliant with all applicable closure requirements and conditions specified in the approved closure plan.

SOUTHERN SAN JUAN BASIN (SSJB) Figure Citation List

Figure 2: Proximity to Significant Watercourses

Layers: Topographic Imagery: USGS (1999)

USGS 24k Topographic map series. 1:24000. Maps are seamless, scanned images of USGS paper topographic maps. Data created using Terrain Navigator, Copyright 1999, Maptech Inc.

Figure 3: Groundwater Greater Than 50 ft.

Layers: Water Wells: iWaters Database: NMOSE/ISC (Dec. 2009) New Mexico Office of the State Engineer

/ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from:

http://www.ose.state.nm.us/waters_db_index.html.

Cathodic Wells: Tierra Corrosion Control, Inc. (Aug. 2008)

Tierra Corrosion Control, Inc. 1700 Schofield Ln. Farmington, NM 87401. Driller's Data Log. (Data collected: All data are associated with cathodic protection wells installed at BP facilities between 2008-2009. Data received: 05/06/2010).

Hydrogeological Evaluation: Wright Water Engineers, Inc. (2008)

Evaluation completed by Wright Water Engineers, Inc. Durango Office. Data created using digital statewide geology at 1:500,000 from USGS in combination with 10m Digital Elevation Model (DEM) from NRCS. (Data compiled: 2008.)

Results: Spatial Polygons representing "Groundwater likely to be less than 50 ft." and "Groundwater suspected to be less than 50 ft."

Surficial Geology: USGS (1963/1987)

Data digitized and rectified by Geospatial Consultants. (Data digitized: 03/23/2010). Original hard copy maps sourced from United States Geological Survey (USGS). Data available from: <http://pubs.er.usgs.gov/>.

Geology, Structure and Uranium Deposits of the Shiprock Quadrangle, New Mexico and Arizona. 1:250,000. I - 345. Compiled by Robert B. O'Sullivan and Helen M. Beikman. 1963.

Geologic Map of the Aztec 1 x 2 Quadrangle, Northwestern New Mexico and Southern Colorado. 1:250,000. I - 1730. Compiled by Kim Manley, Glenn R. Scott, and Reinhard A. Wobus. 1987.

Aerial Imagery: Conoco (Summer 2009)

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Layers:**Perennial Streams: NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from:
<http://nhd.usgs.gov/>.

Intermittent Streams: NHD, USGS (2010)

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from:
<http://nhd.usgs.gov/>.

Water Bodies: NHD, USGS (2010)

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from:
<http://nhd.usgs.gov/>.

USGS Topographic Maps: USGS (2007)

USGS 24k Topographic map series. 1:24000. Maps are seamless, scanned images of USGS paper topographic maps.

Data available from: <http://store.usgs.gov>.

Layers: Aerial Imagery: Google Earth Pro (4/6/2019)

Evaluation completed by Blagg Engineering, Inc., Bloomfield, NM. (2019)

Figure 4: Proximity to Water Wells

Layers: Water Wells: iWaters Database: NMOSE/ISC (Dec. 2009) New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from:

http://www.ose.state.nm.us/waters_db_index.html.

Springs/Seeps: NHD, USGS (2010)

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from:
<http://nhd.usgs.gov/>.

Aerial Imagery: Conoco (Summer 2009)

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 5: Proximity to Wetlands

Layers: Wetlands: **NWI (2010)** National Wetlands Inventory (NWI). U.S Fish and Wildlife Service. (Data last updated: 09/25/2009. Data received: 03/21/2010). Data available from: <http://www.fws.gov/wetlands/>.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 6: Proximity to FEMA Floodplain

Layers: FEMA Floodplain: **FEMA (varying years)** Data digitized and rectified by Wright Water Engineers, Inc. (Data digitized: August 2008). Digitized from hard copy Flood Insurance Rate Maps (FIRMs) (varying years) of San Juan County.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.