District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

	d-Loop System,			
Type of action: Permit of a	pit, closed-loop system	n, below-grade tank, m, below-grade tank	or proposed	alternative method
			or non-permi	tted pit, closed-loop system,
Instructions: Please submit one application (		ual pit, closed-loop sys	stem, below-gr	rade tank or alternative request
Please be advised that approval of this request does not relie environment. Nor does approval relieve the operator of its re	ve the operator of liability	should operations result	t in pollution of	f surface water, ground water or the
Operator: BP AMERICA PRODUCTION COMP	PANY	OGRID#:	778	NMOCD
Address: 200 Energy Court, Farmington, NM 8			*	0.07 1.0 0010
Facility or well name: FLORANCE 025				DET 16 2018
API Number: 3004508098	OCD	Permit Number:		DISTRICT III
U/L or Qtr/Qtr A Section 22.0		Range 09W		
Center of Proposed Design: Latitude 36.71516	Long	gitude -107.76142		NAD: □1927 × 1983
Surface Owner: 🗷 Federal 🗌 State 🗌 Private 🗌 Trib	oal Trust or Indian Allotn	nent		
Drilling ☐ Workover ☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Lined ☐ Unlined Liner type: Thickness ☐ String-Reinforced Liner Seams: ☐ Welded ☐ Factory ☐ Other  3.				
Closed-loop System: Subsection H of 19.15.17.11  Type of Operation: P&A Drilling a new well intent) Drying Pad Above Ground Steel Tanks Hall Lined Unlined Liner type: Thickness Liner Seams: Welded Factory Other	☐ Workover or Drilling (aul-off Bins ☐ Other _			rior approval of a permit or notice of
4.    Mathematical   Subsection   Fig. 15.17.11   No.     Volume:   21.0   bbl   Type of fluid:     Tank Construction material:   Steel     Secondary containment with leak detection   Via     Visible sidewalls and liner   Visible sidewalls of the line   Visible sidewalls of the line   Mathematical     Liner type: Thickness   mil   □	sible sidewalls, liner, 6-in Other SINGLE	WALLED DOUBLE E	BOTTOMED	-off
5. Alternative Method:				

Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

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, institution or church)	hospital,
Four foot height, four strands of barbed wire evenly spaced between one and four feet	
Alternate. Please specify 4' Hogwire with single barbed wire	
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)	
8.	
§ 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	
9. Administrative Approvals and Exceptions:	
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.	
Please check a box if one or more of the following is requested, if not leave blank:  Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau	office for
consideration of approval.	
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
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 accepting are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the approach office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dry above-grade tanks associated with a closed-loop system.	priate district pproval.
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes 🗷 No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - 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. (Applies to temporary, emergency, or cavitation pits and below-grade tanks)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ➤ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No  ■ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.  - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes 🗷 No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes 🗷 No
Within 500 feet of a wetland US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes 🗷 No
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes 🗷 No
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	☐ Yes 🔀 No
Within a 100-year floodplain FEMA map	☐ Yes 🗷 No

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 nattached.  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 Previously Approved Design (attach copy of design) API Number:  or Permit Number:	
	_
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are intached.  Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9  Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC  Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC	
Previously Approved Design (attach copy of design)  API Number:	
Previously Approved Operating and Maintenance Plan API Number:(Applies only to closed-loop system that use	
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)	_
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 intached.  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	
Proposed Closure: 19.15.17.13 NMAC  Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.  Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Closed-loop System Alternative  Proposed Closure Method: Waste Excavation and Removal Waste Removal (Closed-loop systems only)  On-site Closure Method (Only for temporary pits and closed-loop systems)  In-place Burial On-site Trench Burial  Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)	
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.  ☑ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC ☑ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC ☑ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) ☑ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC ☑ Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC ☑ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground St Instructions: Please indentify the facility or facilities for the disposal of liquids, dr.		
facilities are required.	, , , , , , , , , , , , , , , , , , , ,	
Disposal Facility Name: D	Disposal Facility Permit Number:	
	Disposal Facility Permit Number:	
Will any of the proposed closed-loop system operations and associated activities occu  ☐ Yes (If yes, please provide the information below) ☐ No		ce and operations?
Required for impacted areas which will not be used for future service and operations  Soil Backfill and Cover Design Specifications based upon the appropriate re Re-vegetation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection	equirements of Subsection H of 19.15.17.13 NMAC of 19.15.17.13 NMAC	
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the cloprovided below. Requests regarding changes to certain siting criteria may require a considered an exception which must be submitted to the Santa Fe Environmental Bedemonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for	administrative approval from the appropriate distric Bureau office for consideration of approval. Justific	ct office or may be
Ground water is less than 50 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data of	obtained from nearby wells	Yes No
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data of	obtained from nearby wells	Yes No
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 of	obtained from nearby wells	Yes No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	ficant watercourse or lakebed, sinkhole, or playa	Yes No
Within 300 feet from a permanent residence, school, hospital, institution, or church ir - Visual inspection (certification) of the proposed site; Aerial photo; Satellite in		☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less t watering purposes, or within 1000 horizontal feet of any other fresh water well or spr - NM Office of the State Engineer - iWATERS database; Visual inspection (ce	ring, in existence at the time of initial application.	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval		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
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-Mining a		Yes No
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Society; Topographic map	& Mineral Resources; USGS; NM Geological	☐ Yes ☐ No
Within a 100-year floodplain FEMA map		Yes No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the plan check mark in the box, that the documents are attached.  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of S Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of S Protocols and Procedures - based upon the appropriate requirements of 19.15.1 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection H Soil Cover Design - based upon the appropriate requirements of Subsection H Re-vegetation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Subsection I of Site Reclamation Plan - based upon the appropriate requirements of Site Re	rements of 19.15.17.10 NMAC subsection F of 19.15.17.13 NMAC ropriate requirements of 19.15.17.11 NMAC subsed upon the appropriate requirements of 19.15.17.13 NMAC rements of Subsection F of 19.15.17.13 NMAC of 19.15.17.13 NMAC	5.17.11 NMAC

Operator Application Certification:	
	th this application is true, accurate and complete to the best of my knowledge and belief.
Name (Print): Steve Moskal	Title: Field Environmental Coordinator
Signature: How Mun	Moskal, Steven Date:
e-mail address: steven.moskal@bpx.com	Telephone: 505-330-9179
OCD Approval: Permit Application (including OCD Representative Signature:  Title: Notice Signature:	OCD Permit Number:
Instructions: Operators are required to obtain an The closure report is required to be submitted to	sure completion): Subsection K of 19.15.17.13 NMAC in approved closure plan prior to implementing any closure activities and submitting the closure report.  the division within 60 days of the completion of the closure activities. Please do not complete this in has been obtained and the closure activities have been completed.  Closure Completion Date:
Closure Method:  Waste Excavation and Removal On-Site If different from approved plan, please explain	Closure Method
Instructions: Please indentify the facility or facility of facilities were utilized.  Disposal Facility Name:  Disposal Facility Name:	iated activities performed on or in areas that will not be used for future service and operations?
Required for impacted areas which will not be used.  Site Reclamation (Photo Documentation)  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding	
Closure Report Attachment Checklist: Instruct mark in the box, that the documents are attached Proof of Closure Notice (surface owner and Proof of Deed Notice (required for on-site c Plot Plan (for on-site closures and temporary Confirmation Sampling Analytical Results ( Waste Material Sampling Analytical Results ( Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seedin Site Reclamation (Photo Documentation) On-site Closure Location: Latitude	division) closure) y pits) (if applicable) s (required for on-site closure)
25. Operator Closure Certification:	
I hereby certify that the information and attachmen	nts submitted with this closure report is true, accurate and complete to the best of my knowledge and all applicable closure requirements and conditions specified in the approved closure plan.
Name (Print):	Title:
Signature:	D
e-mail address	Telephone

#### SITING AND HYDRO-GEOLOGICAL REPORT FOR FLORANCE 025

#### Siting Criteria 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be between 50 and 100 feet. This estimation is based on data from Stone and others (1983), and depth to groundwater data obtained from water wells permitted by the New Mexico State Engineer's Office (OSE, Figure 1). Local topography and proximity to adjacent water features is also considered. A topographic map of the site is provided as Figure 2 and demonstrates that the below grade tank (BGT) is not within 300 feet of any continuously flowing watercourse or within 200 feet of any other significant watercourse, lakebed, sinkhole or playa lake as measured from the ordinary high water mark. Figure 3 demonstrates that the BGT is not within 300 feet of a permanent residence, school, hospital, institution or church. Figure 4 demonstrates, based on a search of the OSE database and USGS topographic maps, that there are no freshwater wells or springs within 1000 feet of the BGT. Figure 5 demonstrates that the BGT is not within a municipal boundary or a defined municipal freshwater well field. Figure 6 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not in an area overlying a subsurface mine. The BGT is not located in an unstable area. Figure 8 demonstrates that the BGT is not within the mapped FEMA 100-year floodplain.

#### Local Geology and Hydrology

This particular site is located on a slope close to the main channel of Largo Wash and Medina Canyon. Regional topography of Largo Canyon is composed of mesas dissected by deep, narrow canyons and arroyos. The more resistant cliff-forming sandstones of the San Jose Formation cap the interbedded siltstones, shales and sandstones of the Nacimiento Formation. Accumulations of talus and eroded sands at the base of canyon walls form steep to gentle slopes that transition into flat-bottomed arroyos within the canyons. Deposits of Quaternary alluvial and eolian sands occur prominently near the surface of Largo Canyon, especially near streams and washes.

Groundwater is estimated to be between 50 and 100 feet below ground surface (bgs) at this site. This is based on the elevation difference between the site and Medina Canyon of approximately 75 feet. Medina Canyon is 1,400 feet from the site.

#### Regional Geology and Hydrology

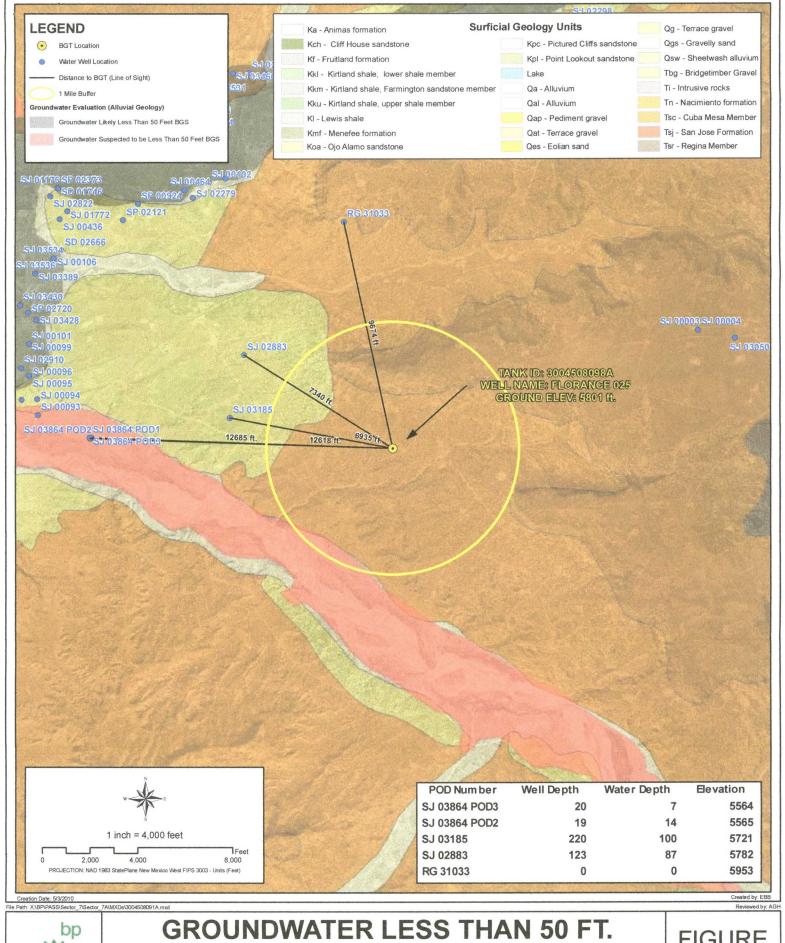
The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, 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 2232 feet. Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1000 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

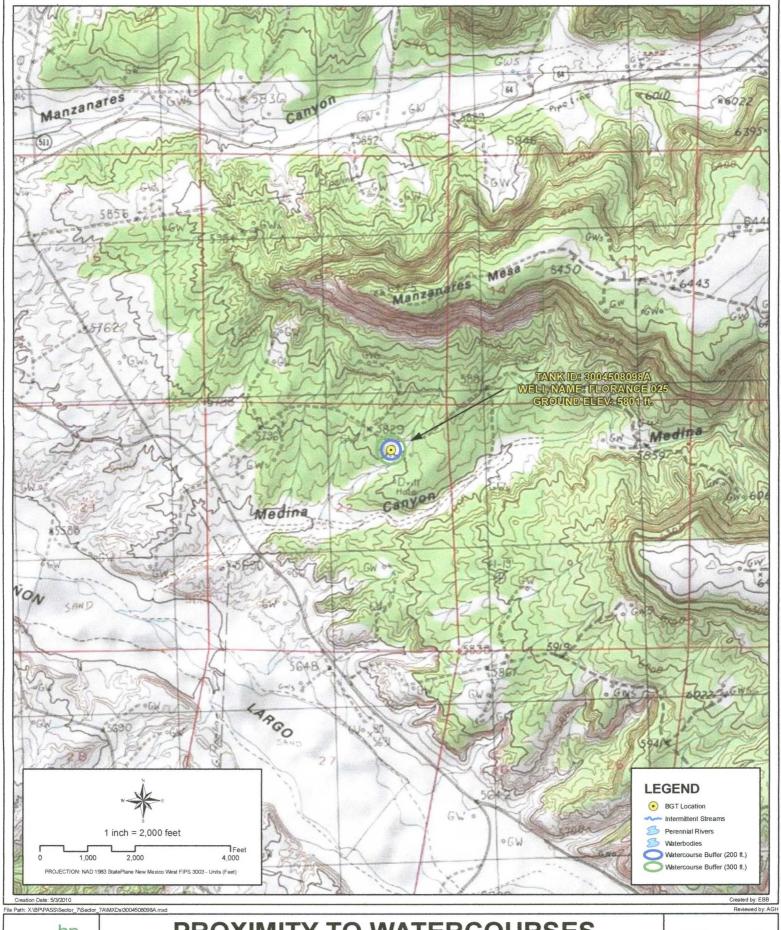
Stone, et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico, Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p





**WELL NAME: FLORANCE 025** 

API NUMBER: 3004508098 TANK ID: 3004508098A SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M. NM23





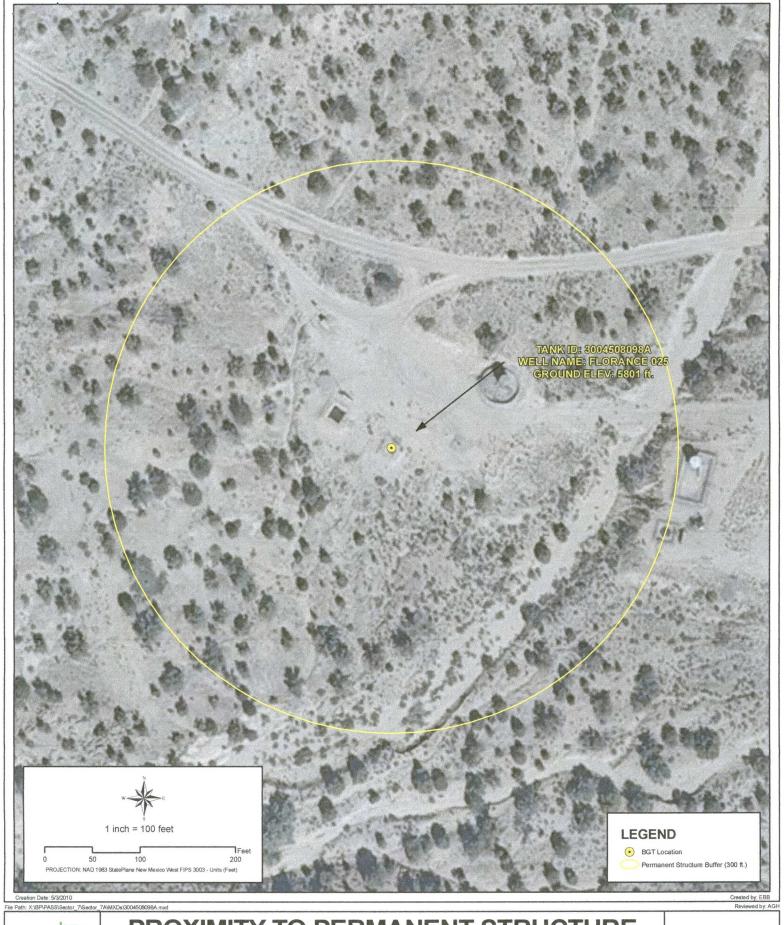
## PROXIMITY TO WATERCOURSES

**WELL NAME: FLORANCE 025** 

API NUMBER: 3004508098 TANK ID: 3004508098A SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M. NM23

FIGURE

2





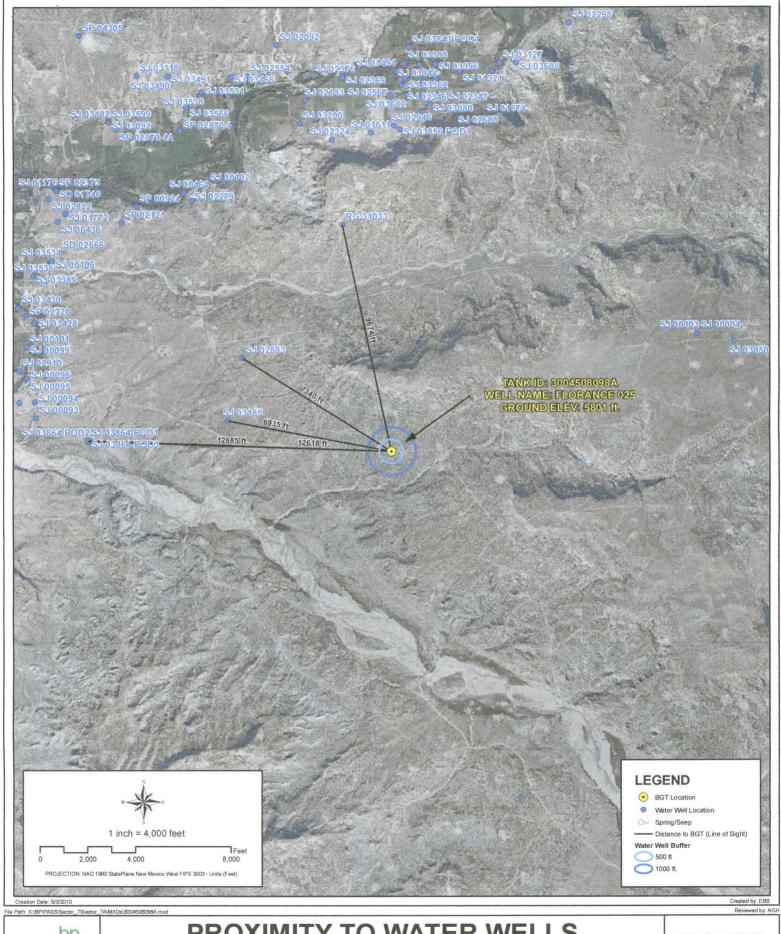
## PROXIMITY TO PERMANENT STRUCTURE

**WELL NAME: FLORANCE 025** 

API NUMBER: 3004508098 TANK ID: 3004508098A SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M. NM23

FIGURE

3

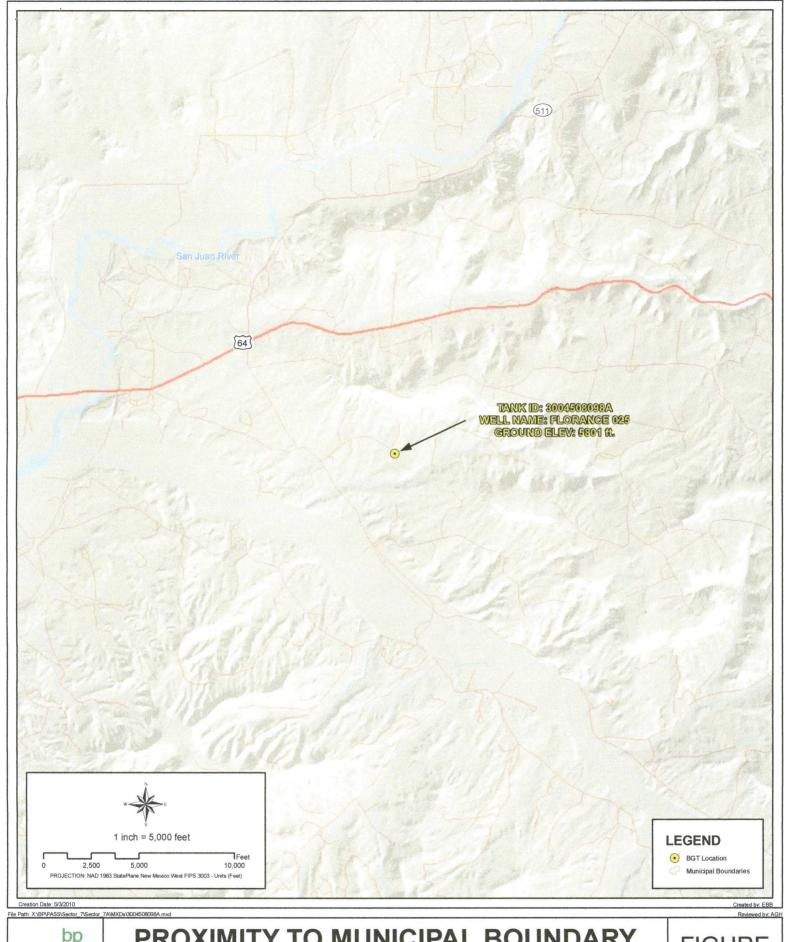




## PROXIMITY TO WATER WELLS

**WELL NAME: FLORANCE 025** 

API NUMBER: 3004508098 TANK ID: 3004508098A SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M. NM23

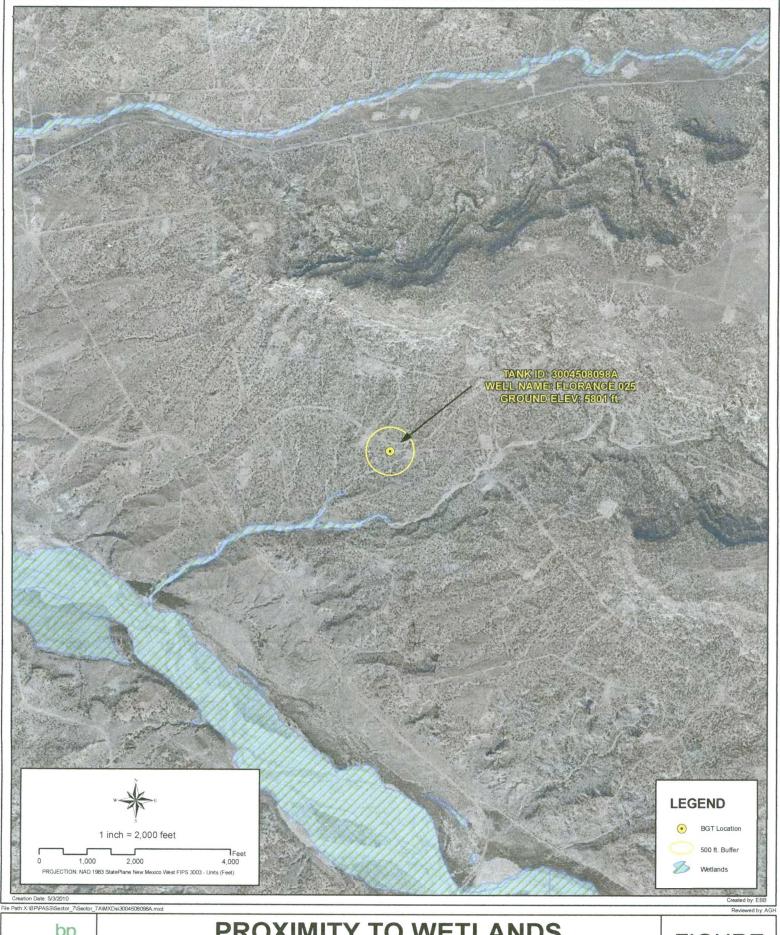




## PROXIMITY TO MUNICIPAL BOUNDARY

**WELL NAME: FLORANCE 025** 

API NUMBER: 3004508098 TANK ID: 3004508098A SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M. NM23

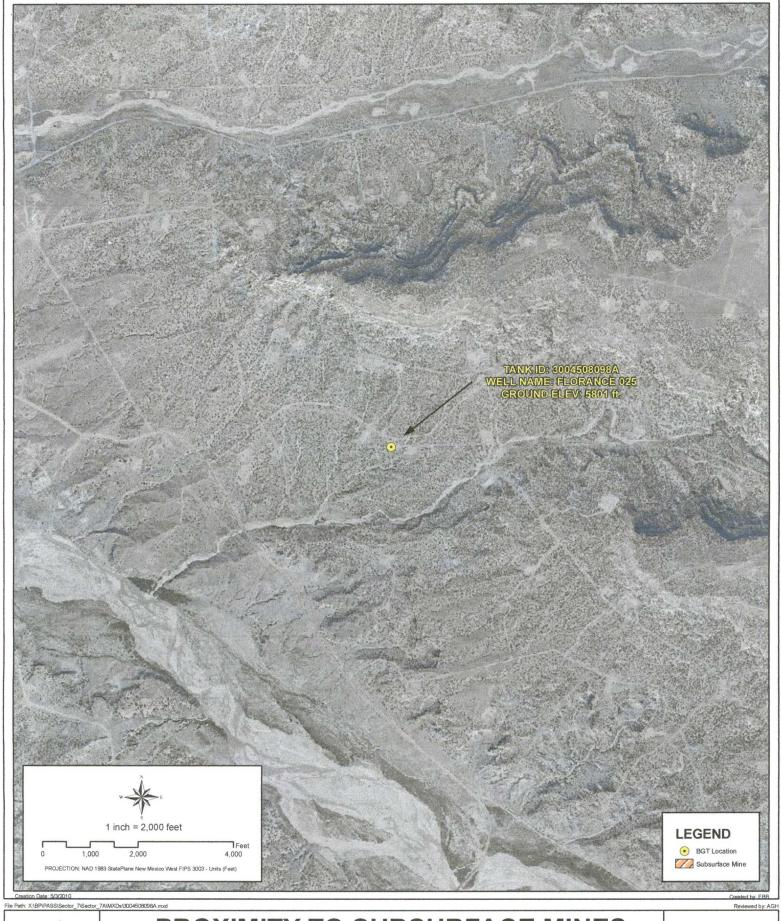




## **PROXIMITY TO WETLANDS**

**WELL NAME: FLORANCE 025** 

API NUMBER: 3004508098 TANK ID: 3004508098A SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M. NM23

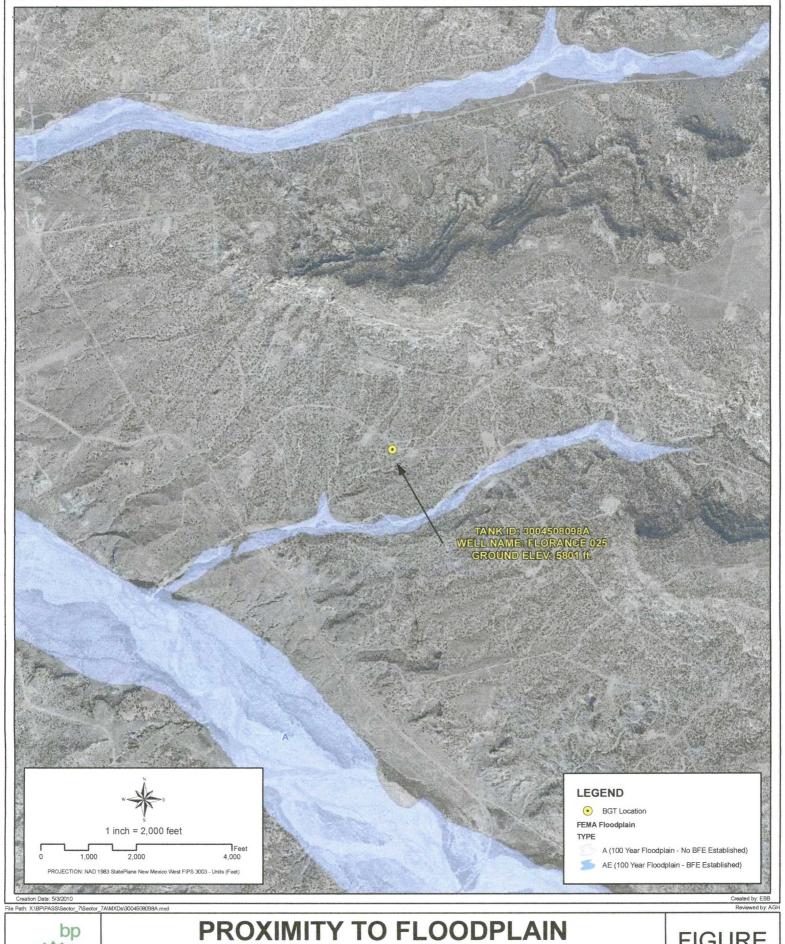




## PROXIMITY TO SUBSURFACE MINES

**WELL NAME: FLORANCE 025** 

API NUMBER: 3004508098 TANK ID: 3004508098A **SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M.NM23** 





WELL NAME: FLORANCE 025

API NUMBER: 3004508098 TANK ID: 3004508098A SECTION 22, TOWNSHIP 29.0N, RANGE 09W, P.M. NM23

FIGURE

8

#### SOUTHERN SAN JUAN BASIN (SSJB)

#### **Figure Citation List**

#### March 2010

#### Figure 1: Groundwater Less Than 50 ft.

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.

**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 Arizonia. 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.

#### Figure 2: Proximity to Watercourses

#### 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: <a href="http://nhd.usgs.gov/">http://nhd.usgs.gov/</a>.

#### 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: <a href="http://store.usgs.gov">http://store.usgs.gov</a>.

#### Figure 3: Proximity to Permanent Structure

#### Layers:

#### **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 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 Municipal Boundary

#### Layers:

**Municipal Boundary:** 

San Juan County, New Mexico (2010)

Data provided by San Juan County GIS Division. (Data received: 03/25/2010).

**Shaded Relief:** 

**NED, USGS (1999)** 

National Elevation Dataset (NED). U.S. Geological Survey, EROS Data Center. (Data created: 1999. Data downloaded: April, 2010). Resolution: 10 meter (1/3 arc-second). Data available from: <a href="http://ned.usgs.gov/">http://ned.usgs.gov/</a>.

StreetMap North America:

Tele Atlas North America, Inc., ESRI (2008)

Data derived from Tele Atlas Dynamap/Transportation North America, version 5.2. (Data updated: annually. Data series issue: 2008).

#### Figure 6: 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: <a href="http://www.fws.gov/wetlands/">http://www.fws.gov/wetlands/</a>.

**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 7: Proximity to Subsurface Mine

#### Layers:

#### **Subsurface Mine:**

NM Mining and Minerals Division (2010)

New Mexico Mining and Minerals Division. (Data received: 03/12/2010). Contact: Susan Lucas Kamat, Geologist. Provided PLSS NM locations (Sections) for the two subsurface mines located in San Juan and Rio Arriba counties.

#### **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 8: 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.

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#### BP AMERICA PRODUCTION COMPANY

NMOCD

SAN JUAN BASIN, NORTHWEST NEW MEXICO

NOV 27 2018

#### BELOW-GRADE TANK CLOSURE PLAN

DISTRICT III

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. BP will removed liquids and sludge within 60 days of cessation of operations of the BGT. 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 within 60 days of cessation of the operation. 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. BP shall remove any on-site equipment associated with a BGT unless the equipment is required for some other purpose within 6 months of BGT removal.
- 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).

Table 1			
Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent Constituent	Beneath Below-Grade Tanks  Method*	Limit**
100	Chloride	EPA 300.0	600 mg/kg
≤50 feet	ТРН	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
	ТРН	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
	Chloride	EPA 300.0	20,000 mg/kg
	ТРН	EPA SW-846 Method 418.1	2,500 mg/kg
> 100 feet	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.



## 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,

O=orphaned,
C=the file is

closed)

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

Shallow 3 3 2 16 29N 09W

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD

Sub- q q q Code basin County Source 6416 4 Sec Tws Rng

X Y
1290 4067283\*

**Distance Start Date** 2114 05/28/2002

Finish Date Date 06/01/2002 06/05/2002

Log File

Depth Depth
Well Water Driller
220 100

Number 1508

SJ 03185 SJ 02883

**POD Number** 

SJM2 SJ Shallow 4 4 3 16 29N 09W

251290 4067283\*

251496

4068078\*

2238 07/20/1998 07/31/1998 08/10/1998

123 87 KENNETH MCDONALD

ONALD 725

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 253355.69

Northing (Y): 4066832.75

Radius: 3200

\*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.



## New Mexico Office of the State Engineer **Wells Without 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)

POD

qqq

Code Subbasin County Source 64 16 4 Sec Tws Rng **POD Number** 

**Distance** 

RG 31033

4 1 10 29N 09W

252818

4069734\*

2950

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 253355.69

Northing (Y): 4066832.75

Radius: 3200

\*UTM location was derived from PLSS - see Help



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

No PODs found.

UTMNAD83 Radius Search (in meters):

Easting (X): 253355.69

Northing (Y): 4066832.75

Radius: 3200

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.