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 Form C-144 July 21, 2008

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.

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application				
Type of action: Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method Modification to an existing permit Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method				
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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: <u>BP AMERICA PRODUCTION COMPANY</u> OGRID #: 778				
Address: 200 Energy Court, Farmington, NM 87401				
Facility or well name: BOYD GAS COM 001				
API Number:         3004510851         OCD Permit Number:				
U/L or Qtr/Qtr M Section 8.0 Township 31.0N Range 10W County: San Juan County				
Center of Proposed Design: Latitude <u>36.909116</u> Longitude <u>-107.911454</u> NAD: <u>1927</u> × 1983				
Surface Owner: 🗌 Federal 🗋 State 🗷 Private 🗋 Tribal Trust or Indian Allotment				
2.				
<b><u>Pit</u>:</b> Subsection F or G of 19.15.17.11 NMAC				
Temporary: Drilling Workover				
Permanent Emergency Cavitation P&A				
Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other				
String-Reinforced				
Liner Seams: 🗌 Welded 🗋 Factory 🗋 Other Volume:bbl Dimensions: L x W x D				
3. Closed-loop System: Subsection H of 19.15.17.11 NMAC				
Type of Operation: P&A Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of				
intent)				
Drying Pad Above Ground Steel Tanks Haul-off Bins Other				
Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other				
Liner Seams: Welded Factory Other				
<sup>4.</sup> ■ <u>Below-grade tank</u> : Subsection I of 19.15.17.11 NMAC <u>Tank ID</u> : <u>A</u>				
Volume: <u>95.0</u> bbl Type of fluid: <u>Produced Water</u>				
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 DOUBLE WALLED DOUBLE BOTTOMED SIDE WALLS NOT VISIBLE				
Liner type: Thicknessmil				
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.				

Oil Conservation Division

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

X Alternate. Please specify <u>4' Hogwire with single barbed wire</u>

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

Screen Netting Other\_

10

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

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

Administrative Approvals and Exceptions	•
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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 acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.			
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		
<ul> <li>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).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗷 No		
<ul> <li>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>(Applies to temporary, emergency, or cavitation pits and below-grade tanks)</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	¥ Yes ☐ No ☐ NA		
<ul> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits)</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	Yes No		
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		
<ul> <li>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.</li> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> </ul>	🗋 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		
<ul> <li>Within the area overlying a subsurface mine.</li> <li>Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</li> </ul>	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		

11. <u>Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist</u> : 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				
<ul> <li>attached.</li> <li>Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC</li> <li>Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC</li> </ul>				
<ul> <li>Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>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</li> </ul>				
Previously Approved Design (attach copy of design) API Number: or Permit Number:				
12. <u>Closed-loop Systems Permit Application Attachment Checklist</u> : 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.				
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) 13.				
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.				
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         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)				
<ul> <li>15.</li> <li>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.</li> <li>Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC</li> <li>Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC</li> <li>Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)</li> <li>Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC</li> <li>Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC</li> <li>Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC</li> </ul>				

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16. Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC) Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two				
facilities are required.				
Disposal Facility Name:	Disposal Facility Permit Number:			
Disposal Facility Name:	Disposal Facility Permit Number:			
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations? Yes (If yes, please provide the information below) No				
Required for impacted areas which will not be used for future service and operations:           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 I of 19.15.17.13 NMAC           Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC				
<sup>17.</sup> <u>Siting Criteria (regarding on-site closure methods only)</u> : 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 may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.				
Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Da	a obtained from nearby wells	☐ Yes ☐ No ☐ NA		
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; Da	a obtained from nearby wells	□ Yes □ No □ NA		
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Da	a obtained from nearby wells	□ Yes □ No □ NA		
<ul> <li>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other siglake (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	nificant watercourse or lakebed, sinkhole, or playa	🗋 Yes 🗌 No		
Within 300 feet from a permanent residence, school, hospital, institution, or church Visual inspection (certification) of the proposed site; Aerial photo; Satellit		🗋 Yes 🗋 No		
Within 500 horizontal feet of a private, domestic fresh water well or spring that les watering purposes, or within 1000 horizontal feet of any other fresh water well or - NM Office of the State Engineer - iWATERS database; Visual inspection	spring, in existence at the time of initial application.	🗌 Yes 🗌 No		
Within incorporated municipal boundaries or within a defined municipal fresh wat adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approv	_	🗋 Yes 🗋 No		
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visu	al 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-Minin	g and Mineral Division	🗌 Yes 🗌 No		
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geolog Society; Topographic map</li> </ul>	y & Mineral Resources; USGS; NM Geological	🗋 Yes 🗌 No		
Within a 100-year floodplain. - FEMA map		🗌 Yes 🗌 No		
18.         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 19.15.17.13 NMAC         Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 19.15.17.13 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 Subsection F 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 I of 19.15.17.13 NMAC				

19.	······································		
Operator Application Certification: I hereby certify that the information submitted with this application is true, acc	curate and complete to the best of my knowledge and belief.		
Name (Print): Jeffrey Peace	Title: Field Environmental Advisor		
Signature:Revery N. Veare	Date: 06/14/2010		
e-mail address:Peace.Jeffrey@bp.com	Telephone: 505-326-9479		
20. OCD Approval: D Permit Application (including closure plan) Closure	Plan (only) OCD Conditions (see attachment)		
OCD Representative Signature:	Approval Date:		
Title:	OCD Permit Number:		
21. Closure Report (required within 60 days of closure completion): Subsection K of 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.			
<ul> <li>22.</li> <li>Closure Method:</li> <li>Waste Excavation and Removal On-Site Closure Method Alte</li> <li>If different from approved plan, please explain.</li> </ul>	rnative Closure Method 🔲 Waste Removal (Closed-loop systems only)		
23. <u>Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:</u> Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.			
Disposal Facility Name:	_ Disposal Facility Permit Number:		
Disposal Facility Name:	_ Disposal Facility Permit Number:		
Were the closed-loop system operations and associated activities performed on or in areas that <i>will not</i> be used for future service and operations? Yes (If yes, please demonstrate compliance to the items below) No			
Required for impacted areas which will not be used for future service and oper         Site Reclamation (Photo Documentation)         Soil Backfilling and Cover Installation         Re-vegetation Application Rates and Seeding Technique	ations:		
24. <u>Closure Report Attachment Checklist</u> : 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)			
<ul> <li>Plot Plan (for on-site closures and temporary pits)</li> <li>Confirmation Sampling Analytical Results (if applicable)</li> <li>Waste Material Sampling Analytical Results (required for on-site closure)</li> <li>Disposal Facility Name and Permit Number</li> <li>Soil Backfilling and Cover Installation</li> </ul>	e)		
Re-vegetation Application Rates and Seeding Technique			
Site Reclamation (Photo Documentation)     On-site Closure Location: Latitude Lon	gitude NAD: \$\Box 1927 \Box 1983		
On-site Closure Location: Latitude Longitude NAD: 1927 1983			
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:		

Oil Conservation Division

# SITING AND HYDRO-GEOLOGICAL REPORT FOR BOYD GAS COM 001

# Siting Criteria 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be less than 50 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 are 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 within 300 feet of a permanent residence. Figure 4 demonstrates, based on a search of the OSE database and USGS topographic maps and a site visit, that there are no freshwater wells or springs within 1000 feet of the BGT. Figure 5 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not within the mapped FEMA 100-year floodplain.

The BGT subject to the attached application for a permit under 19.15.17 NMAC (New Mexico Administrative Code) was in existence prior to promulgation of 19.15.17 NMAC. A review of the best available data and a visual inspection of the siting criteria of 19.15.17 NMAC specific to the BGT in question demonstrate that the BGT does not appear to pose an imminent threat to public health and the environment.

# Local Geology and Hydrology

This particular site is located adjacent to several farm houses east of the Animas River but west of Route 550. Topography is dominated by the main channel of the river, its floodplain and terrace deposits. Moving away from the Animas River, eroded surfaces of the Nacimiento Formation form slopes that rise away from the main channel.

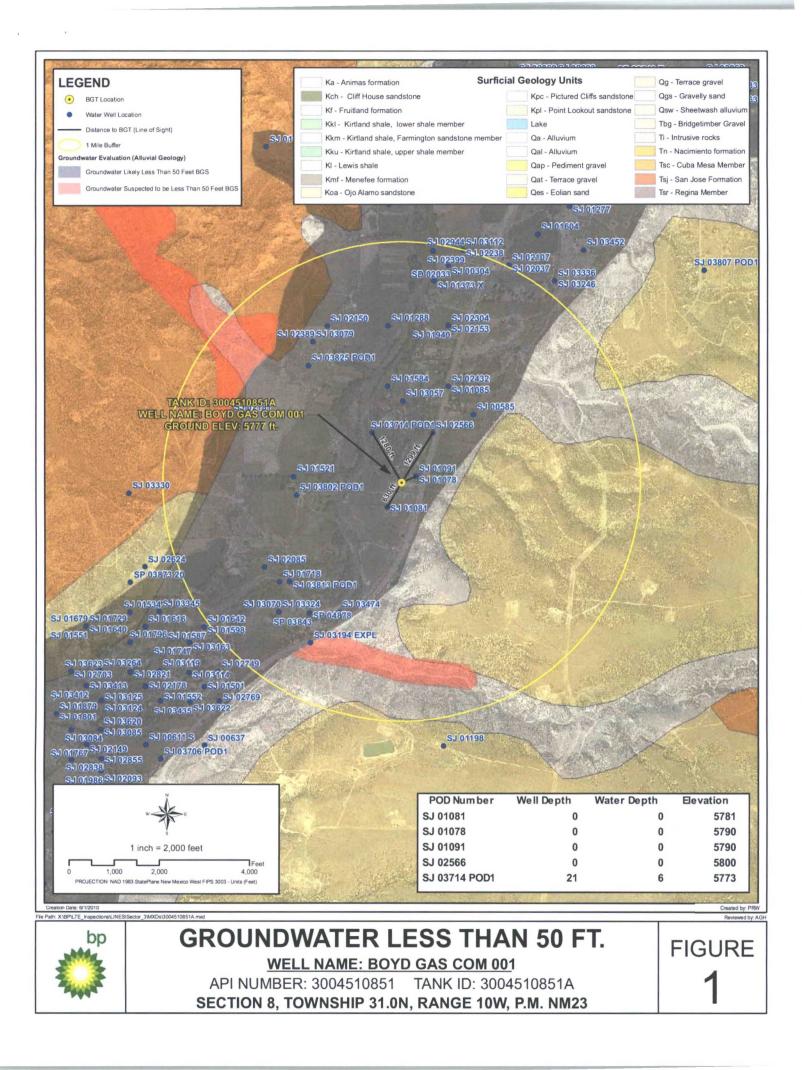
#### **Regional Geology and Hydrology**

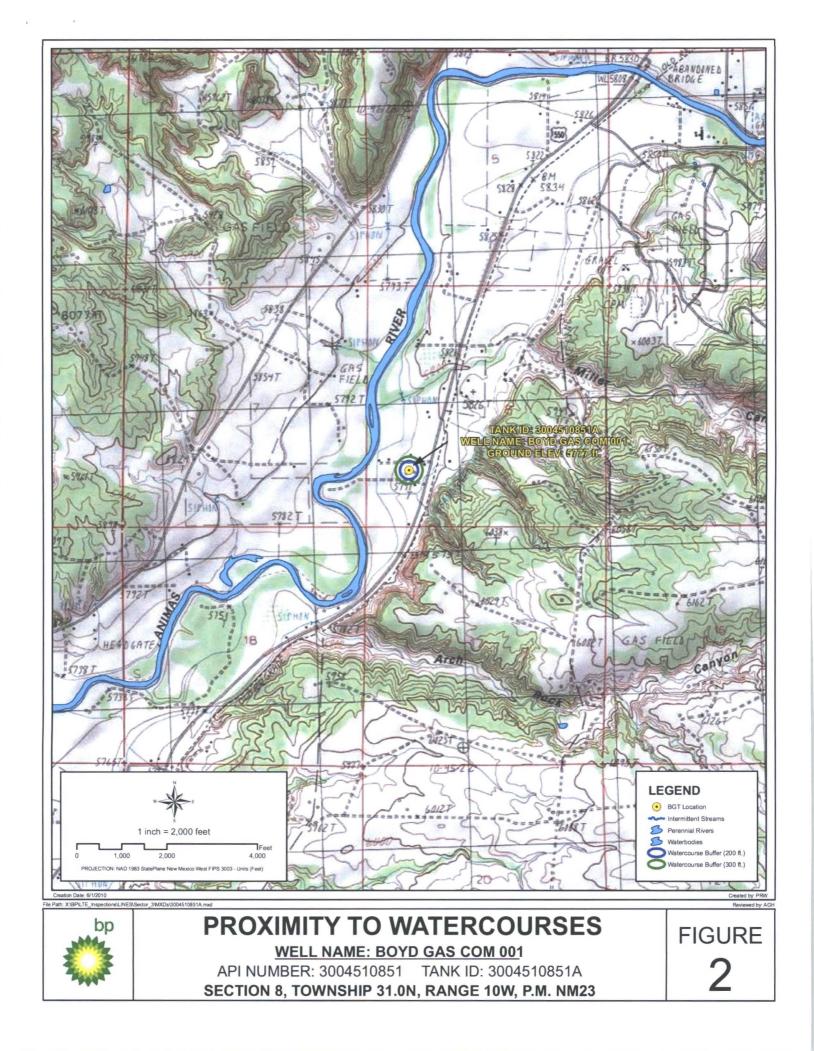
The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, 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 predominant geologic formation this close to the San Juan River is Quaternary alluvium. Alluvial valley fill consists of gravel, sand, silt and clay (Stone et al., 1983). In the valleys of the San Juan River and its tributaries, the alluvium does not exceed 100 feet in thickness. Terrace deposits consist of boulder gravel resting on benches cut into the Tertiary bedrock of the area. Numerous shallow wells produce water from valley fill for stock and domestic uses along the river and transmissivities are generally high. Much of the water in the valley fill of the Animas River comes from drainage of irrigated lands, as well as from underlying and adjacent bedrock units.

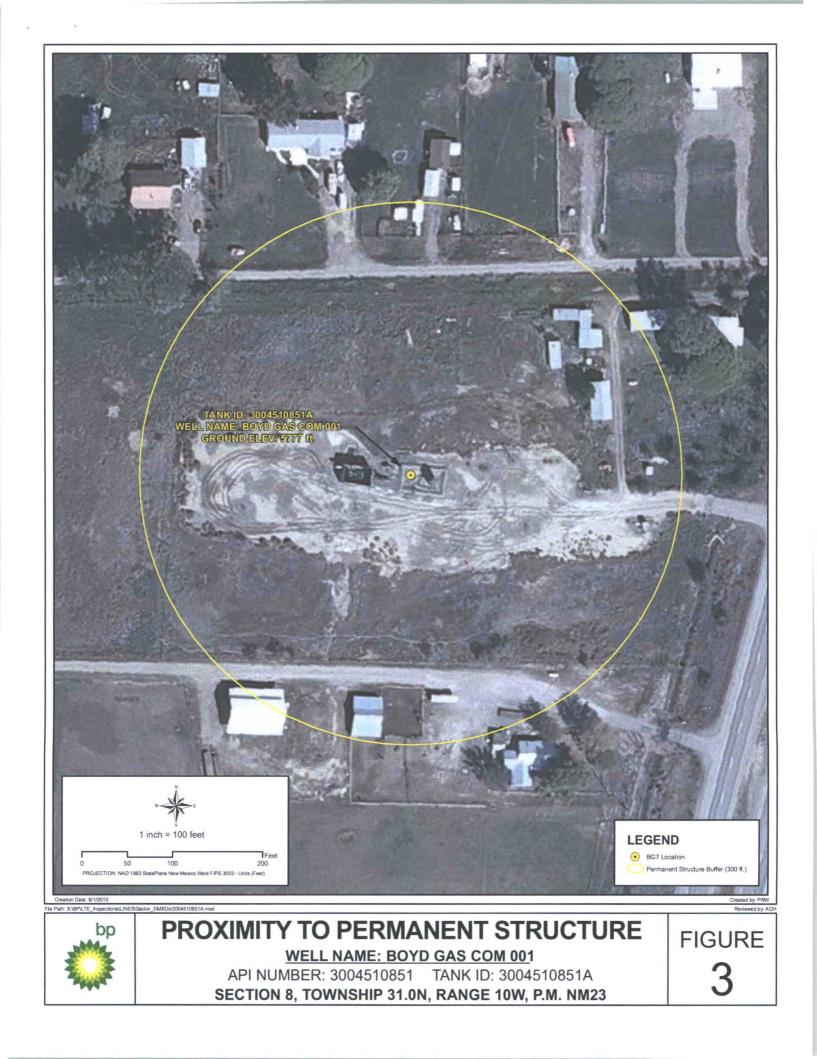
#### **References**

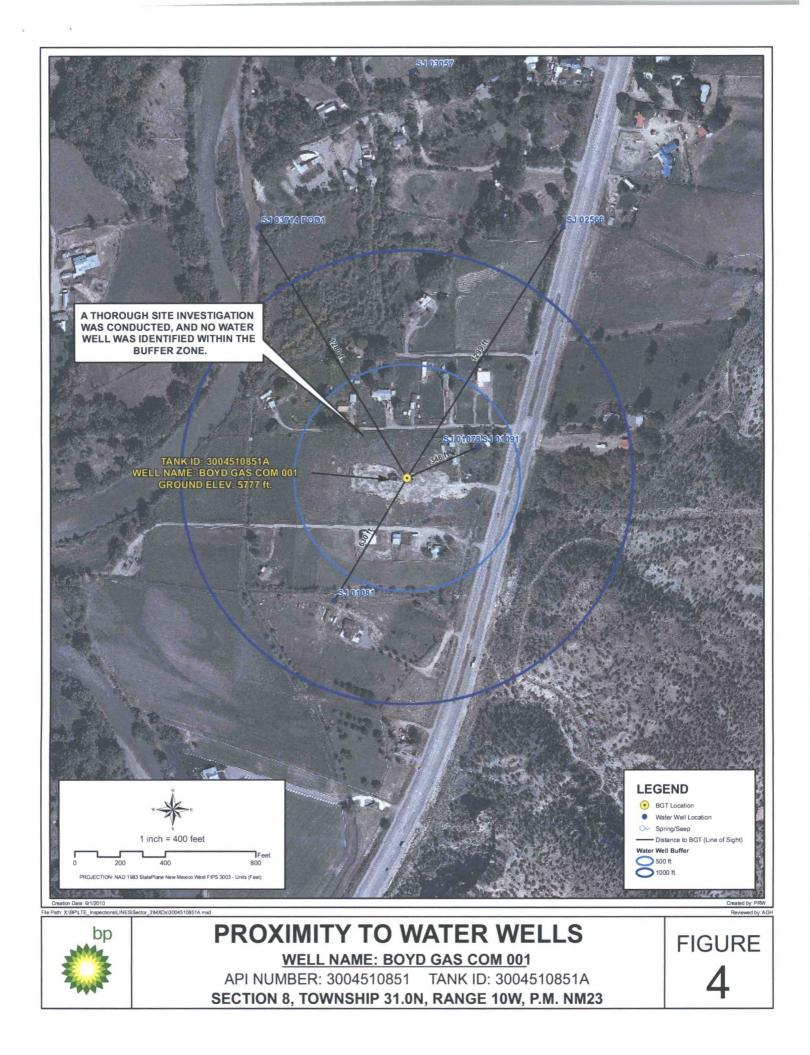
Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

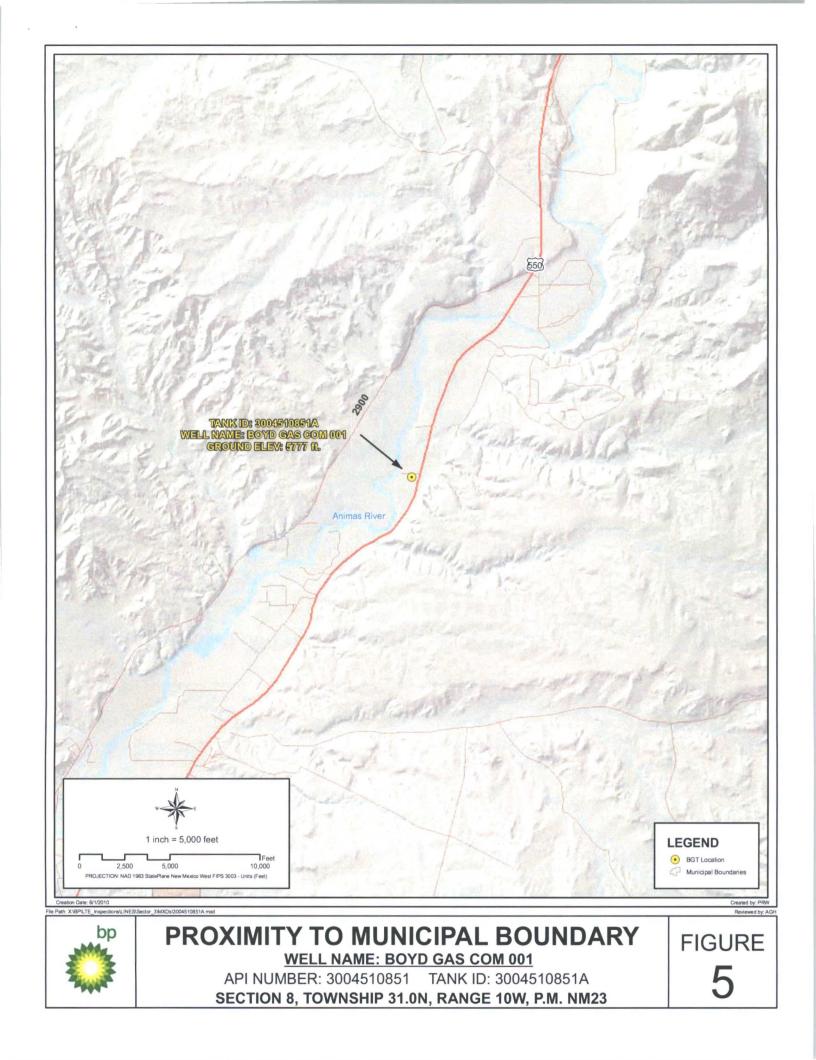
Stone, et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico, Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p

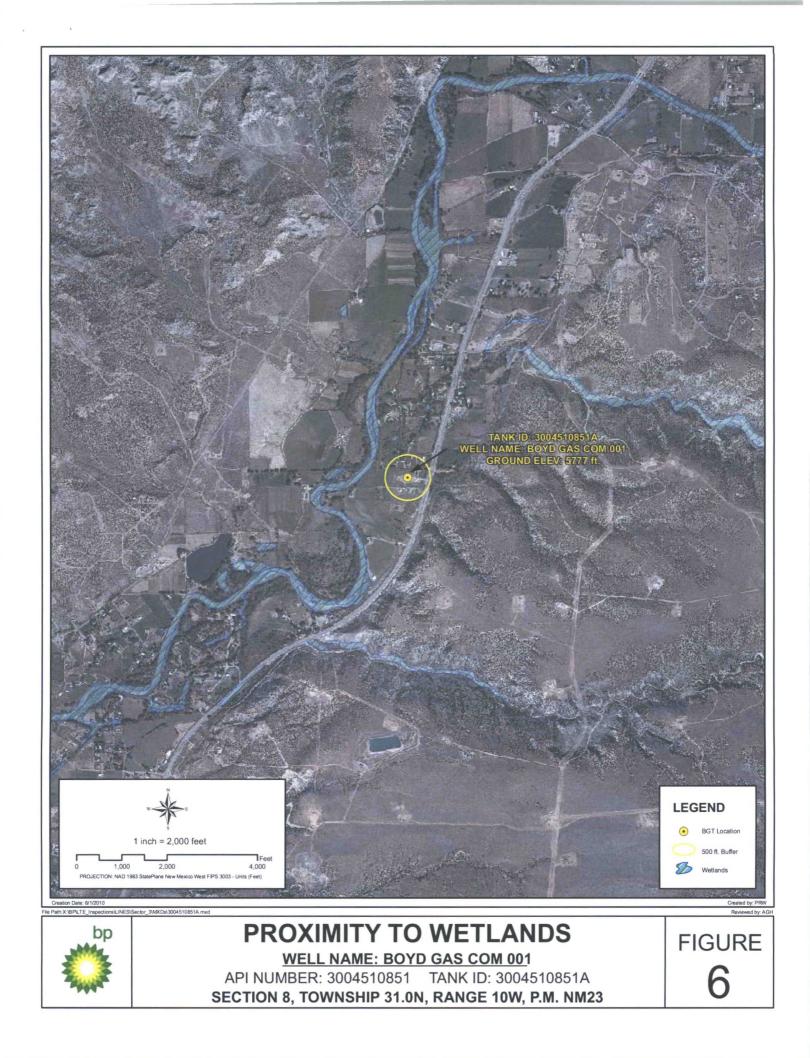


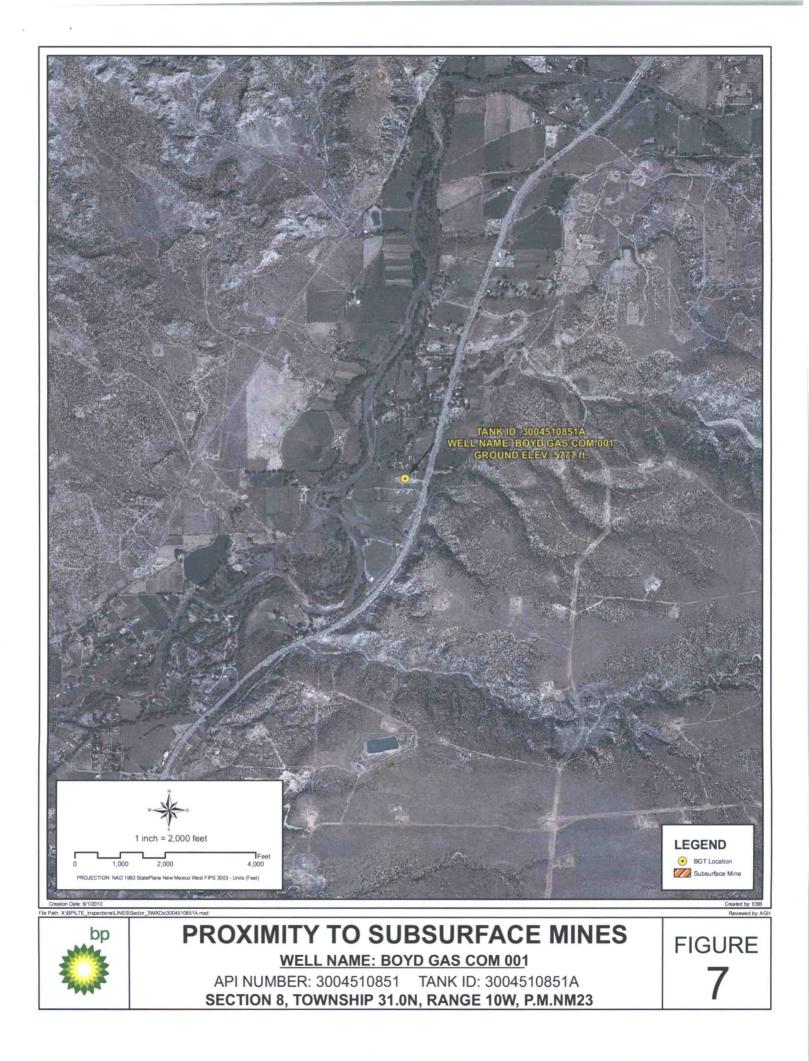


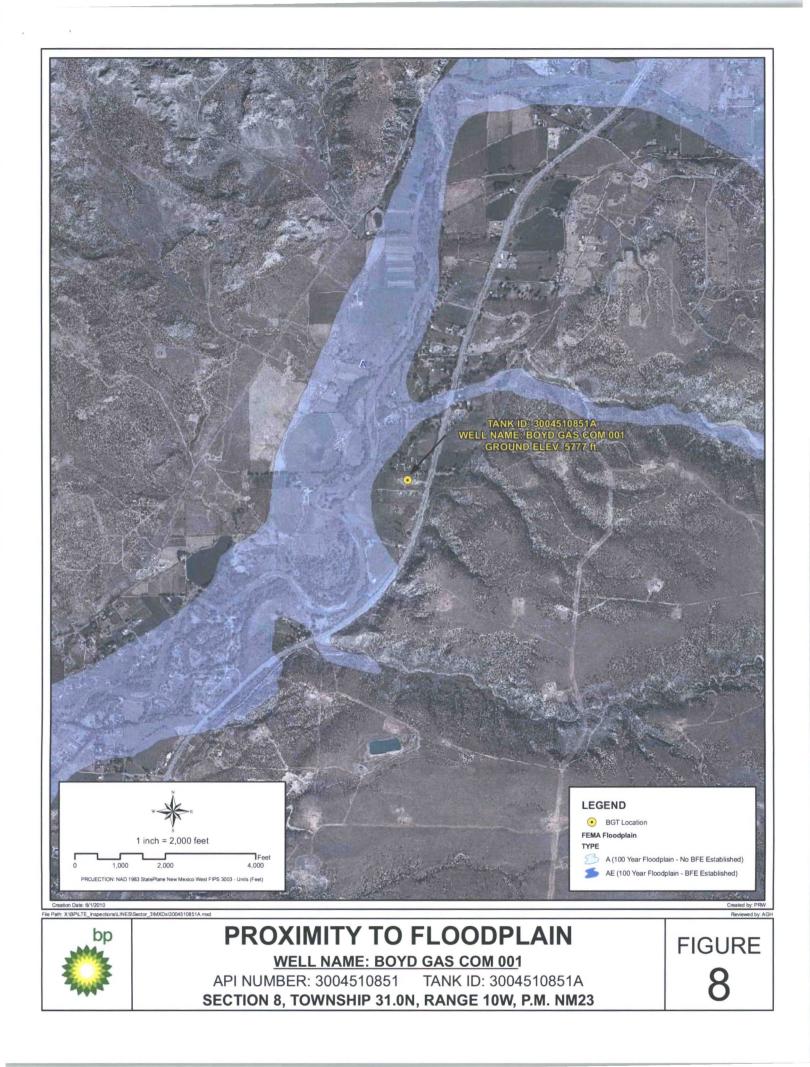












# SOUTHERN SAN JUAN BASIN (SSJB)

# **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:**

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: <u>http://nhd.usgs.gov/.</u>

#### Intermittent Streams:

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:

# 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: <u>http://store.usgs.gov</u>.

#### 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 Citation List: Page 2 of 5

# NHD, USGS (2010)

NHD, USGS (2010)

NHD, USGS (2010)

#### Figure 4: Proximity to Water Wells

#### Layers:

#### Water Wells:

# 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)

iWaters Database: NMOSE/ISC (Dec. 2009)

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: <u>http://nhd.usgs.gov/.</u>

#### **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: <u>http://ned.usgs.gov/</u>.

#### 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: <u>http://www.fws.gov/wetlands/</u>.

#### **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.

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OCD Aztec District III BP American Production Checklist Below Grade Tank Registration

MISSING-

# 19.15.17.9 Permit application

Signed C-144 (Page 5 of C-144) Site Specific Hydrogeology

# **19.15.17.10** Siting requirements

Ground water (Aerial overlay Map)

Proximity to watercourses (Topo map)

Proximity to Permanent Structure (Aerial Map)

Proximity to Water Wells (Aerial Map)

Proximity to Municipal Boundary (Structure Map)

Proximity to Wetlands (Aerial Map)

Proximity to Subsurface Mines Map (Aerial Map)

Proximity to Flood Plain Map (Aerial Map)

Figure Citation List

# 19.15.17.11 Design Plan Contents

Below Grade Tank Design and Construction Plan.

# 19.15.17.12 Operating and Maintenance Plan

Below Grade Tank Operating and Maintenance Plan

# 19.15.17.13 Closure Plan

Below Grade Tank Closure Plan

**Requirements:** 

Registration Date:

500 12-MARCIT-2018