

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: BP AMERICA PRODUCTION COMPANY OGRID #: 778  
Address: 200 Energy Court, Farmington, NM 87401  
Facility or well name: STOREY LS 001  
API Number: 3004507183 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr B Section 27.0 Township 28.0N Range 08W County: San Juan County  
Center of Proposed Design: Latitude 36.63735 Longitude -107.66443 NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.  
☐ **Pit:** Subsection F or G of 19.15.17.11 NMAC  
Temporary: ☐ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☐ String-Reinforced  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

3.  
☐ **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: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_

4.  
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC Tank ID: A  
Volume: 95.0 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 \_\_\_\_\_

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.

6.

**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 4' Hogwire with single barbed wire

7.

**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.

**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

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.

10.

**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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	
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).	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Topographic map; Visual inspection (certification) of the proposed site	
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)	<input type="checkbox"/> NA
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
(Applies to permanent pits)	<input checked="" type="checkbox"/> NA
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	
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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	
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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Written confirmation or verification from the municipality; Written approval obtained from the municipality	
Within 500 feet of a wetland.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	
Within the area overlying a subsurface mine.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	
Within an unstable area.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	
Within a 100-year floodplain.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
- FEMA map	
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

11.

**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: \_\_\_\_\_

12.

**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 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.*

- ☐ 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

14.

**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)

15.

**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 I of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

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 identify 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

17.  
**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 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.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is between 50 and 100 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Within 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).<br>- Topographic map; Visual inspection (certification) of the proposed site  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 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.<br>- NM Office of the State Engineer - iWATERS database; 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 adopted pursuant to NMSA 1978, Section 3-27-3, as amended.<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 500 feet of a wetland.<br>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within the area overlying a subsurface mine.<br>- 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.<br>- 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.<br>- FEMA map   | <input type="checkbox"/> Yes <input type="checkbox"/> 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 Subsection F 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 19.15.17.11 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 Subsection F 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  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

**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): Jeffrey Peace Title: Field Environmental Advisor

Signature: Jeffrey H. Peace Date: 06/14/2010

e-mail address: Peace.Jeffrey@bp.com Telephone: 505-326-9479

20.

**OCD Approval:** ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☒ OCD Conditions (see attachment) **SEE E-MAIL**

OCD Representative Signature: [Signature] Approval Date: 10/07/15

Title: Environmental Engineer OCD Permit Number: \_\_\_\_\_

31.

**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.*

☐ Closure Completion Date: \_\_\_\_\_

21.

**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 Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

*Instructions: Please identify 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 will not 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 operations:*

- ☐ Site Reclamation (Photo Documentation)  
☐ Soil Backfilling and Cover Installation  
☐ Re-vegetation Application Rates and Seeding Technique

24.

**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)  
☐ 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

25.

**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 FOR STOREY LS 001 - TANK ID: 3004507183A**

### **Siting Criteria 19.15.17.10 NMAC**

Depth to groundwater at the site is estimated to be greater than 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 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 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 south of Carrizo Canyon, and hundreds of feet higher than the main channel of Largo 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.

### **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.

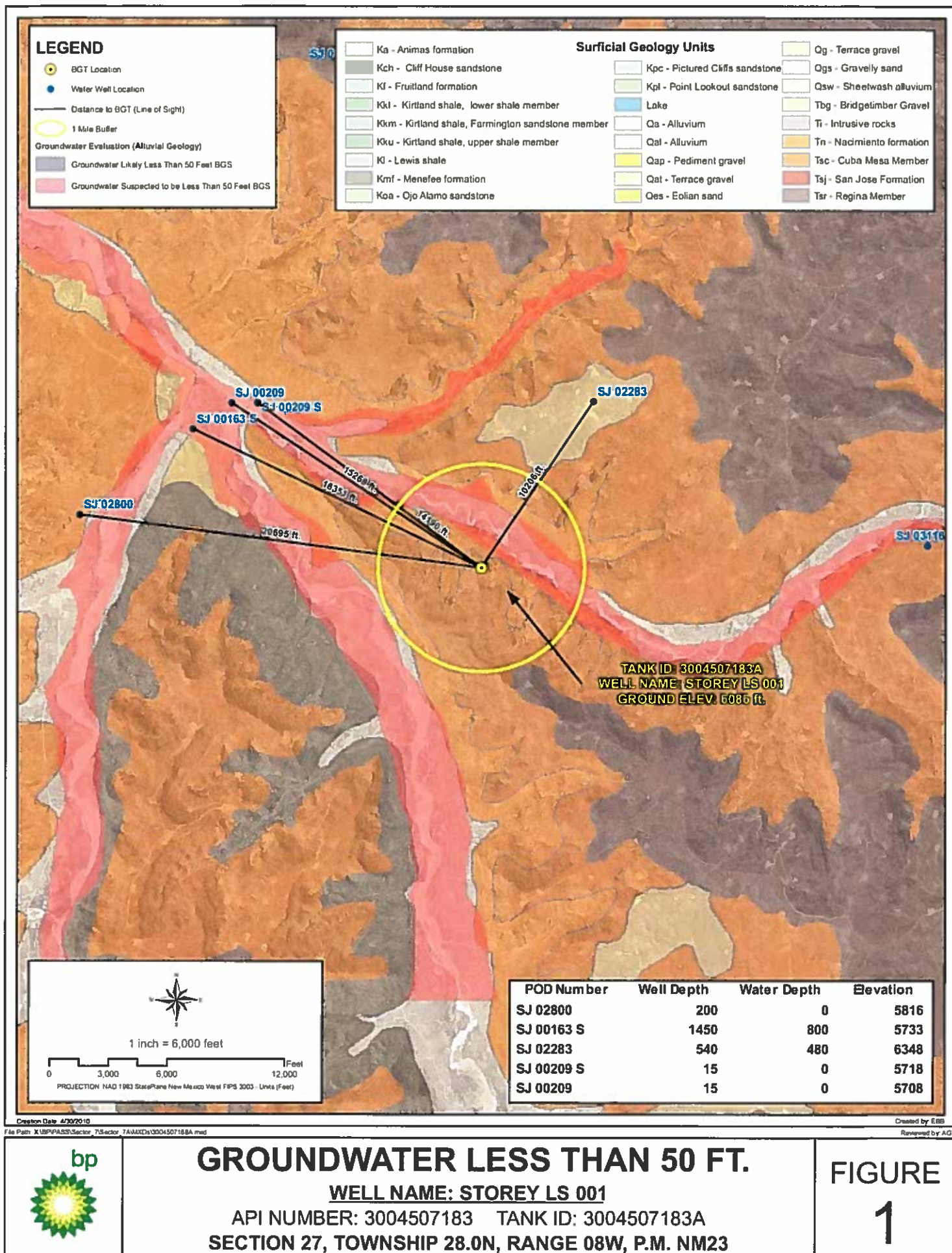
Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial deposits, serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). The Nacimiento Formation of Paleocene age occurs at the surface in a broad belt at the western and southern edges of the central San Juan Basin and dips 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 ft<sup>2</sup>/d (Stone et al, 1983). Groundwater within these aquifers flows toward the San Juan River.

### **References**

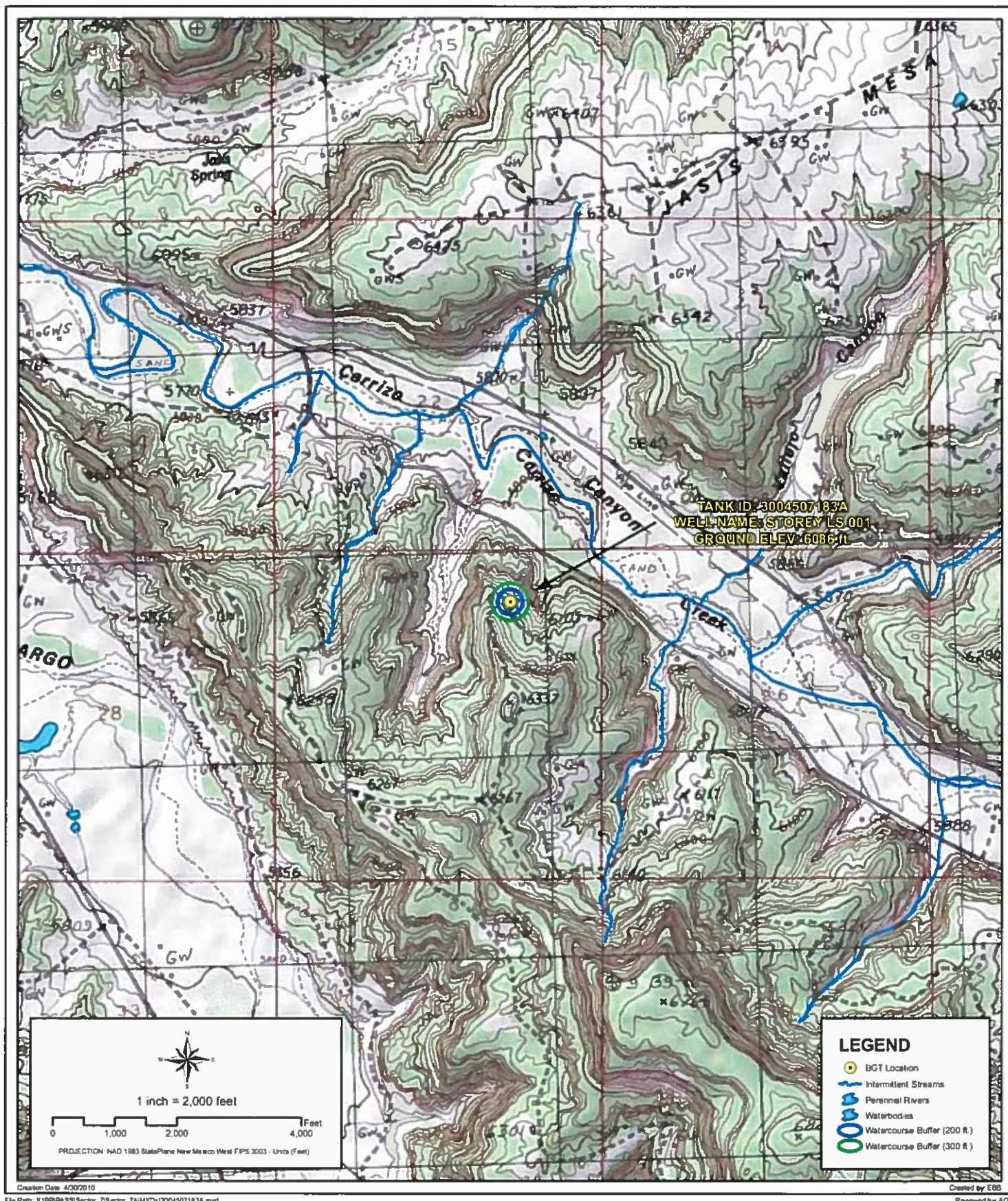
Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

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









bp



## PROXIMITY TO WATERCOURSES

**WELL NAME: STOREY LS 001**

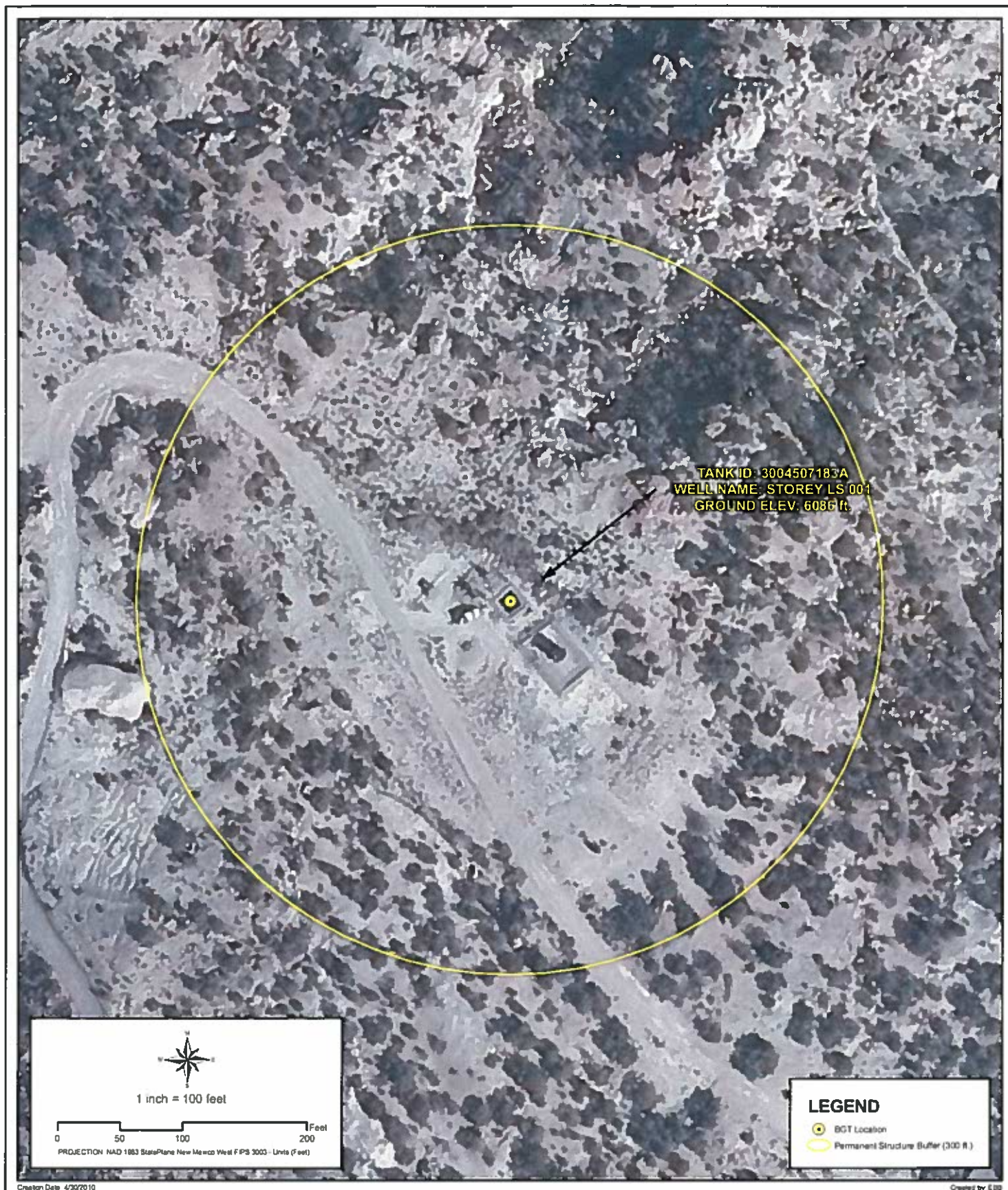
**API NUMBER: 3004507183 TANK ID: 3004507183A**

**SECTION 27, TOWNSHIP 28.0N, RANGE 08W, P.M. NM23**

**FIGURE**

**2**





## PROXIMITY TO PERMANENT STRUCTURE

WELL NAME: STOREY LS 001

API NUMBER: 3004507183 TANK ID: 3004507183A  
SECTION 27, TOWNSHIP 28.0N, RANGE 08W, P.M. NM23

FIGURE  
3





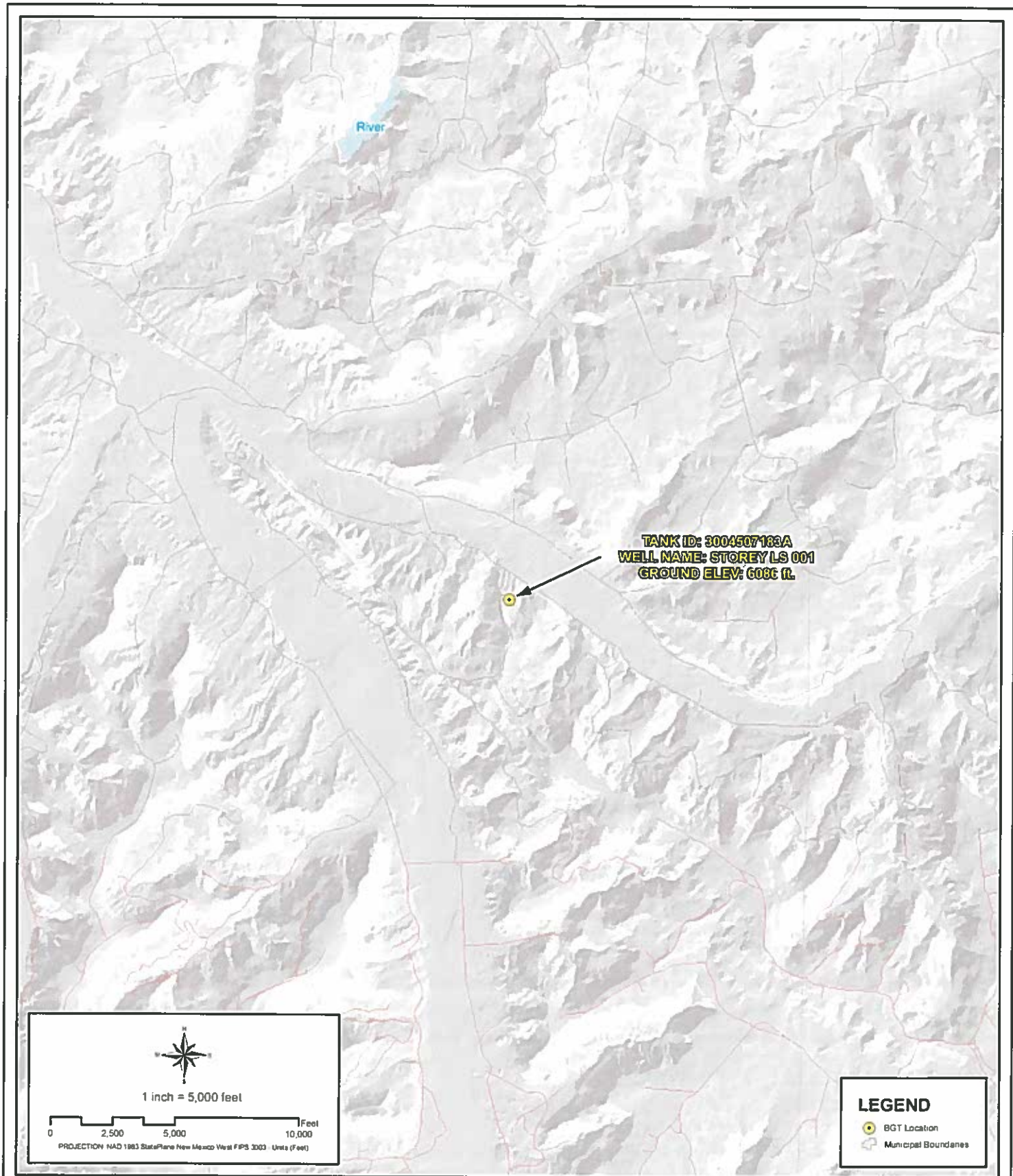
**WELL NAME: STOREY LS 001**

API NUMBER: 3004507183 TANK ID: 3004507183A

**SECTION 27, TOWNSHIP 28.0N, RANGE 08W, P.M. NM23**

4





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Created by: F.B.B.  
 Reviewed by: A.O.H.



# **PROXIMITY TO MUNICIPAL BOUNDARY**

**WELL NAME: STOREY LS 001**

**API NUMBER: 3004507183 TANK ID: 3004507183A**  
**SECTION 27, TOWNSHIP 28.0N, RANGE 08W, P.M. NM23**

**FIGURE**  
**5**

6. BP will install and construct the BGT following the BP NMOCD approved Design and Construction Plan, and will control surface water run on by the use of a berm or leaving a portion of the tank wall exposed. BP will use high level shot-off devices to insure that the BGT does not overflow.
7. The following requirements adhere to Subsection D of 19.15.17.12 NMAC.
  - a. BP will remove any visible or measurable layer of oil from the fluid surface of the BGT.
  - b. BP will inspect the BGT monthly. The monthly inspection will consist of the following:
    - i. Personnel will conduct a walk-around of the BGT to observe any abnormalities or signs of corrosion on the vessel. Personnel will inspect the surface run-on berm. Where applicable, inspection of the BGT's double wall – double bottom inspection port, tank flanges and valves for signs of leakage or spills will be conducted. Personnel will record any BGT deficiencies, repair as necessary and report to BP Dispatch Office immediately if an imminent danger to fresh water, public health, or to the environment is observed. BP will maintain a written record of the monthly inspections on the BP inspection form referred to as the San Juan Lease Inspection Form. BP will maintain these written records for at least five (5) years. A copy of the San Juan Lease Inspection Form is attached.
8. BP will maintain sufficient freeboard of one foot in the BGT to prevent overtopping.



**Name 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 standard protocols and procedures for closure of below-grade tanks (BGTs) on BP America Production Company (BP) well sites. As stipulated in Paragraph A of 19.15.17.13 NMAC, BP shall close a BGT within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the New Mexico Oil Conservation Division (NMOCD) requires because of imminent danger to fresh water, public health, safety or the environment. If deviations from this plan are necessary, any specific changes will be included on form C-144 and approved by the NMOCD. BP shall close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after June 16, 2008, if not retrofit with a BGT that complies with the BP NMOCD approved BGT design attached to the BP Design and Construction Plan. BP shall close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, if not previously retrofitted to comply with the BP NMOCD approved BGT Design attached to the BP Design and Construction Plan, prior to any sale or change in operator pursuant to 19.15.9.9 NMAC. BP shall close the permitted BGT within 60 days of cessation of the BGTs operation or as required by the transitional provisions of Subsection B, D, or E of 19.15.17.17 NMAC.

**General Closure Plan.**

1. BP shall notify the surface owner by certified mail that it plans to close a BGT. 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 or by other means at least 72 hours, but not more than one (1) week, prior to any closure operation. The notice shall include the operator's name, and the location to be closed by unit letter, section, township and range. If the BGT closure is associated with a particular well, then the notice shall also include the well's name, number and API number.
3. 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's division-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 NMOCD approves. If a liner is present and must be disposed of it will be cleaned by scraping any soils or other attached materials on the liner to a de minimus amount and disposed at a permitted solid waste facility, pursuant to Subparagraph (m) of Paragraph (1) of Subsection C of 19.15.35.8 NMAC. 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 well production.
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 and individual grab samples from any area that is wet, discolored or showing other evidence of a release and analyze for BTEX, TPH and chlorides. The testing methods for those constituents are as follows;

Constituents	Testing Method	Release Verification (mg/Kg)
Benzene	US EPA Method SW-846 8021B or 8260B	0.2
Total BTEX	US EPA Method SW-846 8021B or 8260B	50
TPH	US EPA Method SW-846 418.1	100
Chlorides	US EPA Method 300.0 or 4500B	250 or background

**Notes:** mg/Kg = milligram per kilogram, BTEX = benzene, toluene, ethylbenzene, and total xylenes, TPH = total petroleum hydrocarbons. Other EPA methods that the division approves may be applied to all constituents listed. Chloride closure standards will be determined by which ever concentration level is greatest.

7. BP shall notify the division District III office of its results on form C-141.
8. If it is determined that a release has occurred, then BP will comply with 19.15.30 NMAC and 19.15.29 NMAC, as appropriate.
9. If the sampling demonstrates that a release has not occurred or that any release does not exceed the concentrations specified above, then BP shall backfill the excavation, with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover, re-contour and re-vegetate the location. The location will be reclaimed if it is not with in the active process area.
10. 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 Subsection H of 19.15.17.13 NMAC, re-contour the location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate according to Subsection I of 19.15.17.13 NMAC.
11. The soil cover for closures where the BGT has been removed or remediated to the NMOCD's satisfaction shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. The soil

12. BP shall seed the disturbed area the first growing season after closure of the BGT. Seeding will be accomplished by drilling on the contour whenever practical or by other division-approved methods. Vegetative cover will be, at a minimum, 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation), consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintenance of that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.
13. BP shall seed, plant and re-seed pursuant to Paragraph (3) of Subsection I of 19.15.17.13 NMAC, until the location successfully achieves the required vegetative cover.
14. Pursuant to Paragraph (5) of Subsection I of 19.15.17.13 NMAC, BP shall notify the NMOCD when it has seeded or planted and when it successfully achieves re-vegetation.
15. Within 60 days of closure completion, BP shall submit a closure report on NMOCD's form C-144, and will include the following;
  - a. proof of closure notification (surface owner and NMOCD)
  - b. sampling analytical reports; information required by 19.15.17 NMAC;
  - c. disposal facility name and permit number
  - d. details on back-filling, capping, covering, and where applicable re-vegetation application rates and seeding techniques and
  - e. site reclamation, photo documentation. Disposal Facility Name and Permit Number
16. 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.

**From:** Lowe, Leonard, EMNRD  
**To:** ["Moskal, Steven"](#)  
**Cc:** [Smith, Cory, EMNRD](#)  
**Subject:** APPROVED BGT Operating Permit\_C-144  
**Date:** Wednesday, October 07, 2015 2:59:00 PM  
**Importance:** High

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Mr. Steven Moskal,

OCD approves the BGT remove and replace for the following Below Grade Tanks.

Price 001 E	95 bbl	Tank A	API #3004526001
Russell 003	95 bbl	Tank A	API #3004523968
Storey D 2	95 bbl	Tank A	API #3004523818
Storey D 3	95 bbl	Tank A	API #3004523949
Storey LS 1	95 bbl	Tank A	API #3004507183

The conditions of approval for the BGT remove and replacement are as follows:

The existing BGT be removed following the closure protocols described in your application. Results from the composite sampling should be reviewed for determination as to whether or not a release has occurred before replacement with the new double/double tank. The new BGT shall be registered with the Aztec OCD office. Please retain a copy of this e-mail as not hardcopy will be sent. In addition, the closure reports for these tanks must be provided to the OCD district office in Aztec within 60 days of tank closure.

Your approved Remove and Replace C-144 is (are) located in the OCD imaging link below:

- Open link below:

<http://ocdimage.emnrd.state.nm.us/imaging/default.aspx>.

## **Leonard Lowe**

Environmental Engineer

[Environmental Bureau]

**Oil Conservation Division**

**Energy Minerals and Natural Resources Department**

1220 South St. Frances

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Website: <http://www.emnrd.state.nm.us/ocd/>



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**From:** Moskal, Steven [mailto:Steven.Moskal@bp.com]  
**Sent:** Wednesday, October 07, 2015 11:26 AM  
**To:** Lowe, Leonard, EMNRD <Leonard.Lowe@state.nm.us>  
**Subject:** RE: BGT Operating Permit Approval Request

My apologies. All of them are located in sector 7.

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**From:** Lowe, Leonard, EMNRD [<mailto:Leonard.Lowe@state.nm.us>]  
**Sent:** Wednesday, October 07, 2015 11:24 AM  
**To:** Moskal, Steven  
**Subject:** RE: BGT Operating Permit Approval Request  
**Importance:** High

Mr. Moskal,

Which Box are they located in?

## **Leonard Lowe**

Environmental Engineer

[Environmental Bureau]

**Oil Conservation Division**

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Website: <http://www.emnrd.state.nm.us/ocd/>

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**From:** Moskal, Steven [mailto:Steven.Moskal@bp.com]  
**Sent:** Wednesday, October 07, 2015 11:20 AM  
**To:** Lowe, Leonard, EMNRD <[Leonard.Lowe@state.nm.us](mailto:Leonard.Lowe@state.nm.us)>  
**Cc:** Railsback, Farrah (CH2M HILL) <[Farrah.Railsback@bp.com](mailto:Farrah.Railsback@bp.com)>; Hixon, Vance E <[Vance.Hixon@bp.com](mailto:Vance.Hixon@bp.com)>; [jeffcblagg@aol.com](mailto:jeffcblagg@aol.com); Nelson Velez ([nelsonvelez4519@msn.com](mailto:nelsonvelez4519@msn.com)) ([nelsonvelez4519@msn.com](mailto:nelsonvelez4519@msn.com)) <[nelsonvelez4519@msn.com](mailto:nelsonvelez4519@msn.com)>  
**Subject:** BGT Operating Permit Approval Request

Leonard,

Please approve the following BGT operating permits:

Price 001 E	95 bbl	Tank A	API #3004526001
Russell 003	95 bbl	Tank A	API #3004523968

Storey D 2	95 bbl	Tank A	API #3004523818
Storey D 3	95 bbl	Tank A	API #3004523949
Storey LS 1	95 bbl	Tank A	API #3004507183

Thank you,

Steve Moskal

*BP Lower 48 – San Juan – Farmington*

*Field Environmental Coordinator*

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