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Effective Solutions

REMEDIATION SUMMARY

& SITE CLOSURE REQUEST

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico
Unit Letter "M" (SW/SW), Section 23, Township 20 South, Range 31 East
Latitude 32° 33' 11.412" North, Longitude 103° 50' 44.304"
NMOCD Reference #2RP-369

Prepared For:

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June 2013

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TABLE OF CONTENTS

1.0 INTRODUCTION & BACKGROUND INFORMATION..... 1
2.0 NMOCD SITE CLASSIFICATION..... 1
3.0 DISTRIBUTION OF CONTAMINANTS IN THE UNSATURATED ZONE..... 2
3.1 Summary of Soil Remediation Activities..... 2
4.0 DISTRIBUTION OF CONTAMINANTS IN THE SATURATED ZONE..... 8
4.1 Site Characteristics & Background Information..... 8
4.2 Summary of Quarterly Groundwater Monitoring Activities..... 8
4.3 Quarterly Monitoring Data..... 9
4.4 Groundwater Closure Request..... 11
5.0 QA/QC PROCEDURES..... 12
5.1 Soil Sampling..... 12
5.2 Groundwater Sampling..... 12
5.3 Decontamination of Equipment..... 12
5.4 Laboratory Protocol..... 13
6.0 SITE CLOSURE REQUEST..... 13
7.0 LIMITATIONS..... 13
8.0 DISTRIBUTION..... 14

FIGURES

Figure 1 – Site Location Map
Figure 2 – Site & Sample Location Map
Figure 3 – Stratigraphic Cross Section
Figure 4A – Inferred Groundwater Gradient Map – 1Q2013
Figure 4B – Inferred Groundwater Gradient Map – 2Q2013
Figure 5A – Groundwater Concentration Map – 1Q2013
Figure 5B – Groundwater Concentration Map – 2Q2013

TABLES

Table 1 – Concentrations of BTEX, TPH & Chloride in Soil
Table 2 – Concentrations of Potassium, Arsenic & Magnesium in Soil
Table 3 – Groundwater Elevation Data
Table 4 – Concentrations of Chloride in Groundwater
Table 5 – Concentrations of BTEX, Metals & TDS in Groundwater

APPENDICES

Appendix A – Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application (Form C-144)
Appendix B – Release Notification & Corrective Action (Form C-141)
Appendix C – Photographs
Appendix D – Soil Boring & Monitor Well Logs
Appendix E – Laboratory Analytical Reports - Soil
Appendix F – Laboratory Analytical Reports - Groundwater

1.0 INTRODUCTION AND BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Site Closure Request* for the site known as G.H. Cobb Federal #1: a permanent, unlined pit. The legal description of the site is Unit Letter "M" (SW/SW), Section 23, Township 20 South, Range 31 East, in Eddy County, New Mexico. The property is owned and administered by the United States Department of the Interior, Bureau of Land Management (BLM). The geographic coordinates of the site are 32° 33' 11.412" North latitude and 103° 50' 44.304" West longitude. Please reference Figure 1 for a "Site Location Map".

On July 1, 2009, BOPCO submitted a "Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application" (Form C-144) to the New Mexico Oil Conservation Division (NMOCD). The Form C-144 is provided as Appendix A.

On November 13, 2009, BOPCO requested Basin Environmental assume remediation oversight of the G.H. Cobb Federal #1 site.

On November 20, 2009, representatives of BOPCO and Basin Environmental met with a representative of the NMOCD Artesia District Office to discuss remediation activities to be conducted at the site. The pit was to be excavated to approximately ten feet (10') below the surface of the pit, to a total depth of approximately thirty-five feet (35') below ground surface (bgs). Due to safety issues associated with the depth of the existing excavation, it was decided that a six-inch (6") inch PVC conduit would be cemented in the floor of the excavation and extended to approximately fifteen feet (15') bgs. The excavation would then be backfilled around the conduit, which would allow drilling activities to be conducted in the floor of the excavation.

On December 7, 2009, BOPCO submitted a Release Notification and Corrective Action (Form C-141) to the NMOCD and notified the BLM of its intent to commence pit closure activities at the G.H. Cobb Federal #1 site. The Form C-141 is provided as Appendix B. General photographs of the site are provided as Appendix C.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 23, Township 20 South, Range 31 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately seventy-five feet (75') bgs. BOPCO installed six (6) monitor wells on-site, which indicate the average depth to groundwater is approximately seventy feet (70') bgs. Laboratory analytical results from soil samples collected during the installation of monitor well MW-2 indicated chloride concentrations exceeded NMOCD regulatory standards within fifty feet (50') of groundwater. The depth of chloride impact results in a score of twenty (20) points being assigned to the site based on the NMOCD depth-to-groundwater criterion.

A search of the NMWRRS database indicated there are no water wells within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

There are no surface water bodies within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the G.H. Cobb Federal #1 site has an initial ranking score of twenty (20) points. The soil remediation levels for a site with a ranking score of twenty (20) points are as follows:

- Benzene – 10 mg/kg (ppm)
- Benzene, toluene, ethyl-benzene, and total xylene (BTEX) – 50 mg/kg (ppm)
- Total Petroleum Hydrocarbons (TPH) – 100 mg/kg (ppm)

The New Mexico Administrative Code (NMAC) does not currently specify a remediation level for chloride concentrations in soil. Chloride remediation levels are set by the NMOCD on a site-specific basis.

3.0 DISTRIBUTION OF CONTAMINANTS IN THE UNSATURATED ZONE

3.1 Summary of Soil Remediation Activities

On November 13, 2009, remediation activities commenced at the site. A fence was constructed around the existing excavation for the protection of livestock in the area.

On November 25, 2009, a six-inch (6") PVC conduit was installed in the floor of the excavation to facilitate drilling activities. The area of the excavation around the conduit was backfilled to accommodate a drilling rig.

On December 8, 2009, excavation of impacted soil commenced at the site. From December 8 through December 10, 2009, excavated soil was placed in the floor of the excavation, leveled and compacted to accommodate a drilling rig.

From December 30, 2009, through January 15, 2010, thirteen (13) soil borings (SB-1 through SB-13) were advanced to investigate the vertical and horizontal extent of impact at the site. Soil samples were collected at five-foot (5') drilling intervals and field-screened using a Photo-Ionization Detector (PID) and/or chloride test kit. Selected soil samples were submitted to Cardinal Laboratories (Hobbs, New Mexico) for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), total petroleum hydrocarbons (TPH), and/or chloride using EPA Methods SW-846 8021b, SW-846 8015M, and 4500 Cl-B, respectively. Selected soil samples were also analyzed for concentrations of potassium, arsenic, and magnesium using EPA Method SW846 6010B. Table 1 summarizes the “Concentrations of BTEX, TPH & Chloride in Soil”, and Table 2 summarizes the "Concentrations of Potassium, Arsenic & Magnesium in Soil". A stratigraphic cross-section is provided as Figure 3. Soil boring and monitor well logs are provided as Appendix D. Laboratory analytical reports are provided as Appendix E.

Soil Boring SB-1 was advanced approximately seventy feet (70') to the south of the excavation. The soil boring was advanced to a total depth of approximately ninety feet (90') bgs. Groundwater was encountered at approximately seventy-four feet (74') bgs. Soil samples collected at the ground surface and 5', 15', 25', 35', 45', 55', 60', 65', 70', 75', 80', 85', and 90' bgs

were submitted to the laboratory for analysis of chloride, TPH, BTEX, and/or metal concentrations. Laboratory analytical results indicated chloride concentrations ranged from 64.0 mg/kg in soil sample SB-1 @ 55' to to 8,200 mg/kg in soil sample SB-1 @ 65'. TPH concentrations were less than the laboratory method detection limit (MDL) in all soil samples submitted, with the exception of soil sample SB-1 @ 25', which exhibited a concentration of 40.3 mg/kg. Potassium concentrations ranged from 459 mg/kg in soil sample SB-1 @ 60' to 2,150 in soil sample SB-1 @ 75'. Arsenic concentrations were less than the laboratory MDL in all submitted soil samples, with the exception of soil sample SB-1 @ 75', which exhibited an arsenic concentration of 7.20 mg/kg. Magnesium concentrations ranged from 3,340 mg/kg in soil sample SB-1 @ 60' to 12,200 mg/kg in soil sample SB-1 @ 75'.

Soil boring SB-1 was converted to monitor well MW-1 and fitted with a two-inch (2") diameter, screened PVC riser, J-plug, and a locking, steel monument.

Soil Boring SB-2 was advanced through the conduit in the floor of the excavation at approximately twenty-nine feet (29') bgs. The soil boring was advanced to a total depth of approximately ninety feet (90') bgs. Groundwater was encountered at approximately fifty-eight feet (58') bgs. Soil samples collected on the floor of the excavation (Surface) and drilling depths of 34', 44', 54', 64', 69', 74', 79', 84', and 89' bgs were submitted to the laboratory for analysis of chloride and/or metal concentrations. The soil sample collected at 34' bgs (soil sample SB-2 @ 5') was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,300 mg/kg in the soil sample collected at 89' bgs (soil sample SB-2 @ 60') to 15,400 mg/kg in the soil sample collected at 64' bgs (soil sample SB-2 @ 35'). Potassium concentrations ranged from 684 mg/kg in the soil sample collected at 74' bgs (soil sample SB-2 @ 45') to 1,330 mg/kg in the soil sample collected at 69' bgs (soil sample SB-2 @ 40'). Arsenic concentrations ranged from less than the laboratory MDL in the soil samples collected at 34', 64', and 74' bgs (soil samples SB-2 @ 5', SB-2 @ 35', and SB-2 @ 45', respectively) to 16.0 mg/kg in the soil sample collected at 69' bgs (soil sample SB-2 @ 40'). Magnesium concentrations ranged from 3,170 mg/kg in soil SB-2 @ Surface to 18,800 mg/kg in the soil sample collected at 69' bgs (soil sample SB-2 @ 40'). BTEX constituent concentrations in the soil sample collected at 34' bgs (soil sample SB-2 @ 5') were less than the appropriate laboratory MDL, and the TPH concentration was 15.6 mg/kg.

Soil boring SB-2 was converted to monitor well MW-2 and fitted with a two-inch (2") diameter, screened PVC riser, J-plug, and a locking, steel monument.

Soil boring SB-3 was advanced in the northern portion of the excavation at approximately fifteen feet (15') bgs. The soil boring was advanced to a total depth of approximately seventy-five feet (75') bgs. Soil samples collected on the floor of the excavation (Surface) and drilling depths of 20', 30', 40', 50', 55', 60', 65', 70', and 75' bgs were submitted to the laboratory for analysis of chloride and/or metal concentrations. The soil sample collected at 20' bgs (Soil Sample SB-3 @ 5') was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 384 mg/kg in the soil sample collected at 30' bgs (soil sample SB-3 @ 15') to 12,000 mg/kg in the soil sample collected at 55' bgs (soil sample SB-3 @ 40'). Potassium concentrations ranged from 455 mg/kg in the soil sample collected at 20' bgs (soil sample SB-3 @ 5') to 1,990 mg/kg in the soil sample collected at 75' bgs (soil sample SB-3 @ 60'). Arsenic concentrations ranged from less than the laboratory MDL in the soil samples collected on the floor of the excavation, 20' bgs, and 65' bgs (soil samples SB-

3 @ Surface, SB-3 @ 5', and SB-3 @ 65', respectively) to 13.9 mg/kg in the soil sample collected at 75' bgs (soil sample SB-3 @ 60'). Magnesium concentrations ranged from 4,150 mg/kg in the soil sample collected at 20' bgs (soil sample SB-3 @ 5') to 16,600 mg/kg in the soil sample collected at 75' bgs (soil sample SB-3 @ 60'). BTEX constituent concentrations in the soil sample collected at 20' bgs(soil sample SB-3 @ 5') were less than the appropriate laboratory MDL, and the TPH concentration was 14.8 mg/kg.

Soil boring SB-4 was advanced approximately one hundred and ten feet (110') to the west of the excavation. The soil boring was advanced to a total depth of approximately seventy-five feet (75') bgs. Soil samples collected at 5', 15', 25', 30', 35', 45', 55', 60', 65', 70', and 75' bgs were submitted to the laboratory for analysis of chloride and/or metal concentrations. Soil sample SB-4 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 128 mg/kg in soil sample SB-4 @ 5' to 14,400 mg/kg in soil sample SB-4 @ 70'. Potassium concentrations ranged from 452 mg/kg in soil sample SB-4 @ 25' to 1,420 mg/kg in soil sample SB-4 @ 65'. Arsenic concentrations ranged from less than the laboratory MDL in soil sample SB-4 @ 60' to 14.3 mg/kg in soil sample SB-4 @ 75'. Magnesium concentrations ranged from 3,660 mg/kg in soil sample SB-4 @ 25' to 18,400 mg/kg in soil sample SB-4 @ 65'. BTEX constituent concentrations in soil sample SB-4 @ 5' were less than the appropriate laboratory MDL, and the TPH concentration was 16.6 mg/kg.

Soil boring SB-5 was advanced approximately twenty-five feet (25') to the east of the excavation. The soil boring was advanced to a total depth of approximately eighty feet (80') bgs. Soil samples collected at 5', 15', 25', 35', 45', 55', 65', 70', 75', and 80' bgs were submitted to the laboratory for analysis of chloride and/or metal concentrations. Soil sample SB-5 @ 5' bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 560 mg/kg in soil sample SB-5 @ 15' to 18,600 mg/kg in soil sample SB-5 @ 80'. Potassium concentrations ranged from 630 mg/kg in soil sample SB-5 @ 75' to 1,290 mg/kg in soil sample SB-5 @ 70'. Arsenic concentrations were less than the laboratory MDL in all submitted soil samples, with the exception of soil sample SB-5 @ 70', which exhibited an arsenic concentration of 15.1 mg/kg. Magnesium concentrations ranged from 3,260 mg/kg in soil sample SB-5 @ 75' to 18,100 mg/kg in soil sample SB-5 @ 70'. BTEX constituent concentrations in soil sample SB-5 @ 5' were less than the appropriate laboratory MDL, and the TPH concentration was 17.2 mg/kg.

Soil boring SB-6 was advanced approximately fifty feet (50') north of the excavation. The soil boring was advanced to a total depth of approximately seventy feet (70') bgs. Soil samples collected at 5', 15', 25', 35', 45', 55', 60', 65', and 70' bgs were submitted to the laboratory for analysis of chloride and/or metal concentrations. Soil sample SB-6 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 304 mg/kg in soil sample SB-6 @ 15' to 13,400 mg/kg in soil sample SB-6 @ 65'. Potassium concentrations ranged from 748 mg/kg in soil sample SB-6 @ 70' to 1,570 mg/kg in soil sample SB-6 @ 60'. Arsenic concentrations were less than the laboratory MDL in all submitted soil samples, with the exception of soil sample SB-6 @ 65', which exhibited an arsenic concentration of 10.4 mg/kg. Magnesium concentrations ranged from 2,870 mg/kg in soil sample SB-6 @ 70' to 18,000 mg/kg in soil sample SB-6 @ 35'. BTEX and TPH constituent concentrations in soil sample SB-6 @ 5' were less than the appropriate laboratory MDL.

Soil boring SB-7 was advanced approximately one hundred and forty-five feet (145') to the west of the excavation. The soil boring was advanced to a total depth of approximately seventy-five feet (75') bgs. Soil samples collected at 5', 15', 25', 30', 35', 45', 55', 60', 65', 70', and 75' bgs were submitted to the laboratory for analysis of chloride concentrations. Soil sample SB-7 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32.0 mg/kg in soil sample SB-7 @ 5' to 12,400 mg/kg in soil sample SB-7 @ 75'. BTEX and TPH constituent concentrations in soil sample SB-7 @ 5' were less than the appropriate laboratory MDL.

Soil boring SB-8 was advanced approximately three hundred and eighty feet (380') to the south of the excavation. The soil boring was advanced to a total depth of approximately one hundred and five feet (105') bgs. Groundwater was not encountered during advancement of the soil boring. However, groundwater was encountered at approximately ninety-four feet (94') bgs on a subsequent site visit on January 26, 2010. Soil samples collected at 5', 15', 25', 35', 45', 55', 65', 75', 80', and 85' bgs were submitted to the laboratory for analysis of chloride concentrations. Soil sample SB-8 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32.0 mg/kg in soil samples SB-8 @ 55', SB-8 @ 65', and SB-8 @ 75' to 560 mg/kg in soil sample SB-8 @ 5'. BTEX and TPH constituent concentrations in soil sample SB-8 @ 5' were less than the appropriate laboratory MDL.

Soil boring SB-8 was converted to monitor well MW-3 and fitted with a two-inch (2") diameter, screened PVC riser, J-plug, and a locking, steel monument.

Soil boring SB-9 was advanced approximately twenty-five feet (25') to the south of the excavation. The soil boring was advanced to a total depth of approximately twenty feet (20') bgs. Soil samples collected at 5', 15', and 20' bgs were submitted to the laboratory for analysis of chloride concentrations. Soil sample SB-9 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 144 mg/kg in soil sample SB-9 @ 15' to 1,140 mg/kg in soil sample SB-9 @ 5'. BTEX and TPH constituent concentrations in soil sample SB-9 @ 5' were less than the appropriate laboratory MDL.

Soil boring SB-10 was advanced approximately ten feet (10') to the east of the excavation. The soil boring was advanced to a total depth of approximately twenty feet (20') bgs. Soil samples collected at 5', 15', and 20' bgs were submitted to the laboratory for analysis of chloride concentrations. Soil sample SB-10 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 224 mg/kg in soil sample SB-10 @ 15' to 1,360 mg/kg in soil sample SB-10 @ 5'. BTEX constituent concentrations in soil sample SB-10 @ 5' were less than the appropriate laboratory MDL, and the TPH concentration was 42.7 mg/kg.

Soil boring SB-11 was advanced approximately two hundred and fifty feet (250') to the west of the excavation. The soil boring was advanced to a total depth of approximately ninety feet (90') bgs. Groundwater was encountered at approximately sixty-nine feet (69') bgs. Soil samples collected at 5', 15', 25', 35', 45', 55', 65', 70', 75', and 80' bgs were submitted to the laboratory for analysis of chloride concentrations. Soil sample SB-11 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations

ranged from 16.0 mg/kg in soil sample SB-11 @ 5' to 7,000 mg/kg in soil sample SB-11 @ 70'. BTEX and TPH constituent concentrations in soil sample SB-11 @ 5' were less than the appropriate laboratory MDL.

Soil boring SB-11 was converted to monitor well MW-4 and fitted with a two-inch (2") diameter, screened PVC riser, J-plug, and a locking, steel monument.

Soil boring SB-12 was advanced approximately two hundred and eighty feet (280') to the north of the excavation. The soil boring was advanced to a total depth of approximately ninety feet (90') bgs. Groundwater was encountered at approximately sixty-eight feet (68') bgs. Soil samples collected at 5', 15', 25', 35', 45', 55', 65', 75', 80', 85', and 90' bgs were submitted to the laboratory for analysis of chloride concentrations. Soil sample SB-12 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 48.0 mg/kg in soil samples SB-12 @ 5' and SB-12 @ 35' to 5,680 mg/kg in soil sample SB-12 @ 80'. BTEX and TPH constituent concentrations in soil sample SB-12 @ 5' were less than the appropriate laboratory MDL.

Soil boring SB-12 was converted to monitor well MW-5 and fitted with a two-inch (2") diameter, screened PVC riser, J-plug, and a locking, steel monument.

Soil boring SB-13 was advanced approximately sixty (60') to the west of the excavation. The soil boring was advanced to a total depth of approximately ninety-five feet (95') bgs. Groundwater was encountered at approximately seventy-five feet (75') bgs. Soil samples collected at 5', 15', 25', 35', 45', 55', 65', 75', 85', and 95' bgs were submitted to the laboratory for analysis of chloride concentrations. Soil sample SB-13 @ 5' was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32.0 mg/kg in soil samples SB-13 @ 55', SB-13 @ 65', and SB-13 @ 95' to 144 mg/kg in soil sample SB-13 @ 5'. BTEX and TPH constituent concentrations in soil sample SB-13 @ 5' were less than the appropriate laboratory MDL.

Soil boring SB-13 was converted to monitor well MW-6 and fitted with a two-inch (2") diameter, screened PVC riser, J-plug, and a locking, steel monument.

On January 8, 2010, nine (9) soil samples (Northwest S/W @ 10', Northeast S/W @ 10', West S/W @ 10', East S/W @ 10', South S/W @ 10', Northwest Corner @ 10', Northeast Corner @ 10', Southwest Corner @ 10', and Southeast Corner @ 10') were collected from the sidewalls of the excavation and submitted to the laboratory for analysis of BTEX, TPH, and chloride concentrations. Laboratory analytical results indicated BTEX and TPH constituent concentrations were less than the appropriate laboratory MDL in all soil samples submitted. Chloride concentrations ranged from 192 mg/kg in soil sample Northwest Corner @ 10' to 9,900 mg/kg in soil sample East S/W @ 10'.

Analytical results from soil borings advanced to the south and the east of the excavation (SB-9 and SB-10) indicated chloride concentrations within the soil column are less than 250 mg/kg at 20 feet bgs. The excavation was advanced in the areas represented by soil samples Northeast S/W @ 10', West S/W @ 10', and Southeast Corner @ 10'. Further excavation to the south and east was deemed impracticable due to the proximity of a widely used oilfield access road and active oilfield production facilities.

On January 18, 2010, Basin Environmental resumed excavation activities on the west sidewall and the northwest and southeast corners of the excavation. Excavated soil was placed in the excavation and leveled.

On February 2, 2010, Basin Environmental began excavation of the east sidewall. From February 2 through February 10, 2010, excavated soil from the east, north, and south sidewalls was placed in the excavation and leveled.

On February 11, 2010, three (3) soil samples (West S/W A @ 10', Southeast Corner A @ 10', and Northwest Corner A @ 10') were collected from the sidewalls of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were less than the NMOCD-approved level of 1,000 mg/kg in all soil samples submitted. Chloride concentrations ranged from 672 mg/kg in soil sample West S/W A @ 10' to 1,060 mg/kg in soil sample Southwest Corner A @ 10'.

From July 14 through July 16, 2010, clean caliche was loaded, transported, and stockpiled on-site for use as backfill material, pending NMOCD approval.

In December 2010, Basin Environmental, on behalf of BOPCO, prepared and submitted a *Remediation Summary and Site Closure Strategy* to the NMOCD Santa Fe District Office summarizing the above-referenced activities and detailing a strategy to advance the G.H. Cobb Federal #1 site to an NMOCD-approved closure.

Based on laboratory analytical results, and with NMOCD approval, from March 30 through April 28, 2011, the excavation was backfilled in eighteen-inch (18") lifts with non-impacted material, compacted, and contoured to fit the surrounding topography. Prior to backfilling, the PVC casing of monitor well MW-2 was extended above ground surface, and a twenty (20) mil polyurethane liner was installed in the floor of the excavation at approximately ten feet (10') to twelve feet (12') bgs. Approximately one foot (1') of non-impacted pad sand was installed both above and below the liner to protect the liner from damage during installation and backfilling activities.

Final dimensions of the excavation were approximately one hundred and fifty-five feet (155') in width, one hundred and sixty-one feet (161') in length, and approximately thirty-five feet (35') in depth.

On August 17, 2011, the G.H. Cobb Federal #1 site was seeded with a BLM-approved seed mixture (BLM #2).

In September 2011, Basin Environmental, on behalf of BOPCO, prepared and submitted a *Remediation Summary & Soil Closure Request*, summarizing the above-referenced soil remediation activities and requesting soil closure status for the G.H. Cobb Federal #1 site.

4.0 DISTRIBUTION OF CONTAMINANTS IN THE SATURATED ZONE

4.1 Site Characteristics and Background Information

A search of the New Mexico Office of the State Engineer's database indicates that there are no registered water wells in any of the sections adjacent to the G.H. Cobb Federal #1. According to information obtained from the New Mexico Environment Department – Drinking Water Bureau, none of the six (6) active public water systems in the area obtain their drinking water locally. The Intrepid Potash North mining facility, located 1.5 miles northeast of the site, obtains its drinking water from wells located approximately forty (40) miles east of the mine in Buckeye, New Mexico. B&B Half Way Bar & Grill, a nearby eatery, hauls its drinking water from Carlsbad, New Mexico.

G.H. Cobb Federal #1 is located within the Permian Rustler Formation in an area that could be described as "karst". The remediation site is located in close proximity to three active potash mining facilities, two NMOCD permitted landfills, a nuclear waste repository, and several naturally occurring salt lakes. An Environmental Impact Statement (EIS) obtained from Intrepid Potash, dated March 2010, proposes the use of groundwater extracted from the Rustler Formation to conduct in-situ solution mining within inactive mine workings approximately five (5) miles to the west of the site. Intrepid has indicated that brine water extracted from certain areas within the Rustler Formation is of particular value for in-situ solution mining, as it forms an advantageous injectate solution and is not suitable for human consumption or use in agriculture.

Brine water aquifers are not uncommon in the region. In a publication released by the New Mexico Geological Society in 2006, *Caves and Karst of Southeastern New Mexico,* Carol Hill describes brine and fresh water intermingling in an area south of G.H. Cobb Federal #1. Laboratory analytical results from groundwater extracted from monitor wells installed in the vicinity of the Waste Isolation Pilot Plant (WIPP) indicate chloride concentrations range from 2,800 to 29,000 mg/L within a one square mile radius (Hill 2006). Hydrology within the area is further complicated due to lateral and horizontal variations in lithologies, the potential for subterranean saline springs, and the occurrence of fractured and brecciated strata, which can create a complex system of fresh and saline water paths.

4.2 Summary of Quarterly Groundwater Monitoring Activities

Quarterly groundwater monitoring events were conducted from the first quarter of 2010 (January 26, 2010) through the second quarter of 2013 (April 11, 2013), to assess the levels and extent of dissolved-phase constituents. The groundwater monitoring events consisted of measuring static water levels in the six (6) on-site monitor wells (MW-1 through MW-6), checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. The monitor wells were purged using an electrical Grundfos pump or disposable Teflon bailer of a minimum of three (3) well volumes of water, or until the wells were dry. Groundwater was allowed to recharge, and samples were obtained using clean, disposable Teflon bailers. Water samples were stored in clean, plastic or glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD-approved disposal facility near Monument, New Mexico.

No PSH was detected in the on-site monitor wells during any of the quarterly monitoring events.

Locations of groundwater monitoring wells and the inferred groundwater gradient, which was constructed from groundwater elevation measurements collected during the most recent sampling events (February 7 and April 11, 2013), are depicted in Figures 2A and 2B, "Inferred Groundwater Gradient Map – 1Q2013" and "Inferred Groundwater Gradient Map – 2Q2013", respectively. Groundwater was observed at depths ranging from 68 to 82 feet bgs in the on-site monitor wells, and the groundwater gradient maps indicate a general gradient of approximately 0.007 feet/foot to the northwest, as measured between monitor wells MW-3 and MW-4. Groundwater elevation data is provided as Table 3, "Groundwater Elevation Data".

4.3 Quarterly Monitoring Data

Data collected during the quarterly groundwater monitoring events is summarized below. The six (6) on-site monitor wells were sampled on January 26, June 3, September 17, and December 15, 2010; March 3, June 8, August 31, and November 15, 2011; February 10, May 21, August 21, and October 15, 2012; and February 7 and April 11, 2013. Groundwater samples collected from the on-site monitor wells during the quarterly sampling events were delivered to Cardinal Laboratories in Hobbs, New Mexico, for determination of chloride concentrations using EPA Method 4500 CL-B. In addition to chloride, the quarterly groundwater samples collected on January 26, 2010, were also analyzed for total dissolved solid (TDS) concentrations using EPA Method 160.1, and the quarterly sample collected on April 11, 2013, was analyzed for BTEX concentrations using EPA Method SW846-8021b.

A "special purpose" water sample was collected from an on-site produced water storage tank during the January 26, 2010, quarterly sampling event. The groundwater sample was submitted to the laboratory for analysis of chloride concentrations using EPA Method 4500 Cl-B and potassium, arsenic, and magnesium concentrations using EPA Method 600/4-91/010.

Pursuant to an NMOCD request, "special purpose" water samples were collected from monitor well MW-2 and the on-site produced water storage tank on March 24, 2010. The groundwater samples were submitted to Xenco Laboratories in Odessa, Texas, for analysis of BTEX and Toxicity Characteristic Leaching Procedure (TCLP) heavy metal concentrations using EPA Methods SW846-8021b (BTEX), SW846 6010B (TCLP metals), and SW7470A (TCLP mercury).

Laboratory analytical results were compared to NMOCD regulatory limits based on New Mexico groundwater standards found in Section 20.6.2.3103 of the New Mexico Administrative Code (NMAC). Table 4 summarizes the “Concentrations of Chloride in Groundwater”, and Table 5 summarizes the "Concentrations of BTEX, Metals & TDS in Groundwater". Groundwater contaminant concentrations for the most recent sampling events (February 7 and April 11, 2013) are depicted in Figures 5A and 5B, "Groundwater Concentration Map - 1Q2013" and "Groundwater Concentration Map - 2Q2013", respectively.

Monitor Well MW-1

Laboratory analytical results indicated chloride concentrations in monitor well MW-1 ranged from 13,700 mg/L on April 11, 2013, to 46,000 mg/L on June 3, 2010. Chloride concentrations

exceeded the New Mexico Water Quality Control Commission (NMWQCC) regulatory standard of 250 mg/L in all submitted groundwater samples.

The TDS concentration in the groundwater sample collected on January 26, 2010, was 63,200 mg/L, which exceeded the NMWQCC regulatory standard of 1,000 mg/L.

Monitor Well MW-2

Laboratory analytical results indicated chloride concentrations in monitor well MW-2 ranged from 109,000 mg/L on August 21, 2012, to 142,000 mg/L on December 15, 2010. Chloride concentrations exceeded the NMWQCC regulatory standard of 250 mg/L in all submitted groundwater samples.

Benzene concentrations ranged from 0.0208 mg/L on March 24, 2010, to 0.005 mg/L on April 11, 2013. Toluene concentrations ranged from less than the laboratory MDL on March 24, 2010, to 0.004 mg/L on April 11, 2013. Total xylene concentrations ranged from less than the laboratory MDL on April 11, 2013, to 0.0432 mg/L on March 24, 2010. Benzene concentrations exceeded the NMWQCC regulatory standard of 0.010 mg/L on March 24, 2010. Toluene and ethylbenzene concentrations were less than the NMWQCC regulatory standard of 0.75 mg/L in all submitted groundwater samples. Total xylene concentrations were less than the NMWQCC regulatory standard of 0.62 mg/L in all submitted groundwater samples.

TCLP metal concentrations in the groundwater sample collected on March 24, 2010, were less than the appropriate laboratory MDL, with the exception of barium, which exhibited a concentration of 1.43 mg/L. All TCLP metal concentrations were less than the appropriate NMWQCC regulatory standard.

The TDS concentration in the groundwater sample collected on January 26, 2010, was 215,000 mg/L, which exceeded the NMWQCC regulatory standard of 1,000 mg/L.

Monitor Well MW-3

Laboratory analytical results indicated chloride concentrations in monitor well MW-3 ranged from 124 mg/L on January 26, 2010, to 228 mg/L on June 8, 2011. Chloride concentrations were less than the NMWQCC regulatory standard of 250 mg/L in all submitted groundwater samples.

The TDS concentration in the groundwater sample collected on January 26, 2010, was 773 mg/L, which was less than the NMWQCC regulatory standard of 1,000 mg/L.

Monitor Well MW-4

Laboratory analytical results indicated chloride concentrations in monitor well MW-4 ranged from 45,000 mg/L on May 21, 2012, to 54,000 mg/L on November 15, 2011. Chloride concentrations exceeded the NMWQCC regulatory standard of 250 mg/L in all submitted groundwater samples.

The TDS concentration in the groundwater sample collected on January 26, 2010, was 72,500 mg/L, which exceeded the NMWQCC regulatory standard of 1,000 mg/L.

Monitor Well MW-5

Laboratory analytical results indicated chloride concentrations in monitor well MW-5 ranged from 21,200 mg/L on August 21, 2012, to 98,000 mg/L on June 8, 2011. Chloride concentrations exceeded the NMWQCC regulatory standard of 250 mg/L in all submitted groundwater samples.

The TDS concentration in the groundwater sample collected on January 26, 2010, was 118,000 mg/L, which exceeded the NMWQCC regulatory standard of 1,000 mg/L.

Monitor Well MW-6

Laboratory analytical results indicated chloride concentrations in monitor well MW-6 ranged from 424 mg/L on January 26, 2010, to 540 mg/L on August 31, 2011. Chloride concentrations exceeded the NMWQCC regulatory standard of 250 mg/L in all submitted groundwater samples.

The TDS concentration in the groundwater sample collected on January 26, 2010, was 1,440 mg/L, which exceeded the NMWQCC regulatory standard of 1,000 mg/L.

Produced Water

The chloride concentration in the groundwater sample collected on January 26, 2010, was 170,000 mg/L, which exceeded the NMWQCC regulatory standard of 250 mg/L. The potassium concentration was 1,500 mg/L, the arsenic concentration was 2.50 mg/L, and the magnesium concentration was 3,630 mg/L. The arsenic concentration exceeded the NMWQCC regulatory standard of 0.1 mg/L. There is currently no regulatory standard for potassium or magnesium in groundwater.

The benzene concentration in the groundwater sample collected on March 24, 2010, was 0.0798 mg/L, and the ethylbenzene concentration was 0.1028 mg/L. The benzene concentration exceeded the NMWQCC regulatory standard of 0.010 mg/L. The ethylbenzene concentration was less than the NMWQCC regulatory standard of 0.75 mg/L. Toluene and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards.

TCLP metal concentrations in the groundwater sample collected on March 24, 2010, were less than the appropriate laboratory MDL, with the exception of barium, which exhibited a concentration of 2.06 mg/L. All TCLP metal concentrations were less than NMWQCC regulatory standards.

4.4 Groundwater Closure Request

The area immediately around/adjacent to the G.H. Cobb Federal #1 site has been designated for the installation of a well pad to accommodate a large-scale directional drilling “Island Project”. Up to forty (40) exploratory wellbores are scheduled to be drilled in the area over the next several years, and the footprint of the planned well pad will encompass the G.H. Cobb Federal #1 excavation and the six (6) on-site monitor wells. Construction on the well pad is scheduled to begin in the third quarter of 2013.

Due to environmental and safety concerns associated with the "Island Project", which is scheduled to continue through at least calendar year 2020, BOPCO hereby requests permission to cease groundwater remediation activities at the G.H. Cobb Federal #1 site and to plug and abandon (P&A) the six (6) on-site monitor wells. Pending NMOCD approval, the monitor wells will be P&A'd pursuant to NMOSE and NMOCD regulatory requirements.

5.0 QA/QC PROCEDURES

5.1 Soil Sampling

Soil Samples were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of BTEX, TPH, chloride, and/or metal concentrations using the methods described below. Soil samples were analyzed for BTEX, TPH, chloride, and/or metal concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method SW 846-8021b
- TPH concentrations in accordance with modified EPA Method SW 846-8015M
- Chloride concentrations in accordance with EPA Method 4500 Cl-B
- Potassium, arsenic, and magnesium concentrations in accordance with EPA Method SW846 6010B

5.2 Groundwater Sampling

Groundwater samples were submitted to Cardinal Laboratories of Hobbs, New Mexico, or Xenco Laboratories in Odessa, Texas, for analysis of chloride, BTEX, TCLP metals, and/or TDS concentrations using the methods described below. All samples were analyzed within approved holding times following the collection date.

The groundwater samples were analyzed as follows:

- Chloride concentrations in accordance with EPA Method SM 4500-CL-B
- BTEX concentrations in accordance with EPA Method SW846-8021b
- TCLP metal concentrations in accordance with EPA Methods SW846 6010B (TCLP metals) and SW7470A (TCLP mercury)
- TDS concentrations in accordance with EPA Method SM2540C
- Potassium, arsenic, and magnesium concentrations in accordance with EPA Method 600/4-91/010

5.3 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

5.4 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

6.0 SITE CLOSURE REQUEST

Soil remediation activities at the G.H. Cobb Federal #1 site met the objectives set forth by the NMOCD, as detailed in the *Remediation Summary & Soil Closure Request* dated September 2011. Due to the environmental and safety concerns associated with the aforementioned "Island Project", Basin recommends BOPCO provide the NMOCD Santa Fe and Artesia District Offices a copy of this *Remediation Summary & Site Closure Request* and request the NMOCD grant site closure status to the G.H. Cobb Federal #1 site.

7.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Service Technologies, LLC, has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Service Technologies, LLC, has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Basin Environmental Service Technologies, LLC, has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Service Technologies, LLC, also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of BOPCO, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express written consent of Basin Environmental Service Technologies, LLC, and/or BOPCO, LP.

8.0 DISTRIBUTION:

Copy 1: Glenn von Gonten
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

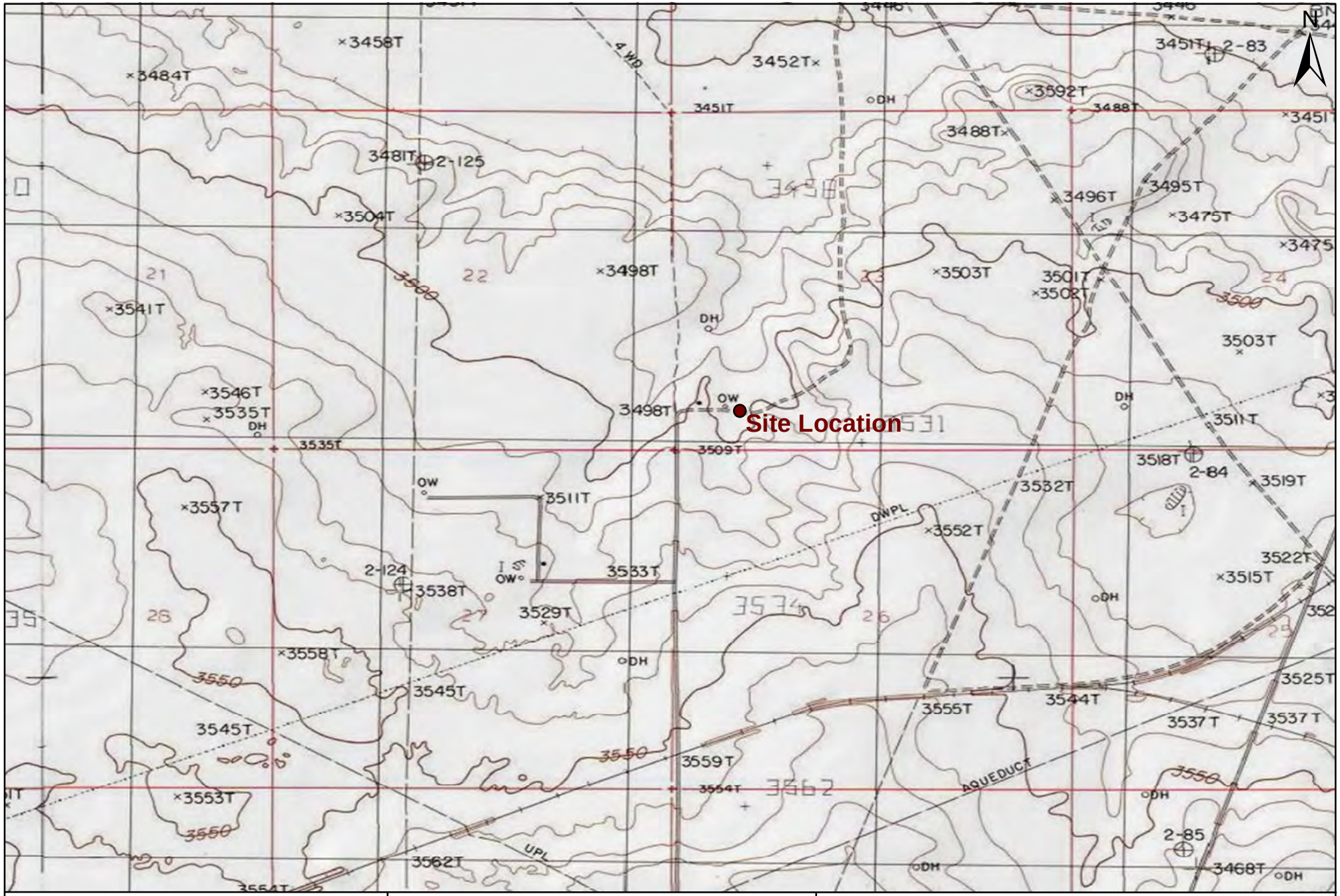
Copy 2: Mike Bratcher
New Mexico Oil Conservation Division
District 2
1301 W. Grand Avenue
Artesia, New Mexico 88210

Copy 3: James Amos
United States Department of the Interior
Bureau of Land Management
620 East Greene Street
P.O. Box 1778
Carlsbad, New Mexico 87220

Copy 4: Tony Savoie
BOPCO
522 W. Mermod, Suite 704
Carlsbad, New Mexico 88220

Copy 5: Basin Environmental Service Technologies, LLC
P.O. Box 301
Lovington, New Mexico 88260

Figures



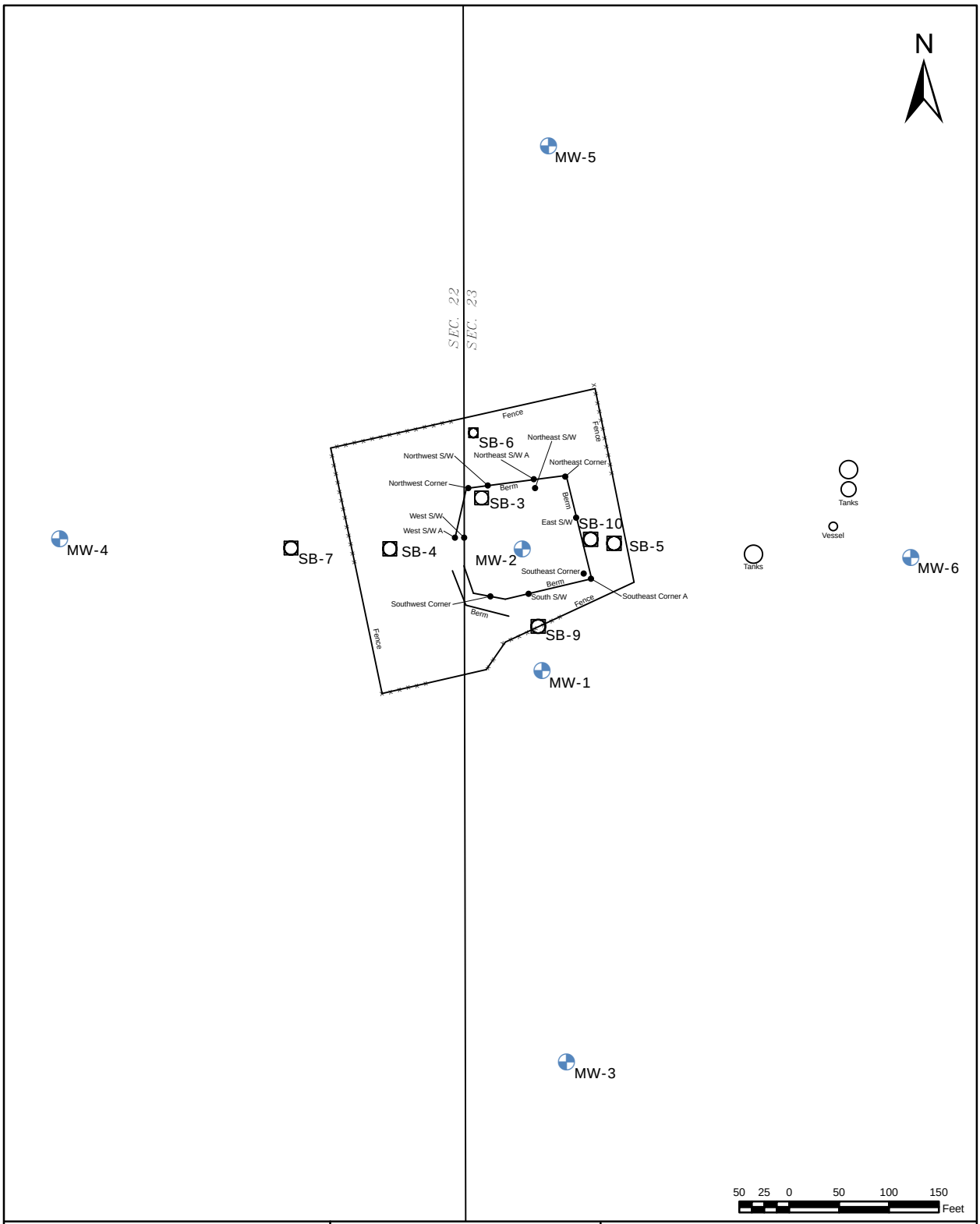
1,000 500 0 1,000 2,000

Distance in Feet

Figure 1
Site Location Map
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico
NMOCD Reference #: 2RP-369

Basin Environmental Service Technologies, LLC
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
June 14, 2013	Scale: 1" = 2000'



Legend:

- Fence
- Excavation Extent
- (3,720) Groundwater Elevation (ft)
- 0.009 ft/ft Groundwater Gradient & Magnitude
- Monitor Well
- Soil Boring
- Sample Location

Figure 2
Site & Sample Location Map
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico
NMOCD Reference #: 2RP-369

Basin Environmental Service Technologies
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
June 21, 2013	Scale: 1" = 150'

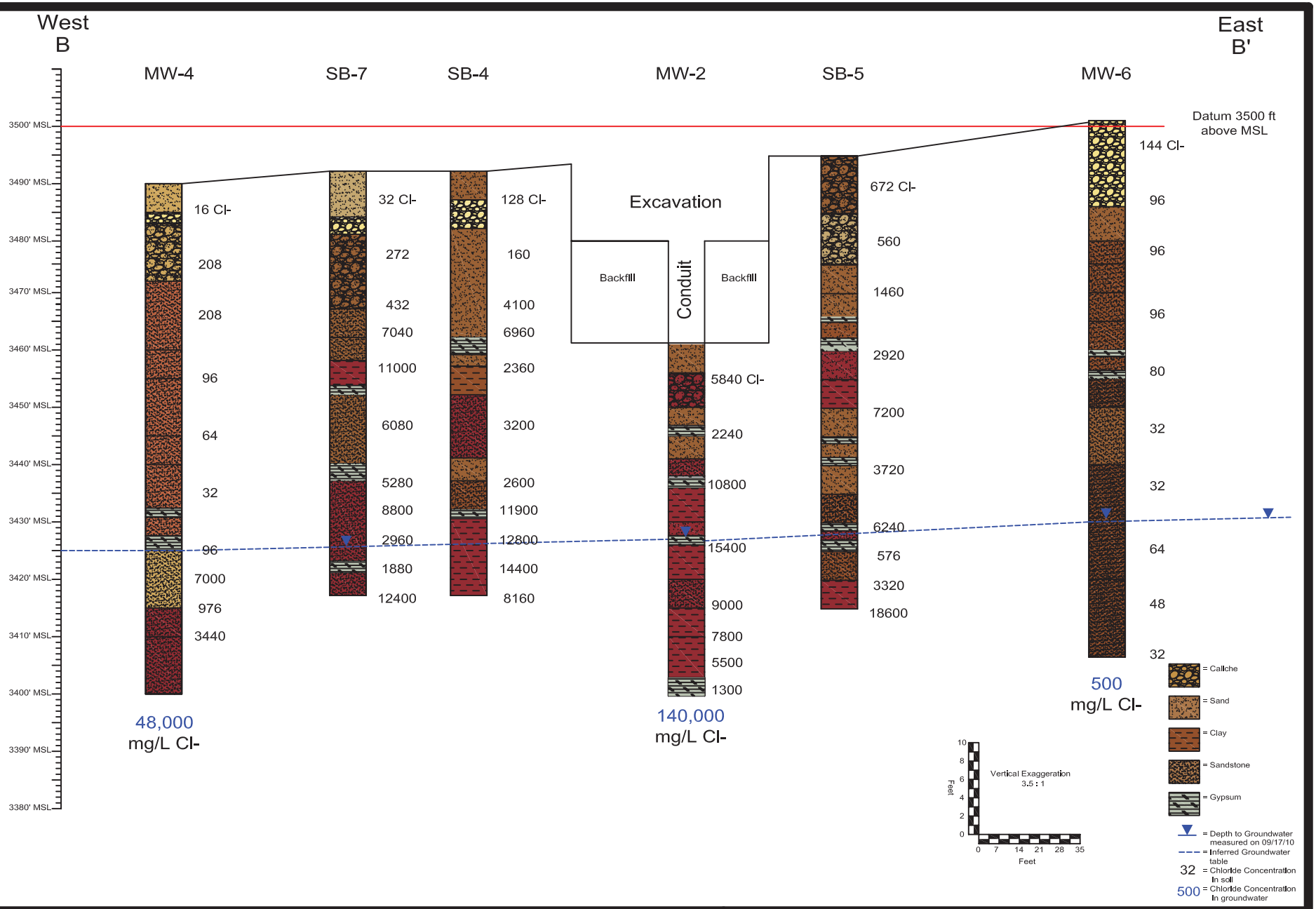
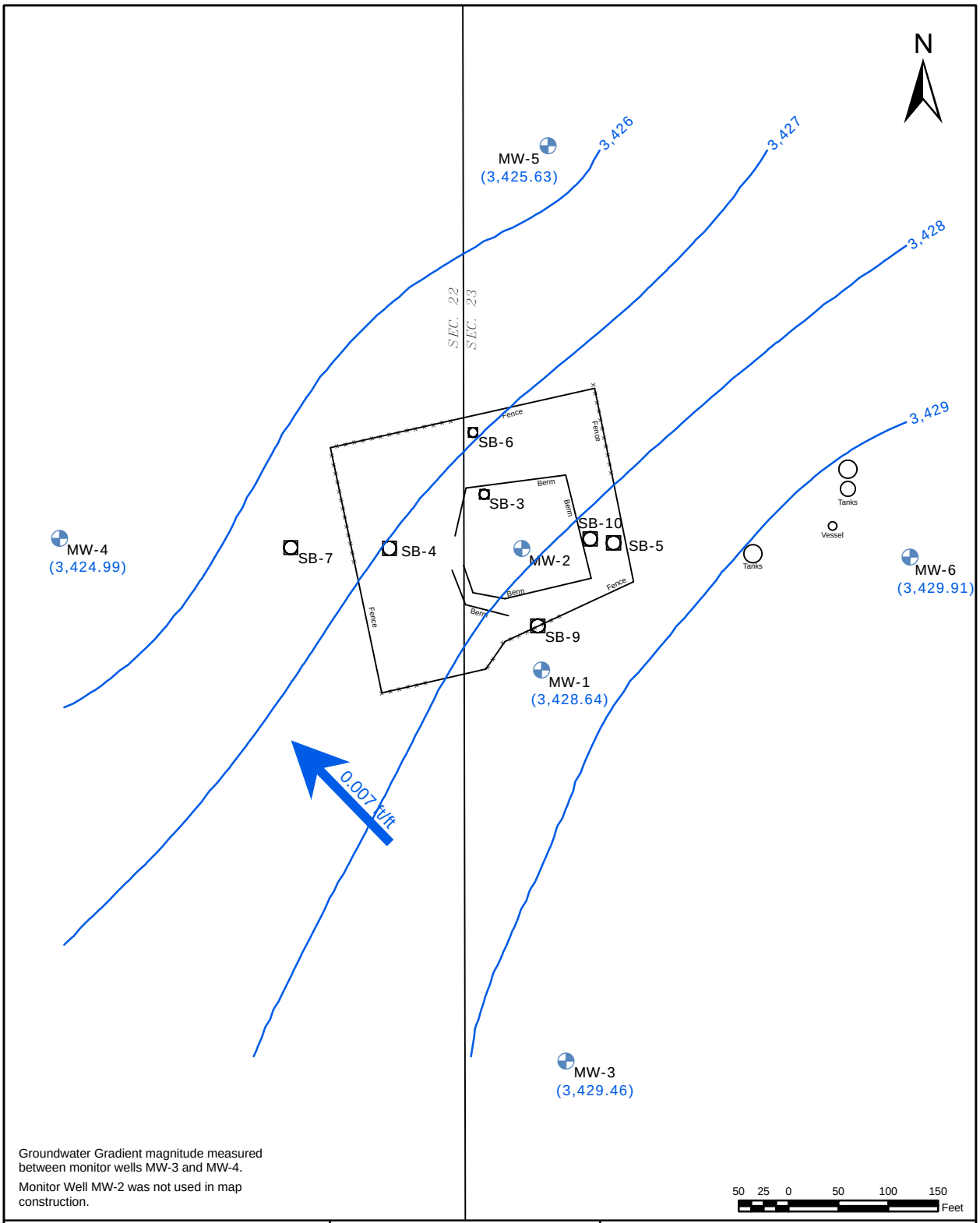


Figure 3
East - West Stratigraphic Cross-Section B - B'
BOPCO, LP
G. H. Cobb Federal #1 (2RP-369) Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: JWL	Checked By: CJB
Date: Oct 11, 2010	Scale: See Scale Bar



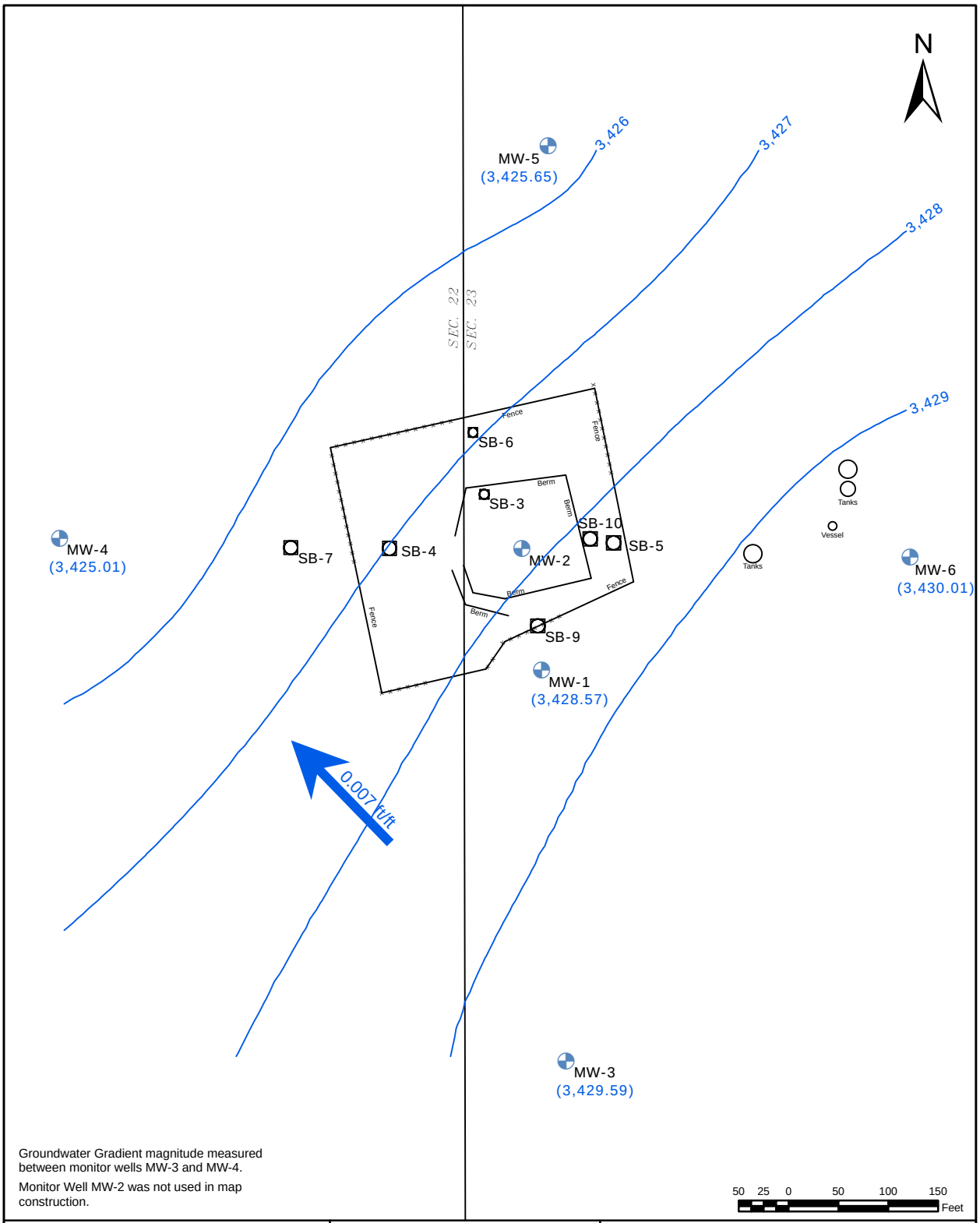
Legend:

- Fence
- Excavation Extent
- (3,720) Groundwater Elevation (ft)
- 0.009 ft/ft Groundwater Gradient & Magnitude
- Monitor Well
- Soil Boring

Figure 4A
Inferred Groundwater Gradient Map
1Q2013
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico
NMOCD Reference #: 2RP-369

Basin Environmental Service Technologies
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
June 20, 2013	Scale: 1" = 150'

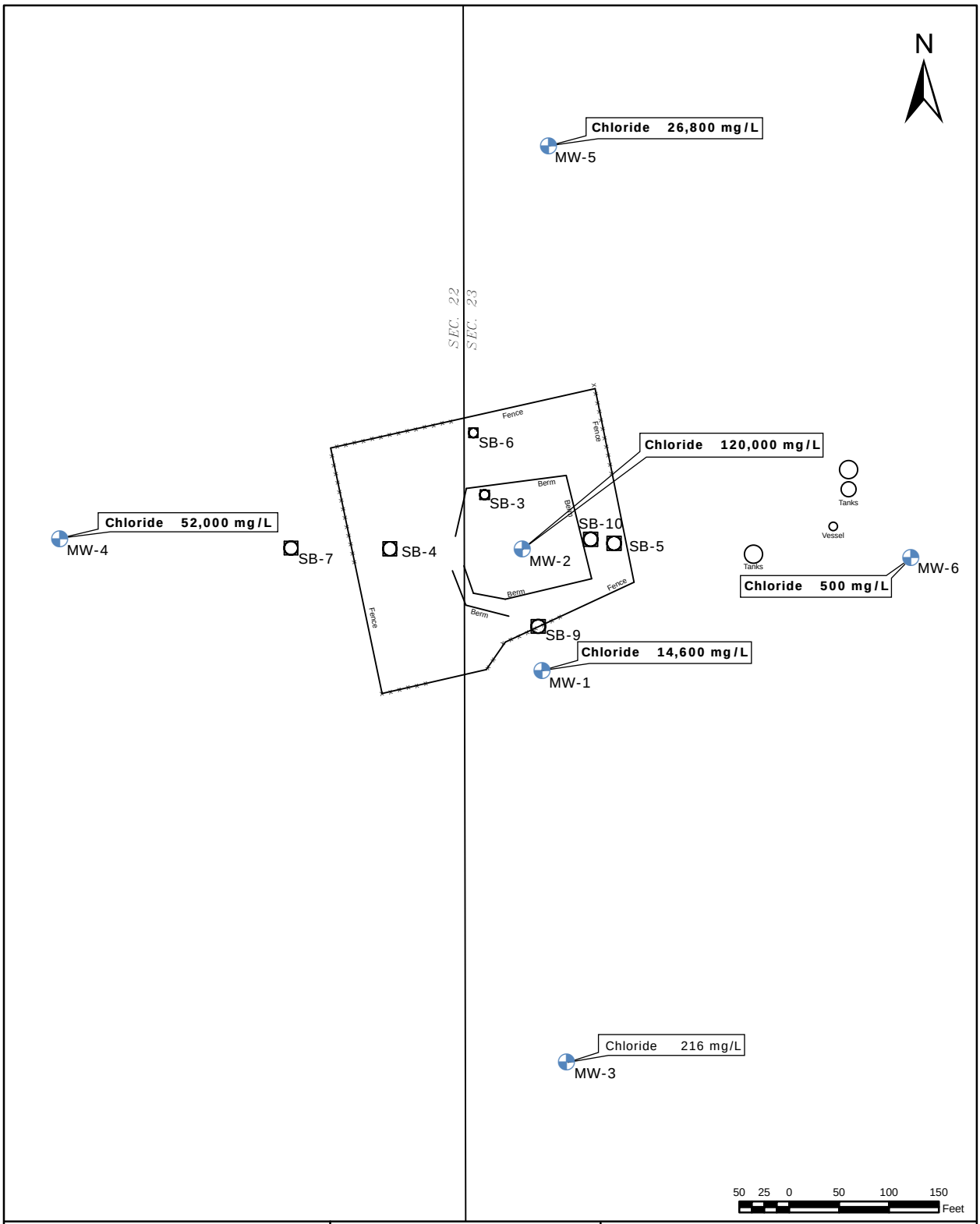


Legend:
- Fence
- Excavation Extent
- (3,720) Groundwater Elevation (ft)
- 0.009 ft/ft Groundwater Gradient & Magnitude
- Monitor Well
- Soil Boring

Figure 4B
Inferred Groundwater Gradient Map
2Q2013
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico
NMOCD Reference #: 2RP-369

Basin Environmental Service Technologies
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
June 20, 2013	Scale: 1" = 150'



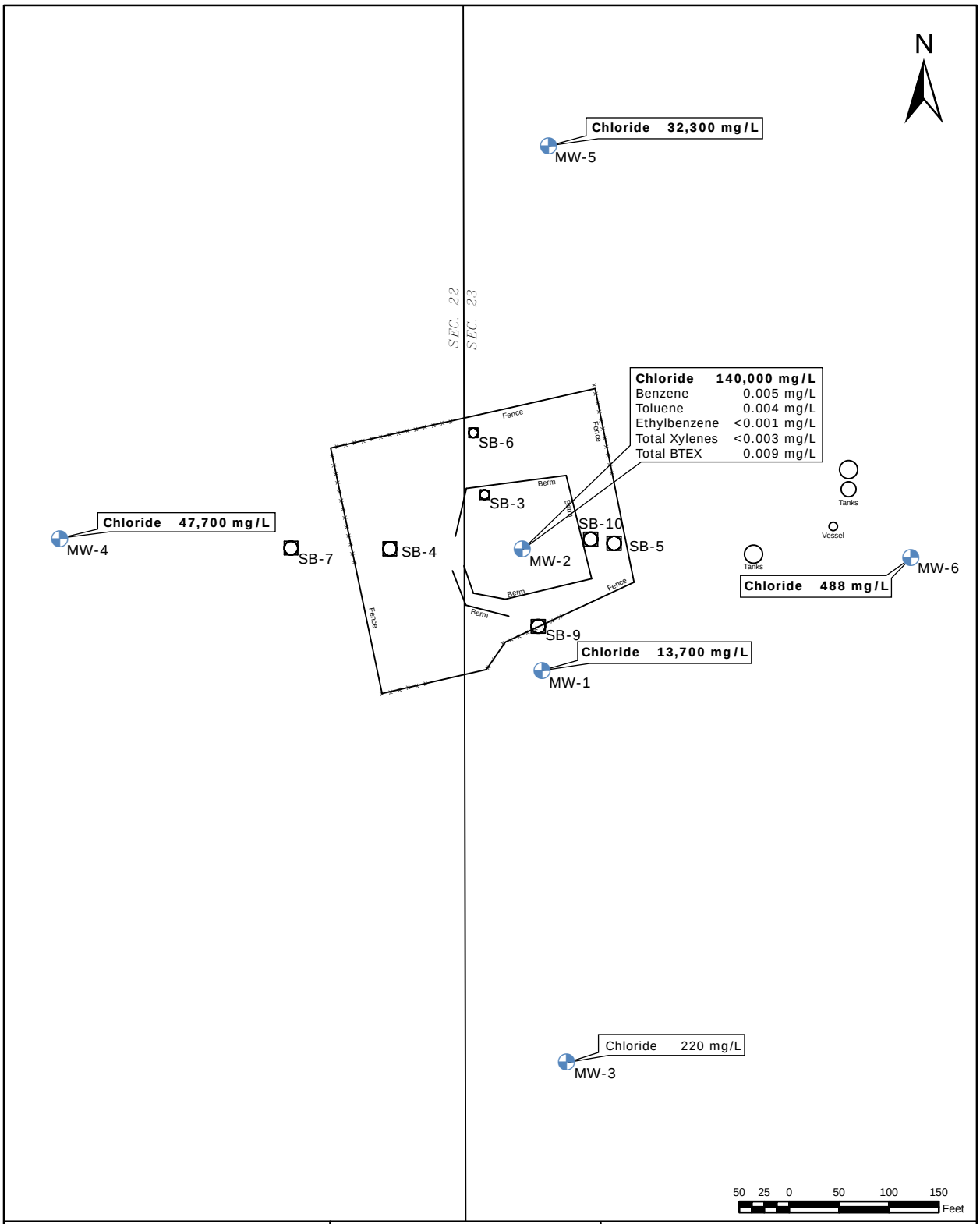
Legend:

- Fence
- Excavation Extent
- (3,720) Groundwater Elevation (ft)
- 0.009 ft/ft Groundwater Gradient & Magnitude
- Monitor Well
- Soil Boring

Figure 5A
Groundwater Concentration Map
1Q2013
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico
NMOCD Reference #: 2RP-369

Basin Environmental Service Technologies
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
June 19, 2013	Scale: 1" = 150'



Legend:

- Fence
- Excavation Extent
- (3,720) Groundwater Elevation (ft)
- 0.009 ft/ft Groundwater Gradient & Magnitude
- Monitor Well
- Soil Boring

Figure 5B
Groundwater Concentration Map
2Q2013
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico
NMOCD Reference #: 2RP-369

Basin Environmental Service Technologies
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
June 19, 2013	Scale: 1" = 150'

Tables

TABLE 1

CONCENTRATIONS OF BTEX, TPH & CHLORIDE IN SOIL

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500 Cl-B
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C_6-C_{10} (mg/Kg)	DRO C_{10}-C_{28} (mg/Kg)	DRO Ext. C_{28}-C_{35} (mg/Kg)	TOTAL TPH C_6-C_{35} (mg/Kg)	CHLORIDE (mg/Kg)
SB-1 @ 5'	5'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	320
SB-1 @ 15'	15'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	128
SB-1 @ 25'	25'	12/30/09	In-Situ	-	-	-	-	-	<10.0	40.3	<10.0	40.3	304
SB-1 @ 35'	35'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	1,090
SB-1 @ 45'	45'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	80.0
SB-1 @ 55'	55'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	64.0
SB-1 @ 60'	60'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	112
SB-1 @ 65'	65'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	8,200
SB-1 @ 70'	70'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	4,480
SB-1 @ 75'	75'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	1,230
SB-1 @ 80'	80'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	896
SB-1 @ 85'	85'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	624
SB-1 @ 90'	90'	12/30/09	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	144
SB-2 @ 5'	34'	01/04/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	15.6	<10.0	15.6	5,840
SB-2 @ 15'	44'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	2,240
SB-2 @ 25'	54'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	10,800
SB-2 @ 35'	64'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	15,400
SB-2 @ 45'	74'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	9,000
SB-2 @ 50'	79'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	7,800
SB-2 @ 55'	84'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	5,500
SB-2 @ 60'	89'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	1,300
SB-3 @ 5'	20'	01/04/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	14.8	<10.0	14.8	528
SB-3 @ 15'	30'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	384
SB-3 @ 25'	40'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	4,800
SB-3 @ 35'	50'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	6,800
SB-3 @ 40'	55'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	12,000
SB-3 @ 45'	60'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	9,500
SB-3 @ 55'	70'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	6,300
SB-3 @ 60'	75'	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	5,200

TABLE 1

CONCENTRATIONS OF BTEX, TPH & CHLORIDE IN SOIL

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500 Cl-B
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C_6-C_{10} (mg/Kg)	DRO C_{10}-C_{28} (mg/Kg)	DRO Ext. C_{28}-C_{35} (mg/Kg)	TOTAL TPH C_6-C_{35} (mg/Kg)	CHLORIDE (mg/Kg)
SB-4 @ 5'	5'	01/05/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	16.6	<10.0	16.6	128
SB-4 @ 15'	15'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	160
SB-4 @ 25'	25'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	4,100
SB-4 @ 30'	30'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	6,960
SB-4 @ 35'	35'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	2,360
SB-4 @ 45'	45'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	3,200
SB-4 @ 55'	55'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	2,600
SB-4 @ 60'	60'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	11,900
SB-4 @ 65'	65'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	12,800
SB-4 @ 70'	70'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	14,400
SB-4 @ 75'	75'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	8,160
SB-5 @ 5'	5'	01/05/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	17.2	<10.0	17.2	672
SB-5 @ 15'	15'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	560
SB-5 @ 25'	25'	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	1,460
SB-5 @ 35'	35'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	2,920
SB-5 @ 45'	45'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	7,200
SB-5 @ 55'	55'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	3,720
SB-5 @ 65'	65'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	6,240
SB-5 @ 70'	70'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	576
SB-5 @ 75'	75'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	3,320
SB-5 @ 80'	80'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	18,600
SB-6 @ 5'	5'	01/06/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	432
SB-6 @ 15'	15'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	304
SB-6 @ 25'	25'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	704
SB-6 @ 35'	35'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	7,520
SB-6 @ 45'	45'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	4,320
SB-6 @ 55'	55'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	5,760
SB-6 @ 60'	60'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	8,560
SB-6 @ 65'	65'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	13,400
SB-6 @ 70'	70'	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	12,400

TABLE 1

CONCENTRATIONS OF BTEX, TPH & CHLORIDE IN SOIL

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500 Cl-B
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C_6-C_{10} (mg/Kg)	DRO C_{10}-C_{28} (mg/Kg)	DRO Ext. C_{28}-C_{35} (mg/Kg)	TOTAL TPH C_6-C_{35} (mg/Kg)	CHLORIDE (mg/Kg)
SB-7 @ 5'	5'	01/11/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
SB-7 @ 15'	15'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	272
SB-7 @ 25'	25'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	432
SB-7 @ 30'	30'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	7,040
SB-7 @ 35'	35'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	11,000
SB-7 @ 45'	45'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	6,080
SB-7 @ 55'	55'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	5,280
SB-7 @ 60'	60'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	8,800
SB-7 @ 65'	65'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	2,960
SB-7 @ 70'	70'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	1,880
SB-7 @ 75'	75'	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	12,400
SB-8 @ 5'	5'	01/12/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	560
SB-8 @ 15'	15'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	240
SB-8 @ 25'	25'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	288
SB-8 @ 35'	35'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	80.0
SB-8 @ 45'	45'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	48.0
SB-8 @ 55'	55'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SB-8 @ 65'	65'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SB-8 @ 75'	75'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SB-8 @ 80'	80'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	48.0
SB-8 @ 85'	85'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	48.0
SB-9 @ 5'	5'	01/12/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	1,140
SB-9 @ 15'	15'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	144
SB-9 @ 20'	20'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	192
SB-10 @ 5'	5'	01/12/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	42.7	<10.0	42.7	1,360
SB-10 @ 15'	15'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	416
SB-10 @ 20'	20'	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	224

TABLE 1

CONCENTRATIONS OF BTEX, TPH & CHLORIDE IN SOIL

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500 Cl-B
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C_6-C_{10} (mg/Kg)	DRO C_{10}-C_{28} (mg/Kg)	DRO Ext. C_{28}-C_{35} (mg/Kg)	TOTAL TPH C_6-C_{35} (mg/Kg)	CHLORIDE (mg/Kg)
SB-11 @ 5'	5'	01/13/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
SB-11 @ 15'	15'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	208
SB-11 @ 25'	25'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	208
SB-11 @ 35'	35'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	96.0
SB-11 @ 45'	45'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	64.0
SB-11 @ 55'	55'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SB-11 @ 65'	65'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	96.0
SB-11 @ 70'	70'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	7,000
SB-11 @ 75'	75'	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	976
SB-11 @ 80'	80'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	3,440
SB-12 @ 5'	5'	01/15/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
SB-12 @ 15'	15'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	208
SB-12 @ 25'	25'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	240
SB-12 @ 35'	35'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	48.0
SB-12 @ 45'	45'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	128
SB-12 @ 55'	55'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	144
SB-12 @ 65'	65'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	4,000
SB-12 @ 75'	75'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	2,640
SB-12 @ 80'	80'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	5,680
SB-12 @ 85'	85'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	2,680
SB-12 @ 90'	90'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	992
SB-13 @ 5'	5'	01/15/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	144
SB-13 @ 15'	15'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	96.0
SB-13 @ 25'	25'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	96.0
SB-13 @ 35'	35'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	96.0
SB-13 @ 45'	45'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	80.0
SB-13 @ 55'	55'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SB-13 @ 65'	65'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SB-13 @ 75'	75'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	64.0
SB-13 @ 85'	85'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	48.0
SB-13 @ 95'	95'	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	32.0

TABLE 1

CONCENTRATIONS OF BTEX, TPH & CHLORIDE IN SOIL

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500 Cl-B
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C_6-C_{10} (mg/Kg)	DRO C_{10}-C_{28} (mg/Kg)	DRO Ext. C_{28}-C_{35} (mg/Kg)	TOTAL TPH C_6-C_{35} (mg/Kg)	CHLORIDE (mg/Kg)
Northwest S/W @ 10'	10'	01/08/10	In-Situ	<0.050	0.065	<0.050	<0.300	0.065	<10.0	<10.0	<10.0	<10.0	256
Northeast S/W @ 10'	10'	01/08/10	Excavated	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	1,220
West S/W @ 10'	10'	01/08/10	Excavated	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	4,600
East S/W @ 10'	10'	01/08/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	9,900
South S/W @ 10'	10'	01/08/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	8,500
Northwest Corner @ 10'	10'	01/08/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	192
Northeast Corner @ 10'	10'	01/08/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	3,680
Southwest Corner @ 10'	10'	01/08/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	896
Southeast Corner @ 10'	10'	01/08/10	Excavated	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	6,900
Northeast S/W A @ 10'	10'	02/11/10	In-Situ	-	-	-	-	-	-	-	-	-	1,060
Southeast Corner A @ 10'	10'	02/11/10	In-Situ	-	-	-	-	-	-	-	-	-	768
West S/W A @ 10'	10'	02/11/10	In-Situ	-	-	-	-	-	-	-	-	-	672
NMOCD Regulatory Standard				**10**				**50**				**100**	**1,000**

- = Not analyzed

TABLE 2

CONCENTRATIONS OF POTASSIUM, ARSENIC & MAGNESIUM IN SOIL

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA 600/4-91/010, 3050		
				TOTAL POTASSIUM (mg/Kg)	TOTAL ARSENIC (mg/Kg)	TOTAL MAGNESIUM (mg/Kg)
SB-1 @ 60'	60'	12/30/09	In-Situ	459	<5.00	3,340
SB-1 @ 65'	65'	12/30/09	In-Situ	494	<5.00	4,600
SB-1 @ 70'	70'	12/30/09	In-Situ	600	<5.00	7,140
SB-1 @ 75'	75'	12/30/09	In-Situ	2,150	7.20	12,200
SB-2 @ Surface	29'	01/04/10	In-Situ	701	10.8	3,170
SB-2 @ 5'	34'	01/04/10	In-Situ	730	<10.0	8,900
SB-2 @ 35'	64'	01/04/10	In-Situ	1,060	<10.0	7,110
SB-2 @ 40'	69'	01/04/10	In-Situ	1,330	16.0	18,800
SB-2 @ 45'	74'	01/04/10	In-Situ	684	<10.0	6,740
SB-2 @ 50'	79'	01/04/10	In-Situ	884	11.2	12,300
SB-3 @ Surface	15'	01/04/10	In-Situ	1,030	<10.0	7,290
SB-3 @ 5'	20'	01/04/10	In-Situ	455	<10.0	4,150
SB-3 @ 50'	65'	01/04/10	In-Situ	1,610	<10.0	9,930
SB-3 @ 55'	70'	01/04/10	In-Situ	1,490	12.1	14,800
SB-3 @ 60'	75'	01/04/10	In-Situ	1,990	13.9	16,600
SB-4 @ 25'	25'	01/05/10	In-Situ	452	11.9	3,660
SB-4 @ 60'	60'	01/05/10	In-Situ	927	<10.0	7,960
SB-4 @ 65'	65'	01/05/10	In-Situ	1,420	12.7	18,400
SB-4 @ 70'	70'	01/05/10	In-Situ	1,350	10.0	13,000
SB-4 @ 75'	75'	01/05/10	In-Situ	1,010	14.3	15,800
SB-5 @ 25'	25'	01/06/10	In-Situ	752	<10.0	6,670
SB-5 @ 65'	65'	01/06/10	In-Situ	1,150	<10.0	5,100
SB-5 @ 70'	70'	01/06/10	In-Situ	1,290	15.1	18,100
SB-5 @ 75'	75'	01/06/10	In-Situ	630	<10.0	3,260
SB-5 @ 80'	80'	01/06/10	In-Situ	1,200	<10.0	9,770
SB-6 @ 25'	25'	01/06/10	In-Situ	887	<10.0	6,260
SB-6 @ 35'	35'	01/06/10	In-Situ	985	<10.0	18,000
SB-6 @ 60'	60'	01/06/10	In-Situ	1,570	<10.0	6,990
SB-6 @ 65'	65'	01/06/10	In-Situ	1,220	10.4	11,000
SB-6 @ 70'	70'	01/06/10	In-Situ	748	<10.0	2,870

TABLE 4

CONCENTRATIONS OF CHLORIDE IN GROUNDWATER

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DATE	4500 Cl-B CHLORIDE (mg/L)
MW-1	01/26/10	**41,000**
	06/03/10	**46,000**
	09/17/10	**43,000**
	12/15/10	**36,000**
	03/23/11	**37,000**
	06/08/11	**41,600**
	08/31/11	**32,400**
	11/15/11	**26,400**
	02/10/12	**28,000**
	05/21/12	**22,400**
	08/21/12	**22,800**
	10/15/12	**20,800**
	02/07/13	**14,600**
	04/11/13	**13,700**
MW-2	01/26/10	**134,000**
	06/03/10	**134,000**
	09/17/10	**140,000**
	12/15/10	**142,000**
	03/23/11	**136,000**
	06/08/11	**140,000**
	08/31/11	**136,000**
	11/15/11	**134,000**
	02/10/12	**124,000**
	05/21/12	**118,000**
	08/21/12	**109,000**
	10/15/12	**118,000**
	02/07/13	**120,000**
	04/11/13	**140,000**
MW-3	01/26/10	124
	06/03/10	200
	09/17/10	220
	12/15/10	212
	03/23/11	224
	06/08/11	228
	08/31/11	224
	11/15/11	224
	02/10/12	224
	05/21/12	220
	08/21/12	216

TABLE 4

CONCENTRATIONS OF CHLORIDE IN GROUNDWATER

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DATE	4500 Cl-B CHLORIDE (mg/L)
MW-3	10/15/12	224
	02/07/13	216
	04/11/13	220
MW-4	01/26/10	**51,000**
	06/03/10	**49,500**
	09/17/10	**48,000**
	12/15/10	**46,000**
	03/23/11	**49,500**
	06/08/11	**48,000**
	08/31/11	**52,000**
	11/15/11	**54,000**
	02/10/12	**49,000**
	05/21/12	**45,000**
	08/21/12	**45,600**
	10/15/12	**46,000**
	02/07/13	**52,000**
	04/11/13	**47,700**
MW-5	01/26/10	**83,000**
	06/03/10	**70,000**
	09/17/10	**76,000**
	12/15/10	**69,000**
	03/23/11	**27,000**
	06/08/11	**98,000**
	08/31/11	**22,400**
	11/15/11	**90,000**
	02/10/12	**70,000**
	05/21/12	**54,000**
	08/21/12	**21,200**
	10/15/12	**26,500**
	02/07/13	**26,800**
	04/11/13	**32,300**
MW-6	01/26/10	**424**
	06/03/10	**456**
	09/17/10	**500**
	12/15/10	**500**
	03/23/11	**500**
	06/08/11	**530**
	08/31/11	**540**

TABLE 4

CONCENTRATIONS OF CHLORIDE IN GROUNDWATER

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DATE	4500 Cl-B CHLORIDE (mg/L)
MW-6	11/15/11	**520**
	02/10/12	**500**
	05/21/12	**488**
	08/21/12	**510**
	10/15/12	**490**
	02/07/13	**500**
	04/11/13	**488**
Prod Water	01/26/10	**170,000**
NMOCD Criteria		**250**

- = Not Analyzed

TABLE 5

CONCENTRATIONS OF BTEX, METALS & TDS IN GROUNDWATER

BOPCO, LP
G.H. COBB FEDERAL #1
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-369

SAMPLE LOCATION	SAMPLE DATE	EPA 8021B							EPA 600/4-91/010			TCLP SW846 6010B							SW 7470A	EPA160.1
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P-XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	TOTAL POTASSIUM (mg/L)	TOTAL ARSENIC (mg/L)	TOTAL MAGNESIUM (mg/L)	LEAD (mg/L)	ARSENIC (mg/L)	CADMIUM (mg/L)	CHROMIUM (mg/L)	SELENIUM (mg/L)	SILVER (mg/L)	BARIUM (mg/L)	MERCURY (mg/L)	TDS (mg/L)
MW-1	01/26/10	-	-	-	-	-	-	-	1,500	2.5	3,630	-	-	-	-	-	-	-	-	**63,200**
MW-2	01/26/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**215,000**
	03/24/10	**0.0208**	<0.0400	<0.0200	0.0432	<0.200	0.0432	0.064	-	-	-	<2.22	<2.22	<0.111	<0.556	<2.22	<0.444	1.43	<0.0001	**-**
	04/11/13	0.005	0.004	<0.001	-	-	<0.003	0.009	-	-	-	-	-	-	-	-	-	-	-	**-**
MW-3	01/26/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	773
MW-4	01/26/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**72,500**
MW-5	01/26/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**118,000**
MW-6	01/26/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,440
Prod Water	01/26/10	-	-	-	-	-	-	-	1,500	2.50	3,630	-	-	-	-	-	-	-	-	-
Produced Water Tank	03/24/10	**0.0798**	<0.0400	0.1028	<0.0400	<0.0200	<0.0400	0.1826	-	-	-	<2.22	<2.22	<0.111	<0.556	<2.22	<0.444	2.06	<0.0001	**-**
NMOCD Regulatory Standard		**0.01**	**0.75**	**0.75**	**TOTAL XYLENES**		**0.62**			**0.1**		**1.00**	**1.00**	**0.2**	**1.00**	**1.00**	**1.00**	**20**	**0.04**	**1,000**

- = Not Analyzed

Appendices

Appendix A

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application (Form C-144)

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: BOPCO, L.P. OGRID #:001801
Address: P.O. Box 2760, Midland, Texas 79702
Facility or well name: G.H. Cobb Federal #1
API Number: 30-015-05829 OCD Permit Number:
U/L or Qtr/Qtr M Section 23 Township 20S Range 31E County: Eddy
Center of Proposed Design: Latitude N32°33'11.412 Longitude W103°50'44.304 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
Volume: _____bbl Type of fluid: _____
Tank Construction material: _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____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_____

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 19.15.3.103 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. - 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
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

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_2S, 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 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

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. - NM Office of the State Engineer - iWATERS database search; USGS; Data 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; Data 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; Data obtained from nearby wells	☐ Yes ☐ No ☐ 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). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a 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; 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
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

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): Steve Johnson Title: SR. Production

Signature: Steve Johnson Date: 7/1/09

e-mail address: Telephone: (432) 683-2277

20.
OCD Approval: ☐ 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.

☐ **Closure Completion Date:** _____

22.
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.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

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 *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:

Appendix B
Release Notification & Corrective Action (Form C-141)

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED
DEC - 7 2009
NMOCD ARTESIA

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

30-015-05829

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company BOPCO, L.P. 260737	Contact Tony Savoie
Address 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-556-8730
Facility Name: G.H. Cobb Federal #1	Facility Type E&P

Surface Owner Federal	Mineral Owner Federal	Lease No.30-015-05829

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	23	20S	31E					Eddy

Latitude N 32.33'11.412 **Longitude W 103.50'44.304**

NATURE OF RELEASE

Type of Release: Produced water, and crude oil sediment	Volume of Release: Un-known	Volume Recovered: 0
Source of Release: Un-lined evaporation pit	Date and Hour of Occurrence Pre 2009	Date and Hour of Discovery 7/1/09
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Operation of the pit ceased prior to 7/1/09, approximately 4000 cubic yards of soil has been removed

Describe Area Affected and Cleanup Action Taken.*Pasture land measuring approximately 80 ft. by 80ft.
A remediation closure plan was submitted to the NMOCD on 11/20/09. The area will be partially backfilled, an air rotary rig will be used to define the vertical and horizontal extent of the pit area. A complete remediation and closure plan will be submitted based on the results of the core samples. The pit will be closed under the guidance of the NMOCD pit closure guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Mgmt.& Remediation Specialist

E-mail Address: TASavoie@BassPet.com

Date: 12/7/09 Phone:432-556-8730

OIL CONSERVATION DIVISION

Approved by District Supervisor: Mike Bratcher

Approval Date: MAR 24 2010 Expiration Date:

Conditions of Approval:

REMEDIATION per OCD Rules and Guidelines. SUBMIT REMEDIATION PROPOSAL BY: Investigation is ongoing as of 3/24/10

Attached ☐

2RP-369

* Attach Additional Sheets If Necessary

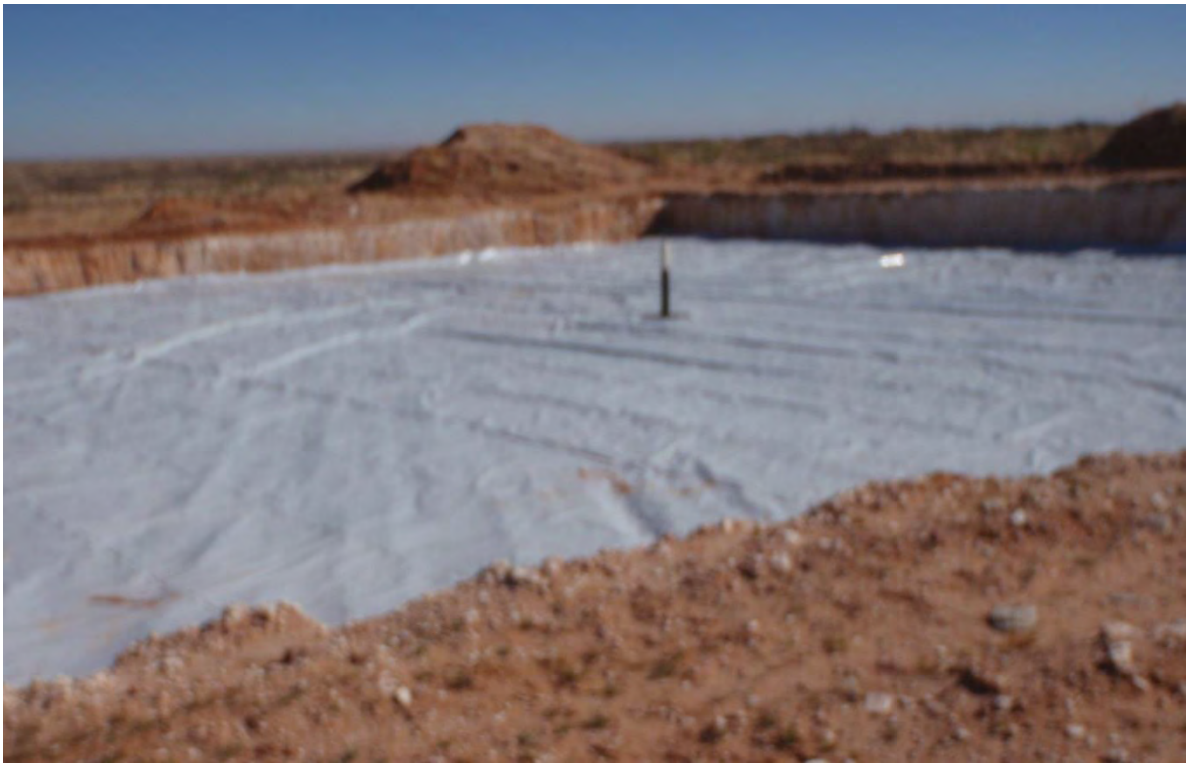
pMLB 0934455618

Appendix C
Photographs

G.H. Cobb Federal #1 - Excavation (prior to backfilling)

G.H. Cobb Federal #1 - Drilling Event (looking Southeast)

G.H. Cobb Federal #1 - Backfilling & Installation of Pad Sand



G.H. Cobb Federal #1 - Liner Installation

G.H. Cobb Federal #1 - Excavation (following liner installation and backfilling)

G.H. Cobb Federal #1 - Excavation (prior to seeding; looking North)

G.H. Cobb Federal #1 - Seeding Event (looking North)

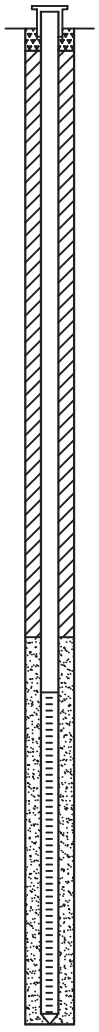
G.H. Cobb Federal #1 - Seeding Event (looking East)

Appendix D

Soil Boring & Monitor Well Logs

Monitor Well MW-1

Depth below ground surface	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	ND		None	None	Surface - Sand, brown, some organics, moist
			None	None	
5	368		None	None	0 - 14' - Caliche, tan, dry
10	368	7.2	None	None	
15	180	9.3	None	None	14 - 20' - Sand, brown, very fine grained with sandstone, dry
20	180	2.8	None	None	20 - 28' - Sand, brown, coarse grained with sandstone,dry
25	368	0.7	None	None	
30	520		None	None	28 - 30' - Clay, dark red
35	1,084		None	None	30 - 38' - Sand and Sandstone, brown, dry
40	708		None	None	38 - 40' - Clay, red
45	180		None	None	40 - 46' - Sandstone, light red in clay matrix, dry
50	152	5.2	None	None	
55	180	3.1	None	None	46 - 59' - Sand and sandstone, light red to light grey with some gypsum in red clay matrix, dry, layers alternating
60	244	2.0	None	None	
65	7,832	3.1	None	None	59 - 65' - Clay, red, silty with some sandstone at 63'
70	4,092	3.0	None	None	65 - 72' - Sandstone, red in clay matrix with some white gypsum stringers
75	1,452	2.9	None	None	
80	848	3.6	None	None	72 - 80 - Clay, red to grey, silty, layers alternating
85	580	3.3	None	None	
90			None	None	80 - 90' - Clay and sandstone, red to grey, layers alternating, wet



Monitor Well MW-1

Date Drilled December 30, 2009
Thickness of Bentonite Seal 53 Ft
Depth of Exploratory Boring 90 Ft bgs
Depth to Groundwater
Ground Water Elevation

Indicates the PSH level measured on
Indicates the groundwater level measured on
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

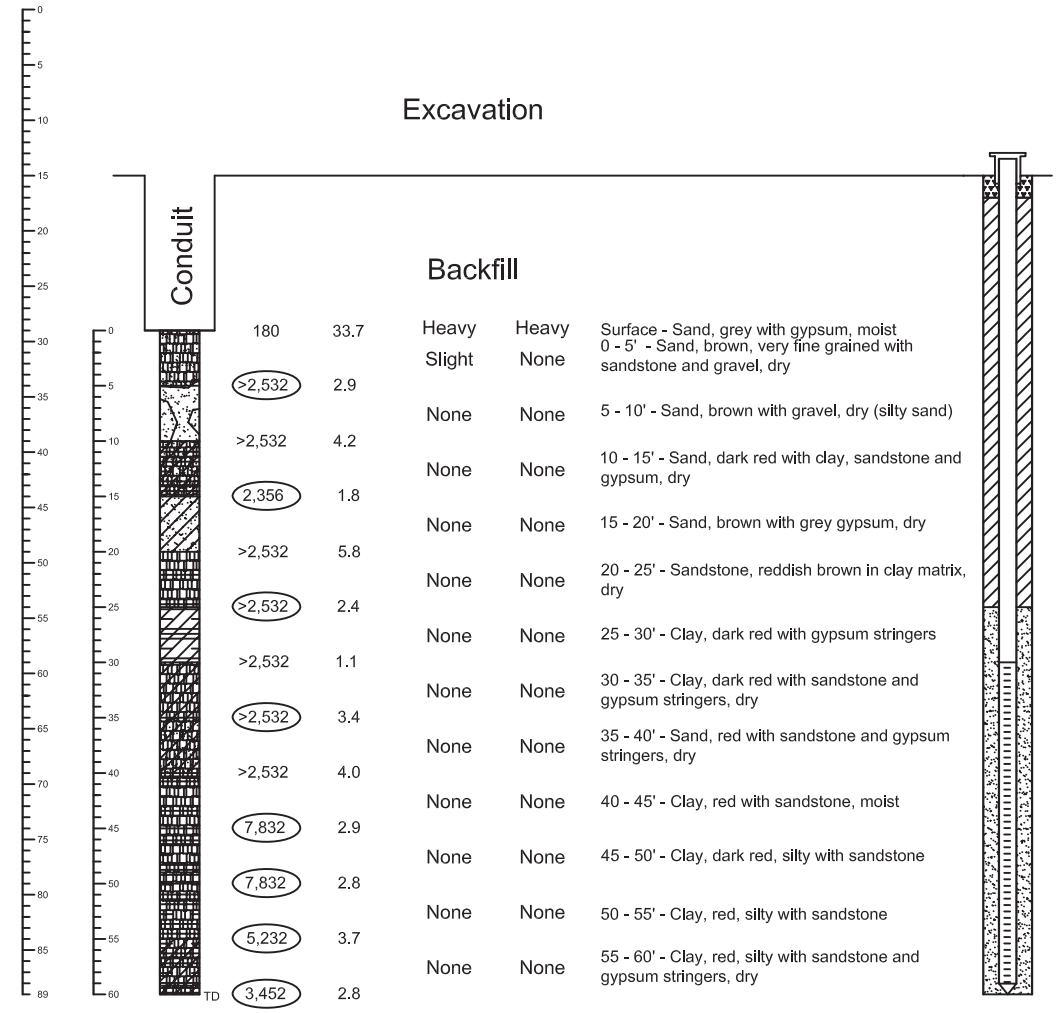
Monitor Well Details
MW-1
Soil Boring SB-1

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 12, 2010	

Monitor Well MW-2



Depth below ground surface	Drilling Depth	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
	0		180	33.7	Heavy	Heavy	Surface - Sand, grey with gypsum, moist
					Slight	None	0 - 5' - Sand, brown, very fine grained with sandstone and gravel, dry
	5		>2,532	2.9	None	None	5 - 10' - Sand, brown with gravel, dry (silty sand)
	10		>2,532	4.2	None	None	10 - 15' - Sand, dark red with clay, sandstone and gypsum, dry
	15		2,356	1.8	None	None	15 - 20' - Sand, brown with grey gypsum, dry
	20		>2,532	5.8	None	None	20 - 25' - Sandstone, reddish brown in clay matrix, dry
	25		>2,532	2.4	None	None	25 - 30' - Clay, dark red with gypsum stringers
	30		>2,532	1.1	None	None	30 - 35' - Clay, dark red with sandstone and gypsum stringers, dry
	35		>2,532	3.4	None	None	35 - 40' - Sand, red with sandstone and gypsum stringers, dry
	40		>2,532	4.0	None	None	40 - 45' - Clay, red with sandstone, moist
	45		7,832	2.9	None	None	45 - 50' - Clay, dark red, silty with sandstone
	50		7,832	2.8	None	None	50 - 55' - Clay, red, silty with sandstone
	55		5,232	3.7	None	None	55 - 60' - Clay, red, silty with sandstone and gypsum stringers, dry
	TD		3,452	2.8			

Monitor Well MW-2

Date Drilled December 30, 2009
Thickness of Bentonite Seal 53 Ft
Depth of Exploratory Boring 60 Ft bgs
Depth to Groundwater
Ground Water Elevation

Indicates the PSH level measured on
Indicates the groundwater level measured on
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

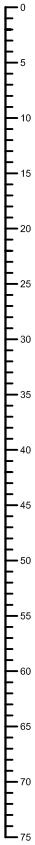
Monitor Well Details
MW-2
Soil Boring SB-2

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 13, 2010	

Soil Boring SB-3



Depth below ground surface	Drilling Depth	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
							Excavation
0	0		708	4.5	None	None	Surface - Caliche, tan, sandy, dry
5					None	None	0 - 5' - Sand, brown, very fine grained with sandstone, dry
10	5		416	3.0	None	None	5 -10' - Sandstone, brown, silty, dry
15	10		416	2.7	None	None	10 - 15' - Sand, brown with sandstone, dry
20	15		416	4.8	None	None	15 - 25' - Sand, brown, very fine grained with sandstone, dry
25	20		7,224	3.9	None	None	
30	25		3,452	3.8	None	None	25 - 35' - Clay, red, silty with sandstone, dry
35	30		3,452	2.3	None	None	
40	35		6,664	6.8	None	None	35 - 40' - Clay, red with sandstone and some gypsum, some moisture
45	40		9,232	6.4	None	None	40 - 45' - Clay, dark red, silty with sandstone and gypsum stringers
50	45		6,664	3.3	None	None	45 - 50' - Clay, dark red, silty with sandstone,moist
55	50		2,892	2.9	None	None	50 - 55' - Clay, dark red, damp
60	55		3,452	2.7	None	None	55 - 60' - Clay, dark red with gypsum stringers, damp
65	60	TD	3,452	2.5			
70							
75							

Soil Boring SB-3

Date Drilled: January 5, 2010
Thickness of Bentonite Seal: 60 Ft
Depth of Exploratory Boring: 60 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on _____
⬭ Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

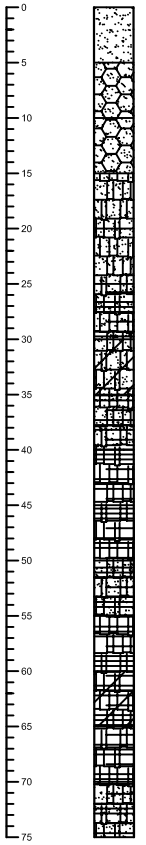
Soil Boring SB-3

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 14, 2010	

Soil Boring SB-4



Depth below ground surface	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
		ND	1.7	None	None	
			1.8	None	None	Surface - 5' - Sand, brown, very fine grained
		(ND)				
			1.5	None	None	5 - 10' - Caliche, tan, sandy, dry
		128				
			1.8	None	None	10 - 15' - Sand, brown, very fine grained, with caliche, dry
		(180)				
			2.5	None	None	15 - 20' - Sand, brown, with sandstone, dry
		212				
			3.8	None	None	20 - 25' - Sand, brown, very fine grained with sandstone, dry
		(3,452)				
			4.1	None	None	25 - 30' - Sand, brown, very fine grained with some clay and sandstone,dry
		(6,148)				
			2.2	None	None	30 - 35' - Sand and sandstone, brown with gypsum stringers, dry
		(1,960)				
			2.3	None	None	35 - 40' - Clay, reddish brown, sandy with sandstone, dry
		5,232				
			3.7	None	None	40 - 45' - Sandstone, reddish brown, dense, hard with clay
		(2,636)				
			5.9	None	None	45 - 50' - Sandstone, red in clay matrix, dry
		6,148				
			4.3	None	None	50 - 55' - Sand, brown with sandstone and some clay, dry
		(2,396)				
			3.6	None	None	55 - 60' - Sandstone, reddish brown, coarse grained with clay matrix
		(13,028)				
			2.0	None	None	60 - 65' - Clay, red, silty with sandstone and grey gypsum, damp
		(11,920)				
			4.0	None	None	65 - 70' - Clay, dark red with sandstone, damp
		(11,920)				
			2.4	None	None	70 - 75' - Clay, dark red, silty with sandstone, wet
		(5,672)				

Boring SB-4

Date Drilled: January 5, 2010
Thickness of Bentonite Seal: 75 Ft
Depth of Exploratory Boring: 75 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on _____
(ND) Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

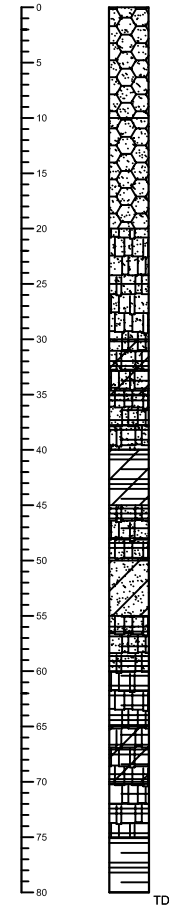
Soil Boring SB-4

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 14, 2010	

Soil Boring SB-5



Depth below ground surface	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	ND	1.2	None	None	Surface - Sand, brown with organics, dry
		1.8	None	None	
5	676				0 - 10' - Sand, tan with caliche nodules, dry
		1.7	None	None	
10	676				
		1.2	None	None	
15	572				10 - 20' - Sand, tan, very fine grained, with caliche, dry
		1.9	None	None	
20	396				
		1.9	None	None	20 - 25' - Sand, brown with sandstone, dry
25	1,340				
		0.7	None	None	25 - 30' - Sand, brown, very fine grained with sandstone,dry
30	436				
		1.5	None	None	30 - 35' - Sand, reddish brown with clay, sandstone and gypsum stringers, layering, dry
35	1,244				
		2.2	None	None	35 - 40' - Sand, red with limited clay and sandstone, dry
40	1,340				
		1.9	None	None	40 - 45' - Clay, red with gypsum, dry
45	5,232				
		2.1	None	None	45 - 50' - Sand, reddish brown with clay and sandstone, dry
50	4,092				
		2.3	None	None	50 - 55' - Sand, brown, very fine grained with grey gypsum, layering, dry
55	3,164				
		1.7	None	None	55 - 60' - Sand, brown, very fine grained with sandstone and some clay, dry
60	4,444				
		1.9	None	None	60 - 65' - Sandstone, reddish brown in clay matrix, dry
65	6,664				
		2.0	None	None	65 - 70' - Sandstone, dark red with clay and grey gypsum, layered, dry
70	856				
		1.5	None	None	70 - 75' - Sandstone, reddish brown in silty clay, dry
75	3,164				
		1.1	None	None	75 - 80' - Clay, dark red, moist
TD	13,028				

Boring SB-5

Date Drilled: January 5, 2010
Thickness of Bentonite Seal: 80 Ft
Depth of Exploratory Boring: 80 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on _____
⬭ Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

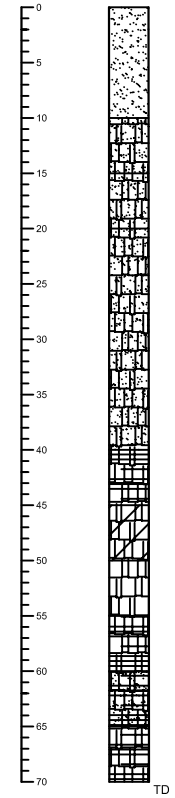
Soil Boring SB-5

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 14, 2010	

Soil Boring SB-6



Depth below ground surface	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
	ND	1.2	None	None	Surface - Sand, reddish brown, with caliche nodules
		2.9	None	None	
	529				0 - 10' - Sand, tan with soft caliche, dry
		2.5	None	None	
	436				
		3.7	None	None	10 - 15' - Sand, brown with sandstone, dry
	356				
		4.5	None	None	15 - 20' - Sand, tan to brown, very fine grained with sandstone, dry
	188				
		5.2	None	None	
	792				
		3.6	None	None	20 - 40' - Sand, brown, very fine grained with sandstone, dry
	5,232				
		2.8	None	None	
	6,664				
		7.9	None	None	
	3,452				
		2.3	None	None	40 - 45' - Sandstone, dark red in clay mattix, dry
	4,824				
		3.1	None	None	45 - 50' - Sandstone, layered brown to grey, with gypsum, dry
	3,452				
		3.1	None	None	50 - 55' - Sandstone, brown, very fine grained, dry
	5,232				
		5.2	None	None	55 - 60' - Clay, reddish brown, silty with sandstone, dry
	7,832				
		4.4	None	None	60 - 65' - Clay, dark red, sandy with sandstone, dry
	13,028				
		1.9	None	None	65 - 70' - Clay, dark red, sandstone layering, moist
	10,040				

Soil Boring SB-6

Date Drilled January 6, 2010
Thickness of Bentonite Seal 70 Ft
Depth of Exploratory Boring 70 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on _____
⬭ Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

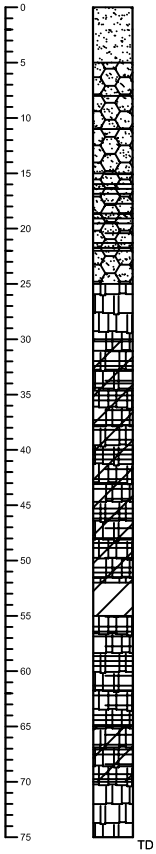
Soil Boring SB-6

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 14, 2010	

Soil Boring SB-7



Depth below ground surface	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
			None	None	
		2.9	None	None	0 - 5' - Sand, tan to grey, very fine grained, moist (snow melt), dry at 6-inches
	ND				5 - 8' - Sand, tan to grey, very fine grained with some caliche nodules, dry
		2.5	None	None	
	ND				8 - 11' - Caliche, white, dry, sandy
		3.7	None	None	11 - 15' - Sand, brown with some caliche layers
	180				
		4.5	None	None	15 - 22' - Sand, brown with some caliche and red clay
	180				
		5.2	None	None	22 - 25' - Sand, brown with some caliche
	324				
		3.6	None	None	25 - 30' - Sandstone, brown, moderately hard
	6,664				
		2.8	None	None	30 - 34' - Sandstone, brown, moderately hard with some gypsum and clay
	9,232				
		7.9	None	None	34 - 40' - Clay, red and sandstone, red, very hard with some gypsum
	3,760				
		2.3	None	None	40 - 52' - Sandstone, brown to red in red clay mattrix, moderate to very hard, thin layering with some gypsum
	5,232				
		3.1	None	None	
	3,760				
		3.1	None	None	52 - 55' - Gypsum, white to grey
	4,444				
		5.2	None	None	55 - 65' - Sandstone, red, moderately hard with red clay mattrix
	8,500				
		4.4	None	None	
	2,636				
		1.9	None	None	65 - 70' - Sandstone, red, moderately hard with red clay mattrix and some gypsum stringers
	2,172				
		1.9			70 - 75' - Sandstone, red, hard, moist
TD	10,040				

Soil Boring SB-7

Date Drilled: January 11, 2010
Thickness of Bentonite Seal: 75 Ft
Depth of Exploratory Boring: 75 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on _____
⬭ Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Soil Boring SB-7

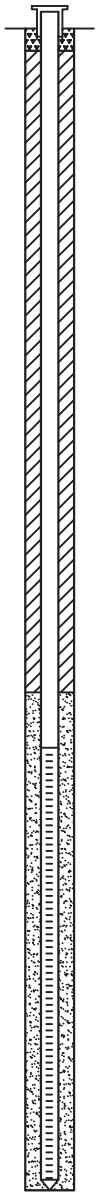
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 14, 2010	

Monitor Well MW-3

Depth below ground surface	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0		356		None	None	Surface - 2' - Sand, brown, clayey, moist
				None	None	
5		856				2 - 8' - Caliche, white, soft, dry
				None	None	
10		ND				8 - 10' - Sand, brown with caliche nodules, dry
				None	None	10 - 12' - Caliche, white, sandy, soft, dry
15		188				12 - 15' - Sand, brown fine grained with caliche nodules
				None	None	
20		ND				15 - 25' - Caliche, white, soft, sandy, dry
				None	None	
25		356				
				None	None	
30		436				25 - 35' - Sand and sandstone, brown with some caliche nodules, harder at 27' bgs
				None	None	
35		ND				
				None	None	35 - 40' - Sand and sandstone, brown with some clay
40		188				
				None	None	40 - 45' - Sand and sandstone, brown to grey with some clay and some gypsum stringers
45		ND				
				None	None	45 - 55' - Sand and sandstone,light brown with some clay and some gypsum stringers
50		ND				
				None	None	
55		252				
				None	None	
60		ND				
				None	None	55 - 75' - Sandstone, light brown with some gypsum stringers
65		ND				
				None	None	
70		ND				
				None	None	
75		ND				
				None	None	
80		ND				
				None	None	
85		ND				
				None	None	75 - 105' - Sandstone, light brown with some gypsum stringers in red clay matrix
90				None	None	
95				None	None	
100				None	None	
105						



Monitor Well MW-3

Date Drilled January 12, 2010
Thickness of Bentonite Seal 58 Ft
Depth of Exploratory Boring 105 Ft bgs
Depth to Groundwater
Ground Water Elevation

Indicates the PSH level measured on
Indicates the groundwater level measured on
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-Ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Monitor Well Details
MW-3
Soil Boring SB-8

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 12, 2010	

Soil Boring SB-9

Depth below ground surface	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				None	None	Surface - Caliche lease road
5		1,000	6.5	None	None	0 - 7' - Caliche, white
10		520	3.7	None	None	7 - 12' - Sand, brown, dry
15		132	4.2	None	None	12 - 15' - Sand, brown with caliche nodules
20	TD	128	3.7	None	None	15 - 20' - Caliche, white and sand, brown with some brown clay

Soil Boring SB-9

Date Drilled January 12, 2010
Thickness of Bentonite Seal 20 Ft
Depth of Exploratory Boring 20 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

Indicates the PSH level measured on _____
Indicates the groundwater level measured on _____
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Soil Boring SB-9

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 14, 2010	

Soil Boring SB-10

Depth below ground surface	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain
0				None	None
5				None	None
10				None	None
15				None	None
20				None	None
TD					

Soil Description

Surface - Sand, light brown, very fine grained with some clay

0 - 20' - Sand, white to light brown to brown with sandstone

Soil Boring SB-10

Date Drilled January 12, 2010
Thickness of Bentonite Seal 20 Ft
Depth of Exploratory Boring 20 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

Indicates the PSH level measured on _____
Indicates the groundwater level measured on _____
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Soil Boring SB-10

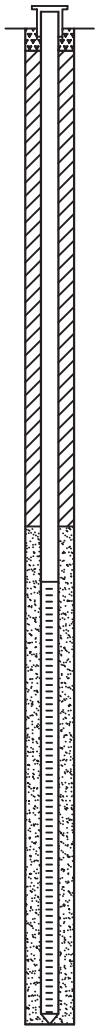
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 14, 2010	

Monitor Well MW-4

Depth below ground surface	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0		ND	9.3	None	None	Surface - Sand, brown, clayey, moist
				None	None	0 - 5' - Sand, light brown, very fine grained, soft
5		ND	7.8			5 - 7' - Caliche, white, soft, dry
				None	None	
10		ND	6.2			
				None	None	7 -18' - Sand, light brown with caliche nodules
15		180	5.6			
				None	None	
20		128	7.2			
				None	None	18 -30' - Sandstone, white to light red
25		212	6.4			
				None	None	
30		ND	5.6			
				None	None	30 - 35' - Sandstone, white to light red in red clay matrix
35		ND	4.2			
				None	None	
40		ND	5.5			35 - 45' - Sandstone, light red with some hard intervals
				None	None	
45		ND	5.7			
				None	None	45 - 50' - Sandstone, light red with some hard intervals in clay matrix
50		ND	5.2			
				None	None	
55		ND	6.2			
				None	None	50 - 65' - Sandstone, light red with some hard intervals in clay matrix and some gypsum intervals
60		ND	6.3			
				None	None	
65		ND	2.5			
				None	None	65 - 75' - Sandstone, light brown to light red, silty, some very hard intervals, moist at 70 feet bgs
70		5,672	4.6			
				None	None	
75		848	4.8			
				None	None	75 - 80 - Sandstone, red, silty, hard
80		3,452	4.9			
				None	None	
85		>2,424	3.3			80 - 90' - Sandstone, red to brown, hard with clay, moist
				None	None	
90		3,452				



Monitor Well MW-4

Date Drilled January 13, 2010
Thickness of Bentonite Seal 43 Ft
Depth of Exploratory Boring 90 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

Indicates the PSH level measured on _____
Indicates the groundwater level measured on _____
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Monitor Well Details
MW-4
Soil Boring SB-11

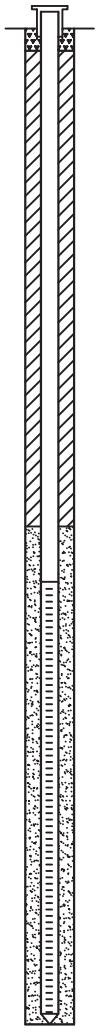
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 12, 2010	

Monitor Well MW-5

Depth below ground surface	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0		ND		None	None	Surface - Sand, brown with organics, damp
				None	None	
5		ND				0 - 10' - Sand, tan very fine grained with caliche, soft, dry
				None	None	
10		ND				
				None	None	10 - 15' - Sand, brown, very fine grained with caliche nodules and sandstone, dry
15		188				
				None	None	15 - 20' - Sand, brown, very fine grained with sandstone, soft, dry, hard tan sandstone at 22' bgs
20		220				
				None	None	20 - 25' - Sandstone, tan with red clay, dry with gypsum stringers
25		160				
				None	None	25 - 30' - Sand, red to tan with limited clay and sandstone, dry
30		220				
				None	None	30 - 35' - Sand, brown with dense sandstone, dry
35		ND				
				None	None	35 - 40' - Sandstone, brown to reddish brown, dry
40		ND		None	None	
45		ND				40 - 50' - Sand, brown with sandstone, dry
				None	None	
50		ND				
				None	None	50 - 55' - Sandstone, brown with some red clay, damp
55		160				
				None	None	55 - 60' - Sandstone, reddish brown with clay, sandy at 61' bgs
60		3,164		None	None	
65		3,760				
				None	None	60 - 80' - Sandstone, red with sandy clay, damp
70		1,412				
				None	None	
75		2,080				
				None	None	
80		4,860				
				None	None	80 - 85' - Sandstone, dark red with silty sandstone
85		2,632				
				None	None	85 - 90' - Sandstone, dark red, silty
90		1,120				



Monitor Well MW-5

Date Drilled January 14, 2010
Thickness of Bentonite Seal 43 Ft
Depth of Exploratory Boring 90 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on _____
⬭ Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Monitor Well Details
MW-5
Soil Boring SB-12

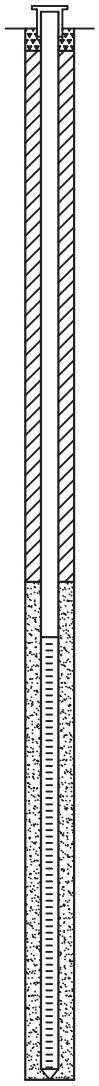
BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 12, 2010	

Monitor Well MW-6

Depth below ground surface	Soil Columns	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0		ND	X	None	None	Surface - Sand, brown, some organics, dry
				Slight	None	
5		160	X			
				Slight	None	0 - 14' - Caliche, white, soft, dry
10		160	X			
				Slight	None	
15		ND	X			
				Slight	None	14 - 20' - Sand, brown with sandstone, soft, dry
20		ND	X			
				None	None	20 - 25' - Sandstone, brown, dry
25		ND	X			
				None	None	25 - 30' - Sandstone, reddish brown to tan, silty, dry
30		ND	X			
				None	None	30 - 35' - Sandstone, reddish brown to brown, dry with some clay
35		132	X			
				None	None	35 - 40' - Sandstone, reddish brown, silty, dry
40		ND	X			
				None	None	40 - 45' - Sandstone, reddish brown with some clay and gypsum stringers, dry
45		132	X			
				None	None	45 - 50' - Sandstone, reddish brown to tan, dry
50		ND	X			
				None	None	50 - 60' - Sandstone, brown, dry
55		ND	X			
				None	None	
60		ND	X			
				None	None	
65		ND	X			
				None	None	60 - 80' - Sandstone, reddish brown with some clay, dry, damp to moist
70		ND	X			
				None	None	
75		ND	X			
				None	None	
80		ND	X			
				None	None	
85		ND	X			
				None	None	80 - 95' - Sandstone, reddish brown to dark red, silty
90		ND	X			
				None	None	
95		ND	X			



Monitor Well MW-6

Date Drilled January 15, 2010
Thickness of Bentonite Seal 47 Ft
Depth of Exploratory Boring 95 Ft bgs
Depth to Groundwater
Ground Water Elevation

Indicates the PSH level measured on
Indicates the groundwater level measured on
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Monitor Well Details
MW-6
Soil Boring SB-13

BOPCO, LP
G.H. Cobb Federal #1
Eddy County, New Mexico

Basin Environmental Service Technologies

Prep By: CDS	Checked By: CJB
May 12, 2010	

Appendix E

Laboratory Analytical Reports