

## **1.0 INTRODUCTION AND BACKGROUND INFORMATION**

Basin Environmental Consulting, LLC (Basin), on behalf of BOPCO, L.P. (BOPCO), has prepared this Remediation Summary and Site Closure Proposal for the release site known as Josephine Rodke Federal #1 (BOPCO Job #24510). The legal description of the release site is Unit Letter "C" (NE ¼ NW ¼), Section 27, Township 20 South, Range 31 East, in Eddy County, New Mexico. The property affected by the release is owned and administered by the United States Department of the Interior, Bureau of Land Management (BLM). The release site GPS coordinates are 32° 32' 45.132" North and 103° 51' 15.048" West. Please reference Figure 1 for a Site Location Map and Figure 2 for a Site and Sample Location Map. General site photographs are provided as Appendix C.

On June 15, 2009, BOPCO submitted notification to the New Mexico Oil Conservation Division (NMOCD) and the BLM, of BOPCO's intention to conduct closure activities at the permanent pit located at the Josephine Rodke Federal #1 well site. The pit was to be excavated to approximately ten (10) feet below ground surface (bgs). All excavated soil was transported to Controlled Recovery Incorporated (CRI) (NM Permit R-9166). The final dimensions of the excavation were approximately one-hundred fifty five (155) feet in width and one-hundred sixty one (161) feet in length and approximately thirty five (35) feet in depth. The soil beneath the permanent pit was analyzed to determine if a release had occurred. On July 1, 2009, BOPCO submitted a Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit of Closure Plan Application (Form C-144) to the New Mexico Oil Conservation Division (NMOCD) for the permanent pit closure. On December 7, 2009, BOPCO submitted a Release Notification and Corrective Action (Form C-141) to the NMOCD. The Forms C-144 and C-141 are provided as Appendix D.

On November 13, 2009, BOPCO requested Basin assume remediation oversight at the Josephine Rodke Federal #1 site.

On November 20, 2009, BOPCO and Basin representatives met with NMOCD Artesia District Office representatives to discuss remediation activities to be conducted at the site. Due to safety issues associated with the depth of the excavation, it was agreed a six (6) inch PVC conduit would be cemented in the floor of the excavation and extended to approximately eighteen (18) feet bgs and the excavation would be backfilled around the conduit. These activities allowed drilling activities to be conducted in the floor of the excavation.

## **2.0 NMOCD SITE CLASSIFICATION**

According to data obtained from the New Mexico Office of the State Engineer (NMOSE), no water wells are registered in Section 27, Township 20 S, Range 31 E. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately one hundred (100) feet below ground surface (bgs). The inferred depth to groundwater in this area results in a score of ten (10) being assigned to the site based on the NMOCD depth to groundwater criteria.

The water well database, maintained by the NMOSE, indicated there are no water wells less than 1,000 feet from the release, resulting in zero (0) points being assigned to this site as a result of this criteria.

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

The NMOCD guidelines indicate the Josephine Rodke Federal #1 release site has an initial ranking score of ten (10). Based on this score, the soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)
- TPH – 1,000 mg/Kg (ppm)

NMOCD chloride clean-up level concentrations are site specific and are set by the NMOCD.

### **3.0 DISTRIBUTION OF CONTAMINANTS IN THE UNSATURATED ZONE**

On November 23, 2009, the installation of the conduit and backfilling of the excavation commenced. The excavation was backfilled and compacted to approximately eighteen (18) feet bgs.

On December 11 through 21, 2009, nine (9) soil borings (SB-1 through SB-9) were advanced to vertically and horizontally investigate the extent of impact at the site. Soil boring logs are provided as Appendix A. Soil samples were collected at five (5) foot drilling intervals and field screened using a Photo-Ionization Detector (PID) and chloride field screening kit. Selected soil samples were submitted to the laboratory for determination of concentrations of benzene, toluene, ethyl-benzene and total xylene (BTEX), total petroleum hydrocarbons (TPH) and chlorides using EPA Method SW 846-8021B, EPA Method SW 848-8015M and EPA Method 4500 Cl-B, respectively. A Summary of Concentrations of TPH, BTEX and Chlorides in Soil is provided as Table 1. Laboratory analytical reports are provided as Appendix B.

Soil Boring SB-1, was advanced through the conduit in the floor of the excavation at approximately thirty five (35) feet bgs. The soil boring was advanced to a total depth of approximately one hundred fifteen (115) feet bgs. Soil samples collected at thirty five (35) feet bgs, forty (40) feet bgs, fifty (50) feet bgs, fifty five (55) feet bgs, sixty (60) feet bgs, seventy (70) feet bgs, seventy five (75) feet bgs, eighty five (85) feet bgs, ninety (90) feet bgs, ninety five (95) feet bgs, one hundred (100) feet bgs, one hundred five (105) feet bgs, one hundred ten (110) feet bgs and one hundred fifteen (115) feet bgs were submitted to the laboratory for chloride analysis, the soil samples collected at thirty five (35) and forty (40) feet bgs were also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 320 mg/Kg in the soil sample collected at one hundred (100) feet bgs to 16,000 mg/Kg for the soil sample collected at ninety (90) feet bgs. The soil samples collected at thirty five (35) and forty (40) feet bgs exhibited benzene and BTEX concentrations of less than the appropriate laboratory method detection limit (MDL). TPH concentrations were less than the laboratory MDL in the soil sample collected at forty (40) feet bgs and 18.5 mg/Kg in the soil sample collected at thirty five (35) feet bgs. Soil boring SB-1 was converted to a two (2) inch monitor well (MW-4).

Soil boring SB-2 was advanced approximately fifty (50) feet west of the excavation to a total depth of approximately seventy five (75) feet bgs. Soil samples collected at five (5) feet bgs, fifteen (15) feet bgs, twenty five (25) feet bgs, thirty five (35) feet bgs, forty five (45) feet bgs, fifty five (55) feet bgs, sixty (60) feet bgs, sixty five (65) feet bgs, seventy (70) feet bgs and seventy five (75) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil sample collected at five (5) feet bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32 mg/Kg in the soil sample collected at sixty five (65) feet bgs to 7,300 mg/Kg in the soil sample collected at fifty five (55) feet bgs. The soil sample collected at five (5) feet bgs exhibited benzene, BTEX and TPH constituent concentrations of less than the appropriate laboratory MDL.

Soil boring SB-3 was advanced inside the excavation on the south side at approximately eight (8) feet bgs. The soil boring was advanced to a total depth of approximately seventy eight (78) feet bgs. Soil samples collected at thirteen (13) feet bgs, twenty three (23) feet bgs, thirty three (33) feet bgs, forty three (43) feet bgs, forty eight (48) feet bgs, fifty three (53) feet bgs, sixty three (63) feet bgs, seventy three (73) feet bgs and seventy eight (78) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil sample collected at thirteen (13) feet bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 16 mg/Kg in the soil sample collected at seventy three (73) feet bgs to 1,630 mg/Kg in the soil sample collected at forty eight (48) feet bgs. The soil sample collected at thirteen (13) feet bgs exhibited benzene, BTEX and TPH constituent concentrations less than the appropriate laboratory MDL.

Soil boring SB-4 was advanced approximately sixty seven (67) feet south of the excavation. The soil boring was advanced to a total depth of approximately one hundred forty (140) feet bgs. Soil samples collected at five (5) feet bgs, fifteen (15) feet bgs, twenty five (25) feet bgs, thirty five (35) feet bgs, forty five (45) feet bgs, fifty five (55) feet bgs, sixty five (65) feet bgs, seventy five (75) feet bgs, eighty five (85) feet bgs, ninety five (95) feet bgs, one hundred five (105) feet bgs, one hundred fifteen (115) feet bgs, one hundred twenty five (125) feet bgs, one hundred thirty five (135) feet bgs and one hundred forty (140) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil sample collected at five (5) feet bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory MDL in the soil sample collected at sixty five (65) feet bgs to 1,020 mg/Kg in the soil sample collected at fifteen (15) feet bgs. The soil sample collected at five (5) feet bgs exhibited benzene, BTEX and TPH constituent concentrations less than the appropriate laboratory MDL. Soil boring SB-4 was converted to a two (2) inch monitor well (MW-1).

Soil boring SB-5 was advanced inside the excavation on the east side at approximately seven (7) feet bgs. The soil boring was advanced to a total depth of approximately seventy seven (77) feet bgs. Soil samples collected at twelve (12) feet bgs, twenty two (22) feet bgs, thirty two (32) feet bgs, forty two (42) feet bgs, fifty two (52) feet bgs, fifty seven (57) feet bgs, sixty two (62) feet bgs, seventy two (72) feet bgs and seventy seven (77) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil sample collected at twelve (12) feet bgs was also analyzed for BTEX and TPH constituent concentrations. The laboratory analytical results indicated chloride concentrations ranged from 80 mg/Kg in the soil sample collected at forty two (42) feet bgs to 3,040 mg/Kg in the soil sample collected at fifty two (52) feet bgs. The soil

sample collected at twelve (12) feet bgs exhibited benzene, BTEX and TPH constituent concentrations less than the appropriate laboratory MDL.

Soil boring SB-6 was advanced approximately twenty five (25) feet north of the excavation. The soil boring was advanced to a total depth of approximately eighty five (85) feet bgs. Soil samples collected at five (5) feet bgs, fifteen (15) feet bgs, twenty five (25) feet bgs, thirty five (35) feet bgs, forty (40) feet bgs, forty five (45) feet bgs, fifty five (55) feet bgs, sixty (60) feet bgs, sixty five (65) feet bgs, seventy five (75) feet bgs, eighty (80) feet bgs and eighty five (85) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil sample collected at five (5) feet bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 144 mg/Kg in the soil sample collected at twenty five (25) feet bgs to 9,600 mg/Kg in the soil sample collected at fifty five (55) feet bgs. The soil sample collected at five (5) feet bgs exhibited benzene, BTEX and TPH constituent concentrations less than the appropriate laboratory MDL.

Soil boring SB-7 was advanced approximately seventy five (75) feet north of the excavation. The soil boring was advanced to a total depth of approximately one hundred fifteen (115) feet bgs. Soil samples collected at five (5) feet bgs, fifteen (15) feet bgs, twenty five (25) feet bgs, thirty five (35) feet bgs, forty five (45) feet bgs, fifty five (55) feet bgs, sixty (60) feet bgs, sixty five (65) feet bgs, seventy five (75) feet bgs, eighty five (85) feet bgs, ninety five (95) feet bgs and one hundred (100) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil sample collected at five (5) feet bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 16 mg/Kg in the soil sample collected at seventy five (75) feet bgs to 4,480 mg/Kg in the soil sample collected at sixty (60) feet bgs. The soil sample collected at five (5) feet bgs exhibited benzene and BTEX concentrations less than the appropriate laboratory MDL and a TPH concentration of 77.1 mg/Kg. Soil boring SB-7 was converted to a two (2) inch monitor well (MW-2).

Soil boring SB-8 was advanced approximately eighty seven (87) feet north of the excavation. The soil boring was advanced to a total depth of approximately seventy five (75) feet bgs. Soil samples collected at five (5) feet bgs, fifteen (15) feet bgs, twenty five (25) feet bgs, thirty five (35) feet bgs, forty (40) feet bgs, forty five (45) feet bgs, fifty five (55) feet bgs, sixty (60) feet bgs, sixty five (65) feet bgs, seventy (70) feet bgs and seventy five (75) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil sample collected at five (5) feet bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 96 mg/Kg in the soil sample collected at five (5) feet bgs to 3,080 mg/Kg in the soil sample collected at twenty five (25) feet bgs. The soil sample collected at five (5) feet bgs exhibited benzene and BTEX concentrations less than the appropriate laboratory MDL and a TPH concentration of 192 mg/Kg.

Soil boring SB-9 was advanced approximately nineteen (19) feet to the west of the excavation. The soil boring was advanced to a total depth of approximately one hundred fifteen (115) feet bgs. Soil samples collected at five (5) feet bgs, fifteen (15) feet bgs, twenty five (25) feet bgs, thirty five (35) feet bgs, forty five (45) feet bgs, fifty (50) feet bgs, fifty five (55) feet bgs, sixty (60) feet bgs, sixty five (65) feet bgs, seventy five (75) feet bgs, eighty (80) feet bgs, eighty five (85) feet bgs, ninety five (95) feet bgs, one hundred five (105) feet bgs and one hundred ten (110) feet bgs were submitted to the laboratory for analysis of chloride concentrations, the soil

sample collected at five (5) feet bgs was also analyzed for BTEX and TPH constituent concentrations. Laboratory analytical results indicated chloride concentrations ranged from 80 mg/Kg in the soil samples collected at five (5) and fifteen (15) feet bgs to 2,440 mg/Kg in the soil sample collected at sixty (60) feet bgs. The soil sample collected at five (5) feet bgs exhibited benzene and BTEX concentrations less than the appropriate laboratory MDL and a TPH concentration of 67.5 mg/Kg. Soil boring SB-9 was converted to a two (2) inch monitor well (MW-3).

On December 17, 2009, eight (8) soil samples (East S/W @ 10', North S/W @ 10', South S/W @ 10', West S/W @ 10', Northeast Corner @ 10', Northwest Corner @ 10', Southeast Corner @ 10' and Southwest 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 benzene and BTEX concentrations were less than the appropriate laboratory MDL for all the submitted soil samples. TPH concentrations ranged from 26.2 mg/Kg in soil sample Southwest Corner @ 10' to 55.4 mg/Kg in the soil sample West S/W @ 10'. Chloride concentrations ranged from 48 mg/Kg in the soil sample Southeast Corner @ 10' to 3,200 mg/Kg in the soil sample West S/W @ 10'. A review of the analytical results indicated benzene, BTEX and TPH concentrations were less than the NMOCD regulatory guidelines for all the selected soil samples.

Chloride concentrations were less than the NMOCD approved level of 1,000 mg/Kg in all the submitted soil samples, with the exception of soil samples West S/W @ 10', Northwest Corner @ 10' and Southwest Corner @ 10' which exhibited chloride concentrations of 3,200 mg/kg, 1,490 mg/Kg and 1,810 mg/Kg, respectively. Based on the analytical results additional excavation was conducted along the west sidewall and the northwest and southwest corners of the excavation.

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

On February 1, 2010, three (3) soil samples (West S/W A @ 10', Southwest Corner A @ 10' and Northwest Corner A @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 112 mg/Kg in soil sample West S/W A @ 10' to 496 mg/Kg in soil sample Southwest Corner A @ 10'. Review of the analytical results indicated chloride concentrations were less than 1,000 mg/Kg in all the submitted soil samples.

#### **4.0 DISTRIBUTION OF CONTAMINANTS IN THE SATURATED ZONE**

Groundwater was observed at depths ranging from eighty two (82) to one hundred two (102) feet bgs in the on-site monitor wells. Groundwater elevation data collected during the February 23, 2010 sampling event, indicated an inferred groundwater gradient of generally 0.0037 feet/foot to the southeast. Locations of the groundwater monitor wells are depicted on Figure 2. Groundwater Elevation Data is provided as Table 2.

The four (4) groundwater monitor wells (MW-1, MW-2, MW-3 and MW-4) were gauged, purged and sampled on January 12 and January 19, 2010. Pursuant to NMOCD request groundwater monitor well MW-3 was sampled on March 24, 2010 for chloride concentrations.

Groundwater samples were collected from the monitor wells and delivered to Cardinal Laboratory, for determination of chloride concentrations using EPA Method 4500 Cl-B and total dissolved solids (TDS) using EPA Method 160.1. A summary of Concentrations of Chlorides and TDS in Groundwater is presented in Table 3.

Monitor well MW-1 was sampled on January 12 and January 19, 2010. Laboratory analytical results indicated chloride concentrations ranged from 108 mg/L during the January 19<sup>th</sup> sampling event to 112 mg/L during the January 12<sup>th</sup> sampling event. TDS concentrations ranged from 639 mg/L during the January 19<sup>th</sup> sampling event to 708 mg/L during the January 12<sup>th</sup> sampling event. Chloride concentrations were less than the NMOCD regulatory standard during both sampling events.

Monitor well MW-2 was sampled on January 12 and January 19, 2010. Laboratory analytical results indicated chloride concentrations ranged from 128 mg/L during the January 19<sup>th</sup> sampling event to 136 mg/L during the January 12<sup>th</sup> sampling event. TDS concentrations ranged from 541 mg/L during the January 19<sup>th</sup> sampling event to 598 mg/L during the January 12<sup>th</sup> sampling event. Chloride concentrations were less than the NMOCD regulatory standard during both sampling events.

Monitor well MW-3 was sampled on January 12, January 19 and March 24, 2010. Laboratory analytical results indicated chloride concentrations were 24,500 mg/L during the January 12<sup>th</sup> sampling event, 46,000 mg/L during the January 19<sup>th</sup> sampling event and 61,000 mg/L during the March 24<sup>th</sup> sampling event. Monitor well MW-3 was sampled on January 12 and 19, 2010 for TDS concentrations. Laboratory analytical results indicated TDS concentrations ranged from 39,300 mg/L during the January 12<sup>th</sup> sampling event to 72,800 mg/L during the January 19<sup>th</sup> sampling event. Chloride concentrations exceeded the NMOCD regulatory standard during all three (3) sampling events.

Monitor well MW-4 was sampled on January 12 and January 19, 2010. Laboratory analytical results indicated chloride concentrations ranged from 136 mg/L during the January 19<sup>th</sup> sampling event to 196 mg/L during the January 12<sup>th</sup> sampling event. TDS concentrations ranged from 603 mg/L during the January 19<sup>th</sup> sampling event to 687 mg/L during the January 12<sup>th</sup> sampling event. Chloride concentrations were less than the NMOCD regulatory standard during both sampling events.

## **5.0 SITE CLOSURE PROPOSAL**

### **5.1 Soil Closure Proposal**

Based on analytical results of the soil samples collected during excavation activities and advancement of the soil borings, BOPCO proposes to conduct a risk-based closure at the site. Due to the depth of impact below and adjacent to the release point, excavation of the impacted soil would be cost prohibitive and impractical given the production facilities located to the west and north of the site.

With NMOCD approval, BOPCO proposes to install a 20 mil polyurethane liner at approximately ten (10) to twelve (12) feet bgs in the existing excavation. Approximately one (1) foot of non-impacted cushion sand will be installed above and below the liner to protect the liner

from damage during installation and backfilling activities. The excavation will be backfilled with locally purchased non-impacted soil and compacted in twelve (12) inch lifts. Following backfilling activities the site will be contoured to fit the surrounding topography and seeded a BLM approved seed mixture.

## **5.2 Groundwater Closure Proposal**

There are currently four (4) groundwater monitor wells (MW-1, MW-2, MW-3 and MW-4) on-site. The monitor wells are sampled on a quarterly schedule. Groundwater elevation data collected during the February 23, 2010 sampling event indicated an inferred groundwater gradient of 0.0037 feet/foot to the southeast.

Analytical results from the two (2) groundwater sampling events indicate chloride concentrations are less than NMOCD regulatory guidelines in three (3) of the on-site monitor wells (MW-1, MW-2 and MW-4). Analytical results indicate chloride concentrations in monitor well MW-3 exceed NMOCD regulatory guidelines. BOPCO proposes to conduct quarterly groundwater sampling and monitoring of the on-site monitor wells.

## **6.0 REPORTING**

On approval and completion of the proposed closure activities, BOPCO will submit a Remediation Summary and Site Closure Request for NMOCD and BLM approval.

## **7.0 LIMITATIONS**

Basin Environmental Consulting, LLC has prepared this Remediation Summary and Soil Closure Proposal to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Consulting, LLC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Consulting, 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 Consulting, LLC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Consulting, 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. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Consulting, LLC and/or BOPCO.

3/16/10

#8 - 100' ↑



JOSEPHINE  
RODKE FED #1



Tank

MW-3  
SB-9  
(3426.86)

MW-2  
SB-7  
(3426.89)

SB-6

Fence

SB-3

Fence

MW-4  
SB-1  
(3427.75)

SB-2

Berm

Berm

SB-5  
3427.00

Fence

3426.50

MW-1  
SB-4  
(3426.16)



Distance in Feet

	Excavation Extents		Monitor Well
	Pipeline		Powerline
	Groundwater Gradient Contour Line		Fence
	Groundwater Elevation (feet)		Soil Boring Location
	Groundwater Gradient Direction and Magnitude		

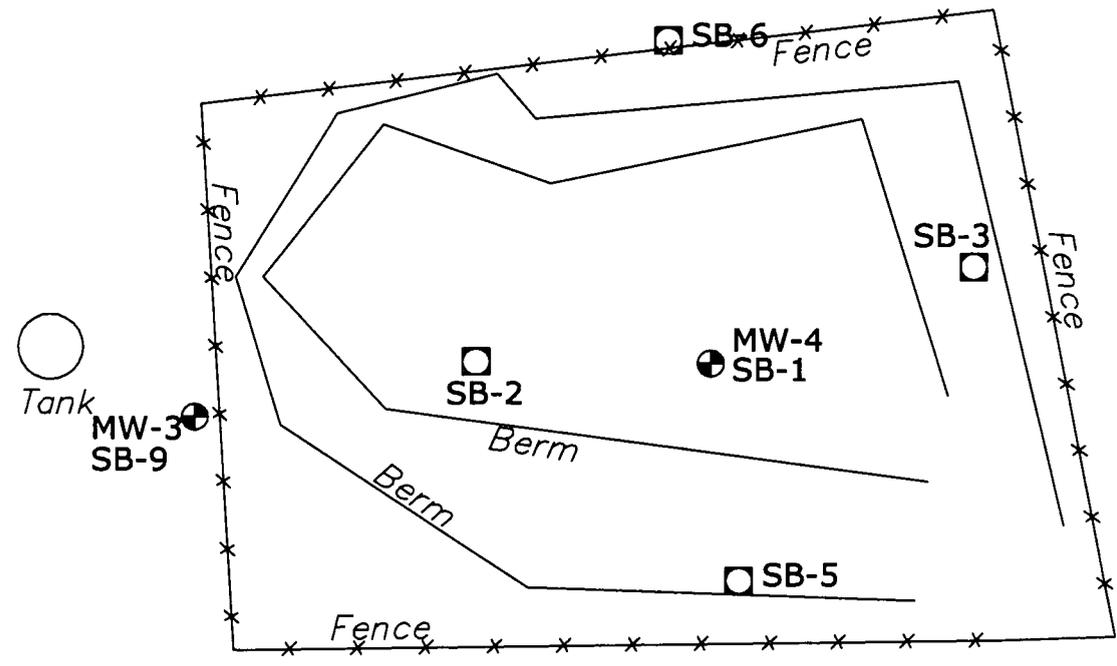
**Figure X**  
**Inferred Groundwater**  
**Gradient Map (03/02/10)**  
**BOPCO**  
**Josephine Rodke Fed #1**  
**Eddy County, NM**

**Basin Environmental Consulting**

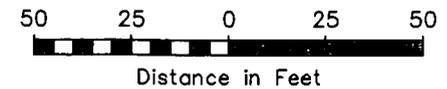
Prep By: CDS	Checked By: CJB
March 3, 2010	Scale 1"=50'



MW-2  
SB-7



JOSEPHINE  
RODKE FED #1



- Legend:**
- Excavation Extent
  - - - Bench Extent
  - <sup>MW-1</sup> Monitor Well Location
  - <sup>SB-1</sup> Soil Boring Location

Figure X  
Site Map  
BOPCO  
Joesphine Rodke #1  
Eddy County, NM

Basin Environmental Consulting

Prep By: CDS	Checked By: CJB
March 3, 2010	Scale 1"=50'

TABLE 1

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

BOPCO, LP  
 JOSEPHINE RODKE FEDERAL #1  
 EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	DRO Ext. C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
SB-1 Surface	35 Feet	12/11/09	In-Situ	<0.050	<0.100	<0.050	<0.300	<0.100	<10.0	18.5	<10.0	18.5	3,640
SB-1 @ 5'	40 Feet	12/11/09	In-Situ	<0.050	<0.100	<0.050	<0.300	<0.100	<10.0	<10.0	<10.0	<10.0	7,200
SB-1 @ 15'	50 Feet	12/11/09	In-Situ	-	-	-	-	-	-	-	-	-	8,160
SB-1 @ 20'	55 Feet	12/11/09	In-Situ	-	-	-	-	-	-	-	-	-	8,000
SB-1 @ 25'	60 Feet	12/11/09	In-Situ	-	-	-	-	-	-	-	-	-	2,960
SB-1 @ 35'	70 Feet	12/11/09	In-Situ	-	-	-	-	-	-	-	-	-	1,380
SB-1 @ 40'	75 Feet	12/11/09	In-Situ	-	-	-	-	-	-	-	-	-	848
SB-1 @ 50'	85 Feet	12/11/09	In-Situ	-	-	-	-	-	-	-	-	-	1,280
SB-1 @ 55'	90 Feet	12/28/09	In-Situ	-	-	-	-	-	-	-	-	-	16,000
SB-1 @ 60'	95 Feet	12/28/09	In-Situ	-	-	-	-	-	-	-	-	-	11,600
SB-1 @ 65'	100 Feet	12/28/09	In-Situ	-	-	-	-	-	-	-	-	-	320
SB-1 @ 70'	105 Feet	12/28/09	In-Situ	-	-	-	-	-	-	-	-	-	1,870
SB-1 @ 75'	110 Feet	12/28/09	In-Situ	-	-	-	-	-	-	-	-	-	1,100
SB-1 @ 80'	115 Feet	12/28/09	In-Situ	-	-	-	-	-	-	-	-	-	1,230
SB-2 @ 5'	5 Feet	12/14/09	In-Situ	<0.050	<0.100	<0.050	<0.300	<0.100	<10.0	<10.0	<10.0	<10.0	1,630
SB-2 @ 15'	15 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	480
SB-2 @ 25'	25 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	576
SB-2 @ 35'	35 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	160
SB-2 @ 45'	45 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	224
SB-2 @ 55'	55 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	7,300
SB-2 @ 60'	60 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	384
SB-2 @ 65'	65 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	32
SB-2 @ 70'	70 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	272
SB-2 @ 75'	75 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	832
SB-3 @ 5'	13 Feet	12/14/09	In-Situ	<0.050	<0.100	<0.050	<0.300	<0.100	<10.0	<10.0	<10.0	<10.0	160

TABLE 1

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

BOPCO, LP  
 JOSEPHINE RODKE FEDERAL #1  
 EDDY COUNTY, NEW MEXICO

SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500		
	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	DRO Ext. C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)		
										448		
										1,300		
										240		
										240		
										512		
										144		
										112		
10 Feet	12/17/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	44.7	<10.0	44.7	160
10 Feet	12/17/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	42.2	<10.0	42.2	352
10 Feet	12/17/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	51.4	<10.0	51.4	288
10 Feet	12/17/09	Excavated	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	55.4	<10.0	55.4	3,200
10 Feet	12/17/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	29.7	<10.0	29.7	144
10 Feet	12/17/09	Excavated	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	30.8	<10.0	30.8	1,490
10 Feet	12/17/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	27.6	<10.0	27.6	48
10 Feet	12/17/09	Excavated	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	26.2	<10.0	26.2	1,810
10 Feet	02/01/10	In-Situ	-	-	-	-	-	-	-	-	-	112
10 Feet	02/01/10	In-Situ	-	-	-	-	-	-	-	-	-	496
10 Feet	02/01/10	In-Situ	-	-	-	-	-	-	-	-	-	224
ADDITIONAL STANDARD			10			50						1,000

TABLE 2

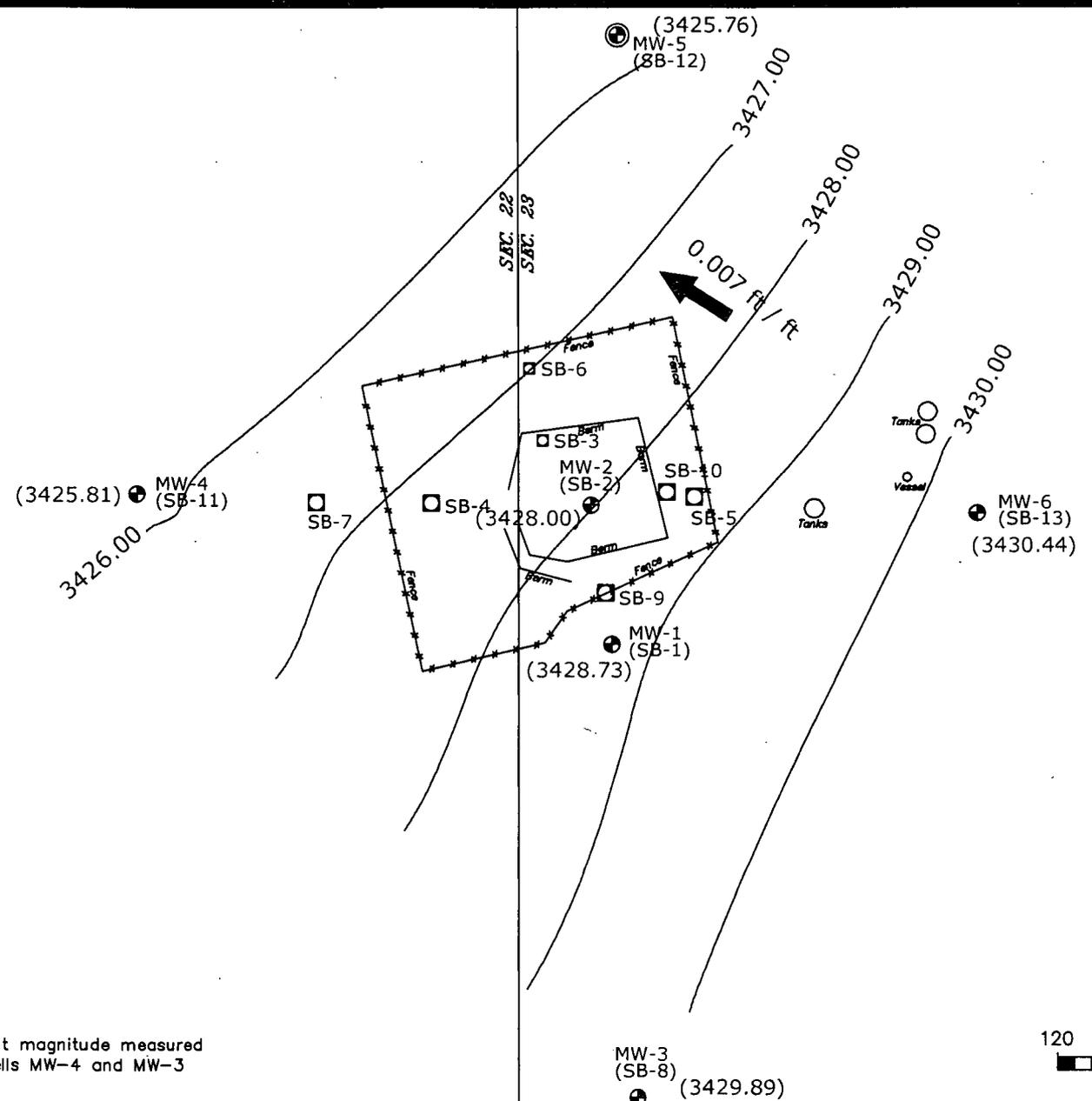
CONCENTRATIONS OF CHLORIDES AND  
 TOTAL DISSOLVED SOLIDS IN GROUNDWATER  
 BOPCO, LP  
 JOESPHINE RODKE FEDERAL #1  
 EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	CHLORIDES (mg/L)	TDS (mg/L)
MW-1	01/12/10	112	708
MW-2	01/12/10	136	598
MW-3	01/12/10	<b>24,500</b>	<b>39,300</b>
MW-4	01/12/10	196	687
MW-1	01/19/10	108	639
MW-2	01/19/10	128	541
MW-3	01/19/10	<b>46,000</b>	<b>72,800</b>
MW-4	01/19/10	136	603
<b>NMOCD CRITERIA</b>		<b>250</b>	<b>10,000</b>

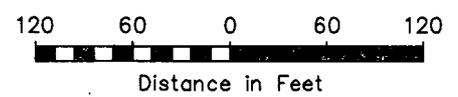
**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**B.O.P.C.O., L.P.**  
**JOSEPHINE RODKE FEDERAL #1**  
**EDDY COUNTY, NEW MEXICO**

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO WATER	CORRECTED GROUNDWATER ELEVATION
MW -1	01/04/10	3,523.34	97.54	3,425.80
MW-1	01/07/10	3,523.34	102.75	3,420.59
MW-1	01/12/10	3,523.34	98.11	3,425.23
MW-1	01/18/10	3,523.34	98.44	3,424.90
MW-1	01/19/10	3,523.34	112.18	3,411.16
MW-1	02/08/10	3,523.34	97.07	3,426.27
MW-1	02/15/10	3,523.34	97.23	3,426.11
MW-1	02/23/10	3,523.34	97.11	3,426.23
MW-1	03/02/10	3,523.34	97.18	3,426.16
MW-2	01/04/10	3,527.08	100.36	3,426.72
MW-2	01/07/10	3,527.08	100.40	3,426.68
MW-2	01/12/10	3,527.08	100.35	3,426.73
MW-2	01/18/10	3,527.08	99.94	3,427.14
MW-2	01/19/10	3,527.08	99.90	3,427.18
MW-2	02/08/10	3,527.08	99.82	3,427.26
MW-2	02/15/10	3,527.08	100.21	3,426.87
MW-2	02/23/10	3,527.08	100.07	3,427.01
MW-2	03/02/10	3,527.08	100.19	3,426.89
MW-3	01/04/10	3,528.86	102.08	3,426.78
MW-3	01/07/10	3,528.86	102.13	3,426.73
MW-3	01/12/10	3,528.86	102.50	3,426.36
MW-3	01/18/10	3,528.86	101.67	3,427.19
MW-3	01/19/10	3,528.86	101.57	3,427.29
MW-3	02/08/10	3,528.86	101.51	3,427.35
MW-3	02/15/10	3,528.86	102.04	3,426.82
MW-3	02/23/10	3,528.86	101.94	3,426.92
MW-3	03/02/10	3,528.86	102.00	3,426.86
MW-4	01/04/10	3,510.60	82.78	3,427.82
MW-4	01/07/10	3,510.60	82.97	3,427.63
MW-4	01/12/10	3,510.60	82.87	3,427.73
MW-4	01/18/10	3,510.60	82.95	3,427.65
MW-4	01/19/10	3,510.60	82.48	3,428.12
MW-4	02/08/10	3,510.60	82.48	3,428.12
MW-4	02/15/10	3,510.60	82.91	3,427.69
MW-4	02/23/10	3,510.60	82.70	3,427.90
MW-4	03/02/10	3,510.60	82.85	3,427.75

3/16/10



Groundwater Gradient magnitude measured between monitor wells MW-4 and MW-3



Legend:	
	Excavation Extents
	Pipeline
	Groundwater Gradient Contour Line
	Groundwater Elevation (feet)
	Groundwater Gradient Direction and Magnitude
	MW-1 Monitor Well
	Powerline
	Fence
	SB-1 Soil Boring Location

**Figure X**  
**Inferred Groundwater Gradient Map (03/02/10)**  
**BOPCO**  
**GH Cobb Fed #1**  
**Eddy County, NM**

**Basin Environmental Consulting**

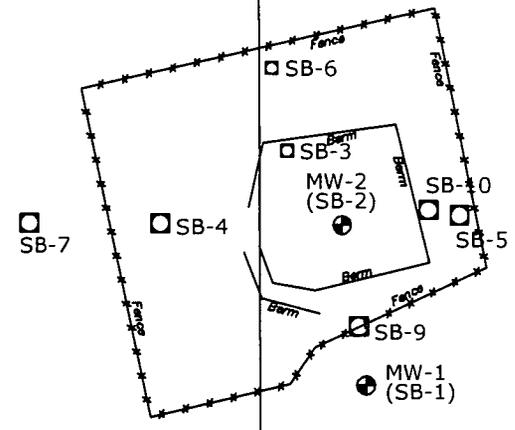
Prep By: CDS	Checked By: CJB
March 3, 2010	Scale 1"=120'



MW-5  
(SB-12)

S.B.C. 22  
S.B.C. 23

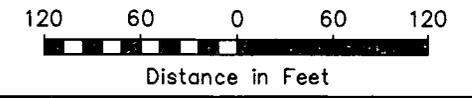
MW-4  
(SB-11)



Tanks  
Vessel

MW-6  
(SB-13)

MW-3  
(SB-8)



**Legend:**

- Excavation Extent
- Bench Extent
- MW-1 Monitor Well Location
- SB-1 Soil Boring Location

**Figure X**  
**Site Map**  
**BOPCO**  
**GH Cobb Fed #1**  
**Eddy County, NM**

**Basin Environmental Consulting**

Prep By: CDS	Checked By: CJB
March 3, 2010	Scale 1"=120'

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**

**B.O.P.C.O., L.P.**  
**G.H. COBB FEDERAL #1**  
**EDDY COUNTY, NEW MEXICO**

<b>WELL NUMBER</b>	<b>DATE MEASURED</b>	<b>CASING WELL ELEVATION</b>	<b>DEPTH TO WATER</b>	<b>CORRECTED GROUNDWATER ELEVATION</b>
MW -1	01/19/10	3,504.04	74.54	3,429.50
MW-1	01/26/10	3,504.04	75.05	3,428.99
MW-1	02/08/10	3,504.04	74.96	3,429.08
MW-1	02/15/10	3,504.04	75.38	3,428.66
MW-1	02/23/10	3,504.04	75.25	3,428.79
MW-1	03/02/10	3,504.04	75.31	3,428.73
MW-2	01/19/10	3,488.72	58.78	3,429.94
MW-2	01/26/10	3,488.72	58.92	3,429.80
MW-2	02/08/10	3,488.72	59.81	3,428.91
MW-2	02/15/10	3,488.72	61.75	3,426.97
MW-2	02/23/10	3,488.72	60.58	3,428.14
MW-2	03/02/10	3,488.72	60.72	3,428.00
MW-3	01/19/10	3,511.20	-	-
MW-3	01/26/10	3,511.20	94.07	3,417.13
MW-3	02/08/10	3,511.20	82.34	3,428.86
MW-3	02/15/10	3,511.20	81.37	3,429.83
MW-3	02/23/10	3,511.20	81.32	3,429.88
MW-3	03/02/10	3,511.20	81.31	3,429.89
MW-4	01/19/10	3,495.59	69.49	3,426.10
MW-4	01/26/10	3,495.59	69.64	3,425.95
MW-4	02/08/10	3,495.59	69.43	3,426.16
MW-4	02/15/10	3,495.59	69.81	3,425.78
MW-4	02/23/10	3,495.59	69.65	3,425.94
MW-4	03/02/10	3,495.59	69.78	3,425.81
MW-5	01/19/10	3,494.38	68.67	3,425.71
MW-5	01/26/10	3,494.38	68.74	3,425.64
MW-5	02/08/10	3,494.38	68.39	3,425.99
MW-5	02/15/10	3,494.38	68.76	3,425.62
MW-5	02/23/10	3,494.38	68.61	3,425.77
MW-5	03/02/10	3,494.38	68.62	3,425.76
MW-6	01/19/10	3,506.82	75.88	3,430.94
MW-6	01/26/10	3,506.82	76.91	3,429.91
MW-6	02/08/10	3,506.82	75.98	3,430.84
MW-6	02/15/10	3,506.82	76.42	3,430.40
MW-6	02/23/10	3,506.82	76.30	3,430.52
MW-6	03/02/10	3,506.82	76.38	3,430.44

**TABLE 1**

**GROUNDWATER ELEVATION DATA**

**B.O.P.C.O., L.P.  
G.H. COBB FEDERAL #1  
EDDY COUNTY, NEW MEXICO**

<b>WELL NUMBER</b>	<b>DATE MEASURED</b>	<b>CASING WELL ELEVATION</b>	<b>DEPTH TO WATER</b>	<b>CORRECTED GROUNDWATER ELEVATION</b>

TABLE 2

CONCENTRATIONS OF CHLORIDES AND  
 TOTAL DISSOLVED SOLIDS IN GROUNDWATER  
 BOPCO, LP  
 G.H. COBB FEDERAL #1  
 EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	CHLORIDES (mg/L)	TDS (mg/L)
MW-1	01/26/10	41,000	63,200
MW-2	01/26/10	134,000	215,000
MW-3	01/26/10	124	773
MW-4	01/26/10	51,000	72,500
MW-5	01/26/10	83,000	118,000
MW-6	01/26/10	424	1,440
<b>NMOC D CRITERIA</b>		<b>250</b>	<b>10,000</b>

TABLE 3

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

BOPCO, LP  
G.H. COBB FEDERAL #1  
EDDY COUNTY, NEW MEXICO

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

TABLE 3

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

BOPCO, LP  
G.H. COBB FEDERAL #1  
EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500	
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	DRO Ext. C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)	
SB-3 @ 40'	55 Feet	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	-	12,000
SB-3 @ 45'	60 Feet	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	-	9,500
SB-3 @ 55'	70 Feet	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	-	6,300
SB-3 @ 60'	75 Feet	01/04/10	In-Situ	-	-	-	-	-	-	-	-	-	-	5,200
SB-4 @ 5'	5 Feet	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 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	160
SB-4 @ 25'	25 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	4,100
SB-4 @ 30'	30 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	6,960
SB-4 @ 35'	35 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	2,360
SB-4 @ 45'	45 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	3,200
SB-4 @ 55'	55 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	2,600
SB-4 @ 60'	60 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	11,900
SB-4 @ 65'	65 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	12,800
SB-4 @ 70'	70 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	14,400
SB-4 @ 75'	75 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	8,160
SB-5 @ 5'	5 Feet	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 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	560
SB-5 @ 25'	25 Feet	01/05/10	In-Situ	-	-	-	-	-	-	-	-	-	-	1,460
SB-5 @ 35'	35 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	-	2,920
SB-5 @ 45'	45 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	-	7,200
SB-5 @ 55'	55 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	-	3,720
SB-5 @ 65'	65 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	-	6,240
SB-5 @ 70'	70 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	-	576
SB-5 @ 75'	75 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	-	3,320
SB-5 @ 80'	80 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	-	18,600

TABLE 3

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

BOPCO, LP  
G.H. COBB FEDERAL #1  
EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	DRO Ext. C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
SB-6 @ 5'	5 Feet	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 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	304
SB-6 @ 25'	25 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	704
SB-6 @ 35'	35 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	7,520
SB-6 @ 45'	45 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	4,320
SB-6 @ 55'	55 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	5,760
SB-6 @ 60'	60 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	8,560
SB-6 @ 65'	65 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	13,400
SB-6 @ 70'	70 Feet	01/06/10	In-Situ	-	-	-	-	-	-	-	-	-	12,400
SB-7 @ 5'	5 Feet	01/11/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	32
SB-7 @ 15'	15 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	272
SB-7 @ 25'	25 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	432
SB-7 @ 30'	30 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	7,040
SB-7 @ 35'	35 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	11,000
SB-7 @ 45'	45 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	6,080
SB-7 @ 55'	55 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	5,280
SB-7 @ 60'	60 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	8,800
SB-7 @ 65'	65 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	2,960
SB-7 @ 70'	70 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	1,880
SB-7 @ 75'	75 Feet	01/11/10	In-Situ	-	-	-	-	-	-	-	-	-	12,400
SB-8 @ 5'	5 Feet	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 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	240
SB-8 @ 25'	25 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	288
SB-8 @ 35'	35 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	80

TABLE 3

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

BOPCO, LP  
G.H. COBB FEDERAL #1  
EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500	
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	DRO Ext. C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)	
SB-8 @ 45'	45 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	48
SB-8 @ 55'	55 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	32
SB-8 @ 65'	65 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	32
SB-8 @ 75'	75 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	32
SB-8 @ 80'	80 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	48
SB-8 @ 85'	85 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	48
SB-9 @ 5'	5 Feet	01/12/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,140
SB-9 @ 15'	15 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	144
SB-9 @ 20'	20 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	192
SB-10 @ 5'	5 Feet	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 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	416
SB-10 @ 20'	20 Feet	01/12/10	In-Situ	-	-	-	-	-	-	-	-	-	-	224
SB-11 @ 5'	5 Feet	01/13/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16
SB-11 @ 15'	15 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	208
SB-11 @ 25'	25 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	208
SB-11 @ 35'	35 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	96
SB-11 @ 45'	45 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	64
SB-11 @ 55'	55 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	32
SB-11 @ 65'	65 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	96
SB-11 @ 70'	70 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	7,000
SB-11 @ 75'	75 Feet	01/13/10	In-Situ	-	-	-	-	-	-	-	-	-	-	976
SB-11 @ 80'	80 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	3,440
SB-12 @ 5'	5 Feet	01/15/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48

TABLE 3

## CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

BOPCO, LP  
G.H. COBB FEDERAL #1  
EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500	
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	DRO Ext. C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)	
SB-12 @ 15'	15 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	208
SB-12 @ 25'	25 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	240
SB-12 @ 35'	35 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	48
SB-12 @ 45'	45 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	128
SB-12 @ 55'	55 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	144
SB-12 @ 65'	65 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	4,000
SB-12 @ 75'	75 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	2,640
SB-12 @ 80'	80 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	5,680
SB-12 @ 85'	85 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	2,680
SB-12 @ 90'	90 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	992
SB-13 @ 5'	5 Feet	01/15/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SB-13 @ 15'	15 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	96
SB-13 @ 25'	25 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	96
SB-13 @ 35'	35 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	96
SB-13 @ 45'	45 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	80
SB-13 @ 55'	55 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	32
SB-13 @ 65'	65 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	32
SB-13 @ 75'	75 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	64
SB-13 @ 85'	85 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	48
SB-13 @ 95'	95 Feet	01/15/10	In-Situ	-	-	-	-	-	-	-	-	-	-	32
Northwest S/W @ 10'	10 Feet	01/08/10	In-Situ	<0.050	0.065	<0.050	<0.300	0.065	<10.0	<10.0	<10.0	<10.0	<10.0	256
Northeast S/W @ 10'	10 Feet	01/08/10	Excavated	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,220
West S/W @ 10'	10 Feet	01/08/10	Excavated	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,600
East S/W @ 10'	10 Feet	01/08/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,900
South S/W @ 10'	10 Feet	01/08/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,500

**TABLE 3**  
**CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL**

BOPCO, LP  
 G.H. COBB FEDERAL #1  
 EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					SW 848-8015M				4500
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	DRO Ext. C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
Northwest Corner @ 10'	10 Feet	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 Feet	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 Feet	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 Feet	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 Feet	02/11/10	In-Situ	-	-	-	-	-	-	-	-	-	1,060
Southeast Corner A @ 10'	10 Feet	02/11/10	In-Situ	-	-	-	-	-	-	-	-	-	768
West S/W A @ 10'	10 Feet	02/11/10	In-Situ	-	-	-	-	-	-	-	-	-	672
NMOCD Regulatory Standard				10				50					1,000

TABLE 4

CONCENTRATIONS OF POTASSIUM, ARSENIC AND MAGNESIUM IN SOIL

BOPCO, LP  
 G.H. COBB FEDERAL #1  
 EDDY COUNTY, NEW MEXICO

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 Feet	12/30/09	In-Situ	459	<5	3,340
SB-1 @ 65'	65 Feet	12/30/09	In-Situ	494	<5	4,600
SB-1 @ 70'	70 Feet	12/30/09	In-Situ	600	<5	7,140
SB-1 @ 75'	75 Feet	12/30/09	In-Situ	2,150	7.2	12,200
SB-2 @ Surface	29 Feet	01/04/10	In-Situ	701	10.8	3,170
SB-2 @ 5'	44 Feet	01/04/10	In-Situ	730	<10.0	8,900
SB-2 @ 35'	64 Feet	01/04/10	In-Situ	1,060	<10.0	7,110
SB-2 @ 40'	69 Feet	01/04/10	In-Situ	1,330	16	18,800
SB-2 @ 45'	74 Feet	01/04/10	In-Situ	684	<10	6,740
SB-2 @ 50'	79 Feet	01/04/10	In-Situ	884	11.2	12,300
SB-3 @ Surface	15 Feet	01/04/10	In-Situ	1,030	<10	7,290
SB-3 @ 5'	20 Feet	01/04/10	In-Situ	455	<10	4,150
SB-3 @ 50'	65 Feet	01/04/10	In-Situ	1,610	<10	9,930
SB-3 @ 55'	70 Feet	01/04/10	In-Situ	1,490	12.1	14,800
SB-3 @ 60'	75 Feet	01/04/10	In-Situ	1,990	13.9	16,600
SB-4 @ 25'	25 Feet	01/05/10	In-Situ	452	11.9	3,660
SB-4 @ 60'	60 Feet	01/05/10	In-Situ	927	<10	7,960
SB-4 @ 65'	65 Feet	01/05/10	In-Situ	1,420	12.7	18,400
SB-4 @ 70'	70 Feet	01/05/10	In-Situ	1,350	10	13,000
SB-4 @ 75'	75 Feet	01/05/10	In-Situ	1,010	14.3	15,800
SB-5 @ 25'	25 Feet	01/06/10	In-Situ	752	<10	6,670
SB-5 @ 65'	65 Feet	01/06/10	In-Situ	1,150	<10	5,100
SB-5 @ 70'	70 Feet	01/06/10	In-Situ	1,290	15.1	18,100
SB-5 @ 75'	75 Feet	01/06/10	In-Situ	630	<10	3,260

**TABLE 4**

**CONCENTRATIONS OF POTASSIUM, ARSENIC AND MAGNESIUM IN SOIL**

**BOPCO, LP  
G.H. COBB FEDERAL #1  
EDDY COUNTY, NEW MEXICO**

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-5 @ 80'	80 Feet	01/06/10	In-Situ	1,200	<10	9,770
SB-6 @ 25'	25 Feet	01/06/10	In-Situ	887	<10	6,260
SB-6 @ 35'	35 Feet	01/06/10	In-Situ	985	<10	18,000
SB-6 @ 60'	60 Feet	01/06/10	In-Situ	1,570	<10	6,990
SB-6 @ 65'	65 Feet	01/06/10	In-Situ	1,220	10.4	11,000
SB-6 @ 70'	70 Feet	01/06/10	In-Situ	748	<10	2,870
NMOCD Regulatory Standard				-	100	-