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REMEDIATION SUMMARY AND SITE CLOSURE PROPOSAL

BOPCO, L.P.
Josephine Rodke Federal #1
Eddy County, New Mexico
BOPCO Job # 24510

UNIT LTR "C" (NE ¼/NW ¼), Section 27, Township 20 South, Range 31 East Latitude 32° 32' 45.132" North, Longitude 103° 51' 15.048"

NMOCD Reference # 2RP-370

Prepared For:

BOPCO, L.P. 522 W. Mermod Suite 704 Carlsbad, New Mexico 88220

Prepared By:

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May 2010

Camille J. Bryant Project Manager

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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 19th sampling event to 112 mg/L during the January 12th sampling event. TDS concentrations ranged from 639 mg/L during the January 19th sampling event to 708 mg/L during the January 12th 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 19th sampling event to 136 mg/L during the January 12th sampling event. TDS concentrations ranged from 541 mg/L during the January 19th sampling event to 598 mg/L during the January 12th 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 12th sampling event, 46,000 mg/L during the January 19th sampling event and 61,000 mg/L during the March 24th 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 12th sampling event to 72,800 mg/L during the January 19th 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 19th sampling event to 196 mg/L during the January 12th sampling event. TDS concentrations ranged from 603 mg/L during the January 19th sampling event to 687 mg/L during the January 12th 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) onsite. 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.

6.0 DISTRIBUTION

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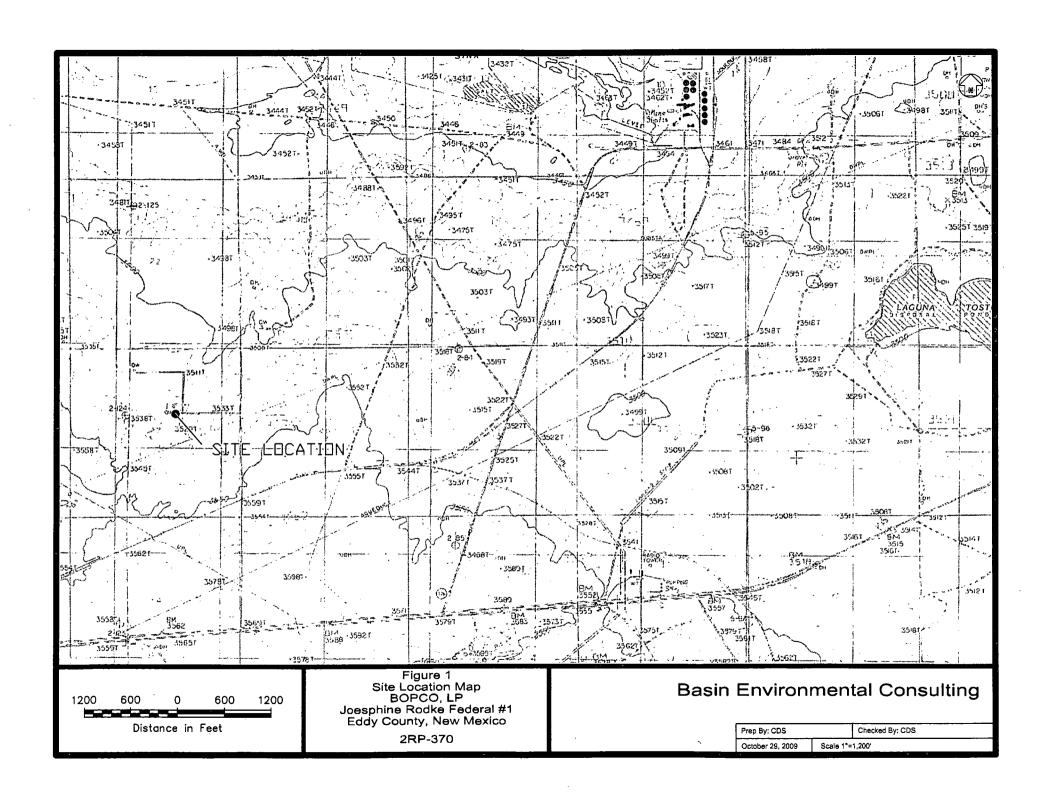
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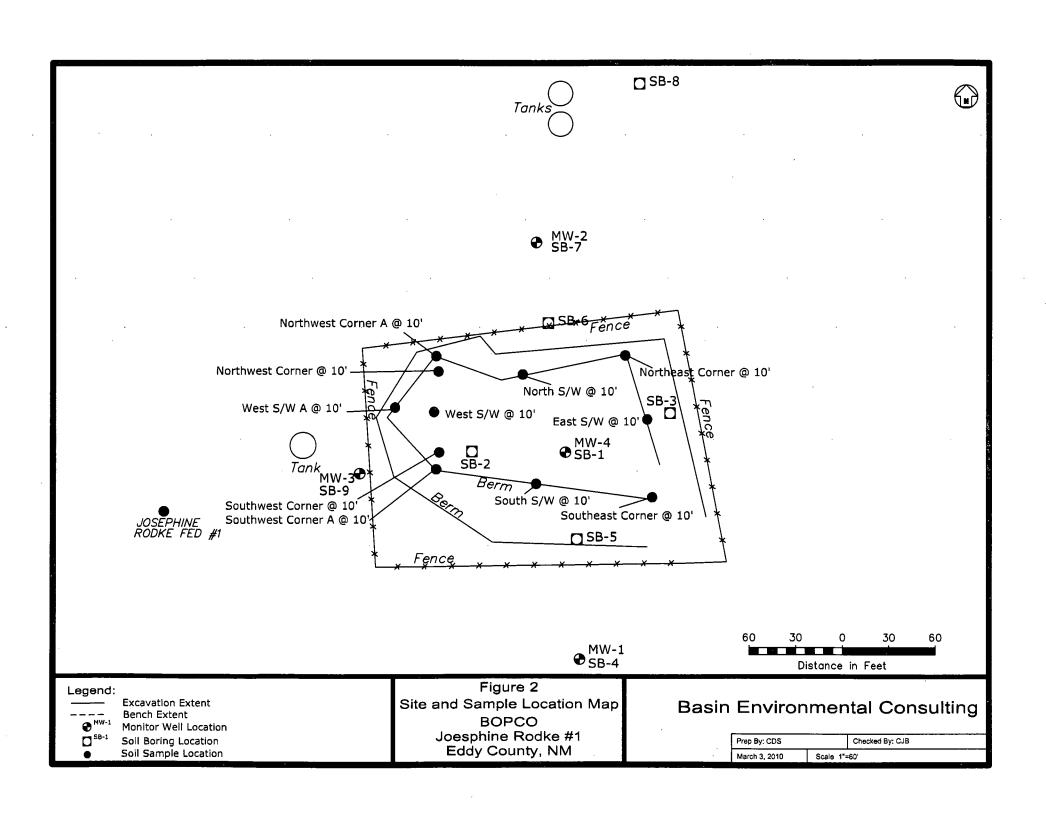
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Figures





Tables

TABLE 1

CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

				MET	HOD: EPA S	W 846-8021B	, 5030			SW 84	8-8015M		4500
SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	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 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
	η×'s-	11.00	**				s to a			1.0		:	4.7
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	-		-	-	-	<u> </u>	-	_	-	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
1486年7月1日 (東 公田) 1		700	1873.	19.5				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	127	1 (il)			Cho Taget
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

	I		-	MET	HOD: EPA S	W 846-8021B	, 5030	<u> </u>		SW 84	8-8 015 M		4500
SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	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-3 @ 15'	23 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	224
SB-3 @ 25'	33 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	80
SB-3 @ 35'	43 Feet	12/14/09	In-Situ	-	-	-	-	-	-	-	-	-	48
SB-3 @ 40'	48 Feet	12/15/09	In-Situ		-		-	-	-		_	-	1,630
SB-3 @ 45'	53 Feet	12/15/09	In-Situ	_	-	-	-	-	-	-	-	-	144
SB-3 @ 55'	63 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-	-	-	416
SB-3 @ 65'	73 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-	-	-	16
SB-3 @ 70'	78 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-	-	-	96
			· · · · · · · · · · · · · · · · · · ·	1980			43° °				18.	10 mm of 10 mm	100
SB-4 @ 5'	5 Feet	12/15/09	In-Situ	<0.050	<0.100	<0.050	<0.300	<0.100	<10.0	<10.0	<10.0	<10.0	16
SB-4 @ 15'	15 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-	-	-	1,020
SB-4 @ 25'	25 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-		-	144
SB-4 @ 35'	35 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-	-	-	80
SB-4 @ 45'	45 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-	-	-	64
SB-4 @ 55'	55 Feet	12/15/09	In-Situ	-	-	-	-	<u>-</u>	-		-	-	32
SB-4 @ 65'	65 Feet	12/15/09	In-Situ	-		-	-	-	-	-	-	-	<16
SB-4 @ 75'	75 Feet	12/15/09	In-Situ	-		-	-	-	•	-	-	-	48
SB-4 @ 85'	85 Feet	12/15/09	In-Situ	-	-	-	-	-	-	-	-	-	32
SB-4 @ 95'	95 Feet	12/15/09	In-Situ	-	-	-	-	_	-	-	-	-	48
SB-4 @ 105'	105 Feet	12/16/09	In-Situ		-	-	-	-	-	-	-	-	32
SB-4 @ 115'	115 Feet	12/16/09	In-Situ	-	-	-	-	-	-	-	-	-	32
SB-4 @ 125'	125 Feet	12/16/09	In-Situ	-	-	-		-		-	-	-	16
SB-4 @ 135'	135 Feet	12/16/09	In-Situ	-	-	-	-	-		-	-		32
SB-4 @ 140'	140 Feet	12/16/09	In-Situ	-	-	-	-	-	-	-	-	-	48
		1917	1		1.	No. 1 Let 1			750	*.^			
SB-5 @ 5'	12 Feet	12/16/09	In-Situ	· <0.050	<0.100	<0.050	<0.300	<0.100	<10.0	<10.0	<10.0	<10.0	224
SB-5 @ 15'	22 Feet	12/16/09	In-Situ	-		-	-	-	-		-	-	400

TABLE 1

CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

				MET	HOD: EPA S	W 846-8021B	, 5030			SW 84	8-8015M		4500
SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C _€ 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-5 @ 25'	32 Feet	12/16/09	In-Situ	-	-	_	-	-	-	-	-	•	176
SB-5 @ 35'	42 Feet	12/16/09	In-Situ	-	-	- '	-	-	-	-	-	-	80
SB-5 @ 45'	52 Feet	12/16/09	In-Situ	_	-	-	-	-	-	-	-	-	3,040
SB-5 @ 50'	57 Feet	12/16/09	In-Situ	-				-		-	-	-	1,710
SB-5 @ 55'	62 Feet	12/16/09	In-Situ	-	-	_	,	-	_	-	-	-	464
SB-5 @ 65'	72 Feet	12/16/09	In-Situ	-	-		-	-	-	-	-	-	1,820
SB-5 @ 70'	77 Feet	12/16/09	. In-Situ	-	-		-	-	-	_	-	-	496
TATE OF THE PARTY OF THE PARTY.		A STATE OF	TAKEN OK	130/13/5/14	TRIVER	21% V220%	(*************************************	A WAY S	277RIV	1.00		到的扩散	54,000
SB-6 @ 5'	5 Feet	12/17/09	In-Situ	<0.050	<0.100	<0.050	<0.300	<0.100	<10.0	<10.0	<10.0	<10.0	160
SB-6 @ 15'	15 Feet	12/17/09	In-Situ	-	-	-	-	-	-	-	-	-	224
SB-6 @ 25'	25 Feet	12/17/09	In-Situ	-	_	-	-	-	-	-	-	-	144
SB-6 @ 35'	35 Feet	12/17/09	In-Situ	-	_	-	-	-	_	-	-	-	1,140
SB-6 @ 40'	40 Feet	12/17/09	In-Situ	-	-	-	-	-	-	-	-	-	2,080
SB-6 @ 45'	45 Feet	12/17/09	In-Situ	-	-	-	-	_	-	_	-	-	272
SB-6 @ 55'	55 Feet	12/17/09	In-Situ	_	-	-	-	-	_	-	-	-	9,600
SB-6 @ 60'	60 Feet	12/17/09	In-Situ	_	-	-		-	· -	-	-	_	656
SB-6 @ 65'	65 Feet	12/17/09	In-Situ	-	_	-	,	-	-	-	-	-	2,200
SB-6 @ 75'	75 Feet	12/17/09	In-Situ	_	-	-	-	-	-	-	-	_	4,360
SB-6 @ 80'	80 Feet	12/17/09	In-Situ	-	-	-	-	-	-	-	-	-	6,480
SB-6 @ 85'	85 Feet	12/17/09	In-Situ	_	-	-	-	-	-	-	-	-	1,360
7137 44 32843385485485		27.4.7.4		- A - A - W/ 2 3	35 (20)	1.45°2.45°0			组件流为	7.33	623 A.S	**************************************	71
SB-7 @ 5'	5 Feet	12/17/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	77.1	<10.0	77.1	192
SB-7 @ 15'	15 Feet	12/17/09	In-Situ	-	-	_	_	_	-	-	-	-	480
SB-7 @ 25'	25 Feet	12/17/09	In-Situ	-	_	-		-	-	-	-	-	672
SB-7 @ 35'	35 Feet	12/17/09	In-Situ	-	_	_	_	-	-	-	_	-	336
SB-7 @ 45'	45 Feet	12/17/09	In-Situ	-			-	-	-	-	-	-	752
SB-7 @ 55'	55 Feet	12/18/09	In-Situ		-		_	-	-	-	-	-	1,760

TABLE 1

CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

				MET	HOD: EPA S	W 846-8021B	, 5030			SW 84	8-8015M		4500
SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	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 @ 60'	60 Feet	12/18/09	In-Situ	-	-	_	-	-	-	-	-	-	4,480
SB-7 @ 65'	65 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-	-	208
SB-7 @ 75'	75 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-		16
SB-7 @ 85'	·85 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-		-	160
SB-7 @ 95'	95 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-	-	176
SB-7 @ 100'	100 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-	-	240
	1110	, , ,	45.7			1 1 1						* .	
SB-8 @ 5'	5 Feet	12/18/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	192	<10.0	192	96
SB-8 @ 15'	15 Feet	12/18/09	In-Situ	-	-	_	-	-	-	-	-	-	640
SB-8 @ 25'	25 Feet	12/18/09	In-Situ	-	-	_	-	-	-	-	-		3,080
SB-8 @ 35'	35 Feet	12/18/09	In-Situ	-	-	-	-	_	-	-	-	-	1,310
SB-8 @ 40'	40 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-	-	640
SB-8 @ 45'	45 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-	-	544
SB-8 @ 55'	55 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-	•	1,730
SB-8 @ 60'	60 Feet	12/18/09	In-Situ	-	-	-	-	-	-	-	-	-	2,120
SB-8 @ 65'	65 Feet	12/21/09	In-Situ	-	-	-	-	-	-	-	-	-	336
SB-8 @ 70'	70 Feet	12/21/09	In-Situ	-	-	-	-	-	-	-	-	-	176
SB-8 @ 75'	75 Feet	12/21/09	In-Situ	-	_	-	-	-	-	-	-	-	592
113		. ,									1	•	
SB-9 @ 5'	5 Feet	12/21/09	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.050	<10.0	67.5	<10.0	67.5	80
SB-9 @ 15'	15 Feet	12/21/09	In-Situ	-	-	-	-	' -	-	-	-	-	80
SB-9 @ 25'	25 Feet	12/21/09	In-Situ		-	-	-	-	-	-	-	-	144
SB-9 @ 35'	35 Feet	12/21/09	In-Situ	-	-	-	-	-	-	-	-	-	624
SB-9 @ 45'	45 Feet	12/21/09	In-Situ	-	-	-	-	-	-		-	-	736
SB-9 @ 50'	50 Feet	12/21/09	In-Situ	-	-	-	-	-	-	-	_	-	1,070
SB-9 @ 55'	55 Feet	12/21/09	In-Situ		-		-		-	-	· -	-	480
SB-9 @ 60'	60 Feet	12/21/09	In-Situ	-	-	-	-	-	-	-	-	-	2,440

TABLE 1

CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

	_			MET	HOD: EPA S	N 846-8021B	, 5030			SW 848	8-8015M		4500
SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C _{&-} 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-9 @ 65'	65 Feet	12/21/09	In-Situ	-	_	-	-	-	-	-	-	-	448
SB-9 @ 75'	75 Feet	12/21/09	In-Situ	-	_	_	-	-	-	-	-	-	1,300
SB-9 @ 80'	80 Feet	12/21/09	In-Situ	-	-	_	- -	-		-	-	-	240
SB-9 @ 85'	85 Feet	12/21/09	In-Situ	-	- .	-	-	-		-	-	-	240
SB-9 @ 95'	95 Feet	12/21/09	In-Situ	-	_	-	_	-	_	-	-	_	512
SB-9 @ 105'	105 Feet	12/21/09	In-Situ	-	-	-	-	-	-	-	-	-	144
SB-9 @ 110'	110 Feet	12/21/09	In-Situ	-	-	-		_	-	-	-	-	112
	The Atlanta	、图书 《神	という。	\$3.725 P. S. & S. & B. & B. & B. & B. & B. & B.			が行った。		674700	7.74 PM		名を行る方	
East S/W @ 10'	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
North S/W @ 10'	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
South S/W @ 10'	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
West S/W @ 10'	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
Northeast Corner @ 10'	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
Northwest Corner @ 10'	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
Southeast Corner @ 10'	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
Southwest Corner @ 10'	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
		湖的南部	1.344.4			3400	なる。	20. W.W.					
West S/W A @ 10'	10 Feet	02/01/10	- In-Situ		1		•	-	-	_		-	112
Southwest Corner A @ 10'	10 Feet	02/01/10	In-Situ	-	<u>-</u>	-	-	-	_	-		-	496
Northwest Corner A @ 10'	10 Feet	02/01/10	In-Situ	-	-	-	_	_	_	-		-	224
		X 450	1777 N. 27			37 (Y/) 3 ()			ALS MA	- 25 21 3			
NMOCD REGULATORY ST	ANDARD			10				50				100	1,000

TABLE 2 GROUNDWATER ELEVATION DATA

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

WELL NUMBER	DATE MEASURED	TOTAL WELL DEPTH	CASING WELL ELEVATION	DEPTH TO WATER	CORRECTED GROUNDWATER ELEVATION	VOLUME RECOVERED (gallons)
MW -1	01/04/10	128.31	3,523.34	97.54	3,425.80	12.00
MW-1	01/07/10	128.31	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	10.00
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-1	03/09/10		3,523.34	97.04	3,426.30	
MW-1	03/16/10		3,523.34	97.16	3,426.18	
MW-1	03/24/10		3,523.34	97.11	3,426.23	
		25.7	16.2 m 3 18.18 m			
MW-2	01/04/10	118.30	3,527.08	100.36	3,426.72	12.00
MW-2	01/07/10	118.30	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	15.00
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-2	03/09/10		3,527.08	99.81	3,427.27	
MW-2	03/16/10		3,527.08	100.44	3,426.64	
MW-2	03/24/10		3,527.08	99.93	3,427.15	
Service Contract	7-10 M				387-9727-53-536	
MW-3	01/04/10	119.10	3,528.86	102.08	3,426.78	13.00
MW-3	01/07/10	119.10	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	8.00
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-3	03/09/10		3,528.86	101.51	3,427.35	
MW-3	03/16/10		3,528.86	102.26	3,426.60	
MW-3	03/24/10	118.76	3,528.86	101.48	3,427.38	6.00
MW-3	03/24/10		3,528.86	102.15	3,426.71	
MW-3	03/25/10		3,528.86	101.48	3,427.38	
Comments.			3. 12. 12. 12. (RESIDENCE OF CAR		
MW-4	01/04/10	100.58	3,510.60	82.78	3,427.82	8.00
MW-4	01/07/10	100.58	3,510.60	82.97	3,427.63	

TABLE 2

GROUNDWATER ELEVATION DATA

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

WELL NUMBER	DATE MEASURED	TOTAL WELL DEPTH	CASING WELL ELEVATION	DEPTH TO WATER	CORRECTED GROUNDWATER ELEVATION	VOLUME RECOVERED (gallons)
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	6.00
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	
MW-4	03/09/10		3,510.60	82.46	3,428.14	
MW-4	03/16/10		3,510.60	83.12	3,427.48	
MW-4	03/24/10		3,510.60	82.47	3,428.13	
		2000年14日本。				

Yellow Highlight indicates results from gauging 5hrs 36min after bailing MW-3 dry Note MW-3 had fully recovered within 24 hrs as seen on MW-3 03/25/10 data

CONCENTRATIONS OF CHLORIDES AND TOTAL DISSOLVED SOLIDS IN GROUNDWATER BOPCO, LP

JOESPHINE RODKE FEDERAL #1 EDDY COUNTY, NEW MEXICO

TABLE 3

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	24,500	39,300
MW-4	01/12/10	196	687
MARKEN CHA	A CHARLE		などなる。
MW-1	01/19/10	108	639
MW-2	01/19/10	128	541
MW-3	01/19/10	46,000	72,800
MW-4	01/19/10	136	603
Bully Bu	SCHOOL SE	SHE SE MAN	
MW-3	03/24/10	61,000	-
Mark Control of Control	e resexter.		BALL BEST
NMOCD CRITERIA	4	250	10,000

Appendices

Appendix A
Soil Boring Logs

Depth	•				Mor	nitor Well MW-	1	below Monitor Well MW 1													
ground	Soil	Chloride	PID	Petroleum		Call Danasintian		Monitor Well MW-1													
surface	Columns	Field Test I		<u>Odor</u> None	<u>Stain</u> None	Soil Description		Date Drilled December 16, 2009 Thickness of Bentonite Seat 72 Ft													
B E°		ND	10.6	None	None	Surface - 5' - Sand, reddish brown, some org	ganics,	Depth of Exploratory Boring 140 Ft bgs													
s _	15 To	ND	2.8					Depth to Groundwater Ground Water Elevation													
- 10		180	32.6	None	None	5 - 10' - Sand, reddish brown, dry															
E				None	None	10 - 15' - Sand, brown to tan with caliche not dry	dules,	Indicates the PSH level measured on Indicates the groundwater level													
E 15		924	5.6	None	None			measured on Indicates samples selected for													
E 20		180	2.1	140110	140110	15 - 25' - Sand, brown with sandstone, dry		Laboratory Analysis. PID Head-space reading in ppm obtained with a photo-ionization detector.													
E ₂₅		(ND)	2.6	None	None																
				None	None	25 - 30' - Clay, reddish brown, sandy with sandstone, dry															
E-30		ND	2.1	None	None	30 - 35' - Sand, brown with limited clay, dry															
35		ND	3.8	None	None																
				None	None	35 - 40' - Sand, brown with sandstone noduli limited clay, dry	es and														
		ND	2.4	None	None			•													
45		ND	2.1			40 EE Cond brown with an data a nod d															
-50		ND	2.7	None	None	40 - 55' - Sand, brown with sandstone nodul	les, dry														
				None	None			Grout Surface Seal													
-55 E		ND	7.5	None	None	55 - 60' - Sand, reddish brown with sandstor	ne 📗														
E -60		ND	2.6	140110	140110	nodules, dry		Bentonite Pellet Seal													
E 65		(ND)	2.9	None	None	60 - 65' - Clay, dark reddish brown, silty, dry		Sand Pack													
	3,7		2.3	None	None	65 - 70' - Sand, dark brown, dry															
-70	32	ND	3.1	N	Mana			Screen													
75		(ND)	3.3	None	None																
				None	None	70 - 85' - Sand, brown, dry, hard at 74 feet															
I ⊢™ E		ND	3.1	None	None		\$5 F3														
E-85		ND	1.9																		
E ∞	開	ND	3.2	None	None	85 - 95' - Clay, dark red, silty with sandstone	1														
Ē				None	None	nodules, dry															
- 95 -		(ND)	4.0	None	None	95 - 100' - Sand, dark red with sandstone no	odules SES														
100		ND	3.0	redic	140110	and cemented sandstone															
- - - 105		(ND)	4.2	None	None	100 - 110' - Sand, reddish brown, fine graine sandstone nodules, some tan, fine grained s															
				None	None	112 feet															
- 110		ND	3.4	None	None	110 - 115' - Sand, brownish lan, fine grained	I with	Completion Notes													
		ND	3.8	NOTE	HANIE	sandstone nodules, dry		The monitor well was advanced on date using air rotary drilling techniques.													
- 120		ND	5.7	None	None			 The well was constructed with 2" ID, 0.010 inch factory stotted, threaded joint, schedule 40 PVC pipe. 													
		NU	J.1	None	None	115 - 130' - Sand, brown, fine grained with sandstone nodules, dry		 The well is protected with a locked stick up steel cover and compression cap. 													
125		ND	4.4	NI	Ma	ournations installed, org		4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be													
130		ND	5.2	None	None			gradual,													
		(1:5)	4.0	None	None	130 - 140' - Sand, tannish brown, fine graine	ed with														
135 - -		(ND)	4.0	None	None	sandstone nodules, dry															
上, ₄₀	HEN T	ND ND	4.2				1 ///														
1																					
Mor	nitor W	/ell Det	tails		PΩ	PCO Basii	o Enviro	montal Canacillia													
		V-1	-	Joesi		Rodke Fed #1		nmental Consulting													
Sc	oil Bor	ing SB	-4			/, New Mexico	Prep By: CDS April 5, 2010	Checked By: CJB													
					-		, ,,														

Depth		·		<u> </u>	Moi	nitor Well MW-2		
below	C-:1	Chlorida	DID	Dottolaum I				Monitor Well MW-2
ground <u>surface</u>	Soil <u>Columns</u>	Chloride Field Test I	PID Reading	Petroleum I Odor	<u>Stain</u>	Soil Description	· 5007	Date Drilled December 17, 2009
F٥		ND	29.7	Slight	Slight	Surface - Sand, dark brown with caliche, dry	-5 5	Thickness of Bentonite Seal 79 Ft
▋▐	+	_		Slight	None	-	ĦĦ	Depth of Exploratory Boring
F⁵		(152)	29.9			0 - 10' - Caliche, tan, dry	ии	Ground Water Elevation
.				Slight	None		ии	
10	- X-	520	30.0				99	✓ Indicates the PSH level measured
▋▐				None	None	10 - 15' - Sand, tan, fine grained with caliche nodules	99	_ on
E- 15	 (468	30.7			nodules	99	✓ Indicates the groundwater level measured on
	-2			None	None	15 - 20' - Sand, tannish red with caliche nodules,	ии	Indicates samples selected for Laboratory Analysis.
- 20		644	31.9			dry	. 11 11	PID Head-space reading in ppm obtained with a photo-ionization detector,
■ ⊧				None	None	20 - 25' - Sand, red, very fine grained with sandstone nodules, dry	ии	man o proce to the day of the day
25		644	33.7			-	99	•
				None	None	25 - 30' - Sand, red with sandstone nodules and gypsum stringers, dry	ИИ	•
E-30		924	32.7			gypaan aungara, ary	ии	
E				None	None	30 - 35' - Sand, red with sandstone nodules, dry	ии	
35	H	280	34.8			05 401 0 1 1 111 111 111		
₽		_		None	None	35 - 40' - Sand, red with sandstone nodules and limited clay, dry	ии	
- 40		416	34.0			minos ouj, aij	ии	
E				None	None		99	
L ₄₅	ATT	708	34.2				ии	
₽				None	None		ии	
E ₅₀		2,196	35.9	710110	,101.0	40 - 60' -Sand, red with sandstone nodules, dry	99	
	114	_,		None	None		99	Grout Surface Seal
E_55		(1,556)		140110	Hone		99	Gloui Suriace Seal
₽		ريون		None	None		ии	7 2
E.,,		4,092	35.5	NOUG	None		ии	Bentonite Pellet Seal
■ ‡ ~		4,002	00.0	None	None		ии	
E 85	購	(324)	36.7	None	None	*	ии	Sand Pack
		324	30.7	None	Mono	60 - 75' - Sand, red with sandstone nodules in a	ии	_
■ E,		368	35.8	140116	None	clay matrix, dry	ии	Screen :
		500	30.0	None	Mono		ии	
E.,.	配	(212)	38.4	None	None			
■ F "	311	روبو	50.4	Mass	Noss	75 - 80' - Sand and Sandstone, red, dry	ии	
₽ E	より	180	39.8	None	None	70 00 - Outlo dillo Guildobric, Icu, diy		
■ F [∞]		IUU	J#.0	Me	No			
E	開	(NE)	20.2	None	None			
F E	卌	(ND)	38.2	NI	Mari			•
■ E	H	420		None	None	80 - 100' - Sandstone, red, white, rose and grey	は間に	
	HH	128		Maria	Ma	with some red clay, all soils are thin layered		•
I	H	(120		None	None			
= 95 E	H	(128)						
■		(180)		None	None			
F 100		(180)				100 - 105' - Clay, dark red, silty with gypsum		
				None	None	stringers		
105								
I F	117			None	None	•	周嗣	0 18.4
110						105 - 115' - Sand and sandstone, dark red, silty		Completion Notes
■				None	None	with limited clay, dry		1.) The monitor well was advanced on date
115	11	0					E M S. J	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
_								.,

Monitor Well Details MW-2 Soil Boring SB-7

BOPCO Joesphine Rodke Fed #1 Eddy County, New Mexico **Basin Environmental Consulting**

Prep By; CDS Checked By; CJB
April 5, 2010

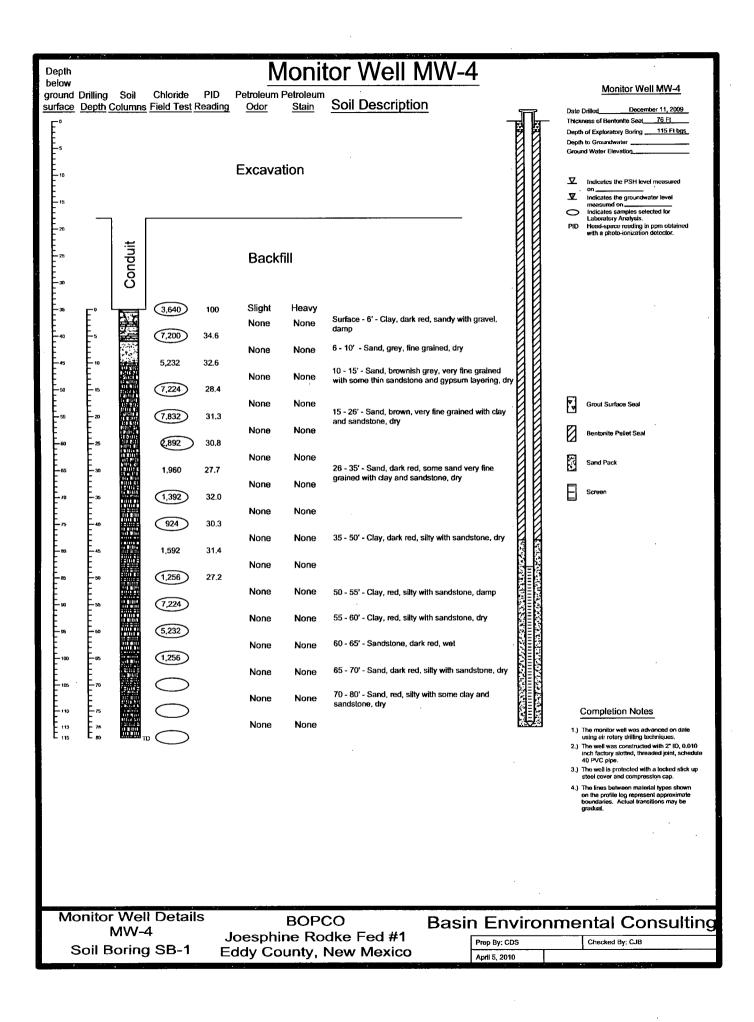
Depth below					Moi	nitor Well MW-3	· · · · · ·	
ground	Soil	Chloride	PID	Petroleum P	etroleum			Monitor Well MW-3
surface		s Field Test			Stain	Soil Description		Date Drilled December 16, 2009
		ND	62,8	Moderate	Slight	Surface - Sand, brown with caliche nodules and		Date Drilled December 16, 2009 Thickness of Bentonite Seal 79 Ft
		110	02.0	Slight	None	organics, dry		Depth of Exploratory Boring 115 Ft bgs
.		(ND)	35,7	Silgrit	Nune	0 - 5' - Caliche, tan, sandy with organics, dry	ии	Depth to Groundwater
E°		ND	35,1			5 - 10' - Caliche, tan, sandy, dry	ии	Ground Water Elevation
	\mathbb{R}^{-1}			Slight	None	5 - 10 - Odiono, win, surray, dry	ии	
- 10	-	ND	28.2				ии	
				None	None	40 001 Oard tracket and Far are and with	ии	on
15	. (*)	$\langle ND \rangle$	5.7			10 - 20' - Sand, tannish red, fine grained with caliche nodules	ии	indicates the groundwater level measured on
	(4)	_		None	None	outono no disco	ии	Indicates samples selected for Leboratory Analysis.
-20		128	3.6				ии	PID Head-space reading in ppm obtained with a photo-ionization detector.
I F	111			None	None	20 - 25' - Sand, reddish brown with sandstone	ии	with a photo-tonization detector.
- E		152	2.5	110110	140110	layers, dry	ии	
i	PH 1		2.5	None	None	25 - 30' - Sand, brown with sandstone and gypsum	- 14 14	
	200	450	7.4	None	None	stringers, dry	88	
E **		152	7,4			30 - 35' - Sand, brown with sandstone and limited	11 11	
:				None	None	clay, dry	ии	
-35	풿	(520)	4.9			35 - 40' - Sand, reddish brown with sandstone and	ии	
F	鰰			None	None	clay, dry, a gypsum layer at 42' bgs	ии	
E -40	鰡	1,084	5.8				ии	
II E				None	None	40 - 45' - Clay, brown, sandy with sandstone, dry	ии	
L ₄₅		708	8.4				ии	
F				None	None		ии	
E ₅₀	##	924	6.8	110.10		45 - 55' - Sand, brown with limited clay and	ии	
l E~	肼	324	0,0	Mana	Mana	sandstone, dry	ии	
 		1550	5.0	None	None		ии	Grout Surface Seal
F 55		(1,556)	5.2				ии	_
■ E				None	None		ии	Bentonite Pellet Seal
-80	137	2,356	5.7			55 - 65' - Sand, brown, silty with sandstone, dry	ии	
				None	None		ии	Sand Pack
-65		368	5.2				ИU	D
				None	None	65 - 70' - Clay, red, silty with sandstone nodules, dry	ии	Ħ.
L-70		ND	3.1			ury	ии	Screen
1 E				None	None	70 - 75' - Clay, dark red, silty with sandstone	ии	
- 75	44	1,452	2.5			nodules and gypsum layering, dry	ии	•
	7122	•		None	None	75 - 80' - Sand, reddish brown, silty with sandstone	ии	
I E _∞	驑	212	2.9	None	None	and limited clay, dry	ии	,
- 00	110	£14	4.3	Mess	Moss	20 051 Cand beauty 200 200		,
■ ‡.	111	040	2.7	None	None	80 - 85' - Sand, brown, silty with sandstone, dry	間間	
■ -85	門	212	3.7			85 - 90' - Sand, tannish brown, fine grained with	開閉	
I E				None	None	sandslone, dry	高層	
- 90		ND	5.2			OO OF! Class and the binness are do with		
				None	None	90 - 95' - Clay, reddish brown, sandy, with sandstone, dry	MEN	
-95	111	212	6.5			• •	Ø#8	
■ E				None	None	95 - 100' - Sand, reddish brown, with limited clay,		
- 100		ND	3.7		**=	dry		
			**	None	None	100 - 110' - Sand, dark red, silty, with limited clay	とは	
E.,		128	6.5	HONG	140116	and cemented sandstone, dry		
1 1 1 1 1	職	.20	0.0	Mono	Moss			
I F	116	ND.	2.7	None	None		は は は は は は は は は は は は は は は は は は は	Completion Notes
■ E ¹¹⁰	11	ND	2.7			110 - 115' - Sand, dark red, silty with clay and	は間間	Completion Notes
				None	None	some gypsum, dry	44	1.) The monitor well was advanced on date
L-115	المكنت	סו					L.SA.	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.

Monitor Well Details MW-3 Soil Boring SB-9

BOPCO Joesphine Rodke Fed #1 Eddy County, New Mexico

Basin Environmental Consulting

Prep By: CDS Checked By: CJB
April 5, 2010



	1.0	<u> </u>				
Depth below					Sc	oil Boring SB-2
ground	Soil	Chloride	PID	Petroleum I	Petroleum	
surface	Columns	Field Test	Reading	Odor	Stain	Soil Description
		ND	0.3	Slight	None	Surface - Sand, reddish brown with caliche and organics, dry
i E	ΚП			Slight	None	organics, dry
_5	LΉ	1,630	1.0	3		0 - 10' - Caliche, tan, soft, dry
	IH			Slight	None	
10		1,000	1.3	ŭ		
F				None	None	10 - 15' - Sand, tan to reddish with sandstone, dry
E ₁₅		416	1,6	None	110110	10 - 13 - Sand, and to resident with surface to, dry
E "	11	4.0	1.0	Mana	Mana	1E 20' Cond and with condutors day
				None	None	15 - 20' - Sand, red with sandstone, dry
-20		212	8.1			
l E	解析			None	None	20 - 25' - Sand, reddish brown, with sandstone, dry
- 25 -	154	<u>580</u>	7.7			OF OO! Oh. data distribution and out
-				None	None	25 - 30' - Clay, dark reddish brown, sandy with sandstone, dry
30		180	6.8			obitobility, dry
l E				None	None	30 - 35' - Sand, dark reddish brown with sandstone,
E ₃₅		(128)	6.9	1101.0	140110	dry
["			0.0	Nana	NI	35 - 40' - Sand, brown with sandstone and limited
F		400	4.0	None	None	clay, dry
-40		180	4.9			
l E	1644			None	None	40 - 50' - Sandstone, brown with interbedded
-45 -	ďaďa	(152)	5.5			gypsum layering
 				None	None	
-50	AM.	368	3.0			
l E	113			None	None	
- 55		5,232	3.3			50 - 60' - Sand, dark reddish brown with limited
			•	None	None	clay and sandstone, dry
l F.,		E20	2.4	NOHE	NUHE	
-60		520	3.1			
l E	4			None	None	60 - 70' - Sand, red with clay and some sandstone
-65	群	(152)	2.8			(silty clay), dry
l F	1			None	None	
F-70		152	2.1			70. 751. 0
I E				None	None	70 - 75' - Sand, grey with gypsum and some clay, dry
L,5		924	2.4			<u>.,</u>

December 14, 2009

Thick	ness of Bentonite Seat75 Ft
Depth	of Exploratory Boring 75 Ft bgs
Depth	to Groundwater
Groun	nd Water Elevation
☑ ☑ ○	Indicates the PSH level measured on Indicates the groundwater level

Completion Notes

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

BOPCO

Basin Environmental Consulting

Prep By: CDS Checked By: CJB April 5, 2010

Soil Boring SB-3 Depth below Petroleum Petroleum PID ground Drilling Soil Chloride Soil Description surface Depth Columns Field Test Reading Odor Stain **Excavation** Slight None 128 2.8 Surface - Caliche, tan, dry None None 0 - 5' - Sand, tan with caliche nodules, dry 128 1.4 5 - 10' - Sand, light red with caliche nodules, dry None None 128 1.4 10 - 15' - Sand, red with sandstone nodules, dry None None 152 15 - 20' - Sand, reddish brown and gypsum, grey, None None layered, dry 128 1.9 20 - 25' - Sand, reddish brown, with sandstone, dry None None ND 1.9 25 - 30' - Sand, dark reddish brown, with gypsum, None None ND 1.9 None None 30 - 35' - Sand, brown with sandstone, dry ND 0.9 35 - 40' - Sand, brown with sandstone and clay None None with gypsum, dry 1,556 1.9 None 40 - 45' - Sand, brown with sandstone and clay, dry None 217 1.9 45 - 50' - Clay, dark red, sandy with sandstone, dry None None 180 2.1 50 - 55' - Clay, dark reddish brown with clay, None None sandstone and gypsum stringers, dry 244 1.8 55 - 60' - Sandstone, brown with clay, dry None None ND 2,5 60 - 65' - Clay, dark red, silty with limited None None sandstone, dry ND 65 - 70' - Clay, reddish brown, sitty with limited None None sandstone, dry ND

2.9

Soil Boring SB-3

December 15, 2009

Grou	nd Water Elevation
又	Indicates the PSH level measured
₩.	Indicates the groundwater level
0	Indicates samples selected for Laboratory Analysis,
PID	Head-space reading in ppm obtained with a photo-ionization detector.

Thickness of Bentonite Seat 70 Ft

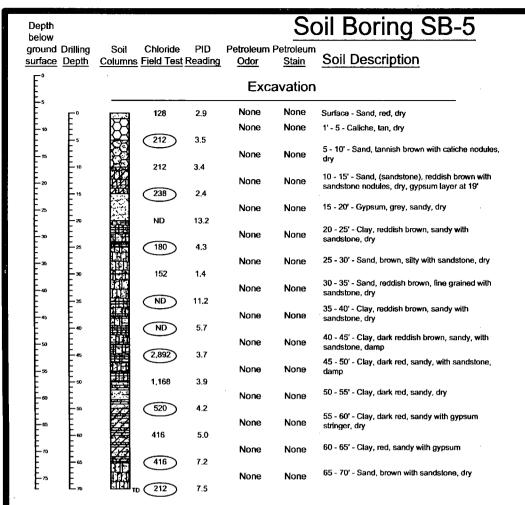
Completion Notes

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

BOPCO

Joesphine Rodke Fed #1 Eddy County, New Mexico **Basin Environmental Consulting**

Prep By: CDS Checked By: CJB April 5, 2010



December 16, 2009

Depth	of Exploratory Boring 70 Ft bgs
Depth	to Groundwater
Groun	nd Water Elevation
◩	Indicates the PSH level measured
	on
V	Indicates the groundwater tevel measured on
0	Indicates samples selected for Laboratory Analysis.

Head-space reading in ppm obtained with a photo-ionization detector.

Thickness of Bentonite Seat 70 Ft

Completion Notes

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

	•	_	
Prep By: CDS	Checked By: CJB		
April 5, 2010			

	1		•			and the state of t
Depth below					Sc	oil Boring SB-6
ground	Soil	Chloride	PID	Petroleum I	etroleum	
surface		Field Test		Odor	Stain	Soil Description
<u>5017455</u>	Oolaliilio	ND	8,2	Slight	None	Surface - Sand, reddish brown with caliche nodules
ΙE°	\bigcirc	ND	0.2	•		and organics dry
E	K	_		None	None	
-5	KH	(152)	10.5			
	155			None	None	1' - 15 - Caliche, tan, dry
10	\bowtie	128	10.8			
l E	123			None	None	
L 15	\bowtie	238	2.4			
	1211			None	None	15 - 20' - Sand, tannish red with caliche nodules,
F	74	450	44.0	None	None	dry, sandstone at 22'
-20	1111	152	11.8			
E	H T			None	None	
25		(ND)	13.4			20 - 30' - Sand, reddish brown with sandstone, dry
	157			None	None	
⊢ ∞		152	1.4			
l E	22			None	None	30 - 35' - Sand, dark red with sandstone and
- 35	MA	(1,084)	16.9			gypsum stringer, dry
 				None	None	35 - 40' - Sand, red with sandstone and limited
F		(2400	40.0	NOTE	MOHE	clay, dry
-40		2,196	16.6			
l E	13.77			None	None	40 - 45' - Sand, brown with sandstone, dry
45 		280	20.6			45 - 50' - Sand, dark red with sandstone and limited
 				None	None	clay, dry
-50	217	128	45.8			
l E				None	None	
<u> </u>		(8,500)	21.7			50 - 60' - Clay, dark brown, sandy with sandstone,
	 			None	None	damp
Ε		(416)	5.0	140116	NONE	
l E [™]		410	3.0			60 - 65' - Clay, dark red, silty with sandstone, dry
 				None	None	00 - 03 - Glay, dark red, sity with sandstone, dry
- 65	101	(1,084)	11.1			65 - 70' - Clay, dark red, silty with sandstone, dry
 				None	None	03 - 70 - Clay, dark red, siny with sandstone, dry
F-70		2,636	16.1			
 	##			None	None	70 - 75' - Clay, red, silty with sandstone, dry
_ ₇₅		(1,556)	14.6			
F				None	None	75 - 80' - Clay, dark red, with gypsum, damp
E.,	ZZ	(1,256)		14010	140110	
I E [™]	210	(1,200)		Ness	Mana	or or o 11 14 14 14
 				None	None	85 - 85' - Sand, brown with sandstone, dry
L ₈₅	الا لانتسانا	(1,084)				

December 17, 2009

Depth	of Exploratory Boring 85 Ft bgs
Depth	to Groundwater
Groun	nd Water Elevation
∇	
	Indicates the PSH level measured on
V	Indicates the groundwater level
0	Indicates samples selected for Laboratory Analysis.
PID	Head-space reading in ppm obtained with a photo-ionization detector.

Thickness of Bentonite Seal 85Ft

Completion Notes

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

	1 7 7 7					
Depth below				<u>-</u>	Sc	oil Boring SB-8
around	Soil	Chloride	PID	Petroleum Po	etroleum	
surface		Field Test		Odor	<u>Stain</u>	Soil Description
	D2-31	ND	32.4	None	None	Surface - Sand, brown with some organics
E	1831			None	None	1 - 5' - Caliche, white, soft, dry
_5	₩	(ND)	26.8			, , , ,
F	X			None	None	5 -12' - Caliche, white, soft with some brown sand
Ē-10		468	31.1			
-				None	None	12 - 15' - Sand, light brown, very fine grained with
15	Ξ	580	30.0			some caliche 15 - 17' - Caliche, white, with brown sand, soft, dry.
-				None	None	harder at 16'
-20	55	1,256	33.7			17 - 20' - Sand, brown to red with some white caliche, clayey
lĖ		_		None	None	20 - 27 - Sand, dark red with white sandstone,
-25		(2,532)	29.0			clayey
lE	171			None	None	27 - 30' - Sand, dark red with white to red to grey
-30		2,892	33.4			sandstone, increasing clay content 30 - 31' - Sandstone, dark red to grey, hard
E	闘			None	None	31 - 35' - Sandstone, dark red to grey, clayey
36		(1,084)	35.0			OF 401 Conditions were to deale and to Build become
		(500)		None	None	35 - 42' - Sandstone, rose to dark red to light brown to grey with some harder intervals, dry
E-49		$\underbrace{520}$	34.4			.* *
 	Ħ	500	26.2	None	None	42 - 45' - Clay, dark red, dry
-45	ா	580	36.3	M	Mana	45 - 50' - Sandstone, light brown to white to grey,
F.,		212	34.6	None	None	layered intervals, clayey at 48'
F 50		212	34.0	None	None	
E 55		(2,052)	35.2	None	Mone	50 - 60' - Sandstone, light brown to brown with
l E [®]	##	(2,032)	33.2	None	None	some harder intervals and some clay
E		(2,196)	27.6	NUILB	MULIE	
F~		2,130	21.0	None	None	60 - 65' - Clay, dark red, silty with sandstone, dry
E 85	雦	280	36.2	None	None	,,,,,
 				None	None	65 - 70' - Sand, reddish brown, silly with sandstone
E,,	124	(152)	36.0	110.10	. 10110	and gypsum stringers
ŀ		\bigcup		None	None	70 - 75' - Clay, dark red, silty with sandstone, dry
Ł _{rs}		280	35.0			

December 18, 2009

Depth	Depth of Exploratory Boring75 Ft bgs						
Depth	Depth to Groundwater						
Groun	Ground Water Elevation						
又	Indicates the PSH level measured on						
¥	Indicates the groundwater level measured on						
0	Indicates samples selected for Laboratory Analysis.						
PID	Head-space reading in ppm obtained with a photo-ionization detector.						

Thickness of Bentonite Seat 75 Ft

Completion Notes

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

Depth			***		Sc	oil Boring SB-9
below			010			
ground surface	Soil	Chloride Field Test	PID	Petroleum F Odor	etroleum Stain	Soil Description
<u>Surface</u>	Columns	ND	17.3	Moderate	Slight	Surface - Sand, brown with caliche nodules and
[*		NO	11.5	Slight	None	organics, red sand at 1' and caliche at 3' 1 - 5' - Caliche and sand, tan with organics, dry
- 5	\$25	ND	10.5	Olig. II	,,,,,,,	1 - 5 - Califate and Sand, tall with Organics, dry
E	₽¥			None	None	5 -10' - Caliche and sand, tan, dry
E 10		ND	9.2			
E	251			None	None	10 - 15' - Sand, red, fine grained with caliche, dry
-15		ND	8.3			15 - 20' - Sand, tannish red with caliche and
F		400	7.0	None	None	sandstone
-20	111	128	7.2	None	None	20 - 25' - Sand, reddish brown with sandstone
E _{zs}		152	4.5	None	None	layering, dry
l		102	1.0	None	None	25 - 30' - Sand and sandstone, brown with a
30		152	7.6	1401.0	110110	gypsum stringer, dry
 				None	None	30 - 35' - Sand and sandstone, brown with limited clay and sandstone
35		520	7.2			35 - 40' - Sand, reddish brown with sandstone and
ΙĖ				None	None	clay, dry with a gypsum layer at 42'
-40	鯆	1,084	7.1			40 - 45' - Clay, brown, sandy with sandstone and
 	粬	4 550		None	None	clay, dry
45 		1,556	6.3	Nana	Mana	
E _∞		924	6.2	None	None	45 - 55' - Sand and sandstone, brown with limited
F **	贈	327	0,2	None	None	clay
. E ₅₅		416	5.6	None	None	
lŧ				None	None	
E-60		2,356	5.1			55 - 65' - Sand, brown, silty with sandstone, dry
F				None	None	
-65	卌	368	4.8			•
Ė				None	None	65 - 70' - Clay, red, silty with sandstone, dry
-70 -	11 11	ND	4.5			70 - 75' - Clay, dark red, with sandstone and
E		4.450		None	None	gypsum layer, dry
-75 E	712 9	1,452	4.1	Ness	Nasa	75 - 80' - Sand, reddish brown, silty with limited
- 80		212	3.5	None	None	clay and sandstone
!		212	0.0	None	None	80 - 85' - Sand, brown, silty with sandstone, dry
- 85		212	3.9	HONE	HOIIG	, , , , , , , , , , , , , , , , , , ,
E				None	None	85 - 90' - Sand, tannish brown with sandstone, dry
90		ND	3.7			
Ę	翢			None	None	90 - 95' - Clay, reddish brown, sandy with sandstone, dry
-96		212	3.9			95 - 100' - Sand, reddish brown with limited
Ė	11 51			None	None	sandstone and clay, dry
100		ND	3.6			
ŀ				None	None	100 - 110' - Sand, dark red, silty with cemented
105		128	2.7	Mono	None	sandstone and limited clay, dry
E 110	1	ND	3,1	None	None	
I Ė Š	4		٠,٠	None	None	110 - 115' - Sand, dark red, silty with clay and
E,115		D	3.3			some gypsum, dry

Thickness of Bentonite Seat 115 Ft Depth of Exploratory Boring 115 Ft bgs Depth to Groundwater __ Ground Water Elevation_

✓ Indicates the PSH level measured

Completion Notes

- The monitor well was advanced on date using air rotary drilling techniques.
 The lines between malerfal types shown on the profile log represent approximate boundaries. Actual transitions may be gradued.

BOPCO

Joesphine Rodke Fed #1 **Eddy County, New Mexico** **Basin Environmental Consulting**

Prep By: CDS Checked By: CJB April 5, 2010

Soil Boring SB-9

Appendix B
Analytical Reports



December 23, 2009

Camille Bryant
Basin Environmental Consulting, LLC.
P.O. Box 381
Lovington, NM 88260

Re: BOPCO (Josephine Rodke Federal #1)

Enclosed are the results of analyses for sample number H18910, received by the laboratory on 12/18/09 at 11:07 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260 Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005 Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.2 Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 14 (includes Chain of Custody)

Sincerely,

Celey D. Keene Laboratory Director



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/18/09

Reporting Date: 12/22/09

Project Owner: 24 510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/22/09

Sampling Date: 12/11/09 & 12/14/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 1°C

Sample Received By: NF

Analyzed By: HM

		CI
LAB NUMBEI	R SAMPLE ID	(mg/kg)
H18910-1	SB-1 SURFACE	3,640
H18910-2	SB-1 @ 5'	7,200
H18910-3	SB-1 @ 15'	8,160
H18910-4	SB1 @ 20'	8,000
H18910-5	SB-1 @ 25'	2,960
H18910-6	SB-1 @ 35'	1,380
H18910-7	SB-2 @ 5'	1,630
H18910-8	SB-2 @ 15'	480
H18910-9	SB-2 @ 25'	576
H18910-10	SB-2 @ 35'	160
H18910-11	SB-2 @ 45'	224
H18910-12	SB-2 @ 55'	7,300
Quality Contr	lo	500
True Value Q	C	500
% Recovery		100
Relative Perc	cent Difference	< 0.1

METHOD: Standard Methods 4500-CIB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

Daté



ATTN: CAMILLE BRYANT P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/18/09

Reporting Date: 12/22/09

Project Owner: 24 510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/22/09

Sampling Date: 12/14/09 & 12/15/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 1°C

Sample Received By: NF

Analyzed By: HM

	Cl
LAB NUMBER SAMPLE ID	(mg/kg)
H18910-13 SB-2 @ 65'	32
H18910-14 SB-2 @ 70	272
H18910-15 SB-2 @ 75'	832
H18910-16 SB-3 @ 5'	160
H18910-17 SB-3 @ 15'	224
H18910-18 SB-3 @ 25'	-80
H18910-19 SB-3 @ 35'	48
H18910-20 SB-3 @ 40'	1,630
H18910-21 SB-3 @ 45'	144
H18910-22 SB-3 @ 55'	416
H18910-23 SB-3 @ 65'	16
H18910-24 SB-3 @ 70'	- 96
Quality Control	500
True Value QC	500
% Recovery	100
Relative Percent Difference	< 0.1

METHOD: Standard Methods 4500-Cl'B

Note: Analyses performed on 1:4 w:v aqueous extracts.

H18910 Basin Environmental



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/18/09 Reporting Date: 12/22/09

ring Date: 12/22/09

Project Owner: 24 510 (BOPCO)
Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

22/09 Sampling Date: 12/15/09 & 12/16/09 510 (BOPCO) Sample Type: SOIL

Sample Condition: COOL & INTACT @ 1°C

Sample Received By: NF

Analysis Date: 12/22/09

Analyzed By: HM

	CI ⁻			
LAB NUMBER SAMPLE ID	(mg/kg)			
H18910-25 SB-4 @ 5'	16			
H18910-26 SB-4 @ 15'	1,020			
H18910-27 SB-4 @ 25'	144			
H18910-28 SB-4 @ 35'	80			
H18910-29 SB-4 @ 45'	64			
H18910-30 SB-4 @ 55'	32			
H18910-31 SB-4 @ 65'	< 16			
H18910-32 SB-4 @ 75'	48			
H18910-33 SB-4 @ 85'	. 32			
H1810-34 SB-4 @ 95'	48			
H18910-35 SB-4 @ 105'	32			
H18910-36 SB-4 @ 115'	32			
Quality Control	500			
True Value QC	500			
% Recovery 100				
Relative Percent Difference	< 0.1			

METHOD: Standard Methods 4500-Cl'B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist/

Date

12/23/07



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/18/09

Reporting Date: 12/22/09

Project Owner: 24 510 (BOPCO)
Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/22/09

Sampling Date: 12/16/09 & 12/17/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 1°C

Sample Received By: NF

Analyzed By: HM

	CI
LAB NUMBER SAMPLE ID	(mg/kg)
H18910-37 SB-4 @ 125'	16
H18910-38 SB-4 @ 135'	32
H18910-39 SB-4 @ 140'	48
H18910-40 SB-5 @ 5'	224
H18910-41 SB-5 @ 15'	400
H18910-42 SB-5 @ 25'	176
H18910-43 SB-5 @ 35'	80
H18910-44 SB-5 @ 45'	3,040
H18910-45 SB-5 @ 50'	1,710
H18910-46 SB-5 @ 55'	464
H18910-47 SB-5 @ 65'	1,820
H18910-48 SB-5 @ 70'	496
H18910-49 SB-6 @ 5'	160
Quality Control	500
True Value QC	500
% Recovery	100
Relative Percent Difference	< 0.1

METHOD: Standard Methods 4500-CI'B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

Date

H18910 Basin Environmental



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/18/09 Reporting Date: 12/22/09

Project Owner: 24 510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/22/09 Sampling Date: 12/17/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 1°C

Sample Received By: NF

Analyzed By: HM

LAB NUMBER SAMPLE ID CIT (mg/kg)

LAB NUIVIDER SAIVIPLE ID	(mg/kg)
H18910-50 SB-6 @ 15'	224
H18910-51 SB-6 @ 25'	144
H18910-52 SB-6 @ 35'	1,140
H18910-53 SB-6 @ 45'	272
H18910-54 SB-6 @ 55'	9,600
H18910-55 SB-6 @ 65'	2,200
H18910-56 SB-6 @ 75'	4,360
H18910-57 SB-6 @ 80'	6,480
H18910-58 SB-6 @ 85'	1,360
A STATE OF THE STA	14.10-12 2.13-14.14.14.14.14.14.14.14.14.14.14.14.14.1
Quality Control	500
True Value QC	500
% Recovery	100
Relative Percent Difference	< 0.1

METHOD: Standard Methods 4500-CIB

Note: Analyses performed on 1:4 w.v aqueous extracts.

Chemis



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/18/09

118/09

Reporting Date: 12/23/09 Project Owner: BOPCO (24510)

CO (24510) Sample Condition:

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY COUNTY, NM

Sampling Date: 12/11/09 - 12/17/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 1°C

Sample Received By: NF

Analyzed By: AB/CK

	GRO	DRO	DRO ext.
	(C ₆ -C ₁₀)	(>C ₁₀ -C ₂₈)	(>C ₂₈ -C ₃₅)
LAB NUMBER SAMPLE ID	(mg/kg)	(mg/kg)	(mg/kg)
ANALYSIS DATE	12/20/09	12/20/09	12/20/09
CHARACT OF A CHIEF A CE		10.5	-400

(1119/119)	(1119/119)	(119/19)
12/20/09	12/20/09	12/20/09
<10.0	18.5	<10.0
<10.0	<10.0	<10.0
<10.0	<10.0	<10.0
<10.0	<10.0	<10.0
<10.0	<10.0	<10.0
<10.0	<10.0	<10.0
<10.0	<10.0	<10.0
574	583	
500	500	-
115	117	-
3.7	8.1	-
	12/20/09 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <574 500 115	12/20/09 12/20/09 <10.0 18.5 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M extended. Reported on wet weight.

Not accredited for GRO/DRO/EXT. DRO.

Lab Director



ANALYTICAL RESULTS FOR BASIN ENVIRONMENTAL CONSULTING, LLC ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/18/09 Reporting Date: 12/22/09

1 AX 10. (575) 550-142

Project Owner: BOPCO (24510)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Sampling Date: 12/11/09 - 12/17/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 1 °C

Sample Received By: NF

Analyzed By: ZL

				ETHYL	TOTAL
LAB NO.	SAMPLE ID	BENZENE	TOLUENE	BENZENE	XYLENES
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
ANALYSIS DA	TE:	12/21/09	12/21/09	12/21/09	12/21/09
H18910-1	SB-1 SURFACE	<0.050	<0.100	<0.050	< 0.300
H18910-2	SB-1 @ 5'	<0.050	<0.100	<0.050	<0.300
H18910-7	SB-2 @ 5'	<0.050	<0.100	<0.050	<0.300
H18910-16	SB-3 @ 5'	<0.050	<0.100	<0.050	<0.300
H18910-25	SB-4 @ 5'	<0.050	<0.100	<0.050	<0.300
H18910-40	SB-5 @ 5'	<0.050	<0.100	<0.050	<0.300
H18910-49	SB-6 @ 5'	<0.050	<0.100	<0.050	<0.300

Quality Control		0.050	0.050	0.049	0.137
True Value QC		0.050	0.050	0.050	0.150
% Recovery	erregen a angles programment of the second and a second second second second second second second second second	100	100	98.0	91.3
Relative Percer	nt Difference	3.9	2.0	4.2	3.6

METHODS: BTEX - SW-846 8021B

Reported on wet weight.

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

Lab Director

Con Al	RDINAL	LABO	RAT	ORIES	3
	101 Fact	Marland	Hobbe	NIAA GOO	4.0

101	Eas	st	Ma	rland	, Hob	bs,	NΛ	1 8	824	40
(5)	75)	3	93-	2326	Fax	(57.	5)	39	3-2	47,6

	(575) 393-2326 Fa	x (575) 393-2476	1				8				Page	or	
Company Name	JOASIN ENV	. Consul	1110%	BILL	ΤΟ		يز		ANALY	SIS RE	EQUEST		
Project Manage		Strait	U	P.O. #:			হী						
Address: 22	op Vlains	HYDREY_		Company: (2)	2CO		力						
City: LOVIN	apo	State: 1/1 / Zip	: 88 265_	Attn: Thny	Sigvoie								
Phone #: 67	9665-721b	Fax #(575)39	6-1479	Address:									
Project #: 24	510	Project Owner: 🎢	104CO	City:			STA						
Project Name: ू	Josephine K	olke fed	wal HI	State: Zip:	andigram magamaniha s ser radiosek na gapaya angan raginana s mag	99	FILE	4					
Project Location	Eddy Co	DWI.		Phone #:	novi ukuppa sinakhnik ani akhonominin siyanin siyanin siyanin kapa kabapaya	7	2012						
Sampler Name:	(Jam 4) le	Burent	na en	Fax #:			対く						
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		(C)OMP.	S 2 ~	1 2	ත	7							
Lab I.D.	Sample I.I		NER WATER	1		19	立え	S)					
Lab I.D.	Janipie I.I		JND) JND) JEW,	BAS COO COO			SIF	1					
		(G)RAB	# CONTAINERS IGROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER:	ATE TIME		11/2	-					
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- 5	128-1-6-00-				14 A545		V 12	-					
	56-2015		 	<u> </u>		13-1	X + X	-	-				
8	56-2 <u>0 15'</u> 56-2 0 85'				114 1100			_	 	Liebbug, pynysysteme,			
-10	56-2035	(1)			同一指		 -						
PLEASE NOTE: Lacety at	no Damages. Ceromai's tebut, and oken no those for negogence and any other to	rs exclusive ; emety for any claim	m arising whether based in contrac	t or ton, shall be ismited to the d	nount paid by the client to	r the			<u></u>		<u></u>		k
tornica impo eleftena. C	altimas de vadra for indicental or consedi (18 %). Il 18 de alec to the deflormance o	ienial damages, including withou	ut limitaçõn, business interruptions,	iosa of usa, or losa of profits an	urred by client, its subsidia	nes,							
Sampler Reling		DP19: 18/09 RE	celved/Bý:	///_	Phone Re Fax Resu		<u> </u>	No No	'Add'i Phon Add'i Fax t				
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Relinquished B	A:	Date: Re	ceived By:										
		Time:											
Delivered By	: (Circle One)	Ter	np. Sample Condi	tion CHECKED	BY:							•	
Sampler - UPS	- Bus - Other:		Cool Intact Yes 图 Yes	es (Initials)	_								

[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



101 East Marland, Hobbs, NM 88240 (575) 393-2326 Fax (575) 393-2476

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age	of	10

	Company Name: SASIN FOW. CONSULTING				BILL TO					ANALYSIS REQUEST													
Project Manage	"Camille 16	Most.		Ø		7	P.O. #:						-										
Address: 28	co. Mains 15	بالاس					Compar	ıy:	504	(0))		(A)				1						
City: LOVI	the statement of a market construction or a second	State: NVV	Zip: (38	alet) [Attn: \	<u>DN</u> I	15c	VΟ	e		2										
Phone #515	hone #515 605 1210 Fax #: 396-1429				Address:				P				.]										
Project #: 24	5W	Project Owner	B	OP!	0		City:	****	on appropriate the second	···	~	500	Extend										
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Project Location	Rodence		···	anger produce and a second as			Phone #	:				J	\leq	2	}								
Sampler Name:	(Jumiele	Killin	<u>#</u>				Fax #:						10	0									
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Lab I.D.	Sample I.I	D.	(G)RAB OR (C)C	# CONTAINERS GROUNDWATER	WASTEWATER SOIL		ij z	-	2009			Chlocid		پر ا									
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[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



Company Name:

Project Manager: Camille

101 East Marland, Hobbs, NM 88240 _(575) 393-2326 Fax (575) 393-2476

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ANALYSIS REQUEST

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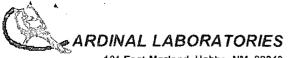
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(575) 393-2326 Fax (57,5) 393-2476,		Page OI									
Company Name: KASIN ENV. CONSULTING	BILL TO	ANALYSIS REQUEST									
Project Manager: (Pamille Ballugat	P.O. #:										
Address: 2800 Mains Hash	Company: BOPCO										
city: LOVINCTON State: NW Zip: 8886	Attn: JONG Sayore	5 Ktencle									
Phone #: 5757605-7210 Fax #: 575 8916-1429	Address:										
Project #: 24 511) Project Owner: BORCO	City:										
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PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim enting whether based in contri	act or tent, shall be limited to the amount cold by the client fo	t the									
analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business after ruption	is, loss of use, or loss of profits incurred by client, its subsidia	aries.									
affiliates or successors arising out of or related to the performance of services herounder by Cordinal, regardless of whether such de Sampler Relinquished: Deter 2 C Received By	/ / Phone Re	esult: U No Add'l Phone #:									
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[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



101 East Marland, Hobbs, NM 88240

(575) 393-2326 Fax (575) 393-2476

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Project Manager: Camille White					P.0	P.O. #:						-									
					company: 60PCO							xtended									
City: LOUINGTON State: NW Zip: 88260					Attn: Volly Savaire						2										
Phone #:575,610-7210	Fax #: 575	39	6-	142	9	Address:							2								
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PLEASE NOTE: Liability and Damages, Cardina's liability and cli analyses. All claims including those for negligence and any other cause w	tutsoover shall be deemed walved	i talieso m	ads in w	riting and re	selved by C	ardinal w	zithin 30 đaj	rs after	completion of t	he as		ie chent fi	or the								
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(575) 393-2326 Fax (575) 393-2476

Page 6 of 6

(5/5) 393-2326 Fax (5/5) 393-24/6	>			The second secon
Company Name: BASIN ENV. CONSULT	inc	BILL TO		ANALYSIS REQUEST
Project Manager: () Amille Bruck		P.O. #:		
Address: 2900 Plains Huy		Company: KDO	900	
city: LOVINGON State: NIM Z	ip: 882 60	Attn: TONG Savoir	1 1 1 1	
Phone #: 575605-7210 Fax #: 6753	396 1429	Address:		
Project #: 24 510 Project Owner:	Barro	City:	Sxtend	
Project Name: Desphine Rocke Sieder	col the	State: Zip:	1 / 1 6	
Project Location: Eddy Con DM		Phone #:	口的 引印	
Sampler Name: Carmille Busint		Fax #:		
118910-51 SB-60235' -52 SB-60235' -53 SB-60235' -54 SB-6055' -55 SB-6065' -56 SB-6045'	(C) (G)KAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER OIL OIL SLUDGE	PRESERV. SAMPLING 709 101 1217		
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analyses. All chims including those for negligence and any other cause whatsoever shall be deemed waived service. In no event shall Cardinal be liable for incidence or consequental damages, including without limitation effiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regard	on, busness memptions, loss of use, or los	s of profits incurred by client, its subsidiaries,		
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December 30, 2009

Camille Bryant
Basin Environmental Consulting, LLC.
P.O. Box 381
Lovington, NM 88260

Re: BOPCO 24 510 (Josephine Rodke Federal #1)

Enclosed are the results of analyses for sample number H18938, received by the laboratory on 12/22/09 at 4:50 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.2

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 12 (includes Chain of Custody)

Sincerely.

Celey D. Keene

Laboratory Director



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/22/09

Reporting Date: 12/29/09

Project Owner: 24 510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/28/09

Sampling Date: 12/14/09, 12/17/09 & 12/18/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 6°C

Sample Received By: HM

Analyzed By: HM

		CI¯
LAB NUMBER	SAMPLE ID	(mg/kg)
H18938-1	SB-2 @ 60'	384
H18938-2	SB-6 @ 40'	2,080
H18938-3	SB-6 @ 60'	656
H18938-4	SB-7 @ 5'	192
H18938-5	SB-7 @ 15'	480
H18938-6	SB-7 @ 25'	672
H18938-7	SB-7 @ 35'	336
H18938-8	SB-7 @ 45'	752
H18938-9	SB-7 @ 55'	1,760
H18938-10	SB-7 @ 60'	4,480
H18938-11	SB-7 @ 65'	208
H18938-12	SB-7 @ 75'	16
Quality Contro		500
True Value Q0	3	500
% Recovery		100
Relative Perce	ent Difference	. < 0.1

METHOD: Standard Methods 4500-CI'B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Not accredited for Chloride.

Chemist



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/22/09

Reporting Date: 12/29/09

Project Owner: 24 510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/28/09

Sampling Date: 12/18/09 & 12/21/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 6°C

Sample Received By: HM

Analyzed By: HM

		CI [—]
LAB NUMBE	R SAMPLE ID	(mg/kg)
H18938-13	SB-7 @ 85'	160
H18938-14	SB-7 @ 95'	176
H18938-15	SB-7 @ 100'	240
H18938-16	SB-8 @ 5'	96
H18938-17	SB-8 @ 15'	640
H18938-18	SB-8 @ 25'	3,080
H18938-19	SB-8 @ 35'	1,310
H18938-20	SB-8 @ 40'	640
H18938-21	SB-8 @ 45'	544
H18938-22	SB-8 @ 55'	1,730
H18938-23	SB-8 @ 60'	2,120
H18938-24	SB-3 @ 65'	336
Quality Contr	ol	500
True Value Q	C	500
% Recovery		100
Relative Perc	ent Difference	< 0.1

METHOD: Standard Methods

4500-CIB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Not accrédited for Chloride.

Chemist

Date

H18938 Basin Environmental



ATTN: CAMILLE BRYANT P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/22/09

Reporting Date: 12/29/09

Project Owner: 24 510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/28/09 & 12/29/09

Sampling Date: 12/21/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 6°C

Sample Received By: HM

Analyzed By: HM

	Cl
LAB NUMBER SAMPLE ID	(mg/kg)
H18938-25 SB-8 @ 70'	176
H18938-26 SB-8 @ 75'	592
H18938-27 SB-9 @ 5'	80
H18938-28 SB-9 @ 15'	. 80
H18938-29 SB-9 @ 25'	144
H18938-30 SB-9 @ 35'	624
H18938-31 SB-9 @ 45'	. 736
H18938-32 SB-9 @ 50'	1,070
H18938-33 SB-9 @ 55'	480
H18938-34 SB-9 @ 60'	2,440
H18938-35 SB-9 @ 65'	448
H18938-36 SB-9 @ 75'	1,300
Quality Control	500
True Value QC	500
% Recovery	100
Relative Percent Difference	< 0.1

METHOD: Standard Methods 4500-CI'B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Not accredited for Chloride.

H18938 Basin Environmental



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/22/09

Reporting Date: 12/29/09 Project Owner: 24 510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 12/28/09 & 12/29/09

Sampling Date: 12/21/09 Sample Type: SOIL

Sample Condition: COOL & INTACT @ 6°C

Sample Received By: HM

Analyzed By: HM

CI

	O,
LAB NUMBER SAMPLE ID	(mg/kg)
H18938-37 SB-9 @ 80'	240
H18938-38 SB-9 @ 85'	240
H18938-39 SB-9 @ 95'	512
H18938-40 SB-9 @ 105'	144
H18938-41 SB-9 @ 110'	112
applicate by establish any margining or sportstanding start assess or communication in the sportstanding of the sp	
Quality Control	500
True Value QC	500
% Recovery	100
Relative Percent Difference	< 0.1

METHOD: Standard Methods 4500-Cl'B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Not accredited for Chloride.

Chemist

/2/38/09 Date

H18938 Basin Environmental



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/22/09 Reporting Date: 12/28/09

Sampling Date: 12/17/09, 12/18/09, & 12/21/09

Sample Type: SOIL

Project Owner: BOPCO (24510)

Sample Condition: COOL & INTACT @ 6°C

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY COUNTY, NM

Sample Received By: HM Analyzed By: AB/CK

GRO DRO DRO ext. (C_6-C_{10}) (>C₁₀-C₂₈) (>C₂₈-C₃₅)

		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	10 20	. 20 007
LAB NUMBE	R SAMPLE ID	(mg/kg)	(mg/kg)	(mg/kg)
ANALYSIS D	ATE	12/24/09	12/24/09	12/24/09
H18938-4	SB-7 @ 5'	<10.0	77.1	<10.0
H18938-16	SB-8 @ 5'	<10.0	192	<10.0
H18938-27	SB-9 @ 5'	<10.0	67.5	<10.0
yaaraa aa del>	ann mar Bright haise de ann an ann an ann ann ann an an an an a			
				annad et la la supa et la second () and App et sup
Quality Conti	rol	474	441	**
True Value C	QC	500	500	_
% Recovery	A CONTRACTOR OF THE CONTRACTOR	94.8	88.2	
Relative Per	cent Difference	0.5	0.2	*

METHODS: TPH GRO & DRO: EPA SW-846 8015 M extended. Reported on wet weight.

Not accredited for GRO/DRO/EXT. DRO.



ANALYTICAL RESULTS FOR

BASIN ENVIRONMENTAL CONSULTING, LLC

ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/22/09 Reporting Date: 12/30/09 Sampling Date: 12/17/09, 12/18/09 & 12/21/09

Sample Type: SOIL

Project Owner: BOPCO (24510)

Sample Condition: COOL & INTACT @ 6 °C

Project Name: JOSEPHINE RODKE FEDERAL #1
Project Location: EDDY CO., NM

Sample Received By: HM

Analyzed By: ZL

ETHYL TOTAL LAB NO. SAMPLE ID BENZENE **TOLUENE** BENZENE **XYLENES** (mg/kg) (mg/kg) (mg/kg) (mg/kg) ANALYSIS DATE: 12/28/09 12/28/09 12/28/09 12/28/09 < 0.050 < 0.300 H18938-4 SB-7 @ 5' < 0.050 < 0.050 <0.300 H18938-16 <0.050 <0.050 < 0.050 SB-8 @ 5' H18938-27 SB-9 @ 5' < 0.050 < 0.050 < 0.050 < 0.300

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Quality Control	0.047	0.047	0.047	0.148
True Value QC	0.050	0.050	0.050	0.150
% Recovery	94.0	94.0	94.0	98.7
Relative Percent Difference	1.2	<1.0	<1.0	1.2

METHODS: BTEX - SW-846 8021B

Reported on wet weight.

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

Lab Director

12/30/09 Date

THE COLUMN		RDINAL	LABO	DRAT	OF	RIES
	4550	404 Ench	Admin and	Unkhan	2124	00040

101 East Marland, Hobbs, NM 88240							1.5	
(575) 393-2326 Fax (575) 393-2476				unga yant dingkayan sagilwakana	y anamin'ny firanjarahananana	Page_		# Indoorgan John A. China Co.
Company Name: DASIN FINY CONSULTING. BILL TO					ANAL	YSIS REQUE	ST	
Project Manager: CAMille Bryant		P.O. #:						
Address: 2.800 Mains Hull	angurangen uniter e stad d'un papanaga agri una sensa antare e stata e una perse e escrima la generalità del p	Company: BOUPCO	and the Company of th	£ [
City: LOVINSON State: N.M.	zip: 88260	Attn: Tony Say	oie					
Phone #: 015 705 721D Fax #: 575	396.14.29	Addrass:						
Project#: 24 510 Project Owner:	Bupco	City:	- 1	3 4				
Project Name: Jose Ohine Rock Fecte	ral #1	State: Zio:						
Project Location: Eddly. Co		Phone #:		3 6				
Sampler Name: Carrille Parker	+	Fax #:		9 2 -	+	-		
FOR LAB USE ONLY	MATRIX	PRESERV. SAMPLI	NG ,		8			
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7 58-10 55		12 18	CALLY					
-10 SB-I 10 LON'		1 7 14	7937 X					
PLEASE NOTE: USDBitty and Damages, Cardinars Hability and client's exclusive remed analysis. All claims including those for negligance and any other cluste whitesoesia shall be deemed	y for any dawn arising whether base		d to the amount paid	by the coent for the	aliono e conserva de la conserva de la co		adam si in mining a sa da	simment and the second
service. In no event shall cardinate be labeled in recreated or consequents duringles, including wards allowed on recreating processors straight and processors straight out of or related to the performance of services foreigned by Cardinate.	t limitation, businass interruptions, loss of u	so or lass of profile incurred by client, its t	ubsideries					
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[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



01 East Marland, Hobbs, NM 88240 (575) 393-2326 Fax (575) 393-2476

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(575) 393-2326 Fax (575) 393-2476		Pageoror
Company Name: Basin Env. Consulting	BILL 70	ANALYSIS REQUEST
Project Manager: Cample, Bull	P.O. #:	
Address: 2800 Plum o Wwy	Company: BOPCO, LP	
City: LOVINGTON State: NM Zip: 88368	Attn: TOM U. SENDIC	
Phone #: 5 5 905 7210 Fax #: 515 396 1429	Addres:	
Project#: 24 516 Project Owner: BOPCO LP	City:	T A H H H H H H H H H H H H H H H H H H
Project Name: () Sephine Rodke Federal #	State: Zip:	
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Lab I.D. Sample I.D.	VSE:	
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78 58-8 @ 25'	12/18/1430	
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PLEASE NOTE: Usofility and barrages, Cardinal's fisolitify and client's exclusive remedy for any takin arising whether bas analyses All claims including those for regigerous and any other cauce whatsoever shall be deemed unived unless made in writing and receive		
service. In no event shall Cardinal be issoly for middental or compagnated damages, limiteding without fination, outrings interruptions, loss of attitudes of successors arising out of a related to the performance of services have under by Cardinal regardless of whether such claim is base.	ed upon any of the above stated reasons or otherwise.	
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Sampler - UPS - Bus - Other: Cool Intact Yes Yes Yes	(Initials)	
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101 East Marland, Hobbs, NM 88240 (575) 393-2326 Fax (575) 393-2476 Page 3 of 5

(575) 393-2326 Fax (575) 393-2476		Page or
Company Name: SHOW SINV. LONGULTURE	BILL TO	ANALYSIS REQUEST
Project Manager: Camba Buxant	P.O. #:	
Address: 2000 Hams Hwy	Company: BOPCO LT	
City: LOVINGTON State: NWAZip: 38260	Attn: TONG Savoi e	
Phone #: 575 610 1210 Fax #: 875 396 1429	Address:	
Project #: 24510 Project Owner: BORCOLP	City:	5x4ended
Project #: 24510 Project Owner: BOPCCLP Project Name: DSD Where Rock & Federal #	State: Zip:	12 25 25 25 25 25 25 25 25 25 25 25 25 25
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Sampler Name: Camidon By wort	Fax #:	
FOR LABUSE ONLY MATRIX	PRESERV. SAMPLING	2015 A 2015 M 2021 F
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WATER (C)	2009	
Lab I/D. Sample I D. BOW NO. WALL WALL WALL WALL WALL WALL WALL WAL	3.4 S.E	[리 닭 십
CG)RAB OR (C)OP (G)RAB OR (C)OP (G)RAB OR (C)OP	ACID/BASE: ICE / COOL OTHER: TOTHER: T	히 번절
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7.5B-9e0!	12/21 1030	
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agalyses. All claims including those for negligence and any other cause whatsoever shall be deemed waved unless made in withing and service. In no event shall Cardinal be liable for incidental or consequental durinages, including without limitation, business interruptions, it	received by Cardinal Within 30 days after completion of the	
attitudes or successors prising out of or related to the partormance of services hereunder by Cardinal, regardless of whether such daim Sampler Relinquished: Date: Received By:	is based upon any of the above stated reasons or otherwise Phone Re	esult: No Add'l Phone #:
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Time:		•
Delivered By: (Circle One) Temp. Sample Conditi Cool Intact	(Initials)	
Sampler - UPS - Bus - Other:		



RDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240	3		
(575) 393-2326 Fax (5 <u>7</u> 5) 393-24 <u>7</u> 6		Page 4 of 0	
Company Name: BASIN - UN. Longulting	BILL TO	ANALYSIS REQUEST	_
Project Manager: Camillan Kayuut	P.O. #:		- 1
Address: 2800 Pauns Huy	Company: DOPCO, LIP	1 / Joseph 1	ı
city: LOVINGON State: MMZip: 892100	Attn: TONG Sayone	1 2	
Phone #: 515 605 721DFax #: 575 396-1429	Address:	K-lande	
Phone #: 515 605 721DFax #: 575 396-1429 Project #: 24 510 Project Owner: BOPCO, LP	City:		l
Project Name: Worker Rallo Forloral III	State: Zip:		
Project Location: Zalana	Phone #:		
Sampler Name: Cample Bay Cut	Fax #:		
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PLEASE NOTE: Liability and Damagos. Cardinal's Notificy and chant's exclusive remedy for any claim arising whether based in contract analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing an			
service. In no event shall Cardinal be liable for incidental or consequental damages, including valuout limitation, business interruptions, all business interruptions of the performance of services beraunder by Cardinal, regardless of whether such claim	loss of use, or loss of profits incurred by client, its subsidiar	therius,	
Sampler Relinquished: Date: Received By:	Phone Re Fax Resul	Result: No Add'l Phone #:	
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Time: Sample Condition Cool Intact Yes Yes No No CHECKED BY: (Initials) Delivered By: (Circle One) Temp. Sampler - UPS - Bus - Other:

[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



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101 East Marland, Hobbs, NM 88240				
(575) 393-2326 Fax (575) 393-2476				Page of
Company Name: FASIN ENV CONSULTIVE	BILL TO		ANALYSIS RI	EQUEST
Project Manager: Camula Gyant	P.O. #:			
Address: 2800 Plans Huy	Company: DOLO, LT			
city: LOVINGLON State: NW Zip: 88260	Attn: TOMA Sarvie			
	Address:			
Project #: 24 510 Project Owner: BORCO LP	City:			
Project Name: Duplem Kalle Sederal !	State: Zip:	13		
Project Location: Eddly Co	Phone #:			
Sampler Name: Cample / Aucust	Fax #:			
FOR LAB USE ONLY MATRIX	PRESERV SAMPLING	ja		
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O O C C C C C C C C C C C C C C C C C C	2009	b		
Lab I.D. Sample I.D.	MASE.			
CGIPAB OR (C)C # CONTAINERS GROUNDWATE WASTEWATER SOIL OIL SELUDGE	ACID/BASE: OTHER: OTHER: OTHER: OTHER:	15)		
				
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PLEASE NOTE: Liability and Damages. Cardinal's liability and clients exclusive remedy for any claim ansing whother based in contract malyses. As claims: including those for negagence and any other cause whatsoever shall be deemed waived unless made in wrang and				
enice. In no overal shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, it filiates or successors anking out of or related to the portormence of services hereunder by Cordinal regardless of whether such claim is	ass of use, or take of profits incurred by client, its subsidia	ries,		
Sampler Relinquished: Date: Received By:	Phone Re	sult: 🗆 No	Add'l Phone #: Add'l Fax #:	
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- Cool Intact/	(Initials)			
Sampler - UPS - Bus - Other: 6 19 Yes 19 Yes 19 No 19	BN			

[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



January 5, 2010

Camille Bryant
Basin Environmental Consulting, LLC.
P.O. Box 381
Lovington, NM 88260

Re: BOPCO 24 510 (Josephine Rodke Federal #1)

Enclosed are the results of analyses for sample number H18967, received by the laboratory on 12/31/09 at 9:50 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Benzene, Toluene, Ethyl Benzene, and Total Xylenes Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005 Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)

Method EPA 524.2 Total Trihalomethanes (TTHM)

Method EPA 524.2 Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene Laboratory Director



ANALYTICAL RESULTS FOR BASIN ENVIRONMENTAL CONSULTING, LLC ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 12/31/09

Reporting Date: 01/04/10

Project Number: 24 510 (BOPCO, LP)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 01/04/10

Sampling Date: 12/28/09

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 4°C

4500-CIB

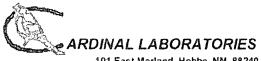
Sample Received By: HM

Analyzed By: HM

		CI ⁻
LAB NO.	SAMPLE ID	(mg/kg)
H18967-1	SB-1 @ 55'	16,000
H18967-2	SB-1 @ 60'	11,600
H18967-3	SB-1 @ 65'	. 320
H18967-4	SB-1 @ 70'	1,870
H18967-5	SB-1 @ 75'	1,100
H18967-6	SB-1 @ 80'	1,230
Quality Cor		500
True Value		500
% Recover		100
Relative Pe	rcent Difference	<0.1

METHOD: Standard Methods

Note: Analyses performed on 1:4 w:v aqueous extracts.



101 East Marland, Hobbs, NM 88240	•	Pageof	
(575) 393-2326 Fax (575) 393-2476 Company Name: ROSIO FOV (COOS) Ptimes	The same of the sa	ANALYSIS REQUEST	
Grand City Covid Country	P.O. #:	ANALTOS REQUEST	ᅥ
Project Manager: (Amille Bryand		_	
Address: 2800 Plains Huy	Company: BOPCO, LP		1
city: Lorington State: AMZip:88260	Attn: 1014 SANDIE		
Phone #: (575) 605 - 7210 Fax # (575) 396 - 1429	Address:		
Project#: 24 510 Project Owner: BOPCO, LP	City:		l
Project Name: Josephine Kodle Federal HI	State: Zip:		
Project Location: Ecldy Co, NTM	Phone #:		
Sampler Name: ("CMI De BY WENT	Fax #:		
FÖR LAB USE ONLY MATRIX	PRESERV. SAMPLING	그 쉐	
	2009		
ATER ER		선	
Lab I.D. Sample I.D.	ASE:		
(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL. SLUDGE	OTHER: ACIDIBASE: ICE / COOL OTHER:		
			-
H18967-15B-1055 G11X	X 12/29 1300		-
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evice. In no even shall Certinal de katle for incrente ar consequentel demagna, including without imitation, business interruptions, loss of us Histors or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based	ne, or loss of profile incurred by clean, its subsidiaries,		
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CHECKED BY: (Initials)

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Temp: | Sample Condition Cool Intact | Hes | Yes | No | No

[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



February 4, 2010

Camille Bryant
Basin Environmental Consulting, LLC.
P.O. Box 381
Lovington, NM 88260

Re: Josephine Rodke Federal #1 (BOPCO 24510)

Enclosed are the results of analyses for sample number H19203, received by the laboratory on 02/02/10 at 4:50 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.2

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely

Celey D/Keene

Laboratory Director



ATTN: CAMILLE BRYANT

P.O. BOX 381 LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 02/02/10 Reporting Date: 02/03/10

Project Number: 24-510 (BOPCO, LP)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 02/03/10 Sampling Date: 02/01/10

Sample Type: SOIL

Sample Condition: COOL & INTACT @ 3.5°C

Sample Received By: JH

Analyzed By: HM

		CI ⁻
LAB NO.	SAMPLE ID .	(mg/kg)
H19203-1	WEST S/WA @ 10'	112
H19203-2	SOUTHWEST CORNER A @ 10'	496
H19203-3	NORTHWEST CORNER A @ 10'	224
10-144-82-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	BOTTO AND THE COURT OF THE PROPERTY OF THE PRO	
Quality Cor	ntrol	500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods 4500-CI'E Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist /

101 East Mariand, Hobbs, NM 88240

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Page	of	

(5/5) 393-2326 Fax (5/5) 393-24/6		AMALYOIC PROUEST			
Company Name: BASIN ENV. CONSULTING	BILL TO	ANALYSIS REQUEST			
Project Manager: Camille Kriuant	P.O. #:				
Address: 2900 Plains Hidy	Company: 60PCO, UP				
City: LOVINGTON State: MM zip: 39266	Altn: TONG SAVOJE				
Phone #575/610-7210 Fax #575)396-1429	Address:	7005			
Project #: 24-510 Project Owner: BOPCO LP	City:				
Project #: 24-510 Project Owner: BOPCO, LP Project Names Ose Phine Rod Re Frederal #1	State: Zip:				
Project Location: Fddy Co, MM	Phone #:				
Sampler Name: Stoly Rato	Fax #:	3			
Lab I.D. Sample I.D. Sample I.D. (COMAINERS WASTERVATER SUIT SOUTHWEST CORREST CONTAINERS SUIT SOUTHWEST CORREST CONTAINERS SUIT SOUTHWEST CORREST CONTAINERS STORTHWEST CORREST CONTAINERS STORTHWEST CORREST CONTAINERS STORTHWEST CONTAINERS	PRESERV. SAMPLING 2010 338 900 3 4 5 DATE TIME X 21 1000 X 21 1300 X 21 1430	XXX			
PLEASE NOTE: Liability and Damages. Cardinals liability and cliant's exclusive remedy for any claim arising whether based in contract or ton, shall be limited to the amount paid by the client for the analyses. All claims including those for negiginarize and any other cause whatsoever shall be deemed wowed unless made in waiting and received by Cardinal within 30 days after complication of the applicable services in the patients or consequental camages, including without inhalation, trassisses interruption, loss of use, or loss of profits incurred by clearly, its substitutions. All blades or successors entiring out of or related to the performance of services hereunder by Cardinal regardless of whether such claim is based upon any of the above studed reasons or otherwise.					
Sampler Relinguished: Date: Received By: Time: Date: Received By: Received By: Date: Received By: Time: Additional Control of the Contro	Phone Re Fax Resul REMARKS	t: 🗆 No Add'l Fax #:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other: Terfly Sample Condi Cqol Intact Pres Dro	્રાંતોલોકો)				

[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



January 15, 2010

Camille Bryant
Basin Environmental Consulting, LLC.
P.O. Box 381
Lovington, NM 88260

Re: BOPCO 24 510 (Josephine Federal Rodke #1)

Enclosed are the results of analyses for sample number H19040, received by the laboratory on 01/12/10 at 4:50 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260 Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005 Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.2 Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Reene Laboratory Director



ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 01/12/10 Reporting Date: 01/14/10 Project Number: 24 510

Project Name: JOSHEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., N.M.

Sampling Date: 01/12/10

Sample Type: GROUNDWATER Sample Condition: INTACT @ 15°C

Sample Received By: JH

Analyzed By: HM

		CI	TDS
LAB NO.	SAMPLE ID	(mg/L)	(mg/L)
Analysis Date:		01/14/10	01/13/10
H19040-1	MVV-1	112	708
H19040-2	MW-2	136	598
H19040-3	MW-3	24,500	39,300
H19040-4	MW-4	196	687
Ovality Contro	1	500	NF
Quality Contro	**************************************		
True Value QC		500	NR
% Recovery		100	NF
Relative Perce	ent Difference	< 0.1	3.0
FTHOD: Stand	lard Methods, EPA	4500-CIB	160.1

Chemist Alene

Date

H19040 Basin Environmental

.. (575) 393-2326 Fax (575) 393-2476

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Page	of	(

(575) 393-2326 Fax (575) 393-2476		, and first in the second seco
Company Name: DASIN CONSULTING	BILL TO	ANALYSIS REQUEST
Project Manager: Camille Brucext	P.O.#: 24 510	
Address: 2800 Plana How	Company: BOKO, LP	
City: Lovington State: NW Zip: 8821	on Attn: Ton Savoire	
Phone # 575) 605-721D Fax #:575396-142	Address:	191
Project#: 34 510 Project Owner:	, City:	
Project Name: Depluse Rocke Fectural -	State: Zip:	
Project Location: Edilla (O MM)	Phone #:	
Sampler Name: Cobi/ Remocols	Fax #:	
.FOR LAB USE ONLY N	ATRIX PRESERV. SAMPLING	
WP.		
Lab I.D. Sample I.D.	2010	
Lab I.D. Sample I.D.	SE SASE	
(G)RAB OR (C)OMP # GONTAINERS GROUNDWATER WASTEWATER	SOIL OIL OIL OTHER: OTH	
H19C40-1 MW-1 X	X 1112 1310	
-2 MD-2	× 1112 1240	
-3 MW-3	X 1112 1340	XX
-4 mw-4	X 1112 410	
i i PLEASE NOTE: Liability and Damages. Cardhais liability and client's exclusive remedy for any claim arbing v		
ambitees. All claims including those for nagligence and enviolent cause whatacever stall be deemed walved unless made in wit service. It no event shall Cerdinal be liable for incidental or consequental demages, including without smilection, business interrup (Continue)	stions, loss of use, or loss of profile incurred by client, its subsidiarios,	6
offiliating or successors arising out of or related to the performance of services hereunder by Cardinat regardless of whether suc Sampler Relinquished: Date: Received By:	Phone Res	
Time:	Fax Result REMARKS:	
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Sampler - UPS · Bus · Other:	es 🖾 Yes A	

[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



January 27, 2010

Camille Bryant
Basin Environmental Consulting, LLC.
P.O. Box 381
Lovington, NM 88260

Re: Josephine Rodke Fed #1 (BOPCO)

Enclosed are the results of analyses for sample number H19134, received by the laboratory on 01/22/10 at 4:40 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260 Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005 Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.2 Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene Laboratory Director



ANALYTICAL RESULTS FOR BASIN ENVIRONMENTAL CONSULTING, LLC ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 01/22/10 Reporting Date: 01/25/10

Project Number: AFE # (BOPCO)

Project Name: JOSEPHINE RODKE FED #1

Project Location: EDDY, N.M.

Sampling Date: 01/19/10 Sample Type: WATER

Sample Condition: COOL & INTACT @ 5.5°C

Sample Received By: AB

Analyzed By: HM

		CI	TDS
LAB NO. S	AMPLE ID	(mg/L)	(mg/L)
Analysis Date:		01/25/10	01/23/10
H19134-1 N	IW-1	108	639
H19134-2 N	IW-2	128	541
H19134-3 N	IW-3	46,000	72,800
H19134-4 N	1W-4	136	603
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	**************************************		antica des republicado antica como e manda de desta de 1900 1900 1900 1900 1900 1900 1900 190
Quality Control		500	NR
True Value QC			NR
% Recovery			NR
Relative Percent D	fference	< 0.1	2.4
METHOD: Standard I	Mothodo EDA	4500-CIB	160.1
INICITOD. Standard I	VIEITIOUS, EFA	4300-C1 D	100.1

Chemist

Date

H19134 Bsin Environmental

101 East Martand, Hobbs, NM 88240 (575) 393-2326 Fax (575) 393-2476

Page____ot____

Company Name: BOPCO BASIN	BILL TO			ANALYSIS	REQUEST		
Project Manager: CAMILIE REVANT	P.O. #:						
Address: 2900 PLAINC MWY	Company:						
City: LOUING TOW State: N'm Zip: 88 260 Phone #: 575 396-2378 Fax #: 575 396-1439	Attn:						
Phone #: 575 396-2378 Fax #: 575 396-1439	Address:						
Project #: AFE # Project Owner: ROACO	City:						
Project Name: JOSEPHINE ROOKE FED # 1	State: Zip:	000					
Project Location: EDOY NM	Phone #:	1 3					
Sampler Name: LANCE REYNOLDS	Fax #:						
H19139 - MW - T	PRESERV. SAMPLING OUTPUT DATE TIME X 1/4/10 9:30 12:00 11:15	Sacione Chineipes					
PLEASE NOTE: Liability and Damages, Cardina's liability and client's exclusive remedy for any claim arising whether basi analyses. All claims including those for regisjence and any other cause whiteoever shall be deemed valved unless made in writing and receive	ed by Cardinal within 30 days ofter completion of the applicable		t for the				
service. In no event chall Cardinal be kable for incidental or consequental demages, including without limitation, business interruptions, loss of undificates or successors arising out of or related to the performance of services hereunder by Cardinal regardless of whether such claim is base							
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Sampler - UPS - Bus - Other: # 76 5.50	s (initials)						

[†] Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



March 30, 2010

Camille Bryant
Basin Environmental Consulting, LLC.
P.O. Box 381
Lovington, NM 88260

Re: Josephine Rodke Federal #1 (BOPCO)

Enclosed are the results of analyses for sample number H19551, received by the laboratory on 03/26/10 at 1:32 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.2

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D/Keene

Laboratory Director



ANALYTICAL RESULTS FOR BASIN ENVIRONMENTAL CONSULTING, LLC

ATTN: CAMILLE BRYANT

P.O. BOX 381

LOVINGTON, NM 88260 FAX TO: (575) 396-1429

Receiving Date: 03/26/10 Reporting Date: 03/26/10

Project Number: 24510 (BOPCO)

Project Name: JOSEPHINE RODKE FEDERAL #1

Project Location: EDDY CO., NM

Analysis Date: 03/26/10

Sampling Date: 03/24/10

Sample Type: GROUNDWATER

Sample Condition: COOL & INTACT @ 3.5°C

Sample Received By: JH

Analyzed By: HM

•	CI
LAB NO. SAMPLE ID	(mg/L)
H19551-1 MW-3	61,000

Quality Control	500
True Value QC	500
% Recovery	100
Relative Percent Difference	< 0.1

METHOD: Standard Methods 4500-CIB

Date

H19551 Basin Environmental

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

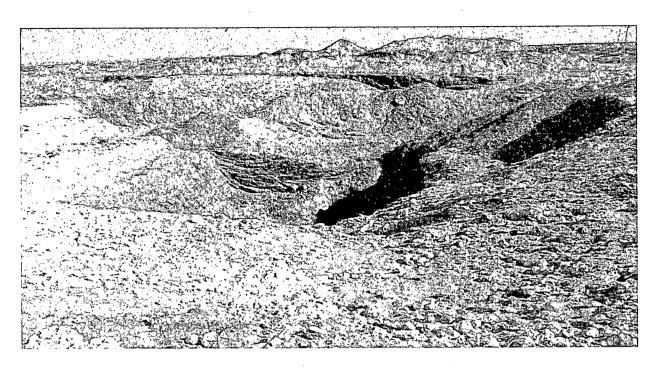
- ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 (505) 393-2326 FAX (505) 393-2476

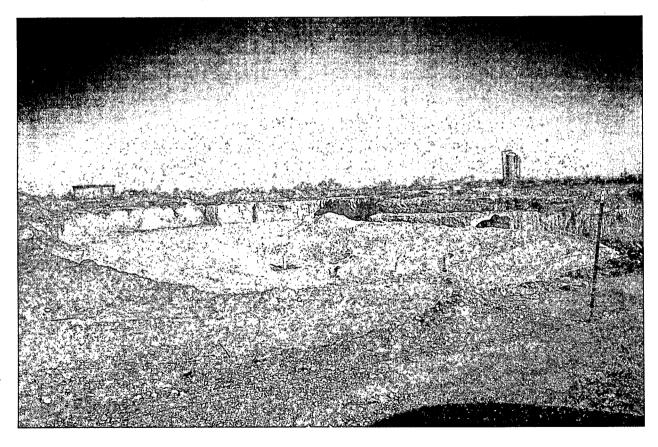
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		S)	# CONTAINERS	GROUNDWATER WASTEWATER	SOIL	SLUDGE	ACID/BASE:	OTHER:	DATE	TIME	N											
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[†] Cardinal cannot accept verbal changes. Please fax written changes to 505-393 2476



Josephine Rodke Federal #1 Site Prior to Backfilling



Josephine Rodke Federal #1 Site

Appendix D

Release Notification and Corrective Action (Form C-141) and 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, Aziec, NM 87410 1220 S. St. Francis Dr., Santa Fe, NM 87505

* Attach Additional Sheets If Necessary

MNLA 09344552161

State of New Mexico Energy Minerals and Natural Resources

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

Revised October 10, 2003 Submit 2 Copies to appropriate District Office in accordance

Form C-141

with Rule 116 on back side of form

2RP-370

30-015-6	5873		Rele	ease Notific	atio	n and Co	rrective A	ctior	1			programme and the second	
						OPERA	ror		M Initi	al Report	Fin:	al Report	
Name of C				260737		Contact Tor							
							No. 432-556-87.	30					
Facility Na	me: Joseph	ine Rodke F	ederal #1]		Facility Typ	e E&P						
Surface Ow	ner Federa	ıl		Mineral ()wner	Federal		a an riving account of the same and the same and the same and the same and the same and the same and the same a	Lease	No. API	38-015-	-05833	
				LOCA	ATIC	N OF RE	LEASE					rametan ray	
Unit Letter C	Section 27	Township 20S	Range 31E	Feet from the	Nort	h/South Line	Feet from the	East/	West Line	-County	IVEL	3	
Acceptance of the Control of the Con	. But a refer of the region is an environmental transfer of the second		Latit	ude_N 32.32°4:				048		DEC	-7 2009 ARTES	SIA	
	and a principle and purposes and purpose and purpose and purposes and purposes and purposes and purpose and p				<u>ruri</u>	E OF REL							
		ed water, and		sediment			Release: Un-kno		· · · · · · · · · · · · · · · · · · ·	Recovered:			
Source of Re	Hease: Un-li	ined evaporati	on pit			Pre 2009	lour of Occurrent	:e	7/1/09	Hour of Di	scovery		
Was Immediate Notice Given? ☐ Yes ☑ No ☐ Not Required					If YES, To	Whom?							
By Whom?		and the second s				Date and Hour							
Was a Watercourse Reached? ☐ Yes ☒ No					If YES, Volume Impacting the Watercourse,								
Describe Ca removed	use of Prob	em and Reme	dial Actic	on Taken.* Operat	tion of	the pit ceased	prior to 7/1/09, ap	proxim	ately 5000	cubic yards	of soil has b	een	
A remediati	on closure partical and he	lan was subm orizontal exter	itted to the nt of the p	ken.*Pasture land e NMOCD on 11/ it area. A complet NMOCD pit elos	/20/09. te reme	The area will indicate the area will in a close the control of the close the	e partially backfi	iled, an					
regulations public healt should their or the enviro	all operators h or the envi operations l onment. In :	are required to ronment. The have failed to	o report a acceptanadequately OCD accep	e is true and compand/or file certain according C-141 reply investigate and plance of a C-141	release ort by remedi	notifications (the NMOCD nate contaminat	ind perform correct parked as "Final Ricor that pose a thi	ctive ac leport" reat to g	tions for re does not re ground water	deases which dieve the op- er, surface w	n may endan crator of hab rater, human	ger ility health	
							OIL CON	SERV	VATION	DIVISI	ON	Annah di antino di antino di antino di antino di antino di antino di antino di antino di antino di antino di a	
Signature: 1 am Davie				Approved by District Supervished Branches									
Printed Nan	e: Tony Sa	voie						2010			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Section of last Section and Section Section Sec	
Title: Waste	Mgmt& R	emediation Sp	ecialist			Approval Da		_0,0	Expiration	Date:			
E-mail Add	ress: TASav	oie@BassPet.	com			Conditions of	f Approval:			Amaka			
Date: 12/7/0)0			Phone:432-556-8	730		DÍATION per O			Attache	, L		
		ate If Nagaes	'01 5 37		/	Guidelines	. <u>SUBMIT REN</u>	1EDIA1	<u> </u>		0 - 2		

PROPOSAL BY: Investigation is

ongoing as of 3/14/10

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	Form C-141
1 11-1. 2.1 2011	d October 10, 2003 ies to appropriate
NMOCD ARTES!A	les to appropriate ice in accordance Rule 116 on back side of form

Release Notification and Corrective Action

			OPE	RATOR			Initial l	Report	X Final Report				
Name of Co		BOPCO, L		Contact To	ony Savoie								
Address 5		rmod, Suite	20		No. (432)556-8	3730							
Facility Name Josephine Rodke Federal #1						Facility Typ	e E&P						
Surface Ow	mer Fede	ral)wner	Federal			Lease N	No. API 30	0-015-05833				
				<u>-</u>		·	ERACE						
11 is 1 as	I C	T	I Danie			N OF RE	· · · · · · · · · · · · · · · · · · ·	T F //33	/ 	I C			
Unit Letter C	Section 27	Township 20S	Range 31E	Feet from the	Norti	n/South Line	Feet from the	East	est Line	County Eddy			
Latitude 32° 32' 45.132" North Longitude 103° 51' 15.048" West													
				NAT	URE	OF REL	EASE						
Type of Rele	ase Produc	ed water and	crude oil s	ediment		Volume of	Release Unknow	Recovered	0				
Source of Re	lease Un-l	ined evaporati	ion pit			Date and F	lour of Occurrence		Date and Hour of Discovery 7/1/09				
Was Immediate Notice Given? Yes X No Not Required						If YES, To Whom?							
By Whom?	Tony Savoi	e				Date and Hour							
Was a Watercourse Reached? Yes X No						If YES, Volume Impacting the Watercourse.							
If a Watercou	irse was Imp	pacted, Descri	be Fully.*										
Describe Cau removed.	ise of Probl	em and Reme	dial Actio	n Taken:* Opera	tion of	the pit ceased	d prior to 7/1/09.	Approxi	mately 50	00 cubic ya	ards of soil has been		
Describe Are	a Affected	and Cleanup Please refere	Action Ta	ken.* Pasture la ached <i>Remediatio</i>	nd mea	suring approx	imately 80 ft. by	y 80 ft. 7	The site wation deta	as remedia	ted as per NMOCD		
I hereby certi regulations al public health should their co or the environ	ify that the life operators or the environment. In a	information g are required to ronment. The ave failed to a	iven abov to report a e acceptan dequately OCD acco	e is true and com and/or file certain ce of a C-141 rep investigate and r	releas oort by emedia	o the best of a notifications the NMOCD ate contaminat	my knowledge ar and perform con marked as "Fina ion that pose a th	nd unders rrective a I Report" ireat to gi	stand that ections for does not round wat	pursuant to releases, v relieve the er, surface	NMOCD rules and which may endanger operator of liability water, human health ance with any other		
_					}		OIL CONS	SERVA	TION	DIVISIO	<u>N</u>		
Signature:	1 Dry	Dane	w_										
Printed Name	rinted Name: Tony Savoie					Approved by District Supervisor:							
Title: Waste	Mgmt. & Re	emediation Sp	ecialist			Approval Date	2:	Ex	piration E				
E-mail Address: TASavoie@BassPet.com					Conditions of Approval:								
Date:	Phone: (432)556-873()								1				

Ustrict!
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
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87805

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

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD

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 hability should operations result in pollution of surface water, ground water or the environment. Not does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances. Operator: BOPCO, L.P. OGRID #:001801 Address: P.O. Box 2760, Midland, Texas 79702 Facility or well name: Josephine Rodke Federal Battery #1 API Number: 30-015-05833 OCD Permit Number: U/L or Qtr/Qtr C Section 27 Township 205 Range 31E County: Eddy Center of Proposed Design. Latitude N32°32'45.132 Longitude W 103"51"15.048 NAD. []1927 [] 1983 Surface Owner: Seederal State Private Tribal Trust or Indian Allotment 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 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 ☐ 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 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 _____

Form (34)

Alternative Method:

431 Conservacion Decision

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

9agg 1 5r a

Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tunks) Chain link, six feet in height, two strands of harbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church) Pour foot height, four strands of barbed wire evenly spaced between one and four feet Alternate. Please specify						
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).						
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						
Administrative Approvals and Exceptions: Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance. Please check a box if one or more of the following is requested, if not leave blank: Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval. Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.						
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of 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	☐ Ycs ☐ 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; Acrial photo; Satellite image	Yes No					
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					
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					

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 19.15.17.19 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:
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 bax, 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 19.15.17.19 NMAC String 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 ₂ S, Prevention Plan Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan. Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Closed-loop System Alternative Proposed Closure Method: Waste Excavation and Removal Waste Removal (Closed-loop systems only) On-site Closure Method (Only for temporary pits and closed-loop systems) In-place Burial On-site Trench Burial Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached. Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (1915.17.13.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 ser 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 II 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						
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 affice 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 - (WATERS database scarch; 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 - (WATERS 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. - 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					
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 5ubsection 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 19.15.17.13 NMAC Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 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 I of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC						

Operator Application Certification:	
I hereby certify that the information submitted with this application is true, accurate at	id complete to the best of my knowledge and belief
Name (Print): Steve Johnson	Tale SR Penduction Foregrain
Signature: e-mail address:	Date. 7/// 6 6
e-mail address:	Tetephone; (432) 683-2277
OCD Approval: D. Barmit Application (including electron plant El Clavera Planta	nly) □ OCD Conditions (see attachment) MAR 2 4 2010
OCD Representative Signature: Signed By Mily Denauce	Approval Date:
Title: Lhu Spa. 00	D Permit Number: Who
Closure Report (required within 60 days of closure completion): Subsection K of Instructions: Operators are required to obtain an approved closure plan prior to imp The closure report is required to be submitted to the division within 60 days of the consection of the form until an approved closure plan has been obtained and the closure	19.15.17.13 NMAC dementing any closure activities and submitting the closure report, mpletion of the closure activities. Please do not complete this
77.	
Closure Method:	liosure Method Waste Removal (Closed-loop systems only)
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Instructions: Please indentify the facility or facilities for where the liquids, drilling I two facilities were utilized.	t Utilize Above Ground Steel Tanks or Haul-off Bins Only: Inids and drill cuttings were disposed. Use attachment if more than
1	posal Facility Permit Number:
	posal Facility Permit Number.
Were the closed-loop system operations and associated activities performed on or in ar Yes (If yes, please demonstrate compliance to the items below) No	eas that will not be used for future service and operations?
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	
11. Closure Report Attachment Checklist: Instructions: Each of the following items n	suce he attrahed to the electric ground Bloom indicate he a short
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)	uss be anachea to the closure report. Preasc thatcare, by a check
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
15. Operator Closure Certification:	
I hereby certify that the information and attachments submitted with this closure report belief. I also certify that the closure complies with all applicable closure requirements	
Name (Print): Annette Childers	Title: Regulatory Clerk
Signature:	Date:
e-mail address: <u>machilders/a/basspet.com</u>	Telephone: (432) 683-2277

BOPCO, L.P. Josephine Rodke Federal #1 Section 27, T-20-S, R-31-E Eddy County, NM

API# 30-015-05833

CLOSURE PLAN

The New Mexico OCD and Bureau of Land Management were both sent notification of closure on June 15, 2009, BOPCO, L.P. will excavate to ten feet below ground surface to the bottom of the pit removing any dried sludge. The pit was unlined so no liner will need to be removed. No free liquids are presently in the pit and there is not any associated equipment in or around the pit that will need to be removed. All excavated dried sludge will be hauled and disposed of at CRI (Controlled Recovery Incorporated - Permit R-9166). BOPCO, L.P. will test the soils beneath the permanent pit to determine whether a release has occurred. BOPCO, L.P. will collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100 mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater, BOPCO, L.P. will notify the division of its results on form C-141 in accordance with NMAC 19.15.17.13(c) Closure method for permanent pits. If the BOPCO or the division determines that a release has occurred, then the BOPCO shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (3) of Subsection C of 19.15.17.13 NMAC, then the BOPCO, L.P. will backfill the excavation with compacted, non-waste containing, earthen material; construct a divisionprescribed soil cover; recontour and re-vegetate the site. The division-prescribed soil cover, recontouring and re-vegetation requirements will comply with Subsections G. H and I of 19.15.17.13 NMAC per our Site Reclamation Plan. BOPCO, L.P. will commence closure of the site within one week of approval from the NMOCD. It will take BOPCO, L.P. approximately 2 days to excavate to ten feet and one day to sample the excavation. It will take five days to receive the results from the lab. Approximately three days to backfill the excavation and recontour the site with the existing topography. It will take one day to reseed the area. Within 60 days of closure completion, BOPCO, L.P. will submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results; information required by 19.15.17 NMAC; a plot plan; and details on back-filling, capping and covering, where applicable. In the closure report, BOPCO, L.P. will certify that all information in the report and attachments is correct and that BOPCO, L.P. has complied with all applicable closure requirements and conditions specified in the approved closure plan.