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ධ Effective Solutions

## **REMEDIATION SUMMARY &**

## **RISK-BASED SITE CLOSURE REQUEST**

**BOPCO, LP** 

POKER LAKE UNIT #78 SWD TANK BATTERY Eddy County, New Mexico Unit Letter "A" (NE/NE), Section 25, Township 24 South, Range 30 East Latitude 32.194069° North, Longitude 103.827614° West NMOCD Reference #'s: 2RP-1190 & 2RP-1234

Prepared For:

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## **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as Poker Lake Unit (PLU) #78 Salt Water Disposal (SWD) Tank Battery. The legal description of the release site is Unit Letter "A" (NE/NE), Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.194069° North latitude and 103.827614° West longitude. The property affected by the release is owned by The United States Department of the Interior, Bureau of Land Management (BLM). A "Site Location Map" is provided as Figure 1.

On May 26, 2012, BOPCO discovered a release (Release #1) had occurred at the PLU #78 SWD Tank Battery. Lightning struck two (2) one thousand-barrel (1,000 bbl) fiberglass gun barrel tanks and caused immediate, catastrophic damage to the tanks and the adjacent storage tanks inside the containment area, including a five hundred-barrel (500 bbl) steel oil skim tank and a third one thousand-barrel (1,000 bbl) fiberglass tank. The lightning strike and subsequent fire also damaged piping and the catwalk system inside the containment area. Falling pipe damaged three (3) areas of the steel-walled containment, causing crude oil and produced water to breach the containment and overflow into the adjacent pastureland.

The release was immediately reported to the New Mexico Oil Conservation Division (NMOCD) Artesia District Office. The Release Notification and Corrective Action (Form C-141) indicated approximately four thousand barrels (4,000 bbls) of produced water and approximately twenty barrels (20 bbls) of crude oil were released. A vacuum truck was utilized to recover approximately one thousand, eight hundred and twenty barrels (1,820 bbls) of the free-standing fluid in the containment area. The release affected an area of pastureland measuring approximately twenty-one thousand, six hundred and eighty square feet (21,680 ft<sup>2</sup>).

On July 11, 2012, BOPCO discovered a second release (Release #2) had occurred at the PLU #78 SWD Tank Battery. The SWD was without power when the tanks overflowed, resulting in a release of crude oil and produced water. Electricians were on-site and vacuum trucks were on course to the facility when a section of the containment wall separated at a seam, causing crude oil and produced water to breach the containment and overflow into the adjacent pastureland, where it pooled in the floor of an ongoing excavation and commingled with rain water from a recent storm.

The release was immediately reported to the NMOCD Artesia District Office. The Form C-141 indicated approximately six hundred barrels (600 bbls) of produced water and approximately ten barrels (10 bbls) of crude oil were released. A vacuum truck was utilized to recover a total of approximately one thousand and fifty barrels (1,050 bbls) of free-standing liquid (including rain water, crude oil, and produced water) from the containment area and the floor of the excavation.

The two (2) releases were remediated concurrently. The Forms C-141 are provided in Appendix A. General photographs of the release sites are provided in Appendix B.

## 2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 25, Township 24 South, Range 30 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately three hundred and sixty feet (360') to three hundred and sixty-five feet (365') below ground surface (bgs). Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

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

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

NMOCD guidelines indicate the PLU #78 SWD Tank Battery release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene 10 mg/kg (ppm)
- Benzene, toluene, ethylbenzene and xylenes (BTEX) 50 mg/kg (ppm)
- Total petroleum hydrocarbons (TPH) 5,000 mg/kg (ppm)

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

## **3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES**

On May 31, 2012, following initial response activities, delineation of Release #1 commenced. A series of four (4) delineation trenches (Sample #1 through Sample #4) were advanced in the pastureland adjacent to the PLU #78 SWD Tank Battery to investigate the horizontal and vertical extent of impacted soil. Delineation trenches Sample #1, Sample #2, and Sample #4 were each advanced to a total depth of approximately five feet (5') bgs. Delineation trench Sample #3 was advanced to a total depth of approximately ten feet (10') bgs. Soil samples were collected at fourfoot (4') to five-foot (5') intervals and field-screened with a chloride test kit. A total of nine (9) confirmation soil samples (Sample #1 @ 1', Sample #1 @ 5', Sample #2 @ 1', Sample #2 @ 5', Sample #3 @ 1', Sample #3 @ 5', Sample #3 @ 10', Sample #4 @ 1', and Sample #4 @ 5') were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of TPH and chloride concentrations using Environmental Protection Agency (EPA) Methods SW-846 8015M and 4500 Cl-B, respectively. Sample #1 @ 5' and Sample #3 @ 10' were also analyzed for concentrations of BTEX using EPA Method SW-846 8021b. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Soil sample locations are depicted in Figure 3 through Figure 5. Laboratory analytical reports are provided as Appendix D.

Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory method detection limit (MDL) in Sample #1 @ 5', Sample #3 @ 5', Sample #3 @ 10', and Sample #4 @ 5' to 14,770 mg/kg in Sample #1 @ 1'. Chloride concentrations ranged from 160 mg/kg in Sample #2 @ 5' to 30,000 mg/kg in Sample #4 @ 1'. BTEX constituent concentrations in Sample #1 @ 5' and Sample #3 @ 10' were less than the appropriate laboratory MDL.

On June 4, 2012, five (5) additional delineation trenches were advanced at the site to investigate the horizontal and vertical extent of impacted soil in pooling areas in the pastureland adjacent to the PLU #78 SWD Tank Battery. Soil samples collected from the delineation trenches were field-screened with a chloride test kit. Field-test results indicated further delineation would be required along the flow path of the release.

To facilitate remediation activities, the release site was divided into two (2) sections: Pasture Excavation and Pad Excavation. The Pasture Excavation was located in the pastureland adjacent to the PLU #78 SWD Tank Battery, and the Pad Excavation was located on the tank battery pad. Due to time, budget, and operational concerns, it was determined that the Pasture Excavation would be completed first, and the Pad Excavation would be completed at a later date.

On June 5, 2012, remediation of Release #1 commenced at the site. A chloride test kit was used to field-screen the horizontal and vertical extent of impacted soil and to guide the excavation (Pasture Excavation). Excavated soil was stockpiled on-site, pending final disposition.

On July 11, 2012, following initial response activities, remediation of Release #2 commenced in conjunction with the ongoing remediation activities associated with Release #1.

On July 26, 2012, thirty-six (36) soil samples (Sample #1 through Sample #11, Sample #13 through Sample #26, and Sample #29 through Sample #39) were collected from the floor and sidewalls of the Pasture Excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in Sample #2 through Sample #11, Sample #13 through Sample #20, Sample #22, Sample #23, Sample #25, Sample #26, and Sample #32 through Sample #39 to 110 mg/kg in Sample #24. Chloride concentrations ranged from less than the laboratory MDL in Sample #24 to 58,400 mg/kg in Sample #38.

One (1) soil sample (East Pooling Area) was collected from the floor of the Pasture Excavation in a pooling area associated with Release #2. The soil sample was submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated the TPH concentration was 7,765 mg/kg, and the chloride concentration was 48.0 mg/kg.

Review of laboratory analytical results indicated further vertical delineation would be required in the area represented by soil sample East Pooling Area. Further excavation in the areas represented by Sample #26, Sample #30, Sample #32, Sample #37, and Sample #38 was deemed impracticable due to the presence of the active PLU #78 SWD Tank Battery adjacent to the Pasture Excavation.

On July 31, 2012, two (2) soil samples (Manifold Floor 6' and Manifold Floor 8') were collected from the floor of the Pasture Excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from

20,570 mg/kg in soil sample Manifold Floor 6' to 48,040 mg/kg in soil sample Manifold Floor 8'. The chloride concentration was 176 mg/kg in both Manifold Floor 6' and Manifold Floor 8'.

Review of laboratory analytical results indicated further excavation would be required in the area represented by soil samples Manifold Floor 6' and Manifold Floor 8'.

On August 1, 2012, five (5) soil borings (SB-1 through SB-5) were advanced at the site to further investigate the vertical extent of impacted soil. Soil samples were collected at five-foot (5') drilling intervals and field-screened using a Photo-Ionization Detector (PID) and/or chloride test kit. Selected soil samples were submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. The locations of the soil borings are depicted in Figure 2, "Sample Location Map (Overview)". Soil boring logs are provided as Appendix C.

Soil boring SB-1 was advanced in the northwest floor of the Pasture Excavation, at approximately five feet (5') bgs, near the terminus of the flow path of the release. The soil boring was advanced to a total depth of approximately twenty-five feet (25') bgs. Soil samples collected at drilling depths of five feet (5'), ten feet (10'), fifteen feet (15'), and twenty feet (20') were submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. Laboratory analytical results indicted BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. TPH concentrations ranged from less than the laboratory MDL in the soil samples collected at 10' bgs (SB-1 @ 5') and 25' bgs (SB-1 @ 20') to 10.5 mg/kg in the soil sample collected at 15' bgs (SB-1 @ 10'). Chloride concentrations ranged from 32.0 mg/kg in the soil sample collected at 25' bgs (SB-1 @ 20') to 1,300 mg/kg in the soil sample collected at 15' bgs (SB-1 @ 10').

Soil boring SB-2 was advanced in the floor of the Pasture Excavation, at approximately five feet (5') bgs, in the area represented by soil sample East Pooling Area. The soil boring was advanced to a total depth of approximately twenty-five feet (25') bgs. Soil samples collected at drilling depths of five feet (5'), ten feet (10'), fifteen feet (15'), and twenty feet (20') were submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. Laboratory analytical results indicted TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 864 mg/kg in the soil sample collected at 10' bgs (SB-2 @ 5') to 3,560 mg/kg in the soil sample collected at 20' bgs (SB-2 @ 15').

Soil boring SB-3 was advanced in the west floor of the Pasture Excavation, at approximately five feet (5') bgs. The soil boring was advanced to a total depth of approximately thirty feet (30') bgs. Soil samples collected at drilling depths of five feet (5'), ten feet (10'), fifteen feet (15'), twenty feet (20'), and twenty-five feet (25') were submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. Laboratory analytical results indicated BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. TPH concentrations ranged from less than the laboratory MDL in the soil samples collected at 10' bgs (SB-3 (@ 25')) and 15' bgs (SB-3 (@ 10')) to 596 mg/kg in the soil sample collected at 30' bgs (SB-3 (@ 25')) to 1,470 mg/kg in the soil sample collected at 15' bgs (SB-3 (@ 10')).

Soil boring SB-4 was advanced in the floor of the Pasture Excavation, at approximately five feet (5') bgs, and approximately fifty feet (50') to the west of the PLU #78 SWD Tank Battery. The

soil boring was advanced to a total depth of approximately thirty feet (30') bgs. Soil samples collected at drilling depths of five feet (5'), ten feet (10'), fifteen feet (15'), twenty feet (20'), and twenty-five feet (25') were submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. Laboratory analytical results indicated BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. TPH concentrations ranged from 10.3 mg/kg in the soil sample collected at 30' bgs (SB-4 @ 25') to 119 mg/kg in the soil sample collected at 10' bgs (SB-4 @ 25') to 1,360 mg/kg in the soil sample collected at 10' bgs (SB-4 @ 25').

Soil boring SB-5 was located on the caliche pad adjacent to the PLU #78 SWD Tank Battery and was advanced to a total depth of approximately twenty-five feet (25') bgs. Soil samples collected at drilling depths of five feet (5'), ten feet (10'), fifteen feet (15'), twenty feet (20'), and twenty-five feet (25') were submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. Laboratory analytical results indicated BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. TPH concentrations ranged from less than the laboratory MDL in soil samples SB-5 @ 10' and SB-5 @ 25' to 37.5 mg/kg in soil sample SB-5 @ 5'. Chloride concentrations ranged from 176 mg/kg in soil sample SB-5 @ 25' to 2,520 mg/kg in soil sample SB-5 @ 10'.

Due to the presence of a layer of pad sand in the floor of the Pasture Excavation on the day of drilling, soil samples could not be collected from the drilling surface (i.e., the floor of the excavation) of soil borings SB-1 through SB-4. On August 3, 2012, heavy equipment was utilized to remove the layer of pad sand in order to collect four (4) samples (SB #1 Surface, SB #2 Surface/East Pooling Area 8', SB #3 Surface, and SB #4 Surface) of native, in-situ soil from the floor of the excavation. Twelve (12) additional soil samples (Sample #12, Sample #40 through Sample #44, Manifold Floor 12', Power Pole North, Power Pole South, Power Pole East, Power Pole West, and Lines) were collected from the floor and sidewalls of the Pasture Excavation. The soil samples were submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil samples Sample #12, Sample #40 through Sample #44, and Power Pole West to 18,880 mg/kg in soil sample Lines. Chloride concentrations ranged from 96.0 mg/kg in soil sample Manifold Floor 12' to 61,600 mg/kg in soil sample SB #3 Surface.

Due to safety considerations and to preserve the structural integrity of the utility pole supplying electricity to the PLU #78 SWD Tank Battery, soil represented by soil samples Power Pole North, Power Pole South, Power Pole East, and Power Pole West was left in-situ. Further excavation in the area represented by soil sample Lines was deemed impracticable due to the presence of active pipelines adjacent to the Pasture Excavation.

On August 8, 2012, representatives of Basin Environmental and BOPCO met with a representative of the NMOCD Artesia District Office to request permission to leave soil represented by soil samples Power Pole North, Power Pole South, Power Pole East, Power Pole West, Lines, Sample #30, Sample #32, Sample #37, and Sample #38 in-situ. Due to the depth to water at the site and the lack of surface water or supply wells in the area, a modified chloride closure level of 3,000 to 5,000 mg/kg was requested for the site. In order to achieve vertical delineation for the entire Pasture Excavation based on the new closure standard, it was proposed that the floor of the excavation would be divided into a series of grids. Delineation trenches

would be advanced inside the grids, and soil samples would be collected until field-test results indicated chloride concentrations were below the revised closure standard. The requests were approved by the NMOCD representative.

Based on laboratory analytical results, the Pasture Excavation was advanced in the areas represented by Sample #12 and Sample #44. Two (2) confirmation samples (Sample #12A and Sample #44A) and four (4) additional soil samples (Sample #27, Sample #28, Sample #45, and Sample #46) were collected from the sidewalls of the excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Sample #27 was also analyzed for concentrations of BTEX. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in Sample #12A and Sample #44A to 1,216 mg/kg in Sample #27. Chloride concentrations ranged from 32.0 mg/kg in Sample #12A to 22,000 mg/kg in Sample #28. BTEX constituent concentrations in Sample #27 were below the appropriate laboratory MDL.

Review of laboratory analytical results indicated further excavation would be required in the area represented by Sample #27. Further excavation in the area represented by Sample #28 was deemed impracticable due to the presence of the active PLU #78 SWD Tank Battery adjacent to the Pasture Excavation.

From August 13 through August 14, 2012, the floor of the Pasture Excavation was divided from north-to-south at fifty-foot (50') intervals into eight (8) grids (Grid 1 through Grid 8). A series of delineation trenches were advanced east-to-west in the gridded areas to evaluate the horizontal and vertical extent of contaminated soil. Due to the variable width of the Pasture Excavation, the number of delineation trenches and their orientation (i.e., north-to-south, east-to-west, or diagonal) varied from grid to grid. The delineation trenches were evenly distributed horizontally within each grid to ensure adequate coverage of the excavation floor. Soil samples were collected at two-foot (2') to five-foot (5') intervals and field-screened with a chloride test kit, and selected confirmation soil samples were submitted the laboratory for analysis of chloride concentrations. The locations of the grids and delineation trenches are depicted in Figures 2 through 6. Laboratory analytical results are summarized in Table 1. Field-test results are summarized in Table 2.

Grid 1 was located in the northern portion of the Pasture Excavation, near the area defined by soil boring SB-1. A series of three (3) delineation trenches (S #1, S #2, and S #3) were advanced in Grid 1, with total depths ranging from approximately five feet (5') in trench S #1 to approximately seven feet (7') in trenches S #2 and S #3. Soil samples were collected at two-foot (2') to three-foot (3') intervals and field-screened with a chloride test kit. A total of three (3) confirmation soil samples (G #1 S #2 2', G #1 S #2 7', and G #1 S #2 10') were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 256 mg/kg in soil sample G #1 S #2 10' to 19,000 mg/kg in soil sample G #1 S #2 2'.

Grid 2 was located approximately fifty feet (50') south of Grid 1, near the area defined by soil boring SB-1. A series of three (3) delineation trenches (S #1, S #2, and S #3) were advanced in Grid 2, each with a total depth of approximately ten feet (10'). Soil samples were collected at two-foot (2') to three-foot (3') intervals and field-screened with a chloride test kit. A total of three (3) confirmation soil samples (G #2 S #2 5', G #2 S #2 7', and G #2 S #2 10') were submitted to

the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 400 mg/kg in soil sample G #2 S #2 10' to 14,600 mg/kg in soil sample G #2 S #2 5'.

Grid 3 was located approximately fifty feet (50') south of Grid 2. A series of four (4) delineation trenches (S #1, S #2, S #3, and S#4) were advanced in Grid 3, with total depths ranging from approximately five feet (5') in trench S #3 to seven feet (7') in trenches S #1, S #2, and S #4. Soil samples were collected at two-foot (2') to three-foot (3') intervals and field-screened with a chloride test kit. A total of three (3) confirmation soil samples (G #3 S #2 2', G #3 S #2 5', and G #3 S #2 7') were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,620 mg/kg in soil sample G #3 S #2 2'.

Grid 4 was located approximately fifty feet (50') south of Grid 3, in the approximate center of the Pasture Excavation. A series of three (3) delineation trenches (S #1, S #2, and S #3) were advanced in Grid 4, with total depths ranging from approximately five feet (5') in trench S #3 to ten feet (10') in trench S #1. Soil samples were collected at two-foot (2') to three-foot (3') intervals and field-screened with a chloride test kit. A total of three (3) confirmation soil samples (G #4 S #2 2', G #4 S #2 5', and G #4 S #2 7') were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,000 mg/kg in soil sample G #4 S #2 7' to 42,800 mg/kg in soil sample G #4 S #2 2'.

Grid 5 was located approximately fifty feet (50') south of Grid 4, in the area represented by soil boring SB-3, and adjacent to a soil "island" (represented by soil samples Power Pole North, Power Pole South, Power Pole East, and Power Pole West) left in-situ inside the excavation to support the utility pole supplying electricity to the PLU #78 SWD Tank Battery. Two (2) delineation trenches (S #1 and S #3) were advanced in Grid 5, each with a total depth of approximately ten feet (10'). Soil samples were collected at two-foot (2') to three-foot (3') intervals and field-screened with a chloride test kit. Two (2) confirmation soil samples (G #5 S #3 5' and G #5 S #3 10') were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,170 mg/kg in soil sample G #5 S #3 10' to 14,600 mg/kg in soil sample G #5 S #3 5'.

Grid 6 was located approximately fifty feet (50') south of Grid 5, adjacent to, and to the south of the soil "island" represented by soil samples Power Pole North, Power Pole South, Power Pole East, and Power Pole West. A series of three (3) delineation trenches (S #1, S #2, and S #3) were advanced in Grid 6, with total depths ranging from approximately five feet (5') in trench S #1 to twenty feet (20') in trench S #3. Soil samples were collected at two-foot (2') to five-foot (5') intervals and field-screened with a chloride test kit. A total of three (3) confirmation soil samples (G #6 S #3 5', G #6 S #3 10', and G #6 S #3 15') were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,400 mg/kg in soil sample G #6 S #3 15' to 17,400 mg/kg in soil sample G #6 S #3 5'.

Grid 7 was located approximately fifty feet (50') south of Grid 6, near the area represented by soil boring SB-4 and to the west of the PLU #78 SWD Tank Battery. Two (2) delineation trenches (S #1 and S #2) were advanced in Grid 7, each with a total depth of approximately five feet (5'). Soil samples were collected at two-foot (2') to three-foot (3') intervals and field-screened with a chloride test kit. Two (2) confirmation soil samples (G #7 S #2 2' and G #7 S #2

5') were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,480 mg/kg in soil sample G #7 S #2 5' to 6,640 mg/kg in soil sample G #7 S #2 2'.

Grid 8 was located in the southern portion of the excavation, approximately fifty feet (50') south of Grid 7 and to the west of the PLU #78 SWD Tank Battery. A series of three (3) delineation trenches (S #1, S #2, and S #3) were advanced in Grid 8, with total depths ranging from approximately five feet (5') in trench S #1 to fifteen feet (15') in trench S #3. Soil samples were collected at two-foot (2') to five-foot (5') intervals and field-screened with a chloride test kit. A total of three (3) confirmation soil samples (G #8 S #2 2', G #8 S #2 7', and G #8 S #2 10') were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 688 mg/kg in soil sample G #8 S #2 10' to 26,000 mg/kg in soil sample G #8 S #2 2'.

On August 30, 2012, representatives of Basin Environmental and BOPCO met with a representative of the NMOCD Artesia District Office to discuss the findings of the delineation event and to request permission to install an impermeable polyurethane liner in the floor of the Pasture Excavation. The request was denied by the NMOCD representative. Basin Environmental and BOPCO were instructed to advance the floor of the excavation until field screens indicated chloride concentrations were within the 3,000 to 5,000 mg/kg closure standard agreed to on August 8, 2012.

On September 12, 2012, the Pasture Excavation was advanced in the areas represented by Sample #26 and Sample #27. Two (2) confirmation soil samples (Sample #26A and Sample #27A) and two (2) additional soil samples (Sample #47 and Sample #48) 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 TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 576 mg/kg in Sample #27A to 1,090 mg/kg in Sample #47.

From June 6 through September 27, 2012, approximately twenty-six thousand, three hundred cubic yards (26,300 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal.

On October 8, 2012, after excavation of the Pasture Excavation had been completed, nine (9) soil samples (Grid 1 Floor, Grid 2 Floor, Grid 3 Floor, Grid 4 Floor, Grid 5 Floor, Grid 6 Floor, Grid 7 Floor, Grid 8 Floor, and Header Floor) were collected from the final excavation floor and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 2,200 mg/kg in soil sample Grid 2 Floor to 5,040 mg/kg in soil sample Grid 4 Floor.

Based on laboratory analytical results, from September 28 to November 8, 2012, the Pasture Excavation was backfilled with non-impacted material, compacted, and contoured to fit the surrounding topography. Final dimensions of the excavation were approximately four hundred and eighty feet (480') in length, ranging in width from approximately twenty-five feet (25') to approximately three hundred and sixty feet (360'), and ranging in depth from approximately five feet (5') to approximately eighteen feet (18').

On December 3, 2012, delineation of the Pad Excavation commenced. Twelve (12) soil samples (Pad 1-S, Pad 1-B, Pad 2-S, Pad 2-B, Pad 3-S, Pad 3-B, Pad 4-S, Pad 4-B, Pad 5-S, Pad 5-B, Pad 6-S, and Pad 6-B) were collected from the floor and sidewalls of a trench that had been advanced at the tank battery for the installation of electrical conduit to power an on-site security system. The soil samples were submitted to the laboratory for analysis of TPH and chloride concentrations. Soil sample Pad 6-B was also analyzed for concentrations of BTEX. Soil sample locations are depicted in Figure 7, "Sample Location Map (Pad Excavation)".

Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 96.0 mg/kg in soil sample Pad 6-S to 2,240 mg/kg in soil sample Pad 1-B. BTEX constituent concentrations in soil sample Pad 6-S were less than the appropriate laboratory MDL.

On October 23, 2013, remediation of the PLU #78 SWD Tank Battery pad (i.e., Pad Excavation) commenced. A chloride test kit was used to field-screen the horizontal extent of impacted soil and to guide the excavation. In order to prevent excavation activities from hindering trucking operations at the tank battery, the excavation was limited to a total depth of approximately six inches (6") to one foot (1') bgs. Excavated soil was stockpiled on-site, pending final disposition.

From October 28 through October 31, 2013, approximately four hundred and twenty cubic yards (420 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc., for disposal.

On October 30, 2013, four (4) soil samples (Floor A, Floor B, Floor C, and Floor D) were collected from the floor of the Pad Excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 992 mg/kg in soil sample Floor D to 4,040 mg/kg in soil sample Floor B.

Based on field tests and laboratory analytical results, from October 31 through November 4, 2013, the excavation was backfilled, compacted, and contoured to fit the surrounding grade. Prior to backfilling, the final dimensions of the Pad Excavation were approximately two hundred and fifteen feet (215') in length, varying in width from approximately sixty feet (60') to approximately one hundred and twenty eight feet (128'), and approximately six inches (6") to one foot (1') in depth.

On November 5, 2013, the backfilled Pasture Excavation was covered with a layer of hay to inhibit surface erosion. The site will be seeded with a BLM-approved seed mixture during the 2014 calendar year.

## 4.0 QA/QC PROCEDURES

## 4.1 Soil Sampling

Soil samples were delivered to Cardinal Laboratories, Inc., of Hobbs, New Mexico, for BTEX, TPH, and/or chloride analyses using the methods described below:

- BTEX concentrations in accordance with EPA Method SW-846 8021b
- TPH concentrations in accordance with modified EPA Method SW-846 8015M

• Chloride concentrations in accordance with EPA Method SM 4500 Cl-B

## 4.2 Decontamination of Equipment

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

## 4.3 Laboratory Protocol

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

## 5.0 SITE CLOSURE REQUEST

Contaminated soil at the PLU #78 SWD Tank Battery release site was excavated to the extent practicable. Soil samples collected from the floors and sidewalls of the PLU #78 SWD Tank Battery Pasture and Pad Excavations were analyzed by an NMOCD-approved laboratory, and TPH and BTEX constituent concentrations were less than the regulatory remediation action levels (RRAL's) established for the site by the NMOCD (with the exception of soil sample Lines, which exhibited a TPH concentration of 18,800 mg/kg). In-situ soil exhibiting TPH and/or chloride contamination above RRAL's will be remediated upon decommissioning and/or abandonment of the currently active SWD and tank battery.

Basin Environmental recommends BOPCO provide the NMOCD Artesia District Office and the BLM a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant site closure to the PLU #78 SWD Tank Battery release site.

## 6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Risk-Based Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Basin Environmental has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

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

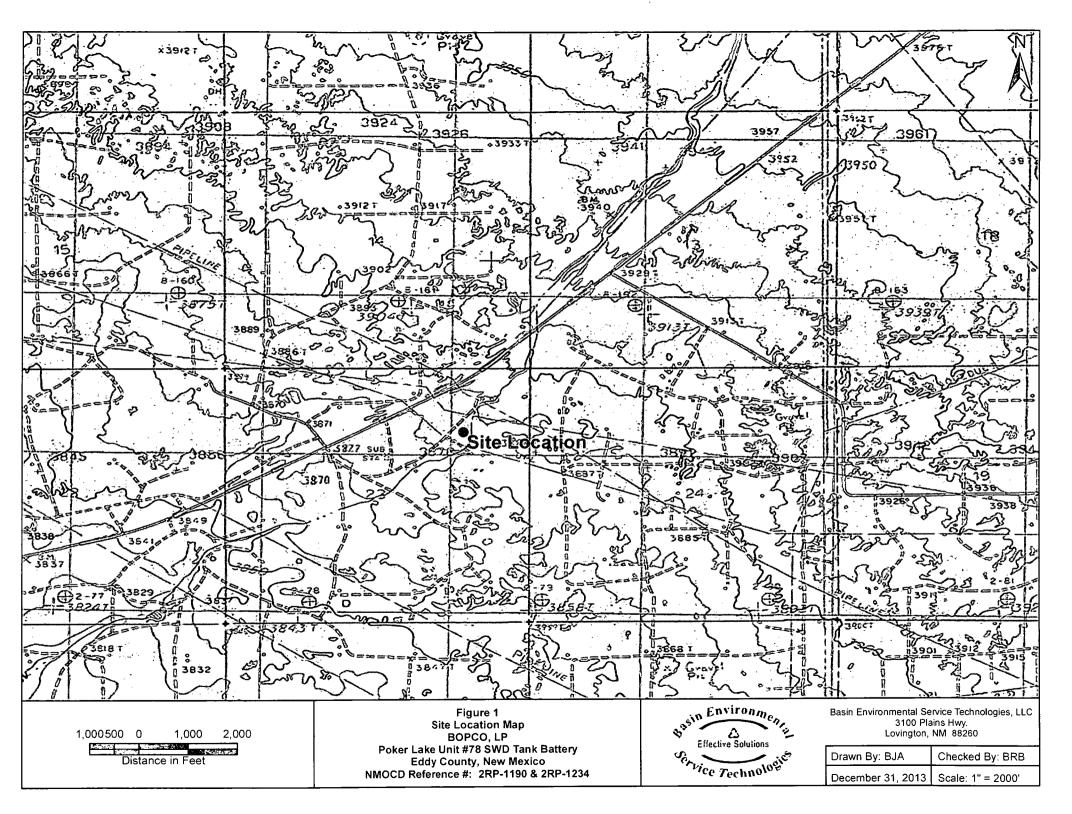
## 7.0 DISTRIBUTION:

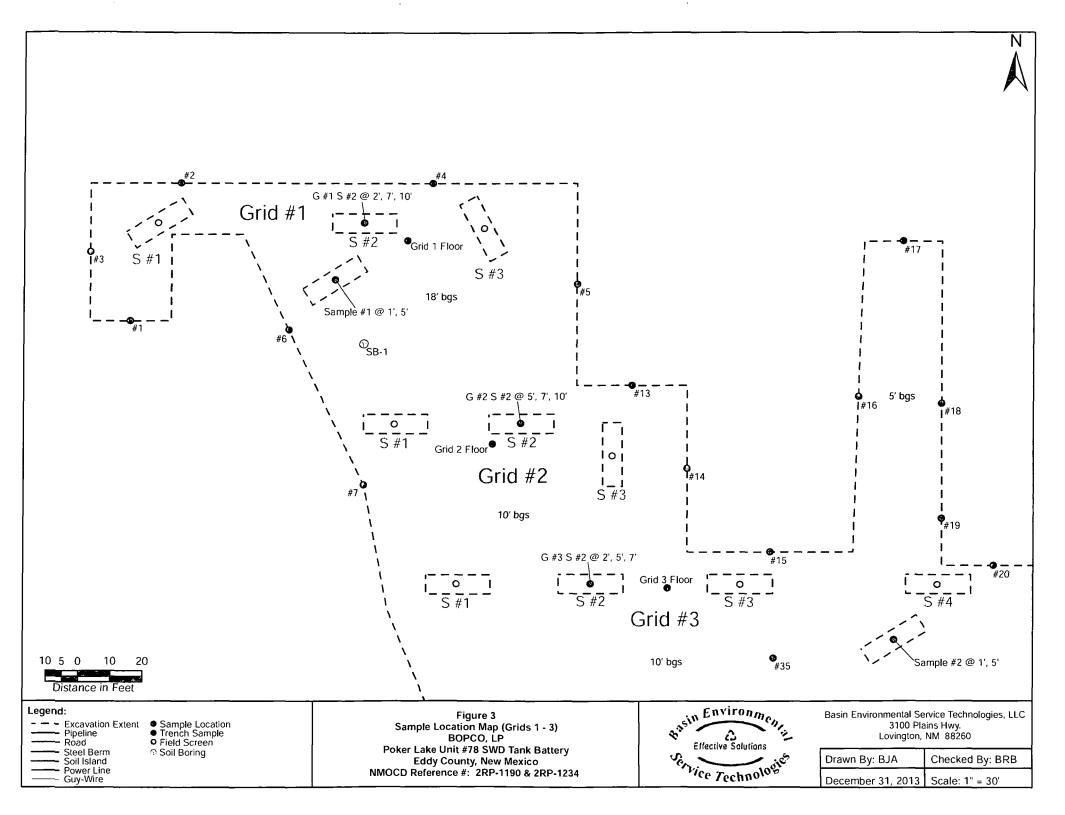
Copy 1: Mike Bratcher New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 2) 1301 E. Grand Avenue Artesia, New Mexico 88210 Copy 2: James Amos Bureau of Land Management 602 E. Greene Street Carlsbad, New Mexico 88220 Copy 3: Tony Savoie BOPCO, LP 522 W. Mermod, Ste. 704 Carlsbad, New Mexico 88220 Copy 4: Basin Environmental Service Technologies, LLC P.O. Box 301 Lovington, New Mexico 88260

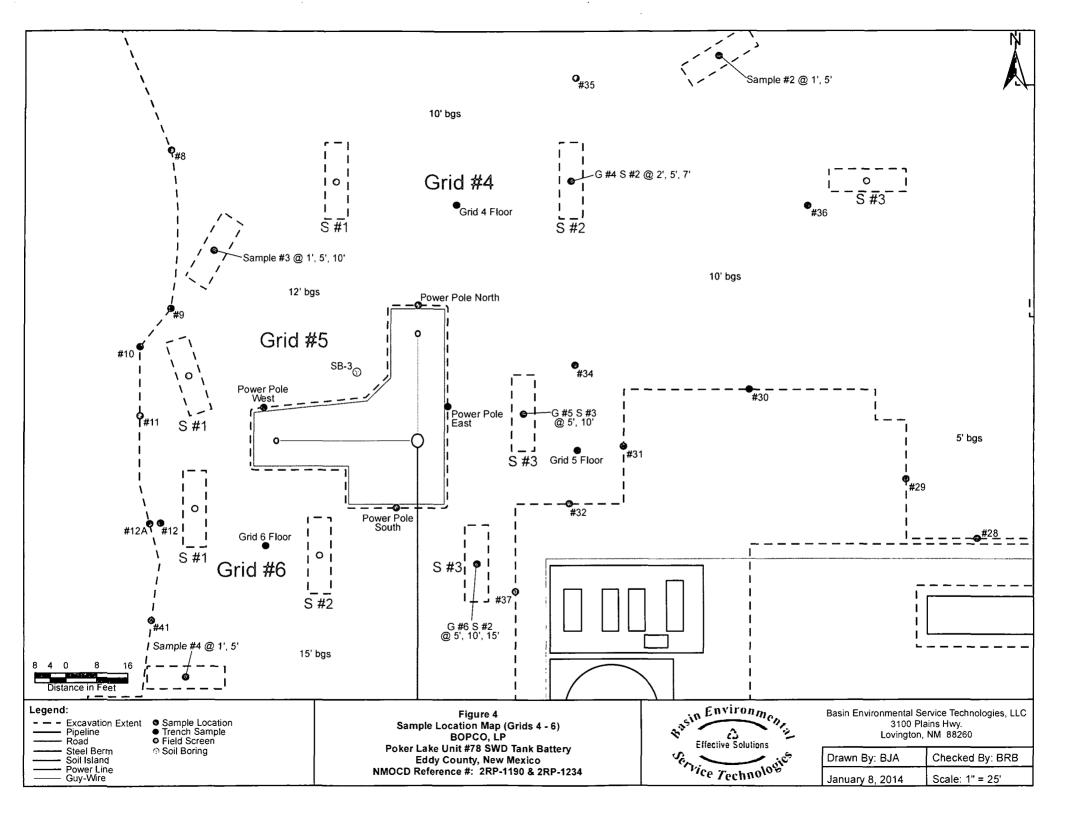
# Figures

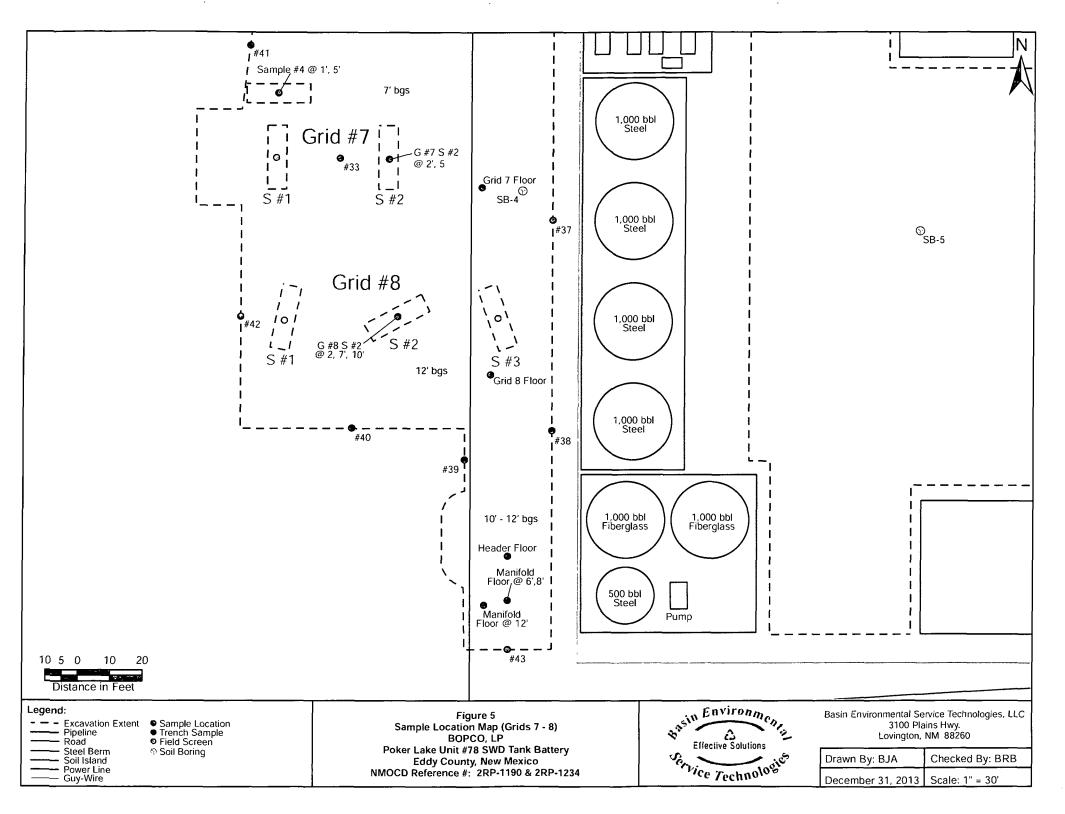
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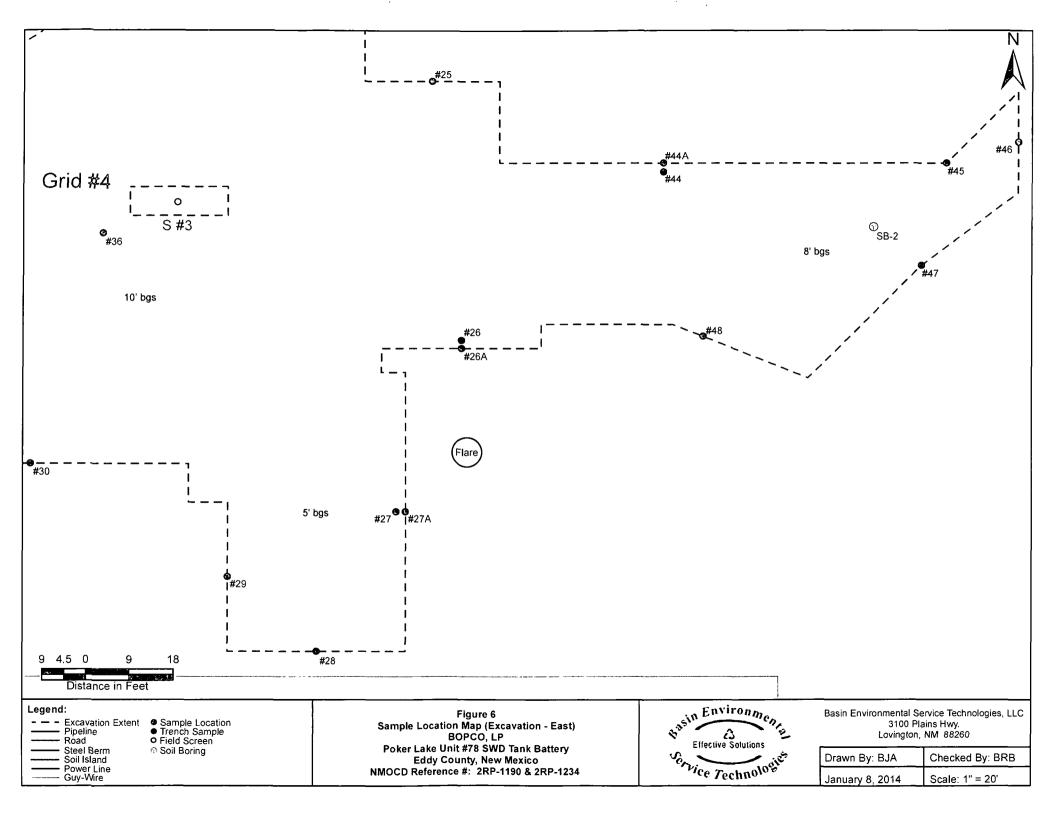
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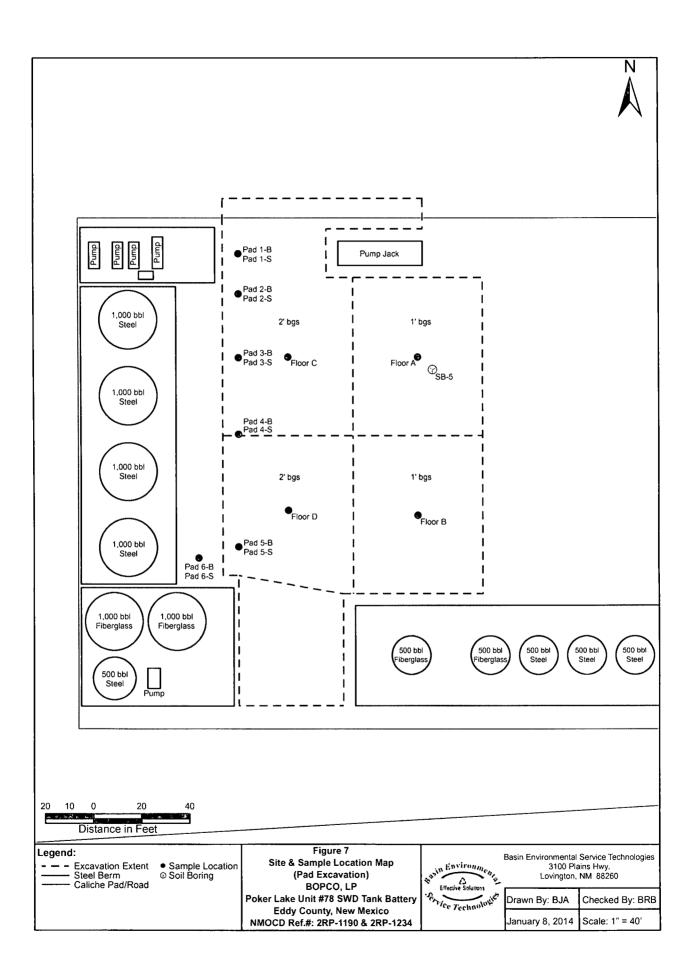












# Tables

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#### TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

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<u> </u>	SAMPLE	SAMPLE				METHOD: E	PA SW 846-80	21B, 5030		ME	THOD: 801	5M	TOTAL	E 300
SAMPLE LOCATION	DEPTH (BELOW EXCAVATION FLOOR)	DEPTH (BELOW GROUND SURFACE)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
Sample #1 @ 1	<u> </u>	1'	5/31/2012	Excavated	-	-		-		2,800	10,600	1,370	14,770	11,600
Sample #1 @ 5'	<u>-</u>	5'	5/31/2012	Excavated	<0.050	<0.050	<0.050	<0.150	< <u>0.150</u>	<10.0	<10.0	_<10.0	<10.0	336
Sample #2 @ 1'	<u> </u>	1'	5/31/2012	Excavated	-		-	-	-	<10.0	29.3	14.1	43.4	2,720
Sample #2 @ 5'	<u> </u>	5'	5/31/2012	Excavated	-			-	-	<10.0	13.5	_ 26.4	39.9	160
Sample #3 @ 1'		1'	5/31/2012	Excavated	<u> </u>	-		-		<10.0	73.8	_ 22.6	96.4	11,900
Sample #3 @ 5'		5'	5/31/2012	Excavated	-	-		-		<10.0	<10.0	<10.0	<10.0	5,600
Sample #3 @ 10'		10'	5/31/2012	Excavated	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	2,480
Sample #4 @ 1'	·	1'	5/31/2012	Excavated	-	-				<10.0	327	85.7	413	30,000
Sample #4 @ 5'	-	5'	5/31/2012	Excavated	-		-	· ·		<10.0	<10.0	<10.0	<10.0	320
Sample #1	<u> </u>	4'	7/26/2012	In-Situ	-					<10.0	13.0	· 18.7	31.7	400
Sample #2	-	4'	7/26/2012	In-Situ	-	-		<u> </u>		<10.0	<10.0	<10.0	<10.0	192
Sample #3		4'	7/26/2012	In-Situ	-	-		_	<u> </u>	<10.0	<10.0	<10.0	<10.0	256
Sample #4	-	4'	7/26/2012	In-Situ	•	-		-	-	<10.0	<10.0	<10.0	<10.0	144
Sample #5	-	4'	7/26/2012	In-Situ		-	-		-	<10.0	<10.0	<10.0	<10.0	656
Sample #6	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	544
Sample #7	-	4'	7/26/2012	In-Situ	•	-	-	-	-	<10.0	<10.0	<10.0	<10.0	384
Sample #8	-	4'	7/26/2012	In-Situ	•	-	-	-	-	<10.0	<10.0	<10.0	<10.0	144
Sample #9	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	608
Sample #10	· ·	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	416
Sample #11		4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	288
Sample #13	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	432
Sample #14	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	304
Sample #15	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	656
Sample #16	-	_4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	528
Sample #17	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	48.0
Sample #18	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	176
Sample #19		4'	7/26/2012	In-Situ		-	-		-	<10.0	<10.0	_<10.0	<10.0	160
Sample #20	-	4'	7/26/2012	In-Situ_	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
Sample #21	-	4'	7/26/2012	In-Situ	-	-	-	-		<10. <u>0</u>	16.5	<10.0	16.5	128
Sample #22	-	4'	7/26/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
Sample #23	-	4'	7/26/2012	In-Situ		-	-	-		<10.0	<10.0	<10.0	<10.0	<16.0
Sample #24	-	4'	7/26/2012	In-Situ		-		-		28.3	82.1	<10.0	110	<16.0
Sample #25		4'	7/26/2012	In-Situ	-	-	-		<u> </u>	<10.0	<10.0	<10.0	<10.0	592
Sample #26	-	4'	7/26/2012	Excavated	-	-			<u> </u>	<10.0	<10.0	<10.0	<10.0	8,660
Sample #29	-	4'	7/26/2012	In-Situ		-			·	<10.0	21.1	<10.0	21.1	256
Sample #30		4'	7/26/2012	In-Situ	-	•	•		·•	<10.0	22.5	<10.0	22.5	1,680
Sample #31		4'	7/26/2012	In-Situ	-					<10.0	11.9	<10.0	11.9	160
Sample #32	·	4'	7/26/2012	In-Situ	-	-	•			<10.0	<10.0	<10.0	<10.0	9,330
Sample #33		4'	7/26/2012	In-Situ		-			<u> </u>	<10.0	<10.0	<10.0	<10.0	96.0
Sample #34		<u>4'</u> 4'	7/26/2012	In-Situ		-	- <u>·</u>		-	<10.0 <10.0	<10.0 <10.0	<10.0 <10.0	<10.0 <10.0	80.0 128
Sample #35 Sample #36		4' 4'	7/26/2012	In-Situ		-			-	<10.0	<10.0	<10.0	<10.0	80.0
Sample #36	-	4' 4'		In-Situ	-	-			<u>·</u>	<10.0	<10.0	<10.0	<10.0	50.400
Sample #37		4	7/26/2012	In-Situ In-Situ		-			 	<10.0	<10.0	<10.0	<10.0	58,400
Sample #39		4 4	7/26/2012	In-Situ						<10.0	<10.0	<10.0	<10.0	448
East Pooling Area		4 4'	7/26/2012	Excavated						1,220	5,740	805	7,765	448
			112012012	LACAVAICU		-				1,220	5,740		1,100	
····												w		

# TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

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[	SAMPLE	SAMPLE				METHOD: EI	PA SW 846-80	21B, 5030		ME	THOD: 801	5M	TOTAL	E 300
SAMPLE LOCATION	DEPTH (BELOW EXCAVATION FLOOR)	DEPTH (BELOW GROUND SURFACE)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
Manifold Floor 6'		6'	7/31/2012	Excavated	-	-	-	-	-	4,720	13,800	2,050	20,570	176
Manifold Floor 8'	-		7/31/2012	Excavated	-	-	-	-	-	15,500	28,100	4,440	48,040	176
				I										L
<u>SB-1@5'*</u>	5'	10'	8/1/2012	In-Situ	-	-	-			<10.0	<10.0	<10.0	<10.0	256
SB-1@10'*	10'	15'	8/1/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	10.5	<10.0	10.5	1,300
SB-1@15'	15'	20'	<u>8/1/2012</u>	In-Situ	-	•	-	-	•	-	•	<u> </u>	-	48.0
<u>\$B-1 @ 20' *</u>	20'	25'	<u>8/1</u> /2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	32.0
SB-2@5' *	5'	10'	8/1/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	864
SB-2@10' *	10'	15'	8/1/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	2,200
SB-2@15' *	15'	20'	8/1/2012	In-Situ	-	-	-	-	-	-		-	-	3,560
SB-2@20' *	20'	25'	8/1/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	1,040
SB-3 @ 5' *	5'	10'	8/1/2012	In-Situ	•		-	-	-	<10.0	<10.0	<10.0	<10.0	1,060
SB-3@10' *	10'	15'	8/1/2012	In-Situ	< 0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	1,470
SB-3@15' *	15'	20'	8/1/2012	In-Situ	-	-	-	-	-	-	-	-	_	1,250
SB-3 @_20' *	20'	25'	8/1/2012	In-Situ	•	-	•	-	-	-	-	-	-	576
SB-3@25'*	25'	30'	<u>8/1</u> /2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	189	407	596	128
	5'	10'	8/1/2012	In-Situ	-		-			<10.0	32.8	86.3	119	1.360
SB-4 @ 10' *	10'	15'	8/1/2012	In-Situ	< 0.050	<0.050	< 0.050	<0.150	<0.150	<10.0	11.1	23.9	35.0	384
SB-4 @ 15' *	15'	20'	8/1/2012	In-Situ	-	•	•	-		-		-	-	240
SB-4 @ 20' *	20'	25'	8/1/2012	In-Situ	-		•	-	-	-	-	-	-	240
SB-4 @ 25' *	25'	30'	8/1/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	10.3	10.3	112
SB-5 @ 5'	-	5'	8/1/2012	In-Situ						<10.0	19.4	18.1	37.5	1,340
SB-5 @ 10'	-	10'	8/1/2012	In-Situ	<0.050	<0.050	< 0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	2,520
SB-5 @ 15'		15'	8/1/2012	In-Situ	-		-					-	-	1,630
SB-5 @ 20'		20'	8/1/2012	In-Situ	-	-					-	-		208
SB-5 @ 25'		25'	8/1/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	176
 Sample #12	·		8/3/2012	Excavated	-	-			-	<10.0	<10.0	<10.0	<10.0	7.280
Sample #40		4'	8/3/2012	In-Situ	-					<10.0	<10.0	<10.0	<10.0	480
Sample #41		4'	8/3/2012	In-Situ						<10.0	<10.0	<10.0	<10.0	688
Sample #42		4'	8/3/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	1,220
Sample #43		4'	8/3/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	944
Sample #44	-	4'	8/3/2012	Excavated	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	25,200
Manifold Floor 12'		12'	8/3/2012	In-Situ	-	-	-	-	-	<10.0	429	98.5	528	96.0
SB #1 Surface **	-	5'	8/3/2012	Excavated	-	-	-	-	-	<10.0	703	176	879	36,000
SB #2 Surface/East Pooling Area 8' **			8/3/2012	Excavated	-		-	-	-	<10.0	337	126	463	1,560
SB #3 Surface **	•	5'	8/3/2012	Excavated	-	-	-	-	•	<10.0	153	82.7	236	61,600
SB #4 Surface **	•	5'	8/3/2012	Excavated	-	-	-	-	-	<10.0	<u>1,3</u> 10	320	1,630	20,000
Power Pole North	-	4'	8/3/2012	In-Situ	-		-	-	-	_<10.0	15.2	42.7	57.9	40,000
Power Pole South	-	4'	8/3/2012	In-Situ	-		-	-	-	<10.0	<10.0	18.2	18.2	37,600
Power Pole East		4'	8/3/2012	In- <u>Si</u> tu	-					<10.0	<10.0	10.0	10.0	48,000
Power Pole West		4'	8/3/2012	In- <u>Si</u> tu	-	-			-	<10.0	<10.0	<10.0	<10.0	43,200
Lines	-	0.5'	8/3/2012	In-Situ	-				-	52.4	14,900	3,980	18,880	10,100
L <u></u>	<u> </u>									L				

## TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

	SAMPLE	SAMPLE				METHOD: E	PA SW 846-80	21B, 5030		ME	THOD: 801	5M	TOTAL	E 300
SAMPLE LOCATION	DEPTH (BELOW EXCAVATION FLOOR)	DEPTH (BELOW GROUND SURFACE)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
Sample #12A	-	4'	8/8/2012	In-Situ		-	•	-	-	<10.0	<10.0	<10.0	<10.0	32.0
Sample #27	-	4'	8/8/2012	Excavated	<0.050	< 0.050	< 0.050	< 0.150	<0.150	<10.0	1,010	206	1,216	8,130
Sample #28	•	4'	8/8/2012	In-Situ					·	<10.0	493	143	636	22,000
Sample #44A	-	4'	8/8/2012	In-Situ					<u> </u>	<10.0	<10.0	<10.0	<10.0	288
Sample #45		4'	8/8/2012	In-Situ		<u> </u>			<u> </u>	<10.0	13.1	26.6	39.7	48.0
Sample #46		4'	8/8/2012	In-Situ	-		-			<10.0	43.1	12.6	55.7	320
G #1 S #2 2' ***	2'	7'	8/13/2012	Excavated		-	-	-	-		-	-	-	19,000
G #1 S #2 7' ***	7'	12'	8/13/2012	Excavated	-	-	-	-	-	-	-	-	-	12,000
G #1 S #2 10'_***	10'	15'	8/13/2012	Excavated			•	-	-		-	-	•	256
G #2 S #2 5' ***	5'	10'	8/13/2012	Excavated						-	-	-		14.600
G #2 S #2 7' ***	7'	12'	8/13/2012			-	-	-	-	-	-	-		10,400
G #2 S #2 10' ***	10'	15'	8/13/2012	In-Situ	-		-	-		-	-	-	-	400
G #3 S #2 2' ***	2'	7'	8/13/2012	Excavated		<u> </u>			-			-		20.600
G #3 S #2 5' ***	5'	10'	8/13/2012	Excavated			-	-	-	-	-		-	14,000
G #3 S #2 7' ***	7'	12'	8/13/2012	In-Situ	-	-	<u> </u>		-		-	-	•	1,620
G #4 S #2 2' ***	2'	7'	8/14/2012	Excavated										42,800
G #4 S #2 5' ***	5'	10'	8/14/2012	Excavated	-				-			-		12,400
G #4 S #2 7' ***	7'	12'	8/14/2012	In-Situ		-	-	<u> </u>	-	-		-		4,000
G #5 S #3 5' ***	5'	10'	8/14/2012	Excavated	-		-					-		14,600
G #5 S #3 10' ***	10'	15'	8/14/2012	In-Situ		-	-				-		-	1,170
G #6 S #3 5' ***	5'	10'	8/14/2012	Excavated						<u> </u>		-	<u> </u>	17,400
<u>G #6 S #3 10'</u> *** G #6 S #3 15'***	10'	15'	8/14/2012	Excavated	-						<u> </u>		-	6,500 4,400
0 #0 3 #3 15	15'	20'	8/14/2012	In-Situ	-				-	-		-		4,400
G #7 S #2 2' ***	2'	7'	8/14/2012	Excavated	-	-	-	-	-	-	-	-	-	6,640
<u>G</u> #7 S #2 5' ***	5'	10'	8/14/2012	In-Situ	•	•	•		-			-	-	4,480
G #8 S #2 2' ***	2'		8/14/2012	Excavated		-		-	-	-		-	-	26,000
G #8 S #2 7' ***	7'	12'	8/14/2012	Excavated	-	-	-	-	-	-	-	-	-	9,000
G #8 S #2 10' ***	10'	15'	8/14/2012	In-Situ	-			-	-	-	-	-	-	688
Sample #26A		4'	9/12/2012	In-Situ	<0.050	<0.050	<0.050	<0.0150	<0.0150	<10.0	<10.0	<10.0	<10.0	800
Sample #27A	-	4'	9/12/2012	In-Situ	<0.050	<0.050	< 0.050	< 0.0150	< 0.0150	<10.0	<10.0	<10.0	<10.0	576
Sample #47	-	4'	9/12/2012	In-Situ	< 0.050	<0.050	<0.050	< 0.0150	<0.0150	<10.0	<10.0	<10.0	<10.0	1,090
Sample #48	-	4'	9/12/2012	In-Situ	<0.050	<0.050	<0.050	<0.0150	<0.0150	<10.0	<10.0	<10.0	<10.0	608
Grid 1 Floor	<u> </u>	18'	10/8/2012	In-Situ				-		-		-		3,920
Grid 2 Floor		10'	10/8/2012	In-Situ	-		-		-	-		-		2,200
Grid 3 Floor	· ·	10'	10/8/2012	In-Situ		•	-	•		•		-		3,000
Grid 4 Floor	· · · ·	10'	10/8/2012	In-Situ				•			-			5,040
Grid 5 Floor	- 1	12'	10/8/2012	In-Situ		-	-	-	-	-	-	•	-	3,640
Grid 6 Floor	-	15'	10/8/2012	In-Situ	-		•	-	-		-	•		4,200
Grid 7 Floor	-	7'	10/8/2012	In-Situ	-	-	-	-	-	•	-	-		3,000

#### TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

#### BOPCO, LP POKER LAKE UNIT #78 SWD TANK BATTERY EDDY COUNTY, NEW MEXICO NMOCD REFERENCE NO: 2RP-1190 & 2RP-1234

	SAMPLE	SAMPLE				METHOD: E	PA SW 846-80	21B, 5030		ME	THOD: 801	5M	TOTAL	E 300
SAMPLE LOCATION	DEPTH (BELOW EXCAVATION FLOOR)	DEPTH (BELOW GROUND SURFACE)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
Grid 8 Floor	-	12'	10/8/2012	In-Situ	-	-	-	-	-	-	-	•	-	3,600
Header Floor	-	10'	10/8/2012	In-Situ	-	-		•	-	-	-	-	-	2,600
Pad 1-S	-	2'	12/3/2012	In-Situ		-	-	-	-	<10.0	<10.0	<10.0	<10.0	1,300
Pad 1-B	-	3'	12/3/2012	In-Situ		-	-	-	-	<10.0	<10.0	<10.0	<10.0	2,240
Pad 2-S	-	2'	12/3/2012	In-Situ	-	-		-	-	<10.0	<10.0	<10.0	<10.0	512
Pad 2-B	-		12/3/2012	In-Situ	•	-		-		<10.0	<10.0	<10.0	<10.0	640
Pad 3-S	-	2'	12/3/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	128
Pad 3-B		4'	12/3/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	272
Pad 4-S	-	2'	12/3/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	288
Pad 4-B	-	4'	12/3/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	480
Pad 5-S	-	2'	12/3/2012	In-Situ	- 7	-	-	•	-	<10.0	<10.0	<10.0	<10.0	272
Pad 5-B	-	3'	12/3/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	368
Pad 6-S	-	2'	12/3/2012	In-Situ	-	-		-	-	<10.0	<10.0	<10.0	<10.0	96.0
Pad 6-B	-	3'	12/3/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	128
Floor A	-	1'	10/30/2013	In-Situ	-	-		-	-	-		-		3,720
Floor B		1'	10/30/2013	In-Situ	-	-	-	-	-			- 1	-	4,040
Floor C	- · ·	2'	10/30/2013	In-Situ	-	-	-	-	-	•		-	-	1,070
Floor D		2'	10/30/2013	In-Situ	•	-		-	-	-		-	-	992
NMOCD Regulatory Standard					10				50				5,000	3,000 - 5,000

Notes:

- Not applicable.

\* Indicates drilling depth. Soil borings were advanced in the floor of the excavation, approximately five feet (5') below ground surface (bgs).

\*\* Due to the presence of a layer of pad sand in the floor of the excavation on the drilling date (August 1, 2012), soil samples could not be collected from the drilling surface (i.e., the floor of the

excavation). On August 3, 2012, heavy equipment was utilized to remove the layer of pad sand in order to collect a sample of native, in-situ soil from the floor of the excavation.

\*\*\* Indicates trenching depth. Delineation trenches were advanced in the floor of the excavation, approximately five feet (5') below ground surface (bgs).

#### Table 2 FIELD TEST RESULTS

SAMPLE	SAMPLE		Field Test
DEPTH** (Below Excavation Floor)	DEPTH** (Below Ground Surface)	SAMPLE DATE	CHLORIDE (mg/Kg)
2'	7'	8/13/2012	8,540
	10'	8/13/2012	1,876
	7'	8/13/2012	18,060*
5'	10'	8/13/2012	14,720
7'	12'	8/13/2012	10,152*
10'	15'	8/13/2012	248*
2'	7'	8/13/2012	11,096
5'	10'	8/13/2012	6,656
7'	12'	8/13/2012	1,372
2'	7'	8/13/2012	16,272
5'	10'	8/13/2012	11,096
7'	12'	8/13/2012	8,540
10'	15'	8/13/2012	352
2'	7'	8/13/2012	14,720
5'	10'	8/13/2012	14,720*
7'	12'	8/13/2012	9,304*
10'	15'	8/13/2012	472*
2'	7'	8/13/2012	13,360
5'	10'	8/13/2012	12,160
7'	12'	8/13/2012	3,780
10'	15'	8/13/2012	188
2'	7'	8/13/2012	>25,444
			8,540
7'		the second se	112
			22,568*
			14,720*
			1,532*
	7'		4,100
	10'		3,204
2'	7'		13,360
5'	10'		6,656
7'	12'	8/13/2012	1,532
2'	7'	8/14/2012	20,136
			8,540
			6,656
f	t		188
			>25,444*
			11,096*
			3,484*
		· · · · · · · · · · · · · · · · · · ·	3,780
5'	10'	8/14/2012	1,044
	(Below Excavation Floor) 2' 5' 2' 5' 7' 10' 2' 5' 7' 2' 5' 7' 10' 2' 5' 7' 10' 2' 5' 7' 10' 2' 5' 7' 10' 2' 5' 7' 10' 2' 5' 5' 7' 10' 2' 5' 5' 7' 10' 2' 5' 5' 7' 10' 2' 5' 5' 7' 10' 2' 5' 7' 7' 10' 2' 5' 7' 10' 2' 5' 7' 7' 10' 2' 5' 7' 7' 2' 5' 7' 7' 2' 5' 7' 2' 5' 7' 2' 5' 7' 2' 5' 7' 2' 5' 7' 2' 5' 5' 7' 2' 5' 5' 7' 2' 5' 7'	(Below Excavation Floor)         (Below Ground Surface)           2'         7'           5'         10'           2'         7'           5'         10'           2'         7'           5'         10'           2'         7'           5'         10'           2'         7'           5'         10'           7'         12'           10'         15'           2'         7'           5'         10'           7'         12'           10'         15'           2'         7'           5'         10'           7'         12'           10'         15'           2'         7'           5'         10'           7'         12'           10'         15'           2'         7'           5'         10'           7'         12'           2'         7'           5'         10'           7'         12'           2'         7'           5'         10'           7'	(Below Excavation Floor)         (Below Ground Surface)         SAMPLE DATE Privation           2'         7'         8/13/2012           5'         10'         8/13/2012           2'         7'         8/13/2012           5'         10'         8/13/2012           5'         10'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           5'         10'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012           7'         12'         8/13/2012

#### Table 2 FIELD TEST RESULTS

#### BOPCO, LP POKER LAKE UNIT #78 SWD TANK BATTERY EDDY COUNTY, NEW MEXICO NMOCD REFERENCE NO: 2RP-1190 & 2RP-1234

	SAMPLE	SAMPLE		Field Test
SAMPLE LOCATION	DEPTH** (Below Excavation Floor)	DEPTH** (Below Ground Surface)	SAMPLE DATE	CHLORIDE (mg/Kg)
Grid 5 - S #1	2'	7'	8/14/2012	>25,444
"	5'	10'	8/14/2012	10,152
"	7'	12'	8/14/2012	8,948
	10'	15'	8/14/2012	3,484
Grid 5 - S #2 <sup>a</sup>	N/A	N/A	N/A	N/A
Grid 5 - S #3	2'	7'	8/14/2012	>25,444
17	5'	10'	8/14/2012	14,720*
11	7'	12'	8/14/2012	93.04
"	10'	15'	8/14/2012	1,220*
Grid 6 - S #1	2'	7'	8/14/2012	11,096
"	5'	10'	8/14/2012	4,816
Grid 6 - S #2	2'	7'	8/14/2012	18,060
ulu 0 - 3 #2 "	5'	10'	8/14/2012	8,948
н	7'	10	8/14/2012	5,220
11	10'	15'	8/14/2012	2,948
Grid 6 - S #3	2'	7'	8/14/2012	>25.444
"	5'	10'	8/14/2012	14,428*
н	7'	12'	8/14/2012	6,656
	10'	12	8/14/2012	5,220*
	10	20'	8/14/2012	3,780*
н	20'	20	8/14/2012	3,484
	20	20	0/14/2012	3,404
Grid 7 - S #1	2'	7'	8/14/2012	6,656
	5'	10'	8/14/2012	4,816
Grid 7 - S #2	2'	7'	8/14/2012	5,220*
uiu / = 0 #2	5'	, 10'	8/14/2012	3,484*
Grid 7 - S #3 <sup>b</sup>	N/A	N/A	N/A	N/A
			N/A	
Grid 8 - S #1	2'	7'	8/14/2012	2,476
"	5'	10'	8/14/2012	1,220
Grid 8 - S #2	2'	7'	8/14/2012	20,136*
"	5'	10	8/14/2012	7,852
11	7'	12'	8/14/2012	7,852*
н	10'	15'	8/14/2012	612*
Grid 8 - S #3	2'	7'	8/14/2012	11,096
"	5'	10	8/14/2012	7,852
п	7'	12'	8/14/2012	6,656
11	10'	15'	8/14/2012	5,220
a	15'	20'	8/14/2012	776
	1	1		

Notes:

\* Submitted for laboratory analysis of chloride concentrations.

\*\* Delineation trenches were advanced in the floor of the excavation, approximately five feet (5') below ground surface (bgs).

a Soil boring SB-3 is representative of soil in this area. Trench was not excavated.

<sup>b</sup> Soil boring SB-4 is representative of soil in this area. Trench was not excavated.

# Appendices

District 1 1625 N French District II 1301 W. Grand . District III 1000 Rio Brazos District IV 1220 S St. Fran	Avenue, Arte	sia, NM 88210 . NM 87410	JN <b>2</b> 6	2012 Oil C	nerals a Conserv South	New Mex and Natura vation Div St. Franc , NM 875	l Resources /ision is Dr.			Submit 2 C District (	Form C-141 rised October 10, 2003 Copies to appropriate Office in accordance th Rule 116 on back side of form
		A	Rele	ase Notific	cation	and Co	orrective A	ction			
MMLB12	179380	56				<b>OPERA</b>		D	🛛 Initia	l Report	Final Report
Name of Co	mpany BC	DPCO, L.P.		26073		Contact Tor		<u> </u>			
				ad, N.M. 88220			No. 432-556-87	30			
Facility Nar	ne Poker I	.ake Unit #7	8 SWD I	ank Battery		Facility Typ					]
Surface Ow	ner Federa	1		Mineral C	Owner F	ederal		I	Lease N		
				LOCA		NOF RE	LEASE	2	50-0	15-2	27536
Unit Letter A	Section 25	Township 24S	Range 30E	Feet from the		South Line	Feet from the	East/We		County Eddy	
·	1		1		I						
			L	Latitude_N 32.	194069_	Longiti	ide W 103.8276	514			
				NAT	<b>URE</b>	OF REL					
Type of Rele	ase: Crude	oil and produc	ced water				f Release: 4000 E water and 20 bbls				1820 bbls. From the t. None from the
						crude oil.			•		he containment.
Source of Re	elease: SWE	) Tank Battery	/			1	Hour of Occurren			Hour of Dis	scovery
Was Immedi	ate Notice (	Given?				5/26/12 9: If YES, To			8/20/11 8	:00 a.m.	
			Yes 🗌	] No 🗌 Not R	equired		emergency #104,	Jim Amos	BLM		
By Whom? 1	Fony Savoie	÷ _				Date and I	four 5/26/11 9:22	2 p.m. to th	e BLM a	nd 9:24 p.m	n. to the NMOCD
Was a Water	course Rea			2		If YES, V	olume Impacting	the Watero	course.		
			]Yes 🛛		<u>.                                    </u>						
If a Waterco	urse was Im	pacted, Descr	ibe Fully.	*							
							gun barrel tanks c				
							vn and incoming : trucks.started ren				facilities. Fire crews I containment.
			_,	•							
											Two of the 1000 bbl
											severely damaged un barrels, and (1)
500 bbl. Oil	skim tank i	nside the cont	ainment a	rea. The containm	nent was	damaged by	falling piping and	d fire; how	ever it w	as holding r	nost some of the
							t was breached all sq. ft. A sampling				water to travel off-
vertical and	horizontal e	extent of the sp	oill. On 6/4	4/12 we began rei	moving t	he heavily in	npacted soil and h	nauling it t	o an appr	oved dispos	
							D and BLM guid knowledge and				ACD rules and
							and perform corre				
							narked as "Final I				
							ve the operator of				ater, human health with any other
		ws and/or reg			· 			·			
			•				OIL CON	<u>ISERV</u>	ATION	DIVISI	<u>ON</u>
Signature:	1 au	Dan	, co			Approved by	y District Supervi	sor 1	,		
				·		rippiored 0	Signed By		Ben	and i son	
Printed Nam	ne: Tony Sa	voie		•				2040			
Title: Waste	Mgmt.& R	emediation Sp	pecialist			Approval Da		2012 <sub>E</sub>	xpiration	Date:	
E mail 4.3.1						Condition					
E-man Addi	1555. 1 A Sav	voie@BassPet	.com	<u> </u>	1	Conditions of	tion per OCD	Rules &		Attache	d 🔲
Date: 6/22/1				Phone:432-556-8	<u>373(</u> c.	idelines <b>S</b>	SUBMIT REME	DIATION	1 _		
* Attach Add	itional She	eets If Neces	sary		GL		OT LATER TH	ΔN:		- 0	$\Lambda $

Suldennes, Soerne
PROPOSAL NOT LATER THA
PROPOSAL NOT LATER THA
110-11

2RP-1/90

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr , Santa Fe, NM 87505

Carlsbad, N.M. 88220

By Whom? Tony Savoie

Section

25

Unit Letter

Α

State of New Mexico Energy Minerals and Natural Resources

> **Oil Conservation Division** 1220 South St. Francis Dr.

RECEIVED

Form C-141 Revised August 8, 2011

JUL 17 2012 Submit 1 Copy to appropriate District Office in Submit 1 Submit 19.15.29 NMAC. accordance with 19.15.29 NMAC.

NMOCD ARTESIA

Santa Fe, NM 87505 **Release Notification and Corrective Action OPERATOR** Initial Report **Final Report** 1221430661 260737 Name of Company: BOPCO, L.P. Contact: Tony Savoie Telephone No. 432-556-8730 Address: 522 W. Mermod, Suite 704 Facility Type: Salt Water Disposal Tank Battery Facility Name: Poker Lake Unit 78 SWD Mineral Owner: Federal API No. 30-015-27536 Surface Owner: Federal LOCATION OF RELEASE North/South Line Feet from the Township Range Feet from the East/West Line County 24S 30E Eddy Latitude:N 32.194069 Longitude: W 103.827614 NATURE OF RELEASE Volume of Release 600 bbls Volume Recovered 500 bbls total fluid Type of Release Produced Water and crude oil produced water and 10 bbls crude oil Date and Hour of Discovery: 7/11/12 Source of Release Tank overflow and containment failure Date and Hour of Occurrence: 7/11/12 Approximately 5:00 p.m. Approximately 5:00 p.m. Was Immediate Notice Given? If YES, To Whom? Yes 🗋 No 🗌 Not Required NMOCD Emergency #104 and BLM Date and Hour: 7/11/12 NMOCD at 7:10 p.m. BLM e-mail 7:39 p.m. Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. Yes No If a Watercourse was Impacted, Describe Fully.\* Describe Cause of Problem and Remedial Action Taken.\* The SWD was without power when the tanks started overflowing, electricians were on-site and vacuum trucks were on the way to the facility when the new 0 perm containment wall separated at a seam. Screws were used to secure the wall and keep it from totally collapsing.

Describe Area Affected and Cleanup Action Taken.\*

The area affected was undergoing a remediation to clean up a previous produced water spill, most of the water along with a large amount of rain water ponded up in one of the excavations in the pasture. A total of 1050 bbls of water and oil was recovered; the water tested at about 25,000 mg/kg chlorides, which is about 1/2 the normal chloride concentration for the produced water. Remediation efforts are continuing following the NMOCD and BLM guidelines for spill remediation.

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

Signature: 1' Ory Sames Printed Name: Tony Savoie		OIL CONSER Si Approved by Environmental Specia	ned By X	DIVISION
Title: Waste Mgmt. and Remediation Specialist		Approval Date: 0 1 2012	Expiration D	Date:
E-mail Address: tasavoie@basspet.com		Conditions of Approval:		Attached
Date: 7/16/12	Phone: 432-556-8730			, ,
* Attach Additional Sheets If Necessary		Remediation per OCD Rule	s &	2RP-1234
		Cuidelines CLIDEALT DEBACDIAT		/

Guidelines. SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:

<u>District I</u> 625 N. French Dr., Hobbs, District II	, NM 88240				f New Mex	ico	2 6. a. 2	: //	Form C-14 Revised October 10, 20
301 W. Grand Avenue, Art District III	tesia, NM 88210		-			1	-		Submit 2 Copies to appropria
000 Rio Brazos Road, Azte	ec, NM 87410				rvation Div		<u> </u>	TE	SOfstract Office in accordan
District-IV 220 S. St. Francis Drl, Sah	a.F., MM 87505	;			h St. Franc Fe, NM 875			RE	CEVED ide of for
	<u>ben bet  </u> 3		ease Notific				ation		ALL 0. 0. 2014 1
	Ĩ	Rele	ease notific		on and Co	orrective A	cuon	J	AN 23 2014
								MMC	CD ARTESIA
INMOCD ART	N			OPE	RATOR		L	nitial F	eport X-Final-Report
Name of Company Address 522 W. Me	BOPCO, LE		.60737	20	Contact To	ny Savoie No. (432)556-8	730		
Facility Name Poker					Facility Typ		150		<u> </u>
Surface Owner Fede			Mineral C	)wner	Federal	······································	L	ease N	lo. API #30-015-27536
<u> </u>				ATIC	N OF REI	LEASE	<b>-</b>		
Unit Letter Section	Township	Range	Feet from the		h/South Line	Feet from the	East/West	Line	County
A 25	24S	30E							Eddy
		Latit	ude 32.1940 <u>69</u> °	<sup>o</sup> Norti	 h	Longitude 10	3.827614°	West	Laiu, <u></u>
		Date			E OF RELI				
Type of Release Crude	oil and produc	ced water		UN		Release 4,000 bl	bls of Vo	lume F	Recovered 1,820 bbls from th
					•	vater and 20 bbls			containment. None from the
Source of Release SW	D Tank Batter	v			crude oil Date and F	lour of Occurrenc			ea outside the containment. Hour of Discovery
		<i>.</i>			5/26/12, 9:	00 p.m.			:00 p.m.
Was Immediate Notice		'es No	Not Required		If YES, To NMOCD F	Whom? Emergency #104,	Jim Amos B	BLM	
By Whom? Tony Save									24 to the NMOCD
Was a Watercourse Rea	ached?					blume Impacting t			
	L	]Yes >	< No						
If a Watercourse was In	npacted, Descr	ibe Fully.*	k						
adjacent tanks inside th from Malaga and Lovin	ne containment.	All of the	n Taken:* Lightr	ning sti	ruck the facility	gun barrel tanks	s, causing in	nmedia	te damage to both tanks and
Describe Area Affactor			he fire put out by	11:00	p.m. Vacuum t	n, and incoming rucks started rem	streams were oving water	from t	he damaged containment.
bbl fiberglass gun barr damaged along with on gun barrels, and one (1 holding most of the war water to travel off-site i was remediated as per remediation details. I hereby certify that the regulations all operator public health or the em	d and Cleanup rel tanks were ne of the 1,000 1) 500-bbl oil tter being releas into the pasture NMOCD reco e information g rs are required vironment. Th	Action Ta nearly co bbl fibergl skim tank sed by the c. The affer pmmended given about to report ne acceptat	he fire put out by ken.* The salt wa mpletely destroya lass water storage inside the contai damaged tanks. T cted area in the pa guidelines. Pleas we is true and cor and/or file certain nce of a C-141 re	11:00 ater dis ed due tanks. inment There v asture n se refe mplete n relea	p.m. Vacuum I posal tanks we to the lightnin There were a f area. The con vere 3 areas wh neasured appro- rence the attact to the best of se notification y the NMOCD	m, and incoming s rucks started rem re located inside ng hit and fire. I total of four (4) 1 tainment was dan here the containm oximately 21,680 hed <i>Remediation</i> my knowledge ai s and perform co marked as "Fina	streams were oving water a poly-lined The 500 bbl ,000-bbl fibe maged by fa ent was brea ft <sup>2</sup> . Followin <i>Summary d</i> nd understan prrective actia al Report" do	from the steel of	containment. Two of the 1,00 bil skim tank was also sever storage tanks, two (2) 1,000-l biping and fire; however, it w allowing crude oil and produc al response activities, the relea <i>Based Site Closure Request</i> pursuant to NMOCD rules a r releases, which may endang t relieve the operator of liabil
bbl fiberglass gun barr damaged along with on gun barrels, and one (1 holding most of the war water to travel off-site i was remediated as per remediation details. I hereby certify that the regulations all operator public health or the em- should their operations or the environment. In	d and Cleanup rel tanks were he of the 1,000 1) 500-bbl oil ther being releas into the pasture NMOCD reco e information g rs are required vironment. The have failed to n addition, NM	Action Ta nearly co bbl fibergl skim tank sed by the c. The affer ommended given abov to report ne acceptar adequatel 10CD acc	he fire put out by ken.* The salt wa mpletely destroya lass water storage inside the contai damaged tanks. T cted area in the pa guidelines. Pleas we is true and cor and/or file certain nce of a C-141 re y investigate and	11:00 ater dis ed due tanks. inment fhere v asture r se refe mplete n relea eport b remed	p.m. Vacuum I posal tanks we to the lightnin There were a l area. The con vere 3 areas wh neasured appro- rence the attacc to the best of se notification y the NMOCD iate contamina	m, and incoming a rucks started rem re located inside ng hit and fire. I total of four (4) 1 tainment was dan here the containm oximately 21,680 hed <i>Remediation</i> my knowledge and a and perform co marked as "Fina tion that pose a the elieve the operator	streams were oving water a poly-lined (he 500 bbl ,000-bbl fibe maged by fa ent was brea ft <sup>2</sup> . Followin <i>Summary d</i> and understan prrective actial Report" de hreat to group or of respon	from the steel of	he damaged containment. containment. Two of the 1,00 bil skim tank was also sever storage tanks, two (2) 1,000- biping and fire; however, it v allowing crude oil and produc al response activities, the rele <i>Based Site Closure Request</i> pursuant to NMOCD rules a r releases, which may endant t relieve the operator of liabil ter, surface water, human hea for compliance with any oth
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#### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 RECE Upper Copies to appropriate District Office in accordance with Rule 116 on back JAN 23 2014 side of form

# Release Notification and Corrective ActionMOCD ARTESIA

OPERATOR		Initial Report	X Final Report		
Name of Company	BOPCO, LP	200737	Contact Tony Savoie		
Address 522 W. M	lermod, Suite 704,	Carlsbad, NM 88220	Telephone No. (432)556-8730		
Facility Name Poke	r Lake Unit #78 SV	WD	Facility Type E&P		
					//20.015.0550.c

Surface Owner Federal

Mineral Owner Federal

Lease No. API #30-015-27536

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County	
А	25	245	30E					Eddy	

Latitude 32.194069° North

Longitude 103.827614° West

## NATURE OF RELEASE

Type of Release Produced water and crude oil	Volume of Release 600 bbls of	Volume Recovered 500 bbls total fluid	
	produced water and 10 bbls of		
	crude oil		
Source of Release Tank overflow and containment failure	Date and Hour of Occurrence	Date and Hour of Discovery	
	7/11/12, 5:00 p.m.	7/11/12 Approximately 5:00 p.m.	
Was Immediate Notice Given?	If YES, To Whom?		
X Yes No Not Required	d NMOCD Emergency #104 and BLM		
By Whom? Tony Savoie	Date and Hour 7/11/12 NMOCD	at 7:10 p.m. BLM e-mail 7:39 p.m.	
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.		
Yes X No			
If a Watercourse was Impacted, Describe Fully.*	, <u>1</u>		

Describe Cause of Problem and Remedial Action Taken:\* The SWD was without power when the tanks started overflowing. Electricians were on-site and vacuum trucks were on the way to the facility when the new 0-perm containment wall separated at a seam. Screws were used to secure the wall and keep it from totally collapsing.

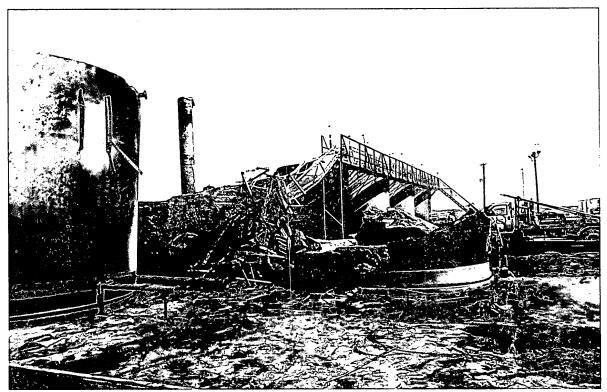
Describe Area Affected and Cleanup Action Taken.\* The area affected was undergoing a remediation to clean up a previous produced water spill. Most of the water, along with a large amount of rain water ponded up in one of the excavations in the pasture. A total of 1,050 bbls of water and oil was recovered. Following initial response activities, the release was remediated as per NMOCD recommended guidelines. Please reference the attached *Remediation Summarv & Risk-Based Site Closure Request* for remediation details.

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

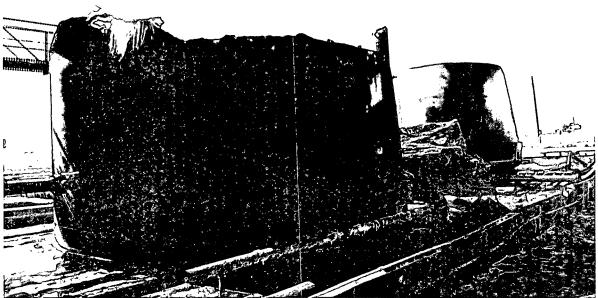
Signature: 1 Ong Danie	<u>OIL CONSI</u>	ERVATION DIVISION	
Printed Name: Tony Savoie	Approved by District Supervisor:		
Title: Waste Mgmt. & Remediation Specialist	Approval Date:	Expiration Date:	
E-mail Address: TASavoie@BassPet.com	Conditions of Approval:		
Date: 1/22/14 Phone: 432-556-8730			

ZRP-1234

Appendix B Photographs



Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



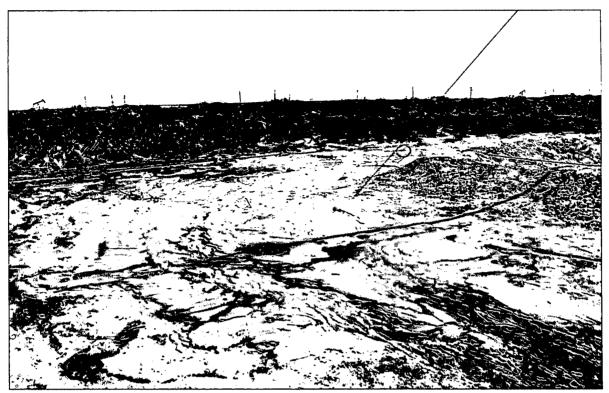
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



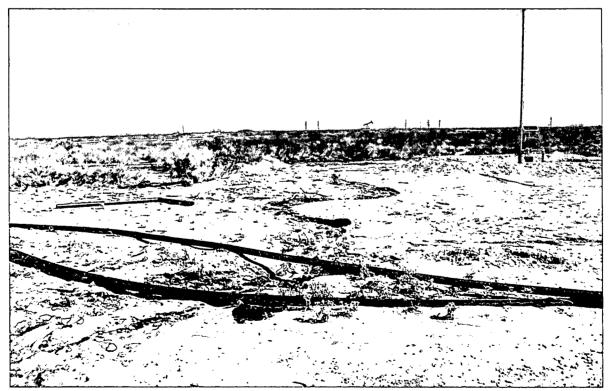
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



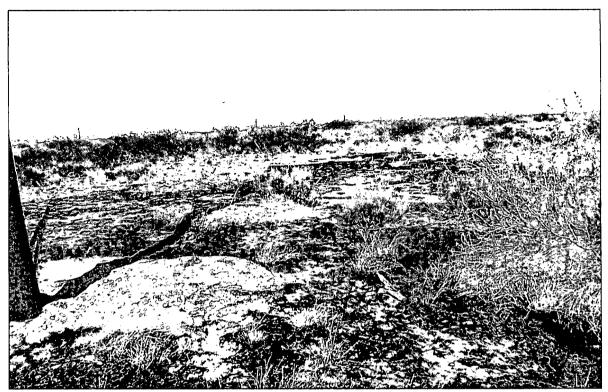
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



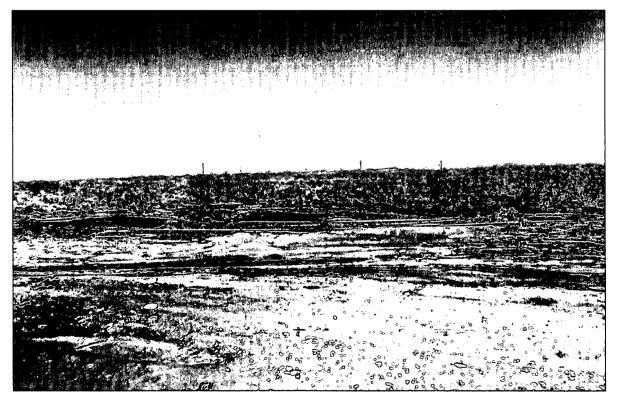
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



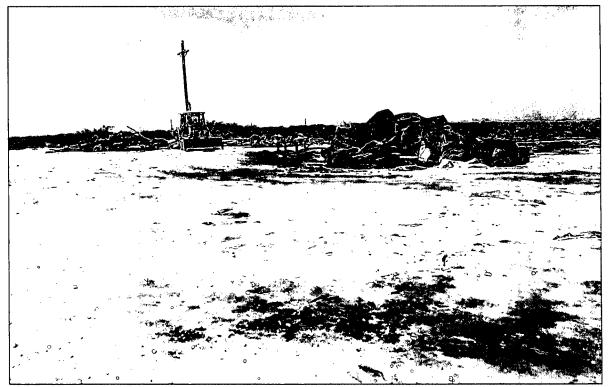
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



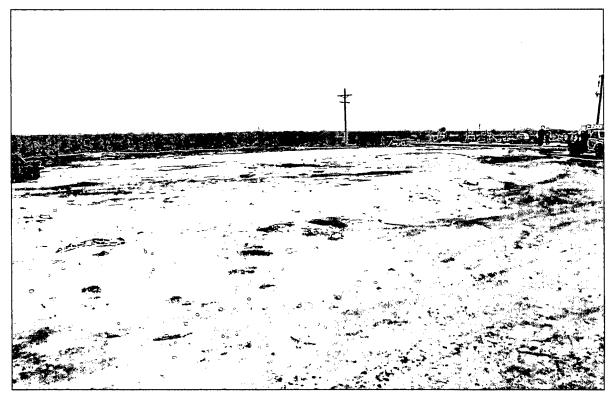
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



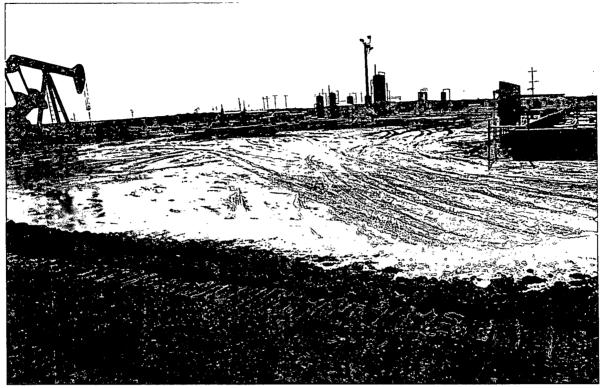
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release



Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release Site (Following Removal of Heavily Impacted Soil on Battery Pad)



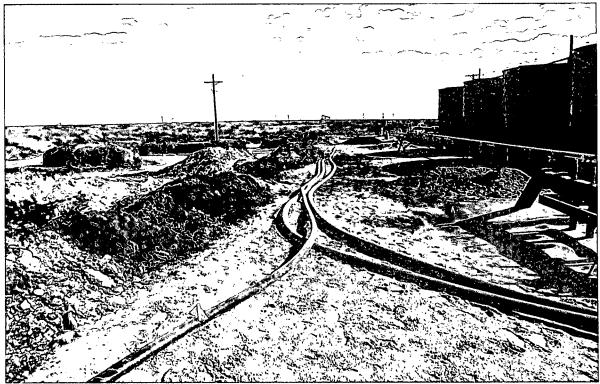
Poker Lake Unit #78 SWD Tank Battery - 5/26/2012 Release Site (Following Removal of Heavily Impacted Soil on Battery Pad)



Poker Lake Unit #78 SWD Tank Battery - 7/11/2012 Release



Poker Lake Unit #78 SWD Tank Battery - 7/11/2012 Release



Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Looking North)



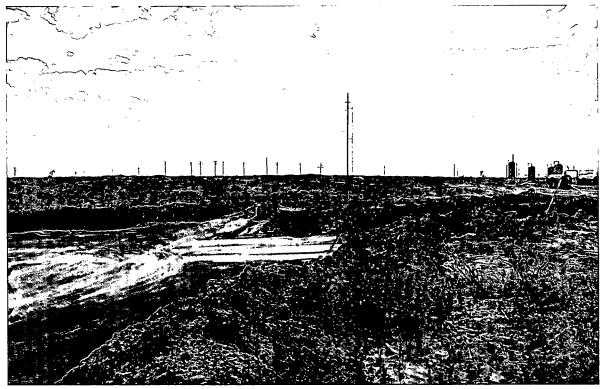
Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Looking Northwest)



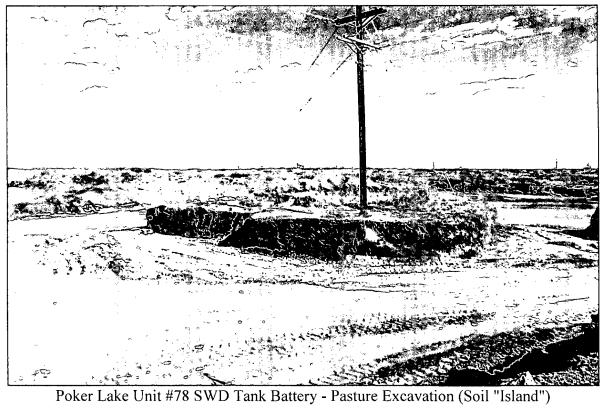
Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Looking Northeast)

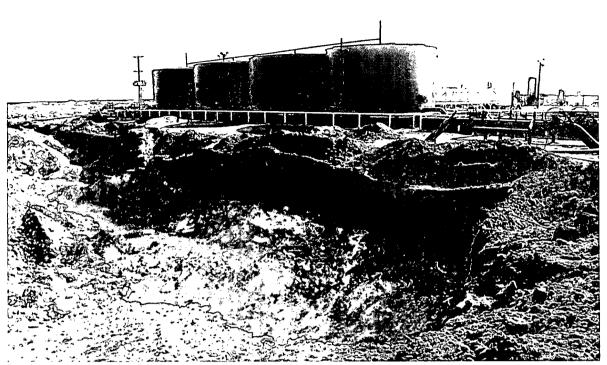


Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Looking East-Northeast)

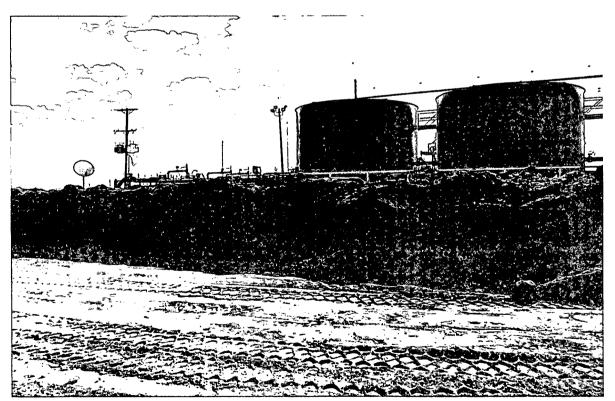


Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Looking East)

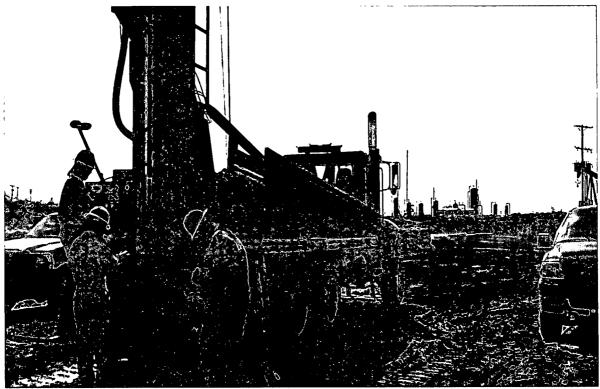




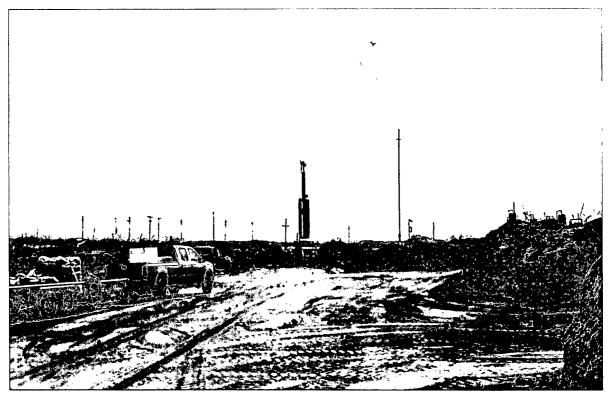
Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Manifold Floor)



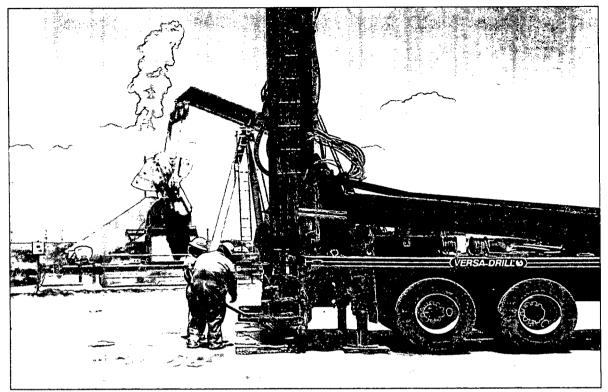
Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Looking Northeast)



Poker Lake Unit #78 SWD Tank Battery - Advancement of Soil Boring SB-1 (Looking Southwest)



Poker Lake Unit #78 SWD Tank Battery - Advancement of Soil Boring SB-2 (Looking East)



Poker Lake Unit #78 SWD Tank Battery - Advancement of Soil Boring SB-5 (Looking North)



Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Following Backfill; Looking North)



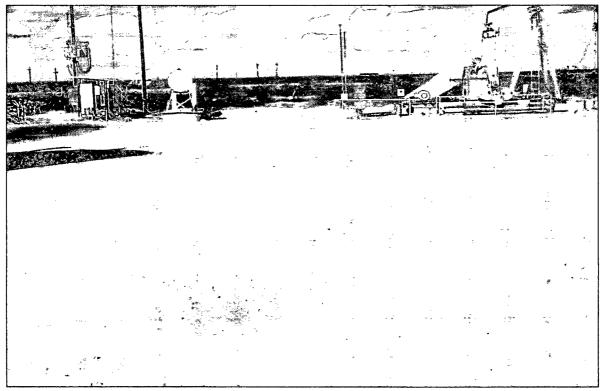
Poker Lake Unit #78 SWD Tank Battery - Pasture Excavation (Following Backfill)



Poker Lake Unit #78 SWD Tank Battery - Pad Excavation



Poker Lake Unit #78 SWD Tank Battery - Pad Excavation



Poker Lake Unit #78 SWD Tank Battery - Pad Excavation

# Appendix C Soil Boring Logs

Depth Below Ground Surface	Soil <u>Column</u>	Chloride Field <u>Test</u>	PID <u>Reading</u>	Petroleum <u>Odor</u>	Petroleum <u>Stain</u>	Soil Description	Boring SB-1
			0.5	None	None	0' - 1' - Red fine sand 1' - 3' - Gypsum; tan fine sand	Date Drilled     August 1, 2012       Thickness of Bentonite Scat_20 Ft       Depth of Exploratory Boring       Depth to Groundwater       Ground Water Elevation
- 10 - 15 - 15		904 <112	$) \underbrace{1.3} \\ ) \underbrace{1.2} \\$	None	None	3' - 16' - Tan fine sand; sandstone 16' - 20' - Tan fine sand	Indicates the PSH level measured on
E 20		<112	1.3	NONE	NONE		with a photo-ionization detector.

Completion Notes

The soil boring 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.

Checked By: BRB

Soil Boring SB-1

BOPCO, LP Poker Lake Unit #78 SWD Tank Battery Eddy County, New Mexico NMOCD Reference #: 2RP-1190





Depth Below Ground <u>Surface</u>	Soil <u>Column</u>	Chloride Field <u>Test</u>	PID <u>Reading</u>	Petroleum I <u>Odor</u>	Petroleum <u>Stain</u>	Soil Description	Boring SB-2
			157	None None	None	0' - 1' - Red fine sand 1' - 3' - Gypsum; tan fine sand	August 1, 2012       Thickness of Bentonite Seal     20 Ft       Depth of Exploratory Boring     20 Ft bgs       Depth to Groundwater
- 			(13.4) (9.6)	None	None	3' - 16' - Tan fine sand; sandstone	<ul> <li>Indicates the PSH level measured on</li></ul>
E_20			10.9	None	None	16' - 16' - Tan fine sand	PID Head-space reading in ppm obtained with a photo-ionization detector.

**Completion Notes** 

The soil boring 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.

Basin Environmental Service Technologies, LLC 3100 Plains Hwy. Lovington, NM 88260 Basin Environment BOPCO, LP Checked By: BRB Prep By: BJA Price Technologies September 5, 2012

Soil Boring SB-2

Poker Lake Unit #78 SWD Tank Battery Eddy County, New Mexico NMOCD Reference #: 2RP-1190

Depth Below Ground <u>Surface</u>	Soil <u>Column</u>	Chloride Field <u>Test</u>	PID <u>Reading</u>	Petroleum F <u>Odor</u>	Petroleum <u>Stain</u>	Soil Description	Boring SB-3
			0.0	None	None	0' - 1' - Red fine sand 1' - 11' - Tan fine sand; sandstone	Date Drilled     August 1, 2012       Thickness of Bentonite Seat     25 Ft       Depth of Exploratory Boring     25 Ft bgs       Depth to Groundwater
- - - - - -			0.4	None None	None None		<ul> <li>Indicates the PSH level measured on</li></ul>
- 15 		(1,200)	0.8	None	None	11' - 25' - Tan fine sand	Indicates samples selected for Laboratory Analysis.     PID Head-space reading in ppm obtained with a photo-ionization detector.
_ _ _ 25		136	0.0	None	None		

Completion Notes

The soil boring 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.

Soil Boring SB-3

BOPCO, LP Poker Lake Unit #78 SWD Tank Battery Eddy County, New Mexico NMOCD Reference #: 2RP-1190



Basin Environmental Service Technologies, LLC 3100 Plains Hwy. Lovington, NM 88260 Checked By: BRB Prep By: BJA September 5, 2012

							900 -	
E G	Depth Below Ground urface	Soil Column	Chloride Field Test	PID Reading	Petroleum F Odor	Petroleum Stain	Soil Description	Boring SB-4
				0.9	None	None	0' - 2' - Gypsum, tan fine sand	Date Drilled     August 1, 2012       Thickness of Bentonite Seal     25 Ft       Depth of Exploratory Boring     25 Ft bgs       Depth to Groundwater
				(1.7)	None	None	2' - 13' - Tan fine sand; sandstone	Ground Water Elevation
	- - - 15			2.0	None	None		<ul> <li>Indicates the groundwater level measured on</li></ul>
	20 20 25		248	3.6	None None	None None	13' - 25' - Tan fine sand	PID Head-space reading in ppm obtained with a photo-ionization detector.
	E <sub>25</sub>		136	1.9				

**Completion Notes** 

The soil boring 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.

Checked By: BRB

Soil Boring SB-4

BOPCO, LP Poker Lake Unit #78 SWD Tank Battery Eddy County, New Mexico NMOCD Reference #: 2RP-1190

Basin Environmal Service Technologies, LLC 3100 Plains Hwy. Lovington, NM 88260 63-11 Environmente Prep By: BJA Firice Technolouies September 5, 2012

				Soil	Borin	g SB-5	5		
	( Soil <u>olumn</u>	Chloride Field <u>Test</u>	PID <u>Reading</u>	Petroleum Odor	Petroleum <u>Stain</u>	Soil Des		Borir	ig SB-5
						0' - 0.5' - Tan 0.5' - 6' - Red 6' - 13' - Tan sand	fine sand	Date Drilled. Thickness of Bentonite S Depth of Exploratory Bon Depth to Groundwater Ground Water Elevation. ■ Indicates samples Laboratory Analys PiD Head-space and with a photo-ioniz Ne	August 1, 2012 aal <u>30 FL</u> ng <u>30 FL bgs</u> I level measured indwater level is elected for is. ng in ppm obtained abon detector.
Soil Bor	ring S	B-5	E	BOPCO, Lake Unit #78 S Eddy County, N OCD Reference	WD Tank Batt ew Mexico	ery	Basin Environments Effective Solutions	using air rota 2.) The lines bet on the profile	ns Hwy.



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	05/31/2012	Sampling Date:	05/31/2012
Reported:	06/01/2012	Sampling Type:	Soil
Project Name:	PLU 78 SWD PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

#### Sample ID: SAMPLE #3 @ 1' (H201227-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11900	16.0	06/01/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/01/2012	ND	192	95.8	200	4.75	
DRO >C10-C28	73.8	10.0	06/01/2012	ND	198	99.0	200	10.5	
EXT DRO >C28-C35	22.6	10.0	06/01/2012	ND					
Surrogate: 1-Chlorooctane	106	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	120	% 63.6-15	4						

# Sample ID: SAMPLE #4 @ 1' (H201227-04)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	30000	16.0	06/01/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/01/2012	ND	192	95.8	200	4.75	
DRO >C10-C28	327	10.0	06/01/2012	ND	198	99.0	200	10.5	
EXT DRO >C28-C35	85.7	10.0	06/01/2012	ND					
Surrogate: 1-Chlorooctane	109	% 65.2-14	10				······································		
Surrogate: 1-Chlorooctadecane	132	% 63.6-15	4						

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#### \*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	05/31/2012	Sampling Date:	05/31/2012
Reported:	06/01/2012	Sampling Type:	Soil
Project Name:	PLU 78 SWD PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SAMPLE #2 @ 5' (H201227-06)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	06/01/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/01/2012	ND	192	95.8	200	4.75	
DRO >C10-C28	13.5	10.0	06/01/2012	ND	198	99.0	200	10.5	
EXT DRO >C28-C35	26.4	10.0	06/01/2012	ND					
Surrogate: 1-Chlorooctane	99.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	115	% 63.6-15	4						

# Sample ID: SAMPLE #3 @ 5' (H201227-07)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	06/01/2012	ND	400	100	400	3.92	
ТРН 8015М	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/01/2012	ND	192	95.8	200	4.75	
DRO >C10-C28	<10.0	10.0	06/01/2012	ND	198	99.0	200	10.5	
EXT DRO >C28-C35	<10.0	10.0	06/01/2012	ND					
Surrogate: 1-Chlorooctane	108	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	117	63.6-15	4						

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#### \*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	05/31/2012	Sampling Date:	05/31/2012
Reported:	06/01/2012	Sampling Type:	Soil
Project Name:	PLU 78 SWD PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SAMPLE #3 @ 10' (H201227-09)

BTEX 8021B	mg/	kg	Analyze	d By: ZZZ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/01/2012	ND	2.08	104	2.00	5.71	
Toluene*	<0.050	0.050	06/01/2012	ND	1.90	94.9	2.00	4.96	
Ethylbenzene*	<0.050	0.050	06/01/2012	ND	1.80	89.9	2.00	5.46	
Total Xylenes*	<0.150	0.150	06/01/2012	ND	5.47	91.2	6.00	5.00	
Surrogate: 4-Bromofluorobenzene (PIL	99.1	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	06/01/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/01/2012	ND	192	95.8	200	4.75	
DRO >C10-C28	<10.0	10.0	06/01/2012	ND	198	99.0	200	10.5	
EXT DRO >C28-C35	<10.0	10.0	06/01/2012	ND					
Surrogate: 1-Chlorooctane	105	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	117	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

# 101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: Basin Environmental Service Technologies, LLC				gies, LLC	BILL TO				and and a second	ANAI	_YSI	S RE	QUE	ST					
Project Manage	<sup>r:</sup> Ben J. Arguijo				P.O. #:	and the second			I										
Áddress: P.O.					Company: I	BÓPCO, LE	,												
Cily: Lovingto	State: NM	Zip:	<u> </u>	260	Attn: Tony	Savoje													
Phone #: (575)	1396-2378 Fax #: (575) 3	96-14	29		Address: 52	2 w. Mer	mod												1
roject #: Project Owner: BOPCO, LP		Çity: Caris	bad													ł			
Project Name:	PLU 78 SWD PAD				State: NM	Zip: 8822	0												ĺ
	EDDY N.M.				Phone #: (43	12)556-87	'30												
Sampler Name:	Jody Walters				Fax #:		-												
FOR LAB USE ONLY		TΠ	T	MATRIX	PRESERV	SAMPL	ING												
Lab I.D. H2D1227	Sample I.D.	(G)RAG OR-(C)OMP	# CONTAINERS	GROUNDWAIEN WASTEWATER Soil Oil. Suudge	OTHER: ACID/BASE: ICE/COOL OTHER:	DATE	TIME	WSI08	Chlondes	BTEX								,	
1	SAmple # 1 @ # 1	G	1	X	X.	531.12	10:00	X	X										
. 2	Sample#2@#1	G	1		<u> </u>	5-31-12	10:D	X	X					[		· ·			
3	Sample # 3 @ 1	G	<u> </u>	X		5-31-12	10:20	<u> </u>	X								, 		
<u>.                                    </u>	Sample # 4 C 1	G			<u> </u>	5-31-12		X	$\Delta_{-}$									·	
	Sample HI @ 5!	G	1		X	<u>531-12</u>		<u>    X    </u>	X	X	_ <u> L</u>	US	11						
6	Sample # 2 @5'	G	Ц.		X.		11:30	X	X										
<u> </u>	Sample # 3 @51	G	1		X	531-12		<u>    X     </u>	X						ļ				
B.	Sample # 4 05'	G	1		<u> </u>	5.31.12		<u>    X     </u>	X.					<u> .</u>					
q	Samplet 30 101	G	1		Υ	5-31-12	1:30	<u>X</u> ,	X	X	<u> </u>	45	44	<u> </u>	<u> </u>				<b></b>
	-					<u> </u>				<u> </u>			<u> </u>						
analyses, Ad clams include	rd Damages- Gardmat's fullidity and client's eastwore remouty for ng those for negligence and any other cause whilesoever shall be arrived be hable for incidential or consequental damages, includin	deemed .	ialina	unless made in failing and	disceived by Cardinal	vilhin 30 days af	or completion of th	e apolica	blė		- '	•							

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service in no event shall Carinal be liable for incidential or consequential damages, including without highling, business interruptions, loss of use, or loss of profis incurred by clean, it is subvolve.

Relingdished By:	Time: 37 COAL	Phone Result:
Refinquished By: Delivered By: (Circle One)	Date: Received By: Time: Sample Condition i CHECKEDBY:	Please email results to pm@basinenv.com & TAsavole@BassPet.com
Sampler - UPS + Bus + Other:	32   Bres Bres Ann	
† Cardinal cannot accept verba	I changes. Please fax written changes to 505-393-2476	P

ì



August 01, 2012

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: POKER LAKE UNIT #78 SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/28/12 9:59.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #3 (H201758-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/30/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/30/2012	ND	218	. 109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/30/2012	ND					
Surrogate: 1-Chlorooctane	93.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	105	% 63.6-15	4						

### Sample ID: SAMPLE #4 (H201758-04)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/30/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/30/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/30/2012	ND					
Surrogate: 1-Chlorooctane	88.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.2	% 63.6-15	4						

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #7 (H201758-07)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/30/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/30/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/30/2012	ND					,
Surrogate: 1-Chlorooctane	91.8	% 65.2-14	0			· · · · · · · · · · · · · · · · · · ·			
Surrogate: 1-Chlorooctadecane	104	% 63.6-15	4						

# Sample ID: SAMPLE #8 (H201758-08)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP	···· <u>··</u>				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/30/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/30/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/30/2012	ND					
Surrogate: 1-Chlorooctane	98.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	108	% 63.6-15	4						

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#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

### Sample ID: SAMPLE #11 (H201758-11)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	82.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	94.5	% 63.6-15	4						

#### Sample ID: SAMPLE #13 (H201758-12)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	84.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.5	% 63.6-15	4						

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#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #16 (H201758-15)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	90.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	98.5	% 63.6-15	4						

# Sample ID: SAMPLE #17 (H201758-16)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/31/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	91.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	<i>99.7</i>	% 63.6-15	4						

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #20 (H201758-19)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	91.6	% 65.2-14	0			-			
Surrogate: 1-Chlorooctadecane	100	% 63.6-15	4						

# Sample ID: SAMPLE #21 (H201758-20)

Chloride, SM4500CI-B	mg/	′kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.4	200	0.923	
DRO >C10-C28	16.5	10.0	07/31/2012	ND	218	109	200	3.18	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	84.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	87.9	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #24 (H201758-23)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	28.3	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	82.1	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	82.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	57.6	% 63.6-15	4						

# Sample ID: SAMPLE #25 (H201758-24)

Chloride, SM4500Cl-B	mg,	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	94.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	96.0	% 63.6-15	4						

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #30 (H201758-27)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	22.5	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	86.4	% 65.2-14	0				<b>x</b>		
Surrogate: 1-Chlorooctadecane	87.3	% 63.6-15	4						

# Sample ID: SAMPLE #31 (H201758-28)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	11.9	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	92.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	96.0	% 63.6-15	4						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #34 (H201758-31)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	107	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	112	% 63.6-15	4						

# Sample ID: SAMPLE #35 (H201758-32)

Chloride, SM4500Cl-B	-B mg/kg			d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					<del></del>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	86.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	84.8	% 63.6-15	4						

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Celecy Di Keene

Celey D. Keene, Lab Director/Quality Manager



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Received:	07/28/2012	Sampling Date:	07/26/2012
Reported:	08/01/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	** (See Notes)
Project Number:	BOPCO	Sample Received By:	Celey D. Keene
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE #38 (H201758-35)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	58400	16.0	07/31/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	95.5	% 65.2-14	0					_	
Surrogate: 1-Chlorooctadecane	99.6	% 63.6-15	4						

# Sample ID: SAMPLE #39 (H201758-36)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	07/31/2012	ND	400	100	400	3.92	
трн 8015м	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2012	ND	193	96.6	200	0.500	
DRO >C10-C28	<10.0	10.0	07/31/2012	ND	203	101	200	3.37	
EXT DRO >C28-C35	<10.0	10.0	07/31/2012	ND					
Surrogate: 1-Chlorooctane	94.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	100	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

101 East Marland Hobbs, New Mexico 88240 Phone: 505-393-2326 Fax: 505-393-2476 23 of 25

	Project Manager:	Joel Lowry			PAGE 01 0	F 04		_								- Pr	ojeci	t Nan	ne: <u>F</u>	oke	r La	ike	Uni	t #7	8 SV	/D			Page
	Company Name	Basin Environmenta	Service T	echnol	ogles, LLC											-	Pr	ojeci	:#: <u>E</u>	SOP	co	<u>L.P.</u>	,						Ľ
	Company Address:	P. O. Box 301														_ (	<sup>o</sup> roje	ect Lo	oc: <u>E</u>	ddy	CoJ	NM							
	City/State/Zip:	Lovington, NM 88260	)											_		_		PO	)#:_									_	
	Telephone No:	(575) 396-2378				Fax No:		(57	5) 39	96-14	29					Repor	t Fo	rmat	. Ē	کا <sub>د</sub>	anda	ard		0	TRRF	,	0,		s
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# **CARDINAL LABORATORIES**

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	Company Name	Basin Environmental	Service T	echnot	ogies, LLC													Pr	ojec	t#:_	BO	PC	<u>0 L</u>	.P.							Ľ
	Company Address:	P. O. Box 301															(	<sup>2</sup> roji	ect L	oc:	Edd	ly C	o.J N	IM							
	City/State/Zip:	Lovington, NM 88260	)																	)#:											
	Telephone No:	(575) 396-2378			<u> </u>	Fax No:		(57	75) 39		429		****				Repor	t Fo	mat	.	x	Star	ndar	ci		<u></u>	RRF	 >		VPDES	;
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LAB # (lab use only)	FIE	LD CODE	Boginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Scrooned	liatel #, of Containers	lco	HNO	ĨĊ	H <sub>3</sub> SO,	NaOH	No	Other ( Specify)	DW - Drinking Water St - Sludg	er SwSo Specify	TPH: 418,1 8015M 8	TPH; TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	vnions (CI, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg So	Volatilos	somivolatilos	07EX 80218/5030 or 87EX 8280	KCI N O B M	Chlorides EAP 300.0		SUSH TAT (Pre-Schedule)	Standard TAT
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32	Sár	mple #35			26-Jul-12	1015		-	x		Ī			I			SOIL	x			ĺ		T		T	T	T	x			x
33	Sar	nple #36			26-Jul-12	1020		1	x								SOIL	X								Ι		X			x
34	Sar	nple #37			26-Jul-12	1025	<u> </u>	1	X								SOIL	X										X			X
35	Sar	nple #38		<u> </u>	26-Jul-12	1030		1	x				$\square$				SOIL	X					$\square$			$\bot$		x	Ш		x
36	Sar	nple #39		<u> </u>	26-Jul-12	1035	<u> </u>	1	X	4	-+		_	+		1	SOIL	X			_	-	$\dashv$	_	+	+	4	<u> </u>	┝╌┝		X
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37		ast P.A.			26-Jul-12	200			X								SOIL	×		1					Ι	Ι		X	$\Box$	¢ X	
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August 01, 2012

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU 78 SWD PAD

Enclosed are the results of analyses for samples received by the laboratory on 07/31/12 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



### **Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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#### \*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



August 07, 2012

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: POKER LAKE UNIT #78 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/02/12 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey & Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/02/2012	Sampling Date:	08/01/2012
Reported:	08/07/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

### Sample ID: SB - 1 @ 10' (H201805-02)

BTEX 8021B	mg,	mg/kg		Analyzed By: AP			· · · · · · · · · · · · · · · · · · ·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2012	ND	1.70	85.2	2.00	7.84	
Toluene*	<0.050	0.050	08/07/2012	ND	1.83	91.3	2.00	6.14	
Ethylbenzene*	<0.050	0.050	08/07/2012	ND	1.87	93.5	2.00	6.07	
Total Xylenes*	<0.150	0.150	08/07/2012	ND	5.64	94.0	6.00	5.24	

Surrogate: 4-Bromofluorobenzene (PIL 100 % 89.4-126

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM		·			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1300	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	⊤rue Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/03/2012	ND	185	92.3	200	0.279	
DR0 >C10-C28	10.5	10.0	08/03/2012	ND	195	97.6	200	5.50	
EXT DRO >C28-C35	<10.0	10.0	08/03/2012	ND					
Surrogate: 1-Chlorooctane	92.8 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	90.0 9	63.6-15	4						

## Sample ID: SB - 1 @ 15' (H201805-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/06/2012	ND	416	104	400	3.92	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/02/2012	Sampling Date:	08/01/2012
Reported:	08/07/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: SB - 2 @ 5' (H201805-05)

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	08/06/2012	ND	416	104	400	3.92	
ТРН 8015М		/kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/03/2012	ND	185	92.3	200	0.279	
DRO >C10-C28	<10.0	10.0	08/03/2012	ND	195	97.6	200	5.50	
EXT DRO >C28-C35	<10.0	10.0	08/03/2012	ND					
Surrogate: 1-Chlorooctane	90.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.6	% 63.6-15	4						

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Celeg & Kune

Celey D. Keene, Lab Director/Quality Manager

Page 5 of 20



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/02/2012	Sampling Date:	08/01/2012
Reported:	08/07/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

#### Sample ID: SB - 2 @ 20' (H201805-08)

BTEX 8021B	mg,	mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2012	ND	1.70	85.2	2.00	7.84	
Toluene*	<0.050	0.050	08/07/2012	ND	1.83	91.3	2.00	6.14	
Ethylbenzene*	<0.050	0.050	08/07/2012	ND	1.87	93.5	2.00	6.07	
Total Xylenes*	<0.150	0.150	08/07/2012	ND	5.64	94.0	6.00	5.24	

Surrogate: 4-Bromofluorobenzene (PIL 100 % 89.4-126

Chloride, SM4500Cl-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/03/2012	ND	185	92.3	200	0.279	
DRO >C10-C28	<10.0	10.0	08/03/2012	ND	195	97.6	200	5.50	
EXT DRO >C28-C35	<10.0	10.0	08/03/2012	ND					
Surrogate: 1-Chlorooctane	85.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	85.5	% 63.6-15	4						

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Celleg D.Kerne

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/02/2012	Sampling Date:	08/01/2012
Reported:	08/07/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: SB - 3 @ 10' (H201805-10)

BTEX 8021B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	08/07/2012	ND	1.70	85,2	2.00	7.84	
Toluene*	<0.050	0.050	08/07/2012	ND	1.83	91.3	2.00	6.14	
Ethylbenzene*	<0.050	0.050	08/07/2012	ND	1.87	93.5	2.00	6.07	
Total Xylenes*	<0.150	0.150	08/07/2012	ND	5.64	94.0	6.00	5.24	
Surrogate: 4-Bromofluorobenzene (PIL	98.4 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	1470	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
GRO C6-C10	<10.0	10.0	08/03/2012	ND	185	92.3	200	0.279	
DRO >C10-C28	<10.0	10.0	08/03/2012	ND	195	97.6	200	5.50	
EXT DRO >C28-C35	<10.0	10.0	08/03/2012	ND					
Surrogate: 1-Chlorooctane	85.0 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	87.2 9	63.6-15	1						

# Sample ID: SB - 3 @ 15' (H201805-11)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	08/06/2012	ND	416	104	400	3.92	

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Celey Di Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/02/2012	Sampling Date:	08/01/2012
Reported:	08/07/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

# Sample ID: SB - 4 @ 5' (H201805-14)

Chloride, SM4500CI-B	mg/	'kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1360	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/04/2012	ND	185	92.3	200	0.279	
DRO >C10-C28	32.8	10.0	08/04/2012	ND	195	97.6	200	5.50	
EXT DRO >C28-C35	86.3	10.0	08/04/2012	ND					
Surrogate: 1-Chlorooctane	89.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.9	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/02/2012	Sampling Date:	08/01/2012
Reported:	08/07/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: SB - 4 @ 20' (H201805-17)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	08/06/2012	ND	416	104	400	3.92	

# Sample ID: SB - 4 @ 25' (H201805-18)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2012	ND	1.70	85.2	2.00	7.84	
Toluene*	<0.050	0.050	08/07/2012	ND	1.83	91.3	2.00	6.14	
Ethylbenzene*	<0.050	0.050	08/07/2012	ND	1.87	93.5	2.00	6.07	
Total Xylenes*	<0.150	0.150	08/07/2012	ND	5.64	94.0	6.00	5.24	
Surrogate: 4-Bromofluorobenzene (PIL	101 9	% 89.4-12	6						
Chioride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/04/2012	ND	185	92.3	200	0.279	
DRO >C10-C28	<10.0	10.0	08/04/2012	ND	195	97.6	200	5.50	
EXT DRO >C28-C35	10.3	10.0	08/04/2012	ND					
Surrogate: 1-Chlorooctane	88.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	89.2	% 63.6-15	4						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/02/2012	Sampling Date:	08/01/2012
Reported:	08/07/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: SB - 5 @ 10' (H201805-20)

BTEX 8021B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2012	ND	1.70	85.2	2.00	7.84	
Toluene*	<0.050	0.050	08/07/2012	ND	1.83	91.3	2.00	6.14	
Ethylbenzene*	<0.050	0.050	08/07/2012	ND	1.87	93.5	2.00	6.07	
Total Xylenes*	<0.150	0.150	08/07/2012	ND	5.64	94.0	6.00	5.24	
Surrogate: 4-Bromofluorobenzene (PIL	101 5	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2520	16.0	08/06/2012	ND	416	104	400	3.92	

TPH 8015M	mg/k	g	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/04/2012	ND	185	92.3	200	0.279	
DRO >C10-C28	<10.0	10.0	08/04/2012	ND	195	97.6	200	5.50	
EXT DRO >C28-C35	<10.0	10.0	08/04/2012	ND					
Surrogate: 1-Chlorooctane	90.3 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	87.8 %	63.6-15	4						

# Sample ID: SB - 5 @ 15' (H201805-21)

Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1630	16.0	08/06/2012	ND	416	104	400	3.92	

# **Cardinal Laboratories**

\*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 17 of 20

# Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	Basin Environmental Service	Techno	logies, LLC	C BILL TO ANALYSIS REQUEST								
Project Manage	Ben J. Arguijo			P.O. #:								
Address: P.O.				Company: EOPCO, LP								
City: Lovingto	State: NM	Zip: g	8260	Attn: Tony Savoia								
Phone #: (575)		96-142	9	Address: 522 W. Mermod								
Project #:	Project Owner	r: BOPCO	D, LP	City: Carlsbad								
Project Name:	Poker Lake Unit #78 SWD			State: NM Zip: 88220						1		
Project Location	Eddy Co., NM			Phone #: (432) 556-8730								
Sampler Name:			-	Fax #:	ļ							
FOR LAB USE ONLY			MATRIX	PRESERV. SAMPLING								
Lab I.D. H201805	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS	GROUNDWATER WASTEWATER SOIL OIL SUUDGE	OTHER: ACIDIBASE: OTHER: OTHER: DITHER:	Unloride.	801511	BTEN					
୍ର	513-325'	61	X	K 8/1/12 1100	X.	X						
.15)	3B 3 P.10'			1105		X	x			 		
11	38-3015'			1110						 		
12	5B-3 @ 20'			1115						 		
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14	5B-4 Q 51			<u>1140</u>		<u>    X  </u>				 		
	5B-4 P.10!		Ĭ	1145		X	<u>×</u>	-				
16	5B-4P 15'			1150						 		
17	5B-4 P20'			1155					·	 -		
15	513-4 1 25'	1/1/		1 1 1 1 1 1 1 1 1 1 0 O	V	X	X	<u> </u>				

PLEASE NOTE: Listophy and Damages. Cardinars (about y and elient's exclusive remedy for any claim ansing whether cased in contrast or ton, shall be limited to the amount paid by the client for the analyses. All claims industing those for negligence and any other cause whatsoever shall be deemed volved unless made in which g and received by Candhal within 30 days after completion of the applicable service. In no event shall Coldinal be faille for incidental or consequental damages, including warcul infication, business interruptions, toss of use, or toss of profits insured by chent, its subsidiaries, 

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Relinguished By:	Date: fall	Received By:		Phone Result:	Yes		Add'l Phone #:
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		1.0					
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Sampler - UPS - Bus - Other:		Fres E Yes	1.URT				
		VE NO NO					
A California	akanaan Olaass	for written abannas to 505	202 2440				
† Cardinal cannot accept verbal	changes, Please	e lax written changes to 505	393-241107 /				
			74 40				



August 06, 2012

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

**RE: POKER LAKE UNIT #78 SWD** 

Enclosed are the results of analyses for samples received by the laboratory on 08/03/12 15:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/03/2012	Sampling Date:	08/03/2012
Reported:	08/06/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: SAMPLE #41 (H201814-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/06/2012	ND	167	83.6	200	3.32	
DRO >C10-C28	<10.0	10.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	<10.0	10.0	08/06/2012	ND					
Surrogate: 1-Chlorooctane	87.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	89.4	% 63.6-15	4						

# Sample ID: SAMPLE #42 (H201814-04)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1220	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/06/2012	ND	167	83.6	200	3.32	
DRO >C10-C28	<10.0	10.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	<10.0	10.0	08/06/2012	ND					
Surrogate: 1-Chlorooctane	87.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	88.4	% 63.6-15	4						

## Cardinal Laboratories

#### \*=Accredited Analyte

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Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/03/2012	Sampling Date:	08/03/2012
Reported:	08/06/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

# Sample ID: MANIFOLD FLOOR 12' (H201814-07)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM		·		•	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/06/2012	ND	167	83.6	200	3.32	
DRO >C10-C28	429	10.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	98.5	10.0	08/06/2012	ND.					
Surrogate: 1-Chlorooctane	96.0	% 65.2-14	0		-				
Surrogate: 1-Chlorooctadecane	97.6	% 63.6-15	4						

# Sample ID: SB #2 SUR/ EP. A 8' (H201814-08)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1560	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/06/2012	ND	167	83.6	200	3.32	
DRO >C10-C28	337	10.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	126	10.0	08/06/2012	ND					
Surrogate: 1-Chlorooctane	97.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	104	% 63.6-15	4						

## **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/03/2012	Sampling Date:	08/03/2012
Reported:	08/06/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

# Sample ID: SB #4 SUR (H201814-11)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chioride	20000	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/06/2012	ND	167	83.6	200	3.32	
DRO >C10-C28	1310	10.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	320	10.0	08/06/2012	ND					
Surrogate: 1-Chlorooctane	99.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	123	% 63.6-15	4						

# Sample ID: POWER POLE NORTH (H201814-12)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	40000	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					·
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/06/2012	ND	167	83.6	200	3.32	
DRO >C10-C28	15.2	10.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	42.7	10.0	08/06/2012	ND					
Surrogate: 1-Chlorooctane	88.2	% 65.2-14	0						pro
Surrogate: 1-Chlorooctadecane	90.3	% 63.6-15	4						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/03/2012	Sampling Date:	08/03/2012
Reported:	08/06/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: POWER POLE WEST (H201814-15)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	43200	16.0	08/06/2012	ND	416	104	400	3.92	
TPH 8015M	mg,	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/06/2012	ND	167	83.6	200	3.32	
DRO >C10-C28	<10.0	10.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	<10.0	10.0	08/06/2012	ND					
Surrogate: 1-Chlorooctane	92.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	96.8	% 63.6-15	4						

# Sample ID: LINES (H201814-16)

Chloride, SM4500CI-B	mg/	′kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10100	16.0	6.0 08/06/2012		416	104	400	3.92	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	52.4	<b>52.4</b> 50.0		ND	167	83.6	200	3.32	
DRO >C10-C28	14900	50.0	08/06/2012	ND	153	76.5	200	8.37	
EXT DRO >C28-C35	<b>3980</b> 50.0		08/06/2012 ND						
Surrogate: 1-Chlorooctane 101		% 65.2-14	0						
Surrogate: 1-Chlorooctadecane 287 %		% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

# 101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name	<sup>1</sup> Basin Environmental Service	Tech	noi	ogies, LLC		BILL TO ANALYSIS REQUEST						1.)************************************								
Project Manage	<sup>El</sup> Ben J. Arguijo				P.Q.	#:			J	l'anie										
Address: P.O.					Company: BORCO, LP															
City: Lovingto	City: Lovington State: NM Zip: 88260				Atth	Tony	Savoiė										1			
Phone #: (575)	) 396-2378 Fax #: (575) 3	96-1	429		Add	ress: 52	2 w. Mer	mod												
Project #:	Project Owne	r: BO	eco	, LP	City:	Carlsi	ad										1	1		
Project Náme:	Poker Lake Unit 18 SWI	>			State	i: NM	Zip: 8822	0	1											
	EDDY NM	4			Phor	1e.#: (43	2) 556-81	73.0	1											
	Jody Walters			-	Fax				1			1CX				1				
FOR LABUSE OILY		<b>T</b> -1	Π	MATRIX	P	RESERV	SAMPL	ING	1		ļ	5			1	ľ	1			
Lab I.D. H201814	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER-1 ACIDIRASE*	ice/cool	DATE	TIME	of The second	Casiros		Hold tok								
1	Sample Hiz Sample HUO	5	1				83.12	9:00	X						]					
2	Sample #40	6	i			<u>  X  </u>		9:05	X	X		_	.!							
3	Sample #41	6				<u> </u>	83-12		Ľ	X				_				ļ		
4	Sample# 47	G					8.3.12		X						ļ	,				
	Sample # 43	G	1			N	8.3.12		ĽŽ	X				_						
	Sample # 44	G			<b></b>		8.3-12		Ă	X	_			-	ļ		.			.
	ManiFold FLOOR 12'		- <u>-</u>				8.3.12	a generation and the second second	X		$ \chi $			_				<u> </u>		
	SB#Z SUE / EP. A 8'	G	11			12-	8.3.12		X									· i		
	SBHI SUR SBHI SUR	66	$\left  \frac{1}{2} \right $			+	8-3-12 8-3-12	9:45		$\frac{x}{x}$				-i						

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Sampler - UPS - Bus - Other:	1,50 Pres Pres	& TAsavoie@BassPet.com
† Cardinal cannot accept verbal	I changes. Please fax written changes to 505-393-2476	Pa

Page 11 of 12



August 23, 2012

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: POKER LAKE UNIT #78 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/09/12 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accredited certif.html.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/09/2012	Sampling Date:	08/08/2012
Reported:	08/23/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

#### Sample ID: SAMPLE 27 (H201850-02)

BTEX 8021B	mg/	kg	Analyze	d By: AP				1-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/23/2012	ND	1.92	96.0	2.00	0.190	
Toluene*	<0.050	0.050	08/23/2012	ND	1.96	98.2	2.00	1.16	
Ethylbenzene*	<0.050	0.050	08/23/2012	ND	1.99	99.4	2.00	1.76	
Total Xylenes*	<0.150	0.150	08/23/2012	ND	6.45	107	6.00	2.18	
Surrogate: 4-Bromofluorobenzene (PIL	100 :	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8130	16.0	08/13/2012	ND	400	100	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2012	ND	174	86.8	200	1.44	
DRO >C10-C28	1010	10.0	08/11/2012	ND	176	88.2	200	0.126	
EXT DRO >C28-C35	206	10.0	08/11/2012	ND					
Surrogate: 1-Chlorooctane	117 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	134	63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/09/2012	Sampling Date:	08/08/2012
Reported:	08/23/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

# Sample ID: SAMPLE 45 (H201850-05)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/13/2012 ND			100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/13/2012	ND	188	94.1	200	0.729	
DRO >C10-C28	<b>13.1</b> 10.0		08/13/2012	ND	190	95.1	200	0.877	
EXT DRO >C28-C35	26.6	10.0	08/13/2012	ND					
Surrogate: 1-Chlorooctane	106	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	107	% 63.6-15	4						

# Sample ID: SAMPLE 46 (H201850-06)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>320</b> 16.0		08/13/2012	ND	400	100	400	0.00	
ТРН 8015М	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/13/2012	ND	188	94.1	200	0.729	
DRO >C10-C28	43.1	10.0	08/13/2012	ND	190	95.1	200	0.877	
EXT DRO >C28-C35	<b>12.6</b> 10.0		08/13/2012	ND					
Surrogate: 1-Chlorooctane	115	% 65.2-14	10						_
Surrogate: 1-Chlorooctadecane	119	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Uablity and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptors, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Liboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name	Basin Environmental Service	Techno	logies, LLC	LLC BILL TO ANALYSIS REQUES					QUEST				
Project Manage	<sup>r:</sup> Ben J. Arquijo			P.O. #:									
Address: P.O.			-	Company: BOPCO, LP									l
City: Lovington State: NM Zip: 88260				Altn: Tony Savoie									
Phone #: (575	) 396-2378 Fax #: (575) 3	96-142	19	Address: 522 w. Mermod									
Project #:	Project Ownè	r: EOPC	ю, l.p	City: Carlsbad							1		
Project Name:	Poker Lake Unit 785	ωD		State: NM Zip: 88220									1
	1: EDDY, N.M.			Phone #: (432) 556-8730			$-\lambda$						
	Jody Walters			Fax #:	1		N						
FOR LAB USE GALV Lab I.D. HZD1850	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS	GROUNDWATER WASTEWATER WASTEWATER Soll Oll Studge	PRESERV. SAMPLING	Chlos: de	BONSTM	Hold Fall Ble						
.]	SAMPLE 12A	61		X 88.12 1.00	Ń	4			L				
2	SAmple 27	Gi	<u>, x</u>	× 8.8.12 1.18	4	+			ļ				
3	Sample 28	GI	X	X 8817 1.15	7	1						 	
<u> </u>	SAmple 44	<u>C 1</u>	X	K 8.8.12 1:20	4	7						 	
	Sample 45	<u>G.</u> ]		X 8.8.12 1.25	17	-+-						 	<b></b>
le	SAmple 46 SAmple Floor #5	G   G	X X	× 8.812 1.30 × 8.817 1-491	57	+-+-	7	550				 	
	SAmple Floca # 6	6-1		X! 8.8.12 1:40	===			SDUD					
							-	·····					

IEs, Liabhy and Daniages. Cardinal's babday and client's evolutive remeay for any claim, anyong whether based in contrast or tort, s

analyses. All claims including these for negligence and any other cause whatsoever shall be deemed wolved unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event that Cardinal be liable for incidental or consequental damages, including without tantiation, business interruptions, loss of use, or loss of profile ficultrad by chemi, 44 subsidiaries,

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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Page 7 of 7



August 21, 2012

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

**RE: POKER LAKE UNIT #78 SWD** 

Enclosed are the results of analyses for samples received by the laboratory on 08/15/12 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/15/2012	Sampling Date:	08/13/2012
Reported:	08/21/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: G #2, S #2, 7' (H201909-05)

Chloride, SM4500Cl-B	mg/kg			d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10400	16.0	08/16/2012	ND	416	104	400	0.00	

# Sample ID: G #2, S #2, 10' (H201909-06)

Chloride, SM4500Cl-B	mg	/kg	Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	08/16/2012	ND	416	104	400	0.00		

# Sample ID: G #3, S #2, 2' (H201909-07)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	20600	16.0	08/16/2012	ND	416	104	400	0.00	

## Sample ID: G #3, S #2, 5' (H201909-08)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14000	16.0	08/16/2012	ND	416	104	400	0.00	

# Sample ID: G #3, S #2, 7' (H201909-09)

Chloride, SM4500Cl-B	3 mg/kg			Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1620	16.0	08/16/2012	ND	416	104	400	0.00	

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\*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	08/15/2012	Sampling Date:	08/14/2012
Reported:	08/21/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

### Sample ID: G #6, S #3, 5' (H201909-15)

Chloride, SM4500Cl-B	mg,	'kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17400	16.0	08/16/2012	ND	416	104	400	0.00	

# Sample ID: G #6, S #3, 10' (H201909-16)

Chloride, SM4500Cl-B mg/kg			Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6500	16.0	08/17/2012	ND	416	104	400	0.00	

## Sample ID: G #6, S #3, 15' (H201909-17)

Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	08/17/2012	ND	416	104	400	0.00	

#### Sample ID: G #7, S #2, 2' (H201909-18)

Chloride, SM4500Cl-B	mg	/kg	Anaiyzed By: HM						<u> </u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6640	16.0	08/17/2012	ND	416	104	400	0.00	

#### Sample ID: G #7, S #2, 5' (H201909-19)

Chloride, SM4500Cl-B mg/kg			Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4480	16.0	08/17/2012	ND	416	104	400	0.00	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference

   \*\*
   Samples not received at proper temperature of 6°C or below.

   \*\*\*
   Insufficient time to reach temperature.
- Chloride by SM4500CI-B does not require samples be received at or below 6°C
   Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 7 of 10



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	Basin Environmental Service	Technologies, LLC	BILL TO	ANALYSIS REQUEST
Project Manage	<sup>fi</sup> Ben J. Arguijo		P.O. #:	
Áddress: P.O		4	Company: BOPCO, LP	
City: Lovingto	on State: NM	Zip: \$8260	Altn: Tony Savole	
Phone #: (575		96-1429	Address: 522 w. Mermod	
Project #:	Project Owne	r: BOPCO, LP	City: Carlsbad	
······································	Poker Lake Unit 78 SWD		State: NM Zip: 88220	
	1: ED.D.Y. N.M.		Phone #: (432) 556-8730	
Sampler Name:	Jody walters.		Fax#:	
FOR LAB USE ONLY	en konstanten en e	MATRIX	PRESERV SAMPLING	
Lab I.D. H2D19D9	Sample I.D.	(G)RAB OR (C)OMF # CONTAINERS GROUNDWATER WASTEWATER SOIL ÓIL SLUDGE	OTHER: ACID/BASE: OTHER. BWIL BADD	Chlorides
11	Gª4, 5, 2, 5'	GIIXI	XI 8-14-12 9:00	
	G#4, S#2, 7	GI XI.	X 8-14-12 9:20	
	645, 543, 5	Ġı X_	X 8.14-12 9:40	and a second
	G# 5, S# 3, 10'	G-I X	X 8.14-12 10:00	
	GH6, SH3, 5'	G I X	X 8.14-12 10:20	
16	G#6, 5#3, 10	GIX	Y 8-14-12 10:50	
	G#D, SH 3, 15'	GIX	X 8.14.12 11.20	
	G# 7 , 5#2 , 2'	GIX	× 8.14.12 11.50	
		GIX	X 8-14-12 12.10	
	GH8, 5#2 Z	GITT	X 8:14-12 12:30	
PLEASE HOTE: Unberga analyses. All claims include	nd Damager. Cardinal's katility and client's exclusive, remedy for Ag illose for negligence and any other cause what server shall be	géousej minised ingésé biago ju mand au uha châse duraid républice, paseq ju coutrac	n or ten, snav be kinded to the amount paid by the chern (a Id received by Cardinal wahin 30 gays after completion of t	i tar the of the Applicable

spyles. In no even shall Cardinal be lights for Incidental or convergional interacts, instances interruptions, less of use, or loss of profits incurred by clear, it's pursuances of surface such as a clear state into a point incurred by clear, it's pursuances of surface such as a clear state into a point such as a clear state reasons or otherwise.

Relinquished By:	13:40	Received By: Dall Hendon	Phone Re Fax Resul REMARKS	IL: 'Ľ	] Yes ] Yes	D No D No	Add'l Phone #: Add'l Fax #:	
Relinduished By:	Date: Time:	Réceived By:		Please	emaii	resul	ts to pm@basinenv.co	m
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† Cardinal cannot accept verbal	changes. Please	fax written changes to $505,393,2476$						Page

Page 9 of 10



September 20, 2012

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU 78 SWD PAD

Enclosed are the results of analyses for samples received by the laboratory on 09/12/12 16:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager

Page 1 of 7



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	09/12/2012	Sampling Date:	09/12/2012
Reported:	09/20/2012	Sampling Type:	Soil
Project Name:	PLU 78 SWD PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: SAMPLE #48 (H202207-04)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2012	ND	2.25	113	2.00	9.99	
Toluene*	<0.050	0.050	09/20/2012	ND	2.46	123	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/20/2012	ND	2.44	122	2.00	11.2	
Total Xylenes*	<0.150	0.150	09/20/2012	ND	7.41	124	6.00	10.8	
Surrogate: 4-Bromofluorobenzene (PIE	97.8	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: HM					<u>.</u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	09/17/2012	ND	416	104	400	3.92	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/17/2012	ND	190	94.9	200	2.67	
DRO >C10-C28	<10.0	10.0	09/17/2012	ND	186	92.9	200	5.65	
EXT DRO >C28-C35	<10.0	10.0	09/17/2012	ND					
Surrogate: 1-Chlorooctane	93.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.8	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name	BASTN ENVIRONMENTAL	Service	T	ec h	nologie	s LLL	illed	B	LL TO	i Alle					ANA	LYSIS	S RE	QUE	ST			
Project Manage	"Ben J Arguijo							O. #:														
Address: 7.0.	Boy 301						Co	ompany: Í	30910,6	P												
City: Louin	gton State:	HM	Zip:	8	8260		Attn: Tony Source									1						
Phone #: \575	) 396 . 2378 Fax #:(	<u>575) 3</u>	396	- 10	129			Address: 522 w Mernod														
Project #:	Project	Owner:	30	ofe	0 LP		Ci	N: Car	Isbed						-							
Project Name:	Project Name: PLU 78 SWD				St	ate: Nm	Zip: .88	260														
Project Location	EDDY NM.						Pr	none #: (4	132 556	\$8730												
Sampler Name:	Jody Walters			_			Fa	x#:														
FOR LABUSE OULY Lab I.D. H2022D7	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER WASTEWATER	TRIX	OTHER .	ACID/BASE: ICE / COOL		TIME	Chloridos	BOISM	BTEX *									
1	Samole #26		G	J			1	X	9-12-12	1:00	×	×	X									
2	Sample #26 Sample #27 Sample #47 Sample #48		G	1				X	9-12-12	1:10	$\mathbf{x}$	$\boldsymbol{\times}$	X									
3	Sample #47		<u>C</u>	1				X	9-12-12	-	$\times$	$\underline{\times}$	X		<b> </b>							
<u> </u>	Sumple #48	ľ	G	1	1/	4		λ	9-12-12	1.30	$\mathbf{x}$	$\times$	$\boldsymbol{X}$									
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Cool Intact Pres Pres No No † Cardinal cannot accept verbal changes. Please fax written changes(p (575) 393-2326 サント



October 17, 2012

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: POKER LAKE UNIT #78 SWD

Enclosed are the results of analyses for samples received by the laboratory on 10/15/12 11:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through 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 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	10/15/2012	Sampling Date:	10/08/2012
Reported:	10/17/2012	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #78 SWD	Sampling Condition:	Cool & Intact
Project Number:	BOPCO	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

### Sample ID: GRID 5 FLOOR 12' (H202502-05)

Chloride, SM4500Cl-B	mg	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3640	16.0	10/17/2012	ND	400	100	400	0.00	

# Sample ID: GRID 6 FLOOR 15' (H202502-06)

Chloride, SM4500Cl-B mg/kg			Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4200	16.0	10/17/2012	ND	400	100	400	0.00	

# Sample ID: GRID 7 FLOOR 7' (H202502-07)

Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	10/17/2012	ND	400	100	400	0.00	

# Sample ID: GRID 8 FLOOR 12' (H202502-08)

Chloride, SM4500Cl-B	de, SM4500Cl-B mg/kg			d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	10/17/2012	ND	400	100	400	0.00	

### Sample ID: HEADER FLOOR 10' (H202502-09)

Chloride, SM4500Cl-B	e, SM4500Cl-B mg/kg		Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2600	16.0	10/17/2012	ND	400	100	400	0.00	

#### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based to be performance in the constraint or the samples identified above. This report shall not be reported.execpt in full with interruptorations.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

	575) 393-2326 FAX (575) 393-247																				
Company Name: Basin Environmental Service Technologies, LLC						BILL TO								ANAL	YSIS	S RE	QUE	ST			
Project Manager: Ben J. Arguíjo						Р.	P.O. #:														
Address: P.O.						C	Company: BOPCO, LP					ł							{		
City: Lovington	n State: NM	Zip	: 88	260		At	Attn: Tony Savoie														
Phone #: (575) 3	396-2378 Fax #: (575) 39	96-3	429			Ac	idress: 52	2 W. Mer	mod								}				
Project #:	Project Owner					Ci	tý: Carls	òad			1								]		
Project Name: F	OKer Lake Unit 78.	Su	D			St	ate: NM	Zip: 8822	0												
	EDDY NM					Pł	ione #: (4:	32)556-87	30								i i				
•	Joanwalters					Fa	x #:														
FOR LAB USE ONLY	r —	<u>,</u>		MAT		1	PRESERV	SAMPL	NG	2											
Lab I.D. H202503	Sample I.D.	C (G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER WASTEWATER SOIL	OIL Stirtoor	OTHER :	ACID/BASE: ICE / COOL OTHER :	DÁTE	ТІМЕ	Chlorides			•								
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PLEASE NOTE: Lisedly and Damages, Carcinal's liability and chen's evolusive remesty to any dama any damages and the shall be limited to the amount part by the clerif for the anatrises. All claims inducing those for negligence and any other cause whatsoever shall be elemed wolved unless made in whiting and received by Cardinal within 30 days after completion of the applicable service. In no event shall Candinal be livele for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of pratia incurred by client, its substanties, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such daim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date:	Received By:	,	Phone Result: Fax Result:	U Yes Vés	O No	Add'l Phone #: Add'l Fax #:
lock Walter	Time's y	11 halpa	the second second	REMARKS:			
Relinquished By:	10-15-17 Time; 17	Received By:	enton	Plea	se emai	l resul	ts to pm@basinenv.com
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•			679				

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



November 01, 2013

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: POKER LAKE UNIT #78 SWD

Enclosed are the results of analyses for samples received by the laboratory on 10/31/13 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



## **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be demed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profils incured by Cardinal within there are subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based to the performance of the services. Results relate only to the samples identified above. This report shall not be reported coept in full within there approval of Cardinal charabardes.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 4