

# *Basin Environmental Service Technologies, LLC*

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## **REMEDIATION SUMMARY & RISK-BASED SITE CLOSURE REQUEST**

**BOPCO, LP  
JAMES RANCH UNIT #29 SWD  
Eddy County, New Mexico  
Unit Letter "K" (NE/SW), Section 36, Township 22 South, Range 30 East  
Latitude 32.346284° North, Longitude 103.837459° West  
NMOCD Reference #'s: 2RP-1174 & 2RP-1265**

Prepared For:

**BOPCO, LP  
522 W. Mermod, Suite 704  
Carlsbad, New Mexico 88220**

Prepared By:

**Basin Environmental Service Technologies, LLC  
3100 Plains Highway  
Lovington, New Mexico 88260**

**May 2013**

A handwritten signature in black ink, appearing to read "Ben J. Arguijo", written over a horizontal line.

**Ben J. Arguijo  
Project Manager**

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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 James Ranch Unit #29 SWD. The legal description of the release site is Unit Letter "K" (NE/SW), Section 36, Township 22 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.346284° North latitude and 103.837459° West longitude. The property affected by the release is owned by the State of New Mexico and administered by the New Mexico State Land Office (NMSLO). Please reference Figure 1 for a "Site Location Map".

On May 22, 2012, BOPCO discovered a release had occurred near the James Ranch Unit #29 Salt Water Disposal (SWD) site. A two and seven-eighths-inch (2 7/8") flow line developed a leak, resulting in a release of produced water. The release was attributed to internal corrosion.

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 one hundred and seventy-five barrels (175 bbls) of produced water were released. During initial response activities, the pump at the James Ranch Unit #29 SWD was shut down, and one (1) joint of the pipeline was replaced. A vacuum truck was utilized to recover approximately fifty barrels (50 bbls) of free-standing liquid, resulting in a net loss of approximately one hundred and twenty-five barrels (125 bbls) of produced water. The release was confined to the pipeline right-of-way and affected an area of pastureland measuring approximately three thousand, two hundred and forty square feet (3,240 ft<sup>2</sup>).

On August 8, 2012, BOPCO discovered a second release had occurred near the James Ranch Unit #29 SWD site. A two and seven-eighths-inch (2 7/8") flow line from the James Ranch Unit #29 SWD to the Hudson Federal #1 SWD well developed a leak, resulting in a release of produced water. The release was attributed to internal corrosion.

The release was immediately reported to the NMOCD Artesia District Office. The Form C-141 indicated approximately one hundred barrels (100 bbls) of produced water were released. During initial response activities, a temporary pipeline clamp was employed to mitigate the release. A vacuum truck was utilized to recover approximately eighty barrels (80 bbls) of free-standing liquid, resulting in a net loss of approximately twenty barrels (20 bbls) of produced water. The release affected an area of pastureland measuring approximately two thousand, five hundred and fifty square feet (2,550 ft<sup>2</sup>) and comingled with the flow path of the May 22, 2012, release.

Pursuant to the *Remediation Summary & Risk-Based Site Closure Proposal* dated November 2012, the May 22 and August 8, 2012, release sites were remediated concurrently. The Forms C-141 are provided as Appendix A. General photographs of the release site are provided as 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) indicates groundwater should be encountered at approximately two hundred and fifty feet (250') below ground surface (bgs) in

Section 36, Township 22 South, Range 30 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately two hundred feet (200') 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 James Ranch Unit #29 SWD 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, ethylbenzene, toluene, 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**

Following initial response activities, on May 30, 2012, delineation of the May 2012 release site commenced. Four (4) delineation trenches were advanced near the release point and along the flow path of the release to investigate the vertical and horizontal extent of impacted soil. The delineation trenches were each advanced to a depth of approximately eight feet (8') bgs. Soil samples were collected from the floors of the delineation trenches at two-foot (2') intervals and field-screened using a chloride test kit. Field-screening indicated that further vertical delineation would be required at the site.

On August 21, 2012, soil samples were collected from the sidewalls of an open pipeline trench adjacent to, and to the north of, both the flow path of the May 2012 release and the release point of the August 2012 release. The soil samples were field-screened using a chloride test kit. Field-screening indicated further horizontal delineation would be required to the north of the release sites.

On August 22, 2012, after having procured the proper permits from the NMSLO ("Right of Entry" #ROE-2170) and NMOSE (File #C-3561), five (5) soil borings (SB-1 through SB-5) were advanced at the site to further delineate 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 Cardinal Laboratories in Hobbs, New Mexico, for analysis of BTEX, TPH, and/or chloride concentrations in accordance with Environmental Protection Agency (EPA) methods SW-846 8021b, SW-846 8015M, and

4500 Cl-B, respectively. Table 1 summarizes the “Concentrations of Benzene, BTEX, TPH & Chloride in Soil”. A “Site & Sample Location Map” is provided as Figure 2. Soil boring logs are provided as Appendix C. NMSLO and NMOSE permits are provided as Appendix D. Laboratory analytical reports are provided as Appendix E.

Soil boring SB-1 was located in a comingled pooling area of the May 2012 and August 2012 releases, approximately seventy-eight feet (78') to the west of the August 2012 release and approximately four hundred and fifty feet (450') to the west of the May 2012 release. 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'), twenty-five feet (25'), and thirty feet (30') bgs were submitted to the laboratory for analysis of TPH and/or chloride concentrations. Soil sample SB-1 @ 10' was also submitted for analysis of BTEX concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory method detection limit (MDL) in all submitted soil samples. Chloride concentrations ranged from 64.0 mg/Kg in soil sample SB-1 @ 30' to 21,600 mg/Kg in soil sample SB-1 @ 10'. BTEX constituent concentrations in soil sample SB-1 @ 10' were less than the appropriate laboratory MDL.

Soil boring SB-2 was located at the release point of the August 2012 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'), twenty feet (20'), and twenty-five feet (25') bgs were submitted to the laboratory for analysis of TPH and/or chloride concentrations. Soil sample SB-2 @ 10' was also submitted for analysis of BTEX concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 224 mg/Kg in soil sample SB-2 @ 25' to 13,000 mg/Kg in soil sample SB-2 @ 5'. BTEX constituent concentrations in soil sample SB-2 @ 10' were less than the appropriate laboratory MDL.

Soil boring SB-3 was located in the flow path of the May 2012 release, in a pooling area approximately fifty feet (50') to the west of the release point. 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'), twenty feet (20'), and twenty-five feet (25') bgs were submitted to the laboratory for analysis of TPH and/or chloride concentrations. Soil sample SB-3 @ 10' was also submitted for analysis of BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil sample SB-3 @ 10' to 32.4 mg/Kg in soil sample SB-3 @ 5'. Chloride concentrations ranged from 128 mg/Kg in soil sample SB-3 @ 25' to 12,000 mg/Kg in soil sample SB-3 @ 5'. BTEX constituent concentrations in soil sample SB-3 @ 10' were less than the appropriate laboratory MDL.

Soil boring SB-4 was located at the release point of the May 2012 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'), twenty feet (20'), and twenty-five feet (25') bgs were submitted to the laboratory for analysis of TPH and/or chloride concentrations. Soil sample SB-4 @ 10' was also submitted for analysis of BTEX concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 176 mg/Kg in soil sample SB-4 @ 25' to 15,800 mg/Kg in soil sample SB-4 @ 10'. BTEX constituent concentrations in soil sample SB-4 @ 10' were less than the appropriate laboratory MDL.

Soil boring SB-5 was located to the north of a comingled pooling area of the May 2012 and August 2012 releases in order to 1.) establish the baseline concentration of chloride in the area and 2.) ensure that horizontal delineation to the north of the pooling area had been achieved. The soil boring was advanced to a total depth of approximately twenty feet (20') bgs. Soil samples collected at drilling depths of five feet (5'), ten feet (10'), fifteen feet (15'), and twenty feet (20') bgs were submitted to the laboratory for analysis of TPH and/or chloride concentrations. Soil sample SB-5 @ 10' was also submitted for analysis of BTEX concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 32.0 mg/Kg in soil sample SB-5 @ 5' to 160 mg/Kg in soil sample SB-5 @ 15'. BTEX constituent concentrations in soil sample SB-5 @ 10' were less than the appropriate laboratory MDL.

Following advancement of the soil borings, two (2) soil samples (West Trench - West Wall #1 and West Trench - West Wall #2) were collected from an open pipeline trench in the primary pooling area of the August 2012 release. The soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 2,200 mg/Kg in soil sample West Trench - West Wall #1 to 13,800 mg/Kg in soil sample West Trench - West Wall #2.

From November 13 through November 20, 2012, a series of delineation trenches were advanced at the site to further investigate the horizontal extent of impacted soil. The trenches were advanced to the north and south along a three-inch (3") fiberglass pipeline bisecting the release site from east to west. Eleven (11) delineation trenches were advanced on each side of the pipeline, for a total of twenty-two (22) trenches. The delineation trenches were advanced to depths of approximately five feet (5') to six feet (6') bgs and varied in length from approximately six feet (6') to approximately fifty-seven feet (57'). Soil samples were collected from the delineation trenches at approximately three-foot (3') horizontal intervals and field-screened using a chloride test kit.

On December 27, 2012, excavation of impacted soil commenced at the site. To facilitate remediation activities, the excavation was divided into three (3) sections: North Excavation, South Excavation, and Area #2 - West Excavation. The South Excavation was further subdivided into three (3) sections: East, Middle, and West. Field-screen results obtained during the November 2012 delineation event were used to define the horizontal extents of the excavations.

The North and South Excavations were located to the north and south, respectively, of the fiberglass pipeline bisecting the release site, along the flow paths of the May 2012 and August 2012 releases. As an environmental precaution, soil beneath the active fiberglass pipeline was left in-situ to support the line during remediation activities. Area #2 - West Excavation was located in the comingled pooling areas of the May 2012 and August 2012 and the area represented by soil samples West Trench - West Wall #1 and West Trench - West Wall #2.

From December 27, 2012, through January 29, 2013, excavated soil was stockpiled on-site, pending final disposition.

From January 7 through January 29, 2013, approximately seven thousand, six hundred and forty cubic yards (7,640 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal.

On January 17, 2013, eight (8) soil samples (North Wall #1 - North Excavation, North Wall #2 - North Excavation, East Wall - North Excavation, South Wall #1 - North Excavation, South Wall #2 - North Excavation, West Wall - North Excavation, Floor #1 - North Excavation, and Floor #2 - North Excavation) were collected from the floor and sidewalls of the North Excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 48.0 mg/Kg in soil sample West Wall - North Excavation to 20,400 mg/Kg in soil sample South Wall #1 - North Excavation.

Further excavation in the areas represented by soil samples South Wall #1 - North Excavation and South Wall #2 - North Excavation was deemed impracticable due to the presence of the active fiberglass pipeline adjacent to the excavation.

On January 23, 2013, twenty-five (25) soil samples (North Wall 50' - South Excavation, North Wall 100' - South Excavation, North Wall 150' - South Excavation, North Wall 200' - South Excavation, North Wall 250' - South Excavation, North Wall 300' - South Excavation, North Wall 350' - South Excavation, North Wall 400' - South Excavation, East Wall - South Excavation, South Wall 50' - South Excavation, South Wall 100' - South Excavation, South Wall 150' - South Excavation, South Wall 200' - South Excavation, South Wall 250' - South Excavation, South Wall 300' - South Excavation, South Wall 350' - South Excavation, South Wall 400' - South Excavation, Floor 50' - South Excavation, Floor 100' - South Excavation, Floor 150' - South Excavation, Floor 200' - South Excavation, Floor 250' - South Excavation, Floor 300' - South Excavation, Floor 350' - South Excavation, and Floor 400' - South Excavation) were collected from the South Excavation. With the exception of soil sample East Wall - South Excavation, the soil samples were collected at approximately fifty-foot (50') horizontal intervals along the floor and/or sidewalls of the excavation. The soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32.0 mg/Kg in soil sample Floor 200' - South Excavation to 56,000 mg/Kg in soil sample North Wall 100' - South Excavation.

Review of laboratory analytical results indicated further excavation would be required in the area represented by soil sample East Wall - South Excavation. Further excavation in the areas represented by soil samples North Wall 50' - South Excavation, North Wall 100' - South Excavation, North Wall 150' - South Excavation, North Wall 200' - South Excavation, North Wall 250' - South Excavation, North Wall 300' - South Excavation, North Wall 350' - South Excavation, and North Wall 400' - South Excavation was deemed impracticable due to the presence of numerous active pipelines and appurtenances adjacent to the excavation.

On January 30, 2013, seven (7) soil samples (North Wall 450' - South Excavation, North Wall 475' - South Excavation, East Wall #2 - South Excavation, South Wall 450' - South Excavation, South Wall 475' - South Excavation, West Wall - South Excavation, and Floor 450' - South Excavation) were collected from the floor and sidewalls of the South Excavation, and eight (8) soil samples (North Wall Area #2 - West Excavation, East Wall Area #2 - West Excavation, South Wall Area #2 - West Excavation, West Wall Area #2 - West Excavation, Floor 4' Area #2 - West Excavation, Floor 6' Area #2 - West Excavation, Floor 8' Area #2 - West Excavation, and East Floor 4' Area #2 - West Excavation) were collected from the floor and sidewalls of Area #2 - West Excavation. Soil sample East Wall #2 - South Excavation was collected in the area represented by soil sample East Wall - South Excavation collected on January 23, 2013.

The soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations in the South Excavation ranged from 3,480 mg/Kg in soil sample East Wall #2 - South Excavation to 28,600 mg/Kg in soil sample North Wall 450' - South Excavation. Chloride concentrations in Area #2 - West Excavation ranged from 80.0 mg/Kg in soil sample Floor 8' Area #2 - West Excavation to 18,200 mg/Kg in soil sample North Wall Area #2 - West Excavation.

Further excavation in the areas represented by North Wall 450' - South Excavation, North Wall 475' - South Excavation, South Wall 475' - South Excavation, West Wall - South Excavation, North Wall Area #2 - West Excavation, and West Wall Area #2 - West Excavation was deemed impracticable due to the presence of numerous active pipelines and appurtenances and/or a widely-used oilfield access road adjacent to the excavations.

On February 14, 2013, representatives of Basin Environmental met with a representative of the NMOCD Artesia District Office to request permission to install polyurethane liners in the floors of the East and West sections of the South Excavation. Due to environmental concerns, permission was also requested to leave impacted soil in-situ underneath the fiberglass pipeline bisecting the release site. The requests were granted by the NMOCD representative.

On March 4 and March 7, 2013, twenty (20) mil polyurethane liners were installed in the floors of the East and West sections of the South Excavation at approximately ten feet (10') bgs. A cushion of sand was installed approximately one foot (1') both above and below the liner to protect the liner from damage during installation and backfilling activities. In areas where further excavation was precluded by the presence of active pipelines and/or a roadway, the polyurethane liners were installed along the sidewalls of the excavation(s), to approximately one foot (1') bgs, in order to inhibit horizontal migration of contaminants.

From March 5 through March 25, 2013, the excavations were backfilled in eighteen-inch (18") lifts, compacted, and contoured to fit the surrounding topography. Prior to backfilling, the final dimensions of the North Excavation were approximately eighty-four feet (84') in length, varying in width from approximately twenty-one feet (21') to approximately twenty-five feet (25'), and varying in depth from approximately five feet (5') to approximately nine feet (9') bgs. Final dimensions of the South Excavation were approximately four hundred and seventy-five feet (475') in length, varying in width from approximately twenty-four feet (24') to approximately fifty-six feet (56'), and varying in depth from approximately five feet (5') to approximately fourteen feet (14') bgs. Final dimensions of Area #2 - West Excavation were approximately thirty-three feet (33') in length, varying in width from approximately thirty feet (30') to approximately thirty-four feet (34'), and varying in depth from approximately four feet (4') to approximately eight feet (8') bgs.

## **4.0 QA/QC PROCEDURES**

### **4.1 Soil Sampling**

Soil samples were delivered to Cardinal Laboratories in 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 EPA Method SW-846 8015M
- Chloride concentrations in accordance with EPA Methods 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**

Remediation activities conducted at the James Ranch Unit #29 SWD release site met the objectives set forth in the *Remediation Summary & Risk-Based Site Closure Proposal* dated November 2012. The North Excavation, South Excavation, and Area #2 - West Excavation were excavated to the extent practicable. Soil samples collected from the floors and sidewalls of the excavations were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, and TPH were below the regulatory remediation action levels established for the site. Soil exhibiting chloride concentrations above the remediation action level established for the site by the NMOCD will be remediated upon decommission or abandonment of the currently active access road and/or pipelines.

Impermeable, twenty (20) mil polyurethane liners were installed in the floors of the East and West sections of the South Excavation. This engineered control will inhibit vertical migration of contaminants from below the liner to the surface, protecting the vegetative zone. In addition, the polyurethane liner will shed moisture to the edge of the liner and beyond the maximum horizontal extent of underlying impacted soil, effectively inhibiting vertical migration of contaminants to groundwater.

Basin Environmental recommends BOPCO provide the NMOCD Artesia District Office a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant site closure to the James Ranch Unit #29 SWD 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:**

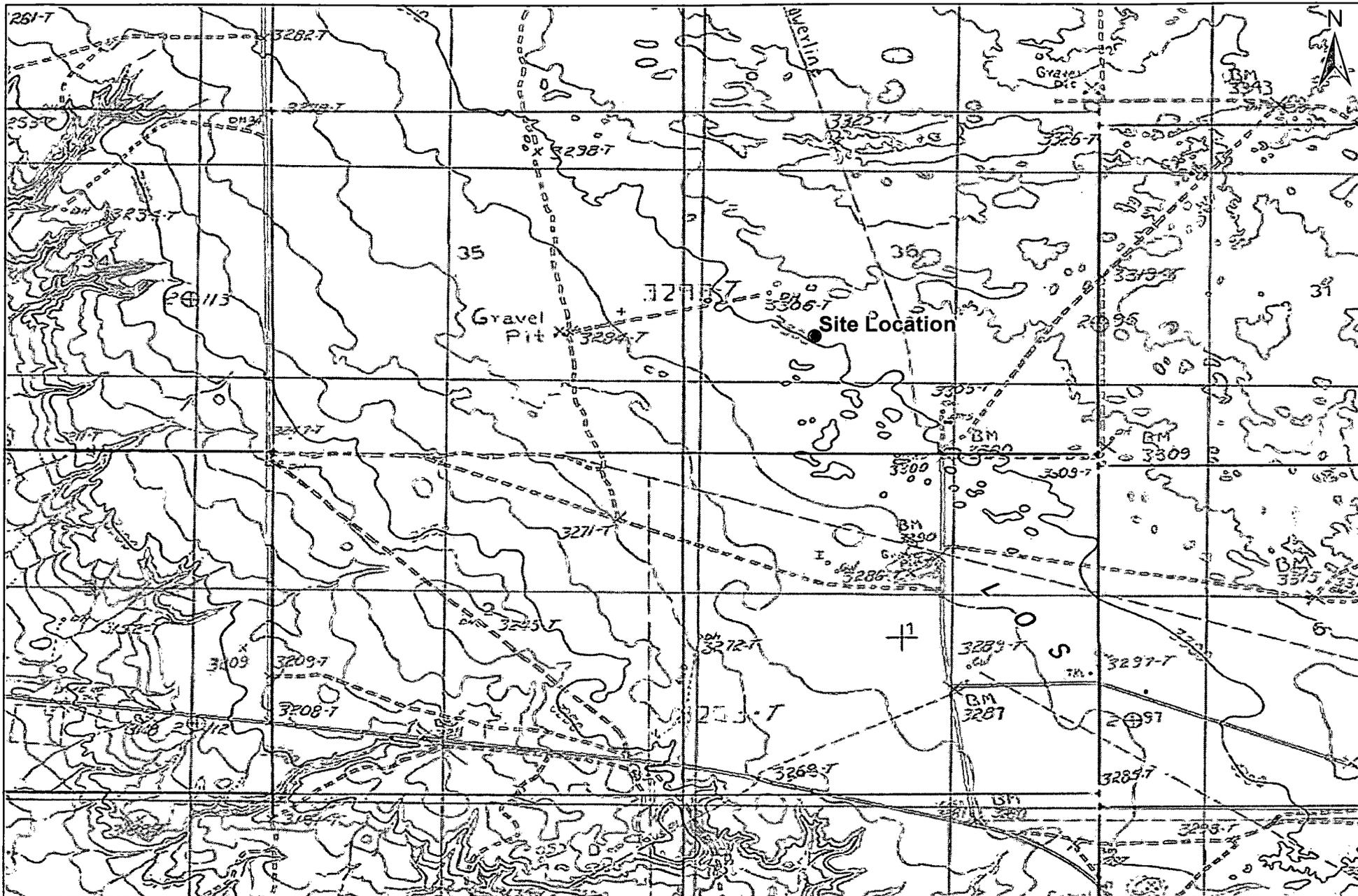
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New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division (District 2)  
1301 E. Grand Avenue  
Artesia, NM 88210

Copy 2: Andrew Kraemer  
New Mexico State Land Office  
602 N. Canal Street, Suite B  
Carlsbad, NM 88220

Copy 3: Tony Savoie  
BOPCO, LP  
522 W. Mermod, Suite 704  
Carlsbad, NM 88220

Copy 4: Basin Environmental Service Technologies, LLC  
P.O. Box 301  
Lovington, NM 88260

# Figures



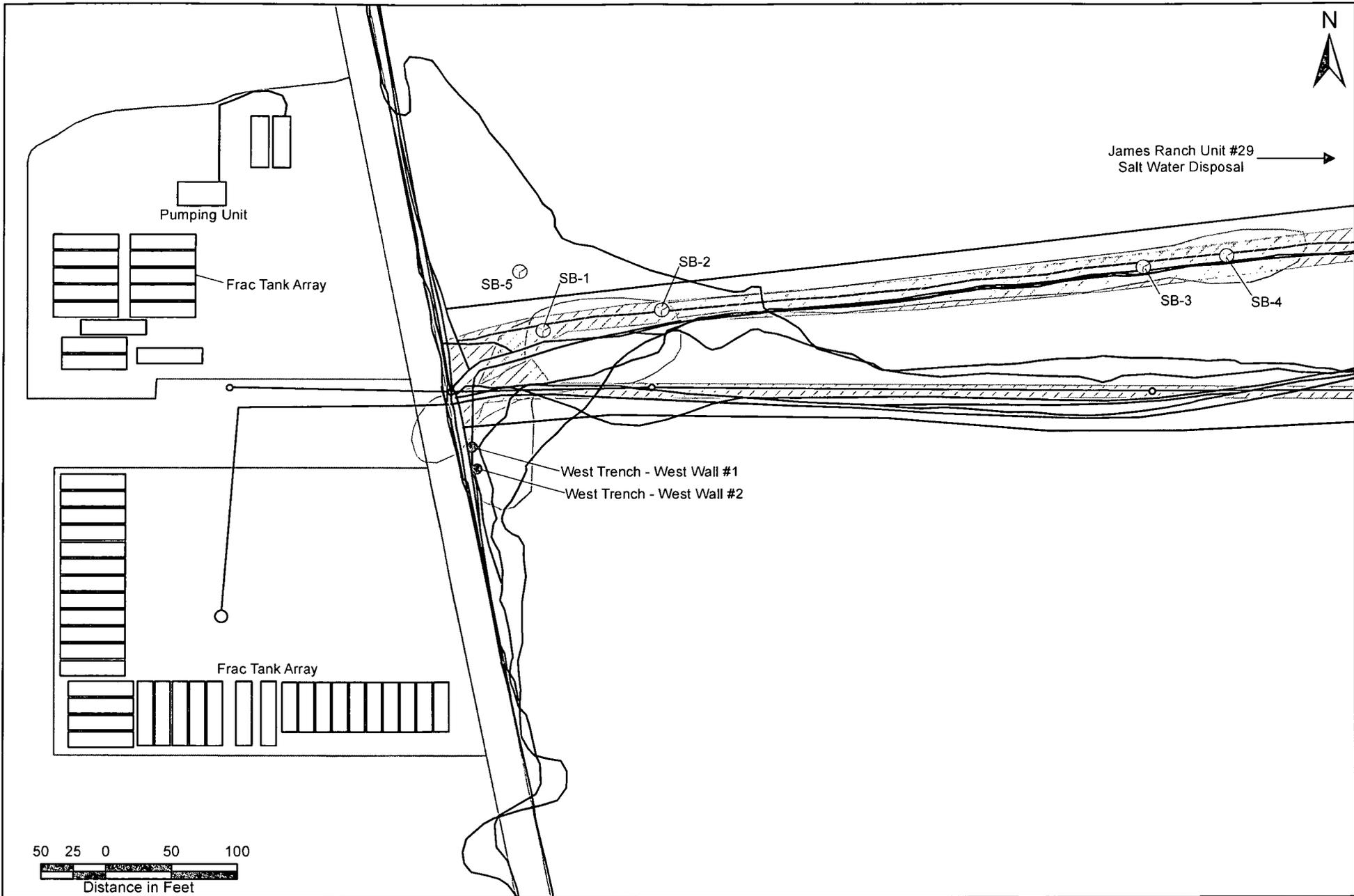
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 Distance in Feet

**Figure 1**  
**Site Location Map**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCD Reference #'s: 2RP-1174 & 2RP-1265**



Basin Environmental Service Technologies, LLC  
 3100 Plains Hwy.  
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Drawn By: BJA	Checked By: BRB
September 5, 2012	Scale: 1" = 2000'



Legend:

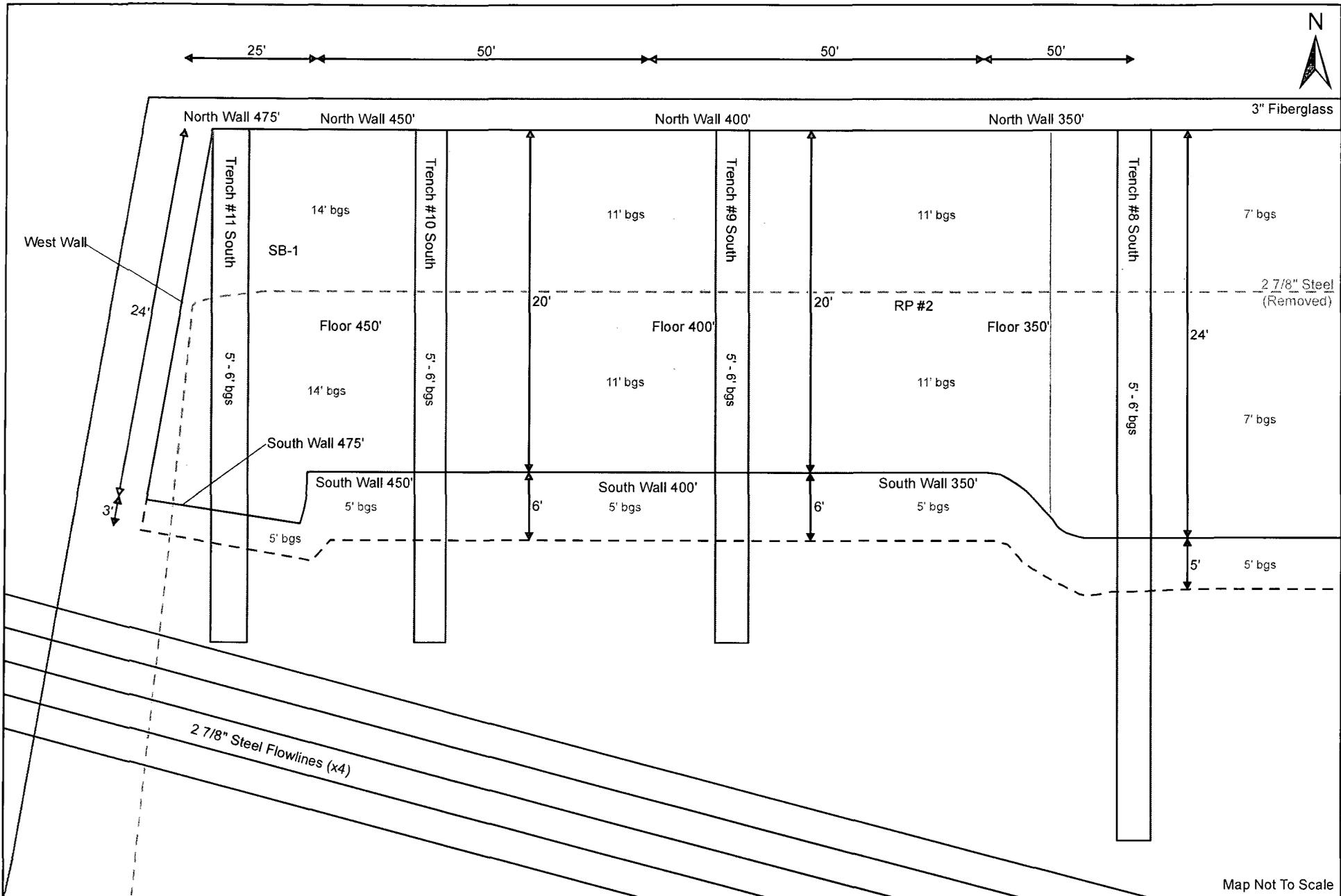
--- Excavation Extent	⊙ Soil Boring
— Pipeline	● Sample Location
— Caliche Road/Pad	□ May 2012 Release
— Power Line	□ August 2012 Release
▨ Right-of-Way	

**Figure 2**  
**Site & Sample Location Map**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCD Reference #'s: 2RP-1174 & 2RP-1265**



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

Drawn By: BJA	Checked By: BRB
November 8, 2012	Scale: 1" = 100'



Map Not To Scale

**Legend:**

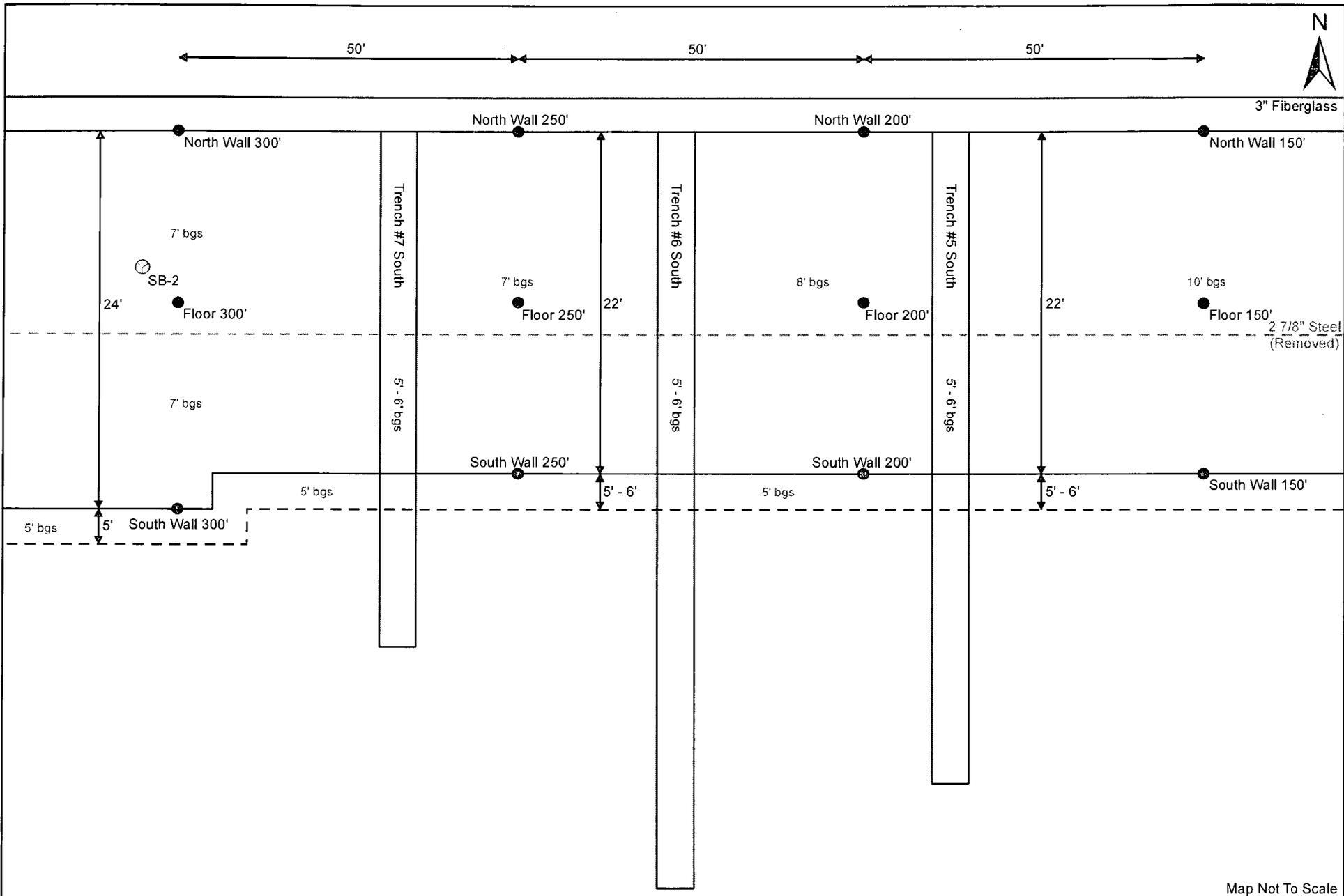
— Excavation Extent	--- Historic Pipeline
--- Bench	— Power Line
— Delineation Trench	⊙ Soil Boring
— Steel Pipeline	● Sample Location
— Fiberglass Pipeline	□ Polyurethane Liner

**Figure 5**  
**Site & Sample Location Map**  
**South Excavation (West)**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCD Reference #'s: 2RP-1174 & 2RP-1265**



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

Drawn By: BJA	Checked By: SDW
February 1, 2013	



**Legend:**

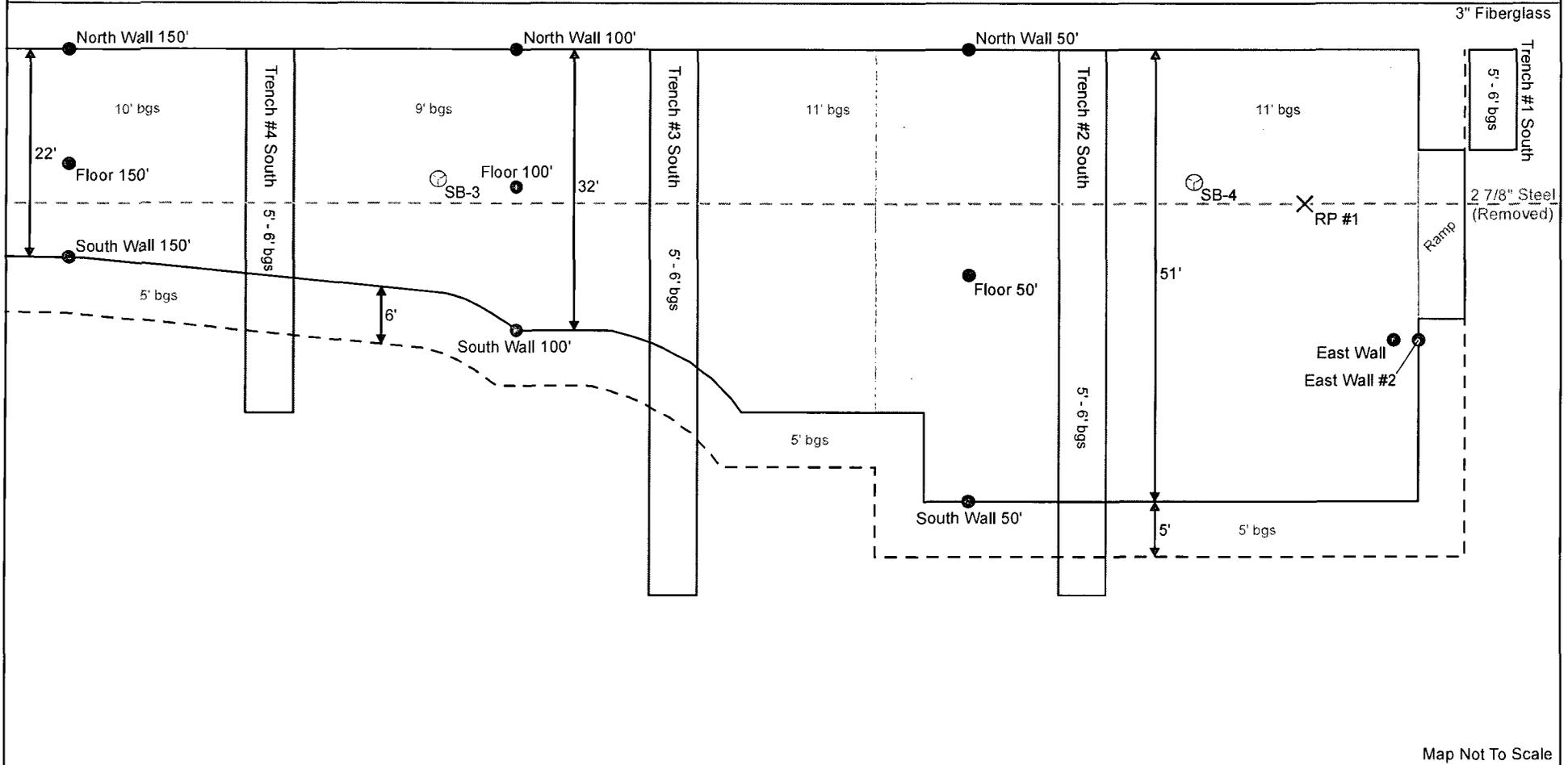
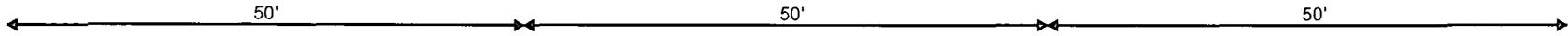
— Excavation Extent	- - - Historic Pipeline
- - - Bench	— Power Line
— Delineation Trench	⊙ Soil Boring
— Steel Pipeline	● Sample Location
— Fiberglass Pipeline	□ Polyurethane Liner

**Figure 4**  
**Site & Sample Location Map**  
**South Excavation (Middle)**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCD Reference #'s: 2RP-1174 & 2RP-1265**



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Drawn By: BJA	Checked By: SDW
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Map Not To Scale

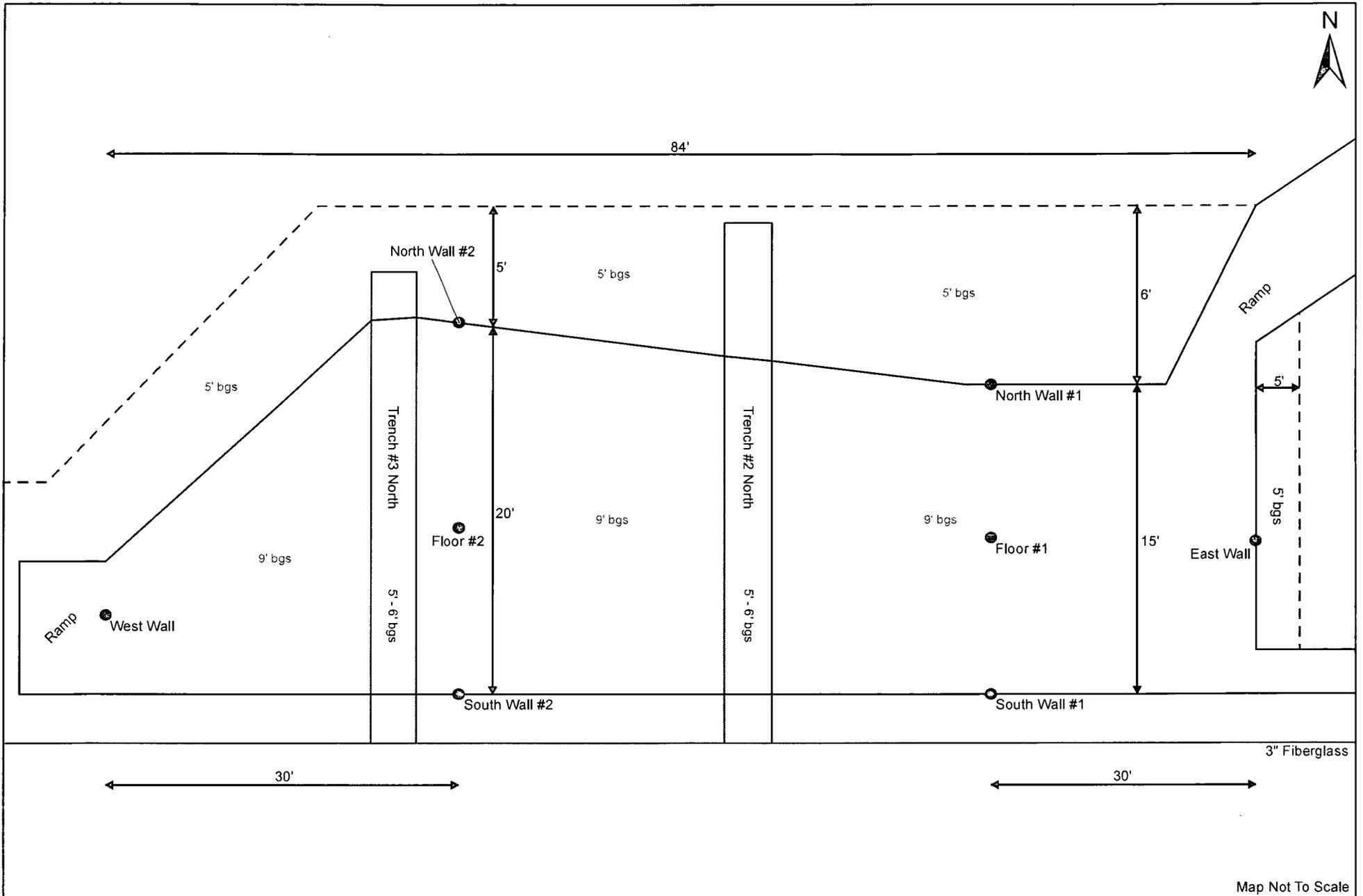
— Excavation Extent	--- Historic Pipeline
--- Bench	— Power Line
— Delineation Trench	⊙ Soil Boring
— Steel Pipeline	● Sample Location
— Fiberglass Pipeline	□ Polyurethane Liner

**Figure 3**  
**Site & Sample Location Map**  
**South Excavation (East)**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCD Reference #'s: 2RP-1174 & 2RP-1265**



Basin Environmental Service Technologies, LLC  
 3100 Plains Hwy.  
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Drawn By: BJA	Checked By: SDW
February 1, 2013	



Map Not To Scale

**Legend:**

— Excavation Extent	- - - Historic Pipeline
- - - Bench	— Power Line
— Delineation Trench	⊙ Soil Boring
— Steel Pipeline	● Sample Location
— Fiberglass Pipeline	□ Polyurethane Liner

**Figure 6**  
**Site & Sample Location Map**  
**North Excavation (East)**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCD Reference #'s: 2RP-1174 & 2RP-1265**



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

Drawn By: BJA	Checked By: SDW
February 1, 2013	



SB-5

Trench #11 North

Trench #10 North

Trench #9 North

Trench #8 North

Trench #7 North

Trench #6 North

Trench #5 North

Trench #4 North

Ramp

3" Fiberglass

Map Not To Scale

Note: Trench depths average approximately 5' - 6' bgs.

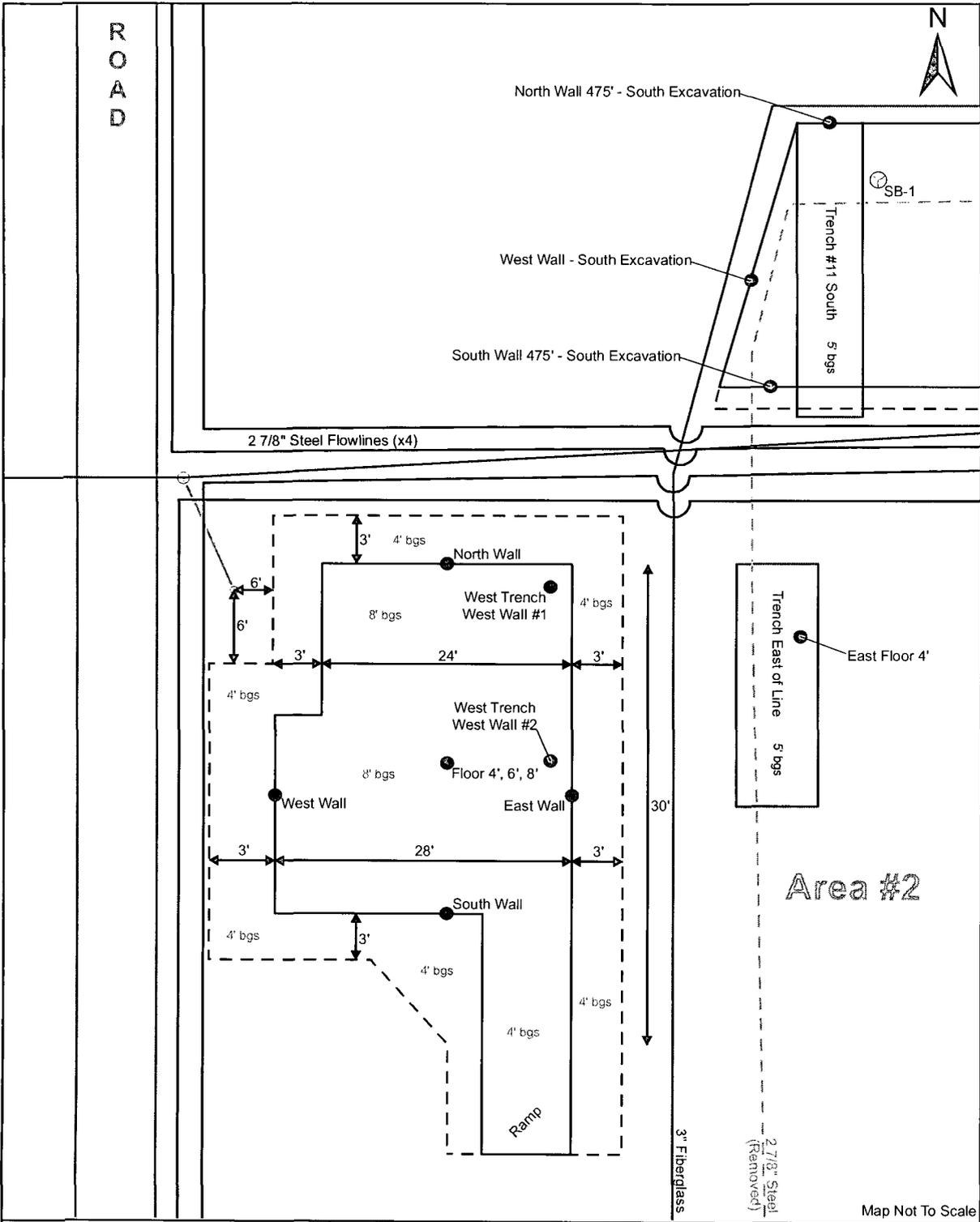
- Legend:
- Excavation Extent
  - - - Historic Pipeline
  - - - Bench
  - Power Line
  - Delineation Trench
  - ⊕ Soil Boring
  - Steel Pipeline
  - Sample Location
  - Fiberglass Pipeline
  - Polyurethane Liner

**Figure 7**  
**Site & Sample Location Map**  
**North Excavation (West)**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCD Reference #'s: 2RP-1174 & 2RP-1265**



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

Drawn By: BJA	Checked By: SDW
February 1, 2013	



**Legend:**

— Excavation Extent	— Road
- - - Bench	— Power Line
— Delineation Trench	— Guy-Wire
— Steel Pipeline	⊙ Soil Boring
— Fiberglass Pipeline	● Sample Location
- - - Historic Pipeline	

**Figure 8**  
**Site & Sample Location Map**  
**Area #2 (West Excavation)**  
**BOPCO, LP**  
**James Ranch Unit #29 SWD**  
**Eddy County, New Mexico**  
**NMOCDD Ref. #'s: 2RP-1174 & 2RP-1265**

	Basin Environmental Service Technologies 3100 Plains Hwy. Lovington, NM 88260	
	Drawn By: BJA	Checked By: SDW
	February 4, 2013	

Map Not To Scale

# Tables

TABLE 1

## CONCENTRATIONS OF BENZENE, BTEX, TPH &amp; CHLORIDE IN SOIL

BOPCO, LP  
 JAMES RANCH UNIT #29 SWD  
 EDDY COUNTY, NEW MEXICO  
 NMOCD REFERENCE #'S: 2RP-1174 & 2RP-1265

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	4500 Cl-B CHLORIDE (mg/Kg)
				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)		
SB-1 @ 5'	5'	8/22/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	16,800
SB-1 @ 10'	10'	8/22/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	21,600
SB-1 @ 15'	15'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	19,200
SB-1 @ 20'	20'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	448
SB-1 @ 25'	25'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	176
SB-1 @ 30'	30'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	64.0
SB-2 @ 5'	5'	8/22/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	13,000
SB-2 @ 10'	10'	8/22/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	7,700
SB-2 @ 15'	15'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	5,520
SB-2 @ 20'	20'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	1,440
SB-2 @ 25'	25'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	224
SB-3 @ 5'	5'	8/22/2012	In-Situ	-	-	-	-	-	<10.0	21.3	11.1	32.4	12,000
SB-3 @ 10'	10'	8/22/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	4,480
SB-3 @ 15'	15'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	480
SB-3 @ 20'	20'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	144
SB-3 @ 25'	25'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	128
SB-4 @ 5'	5'	8/22/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	14,800
SB-4 @ 10'	10'	8/22/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	15,800
SB-4 @ 15'	15'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	1,740
SB-4 @ 20'	20'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	2,120
SB-4 @ 25'	25'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	176
SB-5 @ 5'	5'	8/22/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	32.0
SB-5 @ 10'	10'	8/22/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	64.0
SB-5 @ 15'	15'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	160
SB-5 @ 20'	20'	8/22/2012	In-Situ	-	-	-	-	-	-	-	-	-	144
West Trench - West Wall #1	3'	8/22/2012	Excavated	-	-	-	-	-	-	-	-	-	2,200
West Trench - West Wall #2	3'	8/22/2012	Excavated	-	-	-	-	-	-	-	-	-	13,800
North Wall #1 - North Excavation	7'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	1,040
North Wall #2 - North Excavation	7'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	176
East Wall - North Excavation	7'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	366
South Wall #1 - North Excavation	7'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	20,400
South Wall #2 - North Excavation	7'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	16,000
West Wall - North Excavation	7'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	48.0
Floor #1 - North Excavation	8'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	480
Floor #2 - North Excavation	8'	1/17/2013	In-Situ	-	-	-	-	-	-	-	-	-	480

TABLE 1

## CONCENTRATIONS OF BENZENE, BTEX, TPH &amp; CHLORIDE IN SOIL

BOPCO, LP  
 JAMES RANCH UNIT #29 SWD  
 EDDY COUNTY, NEW MEXICO  
 NMOCD REFERENCE #'S: 2RP-1174 & 2RP-1265

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL	4500 Cl-B
				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)
North Wall 50' - South Excavation	10'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	16,600
North Wall 100' - South Excavation	8'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	56,000
North Wall 150' - South Excavation	9'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	17,600
North Wall 200' - South Excavation	7'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	18,800
North Wall 250' - South Excavation	6'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	39,200
North Wall 300' - South Excavation	6'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	22,000
North Wall 350' - South Excavation	7'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	8,800
North Wall 400' - South Excavation	10'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	20,000
East Wall - South Excavation	10'	1/23/2013	Excavated	-	-	-	-	-	-	-	-	-	7,680
South Wall 50' - South Excavation	10'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	352
South Wall 100' - South Excavation	8'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	576
South Wall 150' - South Excavation	9'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	160
South Wall 200' - South Excavation	7'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	272
South Wall 250' - South Excavation	6'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	1,180
South Wall 300' - South Excavation	6'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	2,100
South Wall 350' - South Excavation	7'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	192
South Wall 400' - South Excavation	10'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	1,200
Floor 50' - South Excavation	11'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	17,200
Floor 100' - South Excavation	9'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	704
Floor 150' - South Excavation	10'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	288
Floor 200' - South Excavation	8'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	32.0
Floor 250' - South Excavation	7'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	1,260
Floor 300' - South Excavation	7'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	17,200
Floor 350' - South Excavation	8'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	11,800
Floor 400' - South Excavation	11'	1/23/2013	In-Situ	-	-	-	-	-	-	-	-	-	12,200
North Wall 450' - South Excavation	13'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	28,600
North Wall 475' - South Excavation	13'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	15,800
East Wall #2 - South Excavation	10'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	3,480
South Wall 450' - South Excavation	13'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	3,720
South Wall 475' - South Excavation	13'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	11,000
West Wall - South Excavation	13'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	17,200
Floor 450' - South Excavation	14'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	16,200
North Wall Area #2 - West Excavation	7'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	18,200
East Wall Area #2 - West Excavation	7'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	192
South Wall Area #2 - West Excavation	7'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	1,390
West Wall Area #2 - West Excavation	7'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	9,000
Floor 4' Area #2 - West Excavation	4'	1/30/2013	Excavated	-	-	-	-	-	-	-	-	-	16,000
Floor 6' Area #2 - West Excavation	6'	1/30/2013	Excavated	-	-	-	-	-	-	-	-	-	2,680
Floor 8' Area #2 - West Excavation	8'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	80.0
East Floor 4' Area #2 - West Excavation	4'	1/30/2013	In-Situ	-	-	-	-	-	-	-	-	-	176
<b>NMOCD Regulatory Standard</b>				<b>10</b>				<b>50</b>				<b>5,000</b>	<b>5,000</b>

- = Not analyzed.

# Appendices

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

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141  
Revised October 10, 2003

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

**Release Notification and Corrective Action**

*nMLB 1216757185* OPERATOR  Initial Report  Final Report

Name of Company BOPCO, L.P. <i>260737</i>	Contact Tony Savoie
Address 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-556-8730
Facility Name James Ranch Unit 29 SWD	Facility Type E&P

Surface Owner State of New Mexico	Mineral Owner State of New Mexico	Lease No. <i>APZ*</i>
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**LOCATION OF RELEASE** *30-015-27735*

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	22S	30E					Eddy

Latitude N 32.346284 Longitude W 103.837459

**NATURE OF RELEASE**

Type of Release: Produced water	Volume of Release: 175 Bbbs of Produced water	Volume Recovered: 50 Bbbs
Source of Release: 2 7/8" flow line	Date and Hour of Occurrence 5/22/12 Time unknown	Date and Hour of Discovery 5/22/12 9:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD Emergency #104	
By Whom? Tony Savoie	Date and Hour 5/22/12 2:30 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* The flow line developed a leak due to internal corrosion. The SWD pump at the JRU-29 was shut down and 1 joint of pipe was replaced.		
Describe Area Affected and Cleanup Action Taken.* Approximately 3240 sq. ft. of pasture land. All of the free standing water was picked up with a vacuum truck. The spill stayed within the pipeline right-of-way. A backhoe was used to collect samples at the point of release and the ponded areas on 5/30/12 to determine the vertical and horizontal extent. The remediation will comply with the NMOCD and BLM requirements for spills.		
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: <i>Tony Savoie</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie	Approved by Director <i>Alita Benavides</i>	Signed By <i>Alita Benavides</i>
Title: Waste Mgmt. & Remediation Specialist	Approval Date: <b>JUN 15 2012</b>	Expiration Date:
E-mail Address: TASavoie@BassPet.com	Conditions of Approval: Remediation per OCD Rules & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NOT LATER THAN: 7/15/2012</b>	
Date: 6/3/12 Phone: 432-556-8730	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

**RECEIVED**  
JUN 12 2012  
**NMOCD ARTESIA**

*2RA-1174*

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

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

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

*njm 1224160735*

Name of Company: BOPCO, L.P. <i>260737</i>		OPERATOR	<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220		Contact: Tony Savoie		
Facility Name: JRU-29 to Hudson Federal #1 SWD The spill was 200 ft. east of the JRU-67 pumping well.		Telephone No. 575-887-7329		
Facility Type: Exploration and Production				
Surface Owner: State of N.M.	Mineral Owner: State of N.M.	API No. 30-015-31004		

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	22S	30 E					Eddy

Latitude N 32.346239 Longitude W 103.838688

**NATURE OF RELEASE**

Type of Release: Produced water	Volume of Release: 100 bbls.	Volume Recovered: 80 bbls.
Source of Release: A buried 2 7/8" SWD line	Date and Hour of Occurrence: 8/8/12 Approximately 12:00 p.m.	Date and Hour of Discovery: 8/8/12 Approximately 1:45 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? The NMOCD emergency #104	
By Whom? Tony Savoie	Date and Hour: 8/8/12 at 2:57 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* The 2 7/8 SWD line from the JRU-29 disposal to the Hudson Federal #1 SWD well developed and internal corrosion leak, the SWD pump was shut down and a temporary repair clamp was placed on the affected area of the pipe. The entire line will be replaced during the time of the remediation effort.		
Describe Area Affected and Cleanup Action Taken.* Approximately 2550 sq.ft. of pasture land was affected by the release, a vacuum truck was used to remove all of the free standing water from the pool areas. this area was previously impacted by a produced water spill on 5/22/12. A C-141 was submitted by BOPCO for that release. An air rotary rig was scheduled to determine the horizontal extent of the release the week of 8/6/12 but was delayed due to scheduling problems. The applications to drill and remediate the area had been approved by the NMOSE and the NMSLO. The rig is set up for the week of 8/13/12 to drill the soil bores. A remediation plan will be developed and submitted to the NMOCD.		
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.		

**RECEIVED**  
AUG 20 2012  
NMOCD ARTESIA

Signature: <i>Tony Savoie</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie	Approved by Environmental Specialist:	Signed By: <i>Mike Beaman</i>
Title: Waste Management and Remediation Specialist	Approval <b>AUG 28 2012</b>	Expiration Date:
E-mail Address: <i>tasavoie@basspet.com</i>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8/15/12	Phone: 432-556-8730	

\* Attach Additional Sheets If Necessary

Remediation per OCD Rules & Guidelines. **SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:**  
9/28/12

*2RP-1265*

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
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District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

**RECEIVED**  
OCT 03 2013  
NMOCD ARTESIA

Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report       Final Report

Name of Company	BOPCO, LP	Contact	Tony Savoie
Address	522 W. Mermod, Suite 704, Carlsbad, NM 88220	Telephone No.	(432)556-8730
Facility Name	James Ranch Unit #29 SWD	Facility Type	E&P
Surface Owner	State of N.M.	Mineral Owner	State of N.M.
		Lease No.	API #30-015-27735

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	22S	30E					Eddy

**Latitude** 32.346284° North      **Longitude** 103.837459° West

**NATURE OF RELEASE**

Type of Release	Produced water	Volume of Release	175 bbls of produced water	Volume Recovered	50 bbls
Source of Release	2 7/8" flow line	Date and Hour of Occurrence	5/22/12 Time unknown	Date and Hour of Discovery	5/22/12 9:00 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Not Required		If YES, To Whom? NMOCD Emergency #104		
By Whom?	Tony Savoie		Date and Hour 5/22/12 2:30 p.m.		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If YES, Volume Impacting the Watercourse.		

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* The flow line developed a leak due to internal corrosion. The SWD pump at the JRU-29 was shut down, and 1 joint of pipe was replaced.

Describe Area Affected and Cleanup Action Taken.\* Approximately 3240 sq. ft. of pasture land. All of the free-standing fluid was picked up with a vacuum truck. The spill stayed within the pipeline right-of-way. Following initial response activities, the release was remediated as per NMOCD recommended guidelines. Please reference the attached *Remediation Summary & 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.

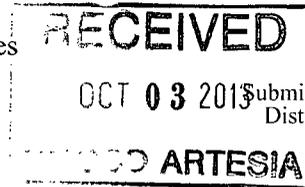
Signature: <i>Tony Savoie</i>	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: <i>Tony Savoie</i>	Approved by District Supervisor:	
Title:	Approval Date:	Expiration Date:
E-mail Address:	Conditions of Approval:	
Date: <i>10/3/13</i>	Phone:	

*2RP-1174*

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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



Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report

Final Report

Name of Company	BOPCO, LP	Contact	Tony Savoie
Address	522 W. Mermod, Suite 704, Carlsbad, NM 88220	Telephone No.	(432)556-8730
Facility Name	JRU-29 to Hudson Federal #1 SWD The spill was 200 ft. east of the JRU-67 pumping well.	Facility Type	E&P
Surface Owner	State of N.M.	Mineral Owner	State of N.M.
		Lease No.	API #30-015-31004

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	22S	30E					Eddy

Latitude 32.346239° North

Longitude 103.838688° West

**NATURE OF RELEASE**

Type of Release	Produced water	Volume of Release	100 bbls of produced water	Volume Recovered	80 bbls
Source of Release	A buried 2 7/8" SWD line	Date and Hour of Occurrence	8/8/12 Approximately 12:00 pm	Date and Hour of Discovery	8/8/12 Approximately 1:45 pm
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	NMOCD Emergency #104		
By Whom?	Tony Savoie	Date and Hour	8/8/12 2:57 p.m.		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* The 2 7/8" SWD line from the JRU-29 disposal to the Hudson Federal #1 SWD well developed an internal corrosion leak. The SWD was shut down, and a temporary repair clamp was placed on the affected area of the pipe. The entire line was replaced prior to remediation activities.

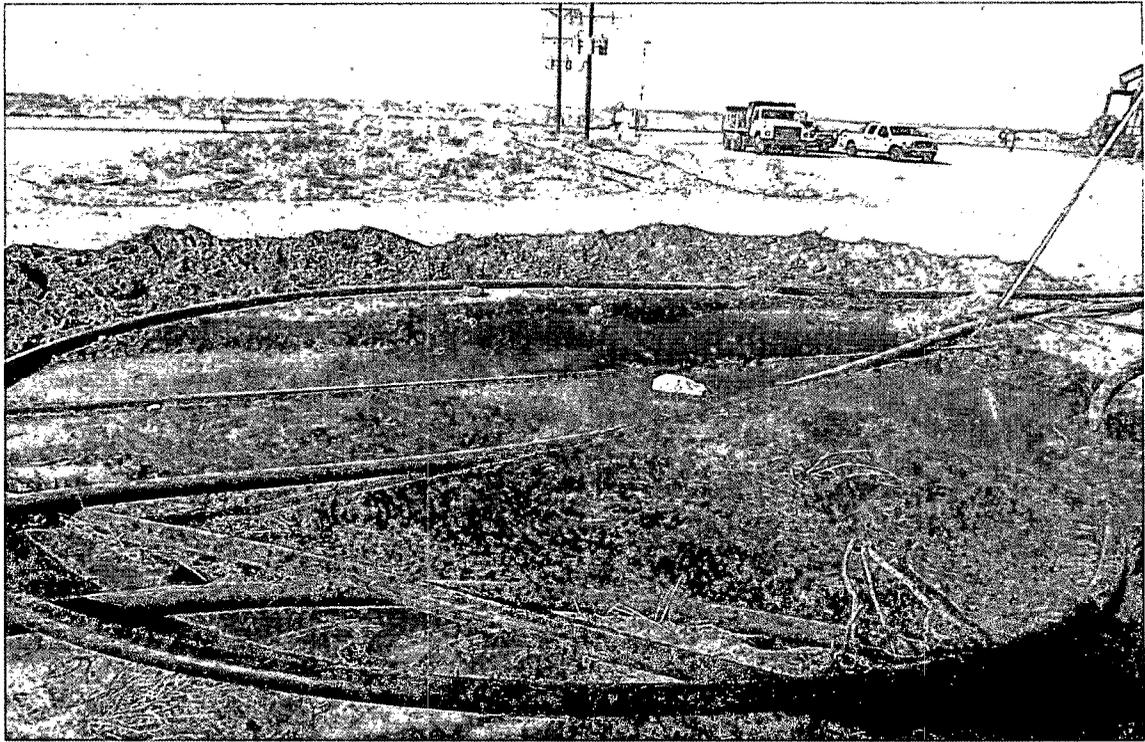
Describe Area Affected and Cleanup Action Taken.\* Approximately 2250 sq. ft. of pasture land was affected by the release. A vacuum truck was utilized to remove all of the free-standing water from the pooled areas. The area was previously impacted by a produced water spill on 5/22/12. Following initial response activities, both releases were remediated as per NMOCD recommended guidelines. Please reference the attached *Remediation Summary & 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: <i>Tony Savoie</i>		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>TONY SAVOIE</b>		Approved by District Supervisor:	
Title:	Approval Date:	Expiration Date:	
E-mail Address:	Conditions of Approval:		
Date: <b>10/3/13</b>	Phone:		

*2RP-1265*

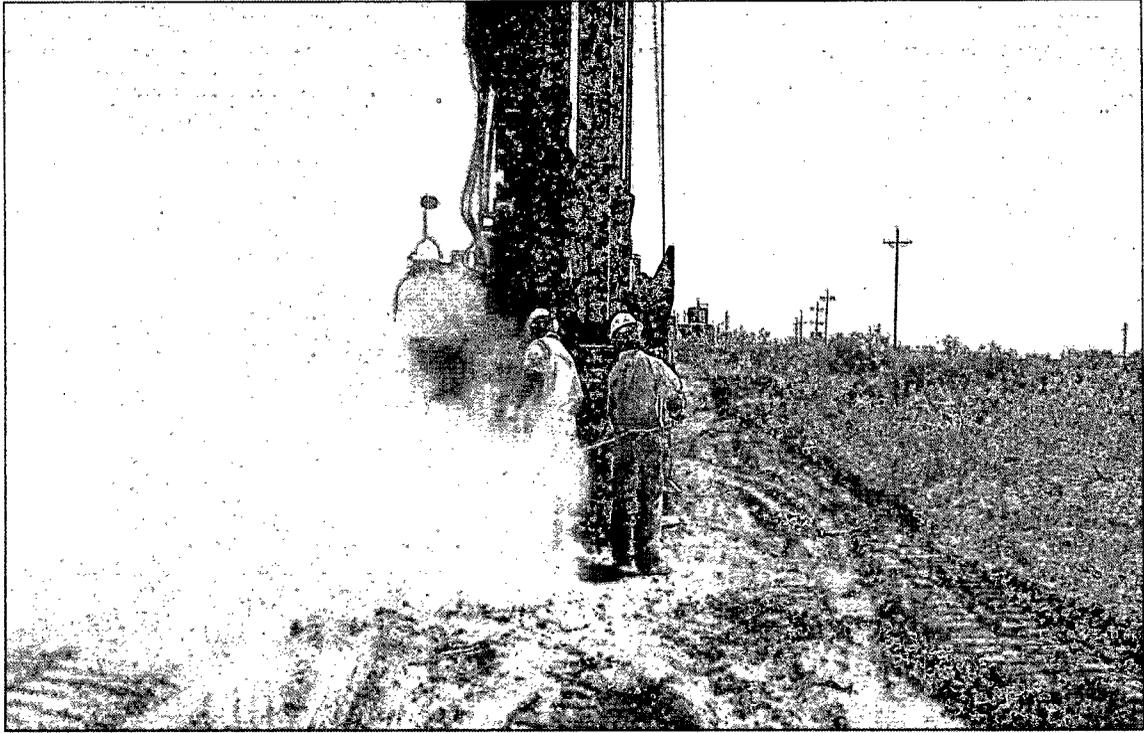
**Appendix B**  
**Photographs**



James Ranch Unit #29 SWD - Pooling Area (Looking West)



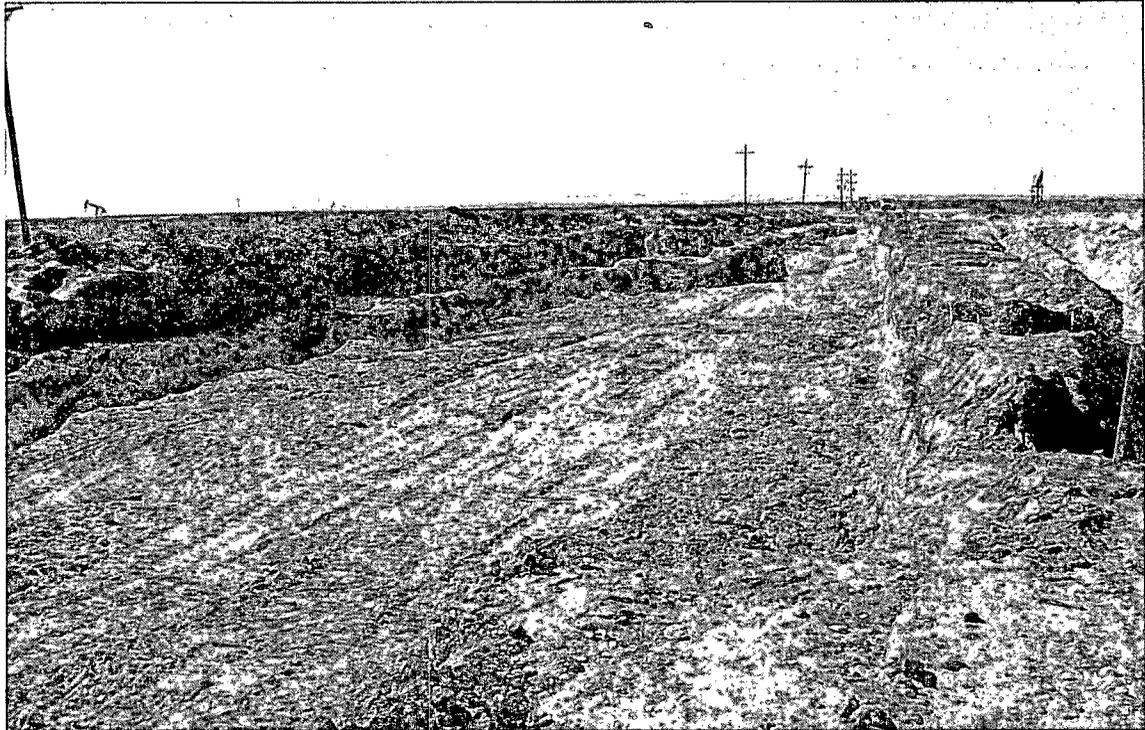
James Ranch Unit #29 SWD - Pooling Area (Looking East)



James Ranch Unit #29 SWD - Advancement of Delineation Soil Boring



James Ranch Unit #29 SWD - North Excavation (Looking West)



James Ranch Unit #29 SWD - South Excavation (Looking West)



James Ranch Unit #29 SWD - South Excavation (Looking West-Southwest)



James Ranch Unit #29 SWD - South Excavation (Looking East)



James Ranch Unit #29 SWD - Area #2 Excavation (Looking South)



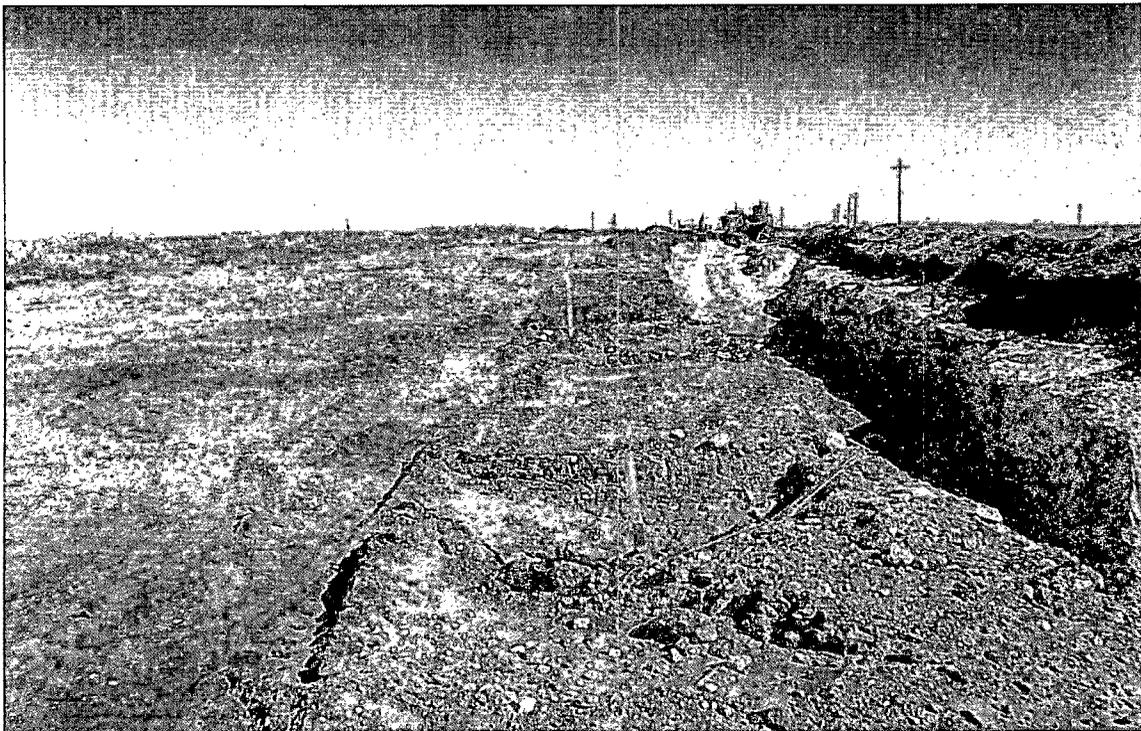
James Ranch Unit #29 SWD - Area #2 Excavation



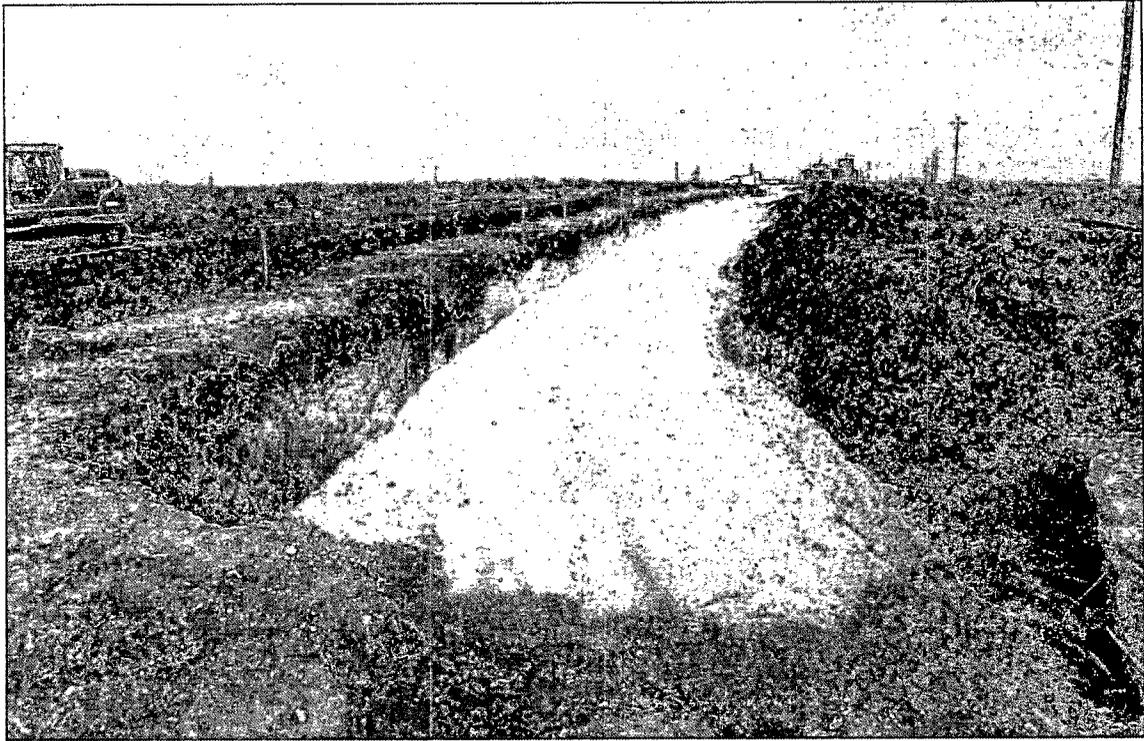
James Ranch Unit #29 SWD - South Excavation, Liner Installation (Looking West)



James Ranch Unit #29 SWD - South Excavation, Liner Installation (Looking East)



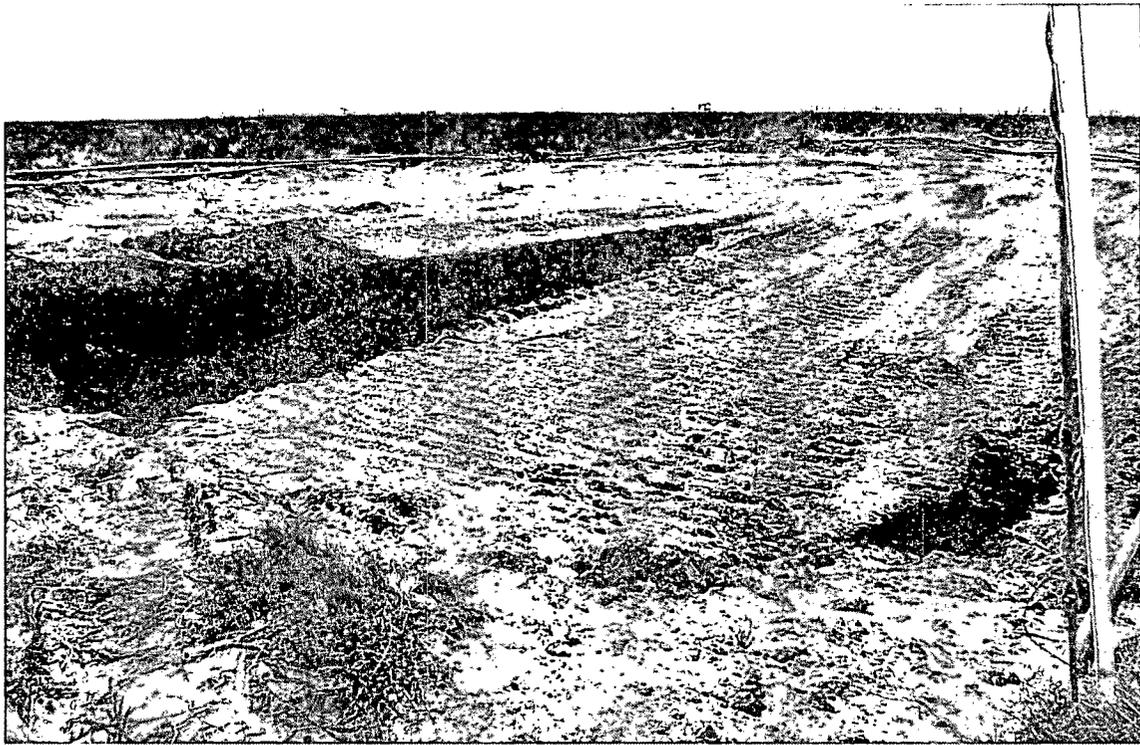
James Ranch Unit #29 SWD - North Excavation Following Backfill (On Left, Looking East)



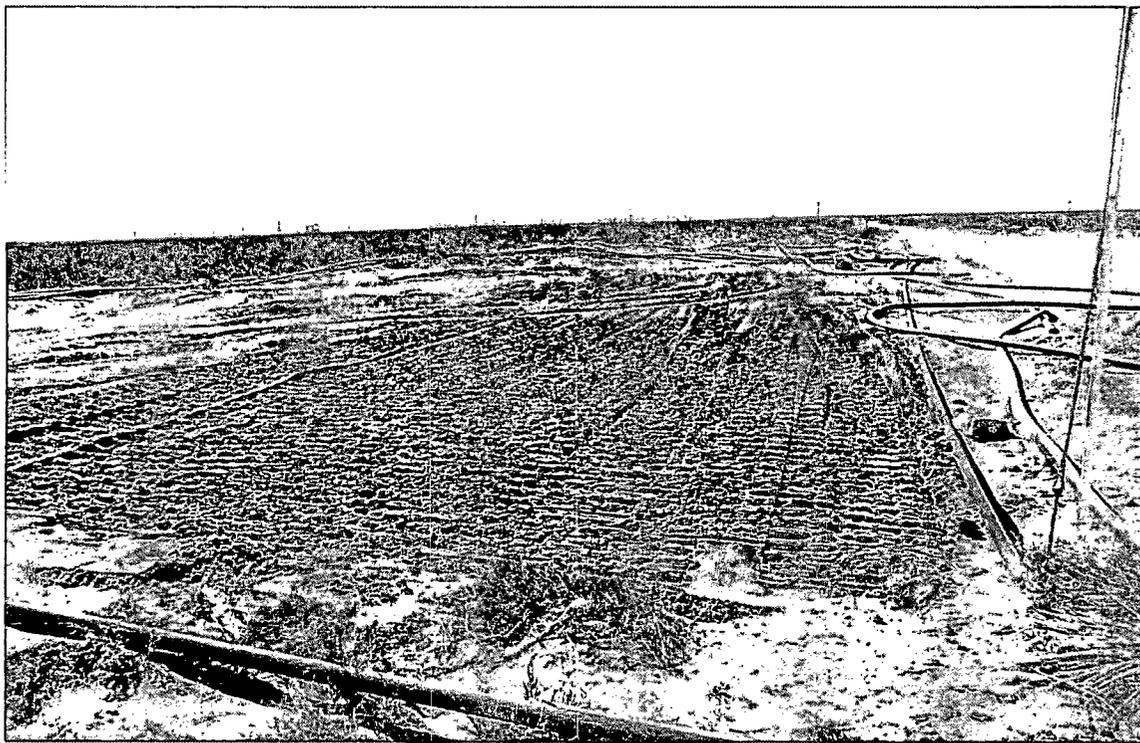
James Ranch Unit #29 SWD - South Excavation, During Backfilling (Looking East)



James Ranch Unit #29 SWD - North & South Excavations Following Backfill (Looking West)



James Ranch Unit #29 SWD - Area #2 Excavation, During Backfilling (Looking Southeast)



James Ranch Unit #29 SWD - Area #2 Excavation, Following Backfill (Looking Southeast)

## **Appendix C**

### **Soil Boring & Monitor Well Logs**

# Soil Boring SB-1

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description	Boring SB-1
0			(0.8)	None	None	0' - 5' - Red very fine sand with clay	Date Drilled: <u>August 22, 2012</u>
5			(0.6)	None	None	5' - 6' - Tan fine sand; sandstone	Thickness of Bentonite Seal: <u>30 Ft</u>
10			(1.3)	None	None	6' - 15' - Red very fine sand with clay	Depth of Exploratory Boring: <u>30 Ft bgs</u>
15			(0.5)	None	None	15' - 24' - Red silty clay	Depth to Groundwater: _____
20			(612)	(0.5)	None	None	Ground Water Elevation: _____
25			(352)	(1.1)	None	None	Indicates the PSH level measured on _____
30			(<112)	(0.3)	None	None	Indicates the groundwater level measured on _____
						24' - 25' - Red sandstone; gypsum	Indicates samples selected for Laboratory Analysis.
						25' - 27' - Red silty clay; gypsum	PID Head-space reading in ppm obtained with a photo-ionization detector.
						27' - 30' - Tannish red silty clay	

### Completion Notes

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

**Soil Boring SB-1**

BOPCO, LP  
James Ranch Unit #29 SWD  
Eddy County, New Mexico  
NMOCD Reference #: 2RP-1174 & 2RP-1265



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

Prep By: BJA	Checked By: BRB
September 5, 2012	

# Soil Boring SB-2

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
-------------------------------------	----------------	---------------------------	----------------	-------------------	--------------------	------------------

0  
5  
10  
15  
20  
25



(2.8)

None      None

0' - 14' - Red very fine sand w/ clay

(2.3)

None      None

(>2,432)

None      None

(388)

None      None

14' - 25' - Red silty clay

(280)

None      None

### Boring SB-2

Date Drilled August 22, 2012  
 Thickness of Bentonite Seal 25 Ft  
 Depth of Exploratory Boring 25 Ft bgs  
 Depth to Groundwater \_\_\_\_\_  
 Ground Water Elevation \_\_\_\_\_

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

### Completion Notes

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

**Soil Boring SB-2**

**BOPCO, LP**  
 James Ranch Unit #29 SWD  
 Eddy County, New Mexico  
 NMOCD Reference #: 2RP-1174 & 2RP-1265



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

Prep By: BJA	Checked By: BRB
September 5, 2012	

# Soil Boring SB-3

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0			1.6	None	None	0' - 5' - Red very fine sand w/ clay
5			0.7	None	None	5' - 7' - Tan fine sand; caliche; sandstone
10				None	None	7' - 16' - Tan fine sand; sandstone
15		516		None	None	
20		136		None	None	
25		248		None	None	16' - 25' - Red silty clay

### Boring SB-3

Date Drilled August 22, 2012  
 Thickness of Bentonite Seal 25 Ft  
 Depth of Exploratory Boring 25 Ft bgs  
 Depth to Groundwater \_\_\_\_\_  
 Ground Water Elevation \_\_\_\_\_

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

### Completion Notes

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

**Soil Boring SB-3**

**BOPCO, LP**  
 James Ranch Unit #29 SWD  
 Eddy County, New Mexico  
 NMOCD Reference #: 2RP-1174 & 2RP-1265



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

Prep By: BJA	Checked By: BRB
September 5, 2012	

# Soil Boring SB-4

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description	Boring SB-4	
0			(0.5)	None	None	0' - 3' - Red fine sand w/ clay	Date Drilled <u>August 22, 2012</u>	
5			(0.1)	None	None	3' - 4' - Tan fine sand; caliche; sandstone	Thickness of Bentonite Seal <u>25 Ft.</u>	
10				None	None	4' - 12' - Tan fine sand; sandstone	Depth of Exploratory Boring <u>25 Ft. bgs</u>	
15			(428)		None	None	12' - 16' - Red fine sand	Depth to Groundwater _____
20			(188)		None	None	16' - 25' - Red silty clay	Ground Water Elevation _____
25								

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

### Completion Notes

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

**Soil Boring SB-4**

**BOPCO, LP**  
James Ranch Unit #29 SWD  
Eddy County, New Mexico  
NMOCD Reference #: 2RP-1174 & 2RP-1265



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

Prep By: BJA	Checked By: BRB
September 5, 2012	

# Soil Boring SB-5

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description	Boring SB-5
0						0' - 2' - Red fine sand w/ clay	Date Drilled <u>August 22, 2012</u>
5		<112	0.1	None	None	2' - 5' - Tan fine sand; caliche	Thickness of Bentonite Seal <u>20 Ft</u>
10		146	0.5	None	None	5' - 8' - Tan fine sand; sandstone	Depth of Exploratory Boring <u>20 Ft bgs</u>
15		216		None	None	8' - 20' - Red silty clay	Depth to Groundwater _____
20		216		None	None		Ground Water Elevation _____

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

### Completion Notes

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

**Soil Boring SB-5**

**BOPCO, LP**  
 James Ranch Unit #29 SWD  
 Eddy County, New Mexico  
 NMOCD Reference #: 2RP-1174 & 2RP-1265



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

Prep By: BJA	Checked By: BRB
September 5, 2012	

**Appendix D**  
**Permits**



**Ray Powell, M.S., D.V.M.**  
**COMMISSIONER**

*State of New Mexico*  
*Commissioner of Public Lands*

310 OLD SANTA FE TRAIL  
P.O. BOX 1148  
SANTA FE, NEW MEXICO 87504-1148

**COMMISSIONER'S OFFICE**

Phone (505) 827-5760

Fax (505) 827-5766

[www.nmstatelands.org](http://www.nmstatelands.org)

July 20, 2012

**BOBCO, LP**  
**522 W. Mermod**  
**Carlsbad, New Mexico 88220**

Attn: Tony Savoie

Re: Right-of-Entry Application No. ROE-2170

Dear Mr. Savoie,

Enclosed is the completed captioned Right-of-Entry permit. If any corrections are necessary, please let us know and we will retype or amend this lease as necessary.

If you have any questions, please feel free to contact this office at the above address or for Donald Martinez, Surface Director @ (505) 827-5731 or myself @ 827-5710.

Sincerely,

A handwritten signature in black ink, appearing to read "Anthony Vigil", is written over a horizontal line.

Anthony Vigil, Management Analyst  
Right of Ways &  
Water Resources Bureau

**NEW MEXICO STATE LAND OFFICE**  
**Ray Powell, M.S., D.V.M., Commissioner of Public Lands**  
**New Mexico State Land Office Building**  
**P.O. Box 1148, Santa Fe, NM 87504-1148**

**RIGHT OF ENTRY PERMIT**  
**CONTRACT NO. ROE-2170**  
**(Remediation)**

**1. RIGHT OF ENTRY PERMIT**

This permit is issued under the authority of NMSA 1978, Section 19-1-2. Therefore, and in consideration of and subject to the terms, covenants, conditions, agreements, obligations and reservations contained in the permit and all other existing rights, the Commissioner of Public Lands, New Mexico State Land Office, State Of New Mexico, hereinafter called "COMMISSIONER," grants to **BOPCO, LP** State of Incorporation (if applicable), whose address is **522 W. Mermod, Carlsbad, NM 88220** hereinafter called "PERMITTEE," authorized use of a specific tract(s) of State Trust Land only for the term, and only for the permitted use, described in this permit.

**2. TERM AND LAND DESCRIPTION**

Right of entry is granted for a term of **180 days**, commencing **July 5, 2012** and ending **January 1, 2013** to the following State Trust Lands.

**Section 36, Township 22 South, Range 30 East. NE ¼ SW ¼ Eddy County**

**3. APPLICATION and PROCESSING FEE**

**\$ 530.00 (Five Hundred Thirty Dollars)**

**4. PERMITTED USE, PERSONNEL, EQUIPMENT AND MATERIALS**

Permitted use is for the purpose of: **Perform Soil Remediation. (Please note that this permit does Not cover Monitor Wells).**

Personnel present on State Trust Land: **Representatives of BOPCO, Basin Environmental and Straub Corporation.**

Equipment & Materials present on State Trust Land: **Drilling rig, excavator, backhoe, dump trucks and pickups**

***Prior to execution of project company must identify and contact the Grazing Lessee.***

***The granting of this permit does not allow access across private lands.***

#### **5. IMPROVEMENTS**

No improvements shall be placed on the premises without the prior written consent of the Commissioner.

#### **6. RESERVATIONS**

Commissioner reserves the right to execute leases, rights of way, easements, permits, exchange agreements, sale agreements, permits and other lawful rights on or across the land covered by this permit, including but not limited to any such rights for mining purposes and for the extraction of oil, gas, salt, geothermal resources, and other mineral deposits there from and the right to go upon, explore for, mine, remove and sell same.

#### **7. COMPLIANCE WITH LAWS**

Permittee shall at its own expense comply fully with and be subject to all applicable regulations, rules, ordinances, and requirements of law or of the Commissioner, including but not limited to the regulations of the State Land Office; Chapter 19 NMSA governing State Trust Lands; federal and state environmental laws and regulations; and the New Mexico Cultural Properties Act, NMSA 1978 Sections 18-6-1 through 18-6-23. It is illegal for any person or his agent to appropriate, excavate, injure, or destroy any historic, or prehistoric ruin or monument, or any object of historical, archaeological, architectural, or scientific value situated on lands owned or controlled by the State Land Office without a valid permit issued by the Cultural Properties Review Committee and approved by the Commissioner of Public Lands.

#### **8. HOLD HARMLESS AND INDEMNIFICATION**

Permittee shall save, hold harmless, indemnify and defend Commissioner, the State Land Office, the State of New Mexico, and any of their officers, employees or agents, in their official and individual capacities, of and from any and all liability, claims, losses, damages, costs, and fees arising out of or alleged to arise out of, or directly or indirectly connected with, the operations of Permittee under this permit on or off State Trust Lands or arising out of the presence on State Trust Lands of any equipment, material, agent, invitee, contractor or subcontractor of Permittee. This Hold Harmless and Indemnification clause covers any claim, including any brought in any court or before any administrative agency, of any loss or alleged loss, and any damages or alleged damages asserted with respect to any violation or alleged violation of any state, federal or local law or regulation, including but not limited to any environmental law or regulation, any cultural properties law (including the New Mexico Cultural Properties Act, cited above) or regulation, and any alleged damage to the property, rights or interests of any

State Land Office lessee, right-of-way holder, or other permittee.

#### **9. AMENDMENT**

This permit shall not be altered, changed, or amended except by an instrument in writing executed by Commissioner and Permittee.

#### **10. WITHDRAWAL**

Commissioner reserves the right to withdraw any or all of the land authorized for use under this permit. If applicable, Permittee shall vacate the acreage specified within 30 days after receipt of written notification of withdrawal from the Commissioner.

#### **11. CANCELLATION**

The violation by Permittee of any of the terms, conditions, or covenants of this permit or the nonpayment by Permittee of the fees due under this permit shall at the option of the Commissioner be considered a default and shall cause the cancellation of this permit 30 days after Permittee has been sent written notice of such.

#### **12. PRESERVE AND PROTECT**

The Permittee agrees to preserve and protect the natural environmental conditions of the land encompassed in this permit, and to take those reclamation or corrective actions that are accepted soil and water conservation practices and that are deemed necessary by the Commissioner to protect the land from pollution, erosion, or other environmental degradation. The Permittee further agrees not to injure the property of, or interfere with the operations or rights of, any State Land Office lessee, right-of-way holder, easement holder or other permittee who has rights to use the State Trust Land subject to this permit.

#### **13. RECLAMATION, REMOVAL OF EQUIPMENT, MATERIALS, AND WASTE**

The Permittee agrees to reclaim those areas that may be damaged by activities conducted thereon.

The Permittee agrees to remove from the State Trust Lands, no later than the end of the term of this permit, all equipment, and materials it has placed or brought upon the land and to clean up and remove from the land any trash, waste, effluent, or other products used or brought upon the land in connection with this permit.

#### **14. SPECIAL INSTRUCTIONS AND/OR RESTRICTIONS**

1. No off road traffic allowed.
2. No wood collection or tree cutting allowed.
3. Disturbing, dislodging, damaging, defacing, destroying or removing historical

archaeological, paleontological or cultural sites or artifacts is prohibited.

4. Disturbing, dislodging, damaging, defacing, destroying any improvement, fixture, item, object or thing placed or located in, under or upon the land is prohibited.

5. This permit does not grant a right to enter State Trust Lands to which there is no public access.

6. Any uses or activities not within the scope of this permit are not allowed unless prior written approval from the Commissioner of Public Lands is granted.

7. OTHER:

WITNESS the hands and seals of PERMITTEE and COMMISSIONER on the day(s) and year entered below.

[Signature]  
PERMITTEE

Telephone: (432) 683-2277

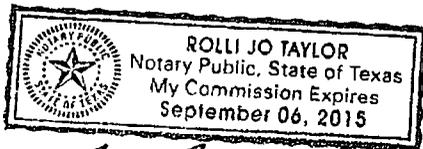
ACKNOWLEDGMENT

STATE OF Texas )

COUNTY OF Midland )

The foregoing instrument was acknowledged before me this 11 day of July, 2012.

My Commission Expires: 9/6/2015 [Signature]  
NOTARY PUBLIC



[Signature]  
COMMISSIONER OF PUBLIC LANDS

DATE: 7/20/12

Scott A. Verhines, P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 507736  
File Nbr: C 03561

Aug. 01, 2012

BEN ARGUIJO (BASIN ENVIRONMENTAL  
BOPCO, LP  
522 WEST MERMOD  
CARLSBAD, NM 88220

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 08/31/2013, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 08/31/2013.

Appropriate forms can be downloaded from the OSE website [www.ose.state.nm.us](http://www.ose.state.nm.us) or will be mailed upon request.

Sincerely,

  
Bill Duemling  
(575) 622-6521

Enclosure

explore

File No. **C-3561**

**NEW MEXICO OFFICE OF THE STATE ENGINEER**



**APPLICATION FOR PERMIT TO DRILL A WELL  
WITH NO CONSUMPTIVE USE OF WATER**



(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

**2-31549 \$5.00**  
**2-31727 \$20.00**

Purpose:	<input type="checkbox"/> Pollution Control And / Or Recovery	<input type="checkbox"/> Geo-Thermal
<input checked="" type="checkbox"/> Exploratory	<input type="checkbox"/> Construction Site De-Watering	<input type="checkbox"/> Other (Describe):
<input type="checkbox"/> Monitoring	<input type="checkbox"/> Mineral De-Watering	

A separate permit will be required to apply water to beneficial use.

Temporary Request - Requested Start Date: **6/8/2012** Requested End Date: **6/8/2013**

Plugging Plan of Operations Submitted?  Yes  No

**1. APPLICANT(S)**

Name: <b>BOPCO, LP</b>	Name:
Contact or Agent: <b>Ben J. Arguijo (Basin Environmental)</b> check here if Agent <input checked="" type="checkbox"/>	Contact or Agent: check here if Agent <input checked="" type="checkbox"/>
Mailing Address: <b>522 W. Mermod</b>	Mailing Address:
City: <b>Carlsbad</b>	City:
State: <b>NM</b> Zip Code: <b>88220</b>	State: Zip Code:
Phone: <b>(432)556-8730</b> <input type="checkbox"/> Home <input checked="" type="checkbox"/> Cell	Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell
Phone (Work):	Phone (Work):
E-mail (optional): <b>TASavole@BassPet.com</b> <b>bjarguijo@basinenv.com</b>	E-mail (optional):

2012 JUN - 6 A 8:24  
ROSWELL, NEW MEXICO  
STATE ENGINEER OFFICE

FOR OSE INTERNAL USE Application for Permit, Form wr-07, Rev 4/12/12

File Number: <b>C-3561</b>	Trm Number: <b>507736</b>
Trans Description (optional): <b>EXPL</b>	
Sub-Basin: <b>C</b>	
PCW/LOG Due Date: <b>08-31-2013</b>	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).  
 District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

NM State Plane (NAD83) (Feet)
  UTM (NAD83) (Meters)
  Lat/Long (WGS84) (to the nearest 1/10<sup>th</sup> of second)

NM West Zone
  Zone 12N

NM East Zone
  Zone 13N

NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
SB-1 POD1	32.346284 32,20,46.62	-103.837495 -103,50,14.98	Unit Letter "K" (NE/SW), Section 36, Township 22 South, Range 30 East
SB-2 POD2	32.346284	-103.837495	Unit Letter "K" (NE/SW), Section 36, Township 22 South, Range 30 East
SB-3 POD3	32.346284	-103.837495	Unit Letter "K" (NE/SW), Section 36, Township 22 South, Range 30 East
SB-4 POD4	32.346284	-103.837495	Unit Letter "K" (NE/SW), Section 36, Township 22 South, Range 30 East
SB-5 POD5	32.346284	-103.837495	Unit Letter "K" (NE/SW), Section 36, Township 22 South, Range 30 East

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 - POD Descriptions)  
 Additional well descriptions are attached:  Yes  No If yes, how many \_\_\_\_\_

Other description relating well to common landmarks, streets, or other: See attached Site Location Map.

Well is on land owned by: New Mexico State Land Office

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached?  Yes  No  
 If yes, how many \_\_\_\_\_

Approximate depth of well (feet): 50.00 Outside diameter of well casing (inches): 0.00

Driller Name: Straub Corporation Driller License Number: WD1478

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Up to five (5) soil borings will be drilled on-site to investigate the vertical extent of contamination following a crude oil and produced water release at BOPCO's James Ranch Unit 29 Disposal. The exact number, location(s), and depth(s) of the soil bore(s) will be determined on the drilling date by field-screens using a chloride test kit and/or Photo-Ionization Detector. Due to the depth to water at the location (approximately 200 feet below ground surface), it is unlikely that monitor wells will be required.

JUN 6 8:21 AM 2017

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO

FOR OSE INTERNAL USE

Application for Permit, Form wr-07

File Number: C-3561

Trm Number: 507736

**4. SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

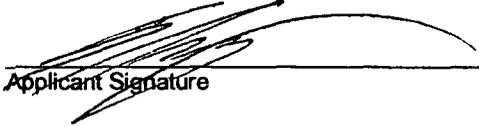
<p><b>Exploratory:</b>  <input type="checkbox"/> Include a description of any proposed pump test, if applicable.</p>	<p><b>Pollution Control and/or Recovery:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for the pollution control or recovery operation.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The annual diversion amount.  <input type="checkbox"/> The annual consumptive use amount.  <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation.  <input type="checkbox"/> The method and place of discharge.  <input type="checkbox"/> The method of measurement of water produced and discharged.  <input type="checkbox"/> The source of water to be injected.  <input type="checkbox"/> The method of measurement of water injected.  <input type="checkbox"/> The characteristics of the aquifer.  <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system.  <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department.  <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.</p>	<p><b>Construction De-Watering:</b>  <input type="checkbox"/> Include a description of the proposed dewatering operation,  <input type="checkbox"/> The estimated duration of the operation,  <input type="checkbox"/> The maximum amount of water to be diverted,  <input type="checkbox"/> A description of the need for the dewatering operation, and,  <input type="checkbox"/> A description of how the diverted water will be disposed of.</p>	<p><b>Mine De-Watering:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for mine dewatering.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The source(s) of the water to be diverted.  <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s).  <input type="checkbox"/> The maximum amount of water to be diverted per annum.  <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation.  <input type="checkbox"/> The quality of the water.  <input type="checkbox"/> The method of measurement of water diverted.  <input type="checkbox"/> The recharge of water to the aquifer.  <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project.  <input type="checkbox"/> The method and place of discharge.  <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project.  <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights.  <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.</p>
<p><b>Monitoring:</b>  <input checked="" type="checkbox"/> Include the reason for the monitoring well, and,  <input checked="" type="checkbox"/> The duration of the planned monitoring.</p>		<p><b>Geo-Thermal:</b>  <input type="checkbox"/> Include a description of the geothermal heat exchange project,  <input type="checkbox"/> The amount of water to be diverted and re-injected for the project,  <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and,  <input type="checkbox"/> The duration of the project.  <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.</p>	

**ACKNOWLEDGEMENT**

I, We (name of applicant(s)), Ben J. Arguijo

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

  
 Applicant Signature

\_\_\_\_\_  
 Applicant Signature

**ACTION OF THE STATE ENGINEER**

This application is:

approved     partially approved     denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 1st day of August 20 12, for the State Engineer,

Scott A. Verbines, P.E., State Engineer

By:   
 Signature

Bill Duemling  
 Print

Title: Carlsbad Basin Supervisor

STATE ENGINEER OFFICE  
 ROSWELL, NEW MEXICO  
 JUN - 9 - 2012 8:24 AM

FOR OFFICIAL USE

Application for Permit, Form wr-07

File Number: <u>C-3561</u>	Trm Number: <u>507736</u>
----------------------------	---------------------------

**NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL**

- 1A Depth of the well shall not exceed the thickness of the valley fill.
  
- 4 No water shall be appropriated and beneficially used under this permit.
  
- B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.
  
- C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.
  
- LOG The Point of Diversion C 03561 POD1 must be completed and the Well Log filed on or before 08/31/2013.
  
- LOG The Point of Diversion C 03561 POD2 must be completed and the Well Log filed on or before 08/31/2013.
  
- LOG The Point of Diversion C 03561 POD3 must be completed and the Well Log filed on or before 08/31/2013.
  
- LOG The Point of Diversion C 03561 POD4 must be completed and the Well Log filed on or before 08/31/2013.
  
- LOG The Point of Diversion C 03561 POD5 must be completed and the Well Log filed on or before 08/31/2013.

NO WATER SHALL BE DIVERTED FROM EACH BOREHOLE EXCEPT FOR TESTING PURPOSES WHICH SHALL NOT EXCEED TEN (10) CUMULATIVE DAYS, AND EACH BOREHOLE SHALL BE PLUGGED OR CAPPED ON OR BEFORE AUGUST 31, 2013, UNLESS A SEPARATE PERMIT TO USE WATER IS ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

EACH BOREHOLE SHALL BE CONSTRUCTED, MAINTAINED AND OPERATED THAT EACH WATER SHALL BE CONFINED TO THE AQUIFER IN WHICH IT IS ENCOUNTERED.



## Locator Tool Report

### General Information:

Application ID:30                      Date: 06-19-2012                      Time: 15:31:45

WR File Number: C  
Purpose: POINT OF DIVERSION

Applicant First Name: BOPCO SOIL BORINGS  
Applicant Last Name: JAMES RANCH UNIT 29 DISPOSAL

GW Basin: CARLSBAD  
County: EDDY

Critical Management Area Name(s): NONE  
Special Condition Area Name(s): NONE  
Land Grant Name: NON GRANT

### PLSS Description (New Mexico Principal Meridian):

NE 1/4 of SW 1/4 of NE 1/4 of SW 1/4 of Section 36, Township 22S, Range 30E.

### Coordinate System Details:

#### Geographic Coordinates:

Latitude:        32 Degrees 20 Minutes 46.6 Seconds N  
Longitude:      103 Degrees 50 Minutes 15.0 Seconds W

#### Universal Transverse Mercator Zone: 13N

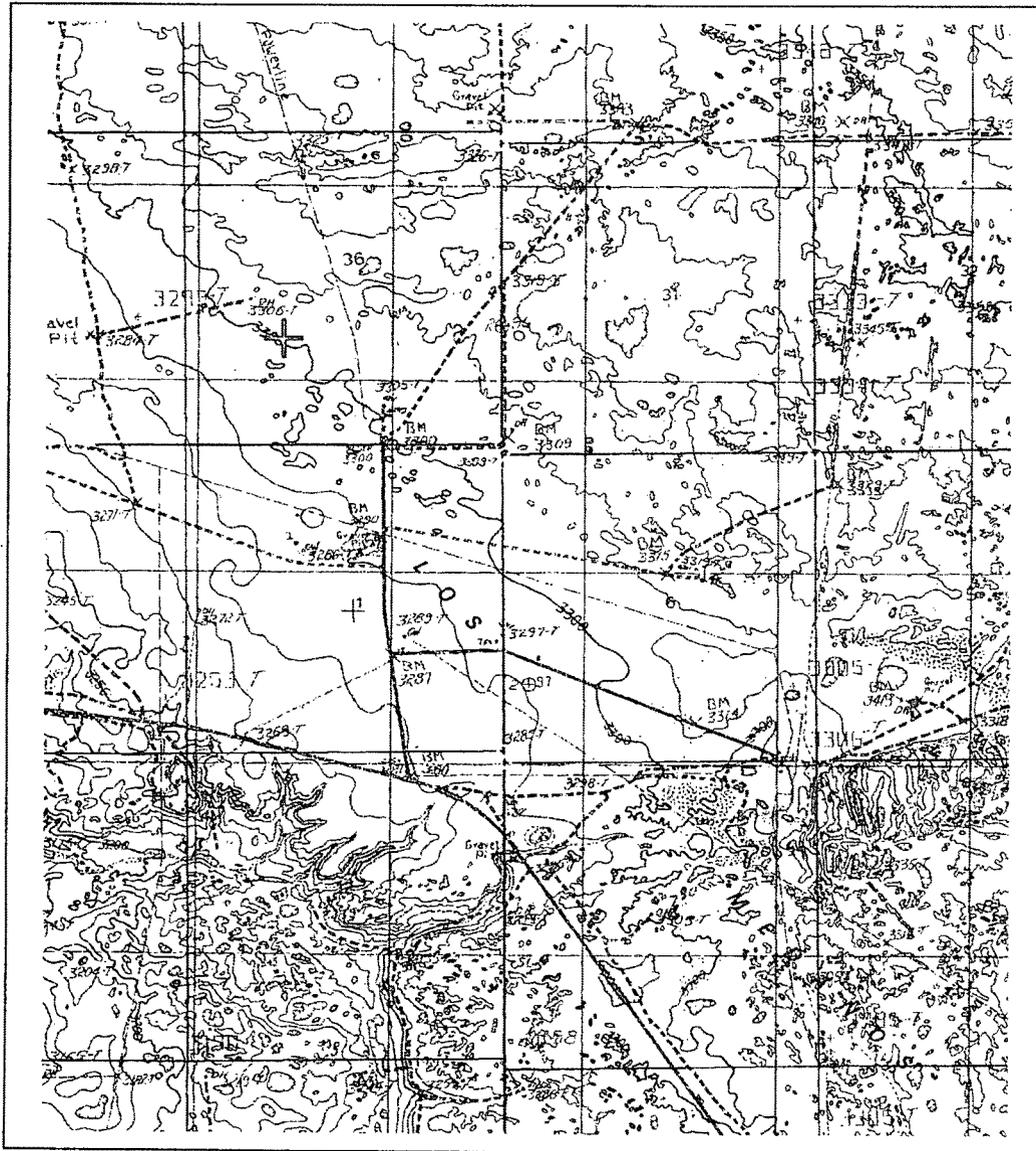
NAD 1983(92) (Meters)	N: 3,579,413	E: 609,393
NAD 1983(92) (Survey Feet)	N: 11,743,459	E: 1,999,318
NAD 1927 (Meters)	N: 3,579,212	E: 609,442
NAD 1927 (Survey Feet)	N: 11,742,797	E: 1,999,478

#### State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 149,372	E: 211,672
NAD 1983(92) (Survey Feet)	N: 490,064	E: 694,462
NAD 1927 (Meters)	N: 149,354	E: 199,120
NAD 1927 (Survey Feet)	N: 490,004	E: 653,279

**NEW MEXICO OFFICE OF STATE ENGINEER**

**Locator Tool Report**



WR File Number: C

Scale: 1:38,023

Northing/Easting: UTM83(92) (Meter): N: 3,579,413

E: 609,393

Northing/Easting: SPCS83(92) (Feet): N: 490,064

E: 694,462

GW Basin: Carlsbad

**Appendix E**  
**Laboratory Analytical Reports**

August 31, 2012

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: JAMES RANCH UNIT #29 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/24/12 8:35.

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 1 @ 5' (H202030-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>16800</b>	16.0	08/28/2012	ND	416	104	400	0.00		
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	08/28/2012	ND	197	98.3	200	2.52		
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52		
EXT DRO >C28-C35	<10.0	10.0	08/28/2012	ND						

Surrogate: 1-Chlorooctane	84.9 %	65.2-140
Surrogate: 1-Chlorooctadecane	98.0 %	63.6-154

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 upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 1 @ 10' (H202030-02)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13		
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70		
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08		
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19		

Surrogate: 4-Bromofluorobenzene (PIE) 99.7 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	21600	16.0	08/28/2012	ND	416	104	400	0.00		

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	08/28/2012	ND	197	98.3	200	2.52		
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52		
EXT DRO >C28-C35	<10.0	10.0	08/28/2012	ND						

Surrogate: 1-Chlorooctane 87.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

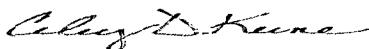
**Sample ID: SB - 1 @ 15' (H202030-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	19200	16.0	08/28/2012	ND	416	104	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 1 @ 20' (H202030-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	08/28/2012	ND	416	104	400	0.00		

**Sample ID: SB - 1 @ 25' (H202030-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	08/28/2012	ND	416	104	400	0.00		

**Sample ID: SB - 1 @ 30' (H202030-06)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	08/28/2012	ND	416	104	400	0.00		

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 08/24/2012  
 Reported: 08/31/2012  
 Project Name: JAMES RANCH UNIT #29 SWD  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 08/22/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

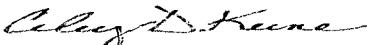
**Sample ID: SB - 2 @ 5' (H202030-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>13000</b>	16.0	08/28/2012	ND	416	104	400	0.00		
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	08/28/2012	ND	197	98.3	200	2.52		
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52		
EXT DRO >C28-C35	<10.0	10.0	08/28/2012	ND						
<i>Surrogate: 1-Chlorooctane</i>	<i>83.8 %</i>	<i>65.2-140</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>98.7 %</i>	<i>63.6-154</i>								

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 2 @ 10' (H202030-08)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2012	ND	2.23	111	2.00	2.49		
Toluene*	<0.050	0.050	08/30/2012	ND	2.30	115	2.00	3.25		
Ethylbenzene*	<0.050	0.050	08/30/2012	ND	2.31	115	2.00	3.89		
Total Xylenes*	<0.150	0.150	08/30/2012	ND	7.49	125	6.00	4.19		

Surrogate: 4-Bromofluorobenzene (PIC) 98.0 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>7700</b>	16.0	08/28/2012	ND	416	104	400	0.00		

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	08/28/2012	ND	197	98.3	200	2.52		
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52		
EXT DRO >C28-C35	<10.0	10.0	08/28/2012	ND						

Surrogate: 1-Chlorooctane 83.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 96.2 % 63.6-154

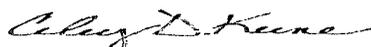
**Sample ID: SB - 2 @ 15' (H202030-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>5520</b>	16.0	08/28/2012	ND	416	104	400	0.00		

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 08/24/2012  
 Reported: 08/31/2012  
 Project Name: JAMES RANCH UNIT #29 SWD  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 08/22/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB - 2 @ 20' (H202030-10)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1440	16.0	08/28/2012	ND	416	104	400	0.00		

**Sample ID: SB - 2 @ 25' (H202030-11)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	08/28/2012	ND	416	104	400	3.92		

**Sample ID: SB - 3 @ 5' (H202030-12)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	12000	16.0	08/28/2012	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	08/28/2012	ND	201	100	200	0.929		
DRO >C10-C28	21.3	10.0	08/28/2012	ND	204	102	200	0.300		
EXT DRO >C28-C35	11.1	10.0	08/28/2012	ND						

Surrogate: 1-Chlorooctane 72.7 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 88.9 % 63.6-154

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 3 @ 10' (H202030-13)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2012	ND	2.23	111	2.00	2.49		
Toluene*	<0.050	0.050	08/30/2012	ND	2.30	115	2.00	3.25		
Ethylbenzene*	<0.050	0.050	08/30/2012	ND	2.31	115	2.00	3.89		
Total Xylenes*	<0.150	0.150	08/30/2012	ND	7.49	125	6.00	4.19		

Surrogate: 4-Bromofluorobenzene (PIC) 97.9 % 89.4-126

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	08/28/2012	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	08/28/2012	ND	201	100	200	0.929		
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	204	102	200	0.300		
EXT DRO >C28-C35	<10.0	10.0	08/28/2012	ND						

Surrogate: 1-Chlorooctane 77.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.0 % 63.6-154

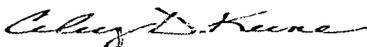
**Sample ID: SB - 3 @ 15' (H202030-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	08/28/2012	ND	416	104	400	3.92		

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 08/24/2012  
 Reported: 08/31/2012  
 Project Name: JAMES RANCH UNIT #29 SWD  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 08/22/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB - 3 @ 20' (H202030-15)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	08/28/2012	ND	416	104	400	3.92		

**Sample ID: SB - 3 @ 25' (H202030-16)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	08/28/2012	ND	416	104	400	3.92		

**Sample ID: SB - 4 @ 5' (H202030-17)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	14800	16.0	08/28/2012	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	08/28/2012	ND	201	100	200	0.929		
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	204	102	200	0.300		
EXT DRO >C28-C35	<10.0	10.0	08/28/2012	ND						

Surrogate: 1-Chlorooctane 75.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.3 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 4 @ 10' (H202030-18)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2012	ND	2.23	111	2.00	2.49		
Toluene*	<0.050	0.050	08/30/2012	ND	2.30	115	2.00	3.25		
Ethylbenzene*	<0.050	0.050	08/30/2012	ND	2.31	115	2.00	3.89		
Total Xylenes*	<0.150	0.150	08/30/2012	ND	7.49	125	6.00	4.19		

Surrogate: 4-Bromofluorobenzene (PIC) 98.2 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	

<b>Chloride</b>	<b>15800</b>	16.0	08/28/2012	ND	416	104	400	3.92	
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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	08/29/2012	ND	201	100	200	0.929	
DRO >C10-C28	<10.0	10.0	08/29/2012	ND	204	102	200	0.300	
EXT DRO >C28-C35	<10.0	10.0	08/29/2012	ND					

Surrogate: 1-Chlorooctane 78.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.0 % 63.6-154

**Sample ID: SB - 4 @ 15' (H202030-19)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	

<b>Chloride</b>	<b>1740</b>	16.0	08/28/2012	ND	416	104	400	3.92	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 4 @ 20' (H202030-20)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2120	16.0	08/28/2012	ND	416	104	400	3.92		

**Sample ID: SB - 4 @ 25' (H202030-21)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	08/28/2012	ND	416	104	400	3.92		

**Sample ID: SB - 5 @ 5' (H202030-22)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/28/2012	ND	416	104	400	3.92		

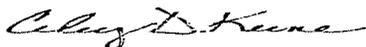
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/29/2012	ND	201	100	200	0.929		
DRO >C10-C28	<10.0	10.0	08/29/2012	ND	204	102	200	0.300		
EXT DRO >C28-C35	<10.0	10.0	08/29/2012	ND						

Surrogate: 1-Chlorooctane	80.0 %	65.2-140
Surrogate: 1-Chlorooctadecane	93.9 %	63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB - 5 @ 10' (H202030-23)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2012	ND	2.23	111	2.00	2.49		
Toluene*	<0.050	0.050	08/30/2012	ND	2.30	115	2.00	3.25		
Ethylbenzene*	<0.050	0.050	08/30/2012	ND	2.31	115	2.00	3.89		
Total Xylenes*	<0.150	0.150	08/30/2012	ND	7.49	125	6.00	4.19		

Surrogate: 4-Bromofluorobenzene (PIC) 98.5 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<b>64.0</b>	16.0	08/28/2012	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	08/29/2012	ND	201	100	200	0.929		
DRO >C10-C28	<10.0	10.0	08/29/2012	ND	204	102	200	0.300		
EXT DRO >C28-C35	<10.0	10.0	08/29/2012	ND						

Surrogate: 1-Chlorooctane 80.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 87.5 % 63.6-154

**Sample ID: SB - 5 @ 15' (H202030-24)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<b>160</b>	16.0	08/28/2012	ND	416	104	400	3.92		

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**Analytical Results For:**

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

Received:	08/24/2012	Sampling Date:	08/22/2012
Reported:	08/31/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

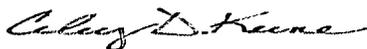
**Sample ID: SB - 5 @ 20' (H202030-25)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>144</b>	16.0	08/28/2012	ND	416	104	400	3.92	

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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

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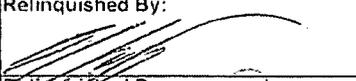
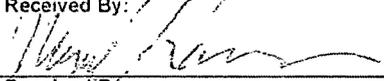
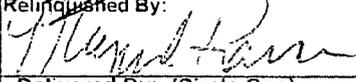
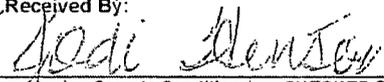
# Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Basin Environmental Service Technologies, LLC		<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																					
Project Manager: Ben J. Arquijo		P.O. #:																									
Address: P.O. Box 301		Company: BOPCO, LP																									
City: Lovington State: NM Zip: 88260		Attn: Tony Savoie																									
Phone #: (575) 396-2378 Fax #: (575) 396-1429		Address: 522 W. Mermod																									
Project #: Project Owner: BOPCO, LP		City: Carlsbad																									
Project Name: James Ranch Unit #29 SWD		State: NM Zip: 88220																									
Project Location: Eddy Co., NM		Phone #: (432) 556-8730																									
Sampler Name:		Fax #:																									
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	(GRAB OR C/COMP.)	# CONTAINERS	MATRIX														PRESERV.		SAMPLING							
				GROUNDWATER	WASTEWATER	SOIL	SOIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME													
H202030																											
1	SB-1 @ 5'	G	1			X				X			8/22/12	1030	X	X	Chloride										
2	SB-1 @ 10'					X								1035	X	X	8015M										
3	SB-1 @ 15'													1040			BTEX										
4	SB-1 @ 20'													1045													
5	SB-1 @ 25'													1050													
6	SB-1 @ 30'													1055													
7	SB-2 @ 5'													1100		X											
8	SB-2 @ 10'													1135		X	X										
9	SB-2 @ 15'													1130													
10	SB-2 @ 20'													1135													

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Relinquished By: 	Date: 8/23/12	Received By: 	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 1045		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: 	Date: 8/23/12	Received By: 	REMARKS:	
	Time: 8:30			
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> Bus <input type="checkbox"/> Other	Sample Condition Cool - Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) 	Please email results to pm@basinenv.com & TSavoie@BassPet.com	

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

#26







PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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August 23, 2012

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: JAMES RANCH UNIT #29 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/23/12 9:00.

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, prominent initial "C".

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	08/23/2012	Sampling Date:	08/22/2012
Reported:	08/23/2012	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT #29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: WEST TRENCH-WEST WALL #1 (H202014-01)**

Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2200	16.0	08/23/2012	ND	400	100	400	4.08		

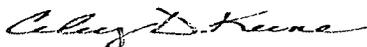
**Sample ID: WEST TRENCH-WEST WALL #2 (H202014-02)**

Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	13800	16.0	08/23/2012	ND	400	100	400	4.08		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

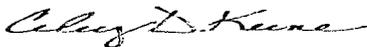
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported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

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Cardinal Laboratories

\*=Accredited Analyte

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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		<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																							
Project Manager: Ben J. Arquiijo		P.O. #:																											
Address: P.O. Box 301		Company: BOPCO, LP																											
City: Lovington State: NM Zip: 88250		Attn: Tony Savoie																											
Phone #: (575) 396-2379 Fax #: (575) 396-1429		Address: 522 W. Marwood																											
Project #: Project Owner: BOPCO, LP		City: Carlsbad																											
Project Name: James Ranch Unit #29 SWD		State: NM Zip: 88222																											
Project Location: Eddy Co., NM		Phone #: (432) 556-8730																											
Sampler Name: <i>W. Savoie</i>		Fax #:																											
FOR LAB USE ONLY																													
Lab I.D.	Sample I.D.	(G)RAS OR (C)OMP. # CONTAINERS	MATRIX															PRESEV.	SAMPLING		Chloride								
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME																
H202014																													
1	West Trench-West Wall #1	G 1		X					X			8/23/12	1500	X															
2	West Trench-West Wall #2	G 1		X					X			8/23/12	1505	X															

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 the client for the 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 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 subcontractors, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>[Signature]</i>	Date: <i>8/23/12</i>	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 0730		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>[Signature]</i>	Date: 8/23/12	Received By: <i>B. Blackwood</i>	REMARKS:  Please email results to pm@basinerv.com & TSavoie@basinet.com	
	Time: 0740			
Delivered By: (Circle One) Sampler - UPS <input checked="" type="checkbox"/> Bus <input type="checkbox"/> Other <input type="checkbox"/>		Sample Condition Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

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