## Basin Environmental Consulting, LLC

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ධ Effective Solutions DEC **9** 2009 NMOCD ARTESIA

## **REMEDIATION SUMMARY**

### AND SITE CLOSURE REQUEST

### PLAINS PIPELINE, L.P. (231735) Beeson 8-Inch Discharge Eddy County, New Mexico Plains SRS # TNM Beeson Historical UNIT LTR "B" (NW ¼ NE ¼ ), Section 3, Township 18 South, Range 30 East Latitude 32° 46' 16.9" North, Longitude 103° 57' 20.7" West

Prepared For:

Plains Pipeline, L.P. 333 Clay Street Suite 1600 Houston, Texas 77002

Prepared By: Basin Environmental Consulting, LLC 2800 Plains Highway Lovington, New Mexico 88260

October 2009

Project Manager

Curt D. Stanley

Project Manager

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### 1.0 INTRODUCTION AND BACKGROUND INFORMATION

Basin Environmental Consulting, LLC (Basin), on behalf of Plains Pipeline, L.P. (Plains), has prepared this Remediation Summary and Site Closure Request for the release site known as Beeson 8-Inch Discharge (SRS # TNM Beeson Historical). The legal description of the release site is Unit Letter "B" (NW ¼ NE ¼), Section 3, Township 18 South, Range 30 East, in Eddy County, New Mexico. The property affected by the release is owned by The United States Department of the Interior Bureau of Land Management (BLM). In accordance with BLM protocol, Boone Archeological Services, LLC, in Carlsbad, New Mexico, conducted an archeological resource survey of the area for Plains. Results of the survey indicated no evidence of cultural resources present at the site. The Archeological Survey is provided as Appendix D. The release site latitude is 32° 46' 16.9" North and the longitude is 103° 57' 20.7" West. Please reference Figure 1 for a Site Location Map. The Release Notification and Corrective Action (Form C-141) is provided as Appendix F.

In September 2008, evidence of a historical release was brought to the attention of Plains by BLM representative Jim Amos. The release was reported to the New Mexico Oil Conservation Division (NMOCD) on September 22, 2008. There are three (3) areas of impact along the Plains Pipeline Right-of-Way (South Area, Middle Area and North Area), as identified by the BLM. During a meeting with NMOCD, BLM and Plains representatives it was determined soil samples would be collected from each of the three (3) areas of impact. The soil investigation was designed to delineate the vertical extent of the crude oil impacted soil.

### 2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Office of the State Engineer (NMOSE) database did not identify the average depth to groundwater information for Section 3, Township 18 South, Range 30 East. A reference map utilized by the NMOCD indicated depth to groundwater at the release site should be encountered at approximately 275 feet below ground surface (bgs). The depth to groundwater at the Beeson 8-Inch Discharge release site results in a score of zero (0) being assigned to the site based on the NMOCD depth to groundwater criteria.

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

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

The NMOCD guidelines indicate the Beeson 8-Inch Discharge release site has an initial ranking score of zero (0). Based on this score, the soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene 10 mg/Kg (ppm)
- BTEX 50 mg/Kg (ppm)
- TPH 5,000 mg/Kg (ppm)

### 3.0 SUMMARY OF FIELD ACTIVITIES

On February 3, 2009, eight (8) soil samples (SA Sample 1-6 Inches, SA Sample 1-6 Feet, SA Sample 2-6 Inches, SA Sample 2-6 Feet, SA Sample 3-6 Inches, SA Sample 3-2 Feet, SA Sample 4-6 Inches and SA Sample 4-3 Feet) were collected from the South Area of impact, at depths ranging from six (6) inches to six (6) feet bgs. The soil samples were submitted to the laboratory and analyzed for concentrations of benzene, toluene, ethyl-benzene and xylene (BTEX) and total petroleum hydrocarbon (TPH) using EPA SW-846 8021b and SW-846 8015M, respectively. A summary of the analytical results is included in Table 1, Concentrations of BTEX, TPH and Chloride in Soil. Laboratory analytical reports are provided as Appendix B. Photographs are provided as Appendix C.

Laboratory analytical results indicated benzene concentrations were less than the laboratory method detection limit (MDL) in all the submitted soil samples. The analytical results indicated BTEX concentrations ranged from 0.0016 mg/Kg in soil sample SA Sample 2-6 Feet to 0.2408 mg/Kg in soil sample SA Sample 3-6 Inches. Laboratory analytical results indicated TPH concentrations ranged from 161 mg/Kg in soil sample SA Sample 1-6 Feet to 6,800 mg/Kg in soil sample SA Sample 2-6 Inches.

Soil sample SA Sample 1-6 Inches was analyzed for concentrations of chloride using method EPA 300. The analytical result indicated the chloride concentration was less than the laboratory MDL.

On February 3, 2009, two (2) soil samples (MA Sample 5-6 Inches and MA Sample 5-3 Feet) were collected from the Middle Area of impact, at depths ranging from six (6) inches to three (3) feet. Laboratory analytical results indicated benzene concentrations were less than the laboratory MDL in both soil samples. The analytical results indicated BTEX concentrations were 0.0502 mg/Kg and 0.2117 mg/Kg in soil samples MA Sample 5-6 Inches and MA Sample 5-3 Feet, respectively. TPH concentrations were 1,057 mg/Kg and 4,301 mg/Kg in soil samples MA Sample 5-3 Feet and MA Sample 5-6 Inches, respectively.

Basin collected sixteen (16) soil samples (NA Sample 6-6 Inches, NA Sample 6-3 Feet, NA Sample 7-6 Inches, NA Sample 7-3 Feet, NA Sample 8-6 Inches, NA Sample 8-3 Feet, NA Sample 9-6 Feet, NA Sample 9-12 Feet, NA Sample 10-6 Inches, NA Sample 10-3 Feet, NA Sample 11-6 Feet, NA Sample 11-12 Feet, NA Sample 12-6 Feet, NA Sample 12-15 Feet, NA Sample 13-6 Inches and NA Sample 13-3 Feet) from the North Area of impact, at depths ranging from six (6) inches to fifteen (15) feet bgs. The laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL in soil samples NA Sample 6-6 Inches, NA Sample 6-3 Feet, NA Sample 7-6 Inches, NA Sample 7-3 Feet, NA Sample 8-3 Feet, NA Sample 9-6 Feet, NA Sample 9-12 Feet, NA Sample 10-6 Inches, NA Sample 8-3 Feet, NA Sample 12-6 Feet, NA Sample 12-15 Feet, NA Sample 13-6 Inches, NA Sample 13-3 Feet to 0.0166 mg/Kg in soil sample NA Sample 10-3 Feet. BTEX concentrations ranged from 0.0012 mg/Kg in soil sample NA Sample 13-3 Feet to 109.652 mg/Kg in soil sample NA Sample 12-6 Feet. TPH concentrations ranged from less than the laboratory MDL in soil sample NA Sample 12-6 Feet. TPH concentrations ranged from less than the laboratory MDL in soil sample NA Sample 12-6 Feet. TPH concentrations ranged from less than the laboratory MDL in soil sample NA Sample 13-3 Feet to 18,100 mg/Kg in soil sample NA Sample 9-6 Feet.

Soil sample NA Sample 9-6 Feet was analyzed for concentrations of chloride. The laboratory analytical results indicated the chloride concentration was less than the laboratory MDL.

On February 25, 2009, the NMOCD Artesia Office granted verbal approval to mechanically till the South, Middle and North areas exhibiting asphaltine impact. Based on the laboratory analytical data, the area directly south of the Plains Beeson Station would require further investigation. In a letter dated March 2, 2009, the BLM approved the blending of the asphaltine impacted areas. The BLM correspondence is provided as Appendix E.

On March 18, 2009, Basin began mechanically treating the asphaltine impacted soil in the south, middle and north areas of the site. The area adjacent to and including soil samples SA Sample 1-6 inch, SA Sample 1-6 Feet, SA Sample 2-6 Inch, SA Sample 2-6 Feet, SA Sample 3-6 Inch, SA Sample 3-2 Feet, SA Sample 4-6 Inch, SA Sample 4-3 Feet, MA Sample 5-6 Inch, MA Sample 5-3 Feet, NA Sample 6-6 Inch, NA Sample 6-3 Feet, NA Sample 7-6 Inch, NA Sample 7-3 Feet, NA Sample 8-6 Inch and NA Sample 8-3 Feet was treated in place. The impacted soil was tilled and blended with non-impacted soil from the surrounding area. The south area of asphaltine impact measured approximately 47,785 square feet, the middle area measured approximately 8,600 square feet and the north area measured approximately 41,700 square feet. Upon completion of blending activities, the soil was mechanically tilled. On March 25, 2009, a BLM representative inspected the site and granted verbal approval to seed the treated areas. Please reference Figure 2 for a Site and Sample Location Map (South Area, Middle Area and North Area).

On April 13 and 14, 2009, six (6) soil borings (SB-1, SB-2, SB-3, SB-4, SB-5 and SB-6) were advanced in the area directly south of the Plains Beeson Station, to vertically investigate the extent of crude oil impacted soil. Soil boring logs are provided as Appendix A. Soil samples were collected at five (5) foot drilling intervals and field screened using a Photo-Ionization Detector (PID). Selected soil samples were submitted to the laboratory for determination of concentrations of BTEX and TPH. Please reference Figure 3 Site and Sample Location Map (South of Beeson Station).

Soil boring SB-1 was located on the north side of the impacted area, south of the Plains Beeson Station and was advanced to a total depth of approximately sixty-five (65) feet bgs. Soil samples collected at ten (10), twenty (20), thirty (30), forty (40), fifty (50), sixty (60) and sixty-five (65) feet bgs were submitted to the laboratory. The laboratory analytical results indicated benzene concentrations were less than the laboratory MDL for all the submitted soil samples, with the exception of the soil sample collected at ten (10) feet bgs, which exhibited a benzene concentration of 0.2233 mg/Kg. The laboratory analytical results indicated BTEX concentrations ranged from 0.0052 mg/Kg in the soil sample collected at sixty-five (65) feet bgs to 28.33 mg/Kg in the soil sample collected at twenty (20) feet bgs. The laboratory analytical results indicated TPH concentrations ranged from 89.4 mg/Kg in the soil sample collected at ten (10) feet bgs.

Soil boring SB-2 was located in the middle of the impacted area, south of the Plains Beeson Station and was advanced to a total depth of approximately fifty-five (55) feet bgs. Soil samples collected at ten (10), twenty (20), thirty (30), forty (40), fifty (50) and fifty-five (55) feet bgs were submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL in the soil samples collected at ten (10), thirty (30), fifty (50) and fifty-five (55) feet bgs to 3.28 mg/Kg in the soil sample collected at twenty (20) feet bgs. The laboratory analytical results indicated BTEX concentrations ranged

from less than the laboratory MDL in the soil sample collected at fifty-five (55) feet bgs to 197.594 mg/Kg in the soil sample collected at twenty (20) feet bgs. The laboratory analytical results indicated TPH concentrations ranged from 23.2 mg/Kg in the soil sample collected at fifty-five (55) feet bgs to 10,241 mg/Kg in the soil sample collected at ten (10) feet bgs.

Soil boring SB-3 was located on the west side of the impacted area, south of the Plains Beeson Station and was advanced to a total depth of approximately sixty (60) feet bgs. Soil samples collected at ten (10), twenty (20), thirty (30), forty (40), fifty-five (55) and sixty (60) feet bgs were submitted to the laboratory. The laboratory analytical results indicated benzene concentrations were less than the laboratory MDL in all the submitted soil samples. The laboratory analytical results indicated BTEX concentrations ranged from less than the laboratory MDL in the soil sample collected at sixty (60) feet bgs to 92.608 mg/Kg in the soil sample collected at twenty (20) feet bgs. The laboratory analytical results indicated TPH concentrations ranged from 109.9 mg/Kg in the soil sample collected at ten (10) feet bgs to 8,307 mg/Kg in the soil sample collected at twenty (20) feet bgs.

Soil boring SB-4 was located west of soil boring SB-3 and was advanced to a total depth of approximately twenty-five (25) feet bgs. Soil samples collected at ten (10), twenty (20) and twenty-five (25) feet bgs were submitted to the laboratory. The laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the laboratory MDL in all the submitted soil samples.

Soil boring SB-5 was located on the east side of the impacted area, south of the Plains Beeson Station and was advanced to a total depth of approximately thirty (30) feet bgs. Soil samples collected at ten (10), twenty (20), twenty-five (25) and thirty (30) feet bgs were submitted to the laboratory. The laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the laboratory MDL in all the submitted soil samples.

Soil boring SB-6 was located on the south side of the impacted area, south of the Plains Beeson Station and was advanced to a total depth of approximately thirty (30) feet bgs. Soil samples collected at ten (10), twenty (20), twenty-five (25) and thirty (30) feet bgs were submitted to the laboratory. The laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the laboratory MDL in all the submitted soil samples, with the exception of the soil sample collected at twenty (20) feet bgs, which exhibited a BTEX concentration of 0.0024 mg/Kg.

On July 9, 2009, the NMOCD Artesia Office granted verbal approval of the Remediation Summary and Site Closure Proposal.

On July 14, 2009, Basin commenced remedial activities at the site. The area defined by and including soil borings SB-1, SB-2, SB-3, SB-4 and SB-5 was excavated to a depth of approximately thirteen (13) feet bgs.

On July 16, 2009, three (3) stockpile soil samples (SP-1, SP-2 and SP-3) were collected and submitted to the laboratory. Each soil sample represented approximately 500 cy of excavated soil. The laboratory analytical results indicated benzene concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples. The BTEX concentrations ranged from less than the appropriate laboratory MDL for soil sample SP-1 to 0.5051 mg/Kg for

soil sample SP-3. The TPH concentration ranged from 162.1 mg/Kg for soil sample SP-1 to 1,679 mg/Kg for soil sample SP-3. Based on the laboratory analytical results of the above referenced soil samples, the soil was deemed suitable for use as backfill material.

On July 20, 2009, three (3) stockpile soil samples (SP-4, SP-5 and SP-6) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples. The BTEX concentrations ranged from less than the appropriate laboratory MDL for soil sample SP-5 to 0.28 mg/Kg for soil sample SP-6. TPH concentrations ranged from 1,293 mg/Kg for soil sample SP-5 to 4,432 mg/Kg for soil sample SP-6. Based on the laboratory analytical results of the above referenced soil samples, the soil was deemed suitable for use as backfill material.

On July 28, 2009, nine (9) stockpile soil samples (SP-7, SP-8, SP-9, SP-10, SP-11, SP-12, SP-13, SP-14 and SP-15) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples, with the exception of soil sample SP-14, which exhibited a benzene concentration of 0.0424 mg/Kg. BTEX concentrations ranged from 0.0245 mg/Kg for soil sample SP-7 to 8.212 mg/Kg for soil sample SP-14. TPH concentrations exceeded NMOCD regulatory guidelines for all of the submitted soil samples with the exception of soil samples SP-7, SP-8, SP-9, SP-10, SP-11 and SP-15 which exhibited TPH concentrations of 1,144.4 mg/Kg, 1,454 mg/Kg, 1,896 mg/Kg, 3,910 mg/Kg, 2,775 mg/Kg and 1,449 mg/Kg, respectively. The NMOCD Artesia Office granted verbal approval to utilize the above referenced soil as backfill material.

On July 31, 2009, three (3) stockpile soil samples (SP-16, SP-17 and SP-18) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples SP-17 and SP-18 to 0.0019 mg/Kg for soil sample SP-16. The BTEX concentrations ranged from 0.4591 mg/Kg for soil sample SP-16 to 2.528 mg/Kg for soil sample SP-17. The TPH concentrations ranged from 2,717 mg/Kg for soil sample SP-18 to 4,406 mg/Kg for soil sample SP-16. Based on the laboratory analytical results of the above referenced soil samples, the soil was deemed suitable for use as backfill material.

On August 4, 2009, five (5) stockpile soil samples (SP-19, SP-20, SP-21, SP-22 and SP-23) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from 0.0162 mg/Kg for soil sample SP-20 to 0.5094 mg/Kg for soil sample SP-23. The BTEX concentrations ranged from 2.919 mg/Kg for soil sample SP-20 to 65.78 mg/Kg for soil sample SP-23. The TPH concentrations ranged from 1,197 mg/Kg for soil sample SP-19 to 3,899 mg/Kg for soil sample SP-23. Based on laboratory analytical results, the soil contained in the stockpile, and represented by soil sample SP-23, required reblending and resampling. Based on analytical results, the soil represented by the remaining stockpiles (SP-19, SP-20, SP-21 and SP-22), was deemed suitable for use as backfill material.

On August 5, 2009, four (4) stockpile soil samples (SP-24, SP-25, SP-26 and SP-27) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples SP-24, SP-25, and SP-27 to 0.1049 mg/Kg for soil sample SP-26. The BTEX concentrations ranged from 2.256 mg/Kg for soil sample SP-24 to 29.11 mg/Kg for soil sample SP-26. The TPH

concentrations ranged from 1,853 mg/Kg for soil sample SP-27 to 5,178 mg/Kg for soil sample SP-26. The NMOCD Artesia Office granted verbal approval to utilize the above referenced soil as backfill material.

On August 6, 2009, four (4) stockpile soil samples (SP-28, SP-29, SP-30 and SP-31) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples SP-29, SP-30 and SP-31 to 0.0698 mg/Kg for soil sample SP-28. The BTEX concentrations ranged from 0.0046 mg/Kg for soil sample SP-29 to 17.83 mg/Kg for soil sample SP-30. The TPH concentrations ranged from 241.5 mg/Kg for soil sample SP-29 to 5,652 mg/Kg for soil sample SP-30. The NMOCD Artesia Office granted verbal approval to utilize the above referenced soil as backfill material.

On August 11, 2009, four (4) soil samples (NSW-1, NSW-2, NSW-3 and NSW-4) were collected from the excavation sidewall at approximately thirteen (13) feet bgs. The laboratory analytical results indicated benzene concentrations were less than the appropriate MDL for all of the submitted soil samples. The BTEX concentrations ranged from less than the appropriate MDL for soil samples NSW-2, NSW-3 and NSW-4 to 0.0144 mg/Kg for soil sample NSW-1. The TPH concentrations ranged from less than the laboratory MDL for soil sample NSW-4 to 4,997 mg/Kg for soil sample NSW-1.

On August 11, 2009, four (4) stockpile soil samples (SP-32, SP-33, SP-34 and SP-35) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from less than the appropriate MDL for soil samples SP-32, SP-33 and SP-34 to 0.0068 mg/Kg for soil sample SP-35. The BTEX concentrations ranged from 0.0295 mg/Kg for soil sample SP-32 to 4.262 mg/Kg for soil sample SP-34. The TPH concentrations ranged from 1,032.8 mg/Kg for soil sample SP-32 to 3,059 mg/Kg for soil sample SP-34. Based on the laboratory analytical results of the above referenced soil samples, the soil was deemed suitable for use as backfill material.

On August 14, 2009, seven (7) soil samples (ESW-1, ESW-2, SSW-1, SSW-2, WSW-1, WSW-2, and WSW-3) were collected from the excavation sidewalls at approximately thirteen (13) feet bgs. The laboratory analytical results indicated the benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples ESW-1, SSW-1, SSW-2, WSW-1 and WSW-3 to 0.0022 mg/Kg for soil sample WSW-2. The laboratory analytical results indicated BTEX concentrations ranged from 0.0054 mg/Kg for soil sample SSW-1 to 10.156 mg/Kg for soil sample ESW-2. The laboratory analytical results indicated the TPH concentrations ranged from 133 mg/Kg for soil sample ESW-1 to 3,260 mg/Kg for soil sample WSW-2.

On August 14, 2009, eight (8) stockpile soil samples (SP-23A, SP-36, SP-37, SP-38, SP-39, SP-40, SP-41 and SP-42) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples SP-39 and SP-40 to 0.855 mg/Kg for soil sample SP-42. The laboratory analytical results indicated BTEX concentrations ranged from 0.0111 mg/Kg for soil sample SP-38 to 82.03 mg/Kg for soil sample SP-42. The analytical results indicated TPH concentrations ranged from 137.3 mg/kg for soil sample SP-38 to 5,607 mg/Kg for soil sample SP-36. Based on laboratory analytical results, the soil contained in the stockpile, and represented by soil sample SP-42 required reblending and resampling. The NMOCD Artesia District Office granted verbal

approval to utilize the soil represented by stockpile soil sample SP-36 as use for backfill material. Based on analytical results, the soil represented by the remaining stockpiles was deemed suitable for use as backfill material.

On August 20, 2009, two (2) stockpile soil samples (SP-43 and SP-44) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from 0.3636 mg/Kg for soil sample SP-43 to 1.289 mg/Kg for soil sample SP-44. The laboratory analytical results indicated the BTEX concentrations ranged from 69.95 mg/Kg for soil sample SP-43 to 97.66 mg/Kg for soil sample SP-44. The laboratory analytical results indicated the TPH concentrations ranged from 6,052 mg/Kg for soil sample SP-43 to 8,494 mg/Kg for soil sample SP-44. Based on laboratory analytical results, the soil contained in the stockpiles, and represented by soil samples SP-43 and SP-44 required reblending and resampling.

The area defined by soil borings SB-2 and SB-3 was excavated to a depth of approximately twenty (20) feet bgs. On August 24, 2009, two (2) soil samples (Floor-1 and Floor -2) were collected from the floor of the excavation at approximately twenty (20) feet bgs. The laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL for soil sample Floor-2 to 1.405 mg/Kg for soil sample Floor-1. The laboratory analytical results indicated BTEX concentrations ranged from 0.0205 mg/Kg for soil sample Floor-2 to 131.87 mg/Kg for soil sample Floor-1. The laboratory analytical results indicated TPH concentrations ranged from 242 mg/Kg for soil sample Floor-2 to 8,075 mg/Kg for soil sample Floor-1. As per NMOCD request, the area excavated to twenty (20) feet bgs and represented by soil sample Floor-1 was allowed to volatize.

On August 31, 2009, one (1) soil sample (Floor-1A) was collected from the excavated area and submitted to the laboratory. The laboratory analytical results indicated benzene, BTEX and TPH concentrations for soil sample Floor-1A were 0.0428 mg/Kg, 22.29 mg/Kg and 1,908 mg/Kg, respectively.

On August 25, 2009, one (1) stockpile soil sample (SP-42A) was collected and submitted to the laboratory. The analytical results indicated the benzene, BTEX and TPH concentrations for soil sample SP-42A were 0.1165 mg/Kg, 32.67 mg/Kg and 4,577 mg/Kg, respectively. Based on the laboratory analytical results of the above referenced soil samples, the soil was deemed suitable for use as backfill material.

On August 28, 2009, two (2) stockpile soil samples (SP-43A and SP-44A) were collected and submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from 0.0896 mg/Kg for soil sample SP-43A to 0.102 mg/Kg for soil sample SP-44A. The laboratory analytical results indicated BTEX concentrations ranged from 13.627 mg/Kg for soil sample SP-44A to 19.656 mg/Kg for soil sample SP-43A. The laboratory analytical results indicated from 2,597 mg/Kg for soil sample SP-43A to 3,519 mg/Kg for soil sample SP-44A. Based on the analytical results of the stockpile soil samples referenced above, the soil was deemed suitable for use as backfill material.

Based on the analytical results and NMOCD approval, the excavation was backfilled in eighteen inch lifts, compacted and contoured to fit the surrounding topography.

On September 17 and 18, 2009 the site was seeded with a BLM approved seeding mixture.

### 4.0 QA/QC PROCEDURES

### 4.1 Soil Sampling

Soil Samples were delivered to Xenco Laboratories, Inc., of Odessa, Texas for BTEX and/or TPH analyses using the methods described below. Soil samples were analyzed for BTEX and/or TPH concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO

### 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-ofcustody (COC) form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

### 5.0 SITE CLOSURE REQUEST

Based on the analytical results of the confirmation soil samples, Basin recommends Plains provide the NMOCD Artesia District Office and the BLM Carlsbad Office a copy of this Remediation Summary and Site Closure Request and request the NMOCD and BLM grant site closure of the Beeson 8" Discharge release site.

### 6.0 LIMITATIONS

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

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

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

### 7.0 **DISTRIBUTION:**

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# Tables

TABLE 1

# CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

# PLAINS PIPELINE, L.P. BEESON 8 INCH DISCHARGE EDDY COUNTY, NEW MEXICO SRS#TNM BEESON HISTORICAL

					METHC	D: EPA SW	846-8021B,	5030	Γ		SW 84	8-8015M	ſ	300.1
ATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M,P- XYLENE (mg/Kg)	O- XYLENE (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 C28 <sup>-C35</sup> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.003	0.0058	0.0068	0.0016	0.0172	<75.3	2,750	559	3,309	<5.02
Feet	6 Feet	02/03/09	In-Situ	<0.0011	<0.0021	0.0036	0.005	0.0017	0.0103	<15.9	108	53	161	
s Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.0051	0.0033	0.004	0.0011	0.0135	<75.6	5,860	940	6,800	
6 Feet	6 Feet	02/03/09	In-Situ	<0.0011	<0.0022	0.0016	<0.0022	<0.0011	0.0016	<16.8	1,420	254	1,674	
6 Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.0049	0.1641	0.0693	0.0025	0.2408	<75.3	4,020	1,560	5,580	
2 Feet	2 Feet	02/03/09	In-Situ	<0.0010	<0.0020	0.045	0.0213	0.0048	0.0711	<75.7	437	137	574	
6 Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.0047	0.0138	0.0162	0.0029	0.0376	<150	5,190	1,080	6,270	
-3 Feet	3 Feet	02/03/09	In-Situ	<0.0010	<0.0021	0.0089	0.0068	0.0018	0.0175	<78.6	805	183	988	
-6 Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.0045	0.0208	0.0204	0.0045	0.0502	<151	3,490	811	4,301	
-3 Feet	3 Feet	02/03/09	In-Situ	<0.0011	<0.0021	0.1361	0.0638	0.0118	0,2117	21.7	829	206	1,057	
-6 Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.0037	0.0086	0.0062	<0.0010	0.0185	152	11,900	1,820	13,872	
-3 Feet	3 Feet	02/03/09	In-Situ	<0.0010	<0.0020	0.0035	0.004	<0.0010	0,0075	<15.2	91.8	24.6	116	
-6 Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.0059	0.0246	0.0283	<0.0010	0.0588	<151	4,060	1,070	5,130	
-3 Feet	3 Feet	02/03/09	In-Situ	<0.0010	<0.0020	0.0056	0.003	<0.0010	0.0086	<15.1	99.4	22.8	122	
-6 Inch	6 Inches	02/03/09	In-Situ	0.0116	0.019	0.0481	0.041	0.0015	0,1212	160	8,050	1,940	10,150	
-3 Feet	3 Feet	02/03/09	In-Situ	<0.0010	0.0233	0.0485	0.0377	0.0088	0.1183	17.4	288	83	388	
-6 Feet	6 Feet	02/03/09	In-Situ	<0.5233	3.082	24.28	21.89	7.604	56.856	4,910	12,100	1,090	18,100	<5.23
-12 Feet	12 Feet	02/03/09	In-Situ	<0.5318	3.058	29.53	23.69	8.801	65.079	3,240	8,070	1,050	12,360	
0-6 Inch	6 Inches	02/03/09	In-Situ	<0.0010	<0.0020	0.0947	0.0142	0.0283	0.1372	217	777	206	1,200	
0-3 Feet	3 Feet	02/03/09	In-Situ	0.0166	0.0318	0.0977	0.0956	0.0396	0.2813	592	8,870	1,660	11,122	
1-6 Feet	6 Feet	02/03/09	In-Situ	0.0053	0.0232	0.0995	0.3236	0.2365	0.6881	509	3,850	563	4,922	
1-12 Feet	12 Feet	02/03/09	In-Situ	<0.0531	<0.1062	4.32	7.574	1.487	13.381	1,470	5,460	722	7,652	
2-6 Feet	6 Feet	02/03/09	In-Situ	<0.5242	4.482	41.63	51.06	12.48	109.652	2,860	8,310	980	12,150	
2-15 Feet	15 Feet	02/03/09	In-Situ	<0.5217	3.85	33.43	48.38	13.83	99.49	2,420	6,800	825	10,045	
3-6 Inch	6 Inches	02/03/09	In-Situ	<0.0010	0.0023	0.2413	0.1296	0.0162	0.3894	30.2	204	134	368	
3-3 Feet	3 Feet	02/03/09	In-Situ	<0.0010	<0.0020	0.0012	<0.0020	<0.0010	0.0012	<15.3	<15.3	<15.3	<15.3	
					•			3	•			ı	•	
	10 Feet	04/13/09	In-Situ	0.2233	2.43	4.21	9.362	2.106	18.3313	961	5,570	692	7,223	
	20 Feet	04/13/09	In-Situ	<0.5503	2.141	9.295	15.54	1.354	28.33	1,820	4,230	342	6,392	
	30 Feet	04/13/09	In-Situ	<0.0011	<0.0022	0.0193	0.0592	0.0243	0.1028	79.4	316	21.6	417	

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TABLE 1

# CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

# PLAINS PIPELINE, L.P. BEESON 8 INCH DISCHARGE EDDY COUNTY, NEW MEXICO SRS#TNM BEESON HISTORICAL

					METHC	D: EPA SW	846-8021B, {	5030			SW 84	8-8015M		300.1
SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE DATE	SOIL	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M,P- XYLENE (mg/Kg)	O- XYLENE (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)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
SB-1 @ 40'	40 Feet	04/13/09	In-Situ	<0.0263	<0.0526	0.0447	0.128	0.0628	0.2355	59	551	43.9	653.9	
SB-1 @ 50'	50 Feet	04/13/09	In-Situ	<0.0011	<0.0021	0.0044	0.0079	0.0027	0.015	53.5	370	56.3	479.3	
SB-1 @ 60	60 Feet	04/13/09	In-Situ	<00010	<0.0021	0.003	0.0029	<0.001	0.0059	19	144	<15.5	163	
SB-1 @ 65	65 Feet	04/13/09	In-Situ	<0.0011	<0.0022	0.0024	0.0028	<0.0011	0.0052	<16.3	89,4	<16.3	89.4	
SB-2 @ 10	10 Feet	04/13/09	In-Situ	<0.1037	0.4533	14.91	20	1.89	37,2533	2,040	7,470	731	10,241	
SB-2 @ 20'	20 Feet	04/13/09	In-Situ	3.28	15.68	105.6	63.07	9.964	197.594	3,750	5,140	548	9,438	
SB-2 @ 30'	30 Feet	04/13/09	In-Situ	<0.011	0.1288	1.323	1.316	0.145	2.9128	1,270	3,680	286	5,236	
SB-2 @ 40'	40 Feet	04/13/09	In-Situ	0.0034	0.0036	0.0229	0.016	0.0023	0.0482	1,270	3,680	286	5,236	
SB-2 @ 50'	50 Feet	04/13/09	In-Situ	<0.0011	<0.0021	0.0448	0.0546	0.0048	0.1042	58.1	337	36.9	432	
SB-2 @ 55'	55 Feet	04/13/09	In-Situ	<0.0012	<0.0023	<0.0012	<0.0023	<0.0012	<0.0023	<17.5	23.2	<17.5	23.2	
SB-3 @ 10'	10 Feet	04/14/09	In-Situ	<0.001	<0.0021	0.0015	<0.0021	<0.0010	0.0015	20.1	89.8	<15.4	109.9	
SB-3 @ 20'	20 Feet	04/14/09	In-Situ	<0.53	3.848	38.06	47.34	3.36	92.608	2,790	5,130	387	8,307	
SB-3 @ 30'	30 Feet	04/14/09	In-Situ	<0.0534	0.1907	2.604	4.156	0.3167	7.2674	732	2,770	200	3,702	
SB-3 @ 40'	40 Feet	04/14/09	In-Situ	<0.0011	<0.0022	0.0316	0.0642	0.0312	0.127	103	511	38.4	652.4	
SB-3 @ 55	55 Feet	04/14/09	In-Situ	<0.0011	<0.0022	0.0026	0.0034	0.0016	0.0076	19.1	131	<16.3	150.1	
SB-3 @ 60	60 Feet	04/14/09	In-Situ	<0.0054	<0.0109	<0.0054	<0.0109	<0.0054	<0.0109	24	311	34.3	369.3	
SB-4 @ 10	10 Feet	04/14/09	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.3	<16.3	<16.3	<16.3	
SB-4 @ 20	20 Feet	04/14/09	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.3	<16.3	<16.3	<16.3	
SB-4 @ 25	25 Feet	04/14/09	In-Situ	<0.0013	<0.0026	<0.0013	<0.0026	<0.0013	<0.0026	<19.6	< 19.6	<19.6	<19.6	
SB-5 @ 10'	10 Feet	04/14/09	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.3	<16.3	<16.3	<16.3	
SB-5 @ 20'	20 Feet	04/14/09	In-Situ	<0.0013	<0.0026	<0.0013	<0.0026	<0.0013	<0.0026	<19.7	<19.7	<19.7	<19.7	
SB-5 @ 25'	25 Feet	04/14/09	In-Situ	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<18.1	<18.1	<18.1	<18.1	
SB-5 @ 30	30 Feet	04/14/09	In-Situ	<0.0013	<0.0026	<0.0013	<0.0026	<0.0013	<0.0026	<20	<20	<20	<20	
SB-6 @ 10'	10 Feet	04/14/09	In-Situ	<0.0013	<0.0026	<0.0013	<0.0026	<0.0013	<0.0026	<19.4	<19.4	<19.4	<19.4	
SB-6 @ 20'	20 Feet	04/14/09	In-Situ	<0.0014	<0.0028	0.0024	<0.0028	<0.0014	0.0024	<21.1	<21.1	<21.1	<21.1	
SB-6 @ 25	25 Feet	04/14/09	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.7	<16.7	<16.7	<16.7	
SB-6 @ 30	30 Feet	04/14/09	In-Situ	<0.0012	<0.0023	<0.0012	<0.0023	<0.0012	<0.0023	<17.7	<17.7	<17.7	<17.7	
	•	,												
SP-1	N/A	07/16/09	Backfill	<0.0012	<0.0025	<0.0012	<0.0025	<0.0012	<0.0025	<18.5	118	44.1	162.1	
SP-2	N/A	07/16/09	Backfill	<0.0012	<0.0025	<0.0012	0.003	<0.0012	0.003	27.4	580	116	723.4	

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TABLE 1

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# CONCENTRATIONS OF TPH, BTEX AND CHLORIDES IN SOIL

# PLAINS PIPELINE, L.P. BEESON 8 INCH DISCHARGE EDDY COUNTY, NEW MEXICO SRS#TNM BEESON HISTORICAL

					METHC	DD: EPA SW	846-8021B,	5030			SW 84	8-8015M		300.1
SAMPLE LOCATION	SAMPLE DEPTH (Below Grade Surface)	SAMPLE Date	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M,P- XYLENE (mg/Kg)	O. XYLENE (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C₅C₁₂ (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
SP-3	N/A	07/16/09	Backfill	<0.0307	<0.0615	0.0587	0.3357	0.1107	0.5051	168	1,280	231	1,679	
SP-4	N/A	07/20/09	Backfill	<0.0015	<0.0029	0.0027	0.0065	<0.0015	0.0092	<109	2,040	428	2,468	
SP-5	N/A	07/20/09	Backfill	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<78.9	1,020	273	1,293	
SP-6	N/A	07/20/09	Backfill	<0.0010	<0.0021	0.0456	0.0869	0.1475	0.28	289	3,560	583	4,432	
SP-7	N/A	07/28/09	Backfill	<0.0010	<0.0021	0.0085	0.0117	0.0043	0.0245	59.4	983	102	1,144.4	
SP-8	N/A	07/28/09	Backfill	<0.0011	<0.0021	0.0163	0.0311	0.0158	0.0632	124	1,210	120	1,454	
SP-9	N/A	07/28/09	Backfill	<0.0213	<0.0426	0.0889	0.1049	0.1586	0.3524	212	1,510	174	1,896	
SP-10	N/A	07/28/09	Backfill	<0.0011	0.007	0.0837	0.2127	0.325	0.6284	428	3,160	322	3,910	
SP-11	N/A	07/28/09	Backfill	<0.0011	0.0056	0.0792	0.1289	0.2391	0.4528	248	2,230	297	2,775	
SP-12	N/A	07/28/09	Backfill	<0.0011	0.0327	0.2451	0.4812	0.3174	1.0764	601	4,360	511	5,472	
SP-13	N/A	07/28/09	Backfill	<0.0212	0.072	0.3416	0.8772	0.9925	2.2833	535	4,240	492	5,267	
SP-14	N/A	07/28/09	Backfill	0.0424	0.4288	0.986	3.406	3.349	8.212	996	4,970	533	6,469	
SP-15	N/A	07/28/09	Backfill	<0.0010	0.0042	0.0489	0.1024	0.1682	0.3237	186	1,140	123	1,449	
SP-16	N/A	07/31/09	Backfill	0.0019	0.024	0.0795	0.2405	0.1132	0.4591	423	3,580	403	4,406	
SP-17	N/A	07/31/09	Backfill	<0.0214	0.1285	0.4129	1.549	0.4373	2.528	693	2,950	340	3,983	
SP-18	N/A	07/31/09	Backfill	<0.0109	0.0759	0.2654	0.9429	0.9466	2.2308	365	2,110	242	2,717	
SP-19	N/A	08/04/09	Backfill	0.1419	0.4279	2.805	7.319	1.726	12.42	356	719	122	1,197	
SP-20	N/A	08/04/09	Backfill	0.0162	0.3662	0.3265	1.027	1.183	2.919	355	1,090	154	1,599	
SP-21	N/A	08/04/09	Backfill	0.0509	0.2294	0.3443	1.851	1.232	3.708	421	1,370	136	1,927	
SP-22	N/A	08/04/09	Backfill	0.0442	0.1773	0.3097	1.677	1.178	3.386	322	1,020	150	1,492	
SP-23	N/A	08/04/09	Reblend	0.5094	6.613	23.43	30.86	4.363	65.78	1,280	2,350	269	3,899	
SP-24	N/A	08/05/09	Backfill	<0.0050	0.0338	0.2475	1.121	0.8536	2.256	315	1,650	184	2,149	
SP-25	N/A	08/05/09	Backfill	<0.0207	0.0949	0.2422	1.251	0.8874	2.476	607	2,310	194	3,111	
SP-26	N/A	08/05/09	Backfill	0.1049	0.622	3.353	22.9	2.128	29.11	1580	3,260	338	5,178	
SP-27	N/A	08/05/09	Backfill	<0.020	1.211	0.5107	3.19	1.835	6.747	550	1,190	113	1,853	
SP-28	N/A	08/06/09	Backfill	0.0698	0.8179	1.383	8.153	6.059	16.483	731	2,830	309	3,870	
SP-29	N/A	08/06/09	Backfill	<0.0011	<0.0023	<0.0011	0.0031	0.0015	0.0046	<17.0	204	36.5	241.5	
SP-30	N/A	08/06/09	Backfill	<0.2621	<0.5241	10.94	4.83	2.062	17.83 ·	1,020	4,230	402	5,652	
SP-31	N/A	08/06/09	Backfill	<0.001	0.0072	0.0145	0.034	0.0208	0.0765	143	1,300	152	1,595	
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Call Dodrof Dotallo	Date Drilled April 13, 2008 Teleform of Drivers, 545 Bit 15, 2008	Intercreas or Bernonia Seal <u>95 Fi</u> Dist. Depth of Exploratory Boring <u>65 Fi</u> Depth to Groundwater <u>N/A</u>	Ground Water Elevetion N/A		ules,	Litche Lindicates the PSH level measured on Litche La Indicates the groundwater level measured on Lindicates th	iche C Indicates samples setacted for Laboratory Analysis. PID Head-space reading in ppm obtained with a photo-ionization detector.					ne <u>Notes</u>	<ol> <li>The soll boring was advanced on date using air rotary drilling techniques.</li> <li>The lines between meterial types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.</li> </ol>	3.) The depths indicated are referenced from below ground surface (bgs).	Basin Environmental Services	Prep By: CDS April 13, 2008
Soil Description	0 - 5' - Sand, brown, very fine grained with caliche nodules, wet.	5 - 10' - Sand, brown, very fine grained, mc	10 - 15' - Sand, brown, very fine grained, m	15 - 20' - Clay, brown to tan, sandy, dry.	20 - 25' - Clay, tan, sandy with callche nod dry.	25 - 30' - Clay, red to brown, sandy with ca nodules, dry.	30 - 35' - Sand, red with some clay and call nodules, dry.		35 - 55' - Sand, tan, very fine grained, dry.			55 - 60' - Sand, dark reddish brown, very fl grained with some clay and caliche, dry	60 - 65' - Sand, dark reddish brown with so slity clay and gypsum stringers, dry		si t	County, New Mexico .P.
<sup>b</sup> etroleum <u>Stain</u>	Heavy	Moderate	Slight	Slight	None	None	None	None	None	None	None	None	None		Log Deta toring SB-	e Eddy ( Pipeline, L
Petroleum f <u>Odor</u>	Неачу	Moderate	Moderate	Moderate	Slight	None	None	None	Slight	None	None	Slight	None		Boring Soll B	Discharg Plains I
h Soll PID Columns Reading			) 28								) <b>3</b>					Beeson 8-Inch
	pth Soil PID Petroleum Petroleum et) Columns Reading Odor Stain Soil Description	pth Soll PID Petroleum Petroleum et) Columns Reading Odor Stain Soil Description Petroleum Petroleum Soil Description Petroleum Petroleum Petro	pth     Soil     PID     Petroleum Petroleum       eet)     Columns     Reading     Odor     Stain       Odor     Stain     Soil Description       Best Print     Soil Boring Details       Moderate     Dest Network, very fine grained, molst, wet.     Dest Inted       Moderate     5 - 10' - Sand, brown, very fine grained, molst.     Dest of Exploratory Boring Details	pth     Solil     PID     Petroleum Petroleum       eet)     Columns     Reading     Odor     Stain       Ool     Stain     Solil Description       Perroleum     Factor     Stain       Ool     Stain     Solil Description       Perroleum     Factor     Stain       Perroleum     Solil Description       Perroleum     Solil Description       Perroleum     Solil Description       Perroleum     Description       Perroleum     Destroleum       Perroleum       Perroleum <td>pth     Soli     PID     Petroleum Petroleum       iet)     Columns     Reading     Odor     Stain        Odor     Stain     Soli Description        Meavy     Heavy     Heavy     Heavy          Soli Description          Soli Description          Soli Description          Soli Boring Details          Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details                   </td> <td>pth     Soli     PID     Petroleum Petroleum       e1)     Columns     Reading     Odor     Stain       e2)     Heavy     Heavy     Heavy     Heavy       e3     Noderate     5 - 10° - Sand, brown, very file grained, mth     Desp offset       e3     Moderate     5 - 10° - Sand, brown, very file grained, molt.     Desp offset       e3     Moderate     Slight     10 - 15° - Sand, brown, very file grained, molt.       e4     Moderate     Slight     None     20 - 25° - Clay, tan, sandy, dry.       e6     Slight     None     20 - 25° - Clay, tan, sandy with callche nodules, dues, dues</td> <td>pth     Solil     PID     Petroleum Petroleum       et)     Columns     Reading     Odor     Stain       et)     Columns     Reading     Odor     Stain       et     1,345     Heavy     Heavy     Heavy       et     1,345     Heavy     Heavy     Heavy       et     1,345     Moderate     0-5'-Sand, brown, very fine grained with callche nodules, wet.     Solil Description       et     1,345     Moderate     5-10'-Sand, brown, very fine grained, with callche nodules, wet.     Solil Description       et     861     Moderate     5-10'-Sand, brown, very fine grained, molt.     Description       et     862     Moderate     5-10'-Sand, brown, very fine grained, molt.     Description       et     863     Moderate     Silght     10-15'-Sand, brown, very fine grained, molt.       et     682     Moderate     Silght     15-20'-Clay, tan, sandy with callche nodules.       etc     682     None     None     20'-25'-Clay, tan, sandy with callche nodules.       etc     682     None     None     20'-25'-Clay, tan, sandy with callche nodules.</td> <td>pth     Soli     PID     Petroleum Petroleum       et     Columns     Reading     Odor     Stain       et     Odor     Stain     Soli Description       et     1,345     Heavy     Heavy     Heavy       et     1,345     Noderate     5-10"- Sand, brown, very fine grained, with caliche nodules, wet.     Soli Description       et     0     0     5-10"- Sand, brown, very fine grained, most.     Soli Boring Details       et     0     0     0     Soli Description       et     0     0     Soli Description     Soli Boring Details       et     0     0     Soli Description     Soli Boring Details       et     0     0     Soli Boring Details     Soli Boring Details       et     0     0     0     Soli Boring Details       et     0     0</td> <td>pth     Solil     PID     Petroleum Petroleum       et/     Columns     Reading     Odor     Stain       et/     Odor     Stain     Seard, brown, very fine grained with     Soli Boring Details       et/     1,345     Heavy     Heavy     Heavy     Soli Doring Details       et/     1,345     Moderate Moderate     5-10°- Sand, brown, very fine grained, molts.     Soli Boring Details       et/     686     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Soli Boring Details       esis     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Soli Boring Details     Soli Boring Details       esis     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Departed molts.     Departed molts.       esis     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Departed molts.     Departed molts.       esis     Moderate Silpht     10-15°- Sand, prown, sandy, dry.     Departed molts.     Departed molts.       esis     None     None     None     None     Soli Boring Details       esis     Moderate Silpht     10-15°-Sand, prown, sandy, dry.     Departed molts.     Departed molts.       esis     (13)     None     None     None     None     None       708     None</td> <td>Oth     Solil     PID     Petroleum Petroleum       e1)     Columns     Reading     Odic     Stall       1,345     Heavy     Heavy     Heavy     Heavy     Heavy       1,345     Heavy     Heavy     Heavy     Inan (1,2,1)     Solil Description       1,345     Moderate     Silght     On-15 - Sand, brown, very fine grained, with calleto anodules, wet.     Solil Description     Solil Boring Details       1,345     Moderate     Silght     0-15 - Sand, brown, very fine grained, molts.     Des not electrons and (1,2,1)       1,345     Moderate     Silght     10-16 - Sand, brown, very fine grained, molts.     Des not electrons and (1,2,1)       1,345     Moderate     Silght     None     None     None     None       1,315     Silght     None     None     None     None     None       1,1     None     None     None     None     None     None       1,1     Silght     None     None     None     None     None       1,1     Silght     None     None     None     None     None       1,1     None     None     None     None     None     None       1,1     None     None     None     None     None     <t< td=""><td>bit     Soil     PID     Petroleum Petroleum       e1     Columns     Reading     Odor     Stain       e1     Columns     Reading     Odor     Stain       e1     Moderate     Sili     0-5 * Sand, brown, very the grained with alter modules, wet.     E3     I.345     I.345     I.345       e1     Moderate     Silight     None     Silight     10 - 15 * Sand, brown, very the grained, molts, wet.     Instant and its and brown, very the grained, molts, wet.     Instant and its and brown of the columns, wet.       e2     Silight     None     None     None     Silight with calche modules, dry.     Instant and its and brown of with calche molds, wet.     Instant and its and brown of with calche molds, wet.       e2     None     None     None     None     Silight with calche modules, dry.       e2     None     None     None     Silight with calche modules, dry.     Index and prisonery dering.       e3     Silight     None     None     Silight with calche modules, dry.     Index and prisonery dering.       e3     Silight     None     None     None     Silight work     Index and prisonery dering.       e4     None     None     None     Silight work     Index and prisonery dering.     Index and prisonery dering.       e5     None     <t< td=""><td>bit     Soli     PID     Petroleum Petroleum       e1     Columnas Readina     Odcr     Stain       e1     Columnas Readina     Odcr     Stain       e1     Heavy     Heavy     Heavy     Heavy       e1     1,345     Heavy     Heavy     Bet Moderate       e1     1,345     Moderate     Sight     Dor Sindu     Anti 4,300       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e2     Sight     None     None     None     None     Sight       international signed, molt.     20 - 25' - Clay, tan, sandy with callche     Dor ondoerate     Sight       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, div.     Sight     None     None     None       inte</td><td>Drive     Solil     PLD     Petroleum Petroleum       etcl     Columns     Reading     Odor     Sain     Solil Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Harry       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Moderate     Slight     None     Slight     Oto-15: - Sand, brown, very fine grained with     Deno     Deno     Antif.3,200       etcl     Slight     None     None     10 - 15: - Sand, brown to tan, samp, dry.     Deno     Deno     Antif.3,200       etcl     Slight     None     None</td><td>Diff     Soil     PID     Perroleum Petroleum       1     Columns     Reading     Odor     Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Image: Sain     Soil Description       1     Moderate     Sight     Image: Sain     Pion     Pion       1     Moderate     Sight     Image: Sain     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     Sight     None     None     None     Pion     Pion       1     Sight     None     None</td><td>Olimite Soil       Pilo       Pertoleum Petroleum         1       1,345       Heavy       Heavy       Heavy       Heavy       -5 - 5 sand, brown, vary frie granted with       Soil Borting Details       Soil</td><td>Oth     Soil     PID     Petroleum Petroleum       0.001     Sain     Soil     Soil     Soil     Soil     Soil     Soil       1.346     Moderate     Sight     None     None     None     None     Soil     Soil       1.346     None     None     None     None     None     Soil     Soil     Soil       1.346     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None</td></t<></td></t<></td>	pth     Soli     PID     Petroleum Petroleum       iet)     Columns     Reading     Odor     Stain        Odor     Stain     Soli Description        Meavy     Heavy     Heavy     Heavy          Soli Description          Soli Description          Soli Description          Soli Boring Details          Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details           Soli Boring Details	pth     Soli     PID     Petroleum Petroleum       e1)     Columns     Reading     Odor     Stain       e2)     Heavy     Heavy     Heavy     Heavy       e3     Noderate     5 - 10° - Sand, brown, very file grained, mth     Desp offset       e3     Moderate     5 - 10° - Sand, brown, very file grained, molt.     Desp offset       e3     Moderate     Slight     10 - 15° - Sand, brown, very file grained, molt.       e4     Moderate     Slight     None     20 - 25° - Clay, tan, sandy, dry.       e6     Slight     None     20 - 25° - Clay, tan, sandy with callche nodules, dues, dues	pth     Solil     PID     Petroleum Petroleum       et)     Columns     Reading     Odor     Stain       et)     Columns     Reading     Odor     Stain       et     1,345     Heavy     Heavy     Heavy       et     1,345     Heavy     Heavy     Heavy       et     1,345     Moderate     0-5'-Sand, brown, very fine grained with callche nodules, wet.     Solil Description       et     1,345     Moderate     5-10'-Sand, brown, very fine grained, with callche nodules, wet.     Solil Description       et     861     Moderate     5-10'-Sand, brown, very fine grained, molt.     Description       et     862     Moderate     5-10'-Sand, brown, very fine grained, molt.     Description       et     863     Moderate     Silght     10-15'-Sand, brown, very fine grained, molt.       et     682     Moderate     Silght     15-20'-Clay, tan, sandy with callche nodules.       etc     682     None     None     20'-25'-Clay, tan, sandy with callche nodules.       etc     682     None     None     20'-25'-Clay, tan, sandy with callche nodules.	pth     Soli     PID     Petroleum Petroleum       et     Columns     Reading     Odor     Stain       et     Odor     Stain     Soli Description       et     1,345     Heavy     Heavy     Heavy       et     1,345     Noderate     5-10"- Sand, brown, very fine grained, with caliche nodules, wet.     Soli Description       et     0     0     5-10"- Sand, brown, very fine grained, most.     Soli Boring Details       et     0     0     0     Soli Description       et     0     0     Soli Description     Soli Boring Details       et     0     0     Soli Description     Soli Boring Details       et     0     0     Soli Boring Details     Soli Boring Details       et     0     0     0     Soli Boring Details       et     0     0	pth     Solil     PID     Petroleum Petroleum       et/     Columns     Reading     Odor     Stain       et/     Odor     Stain     Seard, brown, very fine grained with     Soli Boring Details       et/     1,345     Heavy     Heavy     Heavy     Soli Doring Details       et/     1,345     Moderate Moderate     5-10°- Sand, brown, very fine grained, molts.     Soli Boring Details       et/     686     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Soli Boring Details       esis     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Soli Boring Details     Soli Boring Details       esis     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Departed molts.     Departed molts.       esis     Moderate Silpht     10-15°- Sand, brown, very fine grained, molts.     Departed molts.     Departed molts.       esis     Moderate Silpht     10-15°- Sand, prown, sandy, dry.     Departed molts.     Departed molts.       esis     None     None     None     None     Soli Boring Details       esis     Moderate Silpht     10-15°-Sand, prown, sandy, dry.     Departed molts.     Departed molts.       esis     (13)     None     None     None     None     None       708     None	Oth     Solil     PID     Petroleum Petroleum       e1)     Columns     Reading     Odic     Stall       1,345     Heavy     Heavy     Heavy     Heavy     Heavy       1,345     Heavy     Heavy     Heavy     Inan (1,2,1)     Solil Description       1,345     Moderate     Silght     On-15 - Sand, brown, very fine grained, with calleto anodules, wet.     Solil Description     Solil Boring Details       1,345     Moderate     Silght     0-15 - Sand, brown, very fine grained, molts.     Des not electrons and (1,2,1)       1,345     Moderate     Silght     10-16 - Sand, brown, very fine grained, molts.     Des not electrons and (1,2,1)       1,345     Moderate     Silght     None     None     None     None       1,315     Silght     None     None     None     None     None       1,1     None     None     None     None     None     None       1,1     Silght     None     None     None     None     None       1,1     Silght     None     None     None     None     None       1,1     None     None     None     None     None     None       1,1     None     None     None     None     None <t< td=""><td>bit     Soil     PID     Petroleum Petroleum       e1     Columns     Reading     Odor     Stain       e1     Columns     Reading     Odor     Stain       e1     Moderate     Sili     0-5 * Sand, brown, very the grained with alter modules, wet.     E3     I.345     I.345     I.345       e1     Moderate     Silight     None     Silight     10 - 15 * Sand, brown, very the grained, molts, wet.     Instant and its and brown, very the grained, molts, wet.     Instant and its and brown of the columns, wet.       e2     Silight     None     None     None     Silight with calche modules, dry.     Instant and its and brown of with calche molds, wet.     Instant and its and brown of with calche molds, wet.       e2     None     None     None     None     Silight with calche modules, dry.       e2     None     None     None     Silight with calche modules, dry.     Index and prisonery dering.       e3     Silight     None     None     Silight with calche modules, dry.     Index and prisonery dering.       e3     Silight     None     None     None     Silight work     Index and prisonery dering.       e4     None     None     None     Silight work     Index and prisonery dering.     Index and prisonery dering.       e5     None     <t< td=""><td>bit     Soli     PID     Petroleum Petroleum       e1     Columnas Readina     Odcr     Stain       e1     Columnas Readina     Odcr     Stain       e1     Heavy     Heavy     Heavy     Heavy       e1     1,345     Heavy     Heavy     Bet Moderate       e1     1,345     Moderate     Sight     Dor Sindu     Anti 4,300       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e2     Sight     None     None     None     None     Sight       international signed, molt.     20 - 25' - Clay, tan, sandy with callche     Dor ondoerate     Sight       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, div.     Sight     None     None     None       inte</td><td>Drive     Solil     PLD     Petroleum Petroleum       etcl     Columns     Reading     Odor     Sain     Solil Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Harry       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Moderate     Slight     None     Slight     Oto-15: - Sand, brown, very fine grained with     Deno     Deno     Antif.3,200       etcl     Slight     None     None     10 - 15: - Sand, brown to tan, samp, dry.     Deno     Deno     Antif.3,200       etcl     Slight     None     None</td><td>Diff     Soil     PID     Perroleum Petroleum       1     Columns     Reading     Odor     Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Image: Sain     Soil Description       1     Moderate     Sight     Image: Sain     Pion     Pion       1     Moderate     Sight     Image: Sain     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     Sight     None     None     None     Pion     Pion       1     Sight     None     None</td><td>Olimite Soil       Pilo       Pertoleum Petroleum         1       1,345       Heavy       Heavy       Heavy       Heavy       -5 - 5 sand, brown, vary frie granted with       Soil Borting Details       Soil</td><td>Oth     Soil     PID     Petroleum Petroleum       0.001     Sain     Soil     Soil     Soil     Soil     Soil     Soil       1.346     Moderate     Sight     None     None     None     None     Soil     Soil       1.346     None     None     None     None     None     Soil     Soil     Soil       1.346     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None</td></t<></td></t<>	bit     Soil     PID     Petroleum Petroleum       e1     Columns     Reading     Odor     Stain       e1     Columns     Reading     Odor     Stain       e1     Moderate     Sili     0-5 * Sand, brown, very the grained with alter modules, wet.     E3     I.345     I.345     I.345       e1     Moderate     Silight     None     Silight     10 - 15 * Sand, brown, very the grained, molts, wet.     Instant and its and brown, very the grained, molts, wet.     Instant and its and brown of the columns, wet.       e2     Silight     None     None     None     Silight with calche modules, dry.     Instant and its and brown of with calche molds, wet.     Instant and its and brown of with calche molds, wet.       e2     None     None     None     None     Silight with calche modules, dry.       e2     None     None     None     Silight with calche modules, dry.     Index and prisonery dering.       e3     Silight     None     None     Silight with calche modules, dry.     Index and prisonery dering.       e3     Silight     None     None     None     Silight work     Index and prisonery dering.       e4     None     None     None     Silight work     Index and prisonery dering.     Index and prisonery dering.       e5     None <t< td=""><td>bit     Soli     PID     Petroleum Petroleum       e1     Columnas Readina     Odcr     Stain       e1     Columnas Readina     Odcr     Stain       e1     Heavy     Heavy     Heavy     Heavy       e1     1,345     Heavy     Heavy     Bet Moderate       e1     1,345     Moderate     Sight     Dor Sindu     Anti 4,300       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e2     Sight     None     None     None     None     Sight       international signed, molt.     20 - 25' - Clay, tan, sandy with callche     Dor ondoerate     Sight       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, div.     Sight     None     None     None       inte</td><td>Drive     Solil     PLD     Petroleum Petroleum       etcl     Columns     Reading     Odor     Sain     Solil Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Harry       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Moderate     Slight     None     Slight     Oto-15: - Sand, brown, very fine grained with     Deno     Deno     Antif.3,200       etcl     Slight     None     None     10 - 15: - Sand, brown to tan, samp, dry.     Deno     Deno     Antif.3,200       etcl     Slight     None     None</td><td>Diff     Soil     PID     Perroleum Petroleum       1     Columns     Reading     Odor     Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Image: Sain     Soil Description       1     Moderate     Sight     Image: Sain     Pion     Pion       1     Moderate     Sight     Image: Sain     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     Sight     None     None     None     Pion     Pion       1     Sight     None     None</td><td>Olimite Soil       Pilo       Pertoleum Petroleum         1       1,345       Heavy       Heavy       Heavy       Heavy       -5 - 5 sand, brown, vary frie granted with       Soil Borting Details       Soil</td><td>Oth     Soil     PID     Petroleum Petroleum       0.001     Sain     Soil     Soil     Soil     Soil     Soil     Soil       1.346     Moderate     Sight     None     None     None     None     Soil     Soil       1.346     None     None     None     None     None     Soil     Soil     Soil       1.346     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None</td></t<>	bit     Soli     PID     Petroleum Petroleum       e1     Columnas Readina     Odcr     Stain       e1     Columnas Readina     Odcr     Stain       e1     Heavy     Heavy     Heavy     Heavy       e1     1,345     Heavy     Heavy     Bet Moderate       e1     1,345     Moderate     Sight     Dor Sindu     Anti 4,300       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e1     (3)     Moderate     Sight     10 - 15 '- Sand, brown, very file grained, molt.     Dor Ondo       e2     Sight     None     None     None     None     Sight       international signed, molt.     20 - 25' - Clay, tan, sandy with callche     Dor ondoerate     Sight       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, molt.     20 - 55' - Sand, red with some call signed signed.     Moderate       international signed, div.     Sight     None     None     None       inte	Drive     Solil     PLD     Petroleum Petroleum       etcl     Columns     Reading     Odor     Sain     Solil Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Harry       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Harry     Harry     Harry     Harry     Harry     Harry     Eoli Description       etcl     Moderate     Slight     None     Slight     Oto-15: - Sand, brown, very fine grained with     Deno     Deno     Antif.3,200       etcl     Slight     None     None     10 - 15: - Sand, brown to tan, samp, dry.     Deno     Deno     Antif.3,200       etcl     Slight     None     None	Diff     Soil     PID     Perroleum Petroleum       1     Columns     Reading     Odor     Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Heavy     Image: Sain     Soil Description       1     Heavy     Heavy     Image: Sain     Soil Description       1     Moderate     Sight     Image: Sain     Pion     Pion       1     Moderate     Sight     Image: Sain     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     None     None     None     None     Pion     Pion       1     Sight     None     None     None     Pion     Pion       1     Sight     None     None	Olimite Soil       Pilo       Pertoleum Petroleum         1       1,345       Heavy       Heavy       Heavy       Heavy       -5 - 5 sand, brown, vary frie granted with       Soil Borting Details       Soil	Oth     Soil     PID     Petroleum Petroleum       0.001     Sain     Soil     Soil     Soil     Soil     Soil     Soil       1.346     Moderate     Sight     None     None     None     None     Soil     Soil       1.346     None     None     None     None     None     Soil     Soil     Soil       1.346     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None     None     None     Soil     Soil     Soil     Soil       1.347     None     None

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Head-space reading in ppm obtained with a photo-tonization detector. **Basin Environmental Services** 2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual. 3.) The depths indicated are referenced from below ground surface (bgs). Checked By: CDS Indicates samples selected for Laboratory Analysis. The soli boring was advanced on date using air rotary drilling techniques. Indicates the groundwater level measured on ... Indicates the PSH level measured on April 13, 2009 Soll Boring Details 55 Ft Thickness of Bentonite Seat 55 Ft **V**N N Depth of Exploratory Boring Prep By: CDS April 13, 2008 Depth to Groundwater Ground Water Elevation Date Drlled () ਵ Notes 20 - 25' - Clay, brown, sandy with callche, damp 25 - 30' - Clay, red to brown, sandy with caliche 40 - 45' - Clay, red to brown, sandy with caliche nodules, dry 55 - 60' - Sand, red to brown with slity clay and gypsum stringer @ 54 feet, dry. Soil Boring SB-2 0 - 15' - Sand, brown, very fine grained with caliche, wet. 15 - 20' - Sand, brown to tan with clay and caliche, damp. 45 - 50' - Sand, brown with some clay and 30 - 35' - Sand, tan, very fine grained, dry. 35 - 40° - Sand, tan to brown, dry. Soil Description Eddy County, New Mexico caliche nodules, dry nodules. Plains Pipeline, L.P. **Boring Log Details** Soll Boring SB-2 Petroleum Petroleum Moderate Moderate Moderate Heavy Heavy Heavy Staln Heavy Heavy None None None None Beeson 8-Inch Discharge Heavy Heavy Heavy Heavy Heavy Heavy None None None None Odor Reading 뎹 **53.2** (442) 2 486 **682** 6:69 1831 (<del>1</del> 33.1 957 331 897 e Columns Soil Depth (feet) 8

		Soll Boring Details Date Drilled April 14, 2009	nuccreas or benucina See	Ground Water Elevation N/A			<ul> <li>Indicates the PSH level measured on</li> <li>Indicates the groundwater level measured on</li> </ul>	Indicates samples selected for Laboratory Analysis. PID Head-space reading in ppm obtained with a photo-ionization detector.					Notes	<ol> <li>The soil boring was advanced on date using air rotary drilling techniques.</li> </ol>	<ol> <li>The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.</li> </ol>	<ol><li>The depths indicated are referenced from below ground surface (bgs).</li></ol>	Basin Environmental Services		Prep By: CDS Checked By: CDS April 13, 2009
Soil Boring SB-3	Soil Description		0 - 15' - Sand, brown, very fine grained, damp,		15 - 20' - Clay, brown, sandy, damp.	20 - 25' - Clay, brown to tan, very fine grained dry.	25 - 30' - Clay, tan, sandy with callche nodules, dry.	30 - 35' - Sand, brown with caliche nodules, dry.	35 - 40' - Clay, brown to red, sandy with callche nodules, dry.	40 - 43' - Clay, red to brown, sandy, dry 43 - 44' - Sandstone 44 - 45' - Clay, red to brown, sandy, dry	45 - 50' - Sandstone, brown, dry	50 - 60' - Clay, dark reddish brown, sandy with cellche rodules, dry					SI	Sounty, New Mexico	Р.
	etroleum Stain	None	None	Slight	Moderate	Moderate	Silght	None	None	None	None	None	None				Log Detai	e Eddy C	Pipeline, L.
	Petroleum F <u>Odor</u>	None	None	Slight	Moderate	Moderate	Moderate	None	None	None	None	None	None				Boring	Discharg	Plains I
	PID <u>EReading</u>	24.8	a de		. (		844 3EA	3) s		38	52.4	62.1	(e					n 8-Inch	
	Soll Columns						186666 801961 167885		እሱክቲ የዚያ ጉሹ የበተቀቀ			144 G S G S B A G 140 S S 140 S S	5 15 2 1 12 13 1 13 14 1 13 14 1 13 14 1 13 14 1 13 14 1 14 14 1 14 14 14 14 14 14 14 14 14 14 14 14 14 1					Beesc	
	Depth (feet)	° °	e LLLL	1111 <u>1</u> 5 6	1111	8	8 8 ]         ]	; ; ; ; ; ; ;	я ! ! і і і і	<u>         </u>	ء ايبينا	8 11111		]					

4	Soll Boring Details	Dete Drilled <u>April 14, 2009</u> Thickness of Bantonthe Seal 25 Ft	sined, Depth of Exploratory Boring 25 Ft. Depth to Groundwater <u>N/A</u>	Ground Water Elevation N/A	rained,	Indicates the PSH level measured on	Indicates the groundwater level measured on	PID Head-space samples salected for Laboratory Analysis. PID Head-space reading in ppm obtained with a photo-ionization detector.			-	Notes	<ol> <li>The soil boring was advenced on date using air rotary drilling techniques.</li> </ol>	<ol> <li>The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.</li> </ol>	3.) The depths indicated are referenced from below ground surface (bgs).	Basin Environmental Services	Prep By: CDS Checked By: CDS And 13. 2009
Soil Boring SB-	Soil Description		0 - 15' - Sand, red to brown, very fine gra dry.		15 - 20' - Sand, red to brown, very fine gr dry.	20 - 25' - Clay, red to brown, sandy, dry.										2 4	County, New Mexico P.
	⊃etroleum <u>Stain</u>	None	None	None	None	None										y ruy uetai 3oring SB-4	e Eddy C Pipeline, L
	Petroleum Odor	None	None	None	None	None											Discharg Plains
	PID <u>Reading</u>	47.5	45.8		44.B	45.4											1 8-Inch
	Soll Columns					11 () () () () () () () () () () () () ()											Beesor
	Depth (feet)	<u></u>	۽ ايرين	2 5	۵ ۵ ا	ی لىدىي											

	Soll Boring Details	Date Drilled <u>April 14, 2008</u> Thickness of Bentonite Seel <u>30 Ft</u> Depth of Exploratory Boring <u>30 Ft</u>	Depth to Groundwater N/A Ground Water Elevation N/A			<ul> <li>Indicates the PSH level measured on</li> <li>Indicates the groundwater level measured on</li> <li>Indicates semples selected for Laboratory Analysis.</li> </ul>	PID Head-space reading in ppm obtained with a photo-bonization detector.	Notes	<ol> <li>The soil boring was advanced on date using air rotary drilling techniques.</li> </ol>	2.) The times between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.	ט.) וווס טסףגיוס וווטונגנוסט פוס ומוסופרוכסט ווומיו שמוטא קוטטורס פטווקכס (טפט).	Basin Environmental Services	Prep By: CDS Checked By: CDS April 13, 2008
Soil Boring SB-5	Soil Description	0 - 10' - Sand, red to brown, very fine grained, damp.	10 - 15" - Sand, red to brown, very fine grained, dry.	15 - 20' - Clay, tan, sandy, dry.	20 - 25' - Clay, tan to red, sandy with callche, dry.	25 - 30' - Clay, brown to red, very fine grained, dry.						lls 5	County, New Mexico .P.
	oetroleum <u>Stain</u>	None None	None	None	None	None						Log Deta oring SB-	e Eddy C Pipeline, L
	Petroleum F <u>Odor</u>	None None	None	None	None	None						Boring Soll B	Discharge Plains F
	PID <u>Reading</u>	45.6	38 ( <del>1</del> 0)										1 8-Inch
	Soil Columns												Beesor
	Depth (feet)		111111 5 2	2	ន !	8 8 							1

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	Soli Roding Details	Dete Drilled April 14, 2009	Thickness of Bentonhe Seel <u>30 Ft</u> Depth of Exploratory Boring <u>30 Ft</u> Depth to Groundwater N/A	Ground Water Eleveation N/A			<ul> <li>Indicates the PSH level measured on</li> <li>Indicates the groundwater level measured on</li> </ul>	Indicates samples selected for Laboratory Analysis.	PID Heed-space reading in ppm obtained with a photo-konization detector.	Notes         1.) The soil boring was advenced on date using air rotary driting techniques.         3.) The lines between meterial types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.         3.) The depthe indicated are referenced from below ground surface (bgs).	Basin Environmental Services	Prep By: CDS April 13, 2009
Soil Boring SB-6	Soil Description	0 - 5' - Sand, red to brown, very fine grained, damp.	5 - 10' - Sand, red to brown, very fine grained with caliche nodules, damp.	10 - 15" - Sand, red to brown, very fine grained with some day and calich nodules.	15 - 20° - Clay, brown to tan, sandy with caliche nodules, damp.	20 - 25' - Clay, tan to brown, sandy with caliche nodules, damp.	25 - 30' - Sand, brown, very fine grained, dry.				ilis 6	County, New Mexico P.
	oetroleum <u>Stain</u>	None	None	None	None	None	None				l Log Deta 8orIng SB-	e Eddy ( Pipeline, L
	Petroleum F Odor	None	None	None	None	None	None				Boring Soll E	Discharg Plains I
	PID Reading		36.3 F		0.62	40 (3C/4						n 8-Inch
	Soll <u>Columns</u>							Ĭ				Beeso
	Depth (feet)		а : ] <u>, , , , ,</u>	<u>e</u> :	<u>e</u> : Liiii	R 2	9 <u>           </u>	2 				

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# Appendix B Laboratory Analytical Reports

## Analytical Report 324546

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge TNM-Beeson Historical

16-FEB-09





12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



16-FEB-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 324546 Beeson 8" Discharge Project Address: Lea County, NM

### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 324546. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 324546 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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### Sample Cross Reference 324546

### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SA Sample 1-6 Inch	S	Feb-03-09 09:00		324546-001
SA Sample 1-6 Feet	S	Feb-03-09 09:30		324546-002
SA Sample 2-6 Inch	S	Feb-03-09 09:45		324546-003
SA Sample 2-6 Feet	S	Feb-03-09 10:15		324546-004
SA Sample 3-6 Inch	S	Feb-03-09 10:30		324546-005
SA Sample 3-2 Feet	S	Feb-03-09 10:45		324546-006
SA Sample 4-6 Inch	S	Feb-03-09 11:00		324546-007
SA Sample 4-3 Feet	S	Feb-03-09 11:15		324546-008
MA Sample 5-6 Inch	S	Feb-03-09 11:30		324546-009
MA Sample 5-3 Feet	S	Feb-03-09 11:45		324546-010
NA Sample 6-6 Inch	S	Feb-03-09 12:00		324546-011
NA Sample 6-3 Feet	S	Feb-03-09 12:15		324546-012
NA Sample 7-6 Inch	S	Feb-03-09 12:30		324546-013
NA Sample 7-3 Feet	S	Feb-03-09 12:45		324546-014
NA Sample 8-6 Inch	S	Feb-03-09 13:00		324546-015
NA Sample 8-3 Feet	S	Feb-03-09 13:15		324546-016
NA Sample 9-6 Feet	S	Feb-03-09 14:00		324546-017
NA Sample 9-12 Feet	S	Feb-03-09 14:30		324546-018
NA Sample 10-6 Inch	S	Feb-03-09 15:00		324546-019
NA Sample 10-3 Feet	S	Feb-03-09 15:15		324546-020
NA Sample 11-6 Feet	S	Feb-03-09 16:15		324546-021
NA Sample 11-12 Feet	S	Feb-03-09 16:45		324546-022
NA Sample 12-6 Feet	S	Feb-03-09 17:45		324546-023
NA Sample 12-15 Feet	S	Feb-03-09 18:30		324546-024
NA Sample 13-6 Inch	S	Feb-03-09 18:45		324546-025
NA Sample 13-3 Feet	S	Feb-03-09 19:00		324546-026

8	rical
2	<b>sees</b> on Histo
	Id: TNNI-B
XENCO	Project

Contact: Jason Henry

Certificate of Analysis Summary 324546 PLAINS ALL AMERICAN EH&S, Midland, TX



Date Received in Lab: Tue Feb-10-09 08:56 am

Report Date: 16-FEB-09

Project Location: Lea County, NM					Keport Date:	10-FEB-09	
					Project Manager: 1	Srent Barron, II	
	.p] qv]	324546-001	324546-002	324546-003	324546-004	324546-005	324546-006
A material Damaged	Field Id:	SA Sample 1-6 Inch	SA Sample 1-6 Feet	SA Sample 2-6 Inch	SA Sample 2-6 Feet	SA Sample 3-6 Inch	SA Sample 3-2 Feet
naicanhau sichinuv	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-03-09 09:00	Feb-03-09 09:30	Feb-03-09 09:45	Feb-03-09 10:15	Feb-03-09 10:30	Feb-03-09 10:45
RTEX hv EPA 8021B	Extracted:	Feb-10-09 16:30					
	Analyzed:	Feb-11-09 02:25	Feb-11-09 02:45	Feb-11-09 03:05	Feb-11-09 03:25	Feb-11-09 03:46	Feb-11-09 04:06
-	Units/RL:	mg/kg RL					
Benzene		0100'0 QN	1100'0 GN	0100'0 CIN	1100'0 CIN	0100'0 CIN	0100'0 QN
Toluene		0.0030 0.0020	ND 0.0021	0.0051 0.0020	ND 0.0022	0.0049 0.0020	ND 0.0020
Ethylbenzene		0.0058 0.0010	0.0036 0.0011	0.0033 0.0010	0.0016 0.0011	0.1641 0.0010	0.0450 0.0010
m,p-Xylenes		0.0068 0.0020	0.0050 0.0021	0.0040 0.0020	ND 0.0022	0.0693 0.0020	0.0213 0.0020
o-Xylene		0.0016 0.0010	0.0017 0.0011	0.0011 0.0010	1100'0 QN	0.0025 0.0010	0.0048 0.0010
Total Xylenes		0.0084 0.0020	0.0067 0.0021	0.0051 0.0020	ND 0.0022	0.0718 0.0020	0.0261 0.0020
Total BTEX		0.0172 0.0010	0.0103 0.0011	0.0135 0.0010	0.0016 0.0011	0.2408 0.0010	0.0711 0.0010
Percent Moisture	Extracted:						
	Analyzed:	Feb-10-09 17:00					
	Units/RL:	% RL					
Percent Moisture	_	00.1 CUN	5.52 1.00	00 T CIN	10.72 1.00	00.1 CIN	00'I CIN
TPH Bv SW8015 Mod	Extracted.	Feb-11-09 20:11					
	Analyzed:	Feb-11-09 22:41	Feb-11-09 23:06	Feb-11-09 23:30	Feb-11-09 23:55	Feb-12-09 00:20	Feb-12-09 00:45
	Units/RL	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		ND 75.3	ND 15.9	ND 75.6	ND 16.8	ND 75.3	ND 75.7
C12-C28 Diesel Range Hydrocarbons	-	2750 75.3	108 15.9	5860 75.6	1420 16.8	4020 75.3	437 75.7
C28-C35 Oil Range Hydrocarbons		559 75.3	53.0 15.9	940 75.6	254 16.8	1560 75.3	137 75.7
Total TPH		3309 75.3	161 15.9	6800 75.6	1674 16.8	5580 75.3	574 75.7

This analytical report, and the entire data package it represents, has been made for your excitione and confidential use. The interpreteduces and results expressed throughen this matchical report represents the Sci Underment of XENCO Laboratories. XENCO Laboratores assumes no requestibility and makes no wernarry to the end use of the data interpretented. Our liability is limited to the amount stroteed for this work order unless otherwase agreed to m writing.

Since 1990 Houston - Dallas - San Antonio - Austin - Tarrpa - Miami - Latin America - Atlanta - Corpus Christi

Brent Barron Odessa Laboratory Director

1	f-Beeson Historical
K É N Č O oboratories	Project Id: TNM

Contact: Jason Henry

Certificate of Analysis Summary 324546 PLAINS ALL AMERICAN EH&S, Midland, TX



Date Received in Lab: Tue Feb-10-09 08:56 am

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16-FEB-09	
Report Date:	

Project Location: Lea County, NM					Report Date:	6-FEB-09	
					Project Manager: I	<b>3rent Barron</b> , II	
	Lab Id:	324546-007	324546-008	324546-009	324546-010	324546-011	324546-012
Amelicie Domostod	Field Id:	SA Sample 4-6 Inch	SA Sample 4-3 Feet	MA Sample 5-6 Inch	MA Sample 5-3 Feet	NA Sample 6-6 Inch	NA Sample 6-3 Feet
noreanhau sectionus	Depth:				,		
	Matrix:	SOIL	SOIL	SOIL	SolL	SOIL	SOIL
	Sampled:	Feb-03-09 11:00	Feb-03-09 11:15	Feb-03-09 11:30	Feb-03-09 11:45	Feb-03-09 12:00	Feb-03-09 12:15
BTEX hv EPA 8021B	Extracted:	Feb-10-09 16:30	Feb-10-09 16:30	Feb-10-09 16:30	Feb-11-09 09:00	Feb-12-09 16:45	Feb-12-09 16:45
	Analyzed:	Feb-11-09 04:27	Feb-11-09 04:48	Feb-11-09 05:08	Feb-11-09 12:52	Feb-12-09 16:47	Feb-12-09 17:10
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		0100.0 CIN	0100'0 CIN	0100'0 CIN	ND 0.0011	0100.0 CIN	0100:0 CIN
Toluene		0.0047 0.0020	ND 0.0021	0.0045 0.0020	ND 0.0021	0.0037 0.0020	ND 0.0020
Ethylbenzene		0.0138 0.0010	0'0089 0'0010	0.0208 0.0010	0.1361 0.0011	0.0086 0.0010	0.0035 0.0010
m,p-Xylenes		0.0162 0.0020	0.0068 0.0021	0.0204 0.0020	0.0638 0.0021	0.0062 0.0020	0.0040 0.0020
o-Xylene		0.0029 0.0010	0.0018 0.0010	0.0045 0.0010	0.0118 0.0011	ND 0.0010	ND 0.0010
Total Xylenes		0.0191 0.0020	0.0086 0.0021	0.0249 0.0020	0.0756 0.0021	0.0062 0.0020	0.004 0.0020
Total BTEX		0.0376 0.0010	0.0175 0.0010	0.0502 0.0010	0.2117 0.0011	0.0185 0.0010	0.0075 0.0010
Percent Maisture	Extracted:						
	Analyzed:	Feb-10-09 17:00	Feb-10-09 17:00				
	Units/RL:	% RL	% RL				
Percent Moisture		ND 1.00	4.57 1.00	00'I QN	6.57 1.00	00'I CIN	1.11 1.00
TPH BV SW8015 Mod	Extracted:	Feb-11-09 20:11	Feb-11-09 20:11				
	Analyzed:	Feb-12-09 01:09	Feb-12-09 01:34	Feb-12-09 01:59	Feb-12-09 02:23	Feb-12-09 03:13	Feb-12-09 03:38
	Units/RL:	mg/kg RL	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 150	ND 78.6	ND ISI	21.7 16.1	152 151	ND 15.2
C12-C28 Diesel Range Hydrocarbons		5190 150	. 805 78.6	3490 151	829 16.1	11900 151	91.8 15.2
C28-C35 Oil Range Hydrocarbons		1080 150	183 78.6	811 151	206 16.1	1820 151	24.6 15.2
Total TPH		6270 150	988 78.6	4301 151	1056.7 16.1	13872 151	116.4 15.2

This analytical report, and the enture data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this matualical report reports the best highmunt of XENCO Laboratories. XENCO Laboratories assumes to regreastibility and makes no warranty to the read use of the data interdy presented. Our labelity is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi Since 1990

Odessa Laboratory Director Brent Barron

ficate of Analysis Summary 324546	JNS ALL AMERICAN EH&S, Midland, TX	Duritot Namer Dessen Of Nischause
Certificat	<b>PLAINS A</b>	
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Project Name: Beeson 8" Discharge

Project Id: TNM-Beeson Historical

0 atories Contact: Jason Henry

Date Received in Lab: Tue Feb-10-09 08:56 am

	1
16-FEB-09	
Report Date:	

Project Location: Lea County, NM					Report Date:	6-FEB-09	
					Project Manager: ]	3rent Barron, II	
	Lab Id:	324546-013	324546-014	324546-015	324546-016	324546-017	324546-018
Americ Domoctod	Field 1d:	NA Sample 7-6 Inch	NA Sample 7-3 Feet	NA Sample 8-6 Inch	NA Sample 8-3 Feet	NA Sample 9-6 Feet	NA Sample 9-12 Feet
nation have exclude	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-03-09 12:30	Feb-03-09 12:45	Feb-03-09 13:00	Feb-03-09 13:15	Feb-03-09 14:00	Feb-03-09 14:30
BTEX hv EPA 8021B	Extracted:	Feb-12-09 16:45	Feb-12-09 16:45	Feb-12-09 16:45	Feb-12-09 16:45	Feb-14-09 09:00	Feb-14-09 09:00
	Analyzed:	Feb-12-09 17:31	Feb-12-09 17:51	Feb-12-09 18:11	Feb-12-09 18:32	Feb-14-09 17:47	Feb-14-09 18:07
	Units/RL	mg/kg RL					
Benzene		0100.0 CIN	0100:0 CIN	0.0116 0.0010	ND 0.0010	ND 0.5233	ND 0.5318
Toluene		0.0059 0.0020	ND 0.0020	0.0190 0.0020	0.0233 0.0020	3.082 1.047	3.058 1.064
Ethylbenzene		0.0246 0.0010	0.0056 0.0010	0.0481 0.0010	0.0485 0.0010	24.28 0.5233	29.53 0.5318
m.p-Xylenes		0.0283 0.0020	0.0030 0.0020	0.0410 0.0020	0.0377 0.0020	21.89 1.047	23.69 1.064
o-Xylene		0100'0 CN	0100:0 CIN	0.0015 0.0010	0.0088 0.0010	7.604 0.5233	8.801 0.5318
Total Xylenes		0.0283 0.0020	0.003 0.0020	0.0425 0.0020	0.0465 0.0020	29.494 1.047	32.491 1.064
Total BTEX		0.0588 0.0010	0.0086 0.0010	0.1212 0.0010	0.1183 0.0010	56.856 0.5233	65.079 0.5318
Percent Maisture	Extracted:						
	Analyzed:	Feb-10-09 17:00					
	Units/RL:	% RL					
Percent Moisture		ND 1.00	00'I CIN	00'I CIN	1.29 1.00	4.46 1.00	5.98 1.00
TPH Bv SW8015 Mod	Extracted:	Feb-11-09 20:11					
	Analyzed:	Feb-12-09 04:03	Feb-12-09 04:27	Feb-12-09 04:52	Feb-12-09 05:16	Feb-12-09 05:41	Feb-12-09 06:06
	Units/RL:	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons	_	ND 151	ND 15.1	160 151	17.4 15.2	4910 157	3240 160
C12-C28 Diesel Range Hydrocarbons		4060 151	99.4 15.1	8050 151	288 15.2	12100 157	8070 160
C28-C35 Oil Range Hydrocarbons		1070 151	22.8 15.1	1940 151	83.0 15.2	1090 157	1050 160
Total TPH		5130 151	122.2 15.1	10150 151	388.4 15.2	18100 157	12360 160

This stabulat report, and the entire data partage it represents has been made for your orchistive and condidential use. The interpretations understable expressed throughout this study calls report to the stabilization of YEONOL Laboratories. XEONOL Laboratories researces no requestibility and makes no warranty to the end use of the data interdy presented. Our hability is limited to the anount arvated for this work order unless otherwise agreed to m while?

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Brent Barron Odessa Laboratory Director

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I,	Beeson Hist
	HId: TNM-
XENCO	Project
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Contact: Jason Henry

Certificate of Analysis Summary 324546 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Tue Feb-10-09 08:56 am

Report Date: 16-FEB-09

Project Location: Lea County, NM					Keport Date: J	0-FEB-09	
					Project Manager: 1	Srent Barron, II	
	Lab Id:	324546-019	324546-020	324546-021	324546-022	324546-023	324546-024
4 - Topology Documented	Field Id:	NA Sample 10-6 Inch	NA Sample 10-3 Feet	NA Sample 11-6 Feet	NA Sample 11-12 Feet	NA Sample 12-6 Feet	NA Sample 12-15 Feet
naisanhay sistinuy	Depth:						
	Matrix:	SolL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-03-09 15:00	Feb-03-09 15:15	Feb-03-09 16:15	Feb-03-09 16:45	Feb-03-09 17:45	Feb-03-09 18:30
RTEX by FDA 8031B	Extracted:	Feb-12-09 16:45	Feb-12-09 16:45	Feb-12-09 16:45	Feb-13-09 09:00	Feb-14-09 09:00	Feb-14-09 09:00
	Amalyzed:	Feb-12-09 19:34	Feb-12-09 19:55	Feb-12-09 20:57	Feb-13-09 16:28	Feb-14-09 18:28	Feb-14-09 18:49
	Units/RL:	rng/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		0100'0 CN	0.0166 0.0010	0.0053 0.0011	1ES0.0 CIN	ND 0.5242	ND 0.5217
Tolucne .		ND 0.0020	0.0318 0.0021	0.0232 0.0022	ND 0.1062	4.482 1.048	3.850 1.043
Ethylbenzene		0.0947 0.0010	0.0977 0.0010	0.0995 0.0011	4.320 0.0531	41.63 0.5242	33.43 0.5217
m.p-Xylenes		0.0142 0.0020	0.0956 0.0021	0.3236 0.0022	7.574 0.1062	51.06 1.048	48.38 1.043
o-Xylene		0.0283 0.0010	0.0396 0.0010	0.2365 0.0011	1.487 0.0531	12.48 0.5242	13.83 0.5217
Total Xylenes		0.0425 0.0020	0.1352 0.0021	0.5601 0.0022	9.061 0.1062	63.54 1.048	62.21 1.043
Total BTEX		0.1372 0.0010	0.2813 0.0010	0.6881 0.0011	13.381 0.0531	109.652 0.5242	99.49 0.5217
Percent Moisture	Extracted:						
	Analyzed:	Feb-10-09 17:00	Feb-10-09 17:00	Feb-10-09 17:00	Feb-10-09 17:00	Feb-10-09 17:00	Feb-10-09 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		2.36 1.00	4.59 1.00	7.88 1.00	5.80 1.00	4.61 1.00	4.16 1.00
TPH RV SW8015 Mod	Extracted:	Feb-11-09 20:11	Feb-11-09 20:11	Feb-11-09 20:46	Feb-11-09 20:46	Feb-11-09 20:46	Feb-11-09 20:46
	Analyzed.	Feb-12-09 06:31	Feb-12-09 06:55	Feb-11-09 23:04	Feb-11-09 23:27	Feb-11-09 23:50	Feb-12-09 00:13
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		217 154	592 157	509 163	1470 159	2860 157	2420 157
C12-C28 Diesel Range Hydrocarbons		777 154	8870 157	3850 163	5460 159	8310 157	6800 157
C28-C35 Oil Range Hydrocarbons		206 154	1660 157	563 163	722 159	980 157	825 157
Total TPH		1200 154	11122 157	4922 163	7652 159	12150 157	10045 157

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Odessa Laboratory Director Brent Barron



Contact: Jason Henry



Project Name: Beeson 8" Discharge



Date Received in Lab: Tuc Feb-10-09 08:56 am Report Date: 16-FEB-09

Project Location: Lea County, NM				I SANT TRADIT	10-FEB-09
				Project Manager: 1	Brent Barron, II
	Lab Id:	324546-025	324546-026		
Analunia Damandad	Field Id:	NA Sample 13-6 Inch	NA Sample 13-3 Feet		
naicanhau sistinuu	Depth:				
	Matrix:	SOIL	SOIL		
	Sampled:	Feb-03-09 18:45	Feb-03-09 19:00		
RTEX by EPA 8021B	Extracted:	Feb-12-09 16:45	Feb-12-09 16:45		
	Analyzed:	Feb-12-09 22:19	Feb-12-09 23:00		
	Units/RL:	mg/kg RL	mg/kg RL		••••
Benzene	·	010070 CIN	0100'0 CIN		
Toluene		0.0023 0.0020	ND 0.0020		
Ethylbenzene		0.2413 0.0010	0.0012 0.0010		
m.p-Xylenes		0.1296 0.0020	ND 0.0020		
o-Xylene		0.0162 0.0010	0100.0 CIN		
Total Xylenes		0.1458 0.0020	ND 0.0020		
Total BTEX		0.3894 0.0010	0.0012 0.0010		
Percent Moisture	Extracted:				
	Analyzed:	Feb-10-09 17:00	Feb-10-09 17:00		
	Units/RL:	% RL	% RL		
Percent Moisture		1.82 1.00	1.75 1.00		
TPH Rv SW8015 Mod	Extracted:	Feb-11-09 20:46	Feb-11-09 20:46		
	Analyzea:	Feb-12-09 14:31	Feb-12-09 00:59		
	Units/RL:	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		30.2 15.3	ND 15.3		
C12-C28 Diesel Range Hydrocarbons		204 15.3	ND 15.3		
C28-C35 Oil Range Hydrocarbons		134 15.3	ND 15.3		
Total TPH	_	368.2 15.3	ND 15.3		

This stratytical report, and the milire data package it represents, has been made for your orchainve and confidential use. The interpretations: and results expressed throughout this mathical report represent the bay adjernent of XENNO. Exboratories, XENNO. Laboratories tastents to responsibility and makes no warranty to the end use of the data interpretatiof. Our hability is limited to the smount invoced for this work order unless otherwise agreed to in writing.

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Brent Barron Odessa Laboratory Director

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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \* Outside XENCO's scope of NELAC Accreditation.

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12600 West I-20 East Odessa TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116
XENCO		
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Laboratories		

Project Name: Beeson 8" Discharge

Vork Orders : 324546,			Project II	: TNM-Bee	son Historic	cal
Lab Batch #: 749179 S	iample: 324302-001 S / MS	S Bat	tch: 1 Matri	x: Soil		
Units: mg/kg	ſ	SU	RROGATE RE	COVERY	STUDY	
BTEX by EPA 80 Analytes	)21B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
14 Diffurnhannana		0.0005	0.0200	09	90.120	
4-Bromofluorobenzene		0.0293	0.0300	98	80-120	
Lab Batab #. 749179 5			1 Matri	Soil	L ~	
Units: mg/kg	ample: 227302 001 02 ,	SU DE	RROGATE RE	COVERY S	STUDY	
BTEX by EPA 80 Analytes	)21B	Amount Found [A]	True Amount {B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0298	0.0300	99	80-120	
4-Bromofluorobenzene		0.0296	0.0300	99	80-120	
Lab Batch #: 749179 S		Bat	tch: 1 Matri	x: Soil	<u></u>	
Units: mg/kg	, [	SU	RROGATE RE	COVERY	STUDY	
BTEX by EPA 80	)21B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes		0.0511	0.0300	191	20.100	
1,4-Difluorobenzene		0.0311	0,0300	104 80	80-120	
		0.0241	0,0300	ov 	80-120	
Lab Batch #: 749179 8	ample: 324546-0027 SMP Г	Bat	tch: Matri	x: Soil		
BTEX by EPA 80	)21B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1 4 Diffuorshanzana		0.0215	0.0300	105	P0 120	
4-Bromofluombenzene	+	0.0313	0.0300	99	80-120	
		0.02.70 Rev	- 1 Matri	S-11	00-140	
Lab Batch #: 147117 3 Unite: mg/kg	ample: 524540-0057 Since		PPOCATE RE	X: SON	TUDY	
BTEX by EPA 80 Analytes	)21B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0294	0.0300	98	80-120	
4-Bromofluorobenzene		0.0184	0.0300	61	80-120	**

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Vork Orders: 324546,			Project II	: TNM-Bees	son Historie	cal
Lab Batch #: 749179	Sample: 324546-004 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY S	STUDY	
BTEX by EP.	A 8021B	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flags
		0.0207	0.0300	102	00.100	
4-Bromofluorobenzene		0.0307	0.0300	94	80-120	
	224546 005 / SMP	-	0.0000	<b>G</b> (1	00 120	
Lab Batch #: /491/9	Sample: 324546-005 / SMP	Ba	tch: Matri	x: Soil		
Units: mg/kg		50	RRUGATE RE			
BTEX by EP. Analyte	A 8021B es	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0302	0.0300	101	80-120	
4-Bromofluorobenzene		0.0234	0.0300	78	80-120	**
Lab Batch #: 749179	Sample: 324546-006 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	- -	SU	RROGATE RE	COVERY	STUDY	
BTEX by EP.	A 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analyte	es			ועו		
1,4-Difluorobenzene		0.0315	0.0300	105	80-120	
4-Bromonuorobenzene		0.0318	0,0300	106	80-120	
Lab Batch #: 749179	Sample: 324546-007 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY S	STUDY	
BTEX by EP. Analyte	A 8021B es	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1,4-Difluorobenzene		0.0311	0.0300	104	80-120	
4-Bromofluorobenzene		0.0198	0.0300	66	80-120	**
Lab Batch #: 749179	Sample: 324546-008 / SMP	Ba	tch: <sup> </sup> Matri	x: Soil		
Units: mg/kg	Г	SU	RROGATE RE	COVERY S	STUDY	
BTEX by EP. Analyte	A 8021B es	Amount Found [A]	True Amount [B]	Recovery %R įD]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0323	0.0300	108	80-120	
4-Bromofluorobenzene		0,0284	0.0300	95	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Project Name: Beeson 8" Discharge

Vork Orders : 324546,	Sec. 1. 274546-00	0 / SMD D	Project II	): TNM-Bee	son Historie	al
Lad Batten #: 177112 Units: mg/kg	Sample: 524540-00	SMP Bat	RROGATE RI	x: Soll	ŚTUDY	
BTEX by D	EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 4-Dífluorobenzene		0.0305	0.0300	102	PA 120	<u> </u>
4-Bromofluorobenzene		0.0303	0.0300	71	80-120	**
Lah Batch #: 749179	Sample: 524500-1-	BKS/BKS Bat	 hahi 1 Matri	v Solid		
Units: mg/kg	Sample, 22 (200 C	SU SU	RROGATE RI	COVERY S	STUDY	<u> </u>
BTEX by Ana	EPA 8021B lytes	Amount Found [A]	True Amount {B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0275	0.0300	92	80-120	
4-Bromofluorobenzene		0.0266	0.0300	89	80-120	
Lab Batch #: 749179	Sample: 524500-1-	BLK / BLK Bat	ich: 1 Matri	x: Solid		
Units: mg/kg		SU	RROGATE RI	COVERY	STUDY	
BTEX by I	EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0313	0.0300	104	80-120	<u>_</u>
4-Bromofluorobenzene	·······	0.0296	0.0300	99	80-120	
Lab Batch #: 749179	Sample: 524500-1-	BSD / BSD Bat	tch: <sup>1</sup> Matri	x: Solid		
Units: mg/kg		SU	RROGATE RI	ECOVERY S	STUDY	<u> </u>
BTEX by Ana	EPA 8021B lytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	<u> </u>	0.0272	0.0300	91	80-120	<u> </u>
4-Bromofluorobenzene		0.0271	0.0300	90	80-120	
Lab Batch #: 749315	Sample: 324546-01	0/SMP Bat	tch: <sup> </sup> Matri	x: Soil		
Units: mg/kg		SU	RROGATE RI	COVERY	STUDY	
BTEX by Ana	EPA 8021B lytes	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0320	0,0300	107	80-120	
4-Bromofluorobenzene		0.0385	0.0300	128	80-120	**

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



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### Project Name: Beeson 8" Discharge

/ork Orders : 324546,			Project ID	: TNM-Bees	son Historic	al
Lab Batch #: 749315 Samy	ple: 324679-001 S/MS	Ba	tch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY S	STUDY	
BTEX by EPA 80211 Analytes	В	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	<u> </u>	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene		0.0263	0.0300	88	80-120	
Lab Batch #: 749315 Samj	ple: 324679-001 SD / M	ISD Ba	tch: 1 Matri	x: Soil		
Units: mg/kg	<u></u>	50	RROGATE KE	COVERY a	5TUDY	
BTEX by EPA 80211 Analytes	B	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0259	0.0300	86	80-120	
Lab Batch #: 749315 Sam	ple: 524599-1-BKS / Bi	KS Ba	tch: 1 Matri	x: Solid		
Units: mg/kg		SU	RROGATE RE	COVERYS	STUDY	
BTEX by EPA 80211	В	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
Апациез		^ ^ <b>?</b>	0.0100	00	00.100	
1,4-Diffuorobenzene		0.0277	0.0300	92	80-120	
		0.0209	0.0500	70	80-120	
Lab Batch #: 749315 Samp	ple: 524599-1-BLK / או ר	LK Ba	tch: Matri	x: Solid		
Units: mg/kg		3U	RROGATE KE	COVERY	STUDY	
BTEX by EPA 80211 Analytes	B	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0311	0.0300	104	80-120	
4-Bromofluorobenzene		0.0282	0.0300	94	80-120	
Lab Batch #: 749315 Sam	ole: 524599-1-BSD / BS	SD Ba	tch: <sup>1</sup> Matri	x: Solid	<u>.                                    </u>	
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by EPA 8021 Analytes	В	Amount Found [A]	True Amount [B]	Recovery %R  D]-	Control Limits %R	Flags
1,4-Difluorobenzene	<u> </u>	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene		0.0269	0.0300	90	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Vork Orders : 324546,		Project IJ	): TNM-Bee	son Historia	cal
Lab Batch #: 749440 Sample: 324546-011 /	SMP Bat	ch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	SU	RROGATE RI	COVERY S	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0204	0.0300	68	80-120	*
Lab Batch #: 749440 Sample: 324546-012 /	SMP Bat	ch: <sup>1</sup> Matri	ix: Soil	STHDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	
Lab Batch #: 749440 Sample: 324546-013 /	SMP Bat	ch: 1 Matri	ix: Soil	·	
Units: mg/kg	SU	RROGATE RI	COVERY !	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0222	0.0300	74	80-120	*
Lab Batch #: 749440 Sample: 324546-014 / Units: mg/kg	SMP Bat	ch: <sup> </sup> Matri RROGATE RI	ix: Soil	STUDY	
BTEX by EPA 8021B Analytes	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	
Lab Batch #: 749440 Sample: 324546-015 /	SMP Bat	ch: <sup>1</sup> Matri	ix: Soil		
		RRACIE RE	ECOVERY 7	STUDY	
Units: mg/kg	SU				
Units: mg/kg BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Units: mg/kg BTEX by EPA 8021B Analytes	Amount Found  A  0.0327	True Amount [B]	Recovery %R [D] 109	Control Limits %R 80-120	Flags

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 324546,			Project II	): TNM-Bee	son Historie	cal
Lab Batch #: 749440	Sample: 324546-016 / SMP	Ba	tch: <u> </u> Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by E	EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flag
4 Billor	yles	- 05 #5	2.0200	1-1	C2 120	<b></b>
4-Bromofluorobenzene		0.0373	0.0300	96	80-120	-
740440		0,020,	- 1 B#atut	<b>C</b> - 11	00 180	
Lab Batch #: 749440 Units: mg/kg	Sample: 324340-0197 SMF	ва SU	tch: Matri RROGATE RF	x: Soil	STUDY	
BTEX by E	PA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
4-Difluorobenzene		0.0325	0.0300	108	80-120	
4-Bromofluorobenzene		0.0315	0.0300	105	80-120	
Lab Batch #: 749440		Ba	teh:   Matri	v: Soil	i	
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by E	CPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flaș
Analy	ytes			[D]		
1,4-Difluorobenzene		0.0334	0.0300	111	80-120	_
I-Bromofluorobenzene		0.0759	0.0300	253	80-120	*
Lab Batch #: 749440	Sample: 324546-021 / SMP	Bat	tch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by E	VPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
,4-Difluorobenzene		0.0260	0.0300	87	80-120	
Bromofluorobenzene		0.2781	0.0300	927	80-120	*
Lab Batch #: 749440	Sample: 324546-025 / SMP	Bat	tch:   Matri	x: Soil	LI	
Units: mg/kg	Г	SU	RROGATE RE	COVERY S	STUDY	
BTEX by E	PA 8021B	Amount Found [A]	True Amount {B}	Recovery %R  D]	Control Limits %R	Fla
I,4-Difluorobenzene	,	0.0345	0.0300	115	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

ork Orders : 324546,			Project II	): TNM-Bee	son Historie	al
Lab Batch #: 749440	Sample: 324546-026 / SM	AP Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by El	PA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0318	0.0300	106	80-120	
4-Bromofluorobenzene	·	0.0279	0.0300	93	80-120	
Lab Batch #: 749440	Sample: 324634-003 S / N	MS Ba	tch: 1 Matri	x: Soil		
Units: mg/kg	-	SU	RROGATE RE	COVERY	STUDY	<u> </u>
BTEX by El Analy	PA 8021B tes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0283	0.0300	94	80-120	
4-Bromofluorobenzene		0.0268	0.0300	89	80-120	
Lab Batch #: 749440	Sample: 324634-003 SD	/ MSD Ba	tch: l Matri	x: Soil	•	
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by El	PA 8021B	Amount Found [A]	True Amount  B]	Recovery %R IDI	Control Limits %R	Flags
Allary	tes	0.0282	0.0300	04	90.120	<u> </u>
4-Bromofluorobenzene		0.0266	0.0300	89	80-120	
I ah Ratch #- 74944()	Sample: 524662-1-BKS/	RKS Ba	tah 1 Matri	•• Solid	<u> </u>	
Units: mg/kg	Sample, Salosa i Billi	SU SU	RROGATE RE	COVERY	STUDY	
BTEX by El	PA 8021B	Amount Found [A]	True Amoant [B]	Recovery %R IDI	Control Limits %R	Flags
1 4-Difluorohenzene		0 0277	0.0300	97	<u>80-120</u>	
4-Bromofluorobenzene	,	0.0258	0.0300	86	80-120	
I ah Ratch #• 749440		I 'RLK Ba	teh:   Matri	v Solid	l	
Units: mg/kg	ommpres -	SU	RROGATE RE	COVERY	STUDY	
BTEX by El Analy	PA 8021B tes	Amount Found {A]	True Amount  B]	Recovery %R  D	Control Limits %R	Flags
1,4-Difluorobenzene		0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	<u> </u>	0.0298	0.0300	99	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

Vork Orders : 324546,			Project II	): TNM-Bee	son Historic	al
Lab Batch #: 749440 Sample	e: 524662-1-BSD / BSD	Ba	tch: 1 Matri	x: Solid		
Units: mg/kg		SU	RROGATE RE	COVERY S	STUDY	
BTEX by EPA 8021B Analytes	A	mount Found  A	True Amount  B	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene	0	0278	0.0300	93	80-120	
4-Bromofluorobenzene	0	0.0257	0.0300	86	80-120	
Lab Batch #: 749516 Sample	e: 324546-022 / SMP	Ba	tch:   Matri	x: Soil	<u> </u>	
Units: mg/kg		SU	RROGATE RF	COVERY S	STUDY	
BTEX by EPA 8021B Analytes		mount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0	0.0320	0.0300	107	80-120	·
4-Bromofluorobenzene	0	.0652	0.0300	217	80-120	**
Lab Batch #: 749516 Sample	e: 324881-001 S / MS	Ba	tch:   Matri	x: Soil	-	
Units: mg/kg		SU	RROGATE RE	COVERY S	STUDY	
BTEX by EPA 8021B	A	mount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags
Analytes				[10]		
1,4-Difluoropenzene	0	.0281	0.0300	94	80-120	
		.0204	0.0300	00	00-120	
Lab Batch #: 749516 Sample	e: 324881-001 SD / MSD	Bat	tch: Matri:	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERYS		
BTEX by EPA 8021B Analytes		imount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flags
1,4-Difluorobenzene	0	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	· 0	.0278	0.0300	93	80-120	· · · · · · · · · · · · · · · · · · ·
Lab Batch #: 749516 Sample	e: 524714-1-BKS / BKS	Ba	tch: 1 Matri	x: Solid		
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by EPA 8021B Analytes	A	mount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0	.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0	0.0273	0.0300	91	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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### Project Name: Beeson 8" Discharge

Vork Orders: 324546,			Project II	: TNM-Bee	son Historio	al
Lab Batch #: 749516	Sample: 524714-1-BLK /	BLK Ba	tch: l Matri	x: Solid		
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by EPA 8	3021B	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags
Anaiyus	· · ·			1~1		
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0317	0.0300	106 96	80-120 80-120	
I ah Ratah #- 749516	Sample: 524714-1-BSD / 1	 RSD Rai	tah.   Matri	v Solid		
Units: mg/kg	Sample, Servin Debi	SU SU	RROGATE RE	COVERY S	STUDY	
BTEX by EPA & Analytes	3021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0281	0.0300	94	80-120	
4-Bromofluorobenzene		0.0277	0.0300	92	80-120	
Lab Batch #: 749636	Sample: 324546-017 / SM	P Ba	tch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by EPA 8	3021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes		0.0040	A 4340	141	00.100	
1,4-Difluorobenzene		0.0339	0.0300	113	80-120	**
		0.0441	0.0300	147	00-120	
Lab Batch #: 749030	Sample: 324546-018 / SM	P Bai	tch: I Matri	X: SOIL	THOY	-
BTEX by EPA 8 Analytes	3021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0343	0.0300	114	80-120	
4-Bromofluorobenzene		0.0477	0.0300	159	80-120	**
Lab Batch #: 749636	Sample: 324546-023 / SM	P Ba	tch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY	STUDY	
BTEX by EPA 8 Analytes	3021B	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0362	0.0300	121 -	80-120	**
4-Bromofluorobenzene		0.0448	0.0300	149	80-120	**

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.

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Project Name: Beeson 8" Discharge

ork Orders : 324546,		Project II	): TNM-Bee	son Historic	cal
Lab Batch #: 749636 Sample: 3245	546-024 / SMP Bat	tch: <sup> </sup> Matri	x: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1,4-Difluorobenzene	0.0356	0.0300	119	80-120	
4-Bromofluorobenzene	0.0474	0.0300	158	80-120	**
Lab Batch #: 749636 Sample: 5247	791-1-BKS / BKS Bat	ch: <sup> </sup> Matri	x: Solid	<u> </u>	
Units: mg/kg	SU	RROGATE RI	COVERY S	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	80-120	
Lab Batch #: 749636 Sample: 5247	791-1-BLK / BLK Bat	ch: l Matri	x: Solid	<u>.</u>	
Units: mg/kg	SU	RROGATE RE	COVERY	STUDY	<del></del>
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	
Lab Batch #: 749636 Sample: 5247	/91-1-BSD / BSD Bat	ch: 1 Matri	x: Solid		
Units: mg/kg	SU	RROGATE RE	COVERY S	STUDY	
BTEX by EPA 8021B	Amount Found	True Amount	Recovery	Control Limits	Flags
Analytes	[A]	(B)	%R [D]	%R	
Analytes	[A] 0.0278	(B) 0.0300	%R [D] 93	%R 80-120	
Analytes 1,4-Difluorobenzene 4-Bromofluorobenzene	[A] 0.0278 0.0263	[B] 0.0300 0.0300	%R [D] 93 88	%R 80-120 80-120	
Analytes 1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 749342 Sample: 3245	[A] 0.0278 0.0263 646-021 / SMP Bat	(B) 0.0300 0.0300 ch: 1 Matri	%R [D] 93 88 x: Soil	%R 80-120 80-120	
Analytes 1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 749342 Sample: 3245 Units: mg/kg	[A] 0.0278 0.0263 346-021 / SMP Bat SU	(B) 0.0300 0.0300 ch: 1 Matri RROGATE RE	%R  D] 93 88 x: Soil COVERY S	%R 80-120 80-120 STUDY	
Analytes 1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 749342 Sample: 3245 Units: mg/kg TPH By SW8015 Mod Analytes	[A] 0.0278 0.0263 546-021 / SMP Bat SU Amount Found [A]	(B) 0.0300 0.0300 ch: 1 Matri RROGATE RE True Amount (B)	%R  D] 93 88 x: Soil COVERY S Recovery %R [D]	%R 80-120 80-120 STUDY Control Limits %R	Flags
Analytes 1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 749342 Sample: 3245 Units: mg/kg TPH By SW8015 Mod Analytes 1-Chlorooctane	[A] 0.0278 0.0263 346-021 / SMP Bat SU Amount Found [A] 109	(B) 0.0300 0.0300 ch: 1 Matri RROGATE RE True Amount [B] 100	%R  D] 93 88 x: Soil COVERY S Recovery %R [D] 109	%R 80-120 80-120 STUDY Control Limits %R 70-135	Flags

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Lab Batch #: 749342         Sample: 324546-022 / SMP         Batch:         1         Matrix: Soil           Units: mgAg         SURROGATE RECOVERY STUDY           TPH By SW8015 Mod         Amount [A]         True [B]         Recovery [D]         Cantrol [B]         Plags           1-Chorosociane         15.9         100         16         70-135         **           0-Terphenyl         64.5         50.0         129         70-135         **           Lab Batch #: 749342         Sample: 324546-023 / SMP         Batch:         1         Matrix: Soil         **           Control prophyl         62.6         50.0         129         70-135         **           Lab Batch #: 749342         Sample: 324546-024 / SMP         Batch:         1         Matrix: Soil         **           Lab Batch #: 749342         Sample: 324546-024 / SMP         Batch:         1         Matrix: Soil           Lab Batch #: 749342         Sample: 324546-024 / SMP         Batch:         1         Matrix: Soil           Lab Batch #: 749342         Sample: 324546-024 / SMP         Batch:         1         Matrix: Soil           Lab Batch #: 749342         Sample: 324546-025 / SMP         Batch:	Work Orders : 324546,			Project II	): TNM-Bee	son Historie	cal
Units:         mg/kg         SURROGATE         RECOVERY STUDY           TPH By SW8015 Mod         Amount [A]         True [B]         True (Annalytes         True (Annalytes         True (Annalytes         Control (D)         Plags           1-Chlorooctane         15.9         100         16         70-135         **           0-Torphenyl         64.5         50.0         129         70-135         **           Lab Batch #:         749342         Sample: 324546-023 / SMP         Batch:         1         Matrix: Soil         Control         Found         Found         The SW8015 Mod         Amount         Found         The SW8015         Plags         **           1-Chlorooctane         152         100         152         70-135         **         **           1-Chlorooctane         152         100         152         70-135         **           1-Chlorooctane         152         100         152         70-135         **           Lab Batch #:         749342         Sample: 324546-024 / SMP         Batch:         1         Matrix: Soil           Units:         mg/kg         Surrooctane         12         70-135         **           1-Chlorooctane         141         100	Lab Batch #: 749342 Sample	: 324546-022 / SMP	Ba	tch: <sup>1</sup> Matrí	x: Soil		
TPH By SW8015 Mod         Amount Pound [A1]         True Annumt [B]         True Annumt [B]         Recovery for (D)         Control inft (D)         Plags           1-Chlorooctane         15.9         100         6         70-135         **           0-Terphenyl         64.5         50.0         129         70-135         **           Lab Batch #: 749342         Sample: 324546-023 / SMP         Batch:         1         Matrix: Soil         **           Units:         mg/kg         SURROGATE RECOVERY STUDY         **         **         **         **           1-Chlorooctane         132         100         152         70-135         **         **           1-Chlorooctane         152         100         152         70-135         **         **           1-Chlorooctane         152         100         152         70-135         **           1-Chlorooctane         141         100         141         7	Units: mg/kg	Γ	SU	RROGATE RE	COVERY	STUDY	
I-Chlorooctane         15.9         100         16         70-135         ***           o-Terphenyl         64.5         50.0         129         70-135         ***           Lab Batch #:         749342         Sample:         324546-023 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY STUDY         True	TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
IDDE         IDDE         IDDE         IDDE           c-Terphenyl         64.5         50.0         129         70-135           Lab Batch #: 749342         Sample: 324546-023 / SMP         Batch: 1         Matrix: Soil         IDDE           Units: mg/kg         SURROGATE RECOVERY STUDY         Analytes         IDDE	1-Chlorooctane		15.9	100	16	70-135	**
Lab Batch #:         749342         Sample:         324546-023 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE RECOVERY STUDY           TPH By SW8015 Mod         Amount [A]         True [B]         Matrix:         Soil         Control Limits         Flags           1-Chlorooctane         152         100         152         70-135         **           o-Terphenyl         62.6         50.0         125         70-135         **           Control Units:         mg/kg         SURROGATE RECOVERY STUDY           Control Units:         fill         Matrix:         Soil           Units::         fill         Matrix:         Soil         **           Control Units:         fill	o-Terphenyl		64.5	50.0	129	70-135	
Units:         mg/kg         SURROGATE RECOVERY STUDY           TPH By SW8015 Mod         Amount Found [A]         True Anount [B]         Recovery %R         Control Limits %R         Page           1-Chlorocotane         152         100         152         70-135         ••           o-Terphenyl         62.6         36.0         125         70-135         ••           Lab Batch #:         749342         Sample: 324546-024 / SMP         Batch:         1         Matrix: Soil         U           Units:         mg/kg         SURROGATE RECOVERY STUDY         Control Limits         Flags         Flags           Manalytes         1/1         100         141         70-135         ••           I-Chlorocotane         1/41         100         141         70-135         ••           I-Chlorocotane         6/12 <t< td=""><td>Lab Batch #: 749342 Sample:</td><td>: 324546-023 / SMP</td><td>Ba</td><td>tch: 1 Matri</td><td>x: Soil</td><td></td><td></td></t<>	Lab Batch #: 749342 Sample:	: 324546-023 / SMP	Ba	tch: 1 Matri	x: Soil		
TPH By SW8015 Mod         Amount Found [A]         True Anount [B]         Recovery %R [D]         Control Limits %R [D]         Page           1-Chlorooctane         152         100         152         70-135         **           o-Terphenyi         62.6         50.0         125         70-135         **           Lab Batch #: 749342         Sample: 324546-024 / SMP         Batch: 1         Matrix: Soil             Units: mg/kg         SURROGATE RECOVERY STUDY         True Anount [B]         True Anount [B]         Recovery (Control Limits         Control Limits         Flags           1-Chlorooctane         141         100         141         70-135         **           o-Terphenyl         61.2         50.0         122         70-135         **           o-Terphenyl         61.2         50.0         122         70-135         **           o-Terphenyl         61.2         50.0         122         70-135         **           Dates #: # 749342         Sample: 324546-025 / SMP         Batch: 1         Matrix: Soil         Limits %R         Flags           Units: mg/kg         Surrooctane         98.7         100         99         70-135           I-Chlorooctane         98.7 <td< td=""><td>Units: mg/kg</td><td>Г</td><td>SU</td><td>RROGATE RE</td><td>COVERY</td><td>STUDY</td><td></td></td<>	Units: mg/kg	Г	SU	RROGATE RE	COVERY	STUDY	
1-Chlorooctane         152         100         152         70-135         **           o-Terphenyl         62.6         50.0         125         70-135         **           Lab Batch #:         749342         Sample:         324546-024 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY         STUDY           Analytes         Amount [A]         True [A]         Recovery % R         Control [B]         Flags           1-Chlorooctane         141         100         141         70-135         **           c-Terphenyl         61.2         50.0         122         70-135         **           Lab Batch #:         749342         Sample:         324546-025 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY STUDY         Control Limits         Flags           TPH By SW8015 Mod         Amount [A]         True [A]         Matrix:         Soil         Flags           I-Chlorooctane         98.7         100         99         70-135         Flags           i-Chlorooctane         98.7         100         99         70-135	TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl         62.6         50.0         125         70-135           Lab Batch #:         749342         Sample:         324546-024 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY STUDY           TPH By SW8015 Mod         Amount [A]         True [B]         Recovery %R         Control Limits         Flags           1-Chlorooctane         141         100         141         70-135         **           0-Terphenyl         61.2         50.0         122         70-135         **           0-Terphenyl         61.2         50.0         122         70-135         **           0-Terphenyl         61.2         50.0         122         70-135         **           Lab Batch #:         749342         Sample:         324546-025 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY STUDY         Control         Limits         %R         Plags           1-Chlorooctane         98.7         100         99         70-135            1-Chlorooctane         98.7         100         96         70-135 <td>1-Chlorooctane</td> <td></td> <td>152</td> <td>100</td> <td>152</td> <td>70-135</td> <td>**</td>	1-Chlorooctane		152	100	152	70-135	**
Lab Batch #: 749342         Sample: 324546-024 / SMP         Batch:         1         Matrix: Soil           Units:         mg/kg         SURROGATE RECOVERY STUDY           TPH By SW8015 Mod         Amount Found IAI         True Amount IBI         Recovery %R         Control Limits %R         Flags           1-Chlorooctane         141         100         141         70-135         ••           o-Terphenyl         61.2         50.0         122         70-135         •           Units:         mg/kg         Sample: 324546-025 / SMP         Batch:         I         Matrix: Soil           Units:         mg/kg         SurROGATE RECOVERY STUDY           6         122         70-135         •           Units:         mg/kg         SurROGATE RECOVERY STUDY             Flags         %R         Flags           Flags	o-Terphenył		62.6	50.0	125	70-135	
Units: mg/kg       SURROGATE RECOVERY STUDY         TPH By SW8015 Mod       Amount Found  A        True Amount  B        Recovery %R [D]       Control Limits %R [D]       Flags         1-Chlorooctane       141       100       141       70-135       ••         o-Terphenyl       61.2       50.0       122       70-135       •         Lab Batch #: 749342       Sample: 324546-025 / SMP       Batch:       1       Matrix: Soil          Units: mg/kg       SURROGATE RECOVERY STUDY       True Amount [A]       True Amount [A]       Recovery Matrix: Soil       Flags         TPH By SW8015 Mod       Amount [A]       True Amount [A]       Matrix: Soil       Flags         1-Chlorooctane       98.7       100       99       70-135       Flags         0-Terphenyl       47.9       50.0       96       70-135       Flags         Lab Batch #: 749342       Sample: 324546-026 / SMP       Batch:       1       Matrix: Soil       E         Lab Batch #: 749342       Sample: 324546-026 / SMP       Batch:       1       Matrix: Soil       E         Lab Batch #: 749342       Sample: 324546-026 / SMP       Batch:       1       Matrix: Soil       E         Lob Batch #: 749342       Sample: 324546-026 / SMP <td>Lab Batch #: 749342 Sample:</td> <td>: 324546-024 / SMP</td> <td>Ba</td> <td>tch: <sup> </sup> Matri</td> <td>x: Soil</td> <td></td> <td></td>	Lab Batch #: 749342 Sample:	: 324546-024 / SMP	Ba	tch: <sup> </sup> Matri	x: Soil		
TPH By SW8015 Mod         Amount Found  A          True Amount  A          True Amount  B          Recovery %R         Control limits %R         Flags           1-Chlorooctane         141         100         141         70-135         **           o-Terphenyl         61.2         50.0         122         70-135         **           Lab Batch #: 749342         Sample: 324546-025 / SMP         Batch:         1         Matrix: Soil         **           Units: mg/kg         SURROGATE RECOVERY STUDY         True Amount Found [A]         True Recovery [A]         Recovery [A]         Control Limits %R         Flags           1-Chlorooctane         98.7         100         99         70-135         **           1-Chlorooctane         98.7         100         99         70-135         **           1-Chlorooctane         98.7         100         99         70-135         **           Lab Batch #: 749342         Sample: 324546-026 / SMP         Batch:         1         Matrix: Soil         **           Lab Batch #: 749342         Sample: 324546-026 / SMP         Batch:         1         Matrix: Soil         **           Lab Batch #: 749342         Sample: 324546-026 / SMP         Batch:         1         Matrix: Soil         ** <td>Units: mg/kg</td> <td>Г</td> <td>SU</td> <td>RROGATE RE</td> <td>COVERY</td> <td>STUDY</td> <td></td>	Units: mg/kg	Г	SU	RROGATE RE	COVERY	STUDY	
I-Chlorooctane         141         100         141         70-135         **           o-Terphenyl         61.2         50.0         122         70-135         **           Lab Batch #:         749342         Sample:         324546-025 / SMP         Batch:         I         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY STUDY         Flags         %R         Flags           Analytes         Analytes         101         70-135         **         Control         Limits         %R         Flags           1-Chlorooctane         98.7         100         99         70-135         **         **           0-Terphenyl         47.9         50.0         96         70-135         **           Lab Batch #:         749342         Sample:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SurROGATE         RECOVERY STUDY         **         **         **           Lab Batch #:         749342         Sample:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SurROGATE         RECOVERY STUDY <t< td=""><td>TPH By SW8015 Mod Analytes</td><td></td><td>Amount Found [A]</td><td>True Amount [B]</td><td>Recovery %R [D]</td><td>Control Limits %R</td><td>Flags</td></t<>	TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl         61.2         50.0         122         70-135           Lab Batch #:         749342         Sample:         324546-025 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY STUDY         Flags         Control Limits         Flags           TPH By SW8015 Mod         Analytes         Amount [B]         Recovery [ID]         Control Limits         Flags           1-Chlorooctane         98.7         100         99         70-135         -           o-Terphenyl         47.9         50.0         96         70-135         -           Lab Batch #:         749342         Sample:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         Sumple:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         Sumple:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         Sumple:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         Sumple:         324546-026 / SMP	I-Chlorooctane		141	100	141	70-135	**
Lab Batch #: 749342       Sample: 324546-025 / SMP       Batch:       I       Matrix: Soil         Units:       mg/kg       SURROGATE RECOVERY STUDY         TPH By SW8015 Mod       Amount Found [A]       True [B]       Recovery %R       Control Limits %R       Flags         1-Chlorooctane       98.7       100       99       70-135       -         o-Terphenyl       47.9       50.0       96       70-135       -         Lab Batch #:       749342       Sample:       324546-026 / SMP       Batch:       1       Matrix:       Soil         Units:       mg/kg       SurROGATE RECOVERY STUDY       -	o-Terphenyl		61.2	50.0	122	70-135	··
Units:     mg/kg     SURROGATE RECOVERY STUDY       TPH By SW8015 Mod     Amount Found [A]     True Amount [B]     Recovery %R [D]     Control Limits %R       1-Chlorooctane     98.7     100     99     70-135       o-Terphenyl     47.9     50.0     96     70-135       Lab Batch #:     749342     Sample:     324546-026 / SMP     Batch:     1     Matrix:     Soil       Units:     mg/kg     SURROGATE RECOVERY STUDY     TPH     Flags       TPH By SW8015 Mod     Amount [A]     True Found [A]     Recovery %R     Control Limits     Flags       1-Chlorooctane     103     100     103     70-135	Lab Batch #: 749342 Sample:	324546-025 / SMP	Bai	tch:   Matri	x: Soil		
TPH By SW8015 ModAmount Found [A]True Amount [B]Recovery %R [D]Control Limits %RFlags1-Chlorooctane98.71009970-135-o-Terphenyl47.950.09670-135-Lab Batch #: 749342 Units: mg/kgSample: 324546-026 / SMP SURROGATE RECOVERY STUDYBatch: 1Matrix: Soil-TPH By SW8015 ModAmount Found [A]True Amount [B]Recovery %R (D]Control LimitsFlags1-Chlorooctane10310010370-135-Analytes10310010370-135-	Units: mg/kg	Г	SU	RROGATE RE	COVERY	STUDY	
1-Chlorooctane         98.7         100         99         70-135           o-Terphenyl         47.9         50.0         96         70-135           Lab Batch #:         749342         Sample:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SurroGATE         RECOVERY         STUDY           TPH By SW8015 Mod         Amount [A]         True [A]         Recovery [B]         Control Limits %R         Flags           1-Chlorooctane         103         100         103         70-135	TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
o-Terphenyl         47.9         50.0         96         70-135           Lab Batch #:         749342         Sample:         324546-026 / SMP         Batch:         1         Matrix:         Soil           Units:         mg/kg         SURROGATE         RECOVERY STUDY           TPH By SW8015 Mod         Amount Found [A]         True [A]         Recovery [B]         Control Limits %R         Flags           1-Chlorooctane         103         100         103         70-135         Flags	1-Chlorooctane		98.7	100		70-135	
Lab Batch #: 749342     Sample: 324546-026 / SMP     Batch:     1     Matrix:     Soil       Units:     mg/kg     SURROGATE     RECOVERY STUDY       TPH By SW8015 Mod     Amount Found [A]     True [B]     Recovery %R (D]     Control Limits %R     Flags       1-Chlorooctane     103     100     103     70-135	o-Terphenyl		47.9	50.0	96	70-135	
Units: mg/kg     SURROGATE RECOVERY STUDY       TPH By SW8015 Mod     Amount Found [A]     True Amount [A]     Recovery [B]     Control binits %R       Analytes     103     100     103     70-135	Lab Batch #: 749342 Sample:	324546-026 / SMP	Bai	tch: <sup>1</sup> Matri	x: Soil		
TPH By SW8015 ModAmount Found [A]True Amount [B]Control Limits %RFlagsAnalytes10310010370-1351-Chlorooctane10310010370-135	Units: mg/kg	Г	SU	RROGATE RE	COVERY	STUDY	
Analytes         101           1-Chlorooctane         103         100         103         70-135           o-Terphenyl         50.2         50.0         100         70-135	TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Instruction         IOS         IOO         IOO <thioo< th="">         IOO         <thioo< th=""> <thio< td=""><td></td><td></td><td>103</td><td>100</td><td>103</td><td>70-125</td><td></td></thio<></thioo<></thioo<>			103	100	103	70-125	
	a-Tembenyl		50.2	50.0	100	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

<b>Vork Orders :</b> 324546,	224(70.001.6.(M6	Project I	D: TNM-Bee	son Histori	cal
Lao Baten #: 749342 Sample: Units: mg/kg	S24679-001 S7 MS B	urrogate R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlomoctane	121	100	121	70 135	
o-Terphenyl	56.1	50.0	112	70-135	
Lab Batch #: 749342 Sample:	324679-001 SD / MSD B	atch: 1 Matr	ix: Soil		
Units: mg/kg	SI	URROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	61.0	50.0	122	70-135	
Lab Batch #: 749342 Sample:	524616-1-BKS / BKS B:	atch:   Matr	ix: Solid		
Units: mg/kg	SU	URROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	59.4	50.0	119	70-135	
Lab Batch #: 749342 Sample:	524616-1-BLK / BLK B	atch: <sup>1</sup> Matri	ix: Solid		
Units: mg/kg	SI	URROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	51.9	50.0	104	70-135	
Lab Batch #: 749342 Sample:	524616-1-BSD / BSD Ba	atch: 1 Matri	ix: Solid		
Units: mg/kg	SU	JRROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes			[D]		
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	58.8	50.0	118	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Y STUDY Control Limits %R 70-135 70-135	Flags
Y STUDY Control Limits %R 70-135 70-135	Flags
y Control Limits %R 70-135 70-135	Flags
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Y STUDY	
y Limits %R	Flags
70-135	
70-135	
Y STUDY	
Control y Limits	Flags
%R	
%R	
	70-135       70-135       Y STUDY       V STUDY       70-135       70-135       70-135       Y STUDY       V STUDY       Y O-135       70-135       70-135       70-135

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

Vork Orders : 324546,			Project II	): TNM-Bee	son Historie	cal
Lab Batch #: 749351 Sa	mple: 324546-006 / SMF	Ba	tch: l Matri	x: Soil		
Units: mg/kg	<b>[</b>	SU	RROGATE RE	ECOVERY	STUDY	
TPH By SW8015 M Analytes	Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		94.4	100	94	70-135	
o-Terphenyl		50.2	50.0	100	70-135	
Lab Batch #: 749351 Sa	mple: 324546-007 / SMF	' Bat	tch:   Matri	x: Soil		
Units: mg/kg			RROGATE RE	ECOVERY S	STUDY	
TPH By SW8015 M Analytes	Mod	Amount Found [A]	True Amount [Bj	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		78.2	100	78	70-135	
o-Terphenyl		41.4	50.0	83	70-135	
Lab Batch #: 749351 Sa	mple: 324546-008 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg		SU	RROGATE <sub>,</sub> RI	ECOVERY S	STUDY	
TPH By SW8015 M Analytes	Иod	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		93.3	100	93	70-135	
o-Terphenyl		51.3	50.0	103	70-135	
Lab Batch #: 749351 Sa	mple: 324546-009 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Г	SU	RROGATE RE	ECOVERY S	STUDY	
TPH By SW8015 M Analytes	/lod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		81.1	100	81	70-135	
o-Terphenyl		42.6	50.0	85	70-135	
Lab Batch #: 749351 Sa	mple: 324546-010 / SMP	Ba	ich: l Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	ECOVERY S	STUDY	
<b>TPH By SW8015</b> N	Лоd	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes				וסן		
I-Chlorooctane		97.7	100	98	70-135	
0- I erphenyl		53.1	50.0	106	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 324546,		Project I	D: TNM-Bee	son Histori	cal
Lab Batch #: 749351 Sample: 3	24546-010 S / MS Ba	itch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlomoctane	118	100	118	70-135	
o-Terphenyl	50.8	50.0	102	70-135	
Lab Batch #: 749351 Sample: 3	24546-010 SD / MSD Ba	tch: 1 Matr	ix: Soil	· · ·	
Units: mg/kg	su	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	49.5	50.0	99	70-135	
Lab Batch #: 749351 Sample: 3	24546-011 / SMP Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[0]		
a Temberul	82.5	100	83	70-135	
o- I crpnenyi	44./	50.0	89	70-135	
Lab Batch #: 749351 Sample: 3	24546-012 / SMP Ba	tch: 1 Matr	ix: Soil	~~~~	
Units: mg/kg		RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	100	98	70-135	
o-Terphenyl	52.9	50.0	106	70-135	
Lab Batch #: 749351 Sample: 3	24546-013 / SMP Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Anarytes					
I-Chlomoctane	84.0	100	84	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

'ork Orders : 324546,		Pr	oject ID	: TNM-Bee	son Histori	cal	
Lab Batch #: 749351 Sample: 324	546-014 / SMP	Batch: l	Matri	x: Soil			
Units: mg/kg		SURROGA	TE RE	COVERY	STUDY		
TPH By SW8015 Mod Analytes	Amount Found [A]	Tru Amo [B	ie unt	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	96.8	10	о О	97	70-135		
o-Terphenyl	51.7	50.	0	103	70-135		
Lab Batch #: 749351 Sample: 324	546-015 / SMP	Batch: 1	Matri	x: Soil	*		
Units: mg/kg		SURROGA	TE RE	COVERY	STUDY		
TPH By SW8015 Mod	Amount Found [A]	Tru Amo [B	ie unt	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	88.1		)	88	70-135		
o-Terphenyl	44,4	50.	0	89	70-135		
Lab Batch #: 749351 Sample: 324	546-016 / SMP	Batch: 1	Matri	x: Soil	ł		
Units: mg/kg		SURROGA	TE RE	COVERY	STUDY		
TPH By SW8015 Mod Analytes	Amount Found [A]	Tru Amo  B	ie unt I	Recovery %R [D]	Control Limits %R	Flags	
I-Chlorooctane	98.2	10	<u>;</u>	98	70-135	<u>-</u>	
o-Terphenyl	51.8	50.	o i	104	70-135		
Lab Batch #: 749351 Sample: 324	546-017 / SMP	Batch: 1	Matri	x: Soil	•		
Units: mg/kg		SURROGA	TE RE	COVERY	STUDY		
TPH By SW8015 Mod Analytes	Amount Found [A]	Tru Amo  B	ie unt	Recovery %R  D	Control Limits %R	Flags	
I-Chlorooctane	26.1		)	26	70-135	**	
o-Terphenyl	57.8	50.	0	116	70-135		
Lab Batch #: 749351 Sample: 324	546-018 / SMP	Batch: 1	Matri	x: Soil	•		
Linites malka	1	SURROGA	TE RE	COVERY	STUDY		
Omis: mg/kg		<u> </u>					
TPH By SW8015 Mod	Amount Found [A]	Tru Amo [B	ie unt	Recovery %R [D]	Control Limits %R	Flags	
TPH By SW8015 Mod Analytes 1-Chlorooctane	Amount Found [A] 152	Tru Amo (B	ie unt   )	Recovery %R [D] 152	Control Limits %R 70-135	Flags	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders: 324546,		Pr	oject ID: TNM-B	eeson Histori	cal
Lab Batch #: 749351 Sam	ple: 324546-019 / SMP	Batch: 1	Matrix: Soil		
Units: mg/kg		SURROGA	TE RECOVER	Y STUDY	
TPH By SW8015 Mc Analytes	)d Amour Found [A]	it Tru i Amo {B	ie unt Recovery }] %R  D]	Control y Limits %R	Flags
1-Chlorooctane	97.3	10	0 97	70-135	<u> </u>
o-Terphenyl	52.1	50.	.0 104	70-135	<u> </u>
Lab Batch #: 749351 Sam Units: mg/kg	ple: 324546-020 / SMP	Batch: 1 SURROGA	Matrix: Soil	V STUDY	h <del>e manuna ma</del>
TPH By SW8015 Mc	d Amour Foun( [A]	it Tru J Amo [B	te unt Recovery [] %R [D]	y Control y Limits %R	Flags
Allalytes			·····	70 115	<b> </b>
o-Terphenvl	52.5		<u> </u>	70-135	<del> </del>
		1		10.000	<u> </u>
Lab Batch #: (4933) Sam	ple: 524621-1-BK3 / DK3	Batch: SURROGA	Matrix: Sona	Y STUDY	
TPH By SW8015 Mc	d Amour Found [A]	it Tru i Amo  B	ie unt Recovery ij %R	Control y Limits %R	Flags
Analyws	115				<b> </b>
	50.3	50	<u> </u>	70-135	
		1	• • •	10-100	<u> </u>
Lab Batch #: /49331 Sam	ple: 524621-1-BLK / BLK	Batch: 1	Matrix: Solid	-/ 0011055/	
Units: mg/kg		SURKUGA	TE RECOVER	Y STUDY	
TPH By SW8015 Mo Analytes	d Amoun Found [A]	it Tru I Amo  B	unt Recovery   %R  D]	/ Control / Limits %R	Flags
1-Chlomoctane			v 101	70-135	<b> </b>
o-Terphenvl	56.2	50	0 112	70-135	
Lab Batch # 749351 Sam		Botoh:	Matrix Solid		L
Units: mg/kg		SURROGA	TE RECOVER	Y STUDY	
TPH By SW8015 Mc	)d Amour Foun [A]	it Tru d Amo	le unt Recover: %R	y Limits 94R	Flag
Analytes	[**]	יסן (ס	////	/61	
I-Chlorooctane	112	10	0 112	70-135	
o-Terphenyl	48.4	50	0 97	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

Laboratories						1		4			
	Pr	oject Na	ame: Bees	on 8" L	Discharg	e					
Work Order #: 324546	ſ	1		¢			Pro	ect ID: ]	NM-Bees	n Historic	le
Analyst: ASA	D	ate Prepar	ed: 02/10/200	5			Date AI	nalyzed: U	2/10/2009		
Lab Batch ID: 749179 Sample: 524500-1-	BKS	Batcl	1#: 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	S YNY S	PIKE DUPI	ICATE	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank	Spike	Blank	Blank	Spike	Blank	Bik. Spk	444	Control	Control	Ę
	Sample Kesuit [A]	Added	Spike Result	Spike	Added	Splike Duplicate		KFU %	Limus %R	PARPD	Sel 1
Analytes		[8]	[1]	[4]	E	Kesun [F]	[4]				
Benzene	£	0.1000	0.0989	66	1.0	0.1014	101	2	70-130	35	
Tolucne	Ð	0.1000	0.1035	104	0.1	0901.0	106	2	021-02	35	
Ethylbenzene	Ð	0.1000	0.1024	102	0.1	0.1051	105	3	71-129	35	
m,p-Xylenes	Ð	0.2000	0.2116	106	0.2	0.2174	109	3	561-02	35	
o-Xylene	Ð	0.1000	0.1047	105	0.1	0.1078	108	3	71-133	35	
Analyst: ASA	ä	ate Prepar	ed: 02/11/200	6			Date AI	nalyzed: 0	2/11/2009		
Lab Batch ID: 749315 Sample: 524599-1-	-BKS	Batcl	1#:1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	spike / I	S XNA S	PIKE DUPI	ICATE 1	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Bik. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[ <b>v</b> ]	[B]	Result [C]	%R [D]	Ξ	Duplicate Result [F]	%R [G]	%	%К	%RPD	
Benzene	Ð	0.1000	0.1010	101	0.1	0.1015	102	0	70-130	35	
Toluene	Q	0.1000	0.1011	101	0.1	0.1016	102	0	70-130	35	
Ethylbenzene	QN	0.1000	0.1001	100	0.1	0.1002	100	0	71-129	35	
m,p-Xylenes	Q	0.2000	0.2074	104	0.2	0.2073	104	0	70-135	35	
o-Xylene	QN	0.1000	0.1035	104	0.1	0.1032	103	0	71-133	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

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**BS / BSD Recoveries** 

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 324546 Lab Batch ID: 749440 Analyst: ASA

Units: mg/kg

Date Prepared: 02/12/2009 Batch #: ]

Sample: 524662-1-BKS

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** 

Project ID: TNM-Beeson Historical Date Analyzed: 02/12/2009 Matrix: Solid

3TEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD
28	1	(B)	[c]	[a]	[E]	Result [F]	<u>[</u>			
	Ð	0.1000	0.1010	101	0.1	0.1035	104	2	70-130	35

	Sample Result	Added	Spike Besult	Spike %B	Added	Spike Durkeate	Dup.	RPD %	Limits	Limits % DPD	Flag
Analytes	<u>(</u>	[B]	[C]		Ξ	Result [F]	[ <u></u> ]	2			
Benzene	QN	0.1000	0.1010	101	0.1	0.1035	104	2	70-130	35	
Toluene	QN	0.1000	0.1026	103	0.1	0.1047	105	2	70-130	. 35	
Ethylbenzene	QN	0.1000	0.1017	102	0.1	0.1036	104	2	71-129	35	
m,p-Xylenes	QN	0.2000	0.2102	\$01	0.2	0.2152	108	2	70-135	35	
o-Xylene	QN	0.1000	0.1037	104	0.1	0.1059	106	2	71-133	35	
Analyst: ASA	DE	ite Prepar	ed: 02/13/200	6			Date Ar	nalyzed: 0	2/13/2009		

Matrix: Solid

Batch #: ]

Sample: 524714-1-BKS

Lab Batch ID: 749516

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Units: mg/kg		BLAN	K /BLANK S	PIKE / B	LANK S	PIKE DUPL	ICATE F	LECOVE	RY STUD	Х	
BTEX by EPA 8021B	Blank Sampte Result [A]	Spike Added [B]	Blank Spike Result ICI	Blank Spike %R [D]	Spike Added IEI	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R IG1	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	QN	0.1000	0.1030	103	0.1	0.1032	103	0	20-130	35	
Toluene	QN	0.1000	0.1047	105	0.1	0.1048	105	0	0£1-02	35	
Ethylbenzene	QN	0.1000	0.1061	106	0.1	0.1063	106	0	71-129	35	
m,p-Xylenes	QN	0.2000	0.2211	111	0.2	0.2223	111	1	20-135	35	
o-Xylene	Q	0.1000	0.1074	107	0.1	0.1091	109	2	71-133	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 324546 Analyst: ASA Lab Batch ID: 749636

Units: mg/kg

Date Prepared: 02/14/2009 Batch #: 1

Sample: 524791-1-BKS

Project ID: TNM-Beeson Historical Date Analyzed: 02/14/2009 Matrix: Solid

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BTEX by EPA	X 8021B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes		[A]	B	Result [C]	8% [0]	[E]	Duplicate Result [F]	%R	%	%R	%RPD	
Benzene		Ð	0.1000	0.0932	93	0.1	0660.0	8	9	70-130	35	
Toluene		Ð	0.1000	0.0928	93	0.1	0.0977	100	7	70-130	35	
Ethylbenzene		£	0.1000	0.0927	93	0.1	0.0997	100	7	71-129	35	
m,p-Xylencs		£	0.2000	0.1918	8	0.2	0.2073	104	×	70-135	35	
o-Xylene		QN	0.1000	0.0951	95	0.1	0.1024	102	7	71-133	35	
Analyst: BHW Lab Batch ID: 749342	<b>Sample:</b> 524616-1-Bk	Da (S	te Prepare Batch	.d: 02/11/200 .#: 1	6			Date An I	alyzed: 0: Matrix: S	2/1 1/2009 olid		

Units: mg/kg		BLAN	V / BLAIN S		LANA S	rine Durl	ICALE I	KELUVE		ł	
TPH By SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
	[ <b>A</b> ]		Result	<b>%R</b>		Duplicate	%R	%	%R	%RPD	
Analytes		B	[C]	[0]	[3]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	Q	1000	948	56	1000	960	96	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	Ð	1000	974	<i>L</i> 6	0001	086	86	1	70-135	35	

Relative Percent Dífference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 324546 Analyst: BHW Lab Batch ID: 749351

Units: mg/kg

Date Prepared: 02/11/2009 Batch #: 1

Sample: 524621-1-BKS

**Project ID:** TNM-Beeson Historical Date Analyzed: 02/11/2009 Matrix: Solid

TE RECOVERY STUDY
BLANK SPIKE DUPLICA
BLANK /BLANK SPIKE / ]

						-					
TPH By SW8015 Mod	Blank Sample Resuft [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Dunlicate	BIk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		<b>[8]</b>	[c]	<u>[</u> ]	[E]	Result [F]	[6]	2			
C6-C12 Gasoline Range Hydrocarbons	Q	1000	1120	112	1000	1120	112	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	1060	106	1000	1050	105	-	70-135	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

X EN CO Laboratorics

Form 3 - MS / MSD Recoveries



Project Name: Beeson 8" Discharge

Work Order #: 324546

Lab Batch ID: 749179 Date Analyzed: 02/11/2009

QC- Sample ID: 324302-001 S Batch #: 1 Date Prepared: 02/10/2009 Analyst: ASA

l Matrix: Soil

Project ID: TNM-Beeson Historical

Reporting Units: mg/kg		W	ATRIX SPIKI	E / MAT	RIX SPII	KE DUPLICAT	FE RECO	<b>DVERY S</b>	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	£	0.1118	0.0794	F	0.1118	0.0781	20	2	70-130	35	
Toluene	Ð	0.1118	0.0816	73	0.1118	0.0802	72	2	70-130	35	Ì
Ethylbenzene	QN	0.1118	0.0821	73	0.1118	0.0807	72	2.	71-129	35	
m,p-Xylencs	Ð	0.2236	0.1723	77	0.2236	0.1696	76	2	70-135	35	
o-Xylene	ND	0.1118	0.0805	72	0.1118	0.0792	11	2	71-133	35	
Lab Batch ID: 749315 Date Analyzed: 02/11/2009	QC- Sample ID: Date Prepared:	324679- 02/11/20	600 S	Bai Ani	tch #: alyst: /	l Matrix: ASA	: Soil				
Reporting Units: mg/kg		W	ATRIX SPIKI	E / MATI	RIX SPII	KE DUPLICAT	E RECC	<b>VERY S</b>	STUDY		
				;		-					ſ

				I WIN / S		NE DUFEICA.	NDAN 41	VERI			
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0843	84	0.1000	0.0884	88	Ś	70-130	35	
Toluene	QN	0.1000	0.0845	85	0.1000	0.0895	8	6	70-130	35	
Ethylbenzene	QN	0.1000	0.0808	81	0.1000	0.0871	87	80	71-129	35	
m,p-Xylenes	QN	0.2000	0.1685	84	0.2000	0641.0	6	6	70-135	35	
o-Xylene	QN	0.1000	0.0827	83	0.1000	0.0881	88	6	71-133	35	

Matrix Spike Percent Recovery [D] = 1004(C-A)B Relative Percent Difference RPD = 2004(C-F)((C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

XENCO Laboratorics





**Project Name: Beeson 8" Discharge** 

Work Order #: 324546

Lab Batch ID: 749440 Date Analyzed: 02/13/2009

QC- Sample ID: 324634-003 S Batch #: 1 Date Prepared: 02/12/2009 Analyst: ASA

l Matrix: Soil

Project ID: TNM-Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIK	E / MATI	RIX SPII	KE DUPLICAT	FE RECO	<b>DVERY</b>	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	Ð	0.1032	0.0780	76	0.1032	0.0748	72	4	70-130	35	
Toluene	QN	0.1032	0.0494	48	0.1032	0.0450	44	6	70-130	35	×
Ethylbenzene	Q	0.1032	0.0361	35	0.1032	0.0316	31	13	71-129	35	×
m, p-Xylenes	QN	0.2065	0.0670	32	0.2065	0.0580	28	14	70-135	35	Х
o-Xylene	QN	0.1032	0.0367	36	0.1032	0.0329	32	11	71-133	35	x
Lab Batch ID: 749516 Date Analyzed: 02/13/2009	QC- Sample ID: Date Prepared:	324881- 02/13/2(	001 S 009	Ba Ani	tch #: alyst: /	l Matrix ASA	: Soil				
Reporting Units: mg/kg		M	ATRIX SPIK	E / MATI	RIX SPII	<b>KE DUPLICA</b> I	FE RECO	<b>DVERY S</b>	STUDY		

Keporting Units: mg/kg		M	ATRIX SPIKI	E / MAT	RIX SPII	KE DUPLICAT	re reco	VERY S	sTUDY		
BTEX by EPA 8021B	Parent Samble	Snike	Spiked Sample	Sptked	Snike	Duplicate Sulted Sample	Spiked Due	uaa	Control Limite	Control Limite	<u> F</u> lan
Analytes	Result [A]	Added [B]	[C]	B] 88	Added [E]	Result [F]	G %	*	%R	%RPD	26 29 - 1
Benzene	QN	0.1061	0.0779	٤	0.1061	0.0801	75	e	70-130	35	
Toluene	QN	0.1061	0.0726	68	0.1061	0.0759	12	4	70-130	35	х
Ethylbenzene	QN	0.1061	0.0698	66	0.1061	0.0742	70	6	71-129	35	x
m,p-Xylenes	QN	0.2122	0.1418	67	0.2122	0.1519	72	7	70-135	35	х
o-Xylene	Ð	0.1061	0.0699	66	0.1061	0.0746	70	7	71-133	35	x

Matrix Spike Percent Recovery {D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit







Project Name: Beeson 8" Discharge

Work Order #: 324546

QC- Sample ID: 324679-001 S

I Matrix: Soil

Project ID: TNM-Beeson Historical

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Lab Batch ID: 749342	QC- Sample ID:	324679-	001 S	Ba	tch #:	l Matris	r: Soil				
Date Analyzed: 02/12/2009	Date Prepared:	02/11/20	600	ЧU	alyst: ]	BHW					
Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPII	KE DUPLICA	TE REC	OVERY 3	STUDY		
TPH Bv SW8015 Mod	Parent c	:	Spiked Sample	Spiked	:	Duplicate	Spiked		Control	Control	
a.	Sample Result	Spike Added	Result [C]	Sample %R	Spike	Spiked Sample Result [F]	Dup. %R	RPD %	Limits %R	Limits %RPD	Flag
Analytes	[Y]	[ <b>B</b> ]		ā	[E]	2	[ <u>6</u> ]				
C6-C12 Gasoline Range Hydrocarbons	QN	1040	976	94	1040	959	92	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1040	1000	96	1040	1000	96	0	70-135	35	
Lab Batch ID: 749351	QC- Sample ID:	324546-	010 S	Ba	tch #:	l Matriy	r: Soil				
Date Analyzed: 02/12/2009	Date Prepared:	02/11/20	600	An	alyst:	BHW					
Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPII	KE DUPLICA'	TE REC	OVERY S	STUDY		
TPH Bv SW8015 Mod	Parent		Spiked Sample	Spiked		Duplicate	Spiked		Control	Control	
	Sample	Spike	Result	Sample	Spike	Spiked Sample	Dup.	RPD	Limits	Limits	Flag
A nalutae	Kesult	Added	[C]	%R	Added	Result [F]	%R	%	%R	%RPD	
caugi tura	E	9		5	2		5				

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C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Matrix Spike Percent Recovery [D] = 100\*(C-A)B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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#### Project Name: Beeson 8" Discharge

Work Order #: 324546

Lab Batch #: 749157				Project I	D: TNM-Be	eson Historic
Date Analyzed: 02/10/2009	Date Prepare	<b>i:</b> 02/	0/2009	Analy	st: BEV	
QC- Sample ID: 324546-001 D	Batch a	<b>#:</b> 1	l	Matr	ix: Soil	
Reporting Units: %	SA	MPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Paren R	t Sample esult  A	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		iv -1	[B]			
Percent Moisture		ND	ND	NC	20	1
Lab Batch #: 749161	<u>*</u> •			·	·	<b></b>
Date Analyzed: 02/10/2009	Date Prepare	<b>:</b> 02/3	10/2009	Analy	st: BEV	
QC- Sample ID: 324546-021 D	Batch	<b>#:</b> 1	l	Matr	ix: Soil	
Reporting Units: %	SA	MPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Paren R	t Sample esult  A	Sample Duplicate Result	RPD	Centrol Limits %RPD	Flag
Analyte			[B]			
Percent Moisture		.88	8.14	3	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.

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·	Crty/State/Zip: Le	Winghon, NM 68260							ĺ							ē	۲. ۲		Ten T	~							
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#### Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

Plains/Basin	
CLARKE C CELL	
32-1546	
3:4F	
	Plains/Basin Chickon C OPCL 324546 3245

#### Sample Receipt Checklist

				Client	initipis
#1	Temperature of container/ cooler?	Yes /	No	2-5 °C	
#2	Shipping container in good condition?	Yes	No	(Min)	
#3	Custody Seals Intact on shipping container/ cooler?	Yes	No	Not Present Line	
#4	Custody Seals intact on sample bottles/ container?/[6 vi ]	Yes	No	Not Present	
#5	Chain of Custody present?	(Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes:	No		
#7	Chain of Custody signed when relinquished/ received?	Nes;	No		1
#8	Chain of Custody agrees with sample tabel(s)?	Tes,	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	2005	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(res)	No		
#11	Containers supplied by ELOT?	Ses.	No		···
#12	Samples in proper container/ bottle?	(FBS)	No	See Below	
#13	Samples properly preserved?	des	No	See Below	
#14	Sample bottles intact?	(TES)	No		
#15	Preservations documented on Chain of Custody?	(res)	No		
#16	Containers documented on Chain of Custody?	(res)	No		
#17	Sufficient sample amount for indicated test(s)?	<b>Xes</b> )	No	See Below	
#18	All samples received within sufficient hold time?	7 88	No	See Below	
#15	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

# Analytical Report 325012

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge TNM-Beeson Historical

17-FEB-09





12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



17-FEB-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 325012 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 325012. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 325012 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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and the second



### Sample Cross Reference 325012

### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sampie Id
SA Sample 1-6 Inch	S	Feb-03-09 09:00		325012-001
NA Sample 9-6 Feet	S	Feb-03-09 14:00		325012-002

	eson Historical
	tid: TNM-Bee
XÉNČC Laboratorie	Project

Contact: Jason Henry Project Location: Lea County, NM



Project Name: Beeson 8" Discharge



Date Received in Lab: Tue Feb-10-09 08:56 am Report Date: 17-FEB-09

				Project Manager: Brent Ba	rron, II
	Lab Id:	325012-001	325012-002		
Amalunic Damantad	Field Id:	SA Sample 1-6 Inch	NA Sample 9-6 Feet		
naicanhay sisting	Depth:				
	Matrix:	SOIL	SOIL		
	Sampled:	Feb-03-09 09:00	Feb-03-09 14:00		
Anions hv EPA 300	Extracted:				
	Analyzed:	Feb-16-09 11:03	Feb-16-09 11:03		
	Units/RL:	mg/kg RL	mg/kg RL		
Chloride .		ND 5.02	ND 5.23		
Percent Moisture	Extracted:				
	Analyzed:	Feb-10-09 17:00	Feb-10-09 17:00		
	Umits/RL:	% RL	% RL		
Percent Moisture		00'I CIN	4.46 1.00		

This studytest report, and the calire data package it represents, has been made for your exclusive and confidential use. The interpretations undresslite sepressed throughout this sustainables in protice study that the higherent of XENNO. Laboratories, XENNO. Laboratories, asseming no responsibility and makes no warranty to the end use of the data hashing presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in white;

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Decision Director





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \* Outside XENCO's scope of NELAC Accreditation.

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	Phone	Fax
4143 Greenbriar Dr. Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd. Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd. Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116





### Project Name: Beeson 8" Discharge

Work Order #: 325012		Pr	oject ID:	TNM	I-Beeson H	listorical
Lab Batch #: 749735	Sample: 749735-	I-BKS	Matri	x: Solid		
Date Analyzed: 02/16/2009	Date Prepared: 02/16/20	)09	Analy	st: LATCO	OR	
Reporting Units: mg/kg	Batch #: 1	BLANK /	BLANK SPI	KE REC	OVERY S	STUDY
Anions by EPA 300	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes	[A]	[B]	Result [C]	%R [D]	%R	
Chloride	ND	10.0	11.4	114	90-110	н

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes.



### Form 3 - MS Recoveries



Project Name: Beeson 8" Discharge

Work Order #: 325012						
Lab Batch #: 749735			Pr	oject ID:	TNM-Bees	on Historical
Date Analyzed: 02/16/2009	Date Prepared:	02/16/2009		Analyst:	LATCOR	
QC- Sample ID: 325035-001 S	Batch #:	1		Matrix:	Soil	
Reporting Units: mg/kg	MAT	'RIX / MA'	TRIX SPIKE	RECOV	ERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result ICI	%R (D)	Control Limits %R	Flag
Analytes	[A]	[B]	• ?			
Chloride	5150	2350	7710	109	80-120	
	1	•	1	<u> </u>		·

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B) Il Results are based on MDL and Validated for QC Purposes
XENCO	
Laboratorics	



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#### Project Name: Beeson 8" Discharge

Work Order #: 325012

Lab Batch #: 749735				Project I	D: TNM-Be	eson Histori
Date Analyzed: 02/16/2009	Date Pro	epared: 02/1	6/2009	Analy	st: LATCO	र
QC- Sample ID: 325035-001 D	B	atch #: 1		Matr	ix: Soil	
Reporting Units: mg/kg		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by EPA 300		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte			[B]			
Chloride		5150	5050	2	20	
Lab Batch #: 749157						
Date Analyzed: 02/10/2009	Date Pro	epared: 02/1	0/2009	Anaiy	st: BEV	
QC- Sample ID: 324546-001 D	Đ	atch #: 1		Matr	ix: Soil	
Reporting Units: %		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag.
Analyte		·	[B]			
Percent Moisture		ND	ND	NC	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.



Amount of Community Sampa Containers much 10005 Free of Headchascr YAO & TAT byebnet2 × × O NPDES ------ IAT HOU ç 5 Z CPRIME F 300 × 7 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 12800 West 128 East 006895 1 Taxas 79765 Project #: TNM - Beason Historical Птяр REGR Project Name: Beeson B" Discharge вCI Tamperature Upon Receipt: #1EX #05/8/2030 \*\* BTE× 8280 seven and a seven as a seven as a seven as a seven as a seven as a seven as a seven as a seven as a seven as a PO 8: PAA - J. Henry met: X Standard Project Loc: Lee County, NM 57, 92 K B pH d' 13 b3 68 pA eA aigraid 01019231HAB (AUDITOR TO SUDAL () TN 00 <0i Report Formet: 5001 X1 Hat 0,051 9001 21 Ē Ē ę asioe Hđ cibrrant@basin-consulting.com 1.7 11-70 Outsid - MC 8 1 e fun ŝ '0'6' **п**л HOPN \*OS<sup>4</sup>H Freservation 1211-902 (205) <sup>1</sup>ONH × X 1 . 1 / LAURINO 10 5 10 10 . モモ bavefit bis Fax No: a-C.Sapatemai 1400 5 beigmed emil Received by ELOT 2/3/2009 2/3/2009 Z/16/09 CBSC Reserved by Time Received by. Basin Environmental Service Technologies, LLC beigmail efait) ფძატ მაფა Ł updeg Bulaups Lewington, NM 98260 0316 × × **Camille Bryant** 515) 605-7210 Company Address: P.O. 5 or 301 SA Sample 1 - 6 inch NA Sample 9 - 6 feet 525017 FIELD CODE Sampler Signature Project Manager: Company Name Telephone No: City/State/Zip. pacial Instructions 2 Retmanshed by (App asn qay) Deter Port ORDER #: 32 5 (Ajuo aan

#### Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

Client.	Plains (Barro
Date/ Time:	CLARCE CERSE
Lab ID # :	37×14
Initials:	<u></u>

#### Sample Receipt Checklist

**Client Initials** #1 Temperature of containent cooler? (Yes) No C M 11 #2 Shipping container in good condition? Yes No Not Present (~~ Yes No #3 Custody Seals intact on shipping container/ cooler? #4 Custody Seals intact on sample bottles/ container?//w/2-4 Yes No Not Present Yes #5 Chain of Custody present? No #6 Sample instructions complete of Chain of Custody? #7 Chain of Custody signed when reilinguished/ received? (Tes-No Yes No #8 Chain of Custody agrees with sample label(s)? No ID written on Cont / Lid #9 Container label(s) legible and intact? ्रीस्डः Not Applicable No Yes-#10 Sample matrix/ properties agree with Chain of Custody? No #11 Containers supplied by ELOT? Na (Yes (Yes #12 Samples in proper container/ bottle? No See Below #13 Samples properly preserved? No See Below Yes (Yes (Yes) #14 Sample bottles intact? No #15 Preservations documented on Chain of Custody? No #16 Containers documented on Chain of Custody? No Yes #17 Sufficient sample amount for indicated test(s)? No See Below #18 All samples received within sufficient hold time? Yes No See Below Yes No #19 Subcontract of sample(s)? Not Applicable #20 VOC samples have zero headspace? - No <u> Yes </u> Not Applicable

#### Variance Documentation

Date/ Time:

Contact:

Regarding;

Contacted by:

Corrective Action Taken:

Check all that Apply:

#### See attached e-mail/ fax

Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event

# Analytical Report 330355

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge Beeson Historical

22-APR-09





12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Miramar, FL E86349 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

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22-APR-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 330355 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 330355. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 330355 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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Sample Cross Reference 330355



# PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1 @ 10'	S	Арг-13-09 09:00		330355-001
SB-1 @ 20'	S	Apr-13-09 09:20		330355-002
SB-1 @ 30'	S	Apr-13-09 09:40		330355-003
SB-1 @ 40'	S	Apr-13-09 10:10		330355-004
SB-1 @ 50'	S	Apr-13-09 10:45		330355-005
SB-1 @ 60'	S	Apr-13-09 11:15		330355-006
SB-1 @ 65'	S	Apr-13-09 11:45		330355-007
SB-2 @ 10'	S .	Apr-13-09 13:00		330355-008
SB-2 @ 20'	S	Apr-13-09 13:20		330355-009
SB-2 @ 30'	S	Apr-13-09 13:40		330355-010
SB-2 @ 40'	S	Apr-13-09 14:10		330355-011
SB-2 @ 50'	S	Apr-13-09 14:40		330355-012
SB-2 @ 55'	S	Apr-13-09 15:10		330355-013
SB-3 @ 10'	S	Apr-14-09 08:40		330355-014
SB-3 @ 20'	S	Apr-14-09 09:00		330355-015
SB-3 @ 30'	S	Apr-14-09 09:25		330355-016
SB-3 @ 40'	S	Apr-14-09 09:50		330355-017
SB-3 @ 55'	S	Apr-14-09 10:15		330355-018
SB-3 @ 60'	S	Apr-14-09 10:50		330355-019
SB-4 @ 10'	S	Apr-14-09 11:20		330355-020
SB-4 @ 20'	S	Apr-14-09 11:40		330355-021
SB-4 @ 25'	S	Apr-14-09 12:10		330355-022
SB-5 @ 10'	S	Apr-14-09 13:30		330355-023
SB-5 @ 20'	S	Apr-14-09 13:50		330355-024
SB-5 @ 25'	S	Apr-14-09 14:15		330355-025
SB-5 @ 30'	S	Apr-14-09 14:45		330355-026
SB-6 @ 10'	S	Apr-14-09 15:30		330355-027
SB-6 @ 20'	S	Apr-14-09 15:50		330355-028
SB-6 @ 25'	S	Apr-14-09 16:15		330355-029
SB-6 @ 30'	S	Apr-14-09 16:40		330355-030
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Certificate of Analysis Summary 350355 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Project 1d: Becson Historical Contact: Jason Henry Project Location: Lea County, NM

Date Received in Lab: Fri Apr-17-09 08:07 am Report Date: 22-APR-09

					Project Manager: ]	Srent Barron, II	
	Lab Id:	330355-001	330355-002	330355-003	330355-004	330355-005	330355-006
Analysic Posnastad	Field 1d:	SB-1@10	SB-1 @ 20'	SB-1 @ 30	SB-1 @ 40'	SB-1 @ 50	SB-1 @ 60'
notenhour wedness	Depth:						
	Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Apr-13-09 09:00	Apr-13-09 09:20	Apr-13-09 09:40	Apr-13-09 10:10	Apr-13-09 10:45	Apr-13-09 11:15
BTEX hv EPA 8021B	Extracted:	Apr-17-09 11:00	Apr-20-09 14:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00
	Analyzed:	Apr-18-09 22:15	Apr-21-09 00:51	Apr-18-09 17:50	Apr-18-09 20:13	Apr-18-09 18:10	Apr-18-09 18:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		0.2233 0.1079	ND 0.5503	1100'0 CIN	ND 0.0263	1100'0 CIN	0100'0 CN
Totuene		2.430 0.2158	2,141 1,101	ND 0.0022	ND 0.0526	ND 0.0021	ND 0.0021
Ethylbenzene		4.210 0.1079	9.295 0.5503	0.0193 0.0011	0.0447 0.0263	0.0044 0.0011	0100'0 0500'0
m,p-Xylenes		9.362 0.2158	15.54 1.101	0.0592 0.0022	0.1280 0.0526	0.0079 0.0021	0.0029 0.0021
o-Xyl <del>en</del> e		2.106 0.1079	1.354 0.5503	0.0243 0.0011	0.0628 0.0263	0.0027 0.0011	ND 0.0010
Total Xylenes		11.468 0.1079	16.894 0.5503	0.0835 0.0011	0.1908 0.0263	0.0106 0.0011	0.0029 0.0010
Total BTEX		18.3313 0.1079	28.33 0.5503	0.1028 0.0011	0.2355 0.0263	0.015 0.0011	0.0059 0.0010
Percent Moisture	Extracted:						
	Analyzed:	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-0917:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		7.31 1.00	9.33 1.00	8.61 1.00	4.88 1.00	6.00 1.00	3.26 1.00
TPH Bv SW8015 Mod	Extracted:	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Analyzed:	Apr-18-09 15:12	Apr-18-09 15:37	Apr-18-09 16:02	Apr-18-09 16:26	Apr-18-09 16:52	Apr-18-09 17:17
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		961 162	1820 165	79.4 16.4	\$9.0 15.8	53.5 I6.0	19.0 15.5
C12-C28 Diesel Range Hydrocarbons		5570 162	4230 165	316 16.4	551 15.8	370 16.0	144 15.5
C28-C35 Oil Range Hydrocarbons		692 162	342 165	21.6 16.4	43.9 15.8	56.3 16.0	ND 15.5
Total TPH		7223 162	6392 165	417 16.4	653.9 15.8	479.8 16.0	163 15.5

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Odessa Laboratory Director Brent Barron



Project Location: Lea County, NM Contact: Jason Henry

Certificate of Athalysis Summary 330355 PLAINS ALL AMERICAN EH&S, Midland, TX



AT CE WITH

Project Name: Beeson 8" Discharge

Date Received in Lab: Fri Apr-17-09 08:07 am

Report Date: 22-APR-09

					Project Manager: 1	Srent Barron, II	
	Lab Id:	330355-007	330355-008	330355-009	330355-010	330355-011	330355-012
Analysis Romostod	Field Id:	SB-1 @ 65'	SB-2 @ 10'	SB-2 @ 20	SB-2 @ 30'	SB-2 @ 40	SB-2 @ 50'
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Apr-13-09 11:45	Apr-13-09 13:00	Apr-13-09 13:20	Apr-13-09 13:40	Apr-13-09 14:10	Apr-13-09 14:40
BTEX by EPA 8021B	Extracted:	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00
	Analyzed:	Apr-18-09 16:07	Apr-18-09 20:33	Apr-18-09 20:54	Apr-18-09 21:14	Apr-18-09 16:28	Apr-18-09 16:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		1100'0 CN	ND 0.1037	3.280 0.5655	0110'0 CN	0.0034 0.0014	1100'0 CIN
Toluene		ND 0.0022	0.4533 0.2074	15.68 1.131	0.1288 0.0220	0.0036 0.0027	ND 0.0021
Ethylbenzene		0.0024 0.0011	14.91 0.1037	105.6 0.5655	1.323 0.0110	0.0229 0.0014	0.0448 0.0011
m.p-Xylenes		0.0028 0.0022	20.00 0.2074	63.07 1.131	1.316 0.0220	0.0160 0.0027	0.0546 0.0021
o-Xylene		1100'0 CN	1.890 0.1037	9.964 0.5655	0.1450 0.0110	0.0023 0.0014	0.0048 0.0011
Total Xylenes		0.0028 0.0011	21.89 0.1037	73.034 0.5655	1.461 0.0110	0.0183 0.0014	0.0594 0.0011
Total BTEX		0.0052 0.0011	37.2533 0.1037	197.594 0.5655	2.9128 0.0110	0.0482 0.0014	0.1042 0.0011
Percent Moisture	Extracted:						
	Analyzed:	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		8,11 1.00	3.59 1.00	11.58 1.00	9.10 1.00	25.96 1.00	6.26 1.00
TPH Bv SW8015 Mod	Extracted:	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Analyzed:	Apr-18-09 17:42	Apr-18-09 18:07	Apr-18-09 18:32	Apr-18-09 18:57	Apr-18-09 19:46	Apr-18-09 20:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 16.3	2040 156	3750 170	1270 165	27.4 20.3	58.1 16.0
C12-C28 Diesel Range Hydrocarbons		89.4 16.3	7470 156	5140 170	3680 165	89.8 20.3	337 16.0
C28-C35 Oil Range Hydrocarbons		ND 16.3	731 156	548 170	286 165	ND 20.3	36.9 16.0
Total TPH		89.4 16.3	10241 156	9438 170	5236 165	117.2 20.3	432 16.0

This smallytical report, and the entire dual package it represents, has been made for your exclusions und contridential use. The interpretations und results expressed throughou this analytical report reports that has the adjugment of XEBNCD Laboratories. XEENCO Laboratories assumes no responsibility and makes no warmany to the raid use of the data hereby presented. Our liability is limited to the amount unvoiced for this work order unless oth cavies agreed to in writing.

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Odessa Laboratory Director Brent Barron

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Project Id: Beeson Historical

Contact: Jason Henry Project Location: Lea County, NM

Certificate of Attalysis Summary 530355 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



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Date Received in Lab: Fri Apr-17-09 08:07 am

Report Date: 22-APR-09

					Project Manager: I	Srent Barron, II	
	Lab Id:	330355-013	330355-014	330355-015	330355-016	330355-017	330355-018
Amatricic Pannactad	Field Id.	SB-2 @ 55	SB-3 @ 10'	SB-3 @ 20	SB-3 @ 30'	SB-3 @ 40	SB-3 @ 55'
nation have exclusive	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Apr-13-09 15:10	Apr-14-09 08:40	Apr-14-09 09:00	Apr-14-09 09:25	Apr-14-09 09:50	Apr-14-09 10:15
BTEX by EPA 8021B	Extracted:	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00	Apr-17-09 11:00
	Analyzed:	Apr-18-09 17:09	Apr-18-09 17:29	Apr-18-09 21:35	Apr-18-09 21:55	Apr-18-09 19:32	Apr-18-09 19:52
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0012	0100'0 CN	ND 0.5300	ND 0.0534	1100'0 CIN	110070 EN
Toluene		ND 0.0023	ND 0.0021	3.848 1.060	0.1907 0.1068	ND 0.0022	ND 0.0022
Ethylbenzene		ND 0.0012	0:0015 0:0010	38.06 0.5300	2.604 0.0534	0.0316 0.0011	0.0026 0.0011
m.p-Xylenes		ND 0.0023	ND 0.0021	47.34 1.060	4,156 0.1068	0.0642 0.0022	0.0034 0.0022
o-Xylene		ND 0.0012	010010 CN	3.360 0.5300	0.3167 0.0534	0.0312 0.0011	0.0016 0.0011
Total Xylenes		ND 0.0012	0100 <sup>-</sup> 0 EX	50.7 0.5300	4.4727 0.0534	0.0954 0.0011	0.005 0.0011
Total BTEX		ND 0.0012	0.0015 0.0010	92.608 0.5300	7.2674 0.0534	0.127 0.0011	0.0076 0.0011
Percent Moisture	Extracted:						
	Analyzed:	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		14.49 1.00	2.90 1.00	5.66 1.00	6.39 1.00	7.66 1.00	8.12 1.00
TPH Bv SW8015 Mod	Extracted:	Apr-17-0917:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Analyzed:	Apr-18-09 20:35	Apr-18-09 21:00	Apr-18-09 21:26	Apr-18-09 21:51	Apr-18-09 22:16	Apr-18-09 22:41
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 17.5	20.1 15.4	2790 159	732 16.0	103 16.2	19.1 16.3
C12-C28 Diesel Range Hydrocarbons		23.2 17.5	89.8 15.4	5130 159	2770 16.0	511 16.2	131 16.3
C28-C35 Oil Range Hydrocarbons		ND 17.5	ND 15.4	387 159	200 16.0	38.4 16.2	ND 16.3
Total TPH		23.2 17.5	109.9 15.4	8307 159	3702 16.0	652,4 16.2	150.1 16.3

This analytical report, and the enture data package at represents, has been made for your acchasive and confidential use. The interpretations and results expressed through this analytical report reports the heat guement or XENCOL aboundories. XENCOL tabox across teamers on responsibility and markers to warranty to the totu use of the data hereby presented. Our liability is limited to the amount invorced for this work order noless otherwise agreed to in writing.

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Odessa Laboratory Director Brent Barron

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Certificate of Analysis Summary 330355 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Project Id: Beeson Historical Contact: Jason Henry Project Location: Lea County, NM

Date Received in Lab: Fri Apr-17-09 08:07 am Report Date: 22-APR-09

					Project Manager: 1	srent Barron, II	
	Lab Id.	330355-019	330355-020	330355-021	330355-022	330355-023	330355-024
Analysis Bannadad	F ield Id.	SB-3 @ 60'	SB-4 @ 10'	SB-4 @ 20	SB-4 @ 25'	SB-5 @ 10'	SB-5 @ 20'
noiconhour exclimite	Depth						
	Matrix	SOIL	SOIL	SOIL	SOIL	TIOS	SOIL
	Sampled.	Apr-14-09 10:50	Apr-14-09 11:20	Apr-14-09 11:40	Apr-14-09 12:10	Apr-14-09 13:30	Apr-14-09 13:50
BTEX by EPA 8021B	Extracted:	Apr-21-09 10:00	Apr-20-09 14:00	Apr-20-09 14:00	Apr-20-09 14:00	Apr-20-09 14:00	Apr-20-09 14:00
	Analyzed:	Apr-22-09 09:15	Apr-20-09 22:07	Apr-20-09 22:27	Apr-20-09 22:48	Apr-20-09 23:09	Apr-20-09 23:29
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0054	1100.0 CIN	1100.0 CIN	ND 0.0013	1100.0 CIN	ND 0.0013
Toluene		ND 0.0109	ND 0.0022	ND 0.0022	ND 0.0026	ND 0.0022	ND 0.0026
Ethylbenzene		ND 0.0054	110070 CIN	1100'0 CN	ND 0.0013	1100'0 CIN	ND 0.0013
m,p-Xylenes		ND 0.0109	ND 0.0022	ND 0.0022	ND 0.0026	ND 0.0022	ND 0.0026
o-Xylene		ND 0.0054	1100'0 CIN	1100:0 CN	ND 0.0013	1100'0 CN	ND 0.0013
Total Xylenes		ND 0.0054	ND 0.0011	1100:0 CIN	ND 0.0013	1100'0 CN	ND 0.0013
Total BTEX		ND 0.0054	1100'0 GN	ND 0.0011	ND 0.0013	1100'0 CN	ND 0.0013
Percent Moisture	Extracted						
	Analyzed	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Units/RL	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		7.89 1.00	8.14 1.00	7.90 1.00	23.58 1.00	8.25 1.00	23.82 1.00
TPH Bv SW8015 Mod	Extracted	Apr-17-09 17:00	Apr-17-09 17:00	Apr-19-09 14:00	Apr-19-09 14:00	Apr-19-09 14:00	Apr-19-09 14:00
	Analyzed:	Apr-18-09 23:07	Apr-18-09 23:32	Apr-19-09 16:56	Apr-19-09 17:21	Apr-19-09 17:47	Apr-19-09 18:12
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		24.0 16.3	ND 16.3	ND 16.3	9.61 CIN	E.91 ON	ND 19.7
C12-C28 Diesel Range Hydrocarbons		311 16.3	ND 16.3	ND 16.3	9'61 CN	ND 16.3	ND 19.7
C28-C35 Oil Range Hydrocarbons		34.3 16.3	ND 16.3	ND 16.3	9761 QN	ND 16.3	ND 19.7
Total TPH		369.3 16.3	ND 16.3	ND 16.3	ND 19.6	ND 16.3	ND 19.7

This stably teal report, and the entire data paskage it represents, has been made for your exchastve and confidential use. In interpretations and results expressed throughout this analytical report repretations the best juggment of XENOO Laboratories. XENOO Laboratories teamings no responsibility and makes no warming to the enduse of the data hereby presented. Our liability is limited to the amount unvoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Director Brent Barron

	Historical
	ld: Beeson
X ENCO Laboratorics	Project

Certificate of Analysis Summary 530355 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Contact: Jason Henry Project Location: Lea County, NM

Report Date: 22-APR-09

Date Received in Lab: Fri Apr-17-09 08:07 am

					Project Manager: 1	srent Barron, II	
	Lab I d:	330355-025	330355-026	330355-027	330355-028	330355-029	330355-030
Analysis Ronnested	Field I d:	SB-5 @ 25	SB-5 @ 30'	SB-6 @ 10	SB-6 @ 20'	SB-6 @ 25	SB-6 @ 30'
national and antity	· Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOL	SOIL	SOIL
	Sampled:	Apr-14-09 14:15	Apr-14-09 14:45	Apr-14-09 15:30	Apr-14-09 15:50	Apr-14-09 16:15	Apr-14-09 16:40
BTEX hv EPA 8021B	Extracted:	Apr-20-09 14:00	Apr-20-09 14:00	Apr-20-09 00:00	Apr-20-09 00:00	Apr-20-09 00:00	Apr-20-09 00:00
	Analyzed:	Apr-20-09 23:50	Apr-21-09 00:10	Apr-21-09 03:35	Apr-21-09 03:55	Apr-21-09 04:16	Apr-21-09 04:36
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0012	ND 0.0013	. ND 0.0013	ND 0.0014	1100'0 CN	ND 0.0012
Toluene		ND 0.0024	ND 0.0026	ND 0.0026	ND 0.0028	ND 0.0022	ND 0.0023
Ethylbenzene		ND 0.0012	ND 0.0013	E100:0 CIN	0.0024 0.0014	1100'0 CIN	ND 0.0012
m,p-Xylenes		ND 0.0024	ND 0.0026	ND 0.0026	ND 0.0028	ND 0.0022	ND 0.0023
o-Xylene		ND 0.0012	E100:0 CIN	ND 0.0013	ND 0.0014	1100'0 GN	ND 0.0012
Total Xylence		ND 0.0012	E100.0 CN	LD 0.0013	ND 0.0014	1100'0 CIN	ND 0.0012
Total BTEX		ND 0.0012	ND 0.0013	ND 0.0013	0.0024 0.0014	1100.0 CIN	ND 0.0012
Percent Moisture	Extracted:						
	Analyzed:	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00	Apr-17-09 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		17.22 1.00	25.07 1.00	22.68 1.00	28.79 1.00	10.10 1.00	15.19 1.00
TPH By SW8015 Mod	Extracted:	Apr-19-09 14:00	Apr-19-09 14:00	Apr-19-09 14:00	Apr-19-09 14:00	Apr-19-09 14:00	Apr-19-09 14:00
	Analyzed:	Apr-19-09 18:37	Apr-19-09 19:03	Apr-19-09 19:28	Apr-19-09 19:53	Apr-19-09 20:18	Apr-19-09 20:43
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 18.1	ND 20.0	ND 19.4	ND 21.1	ND 16.7	ND 17.7
C12-C28 Diesel Range Hydrocarbons		1.81 CIN	ND 20.0	ND 19.4	ND 21.1	ND 16.7	ND 17.7
C28-C35 Oil Range Hydrocarbons		ND 18.1	ND 20.0	ND 19.4	ND 21.1	ND 16.7	ND 17.7
Total TPH		1.81 UN	ND 20.0	ND 19.4	ND 21.1	ND 16.7	ND 17.7

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. In interpretations and results expressed broughout this analytical report inspress the best jubment of XENCO Laboratories. XENCO Laborators sustaines no responsibility and makes no warranty to the end use of the data her by presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Director Brent Barron





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \* Outside XENCO's scope of NELAC Accreditation.

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Project Name: Beeson 8" Discharge

ork Orders : 330355	· · · · ·		Project II	<b>):</b> Beeson Hi	storical	
Lab Batch #: 756284	Sample: 8406394-1-BKS /	BKS Ba	tch: <sup> </sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/18/09 13:43	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	·	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	
Lab Batch #: 756284	Sample: 8406394-1-BSD / 1	BSD Ba	tch: <sup>1</sup> Matri	x: Solid	ι	
Units: mg/kg	Date Analyzed: 04/18/09 14:04	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0294	0.0300		80-120	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0292	0.0300	97	80-120	
Lah Batch #: 756284		BLK Ba	tch: 1 Matri	x: Solid	1	
Units: mg/kg	Date Analyzed: 04/18/09 14:45	SU	RROGATE RE	COVERY	STUDY	<u> </u>
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0250	0.0300	83	80-120	
4-Bromofluorobenzene		0.0279	0.0300	93	80-120	
Lab Batch #: 756284	Sample: 330355-007 / SMP	' Ba	tch:   Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 16:07	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found  A	True * Amount  B]	Recovery %R	Control Limits %R	Flags
L4.Difluorobenzene	Analytes	0.0242	0.0300	Q1	80-120	
4-Bromofluorobenzene		0.0242	0.0300	97	80-120	
Lab Batch # 756284	Sample: 330355-011 / SMP	Ro Ro	tob: 1 Matri	v: Soil	1	
Units: mg/kg	Date Analyzed: 04/18/09 16:28		RROGATE RE	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0209	0.0300	70	80-120	**
4-Bromofluorobenzene		0.0267	0.0300	89	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

XEN	(0)
Labora	tories

### Project Name: Beeson 8" Discharge

ork Orders : 330355	9		Project II	<b>):</b> Beeson Hi	storical	
Lab Batch #: 756284	Sample: 330355-012 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 16:48	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
14-Difluorobenzene	Analytes	0.0215	0.0300	72	80.120	**
4-Bromofluorobenzene		0.0213	0.0300	138	80-120	**
		0.0111	0.0500	150	00120	
Lab Batch #: /56284	Sample: 330355-013 / SMP	Bat	tch:   Matri	x: Soli		
Units: mg/kg	Date Analyzed: 04/18/09 17:09	SU	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount  B	Recovery %R  D	Control Limits %R	Flag
1,4-Difluorobenzene		0.0249	0.0300	83	80-120	
4-Bromofluorobenzene		0.0298	0.0300	99	80-120	
Lab Batch #: 756284	Sample: 330355-014 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 17:29	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R IDI	Control Limits %R	Flag
1.4.Difluorobenzene	Anarytes	0.0246	0.0200	en	80.120	
4-Bromofluorobenzene		0.0246	0,0300	90	80-120	
		0.0270	0.0500	<i>,,,</i>	80-120	
Lab Batch #: 756284	Sample: 330355-003 / SMP	Bat	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 17:50	SU	RROGATE RI	COVERY	STUDY	
BTE	A polytos	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flag
1 4-Difluorobenzena	Analytes	0.0227	0.0200	70	80.120	**
4-Bromofluorobenzene		0.0237	0.0300	19	80-120	**
L D 4 L # 25(294				<b>. .</b>		
an Batch #: /30284	Sample: 330355-005 / SMP	Bat	DDOCATE D	X: SUI	STUDY	
Elizates en olle c		SU:	RRUGAIE KI	COVERY	51001	
Units: mg/kg	Date Analyzed: 04/18/09 18:10	Amount	Тена	Ĵ	Control	
Units: mg/kg BTE2	Analytes	Amount Found [A]	True Amount  B]	Recovery %R  D	Control Limits %R	Flaț
Units: mg/kg BTE2	Analytes	Amount Found [A]	True Amount  B] 0.0300	Recovery %R  D  79	Control Limits %R 80-120	Flag **

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

/ork Orders : 330355	ý,		Project IJ	D: Beeson Hi	istorical	
Lab Batch #: 756284	Sample: 330355-006 / SMP	Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 18:31	SU	RROGATE RJ	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1 4 Diductohanzana	Analytes	0.0243	0.0200	01		<b> </b>
4-Bromofluorobenzene	ł	0.0243	0.0300	98	80-120	<del> </del>
756394	L	Be				Ł
Lab Batch #: /20204	Sample: 330355-0177 SWF		ich: I Matri	X: Soil	minv	
Units: mg/kg	Date Analyzed: 04/18/09 19:52		RROGATE AD	COVER1 -	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0232	0.0300	77	80-120	**
4-Bromofluorobenzene		0.0415	0.0300	138	80-120	**
Lab Batch #: 756284	Sample: 330355-018 / SMP	Ba	tch: 1 Matri	ix: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 04/18/09 19:52	SU	RROGATE RI	ECOVERY (	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
14-Difluombenzene	Analytes	0.0241	0.0300	80 , - ,	80-120	──
4-Bromofluorobenzene		0.0294	0.0300	98	80-120	
		Ba	toh: 1 Matr	ix• Soil	<u> </u>	<u>.</u>
Units: mg/kg	Date Analyzed: 04/18/09 20:13	SU	RROGATE RJ	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes		1	{D]		1
1,4-Difluorobenzene		0.0231	0.0300	77	80-120	**
4-Bromofluorobenzene		0.0273	0.0300	91	80-120	
Lab Batch #: 756284	Sample: 330355-008 / SMP	Bat	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 20:33	SU	RROGATE RI	ECOVERY ?	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0210	0.0300	70	80-120	+
4-Bromofluorobenzene		0.0396	0.0300	132	80-120	**
			1′	1		4

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

ork Orders : 330355	Project ID: Beeson Historical					
Lab Batch #: 756284	Sample: 330355-009 / SMP	Batch: 1 Matrix: Soil				
Units: mg/kg	Date Analyzed: 04/18/09 20:54	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B		Amount Founđ [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	······································	0.0200	0.0300	67	80-120	**
4-Bromofluorobenzene		0.0373	0.0300	124	80-120	**
Lab Batch #: 756284	Sample: 330355-010 / SMP	Ba	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 21:14	st	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0211	0.0300	70	80-120	**
4-Bromofluorobenzene		0.0385	0.0300	128	80-120	**
Lab Batch #: 756284	Sample: 330355-015 / SMP	Ba	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 21:35	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flaț
1.4-Difluorobenzene		0.0212	0.0300	71	80-120	**
4-Bromofluorobenzene	·	0.0317	0.0300	106	80-120	
Lab Batch #: 756284		Вя	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 21:55	SL	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0221	0.0300	74	80-120	*1
4-Bromofluorobenzene		0.0350	0.0300	117	80-120	
ab Batch #: 756284	Sample: 330355-001 / SMP	Ba	itch: 1 Matri	x: Soil	•	
Units: mg/kg	Date Analyzed: 04/18/09 22:15	su	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1,4-Difluorobenzene		0.0208	0.0300	69	80-120	*:
4-Bromofluorobenzene		0.0397	0.0300	132	80-120	*1

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Vork Orders : 330355, Project ID: Beeson Historical						
Lab Batch #: 756284	Batch: 1 Matrix: Soil					
Units: mg/kg	Date Analyzed: 04/18/09 22:56	SU	RROGATE RE	COVERY	STUDY	· · ·
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flag
I,4-Difluorobenzene	•	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	
Lab Batch #: 756284	Sample: 330355-007 SD / N	ISD Ba	teh: <sup>1</sup> Matri	x: Soil	•	
Units: mg/kg	Date Analyzed: 04/18/09 23:17	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0278	0.0300	93	80-120	
4-Bromofluorobenzene		0.0292	0.0300	97	80-120	
Lab Batch #: 756422	Sample: 528566-1-BKS/B	KS Ba	tch: I Matri	x: Solid	•	
Units: mg/kg	Date Analyzed: 04/20/09 15:57	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene		0.0303	0.0300	101	80-120	
Lab Batch #: 756422	Sample: 528566-1-BSD / B	SD Ba	tch: <sup> </sup> Matri	x: Solid	1 1	
Units: mg/kg	Date Analyzed: 04/20/09 16:17	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
1 4-Difluorobenzene	Anarytes	0.0285	0.0300	05	80.120	
4-Bromofluorobenzene	<u> </u>	0.0290	0.0300	97	80-120	
Lab Batch #: 756422	Sample: 528566-1-BLK / B	LK Rat	tch:   Matri	x: Solid	I	
Units: mg/kg	Date Analyzed: 04/20/09 16:59	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount  B]	Recovery %R  D	Control Limits %R	Flag
1,4-Difluorobenzene	•	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene		0.0254	0.0300	85	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 330355	5,		Project IJ	<b>D:</b> Beeson Hi	storical	
Lab Batch #: 756422	Sample: 330555-001 S / MS	, Bat	.tch: l Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/20/09 20:45	SU	RROGATE RF	ECOVERY	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene		0.0284	0.0300	95	80-120	(
4-Bromofluorobenzene		0.0275	0.0300	92	80-120	í
Lab Batch #: 756422	Sample: 330555-001 SD / N	ISD Ba	tch:   Matr	ix: Soil	·	
Units: mg/kg	Date Analyzed: 04/20/09 21:05	SU SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R ID]	Control Limits %R	Flags
1.4-Difluorobenzene	Analytes	0.0282	0.0300	Q4	P0-120	·
4-Bromofluorobenzene		0.0202	0.0300	91	80-120	(
Botab #. 756422	L	Ba	••• 1 Mate	L	<u> </u>	
Units: mg/kg	Date Analyzed: 04/20/09 22:07	SU SU	RROGATE RJ	K: SON ECOVERY	STUDY	
BTE?	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
L	Analytes	I	<u>ا</u>	[D]	۱	l
1,4-Difluorobenzene		0.0241	0.0300	80	80-120	
4-Bromofluorobenzene		0.0273	0.0300	91 1	80-120	
Lab Batch #: 756422	Sample: 330355-021 / SMP	Bat	tch:   Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/20/09 22:27	SU	RROGATE RF	COVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found  A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0248	0.0300	83	80-120	i
4-Bromofluorobenzene		0.0225	0.0300	75	80-120	· *_
Lab Batch #: 756422	Sample: 330355-022 / SMP	Bar	tch: 1 Matri	ix: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 04/20/09 22:48	SU	RROGATE RF	ECOVERY	STUDY	
втеу	X by EPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0240	0.0300	80	80-120	I
4-Bromofluorobenzene		0.0243	0.0300	81	80-120	i

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

ork Orders: 330355	3		Project II	<b>):</b> Beeson Hi	istorical	
Lab Batch #: 756422	Sample: 330355-023 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/20/09 23:09	SU	RROGATE RI	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.4-Difluorobenzene	7 kitkey (***	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene		0.0232	0.0300	77	80-120	*
Lab Batch #: 756422	Sample: 330355-024 / SMP	Ba	teh: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/20/09 23:29	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene	Alialytes	0 0241	0.0300	80	80-120	
4-Bromofluorobenzene		0.0261	0.0300	87	80-120	
ah Batch #: 756422	Sample: 330355-025 / SMP	Bai	l tehe l Matri	v: Soil	1	
Units: mg/kg	Date Analyzed: 04/20/09 23:50	SURROGATE RECOVERY STUDY				
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R IDI	Control Limits %R	Flag
1.4-Difluorobenzene	Analytes	0.0243	0.0300	۰. ۶۱	80-120	
4-Bromofluorobenzene		0.0245	0.0300	88	80-120	
Lah Batch #: 756422		Bai	l tch: l Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/21/09 00:10	SU	RROGATE RI	COVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene		0.0249	0.0300	83	80-120	
Lab Batch #: 756422	Sample: 330355-002 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/21/09 00:51	SU	RROGATE RI	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found  A	True Amount  B]	Recovery %R [D]	Control Limits %R	Flay
1,4-Difluorobenzene		0.0212	0.0300	71	80-120	*1
4-Bromofluorobenzene		0.0277	0.0300	92	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



#### Project Name: Beeson 8" Discharge

Work Orders : 330355, Project ID: Beeson Historical						
Lab Batch #: 756442	Sample: 528575-1-BKS / BI	KS Ba	tch: 1 Matr	ix: Solid		
Units: mg/kg	Date Analyzed: 04/21/09 02:13	SU	RROGATE RI	ECOVERY !	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flags
1,4-Difluorobenzene		0.0275	0.0300	92	80-120	(
4-Bromofluorobenzene		0.0285	0.0300	95	80-120	í —
Lab Batch #: 756442	Sample: 528575-1-BSD / B?	SD Ba	tch: 1 Matr	ix: Solid	1	
Units: mg/kg	Date Analyzed: 04/21/09 02:34	SU	RROGATE RI	ECOVERY	STUDY	<u> </u>
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0285	0.0300	95	80-120	í
Lab Batch #: 756442	Sample: 528575-1-BLK / B <sup>r</sup>	LK Ba	i toh- l Matri	لــــــــــــــــــــــــــــــــــــ	<u> </u>	
Units: mg/kg	Date Analyzed: 04/21/09 03:14	SU SU	RROGATE RI	ECOVERY	STUDY	
BTEZ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1 4-Difluorobenzene	Anaiyies	0.0245	0.0300		80-120	I
4-Bromofluorobenzene		0.0243	0.0300	92	80-120	1
 I ah Ratch #• 756442		Ba	i Matr	ليسين عبد Soil	<u> </u>	
Linits: mg/kg	Date Analyzed: 04/21/09 03:35	SU SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
L	Analytes	ļ	l'	{D}	.l	I
1,4-Difluorobenzene		0.0232	0.0300		80-120	* 
4-Bromotluoropenzene		0.0245	0.0300	82	80-120	<u></u>
Lab Batch #: 756442	Sample: 330355-028 / SMP	Bat	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/21/09 03:55	SU!	RROGATE RE	ECOVERY :	STUDY	
BTE>	X by EPA 8021B Analytes	Amount Found  A	. True Amount [B]	Recovery %R {D}	Control Limits %R	Flag
1,4-Difluorobenzene		0.0239	0.0300	80	80-120	í The second sec
4-Bromofluorobenzene	t	0.0258	0.0300	86	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



#### Project Name: Beeson 8" Discharge

ork Orders : 330355	,		Project II	D: Beeson Hi	istorical	
Lab Batch #: 756442	Sample: 330355-029 / SMP	Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/21/09 04:16	SURROGATE RECOVERY STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0244	0.0300	81	80-120	
4-Bromofluorobenzene		0.0287	0.0300	96	80-120	
Lab Batch #: 756442	Sample: 330355-030 / SMP	Ba	tch:   Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/21/09 04:36	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene		0.0283	0.0300	94	80-120	
Lab Batch #: 756442	Sample: 330355-027 S / M	S Ba	tch: ] Matri	ix: Soil	L	-
Units: mg/kg	Date Analyzed: 04/21/09 10:25	SU	RROGATE RI	ECOVERY	STUDY	••
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0241	0.0300	80	80-120	
4-Bromofluorobenzene		0.0291	0.0300	97	80-120	
Lab Batch #: 756442	Sample: 330355-027 SD / N	ASD Ba	tch: <sup>1</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/21/09 10:45	ŚU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0252	0.0300	84	80-120	
4-Bromofluorobenzene		0.0311	0.0300	104	80-120	
Lab Batch #: 756632	Sample: 528674-1-BKS / B	KS Ba	tch: I Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 04/21/09 11:49	SU	RROGATE RI	ECOVERY	STUDY	<u></u>
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0267	0.0300	89	80-120	
4-Bromofluorobenzene		0.0322	0.0300	107	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

XE	N	C	0
Labo	re.	tor	ies

Project Name: Beeson 8" Discharge

ork Orders : 330355	,		Project II	D: Beeson Hi	storical	
Lab Batch #: 756632	Sample: 528674-1-BSD / B	SD Ba	tch: <sup>1</sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/21/09 12:10	su	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0269	0,0300	90	80-120	
4-Bromofluorobenzene		0.0329	0.0300	110	80-120	
Lab Batch #: 756632	Sample: 528674-1-BLK / E	SLK Ba	tch: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/21/09 12:51	su	RROGATE RI	ECOVERY	STUDY	
BTEZ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0235	0.0300	78	80-120	**
4-Bromofluorobenzene		0.0308	0.0300	103	80-120	
Lab Batch #: 756632	Sample: 330355-019 / SMF	) Ba	tch: 1 Matri	x: Soil	I	
Units: mg/kg	Date Analyzed: 04/22/09 09:15	SU	RROGATE RI	COVERY	STUDY	
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount (B)	Recovery %R {D}	Control Limits %R	Flags
1,4-Difluorobenzene		0.0207	0.0300	69	80-120	<b>*</b> *
4-Bromofluorobenzene		0.0394	0.0300	131	80-120	**
Lab Batch #: 756632	Sample: 330466-001 S / M	S Ba	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/22/09 11:18	SU SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene		0.0503	0.0300	168	80-120	*
Lab Batch #: 756632	Sample: 330466-001 SD / N	MSD Ba	, tch: <sup> </sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/22/09 11:39	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found {A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	-	0.0236	0.0300	79	80-120	**
4-Bromofluorobenzene		0.0499	0.0300	166	80-120	**

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 330355	2		Project II	D: Beeson Hi	storical	
Lab Batch #: 756245	Sample: 8406370-1-BKS / ]	BKS Ba	tch: <sup> </sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/18/09 13:57	SU	RROGATE RI	COVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B]	Recovery %R  D]	Control Limits %R	Flags
1-Chlorooctane		109	100	109	70-135	
o-Terphenyl		51.0	50.0	102	70-135	
Lab Batch #: 756245	Sample: 8406370-1-BSD / ]	BSD Bat	tch: <sup>]</sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/18/09 14:22	SU	RROGATE RI	COVERY	STUDY	· · ·
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		110	100	110	70-135	
o-Terphenyl		51.7	50.0	103	70-135	
Lab Batch #: 756245	Sample: 8406370-1-BLK /	BLK Ba	tch: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/18/09 14:47	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane	~	94.1	100	94	70-135	
o-Terphenyl		54.6	50,0	109	70-135	
Lab Batch #: 756245	Sample: 330355-001 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 15:12	SU	RROGATE RI	COVERY	STUDY	
TPH 1	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flage
I-Chlorooctane	~	96.2	100	96	70-135	
o-Terphenyl		54,2	50,0	108	70-135	<u> </u>
Lab Batch #: 756245	Sample: 330355-002 / SMP	Ba	tch: 1 Matri	x: Soil	-	
Units: mg/kg	Date Analyzed: 04/18/09 15:37	SU	RROGATE RI	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flag
1-Chlorooctane	7.1141y (C)	117	100	117	70-135	L

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 330355	,		Project II	<b>):</b> Beeson Hi	storical	
Lab Batch #: 756245	Sample: 330355-003 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 16:02	SU	<b>RROGATE RI</b>	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		96.5	100	97	70-135	
o-Terphenyl		55.5	50.0	111	70-135	
Lab Batch #: 756245	Sample: 330355-004 / SMP	Ba	tch: 1 Matri	x: Soil	,	
Units: mg/kg	Date Analyzed: 04/18/09 16:26	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		101	100	101	70-135	
o-Terphenyl		57.0	50.0	114	70-135	
Lab Batch #: 756245	Sample: 330355-005 / SMP	Ba	tch: 1 Matri	x: Soil	<u>.</u>	
Units: mg/kg	Date Analyzed: 04/18/09 16:52	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		98.2	100	98	70-135	
o-Terphenyl		56.7	50.0	113	70-135	
Lab Batch #: 756245	Sample: 330355-006 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 17:17	SU	RROGATE RI	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		94.9	100	95	70-135	
o-Terphenyl		54.5	50.0	109	70-135	
Lab Batch #: 756245	Sample: 330355-007 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 17:42	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flage
1-Chlorooctane		97.8	100	98	70-135	
o-Terphenyl		56,9	50.0	114	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Vork Orders : 330355			Project II	D: Beeson Hi	istorical	
Lab Batch #: 756245	Sample: 330355-008 / SMP	ва	tch: <sup>1</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 18:07	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found  A	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1-Chlorooctane		129	100	129	70-135	
o-Terphenyl		57.4	50.0	115	70-135	
Lab Batch #: 756245	Sample: 330355-009 / SMP	Ba	tch: <sup> </sup> Matri	ix: Soil	•	
Units: mg/kg	Date Analyzed: 04/18/09 18:32	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found {A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags
1-Chlorooctane	Analytes	122	100	122	70-135	
o-Terphenyl		57.8	50.0	116	70-135	
Lab Batch #: 756245	Sample: 330355-010 / SMP	Ba	tch: 1 Matri	ix: Soil	J	
Units: mg/kg	Date Analyzed: 04/18/09 18:57	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found {A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		115	100	115	70-135	
o-Terphenyl		55.3	50.0	111	70-135	
Lab Batch #: 756245	Sample: 330355-011 / SMP	Ba	tch: <sup>1</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 19:46	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		95.9	100	96	70-135	
o-Terphenyl		55.6	50.0	111	70-135	
Lab Batch #: 756245	Sample: 330355-012 / SMP	Ba	tch:   Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 20:11	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found {A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		96.5	100	97	70-135	
o-Terphenyi		55.7	50.0	111	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 330355	5,		Project II	): Beeson Hi	istorical	
Lab Batch #: 756245	Sample: 330355-013 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 20:35	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
I-Chlorooctane	·	97.5	100	98	70-135	
o-Terphenyl		56.7	50.0	113	70-135	
Lab Batch #: 756245	Sample: 330355-014 / SMP	Ba	teh:   Matri	x: Soil	•	L.
Units: mg/kg	Date Analyzed: 04/18/09 21:00	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B]	Recovery %R  D	Control Limits %R	Flag
1-Chlorooctane		93.4	100	93	70-135	
o-Terphenyl	· · · · · · · · · · · · · · · · · · ·	53.2	50.0	106	70-135	
Lab Batch #: 756245	Sample: 330355-015 / SMP	Ba	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 21:26	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount jB}	Recovery %R [D]	Control Limits %R	Flag
I-Chlorooctane		128	100	128	70-135	L
o-Terphenyl		57.1	50.0	114	70-135	
Lab Batch #: 756245	Sample: 330355-016 / SMP	Ba	tch: <sup> </sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 21:51	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flag
1-Chlorooctane		114	100	114	70-135	
o-Terphenyl		57.9	50.0	116	70-135	L
Lab Batch #: 756245	Sample: 330355-017 / SMP	Ba	tch: <sup> </sup> Matri	x: Soil	•	
Units: mg/kg	Date Analyzed: 04/18/09 22:16	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		60.8	50.0	122	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

ork Orders : 330355	2		Project II	D: Beeson Hi	storical	
Lab Batch #: 756245	Sample: 330355-018 / SMP	Ba	tch: <sup>]</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 22:41	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chiorooctane		98.2	100	98	70-135	
o-Terphenyl		56.9	50.0	114	70-135	
Lab Batch #: 756245	Sample: 330355-019 / SMP	Bat	tch: <sup>1</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 23:07	SU	RROGATE RI	ECOVERY	STUDY	<u> </u>
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		95.7	100	96	70-135	
o-Terphenyl		55.6	50.0	111	70-135	
Lab Batch #: 756245	Sample: 330355-020 / SMP	Ba	tch: 1 Matri	x: Soil	•	
Units: mg/kg	Date Analyzed: 04/18/09 23:32	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	•	113	100	113	70-135	
o-Terphenyl		64.7	50.0	129	70-135	
Lab Batch #: 756245	Sample: 330355-007 S / MS	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/18/09 23:58	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount (B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	✓	109	100	109	70-135	
o-Terphenyl		51.3	50.0	103	70-135	
Lab Batch #: 756245	Sample: 330355-007 SD / M	ISD Bat	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 00:23	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags
	Analytes		}			
1-Chlorooctane		115	100	115	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 330355	9		Project II	<b>):</b> Beeson Hi	storical	
Lab Batch #: 756285	Sample: 8406396-1-BKS / E	BKS Ba	tch: <sup>1</sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/19/09 15:42	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		108	100	108	70-135	
o-Terphenyl		50.3	50.0	101	70-135	
Lab Batch #: 756285	Sample: 8406396-1-BSD / E	SD Ba	tch: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 04/19/09 16:07	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found  A	True Amount [B]	Recovery %R ^  D	Control Limits %R	Flags
1-Chlorooctane		111	100	111	70-135	
o-Terphenyl		52.0	50.0	104	70-135	
Lab Batch #: 756285	Sample: 8406396-1-BLK / I	BLK Ba	tch:   Matri	x: Solid	L	
Units: mg/kg	Date Analyzed: 04/19/09 16:32	SU	RROGATE RI	COVERY	STUDY	
TPH )	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		96.7	100	97	70-135	
o-Terphenyl		56.5	50.0	113	70-135	
Lab Batch #: 756285	Sample: 330355-021 / SMP	Ba	tch: 1 Matri	x: Soil	<u></u>	
Units: mg/kg	Date Analyzed: 04/19/09 16:56	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	- <b>v</b>	97.0	100	97	70-135	
o-Terphenyl		55.8	50.0	112	70-135	
Lab Batch #: 756285	Sample: 330355-022 / SMP	Ba	tch: ] Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 17:21	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flag
1.011	·		100	100	70.125	
I-Uniorooctane		109	100	109	1 /0-135 1	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 330355	5,		Project II	D: Beeson Hi	storical	
Lab Batch #: 756285	Sample: 330355-023 / SMP	Bat	tch: <sup>1</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 17:47	SU	RROGATE RI	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		96.8	100	97	70-135	<u> </u>
o-Terphenyl		56.1	50.0	112	70-135	
Lab Batch #: 756285	Sample: 330355-024 / SMP	Bat	tch:   Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 18:12	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		97.4	100	97	70-135	
o-Terphenyl		56.5	50.0	113	70-135	
Lab Batch #: 756285	Sample: 330355-025 / SMP	Bat	tch:   Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 18:37	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1-Chlorooctane		98.1	100	98	70-135	
o-Terphenyl		57.4	50.0	115	70-135	
Lab Batch #: 756285	Sample: 330355-026 / SMP	Bat	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 19:03	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Analytes	102	100	102	70-135	
o-Terphenyl		58.7	50.0	117	70-135	
Lab Batch #: 756285	Sample: 330355-027 / SMP	Bat	tch: <sup>1</sup> Matri	ix: Soil	<b>L</b>	
Units: mg/kg	Date Analyzed: 04/19/09 19:28	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found	True Amount	Recovery %R	Control Limits %R	Flags
	Analytes	[A]	IB)	[D]		1
1-Chlorooctane	Analytes	[A]	100	[D] [01	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

ork Orders : 330355			Project II	): Beeson Hi	storical	
Lab Batch #: 756285	Sample: 330355-028 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 19:53	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		96.9	100	97	70-135	
o-Terphenyl		56.5	50.0	113	70-135	
Lab Batch #: 756285	Sample: 330355-029 / SMP	Bat	tch:   Matri	x: Soil		
Units: mg/kg	Date Analyzed: 04/19/09 20:18	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
I-Chlorooctane		97.6	100	98	70-135	
o-Terphenyl		56.9	50.0	114	70-135	
Lab Batch #: 756285	Sample: 330355-030 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 04/19/09 20:43	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		98.9	100	99	70-135	
o-Terphenyl		57.5	50.0	115	70-135	
Lab Batch #: 756285	Sample: 330355-030 S / MS	Bat	tch: <sup>1</sup> Matri	x: Soil	<u></u>	
Units: mg/kg	Date Analyzed: 04/20/09 01:43	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R IDI	Control Limits %R	Flag
1-Chlorooctane	Analytus	114	100	114	70-135	
o-Terphenyl		52.3	50.0	105	70-135	
Lah Batch #: 756285	 Sample: 330355-030 SD / M	ISD Rai	tch:   Matri	x: Soil		L
Units: mg/kg	Date Analyzed: 04/20/09 02:09	SU.	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[1]		
1-Chlorooctane		118	100	118	70-135	
o- i erphenyi		54.6	50.0	109	/0-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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**BS / BSD Recoveries** 

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Project Name: Beeson 8" Discharge

Work Order #: 330355 Analyst: ASA Lab Batch ID: 756422

Units: mg/kg

Date Prepared: 04/20/2009 Batch #: 1

Sample: 528566-1-BKS

Project ID: Beeson Historical Date Analyzed: 04/20/2009 Matrix: Solid

BLANK /BLA

BTEX by EPA 8021B		Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk		Control	Control	
		Sample Result	Added	Spike	Spike	Added	Spike	Dup.	RPD	Limits	Limits	Flag
		[Y]		Result	%R		Duplicate	%R	%	%R	%RPD	
Analytes			[B]	C	[a]	[E]	Result [F]	[6]				
Benzene		Q	0.1000	0160.0	16	0.1	6060'0	16	0	70-130	35	
Toluene		Ð	0.1000	0.0877	88	0.1	0.0875	88	0	061-07	35	
Ethylbenzene		Ð	0.1000	0.0944	94	0.1	0.0944	94	0	71-129	35	
m,p-Xylenes		Ð	0.2000	0.1951	86	0.2	0.1947	<i>L</i> 6	0	20-135	35	
o-Xylene		QN	0.1000	0.0942	94	0.1	0.0933	93	1	71-133	35	
Analyst: ASA		Da	te Prepar	əd: 04/20/200	6			Date Ar	ıalyzed: 0	4/21/2009		
Lab Batch ID: 756442 Sam	ple: 528575-1-BI	ζS	Batch	1 :#1					Matrix: S	olid		
Units: mg/kg	L		BLAN	K /BLANK S	SPIKE / B	LANK S	PIKE DUPL	ICATE I	RECOVE	<b>ERY STUD</b>	Y	

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Lámits %R	Control Limits %RPD	Flag
Analytes	,	[B]	[C]	[0]	[E]	Result [F]	[6]				
Benzene	Ð	0.1000	0.0811	81	0.1	0.0811	81	0	0£1-02	35	
Toluene	QN	0.1000	0.0769	11	0.1	0.0767	11	0	70-130	35	
Ethylbenzene	Q	0.1000	0.0804	80	0.1	0.0805	81	0	71-129	35	
m,p-Xylencs	QN	0.2000	0.1661	83	0.2	0.1661	83	0	70-135	35	
o-Xylene	QN	0.1000	0.0795	80	0.1	0.0796	80	0	71-133	35	i

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 330355 Lab Batch ID: 756632 Analyst: ASA

Units: mg/kg

Sample: 528674-1-BKS

Date Prepared: 04/21/2009 Batch #: 1

**Project ID:** Beeson Historical Date Analyzed: 04/21/2009 Matrix: Solid

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** 

Flag

33 33 35

71-129 70-135 71-133

4 4 m

88 16 86

0.0878 0.1818 0.0858

83 88

0.0845 0.1755 0.0835

0.1000

Ð Ð £

Ethylbenzene m,p-Xylenes

0.2000 0.1000

0.2 0.1

0.1

84

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD
Analytes		B	[C]	[a]	[E]	Result [F]	[6]			
Benzene	Q	0.1000	0.0846	85	0.1	0.0873	87	3	70-130	35
Toluene	Ð	0.1000	1080.0	80	0.1	0.0833	83	4	70-130	35

Analyst: ASA

o-Xylene

Lab Batch ID: 756284

Units: mg/kg

Date Prepared: 04/17/2009 Batch #: 1 Sample: 8406394-1-BKS

Date Analyzed: 04/18/2009

Matrix: Solid

Y		Conterol
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RECOVE		
LICATE		DIL Sal
PIKE DUP		Blank
TANK S		5-11-2
PIKE / B		Blank
K /BLANK S		Blank
BLAN		دياندي
		Blank
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BTEX by EPA 8021B	Blank	Spike	Blank Setter	Blank	Spike	Blank	Blk. Spk	uaa	Control 1 inite	Control	Elon
	Sample Nesult	ngu ng	Result	%R	Agged	Duplicate	%R	%	%R	%RPD	
Analytes		[B]	lc]	[D]	[E]	Result [F]	[6]				
Benzene	Q	0.1000	0.0971	26	0.1	1660'0	66	. 2	20-130	35	
Toluene	Q	0.1000	0.0921	92	0.1	6£60'0	94	2	70-130	35	
Ethylbenzene	QN	0.1000	0.0974	97	0.1	0.0995	100	2	71-129	35	
m,p-Xylenes	Ð	0.2000	0.2022	101	0.2	0.2063	103	2	70-135	. 35	
o-Xylene	Ð	0.1000	0.0962	96	0.1	8860'0	66	3	71-133	35	

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

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XGN	Labora

**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Project ID: Beeson Historical

Date Analyzed: 04/18/2009

Matrix: Solid

Batch #: ]

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** Date Prepared: 04/17/2009 Spike Added 1000 1000 B Blank Sample Result Z Ð Ð Sample: 8406370-1-BKS TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Work Order #: 330355 Lab Batch ID: 756245 Units: mg/kg Analyst: BHW Analyst: BHW Analytes

Date Prepared: 04/19/2009

Batch #: 1

Sample: 8406396-1-BKS

Lab Batch ID: 756285

Date Analyzed: 04/19/2009 Matrix: Solid

35

0

1030

103

35

70-135 70-135

106 103

1060

1000 1000

105

1050 1030

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Flag

Limits %RPD

Control Limits %R

RPD %

Dup GR

Blank Spike Duplicate Result [F]

Spike Added

Blank Spike %R [D]

Blank Spike Result

Blk. Spk

Control

Flag Limits %RPD Control **BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** Control Limits %R RPD % Blk. Spk Dup G.R. Blank Spike Duplicate Result [F] Spike Added Ξ Blank Spike %R [D] Blank Spike Result [C] Spike Added 1000 E Sample Result Blank **V** TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons Units: mg/kg Analytes

35

m

107 105

1070

1000 1000

104

1040 1020

Ð Ð

35

70-135 70-135

m

1050

102

1000

C12-C28 Diesel Range Hydrocarbons

Blank Spike Duplicate Recovery [G] = 100\*(F)(E] All results are based on MDL and Validated for QC Purposes Relative Percent Difference RPD = 200\* (C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B]



Project Name: Beeson 8" Discharge



Work Order #: 330355

Date Analyzed: 04/18/2009 Lab Batch ID: 756284

Matrix: Soil -Analyst: ASA Batch #:

QC- Sample ID: 330355-007 S

Date Prepared: 04/17/2009

Project ID: Beeson Historical

Reporting Units: mg/kg			ATRIX SPIK	E / MAT	RIX SPII	KE DUPLICA'	TE REC	<b>DVERY</b>	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample Denute (FI	Spiked Dup. 0.D	RPD %	Control Limits •612	Control Limits • <a>Limits</a>	Flag
Analytes	[Y]	B	5	ā	(E)		[6]	•	<b>NI</b> 0/		
Benzene	Ð	0.1088	0.0815	75	0.1088	0.0775	11	5	70-130	35	
Toluene	Q	0.1088	0.0760	70	0.1088	0.0714	<u>66</u>	6	70-130	35	×
Ethylbenzene	0.0024	0.1088	0.0784	70	0.1088	0.0720	64	6	71-129	35	×
m,p-Xylenes	0.0028	0.2177	0.1596	72	0.2177	0.1468	<b>66</b>	∞	70-135	35	×
o-Xylene	ND	0.1088	0.0754	69	0.1088	0.0698	64	8	71-133	35	х
Lab Batch ID: 756422 Date Analyzed: 04/20/2009	QC- Sample ID: Date Prepared:	330555 04/20/2	5 I 00- S I 00-	Ba An	tch #: alyst: /	l Matrix ASA	c: Soil				
D		1									ſ

		W	A I KIX SPINI	5 / MAT	KIX SFII	AF DUPLICAL	E RECC	VERY S			
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Llmits %R	Control Limits %RPD	Flag
Benzene	Ð	0.1007	0.0693	69	0.0999	0.0670	67	e	70-130	35	×
Tohuene	QN	0.1007	0.0612	61	0.0999	0.0584	58	s	70-130	35	×
Ethylbenzene	Ð	0.1007	0.0570	57	0.0999	0.0548	55	4	71-129	35	×
m,p-Xylencs	Ð	0.2014	0.1158	57	0.1998	0.1108	55	4	70-135	35	×
o-Xylene	Ð	0.1007	0.0554	55	0.0999	0.0538	54	'n	71-133	35	×

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit









Date Analyzed: 04/21/2009 Lab Batch ID: 756442 Work Order #: 330355

Analyst: ASA Batch #: QC- Sample ID: 330355-027 S Date Prepared: 04/20/2009

Matrix: Soil -

Project ID: Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIKI	E / MAT	RIX SPI	KE DUPLICA	TE RECO	OVERY S	STUDY		
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes		Added [B]	5	N M M	Added [E]	Kesult [F]	<u>6</u>	*	Х%	%KPD	
Benzene	QN	0.1293	0.0819	63	0.1293	0.0867	67	و	70-130	35	х
Toluene	QN	0.1293	0.0752	85	0.1293	064.0.0	61	5	70-130	35	x
Ethylbenzene	ΟN	0.1293	0.0778	09	0.1293	0.0835	65	7	71-129	35	x
m, p-Xylenes	QN	0.2587	0.1172	45	0.2587	0.1201	46	2	70-135	35	х
o-Xylene	QN	0.1293	0.0767	59	0.1293	0.0814	63	6	71-133	35	х
Lab Batch ID: 756632 Date Analyzed: 04/22/2009	QC- Sample ID: Date Prepared:	330466 04/21/2	00 S	Ba An	tch #: alyst:	l Matrix ASA	:: Soil				

Reporting Units: mg/kg		M	ATRIX SPIKI	E / MAT	RIX SPII	KE DUPLICA'	FE RECO	<b>DVERY</b>	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result IFI	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[ <b>A</b> ]	[B]		[0]	[E]		[6]				
Benzene	QN	0.1126	0.0617	55	0.1126	0.0627	56	2	70-130	35	x
Toluene	DN	0.1126	0.0598	53	0.1126	0.0612	54	2	70-130	35	х
Ethylbenzene	QN	0.1126	0.0652	58	0.1126	0.0662	59	2	71-129	35	x
m,p-Xylenes	DN	0.2252	0.1341	60	0.2252	0.1364	61	2	70-135	35	х
o-Xviene	QN	0.1126	0.0587	52	0.1126	0.0604	54	m	71-133	35	Х

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, J = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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Date Analyzed: 04/18/2009 Lab Batch ID: 756245 Work Order #: 330355

Matrix: Soil BHW -Batch #: Analyst: QC- Sample ID: 330355-007 S Date Prepared: 04/17/2009

Project ID: Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIKI	E / MAT	RIX SPII	KE DUPLICA	TE RECO	<b>DVERY</b> 5	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	5	8% [0]	Added [E]	Result [F]	%R [G]	%	%К	%RPD	
C6-C12 Gasoline Range Hydrocarbons	QN	1090	1120	103	1090	1180	108	s	70-135	35	
C12-C28 Diesel Range Hydrocarbons	89.4	1090	1120	95	1090	1200	102	7	70-135	35	
Lab Batch ID: 756285 Date Analyzed: 04/20/2009	C- Sample ID: Date Prepared:	330355- 04/19/20	030 S 09	Ba An	tch #: alyst:	l Matris 3HW	c: Soil				
Reporting Units: mg/kg		W	ATRIX SPIKI	E / MAT	RIX SPII	KE DUPLICA'	TE RECO	<b>DVERY 5</b>	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sampte Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag

35 33 70-135 70-135 4 4 <u>ច</u> 119 117 1410 1380 1180 1180 Ξ ā 115 113 1330 1360 1180 B 1180 Z Ð Ð C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Analytes

Matrix Spike Percent Recovery [D] = 100°(C-A)B Relative Percent Difference RPD = 200°(C-F)(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit




#### **Project Name: Beeson 8" Discharge**

Work Order #: 330355

Lab Batch #: 756185			<b>Project I</b>	D: Beeson H	listorical
Date Analyzed: 04/17/2009 Date Pr	epared: 04/1	17/2009	Analy	st: BEV	
QC- Sample ID: 330355-001 D	Batch #:	l	Matr	ix: Soil	
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		B			
Percent Moisture	7,31	7.60	4	20	
Lab Batch #: 756187					
Date Analyzed: 04/17/2009 Date Pr	epared: 04/	17/2009	Analy	st: BEV	
QC- Sample ID: 330355-021 D	Batch #: 1	l	Matr	ix: Soil	
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.90	7.38	7	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.

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Variance/ Corrective Action Rep	port- Sampl	le Log-In		
Client: Plaine / Rosin		•		
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Lab ID #: 330355	•••	• •	and the second second	• • • •
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Sample Receipt	Checklist	•.		
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#1 Temperature of container/ cooler?	(Yes)	No		
Snipping container in good condition?r	(Yes)	NO	· · · · · · · · · · · · · · · · · · ·	
44 Custody Seals intact on sample bottles/ container/ 2/ 1-11	(Yee)	'NO?'	Not Present	<u></u> • • • • •
#5 Chain of Custody oresent?	(Yes	No	NUL PRESENT	<u> </u> ; · · · ·
#6 Sample instructions complete of Chain of Custody?	Yes	No	<u>.</u>	<u> </u>
#7 Chain of Custody signed when relinguished/ received?	(Yes>)	No		
#8 Chain of Custody agrees with sample label(s)?	(Yes)	No	· ID written on Cont / Lid	· · · · · · · · · · · · · · · · · · ·
#9 Container label(s) legible and Intact?	Man I	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	Tes	No		
#11 Containers supplied by ELOT?	70005	No		
#12 Samples in proper container/ bottle?	(Yes)	No	<ul> <li>See Below</li> </ul>	
#13 Samples properly preserved?	(Yes)	No	See Below	
#14 Sample bottles intact?	1 des	No		ا ــــ
#15. Preservations documented on Chain of Custody?	Ser 1	NO No	all the second	<u> </u>
#10 Containers documented on Chain of Custody?	C105-	NO /	Can Dalaus	<u></u>
#18 All samples received within sufficient hold time?	TAN	No	See Balow	<u> </u>
#19' Subcontract of sample(s)?	Yes	'No	(Not Applicable	<u> </u>
#20 VOC samples have zero headspace? ****	(Yes)	No	Not Applicable	<b>,</b> .
	 , .	 		
Variance Docum	nentation			
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Contacted by:			- Date/ Time:	· <u>····</u> ·········
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Check all that Apply II See attached e-mail/ fax		•	· · ·	
Client understands and would	d like to prov	ceed with	analysis	
Cooling process had begun i	shortly after	sampling	event	
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# Analytical Report 338241

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge

**TNM-Beeson Hist.** 

22-JUL-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Houston - Dallas - San Antonio - Tampa - Miami - Midland - Corpus Christi - Atlanta - Latin America



22-JUL-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 338241 Beeson 8" Discharge Project Address: Eddy Co., NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 338241. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 338241 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



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### Sample Cross Reference 338241

## PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1	S	Jul-16-09 08:30		338241-001
SP-2	S	Jul-16-09 10:30		338241-002
SP-3	S	Jul-16-09 13:00		338241-003

### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: TNM-Beeson Hist. Work Order Number: 338241

Report Date: 22-JUL-09 Date Received: 07/17/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-765833 Percent Moisture None

Batch: LBA-765898 BTEX-MTBE EPA 8021B SW8021BM

Batch 765898, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by reanalysis. Samples affected are: 533884-1-BLK,338241-001. 4-Bromofluorobenzene recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 53384-1-BKS.

Batch: LBA-766045 BTEX-MTBE EPA 8021B SW8021BM

Batch 766045, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 338241-003. The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 766045, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 338241-003. 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 533980-1-BLK. 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 338241-003. 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples

4-Bromofluorobenzene recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 533980-1-BKS, 533980-1-BSD

### CASE NARRATIVE



.

Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: TNM-Beeson Hist. Work Order Number: 338241

Report Date: 22-JUL-09 Date Received: 07/17/2009

Batch: LBA-766215 TPH by SW8015 Mod None



Contact: Jason Henry

Certificate of Analysis Summary 338241 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Beeson 8" Discharge

Date Received in Lab: Fri Jul-17-09 09:00 am Report Date: 22-JUL-09

Project Location: Eddy Co., NM					Report Date: 22-JUL-09	
		100 11 0000			Project Manager: Brent Barron, II	
	Lab Id:	338241-001	338241-002	338241~003		
Analucie Donnord	Field Id:	SP-1	SP-2	SP-3		
naicanhau cicliniit	Depth:					
	Matrix:	SOIL	SOIL	SOIL		
	Sampled:	05:30 00-3 t-tut	Jul 6-09 10:30	Jul-16-09 13:00		
BTEX hv EPA 8021R	Extracted:	Jul-19-09 13:00	Jul-19-09 13:00	Jul-19-09 13:00		
	A nalyzed:	Jul-20-09 00:02	Jul-20-09 00:20	Jul-20-09 02:29		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		ND 0.0012	ND 0.0012	ND 0.0307		
Toluene		ND 0.0025	ND 0.0025	ND 0.0615		
Ethylbenzene		ND 0.0012	ND 0.0012	0.0587 0.0307		ĺ
m,p-Xylenes		ND 0.0025	0.0030 0.0025	0.3357 0.0615		
o-Xylcnc		ND 0.0012	ND 0.0012	0.1107 0.0307		
Total Xylenes		ND 0.0012	0.003 0.0012	0.4464 0.0307		
Total BTEX		ND 0.0012	0.003 0.0012	0.5051 0.0307		
Percent Moisture	Extracted:					
	A nalyzed:	Jul-20-09 09:38	Jul-20-09 09:38	Jul-20-09 09:38		
	Units/RL:	% RL	% RL	% RL		
Percent Moisture		19.03 1.00	19.55 1.00	18.68 1.00		
TPH Rv SW8015 Mod	Extracted:	Jul-21-09 09:48	Jul-21-09 09:48	Jul-21-09 09:48		
	A nalyzed:	Jul-21-09 13:59	Jul-21-09 14:24	Jul-21-09 14:49		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		ND 18.5	27.4 18.6	168 92.1		
C12-C28 Diesel Range Hydrocarbons		118 18.5	580 18.6	1280 92.1		
C28-C35 Oil Range Hydrocarbons		44.1 18.5	116 18.6	231 92.1		
Total TPH		162.1 18.5	723.4 18.6	1679 92.1		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential tae. The interpretations and results expressed throughout thin analytical tropert represent the basi typenent of XENCO Laboratorica. XENCO Laboratories assumes no responsibility and marks no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9110



Project Name: Beeson 8" Discharge

ork Orders : 338241	533884-1-BKS / B	KS Pa	Project II	): TNM-Bee	son Hist.	
Units: mg/kg	Date Analyzed: 07/19/09 22:30	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I,4-Difluorobenzene		0.0311	0.0300	104	80-120	
4-Bromofluorobenzene		0.0371	0.0300	124	80-120	•
Lab Batch #: 765898	Sample: 533884-1-BSD / B	SD Bai	tch: 1 Matri	x: Solid	L	
Units: mg/kg	Date Analyzed: 07/19/09 22:49	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0308	0.0300	103	80-120	
4-Bromofluorobenzene		0.0352	0.0300	117	80-120	
Lab Batch #• 765898	Sample: 533884-1-BLK / B	LK Bai	tch: l Matri	x: Solid	·	
Units: mg/kg	Date Analyzed: 07/19/09 23:25	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0133	0.0300	44	80-120	٠
Lab Batch #: 765898	Sample: 338241-001 / SMF	' Bat	tch: 1 Matri	x: Soil	·	
Units: mg/kg	Date Analyzed: 07/20/09 00:02	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount (B)	Recovery %R	Control Limits %R	Flag
1450	Analytes			[D]		
4-Bromofluorobenzene		0.0269	0,0300	90 52	80-120	*
		0.0150	0.0500		00-120	
Lab Batch #: /03898	Sample: 338241-0027 SMI		RPOCATE RI	COVERV	STUDY	
Units: mg/kg	Date Analyzed: 07/20/09 00:20	30				
			I True	1	Control	1
BTE	A palvtes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flag
BTE	X by EPA 8021B Analytes	Amount Found [A]	0.0300	Recovery %R [D] 85	Limits %R 80-120	Flag

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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## Project Name: Beeson 8" Discharge

ork Orders : 338241 Lab Batch #: 765898	, Sample: 338241-003 / SMF	' Bat	Project II tch: 1 Matri	: TNM-Bee x: Soil	son Hist.	
Units: mg/kg	Date Analyzed: 07/20/09 02:29	SU	RROGATE RE	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0246	0.0300	82	80-120	
4-Bromofluorobenzene		0.0341	0.0300	114	80-120	
Lab Batch #: 766045	Sample: 533980-1-BKS / B	KS Bat	tch: l Matri	x: Solid		
Units: mg/kg	Date Analyzed: 07/20/09 18:07	SU	RROGATE RE	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0308	0.0300	103	80-120	
4-Bromofluorobenzene		0.0382	0.0300	127	80-120	*
Lab Batch #: 766045	Sample: 533980-1-BSD / E	SD Bai	tch: <sup>1</sup> Matri	x: Solid	1	
Units: mg/kg	Date Analyzed: 07/20/09 18:25	SU	RROGATE RE	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0327	0.0300	109	80-120	
4-Bromofluorobenzene		0.0376	0.0300	125	80-120	*
Lab Batch #: 766045	Sample: 533980-1-BLK / E	LK Ba	tch: <sup>1</sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 07/20/09 19:02	<u></u> şū	RROGATE RE	COVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			(U)		
1,4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0161	0.0300	54	80-120	-
Lab Batch #: 766045	Sample: 338241-003 / DL	Bar	tch: 1 Matri	x: Soil	CTUDV	
Units: mg/kg	Date Analyzed: 07/20/09 21:30	50	RRUGATE RI	LUVERT		
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4.Diffuorobenzene				<u> </u>		**
1,7*Dinaoroocnzone		0.0223	0.0300	74	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.

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### Project Name: Beeson 8" Discharge

'ork Orders : 338241,	Sample: 338034-001 S / M	S Ba	Project II	D: TNM-Bee	son Hist.	
Units: mg/kg	Date Analyzed: 07/20/09 21:49	SU SU	RROGATE RI	ECOVERY	STUDY	
BTEX	by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [Đ]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0287	0.0300	96	80-120	
Lab Batch #: 766045	Sample: 338034-001 SD / N	VISD Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/20/09 22:07	SU	RROGATE RI	ECOVERY	STUDY	
BTEX	Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene		0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0291	0.0300	97	80-120	
Lab Batch #: 766215	Sample: 534063-1-BKS / B	KS Ba	tch: ] Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 07/21/09 11:02	SU	RROGATE RI	ECOVERY	STUDY	
ТРН В	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		101	100	101	70-135 70-135	
o-Terphenyl		45.4	50.0	91		
Lab Batch #: 766215	Sample: 534063-1-BSD / B	SD Ba	tch: 1 Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 07/21/09 11:28	SU	RROGATE RI	ECOVERY	STUDY	
ТРН В	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flag
I-Chlorooctane		104	100	104	70-135	
o-Terphenyl		44.9	50.0	90	70-135	
Lab Batch #: 766215	Sample: 534063-1-BLK / B	LK Ba	tch: l Matri	ix: Solid	1	L
Units: mg/kg	Date Analyzed: 07/21/09 11:53	SU	RROGATE R	ECOVERY	STUDY	
ТРН В	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytas			[D]		
	Analytes	00.3	100	[D] 90	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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### Project Name: Beeson 8" Discharge

<b>/ork Orders :</b> 338241 Lab Batch #: 766215	, Sample: 338241-001 / SMP	Rati	Project II	D: TNM-Bee	son Hist.	
Units: mg/kg	Date Analyzed: 07/21/09 13:59	SUI	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		91.0	99.7	91	70-135	
o-Terphenyl		49.2	49.9	99	70-135	
Lab Batch #: 766215	Sample: 338241-002 / SMP	Bat	ch:   Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 07/21/09 14:24	SUI	RROGATE R	ECOVERY	STUDY	· · · ·
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		93.4	99.8	94	70-135	
o-Terphenyl		49.9	49.9	100	70-135	
Lab Batch #: 766215	Sample: 338241-003 / SMP	Bat	ch: l Matr	ix: Soil	•	
Units: mg/kg	Date Analyzed: 07/21/09 14:49	SUI	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		87.7	99.9	88	70-135	
o-Terphenyl		46.2	50.0	92	70-135	
Lab Batch #: 766215	Sample: 338237-003 S / MS	Bat	ch: <sup>1</sup> Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 07/21/09 17:46	SUI	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount jBj	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		103	99.9	103	70-135	
o-Terphenyl		43.3	50.0	87	70-135	
Lab Batch #: 766215	Sample: 338237-003 SD / N	ISD Bat	ch: 1 Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 07/21/09 18:12	SUI	RROGATE R	ECOVERY	STUDY	
Трн	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Allalyles	-				
I-Chlorooctane	Analytes	106	100	106	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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**BS / BSD Recoveries** 

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Project Name: Beeson 8" Discharge

Work Order #: 338241 Lab Batch ID: 765898 Units: mg/kg Analyst: ASA

Date Prepared: 07/19/2009

Batch #: ]

Sample: 533884-1-BKS

Date Analyzed: 07/19/2009 Matrix: Solid

Project ID: TNM-Beeson Hist.

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BTEX by EPA 8021B		Blank Somolo Docult	Spike	Blank Snibe	Blank Snite	Spike	Blank Snike	Blk. Spk	nga	Control 1 imite	Control Limits	Flac
	1	Incon June Control	nanne	Result	%R		Duplicate	%R	%	%R	%RPD	0
Analytes			[8]	<u>כ</u>	[ <b>Q</b> ]	[E]	Result [F]	[G]				
Benzene		QN	0.1000	0.0940	94	0.1	0.0869	87	8	10-130	35	
Tolucne		Q	0.1000	0.0905	16	0.1	0.0833	83	8	70-130	35	
Ethylbenzene		QN	0.1000	0.1031	103	0.1	0.0942	· 94	6	71-129	35	
m,p-Xylenes		QN	0.2000	0.2066	103	0.2	0,1891	95	6	70-135	35	
o-Xylene		DN	0.1000	0.0978	98	0.1	0.0897	06	6	71-133	35	
Analyst: ASA Lab Batch ID: 766045 Sampl Units: mg/kg	le: 533980-1-BK	De S	ate Prepar Batch BLAN	ed: 07/20/200 1#: 1 K/BLANK S	9 SPIKE / F	I ANK S	PIKE DUPI	Date A	nalyzed: 0 Matrix: S RECOVF	7/20/2009 tolid SRY STUD	Y	

Flag Control Limits %RPD 35 35 35 35 35 Control Limits %R 70-130 70-130 71-129 70-135 71-133 RPD % ы 0 0 Dup. 6G 11 89 90 85 77 Blank Spike Duplicate Result [F] 0.0850 0.0772 0.0894 0.1808 0.0767 Spike Added 0.1 Ξ 0.2 0.1 5 0.1 Blank Spike %R [D] 76 2 89 8 85 Blank Spike Result [C] 0.0756 0.0889 0.1804 0.0850 0.0759 0.2000 Spike Added 0.1000 0.1000 0.1000 0.1000 [B] Blank Sample Result [A] Q Q Q g £ Analytes Ethylbenzene m.p-Xylenes o-Xylene Tolucne Benzene

Blk. Spk

BTEX by EPA 8021B

Relative Percent Difference RPD = 200\*((C-F)/(C+F)) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



**BS / BSD Recoveries** 

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Project Name: Beeson 8" Discharge

**Project ID:** TNM-Beeson Hist. Date Analyzed: 07/21/2009

Matrix: Solid

**BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** Date Prepared: 07/21/2009 Batch #: ] Sample: 534063-1-BKS Work Order #: 338241 Lab Batch ID: 766215 Units: mg/kg Analyst: BHW

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	gali
Analytes		[ <b>n</b> ]		5	[12]		5				
C6-C12 Gasoline Range Hydrocarbons	ND	1000	826	83	1000	845	85	2	70-135	35	
C12-C28 Dicsel Range Hydrocarbons	QN	1000	987	66	0001	1010	101	2	70-135	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes





**Project Name: Beeson 8" Discharge** 



Date Analyzed: 07/20/2009 Lab Batch ID: 766045 Work Order #: 338241

Matrix: Soil -ASA Analyst: Batch #:

QC- Sample ID: 338034-001 S

Date Prepared: 07/20/2009

Project ID: TNM-Beeson Hist.

Reporting Units: mg/kg		Z	ATRIX SPIKI	E / MAT	RIX SPI	KE DUPLICA'	TE RECO	<b>VERY</b>	STUDY		Γ
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Dupficate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Insan [A]	Added [B]	2	¥ [0]	Added	Kesult [F]	¥ 0	\$	Х%	%KPU	
Benzene	0.0020	0.1010	0.0434	41	0.1010	0.0468	44	œ	70-130	35	х
Tolucne	ND	0.1010	0.0252	25	0.101.0	0.0275	27	6	70-130	35	х
Ethylbenzene	DN	0101/0	0.0157	91	0101'0	0.0168	17	7	71-129	35	х
m,p-Xylcncs	ŊŊ	0.2019	0.0299	15	0.2019	0.0320	16	7	70-135	35	х
o-Xylcnc	DN	0.1010	0.0137	14	0.1010	0.0148	15	8	71-133	35	х
Lab Batch ID: 766215 Date Analyzed: 07/21/2009	CC- Sample ID: Date Prepared:	338237. 07/21/2	-003 S 009	Ba An	tch #: alyst:	l Matrix BHW	c Soil				

Reporting Units: mg/kg		W	ATRIX SPIKI	(/ MATI	RIX SPIE	KE DUPLICA'	fe reco	<b>DVERY S</b>	TUDY		1
TPH By SW8015 Mod	Parent Samole	Snike	Spiked Sample Result	Spiked Samule	Snike	Duplicate Sniked Samule	Spiked	RPD	Control Limits	Control 1 Imits	
	Result	Added		%R	Added	Result [F]	%R	%	%R	%RPD	
Analytes	[Y]	[B]		[0]	[E]		[G]				
C6-C12 Gasoline Range Hydrocarbons	911	1290	1260	68	1290	1310	93	4	70-135	35 .	

Flag

35

70-135

m

120

1970

1290

124

2030

1290

428

C12-C28 Dicsel Range Hydrocarbons

Matrix Spike Percent Recovery [D] = 100°(C-A)/B Relative Percent Difference RPD = 200°((C-F)(C+F))

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested. I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Page 14 of 17



# Sample Duplicate Recovery



### Project Name: Beeson 8" Discharge

Work Order #: 338241

Lab Batch #: 765833		Projec	et ID: TNM-B	eeson Hist.
Date Analyzed: 07/20/2009	Date Prepared: 07/2	.0/2009 An	alyst: BEV	
QC- Sample ID: 338241-001 D	Batch #: 1	М	atrix: Soil	
Reporting Units: %	SAMPLE	SAMPLE DUPL	ICATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate RPD Result	Control Limits %RPD	Flag
Analyte		[ <b>B</b> ]		
Percent Moisture	19.0	19.8 4	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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Sample Instructions complete of Chain of Custody?	(.Tes	'No'		I	
Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		<b></b> .	. ••
Chain of Custody agrees with sample label(s)?	Yès	<u>No' 🤉</u>	ID written on Cont / Lk	<u>                                      </u>	, ₹ <sup>1</sup>
Container tabel(s) legible and intact?	CYES	No	Not Applicable		·
0 Sample matrix/ properties agree with Chain of Custody?	Yes	<u>No (.</u>		<u> </u>	
1 Containers supplied by ELOT?		No	1		• •
2 Samples in proper container/ bottle?	Ves	No .	See Below	<u> </u>	••••
3 Samples properly preserved?	. (185)	No	See Below		
4 Sample bottles intact?	Yes	NO F			∧
5 Preservations documented on Chain of Custody?	(Yes	NO 75			* *
6. Containers documented on Chain of Custody?	1 208	NO			
/ Suncient sample amount for indicated test(s)?	- Cres		See Below	·	
o All samples received within sufficient hold time?	<u>Cles</u>	NO *	See Below	ti i i i i i i i i i i i i i i i i i i	•
9 Subcontract of sample(5)7.	Tes		Not Applicable		<u>,</u> , , , ,
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heck all that Apply: See attached e-mail/ fax	•				÷.
Client understands and wor	uid like to pro	ceed with	analysis	•	
Cooling process had begur	h shortly after	sampling	event	•	
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# Analytical Report 338461

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

**Beeson 8" Discharge** 

**TNM-Beeson Hist** 

24-JUL-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

 Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
 New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Houston - Dallas - San Antonio - Tampa - Miami - Midland - Corpus Christi - Atlanta - Latin America



24-JUL-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 338461 Beeson 8" Discharge Project Address: Eddy Co, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 338461. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 338461 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

**Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.** Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America





## Sample Cross Reference 338461

### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP # 4	S	Jul-20-09 11:00		338461-001
SP # 5	S	Jul-20-09 11:10		338461-002
SP # 6	S	Jul-20-09 11:20		338461-003

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: TNM-Beeson Hist Work Order Number: 338461 Report Date: 24-JUL-09 Date Received: 07/21/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-766139 Percent Moisture AD2216A Batch 766139, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity. Samples affected are: 338461-002, -003, -001.

Batch: LBA-766215 TPH by SW8015 Mod None

Batch: LBA-766465 BTEX-MTBE EPA 8021B SW8021BM

Batch 766465, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by reanalysis. Samples affected are: 534181-1-BLK

Batch 766465, 4-Bromofluorobenzene recovered below QC limits Data confirmed by re-analysis. Samples affected are: 338461-002.

Batch 766465, 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 338461-003.

-	Hist
I	NM-Beeson
05	set Id: T
<b>CENC</b>	Proje

Contact: Jason Henry

Certificate of Analysis Summary 338461 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Tue Jul-21-09 08:50 am

Report Date: 24-JUL-09

Project Location: Eddy Co, NM					Report Date: 24-JUL-09	
					Project Manager: Brent Barron, Il	
	Lab Id:	338461-001	338461-002	338461-003		
Analysis Dogustad	Field Id:	SP # 4	SP # 5	SP#6		
naicanhau ciclinuu	Depth:					
	Matrix:	SOIL	SOIL	SOIL		
	Sampled:	Jul-20-09 11:00	Jul-20-09 11:10	Jul-20-09 11:20		
BTEX hv EPA 8021B	Extracted.	Jul-23-09 16:00	Jul-23-09 16:00	Jul-23-09 16:00		
	Analyzed:	Jul-23-09 18:15	Jul-23-09 18:34	Jui-23-09 18:52		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		ND 0.0015	1100'0 CIN .	ND 0.0010		
Tolucne		ND 0.0029	ND 0.0021	ND 0.0021		
Ethylbenzene		0.0027 0.0015	1100.0 UN	0.0456 0.0010		
m,p-Xylenes		0.0065 0.0029	ND 0.0021	0.0869 0.0021		
o-Xylene		ND 0.0015	ND 0.0011	0.1475 0.0010		
Total Xylencs		0.0065 0.0015	1100'0 CN	0.2344 0.0010		
Total BTEX		0.0092 0.0015	ND 0.0011	0.28 0.0010		
Percent Moisture	Extracted:					
	Analyzed:	Jul-22-09 09:48	Jul-22-09 09:48	Jul-22-09 09:48		
	Units/RL:	% RL	% RL	% RL		
Percent Moisture		31.30 1.00	4.94 1.00	3.70 1.00		
TPH Bv SW8015 Mod	Extracted:	Jul-21-09 12:37	Jul-21-09 12:37	Jul-21-09 12:37		
	Analyzed:	Jul-21-09 16:05	Jul-21-09 16:56	Jul-21-09 17:21		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		601 QN	ND 78.9	289 77.8		
C12-C28 Diesel Range Hydrocarbons		2040 109	1020 78.9	3560 77.8		
C28-C35 Oil Range Hydrocarbons		428 109	273 78.9	583 77.8		
Total TPH		2468 109	1293 78.9	4432 77.8		

This analytical report, and the entite data package it represents, has been made for your exclusive and confidentiat use. The interpretations and reanits expressed throughout this analytical report represent the beer judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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Project Name: Beeson 8" Discharge

Work Orders : 338461, Lab Batch #: 766465     Project ID: TNM-Beeson Hist       Units: mg/kg     Date Analyzed: 07/23/09 16:24     Batch:     I     Matrix: Solid       BTEX by EPA 8021B     Amount     True     I     I					
Date Analyzed: 07/23/09 16:24	SUI	RROGATE RE	COVERY	STUDY	
K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R IDJ	Control Limits %R	Flags
Analytes	0.0317	0.0300	1-1	80.120	
	0.0338	0.0300	113	80-120	
Sec. 15, 534181 1 BSD / P		0.0300	· Salid		
Date Analyzed: 07/23/09 16:42	SD Dau SU	RROGATE RE	COVERY	STUDY	
X by EPA 8021B	Amount Found  A	True Amount  B	Recovery %R	Control Limits %R	Flags
Analytes			Int		
	0.0316	0.0300	105	80-120	<b> </b>
	0.0349	0.0300	110	80-120	·
Sample: 534181-1-BLK / B	LK Bat	tch: 1 Matri	x: Solid	~~~*	
Date Analyzed: 07/23/09 17:20	SU	RROGATE RE	COVERY :	STUDY	
K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	0.0281	0.0300	94	80-120	*
<u> </u>	0.0122	0.0300	41	80-120	
Sample: 338461-001 / SMF	MP Batch: 1 Matrix: Soil			<u></u>	
Date Analyzed: 07/23/09 18:15	SU	RROGATE RF	COVERY S	STUDY	
X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
	0.0271	0.0300	90	80-120	
	0.0303	0.0300	101	80-120	
	<u> </u>	· · · · · · · · · · · · · · · · · · ·			
Sample: 338461-002 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil	<u> </u>	
Sample: 338461-002 / SMF Date Analyzed: 07/23/09 18:34	Bat	tch: <sup>1</sup> Matri RROGATE RE	x: Soil	STUDY	
Sample: 338461-002 / SMF Date Analyzed: 07/23/09 18:34 X by EPA 8021B	Bat SU Amount Found [A]	tch: 1 Matri RROGATE RI True Amount [B]	x: Soil COVERY S Recovery %R ID]	STUDY Control Limits %R	Flags
Sample: 338461-002 / SMF Date Analyzed: 07/23/09 18:34 X by EPA 8021B Analytes	Amount Found [A]	tch: 1 Matri RROGATE RH True Amount [B]	x: Soil COVERY S Recovery %R [D] 03	STUDY Control Limits %R	Flags
	, Sample: 534181-1-BKS / B Date Analyzed: 07/23/09 16:24 X by EPA 8021B Analytes Sample: 534181-1-BSD / B Date Analyzed: 07/23/09 16:42 X by EPA 8021B Analytes Sample: 534181-1-BLK / E Date Analyzed: 07/23/09 17:20 X by EPA 8021B Analytes Sample: 338461-001 / SMF Date Analyzed: 07/23/09 18:15 X by EPA 8021B Analytes	Sample:       534181-1-BKS / BKS       Bat         Date Analyzed:       07/23/09 16:24       SU         K by EPA 8021B       Amount Found  A        Amount Found  A          Analytes       0.0317       0.0338         Sample:       534181-1-BSD / BSD       Bat         Date Analyzed:       07/23/09 16:42       SU         K by EPA 8021B       Amount Found  A        Amount Found         Analytes       0.0316       0.0349         Sample:       534181-1-BLK / BLK       Bat         Date Analyzed:       07/23/09 17:20       SU         X by EPA 8021B       Amount Found  A        Bat         Date Analyzed:       07/23/09 17:20       SU         X by EPA 8021B       Amount Found  A        Analytes         0.0281       0.0122       Sample:         Sample:       338461-001 / SMP       Bat         Date Analyzed:       07/23/09 18:15       SU         X by EPA 8021B       Amount Found  A        Amount Found  A          Analytes       0.0271       0.0303	, Project IE Sample: 534181-1-BKS / BKS Date Analyzed: 07/23/09 16:24 SURROGATE RE SURROGATE RE SURROGATE RE SURROGATE RE 0.0317 Analytes 0.0317 0.0300 0.0338 0.0300 Sample: 534181-1-BSD / BSD Date Analyzed: 07/23/09 16:42 SURROGATE RE SURROGATE RE SUR	, Project ID: TNM-Bee Sample: 534181-1-BKS / BKS Date Analyzed: 07/23/09 16:24 SURROGATE RECOVERY S SURROGATE RECOVERY S Analytes 0.0317 0.0300 106 0.0338 0.0300 113 Sample: 534181-1-BSD / BSD Date Analyzed: 07/23/09 16:42 SurrOGATE RECOVERY S SurrOGATE RECOVER	, Project ID: TNM-Beeson Hist Batch: 1 Matrix: Solid Date Analyzed: 07/23/09 16:24 SURROGATE RECOVERY STUDY (by EPA 8021B Analytes 0.0317 0.0300 106 80-120 0.0338 0.0300 113 80-120 0.0338 0.0300 113 80-120 0.0338 0.0300 113 80-120 0.0300 113 80-120 0.0300 113 80-120 0.0300 113 80-120 0.0300 114 80-120 0.0300 105 80-120 Control Limits %R Control Limits

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

<b>ork Orders :</b> 338461	, Sample: 338461-003 / SMP	) Rai	Project II	): TNM-Bee	son Hist	
Units: mg/kg	Date Analyzed: 07/23/09 18:52	SU	RROGATE RE	ECOVERY	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0261	0.0300	87	80-120	
4-Bromofluorobenzene		0.2008	0.0300	669	80-120	**
Lab Batch #: 766465	Sample: 338541-005 S / M	S Bat	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 07/23/09 23:10	SU	RROGATE RE	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0314	0.0300	105	80-120	
4-Bromofluorobenzene		0.0338	0.0300	113	80-120	
Lab Batch #: 766465	Sample: 338541-005 SD / N	ASD Bat	tch: <sup> </sup> Matri	x: Soil	1	
Units: mg/kg	Date Analyzed: 07/23/09 23:29	SU	RROGATE RE	COVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Rccovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0314	0.0300	105	80-120	
4-Bromofluorobenzene		0.0357	0.0300	119	80-120	
Lab Batch #: 766215	Sample: 534063-1-BKS / B	BKS Batch: 1 Matrix: Solid				
Units: mg/kg	Date Analyzed: 07/21/09 11:02	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes					
1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	101	100	101	70-135	
o-Terphenyl		45.4	50.0	91	70-135	
Lab Batch #: 766215	Sample: 534063-1-BSD / B	SD Bat	tch: Matri	ix: Solid	STUDY	
Units: mg/kg	Date Analyzed: 07/21/09 11:28		KRUGAIE KI			
(T) DI I		-	True	1	I Control	
1PH.	By SW8015 Mod	Amount Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1 PH	By SW8015 Mod Analytes	Amount Found [A]	Amount [B]	Recovery %R [D] 104	Limits %R 70-135	Flags

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

/ork Orders : 338461	, Sample: 534063-1-BLK / BL	K Bat	Project II	D:TNM-Bee	son Hist	
Units: mg/kg	Date Analyzed: 07/21/09 11:53	SU SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		90.3	100	90	70-135	
o-Terphenyl		48.5	50.0	97	70-135	
Lab Batch #: 766215	Sample: 338461-001 / SMP	Bai	tch: l Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/21/09 16:05	SU	RROGATE RI	ECOVERY	STUDY	
TPH	TPH By SW8015 Mod Amo For Analytes		True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		81.8	99.6	82	70-135	
o-Terphenyl		43.5	49.8	87	70-135	
Lab Batch #: 766215	Sample: 338461-002 / SMP	Ba	tch: <sup>1</sup> Matri	ix: Soil	J	
Units: mg/kg	Date Analyzed: 07/21/09 16:56	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount {B	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		76.3	100	76	70-135	
o-Terphenyl		40.6	50.0	81	70-135	
Lab Batch #: 766215	Sample: 338461-003 / SMP	1P Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY		<u> </u>		
Units: mg/kg	Date Analyzed: 07/21/09 17:21		STUDY			
ТРН	By SW8015 Mod	Amount Found [A]	True Amount Rec [B] 9	Recovery %R [D]	Control ecovery Limits %R %R	Flags
I-Chlomoctane	Analytes	97.0		97	70-135	
o-Terphenyl		50.3	50.0	101	70-135	
Lab Batch #: 766215	Sample: 338237-003 S / MS	Ba	tch: 1 Matr	ix: Soil	I	
Units: mg/kg	Date Analyzed: 07/21/09 17:46	SU	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount {B}	Recovery %R  D	Control Limits %R	Flags
	Analy (C3			103	70.125	
1. Chlomoctane		103	999	1 1014	1 // - 1 5 2	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Work Orders: 338461 Lab Batch #: 766215	, Samnle: 338237-003 SD / M	ISD Ba	Project I	D:TNM-Bee	son Hist	
Units: mg/kg	Date Analyzed: 07/21/09 18:12	SU	RROGATE R	ECOVERY	STUDY	
ТРН І	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags
	Analytes			101		
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		47.4	50.0	95	70-135	

Surrogate outside of Laboratory QC limits
 Surrogates outside limits; data and surrogates confirmed by reanalysis
 Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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XGN	Labora

**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 338461 Lab Batch ID: 766465 Analyst: ASA

Date Prepared: 07/23/2009 Batch #: 1

Sample: 534181-1-BKS

Project ID: TNM-Beeson Hist Date Analyzed: 07/23/2009 Matrix: Solid

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Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	3LANK S	SPIKE DUPL	ICATE I	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank Sample Resuft [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[c]	ā	3	Result [F]	[6]				
Benzene	£	0.5000	0.5250	105	0.1	0.1061	106	133	70-130	35	
Toluene	Ð	0.5000	0.4933	8	0.1	0.1003	100	132	70-130	35	
Ethylbenzene	Ð	0.5000	0.5374	107	0.1	0.1110	111	132	71-129	35	
m,p-Xylencs	Q	1.000	1.104	110	0.2	0.2278	114	132	70-135	35	
o-Xylene	QN	0.5000	0.5171	103	0.1	0.1079	108	131	71-133	35	
Analyst: BHW	Da	ate Prepar	ed: 07/21/200	6			Date Ar	nalyzed: 0	7/21/2009		
Lab Batch ID: 766215 Sample: 53400	63-1-BKS	Batcl	u#: 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	<b>SLANK S</b>	SPIKE DUPL	ICATE I	RECOVE	RY STUD	Y	

Flag

Control Limits %RPD

Control Limits %R

RPD %

BIk. Spk Dup. %R [G]

Blank Spike Duplicate Result [F]

Spike Added

Blank Spike %R [D]

Blank Spike Result [C]

Spilke Added

Blank Sample Result [A]

TPH By SW8015 Mod

33 35

70-135 70-135

Ч 2

10 85

1010 845

1000 1000

8 8

826 987

1000 1000

2 2

C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons

Analytes

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Ξ

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes







Work Order # : 338461

Date Analyzed: 07/23/2009 Lab Batch ID: 766465

Matrix: Soil ---ASA Analyst: Batch #:

QC- Sample ID: 338541-005 S

Date Prepared: 07/23/2009

Project ID: TNM-Beeson Hist

Reporting Units: mg/kg		X	LATRIX SPIK	E / MAT	RIX SPII	KE DUPLICA'	TE RECO	VERY 3	STUDY		
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Kesult [A]	Added [B]	<u>.</u>	¥ @	Added [E]	Result [F]	8°R	~	%R	%RPD	
Benzene	QN.	0.1059	0.0791	75	0.1059	0.0830	78	s	70-130	35	
Toluene	QN	0.1059	0.0754	71	0.1059	0.0797	75	¢	70-130	35	
Ethylbenzene	QN	0.1059	0.0825	78	0.1059	0.0882	83	٢	71-129	35	
m,p-Xylenes	QN	0.2118	0.1698	80	0.2118	0.1786	84	s	70-135	35	
o-Xylene	ND	0.1059	0.0784	74	0.1059	0.0839	79	7	71-133	35	
Lab Batch ID: 766215 Date Analyzed: 07/21/2009	QC- Sample ID: Date Prepared:	338237. 07/21/2	-003 S 009	Ba An	tch #: alyst: 1	l Matrix 3HW	: Soil				

	~	
C1700/	01/21/2006	mailer
	Date Analyzed:	Dananting United

Bat	Ana
338237-003 S	07/21/2009
C- Sample ID:	ate Prepared:

MH	
Analyst: Bl	
/2009	

Reporting Units: mg/kg		M	ATRIX SPIKI	E / MAT	RIX SPI	KE DUPLICA	TE RECC	VERY 5	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Ldmits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	116	1290	1260	89	1290	1310	93	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	428	1290	2030	124	1290	1970	120	÷	70-135	SE	

Matrix Spike Percent Recovery [D] = 100\*(C.A)/B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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#### **Project Name: Beeson 8" Discharge**

Work Order #: 338461

Lab Batch #:         766139           Date Analyzed:         07/22/2009         Date Pre           QC- Sample ID:         338461-001 D         B		epared: 07/2 atch #: 1	2/2009	Project I Analy Matr	D: TNM-Be st: BEV ix: Soil	eson Hist
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result  A	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte			[B]	[		
Percent Moisture		31.3	3.08	164	20	F

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit


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			- Invironmon	Hatiliai	h of Toy		1.1	· · · · ·	· · · · ·
		Vodeneo()	CorrectionActi			d5 		• • •	· · ·
		vanancer	Soliecave Act	UT Kep	on-semp	e Log-in			
Client	Plains	/Basin	Env						
Date/ Time:	07-21-	09.0	2450				,		
		3300.0							
Lab IU # :		570401		- ·					
initials:	JMF	. <u> </u>		<u> </u>					
		-	Sample Re	aceint (	Checklist				
•								Cilent Initi	ata -
#1 Temper	ature of contai	inen cooler?	· · · · · · · · · · · · · · · · · · ·		(Yes )	No	. 2.	• C	÷. آ
#2 Shipping	g container in o	good condition	/		/ Yes	No	- Cr/20-	. * * * /	
#3 Custody	y Seals intact o	in shipping con	tainer/ cooler?		Yes	No	Not Presen	No.	1.2.1
#4 Custody	/ Seals intact o	on sample bottk	es/ container ?/	spel	(Yes)	No i	Not Presen	1 2	
#6 Samnie	instructions of	omplete of Cha	in of Custody?		(Yes)	~ No		1.4. 4 7 - 514 1	4.55
#7 Chain o	of Custody sign	ed when reling	uished/ received	17 '	CYas	No			
#8 ° Chain ó	of Custody agre	tes with sample	alabel(s)? -	~ .	Yes	No	ID written on Cor	t/Lid	
#9 Contain	er lábel(s) legi	ble and intact?	i i i i i i i i i i i i i i i i i i i	<u> </u>	(Yes)	No	Not Applicat	le 🔨	] ~:
#10 Sample	e matrix/ prope	erties agree with	h Chain of Custo	xdy?	CYen:	· No· `			<u> </u>
#11 Contair	ners supplied t	ay ELOT?			(Yes)	No		<u>,</u>	
#12 Sample	es in proper co	miainer/ bottle/		<u> </u>		NO	See Below	" at the walk of	- .··'
#13 Sample	es property pre	iserved i	<u> </u>		VAL	No	See Below		-{· ,
#15 Preser	vations docum	ented on Chair	of Custody?		Yes	No .			ㅋ :
#16 Contair	ners documen	ted on Chain of	f Custody?		res-	No			
#17 . Sufficie	ent sample am	iount for Indicat	ed test(s)?		Yes	No	See Below		
#18 All sam	nples received	within sufficien	<u>it hold time?</u>		Tress	No `	See Below		<u> </u>
#19 SUDCON	ntrect of samp	1e(s)7			Yes	NO	Anot Applicat		
#20 ¥00 S	BIRDIGS HAVE Z	ero reauspace	· · · · · · · · · · · · · · · · · · ·			<u>NO*</u>	I NOLApplicat	<u></u>	
	• • •		Variance	Docum	nentation	a -		* e. :	"" #"
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Contact:	·	C	ontacted by:			: _	Date/ Time:	A	
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Pagardina							•		
Regarding:	•				•				*****
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Corrective A	Action Taken:	Clien	sitached e-mail/ t understands ai ng process had	fax nd would begun s	d like to prod	ceed with sampling	analysis avent		
Corrective A	Action Taken:	See a Clien	sttached e-mail/ t understands ai ng process had	fax nd would begun s	d like to prod	ceed with sampling	analysis event		
Corrective A	Action Taken:	Clien	attached e-mail/ t understands an ng process had	fax nd would begun s	d like to proc	ceed with sampling	analysis avent		
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# Analytical Report 339128

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge TNM-Beeson Historical

04-AUG-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

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04-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 339128 Beeson 8" Discharge Project Address: Eddy County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 339128. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 339128 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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### Sample Cross Reference 339128

#### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-7	S	Jul-28-09 10:00		339128-001
SP-8	S	Jul-28-09 10:10		339128-002
SP-9	S	Jul-28-09 10:20		339128-003
SP-10	S	Jul-28-09 10:30		339128-004
SP-11	S	Jul-28-09 10:40		339128-005
SP-12	S	Jul-28-09 10:50		339128-006
SP-13	S	Jul-28-09 11:00		339128-007
SP-14	S	Jul-28-09 11:10		339128-008
SP-15	S	Jul-28-09 11:20		339128-009



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: TNM-Beeson Historical Work Order Number: 339128 Report Date: 04-AUG-09 Date Received: 07/29/2009

Sample receipt non conformances and Comments: None

#### Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-767032 Percent Moisture AD2216A Batch 767032, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity. Samples affected are: 339128-003, -009, -001, -002, -005, -008, -004, -007, -006.

Batch: LBA-767083 TX1005 None



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: TNM-Beeson Historical Work Order Number: 339128 Report Date: 04-AUG-09 Date Received: 07/29/2009

Batch: LBA-767321 BTEX-MTBE EPA 8021B SW8021BM

Batch 767321, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 339128-003, -007.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

#### SW8021BM

Batch 767321, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 339128-007.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 534694-1-BLK.

4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 339128-007, 339128-003

4-Bromofluorobenzene recovered above QC limits. Data not confirmed by re-analysis. Samples affected are: 339317-001 S, 339317-001 SD

#### SW8021BM

Batch 767321, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene RPD was outside QC limits. Samples affected are: 339128-003, -007 The Laboratory Control Sample for Ethylbenzene, Toluene, m,p-Xylene, and o-Xylene is within Laboratory Control Limits.

Batch: LBA-767326 TPH by SW8015 Mod None



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID:TNM-Beeson HistoricalWork Order Number:339128

Report Date: 04-AUG-09 Date Received: 07/29/2009

Batch: LBA-767466 BTEX-MTBE EPA 8021B SW8021BM

Batch 767466, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 339128-008.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 534776-1-BLK.

4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis. Samples affected are: 339128-002, 339128-004, 339128-005, 339128-006, 339128-008, 339128-009.

4-Bromofluorobenzene recovered above QC limits. Data not confirmed by re-analysis. Samples affected are: 339438-003 S, 339438-003 SD

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Certificate of Analysis Summary 339128 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Project Id: TNM-Beeson Historical Contact: Jason Henry Project Location: Eddy County, NM

Date Received in Lab: Wed Jul-29-09 08:23 am Report Date: 04-AUG-09

					Project Manager:	Brent Barron, II	
	Lab Id:	339128-001	339128-002	£00-8216££	339128-004	339128-005	339128-006
Analucio Domoctad	Field Id:	SP-7	SP-8	6-dS	SP-10	SP-11	SP-12
naisanhavi sishinuk	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jul-28-09 10:00	Jul-28-09 10:10	Jul-28-09 10:20	Jul-28-09 10:30	Jul-28-09 10:40	Jul-28-09 10:50
BTEX hv EPA 8021B	Extracted:	Аиg-03-09 10:00	Aug-03-09 10:00	Jul-31-09 00:00	Aug-03-09 10:00	Aug-03-09 10:00	Aug-03-09 10:00
	Analyzed:	Aug-03-09 12:34	Aug-03-09 12:52	Jul-31-09 20:17	Aug-03-09 13:29	Aug-03-09 13:48	Aug-03-09 14:06
	Units/RL:	mg/kg RL	mg/kg RL	rng/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0010	1100.0 UN	ND 0.0213	ND 0.0011	ND 0.0011	ND 0.0011
Toluene		ND 0.0021	ND 0.0021	ND 0.0426	0.0070 0.0021	0.0056 0.0022	0.0327 0.0021
Ethylbenzene		0.0085 0.0010	0.0163 0.0011	0.0889 0.0213	0.0837 0.0011	0.0792 0.0011	0.2451 0.0011
m,p-Xylencs		0.0117 0.0021	0.0311 0.0021	0.1049 0.0426	0.2127 0.0021	0.1289 0.0022	0.4812 0.0021
o-Xylene		0.0043 0.0010	0.0158 0.0011	0.1586 0.0213	0.3250 0.0011	0.2391 0.0011	0.3174 0.0011
Total Xylenes		0.0160 0.0010	0.0469 0.0011	0.2635 0.0213	0.5377 0.0011	0.3680 0.0011	0.7986 0.0011
Total BTEX		0.0245 0.0010	0.0632 0.0011	0.3524 0.0213	0.6284 0.0011	0.4528 0.0011	1.0764 0.0011
Percent Moisture	Extracted:						
	Analyzed:	Jul-30-09 08:44	Jul-30-09 08:44	Jul-30-09 08:44	Jul-30-09 08:44	Jul-30-09 08:44	Jul-30-09 08:44
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		2.48 1.00	5.56 1.00	6.20 1.00	5.49 1.00	7.61 1.00	5.67 1.00
TPH Rv SW8015 Mod	Extracted:	Jul-29-09 13:24	Jul-29-09 13:24	Jul-29-09 13:24	Jul-29-09 13:24	Jul-29-09 13:24	Jul-29-09 13:24
	Analyzed:	Jul-30-09 04:38	Jul-30-09 05:02	Jul-30-09 05:28	Jul-30-09 09:05	Jul-30-09 09:29	Jul-30-09 09:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		59.4 15.3	124 15.8	212 80.0	428 79.3	248 81.1	601 79.3
C12-C28 Diesel Range Hydrocarbons		983 15.3	1210 15.8	1510 80.0	3160 79.3	2230 81.1	4360 79.3
C28-C35 Oil Range Hydrocarbons		102 15.3	120 15.8	174 80.0	322 79.3	297 81.1	511 79.3
Total TPH		1144.4 15.3	1454 15.8	1896 80.0	3910 79.3	2775 81.1	5472 79.3

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interventions and the entitie expressed throughout an analytical perfort represent the best its presented. Laboratorise, XENCO Laboratorise assumes no responsibility and made no warmany to the end use of the data hereby presented. Our lisbility is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brefit Barron, II

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aboratories	PL	<b>AINS ALL AM</b>	ERICAN EH&S	, Midland, TX	1		
Project Id: TNM-Beeson Historical		Project Nan	ne: Beeson 8" Dis	charge			
Contact: Jason Henry				Da	te Received in Lab: We	d Jul-29-09 08:23 am	
Project Location: Eddy County, NM					Report Date: 04-	-AUG-09	
					Project Manager: Bre	ent Barron, II	
	Lab Id:	339128-007	339128-008	339128-009		-	
Analysis Donnofed	Field Id:	SP-13	SP-14	SP-15			
naisanhay sistinuly	Depth:						
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Jul-28-09 11:00	Jul-28-09 11:10	Jul-28-09 11:20			
BTEX by EPA 8021B	Extracted:	Jul-31-09 00:00	Aug-03-09 10:00	Aug-03-09 10:00			
	Analyzed:	Jul-31-09 21:31	Aug-03-09 18:59	Aug-03-09 14:44			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		ND 0.0212	0.0424 0.0265	ND 0.0010			
Toluene		0.0720 0.0423	0.4288 0.0530	0.0042 0.0021			
Ethylbenzene		0.3416 0.0212	0.9860 0.0265	0.0489 0.0010			
m,p-Xylenes		0.8772 0.0423	3.406 0.0530	0.1024 0.0021			
o-Xylene		0.9925 0.0212	3.349 0.0265	0.1682 0.0010			
Total Xylenes		1.8697 0.0212	6.755 0.0265	0.2706 0.0010			
Total BTEX		2.2833 0.0212	8.212 0.0265	0.3237 0.0010			
Percent Moisture	Extracted:						
	Analyzed:	Jul-30-09 08:44	Jul-30-09 08:44	Jul-30-09 08:44			
	Units/RL:	% RL	% RL	% RL			

This studytical report, and the entire data package it represents, has been made for your exclusive and confidential the. The interpretations and results expressed throughout that analysical report represent the best jugment of XENCO Laboratories. XENCO Laboratories assumes no reponsibility read mades no warmany to the end use of the data hereby presented. Our fiability is limited to the emount invoiced for this work order undes otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II

RL 15.6

79.4 79.4 79.4 79.4

4970 966

533 6469

492 4240

5267

R

mg/kg

79.0 7 79.0 79.0 79.0

mg/kg 535

Jul-30-09 10:18 Jul-29-09 13:24

> Analyzed: Units/RL:

Extracted:

TPH By SW8015 Mod

Percent Moisture

C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons C28-C35 Oil Range Hydrocarbons Total TPH

.

15.6 15.6 15.6

1.00

4.42

1.00

5.60

1.00

5.49

Jul-31-09 12:09 Jul-31-09 20:16 m<u>g/kg</u> 186 1140 123 1449

Jul-29-09 13:24 Jul-30-09 10:43 Page 8 of 24





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-333:
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9110
•		



Project Name: Beeson 8" Discharge

ork Orders : 339128	Sempler 534694 1 BKS / B	VS Da	Project II	D: TNM-Bee	son Historie	cal
Units: mg/kg	Date Analyzed: 07/31/09 10:29		RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
14-Difluorobenzene	Analytes	0.0309	0.0200	103	80.120	
4-Bromofluorobenzene	·	0.0354	0.0300	118	80-120	
	6 1 524604 L BED / D	50 D			00 120	
Lab Batch #: 707321	Sample: 334094-1-BSD/B	SD Ba	RROCATE RI	X: Sona	STUDY	
Units: mg/kg	Date Analyzed: 07/31/09 10:48					[
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0308	0.0300	103	80-120	
4-Bromofluorobenzene		0.0352	0.0300	117	80-120	
ab Batch # 767321	Sample: 534694-1-BLK / B	LK Ba	tch: 1 Matri	r∙ Solid	I	
Units: mg/kg	Date Analyzed: 07/31/09 11:25	SU SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found {A]	True Amount  B]	Recovery %R	Control Limits %R	Flag
	Analytes			D		
1,4-Difluorobenzene		0.0272	0.0300	91	80-120	
4-Bromofluorobenzene		0.0153	0.0300	51	80-120	*
Lab Batch #: 767321	Sample: 339128-003 / SMF	Ba	tch:   Matri	x: Soil		
Units: mg/kg	Date Analyzed: 07/31/09 20:17	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
	Analytes			[D]		
1,4-Difluorobenzene		0.0251	0.0300	84	80-120	
4-Bromofluorobenzene		0.0398	0.0300	133	80-120	*1
Lab Batch #: 767321	Sample: 339128-007 / SMF	' <u> </u>	tch: l Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/31/09 21:31	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
	Analytes			D		
1,4-Difluorobenzene		0.0228	0.0300	76	80-120	*:
A Deama flug ashangana		0.0582	0.0300	104	80-120	*

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 339128	s, Sample: 339317-001 S / M'	¢ Bo	Project II	): TNM-Bee:	son Historia	cal
Units: mg/kg	Date Analyzed: 07/31/09 22:26	SU'	RROGATE RJ	ECOVERY :	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.4-Difluorobenzene		0.0307	0.0300	102	80-120	İ
4-Bromofluorobenzene		0.0415	0.0300	138	80-120	*
Lab Batch #: 767321	Sample: 339317-001 SD / N	MSD Bar	tch: <sup>1</sup> Matri	ix: Soil	L	
Units: mg/kg	Date Analyzed: 07/31/09 22:45	SU	RROGATE RI	ECOVERY (	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1 4-Difluorobenzene	Anarytes	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene		0.0404	0.0300	135	80-120	*
ah Batch #. 767466	Sample: 534776-1-BKS / B		1 Matri	L Solid		
Units: mg/kg	Date Analyzed: 08/03/09 09:27	SU:	RROGATE RI	ECOVERY (	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene		0.0310	0.0300	103	80-120	
4-Bromofluorobenzene		0.0361	0.0300	120	80-120	
Lab Batch #: 767466		iSD Bat	tch: 1 Matri	ix: Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 08/03/09 09:46	SU!	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes		- 02.00			
1,4-Difluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0310	0.0300	103	80-120	<u> </u>
	~ · 524774 1 DI V / E	0.0333	0.0300	0.114	80-120	
Lab Batch #: 707400	Sample: 334770-1-0267 0	LK Bau	PDOCATE RI	X: Solid	STUDY	
Units: mg/kg	Date Analyzed: 08/03/09 10:23			T		<b>—</b> —
BTE		A MOUNT	Irue	1 '	Control	
	X by EPA 8021B	Found [A]	Amount [B]	Recovery %R IDI	Limits %R	r ia
14-Difluorobenzene	X by EPA 8021B Analytes	Found [A]	Amount [B]	Recovery %R [D] 	Limits %R 80-120	FIa

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



#### Project Name: Beeson 8" Discharge

<b>'ork Orders :</b> 339128 Lab Batch #: 767466	, Sample: 339128-001 / SMP	Bat	Project II tch: 1 Matri	D: TNM-Bee	son Historio	cal
Units: mg/kg	Date Analyzed: 08/03/09 12:34	SU	RROGATE RI	COVERY	STUDY	
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0278	0.0300	93	80-120	
4-Bromofluorobenzene		0.0437	0.0300	146	80-120	**
Lab Batch #: 767466	Sample: 339128-002 / SMP	Ba	tch: <sup>]</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/03/09 12:52	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I,4-Difluorobenzene		0.0262	0.0300	87	80-120	
4-Bromofluorobenzene		0.0582	0.0300	194	80-120	**
Lab Batch #: 767466	Sample: 339128-004 / SMP	Bat	tch: 1 Matri	x: Soil	I	
Units: mg/kg	Date Analyzed: 08/03/09 13:29	SU	RROGATE RI	COVERY	STUDY	
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene		0.1744	0.0300	581	80-120	**
Lab Batch #: 767466	Sample: 339128-005 / SMP	Bat	tch:   Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/03/09 13:48	SU	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount {B}	Recovery %R	Control Limits %R	Flags
14-Difluorobenzene	Analytes	0.0346	0.0300	02	80.120	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.1311	0.0300	437	80-120	**
 Lab Batch #: 767466	Sample: 339128-006 / SMP	Rai	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/03/09 14:06	SU	RROGATE RI	ECOVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
14 5 4 1				L		
1.4-Diffuorobenzene		0.0240	0.0300	80	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Sample: 339128-009 / SMP	Ba	Project II	D: TNM-Bee	son Historie	cal
Date Analyzed: 08/03/09 14:44	SU	RROGATE RE	ECOVERY S	STUDY	
by EPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flags
	0.0247	0.0300	82	80-120	
	0.1921	0.0300	640	80-120	**
Sample: 339128-008 / SMP	Bai	tch:   Matri	x: Soil		
Date Analyzed: 08/03/09 18:59	SU	RROGATE RE	COVERY S	STUDY	
by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
- Thaty tes	0.0222	0.0300	74	80-120	**
	0.1204	0.0300	401	80-120	**
	Ba	tch: <sup>1</sup> Matri	x: Soil		
Date Analyzed: 08/03/09 21:08	SU	RROGATE RI	ECOVERY S	STUDY	
by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	0.0303	0.0300	101	80-120	
	0.0384	0.0300	128	80-120	*
Sample: 339438-003 SD / N	ASD Ba	tch: <sup>1</sup> Matri	x: Soil		
Date Analyzed: 08/03/09 21:27	SU	<b>RROGATE RI</b>	ECOVERY S	STUDY	
by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes	0.0205	0.0700	107	80,120	
	0.0388	0.0300	129	80-120	*
Sample: 534530-1-RKS/R	KS Ro	tch:   Matri	ix. Solid		
Date Analyzed: 07/29/09 22:00	SU	RROGATE RI	ECOVERY	STUDY	
v SW8015 Mod	Amount	True		Control	Поля
A polytos	Found [A]	Amount  B	Recovery %R	%R	Tiago
Analytes	Found [A]	Amount  B	Recovery %R [D]	20-135	Tags
	Sample: 339128-009 / SMP Date Analyzed: 08/03/09 14:44 by EPA 8021B Analytes Sample: 339128-008 / SMP Date Analyzed: 08/03/09 18:59 by EPA 8021B Analytes Sample: 339438-003 S / MS Date Analyzed: 08/03/09 21:08 by EPA 8021B Analytes Sample: 339438-003 SD / N Date Analyzed: 08/03/09 21:27 by EPA 8021B Analytes Sample: 534530-1-BKS / B Date Analyzed: 07/29/09 22:00	Sample:         339128-009 / SMP         Ba           Date Analyzed:         08/03/09 14:44         SU           by EPA 8021B         Amount Found [A]         Amount Found [A]           Analytes         0.0247         0.1921           Sample:         339128-008 / SMP         Ba           Date Analyzed:         08/03/09 18:59         SU           by EPA 8021B         Amount Found [A]         Found [A]           Analytes         0.0222         0.1204           Sample:         339438-003 S / MS         Ba           Date Analyzed:         08/03/09 21:08         SU           by EPA 8021B         Amount Found [A]         SU           Date Analyzed:         0.0305         0.0308           Sample:         534530-1-BKS / BKS         Ba	Project II Batch: 1 MatriSample: 339128-009 / SMPBatch: 1 MatriDate Analyzed: 08/03/09 14:44SURROGATE RIby EPA 8021BAmount IAITrue Amount IBIAnalytes0.02470.0300Sample: 339128-008 / SMPBatch: 1 MatriDate Analyzed: 08/03/09 18:59SURROGATE RIby EPA 8021BAmount Found IAITrue Amount IBIAnalytes0.02220.0300Sample: 339438-003 S / MSBatch: 1 Matri Amount IAIMatri Matri BIby EPA 8021BAmount Found IAITrue Amount IBIAnalytes0.02220.0300Sample: 339438-003 S / MSBatch: 1 Matri Amount IAIDate Analyzed: 08/03/09 21:08SURROGATE RI Matri Date Analyzed: 08/03/09 21:08by EPA 8021BAmount Found IAITrue Amount IBIDate Analyzed: 08/03/09 21:27SURROGATE RI Matri Date Analyzed: 08/03/09 21:27by EPA 8021BAmount Found IAITrue Amount IBIby EPA 8021BAmount Found IAITrue Amount IBIby EPA 8021BAmount Found IAITrue Amount IBIby EPA 8021BAmount Found IAITrue Amount IBIby EPA 8021BAmount Found IAITrue IAIDate Analyzed: 08/03/09 21:27SURROGATE RI Pound Amount IAIDate Analyzed: 07/29/09 22:00SURROGATE RI IAI	Sample:         339128-009 / SMP         Batch:         I         Matrix:         Soil           Date Analyzed:         08/03/09 14:44         SURROGATE         RECOVERY 3           by EPA 8021B         Amount Found [A]         True Amount Found [A]         True Amount [B]         Recovery %R           Analytes         0.0247         0.0300         82           0.1921         0.0300         640           Sample:         339128-008 / SMP         Batch:         I         Matrix:         Soil           Date Analyzed:         08/03/09 18:59         SURROGATE         RECOVERY 5           by EPA 8021B         Amount Found [A]         True Amount [A]         Recovery %R         101           Analytes         0.0222         0.0300         74         01204         0.0300         74           Date Analyzed:         08/03/09 21:08         Batch:         I         Matrix:         Soil           Date Analyzed:         08/03/09 21:08         SURROGATE         RECOVERY 5           by EPA 8021B         Amount Found [A]         True Amount [A]         IB]         Recovery %R           Analyzes         0.0303         0.0300         101         0.0300         101           Date Analyzed:         08/03/09 21:	Project ID: TNM-Beeson Historic Matrix: SoilDate Analyzed: 08/03/09 14:44SURROGATE RECOVERY STUDYby EPA 8021BAmount Found [Al]True (Bl]Recovery (Dl]Control LimitsAnalytes0.02470.03008280-120Sample: 339128-008 / SMP0.02470.03008280-120Sample: 339128-008 / SMPBatch:1Matrix: SoilUnitsDate Analyzed: 08/03/09 18:59SURROGATE RECOVERY STUDYby EPA 8021BAmount FoundTrue (Bl)Recovery (Control Limits %RAnalytes0.02220.03007480-120by EPA 8021BAmount FoundRecovery (Bl)Control (Control Batch:IAnalytes0.02220.03007480-120by EPA 8021BAmount FoundRecovery (Control (D)Control (Control Limits %RControl Limits %RDate Analyzed: 08/03/09 21:08SURROGATE RECOVERY STUDYby EPA 8021BAmount FoundTrue (Matrix: SoilAnalytes0.03030.030010180-1200.03340.030012880-120Sample: 339438-003 SD / MSDBatch:1Matrix: SoilDate Analyzed: 08/03/09 21:27SUROGATE RECOVERY STUDYby EPA 8021BAmount FoundTrue (Matrix: SoilDate Analyzed: 08/03/09 21:27SUROGATE RECOVERY STUDYby EPA 8021BAmount FoundRecovery (Matrix: SoilAnalytes0.0305 </td

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 339128	3, Samalar 534530 1 BSD / B		Project II	D: TNM-Bee	son Historie	cal
Units: mg/kg	Date Analyzed: 07/29/09 22:24	SD Bai	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		111	100	111	70-135	
o-Terphenyl		48.5	50.0	97	70-135	
Lab Batch #: 767083	Sample: 534530-1-BLK / E	BLK Bat	tch: <sup>1</sup> Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 07/29/09 22:49	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		94.8	100	95	70-135	
o-Terphenyl	·····	50.5	50.0	101	70-135	
Lab Batch #: 767083	Sample: 339128-001 / SMF	P Raí	) tch:   Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/30/09 04:38	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found jAj	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
I-Chlorooctane		99.0	99.7	99	70-135	
o-Terphenyl		52.9	49.9	106	70-135	
Lab Batch #: 767083	Sample: 339128-002 / SMF	Bat	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/30/09 05:02	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags
	Analytes					
I-Chlorooctane	······································	106	99.7	106	70-135	
o-Terpnenyi		56.8	49.9	114	70-135	
Lab Batch #: 767083	Sample: 339128-003 / SMF	' Bat	tch: 1 Matri	ix: Soil	TUN	
Units: mg/kg	Date Analyzed: 07/30/09 05:28	50	RRUGATE RI			
ТРН	By SW8015 Mod	Amount Found	True Amount	Recovery	Control Limits	Flags
	Analytes	[A]	<b>[B</b> ]	%R  D	%R	
I-Chlorooctane	Analytes	[A] 103	[ <b>B</b> ]	103	%R 70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

/ork Orders : 339128 Lab Batch #: 767083	, Sample: 339128-004 / SMP	Ra	Project II	D: TNM-Bee	son Histori	cal
Units: mg/kg	Date Analyzed: 07/30/09 09:05	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
•	Analytes			[0]		
I-Chlorooctane	·	107	99.9	107	70-135	
o-terpneny		55.6	50.0	111	70-135	
Lab Batch #: 767083	Sample: 339128-005 / SMP	Ba	tch: <sup> </sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/30/09 09:29	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		102	99.9	102	70-135	
o-Terphenyl		54.2	50.0	108	70-135	
Lab Batch #: 767083	Sample: 339128-006 / SMP	Bat	tch: <sup>1</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/30/09 09:54	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
I-Chlorooctane		109	99.8	109	70-135	
o-Terphenyl		54.7	49.9	110	70-135	
Lab Batch #: 767083	Sample: 339128-007 / SMP	Ba	tch: <sup>1</sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/30/09 10:18	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		104	99.6	104	70-135	
o-Terphenyl		52.2	49.8	105	70-135	
Lab Batch #: 767083	Sample: 339128-008 / SMP	Bat	tch:   Matri	ix: Soil	1	
Units: mg/kg	Date Analyzed: 07/30/09 10:43	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1-Chlorooctane		112	100	112	70-135	
o-Terphenyl		51.0	50.0	102	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Work Orders : 339128 Lab Batch #: 767083	s, Sample: 339130-006 S / M	S Ba	Project II tch: <sup> </sup> Matri	D:TNM-Bee ix: Soil	son Histori	cal
Units: mg/kg	Date Analyzed: 07/30/09 11:07	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B]	Recovery %R  D	Control Limits %R	Flags
1-Chlorooctane		116	99.6	116	70-135	
o-Terphenyl	· · · ·	52.8	49.8	106	70-135	
Lab Batch #: 767083	Sample: 339130-006 SD / N	VISD Ba	tch: I Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/30/09 11:32	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
LChlomostana	Analytes		00.6	117	70.126	
o-Tembenyl		53.3	99.8 49.8	117	70-135	
	5 1 524701 t DVS / D	- 55,5 V S	49.0	0-154	70-155	
Lab Batch #: 707320	Sample: 534701-1-BKS7 B		TER: 1 Matri	IX: Solid	STUDY	
Units: mg/kg	Date Analyzed: 07/31/09 19:00	30	KROGATE KI			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		46.4	50.0	93	70-135	
Lab Batch #: 767326	Sample: 534701-1-BSD / B	SD Ba	tch: 1 Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 07/31/09 19:26	SU	<b>RROGATE RI</b>	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1 Characters	Analytes	100	100	102	70.126	
n-Tembenvi		45.0	50.0	90	70-135	
<b>1 1 D</b> 4 J # 767326	S		50.0 t.l. 1 Matul	in Solid	10-135	
Lan Batch #: 707320	Sample: 554701-1-BEK7 B		RROGATE RI	ECOVERY:	STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			וטן		
1-Chlorooctane		87.5	100	88	70-135	
o-Terphenyl		47.8	50.0	96	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Laborate	ories

Project Name: Beeson 8" Discharge

Work Orders: 339128	'9		Project II	D: TNM-Bee	son Historie	cal
Lab Batch #: 767326	Sample: 339128-009 / SMP	Bai	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 07/31/09 20:16	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		95.6	99,6	96	70-135	
o-Terphenyl		47.4	49.8	95	70-135	
Lab Batch #: 767326	Sample: 339339-001 S / M	S Bat	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 08/01/09 01:47	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		108	99.6	108	70-135	
o-Terphenyl		46.9	49.8	94	70-135	
Lab Batch #: 767326	Sample: 339339-001 SD / N	MSD Bat	tch: 1 Matri	ix: Soil	<u></u>	
Units: mg/kg	Date Analyzed: 08/01/09 02:12	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		109	99.7	109	70-135	i
o-Terphenyl		47.3	49.9	95	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.

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<b>XENCO</b> Laboratories			BS / BSI	) Rec	overie	S		$ \rightarrow $		<b>N</b>	Ś
	Pr	oject N	ame: Bees	son 8" I	discharg	e			·		
Work Order #: 339128	I	I					Proj	ject ID: 7	NM-Beeso	n Historice	ul
Analyst: ASA Lah Batch ID: 767323 Samnle: 534604-1.F	ŭ sko	ate Prepar Ratel	•ed: 07/31/200 h#: 1	6			Date AI	nalyzed: 0 Matrix: S	17/31/2009 Solid		
Units: mg/kg		BLAN	K /BLANK §	SPIKE / I	<b>STANK S</b>	PIKE DUPL	ICATE 1	RECOVE	CRY STUD	Å	Γ
BTEX by EPA 8021B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike	Blank Spike	Bik Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	۲.	[B]		10 1	E	Pupucate Result [F]	[ <u></u> ]	<b>\$</b>	Nov	70NFU	
Benzene	QN	0.1000	0.1048	105	0.1	0.1096	110	4	70-130	35	
Toluene	Q	0.1000	1660:0	8	0.1	0.1041	104	s	70-130	35	
Ethylbenzene	QN	0.1000	0.1087	109	0.1	0.1152	115	6	71-129	35	
m,p-Xylenes	QN	0.2000	0.2209	110	0.2	0.2362	118	7	70-135	35	
o-Xylene	QN	0.1000	0.1062	106	0.1	0.1114	111	5	71-133	35	
Analyst: ASA	ũ	ate Prepar	ed: 08/03/200	60			Date A	nalyzed: 0	8/03/2009		
Lab Batch ID: 767466 Sample: 534776-1-1	BKS	Batc	l ;# u					Matrix: S	bolid		
Units: mg/kg		BLAN	K /BLANK §	SPIKE / I	<b>SLANK S</b>	PIKE DUPL	ICATE 1	RECOVE	CRY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result	Spike Added	Blank Spike Doorde	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup. %D	RPD	Control Limits	Control Llmits % DDD	Flag
Analytes	<u>(</u>	[B]		<u>[</u> 0]	E	Result [F]	[6]	R	N0/		
Benzene	Ð	0.1000	0660'0	8	0.1	0.1019	102	3	70-130	35	
Toluene	QN	0.1000	0.0942	94	0.1	0.0966	67	3	70-130	35	
Ethylbenzene	Q	0.1000	0.1055	106	0.1	0.1071	101	2	71-129	35	
m.p-Xylenes	QN	0.2000	0.2134	107	0.2	0.2192	110	3	70-135	35	
o-Xylenc	£	0.1000	0.1032	103	0.1	0.1053	105	2	71-133	35	

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

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**BS / BSD Recoveries** 

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Project Name: Beeson 8" Discharge

Sample: 534530-1-BKS Work Order #: 339128 Lab Batch ID: 767083 Analyst: BHW

Date Prepared: 07/29/2009 Batch #: 1

Project ID: TNM-Beeson Historical Date Analyzed: 07/29/2009 Matrix: Solid

Blank Spike Blank SPIKE / BLANK SPIKE DUPLIC
Blank Spike Blank Blank S aple Result Added Spike A [A] Result %R
[A] [B] [C] [D]
ND 1000 796 80 1
ND 1000 912 91
Date Prepared: 07/31/2009
Batch #: 1
BLANK /BLANK SPIKE / BLA
Blank Spike Blank Blank 1ple Result Added Spike A
[A] Result %R
ND 1000 829 83

35 33

70-135 70-135

82 86

817 862

1000 1000

83

829 873

1000 1000

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C12-C28 Diesel Range Hydrocarbons

87

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

XENCO	Laboratorics

Form 3 - MS / MSD Recoveries 



**Project Name: Beeson 8" Discharge** 

Work Order #: 339128

Date Analyzed: 07/31/2009 Lab Batch ID: 767321

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY Analyst: ASA QC- Sample ID: 339317-001 S Date Prepared: 07/31/2009

Matrix: Soil Batch #:

-

Project ID: TNM-Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPII	KE DUPLICA	re reco	<b>DVERY</b>	STUDY		
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	נ	%R [D]	Addeđ [E]	Result [F]	%R [G]	%	%К	%RPD	
Benzene	£	0.1000	0.0851	85	0.1000	0.0660	66	25	70-130	35	×
Toluene	Ð	0.1000	0.0675	68	0.1000	0.0469	47	36	70-130	35	XF
Ethylbenzene	Ð	0.1000	0.0567	57	0.1000	0.0372	37	42	71-129	35	XF
m,p-Xylenes	Ð	0.2000	0.1092	55	0.2000	0.0668	33	48	70-135	35	XF
o-Xylene	DN	0.1000	0.0543	54	0.1000	0.0352	35	43	71-133	35	XF
Lab Batch ID: 767466 Date Analyzed: 08/03/2009	)C- Sample ID: Date Prepared:	339438 08/03/2	-003 S 009	Ba An	tch #: alyst: /	l Matrix ASA	:: Soil				

Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPII	KE DUPLICA'	<b>FE REC</b>	<b>DVERY</b> 8	STUDY		Γ
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Llimits %R	Control Limits %RPD	Flag
Benzene	Ð	0.1087	0.0796	73	0.1087	0.0777	71	2	70-130	35	
Toluene	QN	0.1087	0.0791	73	0.1087	0.0781	72	1	70-130	35	
Ethylbenzene	QN	0.1087	0.0929	85	0.1087	0.0942	87	1	71-129	35	
m,p-Xylenes	QN	0.2174	0.1916	88	0.2174	0.1944	89	1	70-135	35	
o- Y vlene	CIN I	0 1087	0.0910	84	0 1087	\$ 160 0	84	•	71-133	35	

Matrix Spike Percent Recovery [D] = 100\*(C.A)/B Relative Percent Difference RPD = 200\*(C.F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

,

ND – Not Detected, J – Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Page 20 of 24

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Form 3 - MS/ MSD Recoveries 



**Project Name: Beeson 8" Discharge** 

Project ID: TNM-Beeson Historical

Matrix: Soil

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QC- Sample ID: 339130-006 S Date Prepared: 07/29/2009

Date Analyzed: 07/30/2009

Work Order #: 339128 Lab Batch ID: 767083

,

Batch #: 1 Analyst: BHW

Reporting Units: mg/kg		Z	ATRIX SPIKI	E / MATI	RIX SPI	KE DUPLICA'	TE REC	OVERY 3	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Llmits	Flag
Analytes	Kesult [A]	Added [B]		ж ГО]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	Ð	1180	1040	88	1180	1040	88	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1180	1260	107	1180	1280	108	2	70-135	35	
Lab Batch ID: 767326 Date Analyzed: 08/01/2009	QC- Sample ID: Date Prepared:	339339- 07/31/2	-00 S	Bat Ans	tch #: alyst: ]	l Matrix 3HW	c: Soil				
Reporting Units: mg/kg		Σ	ATRIX SPIKI	E / MATI	RIX SPII	KE DUPLICA	TE REC	OVERY 3	STUDY		
TPH By SW8015 Mod	Parent Sample	Snike	Spiked Sample Recut	Spiked	Snike	Duplicate Suited Somula	Spiked	uaa	Control 1 imite	Control Limite	Rian

	Flag		
	Control Limits %RPD	35	35
	Control Limits %R	70-135	70-135
UVENT	RPD %	1	2
IE REC	Spiked Dup. %R	87	91
NE DUFEICA	Duplicate Spiked Sample Result [F]	566	1060
LIC VIV	Spike Added rev	[5] 1140	1140
T MIN / 3	Spiked Sample %R	<b>1</b> 4	68
ALNIA SEIN	Spiked Sample Result [C]	066	1040
IN.	Spike Added	<b>G</b>	1140
	Parent Sample Result		21.5
	TPH By SW8015 Mod	C6-C12 Gas oline Range Hydrocarbons	C12-C28 Diesel Range Hydrocarbons

Matrix Spike Percent Recovery [D] = 100<sup>4</sup>(C-A)B Relative Percent Difference RPD = 200<sup>4</sup>(C-F)((C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Natrative, EQL = Estimated Quantitation Limit





#### Project Name: Beeson 8" Discharge

Work Order #: 339128

Lab Batch #: 767032	Data Bu		0/2000	Project I	D: TNM-Be	eson Histori
<b>QC- Sample ID:</b> 339128-001 D	Date Pre	atch #: 1	0/2009	Analy Matr	st: BEV ix: Soil	
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		. ,	[B]			
Percent Moisture		2.48	3.68	39	20	F

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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		onmental Lab of	i exa	35 a Log In		
			oen nyo	e Log-in		
Client	Basin / Mains	· · ·				
Date/ Time,	7.29.09 8:z	3				
Lab ID # :	339128					
Initials:	a	-			•	
	· · · ·					· .
	58	ample Receipt Chac	- KIIST			Client Initial
#1 .Tempera	ture of container/ cooler?	<u> </u>	eg.	No	1.7.1 .0	1.
#2 Shipping	container in good condition?		es	NO	hint Deserve W	*
#4 Custody	Seals intact on sampling containen Seals intact on semple bottleer cor	tainer?	53 · / 1	No ·	Not Present	· · · · · ·
#5 Chain of	Custody present?		ã l	No	THUI I REDENI	1
#6 Sample i	nstructions complete of Chain of C	ustody?	eş)	No		1.5.5
#7 Chain of	Custody signed when relinquished	V received?	es	No		- F. F.
#8 Chain of	Custody agrees with sample label	(5)?	ēs).,	• No ~	ID written on Cont./ Lid	277
#9 Containe	r label(s) legible and intact?	<u>v</u> , + .	ês).	No ·	Not Applicable	
#10 Sample	matrix properties agree with Chair	n of Custody?	es	NO		
#11 Containe	ers supplied by cLU17	· · · · · · · · · · · · · · · · · · ·	es/	ND	Our Date i	
#13 Samples	s property preserved?	·····	63 20)	No	See Below	
#14 Sample	bottles intact?		es)	No	Get Licaur	
#15 Preservi	ations documented on Chain of Cu	istody?	es	No .	<b>X</b>	
#16 Centaine	ers documented on Chain of Custo	xdy? (Y	es)	No		3.4
#17 Sufficier	nt sample amount for indicated test	t(s)?	68	No	See Below	12
#18 Ali samp	ples received within sufficient hold	time?	es	No	See Below	<u> </u>
#19 SUDCON	tract of sample(s)?		es	NO No	Not Applicable	
#20 100 58	imples have zero meauspace?	<del></del>	<u> </u>	110 -	. Not Appicable	
	v	arlance Document	ation	· ·	n 9 - 7 -	
Contact:	Contact	ed by		· , '	Date/ Time	
Regarding:	·		,			
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Check all that	Apply:	d e-mail/ fax			· • •	
	Client under	stands and would like	to proc	eed with	analysis	
	Cooling pro	cess had begun shorth	piter :	sampling	event	
•			· ·			•
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# Analytical Report 339427

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge Beeson Historical

06-AUG-09





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

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Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

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06-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 339427 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 339427. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 339427 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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### Sample Cross Reference 339427

#### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-16	S	Jul-31-09 09:30		339427-001
SP-17	S	Jul-31-09 09:45		339427-002
SP-18	S	Jul-31-09 09:55		339427-003



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 339427 Report Date: 06-AUG-09 Date Received: 07/31/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-767303 Percent Moisture None

Batch: LBA-767471 TPH by SW8015 Mod None

Batch: LBA-767681 BTEX-MTBE EPA 8021B SW8021BM

Batch 767681, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 339703-001 D, 339427-002, 339427-003
4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 534902-1-BLK.
4-Bromofluorobenzene recovered above QC limits. Sample Data confirmed by re-analysis.

Samples affected are: 339427-001, 339427-002, 339427-003, 339703-001 D.

Ē	Historical
5	Beeson 1
ie C	roject Id:
XEN	Ч

Contact: Jason Henry

Certificate of Analysis Summary 339427 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Fri Jul-31-09 01:45 pm Report Date: 06-AUG-09

Project Location: Lea County, NM					Report Date: 00-AUG-09	
			ļ		Project Manager: Brent Barron, II	
	Lab Id:	339427-001	339427-002	339427-003		
Analysis Domostad	Field Id:	SP-16	SP-17	SP-18		
naisanbay sistinuy	Depth:					
	Matrix:	SOIL	SOIL	SOIL		
	Sampled:	Jul-31-09 09:30	Jul-31-09 09:45	Jul-31-09 09:55		
RTEX by EDA 8021B	Extracted:	Aug-05-09 10:00	Aug-05-09 10:00	Аид-05-09 10:00		
	Analyzed:	Aug-05-09 11:17	Aug-05-09 15:48	Aug-05-09 16:07		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		0.0019 0.0011	ND 0.0214	ND 0.0109		
Toluene		0.0240 0.0022	0.1285 0.0429	0.0759 0.0217		
Ethylbenzene		0.0795 0.0011	0.4129 0.0214	0.2654 0.0109		
m,p-Xylenes		0.2405 0.0022	1.549 0.0429	0.9429 0.0217		
o-Xylene		0.1132 0.0011	0.4373 0.0214	0.9466 0.0109		
Total Xylenes		0.3537 0.0011	1.986 0.0214	1.8895 0.0109		
Total BTEX		0.4591 0.0011	2.528 0.0214	2.2308 0.0109		
Percent Moisture	Extracted:					
	Analyzed:	Aug-03-09 08:45	Aug-03-09 08:45	Aug-03-09 08:45	-	
	Units/RL:	% RL	% RL	% RL		
Percent Moisture		8.40 1.00	6.65 1.00	7.84 1.00		
TPH RV SW8015 Mod	Extracted:	Aug-03-09 14:19	Aug-03-09 14:19	Aug-03-09 14:19		
	Analyzed:	Aug-03-09 16:12	Aug-03-09 16:37	Aug-03-09 17:02		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL,		
C6-C12 Gasoline Range Hydrocarbons		423 81.5	693 80.1	365 81.1		
C12-C28 Diesel Range Hydrocarbons		3580 81.5	2950 80.1	2110 81.1		
C28-C35 Oil Range Hydrocarbons		403 81.5	340 80.1	242 81.1		
Total TPH		4406 81.5	3983 80.1	2717 81.1		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and remults expressed throughout this multifoid line anyori traynearch the best jubment of XENCO Laboratories. XENCO Laboratories assumes no reprominibility and matkes no warranty to the end use of the data hereby presented Our liability is limited to the amount invoiced this work order undess otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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884-9116
) ) ))

XENCO
Laboratories

Project Name: Beeson 8" Discharge

ork Orders : 339427 Lab Batch #: 767681	7, Sample: 534902-1-BKS / B	KS Ba	Project II tch: <sup> </sup> Matri	): Beeson Hi x: Solid	storical	
Units: mg/kg	Date Analyzed: 08/05/09 09:13	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0299	0.0300	100	80-120	
4-Bromofluorobenzene		0.0345	0.0300	115	80-120	
	Sample: 534902-1-BSD / B	L SD Bas	toh: 1 Matri	v: Solid		
Units: mg/kg	Date Analyzed: 08/05/09 09:31	SU SU	RROGATE RE	COVERY	STUDY	
ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount  B	Recovery %R	Control Limits %R	Flags
14 D:0	Analytes		0.02.00	100		. <u>-</u>
4-Bromofluorobenzene		0.0307	0.0300	114	80-120	
		0.0342	0,0300		80-120	
Lab Batch #: 767681	Sample: 534902-1-BLK / B	LK Bai	tch: Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/05/09 10:08	SU	RROGATE RE		STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1,4-Difluorobenzene		0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	·····	0.0167	0.0300	56	80-120	*
ah Batch # 767681	Sample: 339427-001 / SMF	l Ra	teh·l Matri	v: Soil		
Linits: mg/kg	Date Analyzed: 08/05/09 11:17	SU	RROGATE RE	ECOVERY S	STUDY	-
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
I,4-Difluorobenzene		0.0248	0.0300	83	80-120	
4-Bromofluorobenzene		0,2635	0.0300	878	80-120	**
Lab Batch #: 767681	Sample: 339427-002 / SMF	Ba	tch: <sup> </sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 08/05/09 15:48	SU	<b>RROGATE RI</b>	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount  B	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0230	0,0300	77	80-120	**
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0699	0.0300	233	80-120	**

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

XENCO
Laboratories

Project Name: Beeson 8" Discharge

/ork Orders : 339427 Lab Batch #: 767681	7, Sample: 339427-003 / SMP	Bat	Project II	<b>):</b> Beeson Hi x: Soil	storical	
Units: mg/kg	Date Analyzed: 08/05/09 16:07	SU	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount  B}	Recovery %R [D]	Control Limits %R	Flags
1 4-Difluorobenzene		0.0228	0.0300	76	80-120	**
4-Bromofluorobenzene		0.0769	0.0300	256	80-120	**
Lab Batch #: 767681	Sample: 339703 001 D / MI	) <b>P</b> a4	ah 1 Matu	ru Soil		
Units: mg/kg	Date Analyzed: 08/05/09 17:59	SU	RROGATE R	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
14 Diff	Analytes					
4-Bromofluorobenzung		0.0208	0.0300	69	80-120	**
		0.0467	0.0300	130	80-120	
Lab Batch #: 767471	Sample: 534782-1-BKS / BI	KS Bat	ch: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/03/09 14:32	SU	RROGATE RI	COVERY	STUDY	_
ТРН	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flag
I-Chlorooctane		95.2	100	95	70-135	-
o-Terphenyl		39.4	50.0	79	70-135	
Lab Batch #: 767471	Sample: 534782-1-BSD / BS	SD Bat	tch: 1 Matri	x: Solid	<u>.</u>	-
Units: mg/kg	Date Analyzed: 08/03/09 14:58	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1-Chlorooctane		96.2	100	96	70-135	_
o-Terphenyl		38.9	50.0	78	70-135	
Lab Batch #: 767471	Sample: 534782-1-BLK / B	LK Ba	tch: <sup>1</sup> Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 08/03/09 15:23	SU	RROGATE RI	ECOVERY	STUDY	_
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[0]		
1-Chlorooctane		83.5	100	84	70-135	
o-Terphenyl		43.8	50.0	88	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.

XENCO
Laboratories

### Project Name: Beeson 8" Discharge

ork Orders : 339427	7,		Project II	): Beeson Hi	storical		
Lab Batch #: 767471	Batch: I Matrix: Soil						
Units: mg/kg	Date Analyzed: 08/03/09 16:12	SU	SURROGATE RECOVERY STUDY				
TPH By SW8015 M <sub>od</sub> Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		88.6	99.5	89	70-135		
o-Terphenyl		43.1	49.8	87	70-135		
Lab Batch #: 767471	Sample: 339427-002 / SMP	P Batch: 1 Matrix: Soil					
Units: mg/kg	Date Analyzed: 08/03/09 16:37	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		90.3	99.7	91	70-135	<u>.                                    </u>	
o-Terphenyl		41.2	49.9	83	70-135		
Lab Batch #: 767471	Sample: 339427-003 / SMP	Ba	tch: <sup> </sup> Matri	x: Soil			
Units: mg/kg	Date Analyzed: 08/03/09 17:02	SURROGATE RECOVERY STUDY					
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	Anaryus	87.1	00.7	87	70-135		
o-Terphenyl		43.2	49.9	87	70-135	, <u></u>	
Lab Batch #: 767471	 Sample: 339513-001 D / ME	) Ra	tch: l Matri	x: Soil			
Units: mg/kg	Date Analyzed: 08/03/09 21:56	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod		Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags	
	Analytes						
1-Chlorooctane	· · ·	89.0	100	89	70-135		
o-1 erphenyl		46.2	50.0	92	70-135	Ĺ	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

XENCO	COLORD COLORD

Work Order #: 339427

**BS / BSD Recoveries** 

.....



Flag

Limits %RPD

Control Limits %R

RPD %

Dup. [G]

35 35 33 35

70-130 70-130 71-129 70-135 71-133

14 13 12 12

106

101

110 112 107

35

2

Date Analyzed: 08/03/2009

Matrix: Solid

Control

Flag

Limits %RPD

Control Limits %R

RPD %

Dup. [G]

3 33

70-135

e

70-135

101 86

1010 855

1000 1000

100

1000

1000 1000

8

830

Ð Ð

C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons

Control

Project Name: Beeson 8" Discharge

Project ID: Beeson Historical

Date Analyzed: 08/05/2009

Matrix: Solid

**BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** Blk. Spk Blk. Spk Blank Spike Duplicate Result [F] Spike Duplicate Result [F] 0.1062 0.2232 0.1066 0.1005 0.1101 Blank Spike Added Spike Added 0.1 0.1 0.2 E 0.1 0.1 Ξ Blank Spike %R [D] Blank Spike %R [D] 2 88 2 8 93 Date Prepared: 08/05/2009 Date Prepared: 08/03/2009 Blank Spike Result 0.0923 0.0879 0.0969 0.1976 0.0949 Blank Spike Result Ū IJ Batch #: 1 Batch #: 1 0.2000 0.1000 Spike Added 0.1000 0.1000 0.1000 Spike Added B Ē Sample Result [A] Blank Sample Result Blank ٤ Ð Ð Ð Ð Ð Sample: 534902-1-BKS Sample: 534782-1-BKS TPH By SW8015 Mod **BTEX by EPA 8021B** Lab Batch ID: 767471 Lab Batch ID: 767681 Units: mg/kg Units: mg/kg Analyst: ASA Analyst: ANL Analytes Analytes Ethylbenzene m,p-Xylenes o-Xylene Toluene Benzene

Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes Relative Percent Difference RPD = 200\*[(C-F)/(C+F)]

Page 10 of 13

XENCO	
Laboratorics	



#### Project Name: Beeson 8" Discharge

Work Order #: 339427

Lab Batch #: 767681				Project I	D: Beeson H	listorical
Date Analyzed: 08/05/2009 Date Pro		epared: 08/0	5/2009	Analy	st: ASA	
QC- Sample ID: 339703-001 D E		atch #: 1		Matr	ix: Soil	
Reporting Units: mg/kg		SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
BTEX by EPA 8021B Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	· · · · ·	0.1419	0.1201	17	35	
Toluene		0.4279	0.3764	13	35	
Ethylbenzene		2.805	2.796	0	35	
m,p-Xylenes		7.319	7.375	1	35	
o-Xylene		1.726	1.743	1	35	
a,a,a-Triftuorotoluene		1.72	1.72	0	35	
Date Analyzed:08/03/2009Date ProQC- Sample ID:339340-001 DBReporting Units:%		epared: 08/03/2009 Batch #: 1 SAMPLE / SAMPLE		Analyst: BEV Matrix: Soil DUPLICATE RECOVERY		
Percent Moisture Analyte		Parent Sample Result  A	Sample Duplicate Result  B]	RPD	Control Limits %RPD	Flag
Percent Moisture		616	5.04	- 1	20	
Lab Batab #: 767471		0.10	J.94	7	20	
Date Analyzed: 08/03/2009 QC- Sample ID: 339513-001 D	Date Pro E	epared: 08/0 Batch #: 1	3.94 )3/2009	Analy Matr	st: ANL	OVEDV
Date Analyzed: 08/03/2009 QC- Sample ID: 339513-001 D Reporting Units: mg/kg	Date Pro E	epared: 08/0 Batch #: 1 SAMPLE	3.94 )3/2009 / SAMPLE	Analy Matr DUPLIC	st: ANL ix: Soil ATE REC	OVERY
Date Analyzed: 08/03/2009 QC- Sample ID: 339513-001 D Reporting Units: mg/kg TPH By SW8015 Mod Analyte	Date Pr E	epared: 08/0 Batch #: 1 SAMPLE / Parent Sample Result  A]	3.94 )3/2009 / SAMPLE Sample Duplicate Result  B]	Analy Matr DUPLIC RPD	st: ANL ix: Soil ATE REC Control Limits %RPD	OVERY Flag
Date Analyzed: 08/03/2009 QC- Sample ID: 339513-001 D Reporting Units: mg/kg TPH By SW8015 Mod Analyte C6-C12 Gasoline Range Hydrocarbons	Date Pr E	epared: 08/0 Batch #: 1 SAMPLE J Parent Sample Result  A  24.1	3.94 )3/2009 / SAMPLE Sample Duplicate Result  B  25.5	Analy Matr DUPLIC RPD 6	20 st: ANL ix: Soil ATE REC Control Limits %RPD 35	OVERY Flag
Date Analyzed: 08/03/2009 QC- Sample ID: 339513-001 D Reporting Units: mg/kg TPH By SW8015 Mod Analyte C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons	Date Pr E	epared: 08/0 Batch #: 1 SAMPLE / Parent Sample Result  A  24.1 [130	3.94 3.94 3.94 3.94 3.94 3.94 5	Analy Matr DUPLIC RPD 6 8	st: ANL ix: Soil ATE RECO Control Limits %RPD 35 35	OVERY Flag

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit
CHAIN OF CUSTODY RECORD AND ANALYSIS R		Project Name: Beeston 5- Disc	er er er er er er er er er er er er er e	L L L L L L L L L L L L L L L L L L L		Fex Noise (2005) 200-2420	e-mail: <u>clbryant@basin-consulting.com</u>	2 Gillionay		Preservazon & of Companies Matrix 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Control (Control (Contro) (Contro) (Contro) (Contro) (Contro) (Contro) (Con	Carlo Sampa Carlos -09 0930 1 X X X Y Y	11-09 0945 1 1 X 1 Soli X 1 Soli X	Julios 0955 1 X         Soli X					Labor story Community: Sample Containing Mate	VOCA Free of Headspee		We by the stand barren of the standard of the		
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Environmental Lab of Te	•	Project Managor, Canalle Bryant	Company Name tastn Environmental Cons	Company Addrass: P.O. Ber 381	City/Stata/Zip: Levimation, NM 68269	Telephone No: 1555005-7210	Sampler Signature C, MM 10 Lt.				<ul> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <li>4 м.</li> <l< td=""><td>au du) a BA A A A A A A A A A A A A A A A A A A</td><td>Oi 3P-16</td><td>01 SP-17</td><td>712 SP-18 1</td><td></td><td></td><td></td><td></td><td>Concerning the second second second second second second second second second second second second second second</td><td></td><td>FINING MUNT 11319</td><td>Marin Arto</td><td></td></l<></ul>	au du) a BA A A A A A A A A A A A A A A A A A A	Oi 3P-16	01 SP-17	712 SP-18 1					Concerning the second second second second second second second second second second second second second second		FINING MUNT 11319	Marin Arto	

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	۱.	Sample Receip	ot Checklist			· ·
			2004 			Client Initials
#1 Tempera	ture of container/ cooler?	2	Caso I	NO		4
#2 Snipping #3 Custode1	Container in good conditi	ontainer/ cooler?	Yac	No	Not Procest	
#4 Custody	Seals intact on sample by	tiles/ container?	- Nes	No	Not Present	
#5 Chain of	Custody present?	- A	1.000	No	morridualit	
#6 Sample i	nstructions complete of C	hain of Custody?	Yes	No.		· · · · · · · · · · · · · · · · · · ·
#7 Chain of	Custody signed when rel	nquished/ received?	Yes	No-	s Clarine - P	51
#8 Chain of	Custody agrees with sam	ple label(s)?	CYes	No	alD written on Cont./ Li	id'
#9 Containe	r label(s) legible and inta	st?`.' '' '⊥	Yes.	· No:	Not Applicable	at
#10 Sample	matrix/ properties agree '	with Chain of Custody?	(Yes)	No-	1.61 0 1. 1	
#11 Containe	ers supplied by ELOT?	• • •	(Yes'	No	1	
#12 Sample:	s in proper container/ bot	le?	Yes	No	See Below	<u> </u>
#13 Sample:	s property preserved?		Yes	NO	See Below	
#14 Sample	bottles intact?	ain of Curtoth 2	(Ves)	NO	•	
#15 Preserv	ations documented on Chair	and Custody?	Yes	No /		
#17 Sufficier	at sample amount for indi	cated test(s)?	(Yes'	No	See Below	
#18 All sam	cles received within suffic	ient hold time?	(Yes)	Not	Sea Below 2	
#19 Subcon	tract of sample(s)?	2 35	1 LYes \$	No ·	Not Applicable	
#20' VOC sa	mples have zero headsp	ace?	(Yes)	No-	Not Applicable	
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		Variance Doc	umentation	. •	*	·
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# Analytical Report 339703

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge

**Beeson Historical** 

10-AUG-09





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Houston - Dallas - San Antonio - Tampa - Miami - Midland - Corpus Christi - Atlanta - Latin America



10-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 339703 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 339703. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 339703 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



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## Sample Cross Reference 339703

## PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-19	S	Aug-04-09 09:28		339703-001
SP-20	. S	Aug-04-09 09:40		339703-002
SP-21	S	Aug-04-09 09:56		339703-003
SP-22	S	Aug-04-09 10:12		339703-004
SP-23	S	Aug-04-09 10:28		339703-005

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 339703 Report Date: 10-AUG-09 Date Received: 08/05/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-767681 BTEX-MTBE EPA 8021B SW8021BM

Batch 767681, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 339703-001 D,339703-004,339703-003,339703-001.
4-Bromofluorobenzene recovered below QC limits Data confirmed by re-analysis. Samples affected are: 534902-1-BLK.
4-Bromofluorobenzene recovered above QC limits Matrix interferences is suspected; Data confirmed by re-analysis. Samples affected are: 339703-003, 339703-001, 339703-004, 339703-001 D

Batch: LBA-767723 TPH by SW8015 Mod None

Batch: LBA-767761 Percent Moisture None

Batch: LBA-768053 BTEX-MTBE EPA 8021B SW8021BM

Batch 768053, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 339703-005,339703-002. 4-Bromofluorobenzene recovered below QC limits Data confirmed by re-analysis. Samples

affected are: 535108-1-BLK. 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 339703-002, 339703-005.

	Historical
	d: Beeson
NCO NCO rateries	Project I
<b>K</b> Labo	

Contact: Jason Henry

Certificate of Analysis Summary 339703 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Beeson 8" Discharge

Date Received in Lab: Wed Aug-05-09 08:35 am Report Date: 10-AUG-09

Project Location: Lea County, NM					Report Date:	10-AUG-09	
					<b>Project Manager:</b>	Brent Barron, II	
	Lab Id:	339703-001	339703-002	339703-003	339703-004	339703-005	
Analysis Dogiostad	Field Id:	SP-19	SP-20	SP-21	SP-22	SP-23	
naicanhau ciclinuv	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Aug-04-09 09:28	Aug-04-09 09:40	Aug-04-09 09:56	Aug-04-09 10:12	. Aug-04-09 10:28	
BTEX by EPA 8021B	Extracted:	Aug-05-09 10:00	Aug-07-09 16:00	Аид-05-09 10:00	Aug-05-09 10:00	Aug-07-09 16:00	
	Analyzed:	Aug-05-09 13:57	Aug-07-09 22:58	Аид-05-09 17:22	Aug-05-09 17:40	Aug-07-09 23:16	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		0.1419 0.0572	0.0162 0.0118	0.0509 0.0248	0.0442 0.0208	0.5094 0.1152	
Tolucne		0.4279 0.1144	0.3662 0.0236	0.2294 0.0497	0.1773 0.0417	6.613 0.2305	
Ethylbenzene		2.805 0.0572	0.3265 0.0118	0.3443 0.0248	0.3097 0.0208	23.43 0.1152	
m,p-Xylencs		7.319 0.1144	1.027 0.0236	1.851 0.0497	1.677 0.0417	30.86 0.2305	
o-Xylene		1.726 0.0572	1.183 0.0118	1.232 0.0248	1.178 0.0208	4.363 0.1152	
Total Xylencs	-	9.045 0.0572	2.210 0.0118	3.083 0.0248	2.855 0.0208	35.22 0.1152	
Total BTEX		12.420 0.0572	2.919 0.0118	3.708 0.0248	3.386 0.0208	65.78 0.1152	
Percent Moisture	Extracted:						
	Analyzed:	Aug-06-09 10:43	Aug-06-09 10:43	Aug-06-09 10:43	· Aug-06-09 10:43	Aug-06-09 10:43	
	Unitv/RL:	% RL	% RL	% RL	% RL	% RL	
Percent Moisture		12.60 1.00	15.35 1.00	19.44 1.00	3.98 1.00	13.23 1.00	
TPH By SW8015 Mod	Extracted:	Аид-05-09 12:58	Aug-05-09 12:58	Aug-05-09 12:58	Aug-05-09 12:58	Aug-05-09 12:58	
	Analyzed:	Аид-05-09 13:54	Aug-05-09 14:20	Aug-05-09 14:47	Aug-05-09 15:13	Aug-05-09 15:39	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		356 85.7	355 88.2	421 18.6	322 78.1	1280 86.4	
C12-C28 Diesel Range Hydrocarbons		719 85.7	1090 88.2	1370 18.6	1020 78.1	2350 86.4	
C28-C35 Oil Range Hydrocarbons		122 85.7	154 88.2	136 18.6	150 78.1	269 86.4	
Total TPH		1197 85.7	1599 88.2	1927 18.6	1492 78.1	3899 86.4	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and reaths expressed throughout this matyrical propert properties the bact juggment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brefit Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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Project Name: Beeson 8" Discharge

ork Orders : 339703 Lab Batch #: 767681	}, Sample: 534902-1-BKS/B	KS Bat	Project II	): Beeson Hi	storical	
Units: mg/kg	Date Analyzed: 08/05/09 09:13	SUI	RROGATE RF	COVERY !	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.4-Difluorobenzene		0.0299	0.0300	100	80-120	
4-Bromofluorobenzene		0.0345	0.0300	115	80-120	
Lab Batch #: 767681	Sample: 534902-1-BSD / B	SD Bat	teh: <sup>1</sup> Matri	ix: Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 08/05/09 09:31	SUI	RROGATE RF	COVERY !	STUDY	·
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
1 13 9	Analytes	2.0307	0.0200	100		<b></b>
4 Bromofluombenzene		0.0307	0.0300	102	80-120	
		0.0342	0.0300		80-120	
.ab Batch #: 767681	Sample: 534902-1-BLK / B	LK Bate	ch: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/05/09 10:08	SUP	RROGATE RE	COVERY 2	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flag
1.4-Difluorobenzene		0.0267	0.0300	89	80-120	
4-Bromofluorobenzene		0.0167	0.0300	56	80-120	*
Lab Batch #: 767681	Sample: 339703-001 / SMP	, Bat	ch: 1 Matri	x: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 08/05/09 13:57	SUI	RROGATE RF	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes	L]		in)		
1,4-Difluorobenzene		0.0206	0.0300	69	80-120	**
4-Bromofluorobenzene	,	( 0.0471 j	0.0300	157	80-120	
		L				
Lab Batch #: 767681	Sample: 339703-003 / SMP	Bat	ch: 1 Matri	x: Soil		
Lab Batch #: 767681 Units: mg/kg	Sample: 339703-003 / SMP Date Analyzed: 08/05/09 17:22	Bat SUI	ch: <sup>1</sup> Matri RROGATE RE	x: Soil COVERY S	STUDY	
Lab Batch #: 767681 Units: mg/kg BTE	Sample: 339703-003 / SMF Date Analyzed: 08/05/09 17:22 X by EPA 8021B	Bat SUl Amount Found [A]	tch: 1 Matri RROGATE RF True Amount [B]	x: Soil COVERY S Recovery %R	STUDY Control Limits %R	Fla
Lab Batch #: 767681 Units: mg/kg BTE	Sample: 339703-003 / SMF Date Analyzed: 08/05/09 17:22 X by EPA 8021B Analytes	Bat SUl Amount Found [A]	tch: 1 Matri RROGATE RF True Amount [B]	ix: Soil SCOVERY ! Recovery %R [D] 69	STUDY Control Limits %R 80-120	Fla

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

Xe	N	C	0
Labo	ra	tor	ies

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Project Name: Beeson 8" Discharge

ork Orders : 339703 Lab Batch #: 767681	', Sample: 339703-004 / SMF	' Bat	Project IF	): Beeson His	storical	
Units: mg/kg	Date Analyzed: 08/05/09 17:40	SUI	RROGATE RE	COVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene		0.0209	0.0300	70	80-120	**
4-Bromofluorobenzene		0.0627	0.0300	209	80-120	**
Lab Batch #: 767681	Sample: 339703-001 D / M	D Bat	ch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/05/09 17:59	SUI	RROGATE RF	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R ID]	Control Limits %R	Flag
14.Difluorabenzene	Analytes	0.0208	0.0200		90.120	**
4-Bromofluorobenzene		0.0208	0.0300	156	80-120	**
- D. A.L. H. 768053	S35108-1-BKS/B	Bet		 SA144	00120	
JAD BATCH #: 100000	Sample: 333100-1-07.07 Date Analyzed: 08/07/09 19:54	KS Dau SUI	RROGATE RI	X: Sond	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0311	0.0300	104	80-120	
4-Bromofluorobenzene		0.0336	0.0300	112	80-120	
Lab Batch #: 768053	Sample: 535108-1-BSD / B	SD Bat	ch: 1 Matri	x: Solid	h <del>ma:</del>	
Units: mg/kg	Date Analyzed: 08/07/09 20:12	SUI	RROGATE RF	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			וען		
1.4-Difluorobenzene		0.0308 1	0.0300	103	80-120	
1		0.03.00	0.0000		1°	
4-Bromofluorobenzene		0.0352	0.0300	117	80-120	
4-Bromofluorobenzene Lab Batch #: 768053	Sample: 535108-1-BLK / B	0.0352	0.0300 ch: 1 Matri	117 x: Solid	80-120	
4-Bromofluorobenzene Lab Batch #: 768053 Units: mg/kg	Sample: 535108-1-BLK / B Date Analyzed: 08/07/09 20:49	0.0352 LK Bat SUE	0.0300 ch: 1 Matri RROGATE RE	117 x: Solid COVERY S	80-120 STUDY	
4-Bromofluorobenzene Lab Batch #: 768053 Units: mg/kg BTE2	Sample: 535108-1-BLK / B Date Analyzed: 08/07/09 20:49 X by EPA 8021B	0.0350 0.0352 LK Bat SUI Amount Found [A]	0.0300 ch: 1 Matri RROGATE RE Truc Amount [B]	117 x: Solid COVERY S Recovery %R	80-120 STUDY Control Limits %R	Flag
4-Bromofluorobenzene Lab Batch #: 768053 Units: mg/kg BTE2	Sample: 535108-1-BLK / B Date Analyzed: 08/07/09 20:49 X by EPA 8021B Analytes	0.0350 0.0352 LK Bat SUI Amount Found [A]	0.0300 tch: 1 Matri RROGATE RI Truc Amount [B]	117 x: Solid COVERY S Recovery %R  D]	80-120 STUDY Control Limits %R	Flag

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.



Project Name: Beeson 8" Discharge

'ork Orders : 339703 Lab Batch #: 768053	3, Sample: 339703-002 / SMP	, Bat	Project II tch: <sup>1</sup> Matri	<b>):</b> Beeson Hi x: Soil	storical	
Units: mg/kg	Date Analyzed: 08/07/09 22:58	SU	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			ומו		
1,4-Difluorobenzene		0.0210	0,0300	70	80-120	**
4-Bromofluorobenzene		0.1193	0.0300	398	80-120	**
Lab Batch #: 768053	Sample: 339703-005 / SMP	Bat	tch: <u> </u> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/07/09 23:16	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0211	0.0300	70	80-120	**
4-Bromofluorobenzene		0.0559	0.0300	186	80-120	**
Lab Batch #: 768053	Sample: 339957-004 S / MS	S Bat	tch: 1 Matri	v: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 08/08/09 04:11	SU	RROGATE RE	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			ומן		
1,4-Difluorobenzene		0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0360	0.0300	120	80-120	
Lab Batch #: 768053	Sample: 339957-004 SD / N	ASD Bat	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/08/09 04:29	SUI	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found  A]	True Amount  B	Recovery %R	Control Limits %R	Flags
					i ,	
·····	Analytes			[D]		
1,4-Difluorobenzene	Analytes	0.0308	0.0300	[D] 103	80-120	
1,4-Difluorobenzene 4-Bromofluorobenzene	Analytes	0.0308	0.0300	[D] 103 117	80-120 80-120	
1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 767723	Analytes Sample: 534932-1-BKS/B	0.0308 0.0352 KS Bat	0.0300 0.0300 tch: 1 Matri	[D] 103 117 x: Solid	80-120 80-120	
1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 767723 Units: mg/kg	Analytes Sample: 534932-1-BKS / B Date Analyzed: 08/05/09 12:35	0.0308 0.0352 KS Bat SU	0.0300 0.0300 tch: 1 Matri RROGATE RH	(D) 103 117 x: Solid COVERY S	80-120 80-120 STUDY	
1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 767723 Units: mg/kg TPH	Analytes Sample: 534932-1-BKS / B Date Analyzed: 08/05/09 12:35 By SW8015 Mod	0.0308 0.0352 KS Bat SU Amount Found [A]	0.0300 0.0300 ich: 1 Matri RROGATE RH True Amount [B]	(D) 103 117 x: Solid COVERY S Recovery %R	80-120 80-120 STUDY Control Limits %R	Flags
1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 767723 Units: mg/kg TPH	Analytes Sample: 534932-1-BKS / B Date Analyzed: 08/05/09 12:35 By SW8015 Mod Analytes	0.0308 0.0352 KS Bat SU Amount Found [A]	0.0300 0.0300 tch: 1 Matri RROGATE RH True Amount [B]	[D] 103 117 x: Solid COVERY S Recovery %R [D]	80-120 80-120 STUDY Control Limits %R	Flags

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Lab Batch #: 767723	, Sample: 534932-1-BSD / BS	SD Bat	tch: 1 Matri	ix: Solid	Storical	
Units: mg/kg	Date Analyzed: 08/05/09 13:01	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
L Chlomostana	Analytes	00.0	100	[10]	70.125	
o-Terphenyl		42.3	50.1	98 84	70-135	
ab Batab #: 767723	Sample: 534932-1-BLK / BL	K Rot	toh: ] Matri	l of	10 135	
Units: mg/kg	Date Analyzed: 08/05/09 13:28	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
1.Chlorooctane	Analytes	87.3	100	(D) 97	70 125	
o-Terphenyl		45.2	50.0	90	70-135	
Lab Batab # 767773	Sample: 339703-001 / SMP			 	10 100	
Lao Batch #: 707725	Date Analyzed: 08/05/09 13:54	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane		87.7	99.9	88	70-135	
o-Terphenyl		48.0	50.0	96	70-135	
Lab Batch #: 767723	Sample: 339703-002 / SMP	Bat	ch: 1 Matri	x: Soil	•	
Units: mg/kg	Date Analyzed: 08/05/09 14:20	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount  B	Recovery %R	Control Limits %R	Fla
	Analytes			[D]		
I-Chlorooctane		85.6	99.6	86	70-135	
o-Terphenyl		45.4	49.8	91	70-135	
Lab Batch #: 767723	Sample: 339703-003 / SMP	Bat	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/05/09 14:47	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount {B	Recovery %R	Control Limits %R	Fla
	Analytes			I INI		
1.011		07.5				

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Labo	ro	lor	ies

## Project Name: Beeson 8" Discharge

Work Orders : 339703 Lab Batch #: 767723	, Sample: 339703-004 / SMP	Ba	Project I tch: 1 Matr	D:Beeson Hi ix: Soil	istorical	
Units: mg/kg	Date Analyzed: 08/05/09 15:13	SU	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Rccovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		88.7	100	89	70-135	
o-Terphenyl		46.1	50.0	92	70-135	
Lab Batch #: 767723	Sample: 339703-005 / SMP	Ba	tch: l Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 08/05/09 15:39	SU	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		112	100	112	70-135	
o-Terphenyl		45.3	50.0	91	70-135	
Lab Batch #: 767723	Sample: 339703-005 D / ME	) Ba	tch: 1 Matr	ix: Soil		<u> </u>
Units: mg/kg	Date Analyzed: 08/05/09 16:05	SU	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flags
1-Chlorooctane		107	100	107	70-135	
o-Terphenyl		45.9	50.0	92	70-135	

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\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

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\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 339703 Lab Batch ID: 767681 Analyst: ASA

Date Prepared: 08/05/2009 Batch #: ]

Sample: 534902-1-BKS

**Project ID:** Beeson Historical Date Analyzed: 08/05/2009 Matrix: Solid

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Units: mg/kg		BLAN	K /BLANK	SPIKE / E	SLANK S	PIKE DUPI	ICATE ]	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Làmits	Control Limits	Flag
Analytes	[ <b>A</b> ]	[ <b>B</b> ]	Result [C]	%R [D]	E]	Duplicate Result [F]	%R [G]	%	%R	%RPD	1
Benzene	Ð	0.1000	0.0923	92	0.1	0.1062	106	14	70-130	35	
Tolucne	₽	0.1000	0.0879	88	0.1	0.1005	101	13	70-130	35	
Ethylbenzene	Ð	0.1000	0.0969	<u>6</u>	0.1	0.1101	110	13	71-129	35	
m.p-Xylenes	Ð	0.2000	0.1976	8	0.2	0.2232	112	12	70-135	35	
o-Xylene	Ð	0.1000	0.0949	95	0.1	0.1066	107	12	71-133	35	
Analyst: ASA	Da	te Prepar	ed: 08/07/200	6			Date AI	alyzed: 0	8/07/2009		
Lab Batch ID: 768053 Sample: 535108-1-E	3KS	Batcl	1#: 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / B	ILANK S	PIKE DUPI	ICATE I	RECOVE	RY STUD	Y	

BTEX by EPA 8021B	Blank Samole Result	Spike Added	Blank Snike	Blank Snike	Spike Added	Blank Snike	Bik. Spk Dun.	RPD	Control Limits	Control Limita	Flac
Analytes	[Y]	(8)	Result [C]	8% [0]	[E]	Duplicate Result [F]	[G]	%	%oR	%RPD	p
Benzene	Ð	0.1000	0.0935	94	0.1	0,0943	94	-	70-130	35	
Tolucne	Ð	0.1000	0.0907	16	0.1	0.0919	92	-	70-130	35	
Ethylbenzene	₽	0.1000	0.1038	104	0.1	0.1057	106	2	71-129	35	
m,p-Xylenes	Q	0.2000	0.2107	105	0.2	0.2140	107	2	70-135	35	
o-Xylene	QN	0.1000	0.1012	101	0.1	0.1032	103	2	71-133	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Sample: 534932-1-BKS Work Order #: 339703 Lab Batch ID: 767723 Analyst: BHW

Date Prepared: 08/05/2009 Batch #: 1

**Project ID:** Beeson Historical Date Analyzed: 08/05/2009 Matrix: Solid

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** 

Units: mg/kg		BLAN	K /BLANK S	PIKE / B	LANKS	PIKE DUPL	ICATE F	RECOVE	RY STUD	۲	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control LJmits %RPD	Flag
Analytes		[B]	[c]	[0]	[E]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	Ð	1000	812	81	1000	819	82	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	837	84	1000	838	84	0	70-135	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)| Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes







Project Name: Beeson 8" Discharge

Work Order #: 339703

Lab Batch ID: 768053 Date Analyzed: 08/08/2009

Reporting Units: mg/kg

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Project ID: Beeson Historical

QC- Sample ID: 339957-004 S Date Prepared: 08/07/2009

Batch#: 1 Matrix: Soil Analyst: ASA

Keporting Units: mg/kg		M	ATRIX SPIKE	( MATI	RIX SPII	KE DUPLICA1	re reco	VERY S	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplikate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	QN	0.1092	0.0851	78	0.1092	0.0858	62	-	70-130	35	
Toluene	QN	0.1092	0.0825	76	0.1092	0.0829	76	0	70-130	35	
Ethylbenzene	QN	0.1092	0.0934	86	0.1092	0.0934	86	0	71-129	35	
m,p-Xylenes	QN	0.2185	0.1876	86	0.2185	0.1880	86	0	70-135	35	
o-Xylene	ND	0.1092	0.0906	83	0.1092	0.0909	83	0	71-133	35	

Matrix Spike Percent Recovery [D] = 100<sup>4</sup>(C-A)B Relative Percent Difference RPD = 200<sup>4</sup>(C-F)((C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quanitation Limit Page 14 of 17



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#### Project Name: Beeson 8" Discharge

Work Order #: 339703

Lab Batch #: 767681			Project I	D: Beeson H	listorical
Date Analyzed: 08/05/2009 Date P	repared: 08/0	)5/2009	Analy	st: ASA	
QC- Sample ID: 339703-001 D	Batch #: 1		Matr	ix: Soil	
Reporting Units: mg/kg	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
BTEX by EPA 8021B Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	0.1419	0.1201	17	35	
Toluene	0.4279	0.3764	13	35	
Ethylbenzene	2.805	2.796	0	35	
m,p-Xylenes	7.319	7.375	1	35	
o-Xylene	1.726	1.743	1	35	
Lab Batch #: 767761 Date Analyzed: 08/06/2009 Date P QC- Sample ID: 339656-001 D	repared: 08/0 Batch #: 1	06/2009	Analy Matr	st: BEV ix: Soil	
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	8.17	9.59	16	20	
Lab Batch #: 767723 Date Analyzed: 08/05/2009 Date P QC- Sample ID: 339703-005 D	repared: 08/0 Batch #: 1	95/2009	Analy Matr	st: BHW ix: Soil	
Reporting Units: mg/kg	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
TPH By SW8015 Mod Analyte	Parent Sample Result  A	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	1280	1300	2	35	
C12-C28 Diesel Range Hydrocarbons	2350	2400	2	35	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit .



Client <u>Play /Plays</u> Date/Trane <u>DRIDS [DA 8:35</u> Lab ID #: <u>339103</u> Initials: <u>Jytek</u> Sample Receipt Checklist  Sample Receipt Checklist  Sample Receipt Checklist  Sample Receipt Checklist  Sample receive a No <u>Set 1 Checklist</u> Schale of Chain of Custody 7 (Set No <u>Set 1 Checklist</u> )  Client initials  Client initials: <u>Checklist</u> Schale of Chain of Custody 7 (Set No <u>Set 1 Checklist</u> )  Schale of Chain of Custody received?  Client initials  Schale of Custody agrees with sample catel(s)?  Set Check of Chain of Custody?  Ves No <u>Set Biology</u> Set Set Set Check of Chain of Custody?  Client initial?  Set Check of the Checklist  Check of the Apply:  Set Batched e-mail/ fac Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event	Client: <u>Basin /Playns</u> Date/Time <u>Districtiona 8:35</u> Lab ID #: <u>339703</u> Initials: <u>Gravel</u> <b>Sample Receipt Checklis</b> <b>Sample Instructions complete of Chain of Custody?</b> <b>sample matrix properties agree with Chain of Custody?</b> <b>samples in proper container/ bottle?</b> <b>samples in proper container/ bottle?</b> <b>samples property preserved?</b> <b>sample bottles intact?</b> <b>sample bottles intact?</b> <b>sample bottles intact?</b> <b>sample bottles intact?</b> <b>sample bottles intact?</b> <b>sample sinper container / bottle?</b> <b>sample bottles intact?</b> <b>sample sinper container / bottle?</b> <b>sample bottles intact?</b> <b>sample sinper container / bottle?</b> <b>sample bottles intact?</b> <b>sample solutions documented on Chain of Custody?</b> <b>sample Sinper container / bottle?</b> <b>sample solution:</b> <b>sample sinper container / bottle?</b> <b>sample solution:</b> <b>sample solution:</b> <b>sample solute of sample(s)?</b> <b>sample solution:</b> <b>sample solution:</b> <b>sample solution:</b> <b>sample solution:</b> <b>sample solution:</b> <b>subcontract of sample(s)?</b> <b>solution:</b> <b>subcontract of sample(s)?</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>solution:</b> <b>sol</b>	No           No	ID written or Not App See E See E Not App	esent > esent > esent > f 1 1 1 1 cont/Lid bloable	
Date/Time       D:ShrSho A 3:35         Lab ID #:	Date/ Time       D&IDS/10/4       8:35         Lab ID #:       339103         Initials:       GMAN         Sample Receipt Checklis         Sample Receipt Checklis         #1 Temperature of contained/ cooler?         (eb)         #1 Temperature of contained/ cooler?       (feb)         #2 Shipping container in good condition?       (feb)         #3 Custody Seats intact on shipping container?       (feb)         #4 Custody Seats intact on sample/bottles/container?       (feb)         #5 Chain of Custody agrees with sample labet(s)?       (Yes)         #6 Sample instructions complete of Chain of Custody?       (Yes)         #7 Chain of Custody agrees with sample labet(s)?       (Yes)         #8 Chain of Custody agrees with sample labet(s)?       (Yes)         #10 Sample matrix/ properties agree with Chain of Custody?       (Yes)         #11 Containers supplied by ELOT?       (Yes)         #12 Samples intact?       (Yes)         #13 Samples property préserved?       (Yes)         #14 Samples bottes intact?       (Yes)         #15 Preservations documented on Chain of Custody?       (Yes)         #18 All samples received within sufficient hold time?       (Yes)         #19 Subcontract of sample(s)?       <	No No No No No No No No No No No No No N	John See E See E Not App	Control Contro	
Lab ID #:	Lab ID #:       339103         Initials:       91000         #1       Temperature of Container/ cooler?       (eb)         #2       Shipping container in good condition?       (11)         #3       Custody Seals intact on shipping container?       (Yes)         #4       Custody Seals intact on shipping container?       (Yes)         #5       Chain of Custody present?       (Yes)         #6       Sample instructions complete of Chain of Custody?       (Yes)         #7       Chain of Custody geness with sample label/(s)?       (Yes)         #8       Chain of Custody geness with sample label/(s)?       (Yes)         #10       Sample matrix/ properties agree with Chain of Custody?       (Yes)         #11       Container label(s) legible and intact?       (Yes)         #12       Samples in proper container/ bottle?       (Yes)         #13       Sample bottles intact?       (Yes)         #14       Sample bottles intact?       (Yes)         #15       Preservations documented on Chain of Custody?       (Yes)         #18       All samples received within sufficient hold time?       (Yes)         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspoce?       Yes <td>No           No           No</td> <td>ID written or Not Pri ID written or Not App See B See B See B Not App</td> <td>C C C C C C C C C C C C C C</td> <td></td>	No           No	ID written or Not Pri ID written or Not App See B See B See B Not App	C C C C C C C C C C C C C C	
Initials:	Initials:	No           No	ID written or Not Pri ID written or Not App See E See E See E Not App	c esent C esent C esent C r r r r r r r r r r r r r r r r r r r	
Client initiate     Cooling process had begun shortly after sampling event	Sample Receipt Chacklis         #1       Temperature of contained cooler?       (eb)         #2       Shipping container in good condition?       (mill)       Yes         #3       Custody Seals intact on shipping container/ cooler?       Yes         #4       Custody Seals intact on sample/Softles/Container?       Cress         #5       Sample instructions complete of Chain of Custody?       Cress         #6       Sample instructions complete of Chain of Custody?       Cress         #7       Chain of Custody signed when relinquished/ received?       Cress         #8       Chain of Custody agrees with sample labe/(s)?       Cress         #9       Container label(s) legible and intact?       Cress         #10       Samples in proper container/ bottle?       Cress         #11       Container supplied by ELOT?       Yes         #12       Sample bottles intact?       Cress         #13       Sample bottles intact?       Cress         #14       Sample bottles intact?       Cress         #15       Preservations documented on Chain of Custody?       Cress         #16       Containers documented on Chain of Custody?       Yes         #17       Sufficient sample amount for indicated test(s)?       Yes         #19	No           No	ID written or Not App See B See B See C Not App	cesent C esent C esent C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
#1       Temperature of Container/ cooler? <ul> <li></li></ul>	#1       Temperature of Container/ cooler?       Yes         #2       Shipping container in good condition?       Yes         #3       Custody Seals intact on shipping container/ cooler?       Yes         #4       Custody Seals intact on sample cottles/ container?       Yes         #5       Chain of Custody present?       Yes         #6       Sample instructions complete of Chain of Custody?       Yes         #7       Chain of Custody signed when relinguished/ received?       Yes         #8       Chain of Custody agrees with sample labe(s)?       Yes         #9       Container label(s) legible and intact?       Yes         #10       Samples in proper container/ bottle?       Yes         #11       Containers supplied by ELOT?       Yes         #12       Samples in proper container/ bottle?       Yes         #13       Samples inperty préserved?       Yes         #14       Samples intact?       Yes         #15       Preservations documented on Chain of Custody?       Yes         #16       Containers documented on Chain of Custody?       Yes         #17       Sufficient sample amount for indicated test(s)?       Yes         #18       All samptes received within sufficient hold time?       Yes         #19 <td>No           No           No</td> <td>J . ) (Not Pri Not Pri D written or Not App See E See E See E Not App</td> <td>esent esent i cont/Lid slcable i selow &amp; i selow &amp; selow &amp; i selow &amp; selow &amp; i selow &amp;</td> <td></td>	No           No	J . ) (Not Pri Not Pri D written or Not App See E See E See E Not App	esent esent i cont/Lid slcable i selow & i selow & selow & i selow & selow & i selow &	
2       Shipping container in good condition?       (MD)       Yes       No       (Not Present)         33       Custody Seals intact on shipping container? cooler?       Yes       No       Not Present)         45       Custody genesities container?       (Yes)       No       Not Present)         45       Chain of Custody present?       (Yes)       No       1         47       Chain of Custody grees with sample diffese container?       (Yes)       No       1         47       Chain of Custody grees with sample label(s)?       (Yes)       No       No       No         48       Chain of Custody grees with sample label(s)?       (Yes)       No       No       No       No         47       Chain of Custody grees with chain of Custody?       (Yes)       No       No       Applicable         47       Container babel(s) legible and Intract?       (Yes)       No       I          4710       Sample stopet container/ bottle?       (Yes)       No       I          4712       Sample stopet container/ bottle?       (Yes)       No       I          4713       Samples topet container/ bottle?       (Yes)       No       I          4715       Samples t	#2       Shipping container in good condition?       MID         #3       Custody Seals intact on shipping container?       Yes         #4       Custody Seals intact on sample contents?       Yes         #5       Chain of Custody present?       Yes         #6       Sample instructions complete of Chain of Custody?       Yes         #7       Chain of Custody signed when relinguished/ received?       Yes         #8       Chain of Custody agrees with sample label(s)?       Yes         #9       Container label(s) legible and intact?       Yes         #10       Sample matrix/ properties agree with Chain of Custody?       Yes         #11       Container supplied by ELOT?       Yes         #12       Samples in proper container/ bottle?       Yes         #13       Samples inperty preserved?       Yes         #14       Samples occumented on Chain of Custody?       Yes         #15       Preservations documented on Chain of Custody?       Yes         #16       Containers documented on Chain of Custody?       Yes         #17       Sufficient sample amount for indicated test(s)?       Yes         #18       All samples proved value intoid time?       Yes         #19       Subcontract of sample(s)?       Yes         #2	No           No	ID written or Not Pri ID written or Not App See B See B See B See B	esent 2 esent 1 1 1 Cont/Lid Sikcable 1' 1 1 Selow 1 3 atow 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
#3       Custody Seals intact on sample of Ges/Container?       Yes       No       Not Present?         #4       Custody Seals intact on sample of Ges/Container?       Yes       No       Not Present?         #5       Chain of Custody reservent?       Yes       No       Not Present?         #6       Sample instructions complete of Chain of Custody?       Yes       No       1         #6       Chain of Custody signed when relinguished/ received?       Yes       No       1         #7       Chain of Custody reserve with Sample label(g)?       Yes       No       No       Not Applicable         #7       Container label(s) legible and intact?       Yes       No       No       Not Applicable         #10       Sample matrix properties argere with Chain of Custody?       Yes       No       1          #11       Container's supplied by ELOT?       Yes       No       Same sease Below!          #13       Sample bottes intact?       Yes       No       See Below!          #14       Sample bottes intact?       Yes       No       See Below!          #14       Sample bottes intact?       Yes       No       Not Applicable?          #15       Prisoarvations	#3       Custody Seals intact on shipping container/ cooler?       Yes         #4       Custody Seals intact on sample/offiles/container?       (Yes)         #5       Chain of Custody present?       (Yes)         #6       Sample instructions complete of Chain of Custody?       (Yes)         #7       Chain of Custody signed when relinguished/ received?       (Yes)         #8       Chain of Custody agrees with sample label(s)?       (Yes)         #9       Container label(s) legible and Intact?       (Yes)         #10       Sample matrix/ properties agree with Chain of Custody?       (Yes)         #11       Containers supplied by ELOT?       (Yes)         #12       Samples in proper container/ bottle?       (Yes)         #14       Samples property preserved?       (Yes)         #15       Preservations documented on Chain of Custody?       (Yes)         #16       Containers documented on Chain of Custody?       (Yes)         #17       Sufficient sample amount for indicated test(s)?       (Yes)         #18       All samples have zero headspace?       (Yes)         #19       Subcontract of sample(s)?       Yes         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspace?       Yes <td>No           No           No</td> <td>ID written or Not Pri ID written or Not App See E See E See E Not App</td> <td>esent 2 esent 1 1 1 Cont/Lid Sicable 1 1 1 1 2 elów /a 3 atow) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td> <td></td>	No           No	ID written or Not Pri ID written or Not App See E See E See E Not App	esent 2 esent 1 1 1 Cont/Lid Sicable 1 1 1 1 2 elów /a 3 atow) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
gat       Custody Seals intact on samplet offices/container?       (Yes)       No       No       No         dS       Chain of Custody present?       (Yes)       No       1         dS       Sample instructions complete of Chain of Custody?       (Yes)       No       1         dT       Chain of Custody signed when relinquished/ received?       (Yes)       No       1         dT       Chain of Custody agrees with sample labet(s) [2018       No       No       No       1         dT       Container babe(s) [2018       and indat?       (Yes)       No       No       1         dT       Container babe(s) [2018       and indat?       (Yes)       No       No       1         dT       Container babe(s) [2018       and indat?       (Yes)       No       Samples in proper container/ botte?       (Yes)       No       1         dT2       Samples in proper container/ botte?       (Yes)       No       See Balow)       1         dT3       Samples bottes intact?       (Yes)       No       See Balow)       1         dT3       Samples bottes intact?       (Yes)       No       See Balow)       1         dT3       Samples bottes intact?       (Yes)       No       See Balow)	#4       Custody Seals intact on sample/StilleS/container?       (TeS)         #5       Chain of Custody present?       (YeS)         #6       Sample instructions complete of Chain of Custody?       (YeS)         #7       Chain of Custody signed when relinquished/ received?       (YeS)         #8       Chain of Custody agrees with sample label(s)?       (YeS)         #9       Container label(s) legible and Intact?       (YeS)         #10       Sample matrix/ properties agree with Chain of Custody?       (YeS)         #11       Containers supplied by ELOT?       (YeS)         #12       Samples in proper container/ bottle?       (YeS)         #14       Samples bottles intact?       (YeS)         #15       Preservations documented on Chain of Custody?       (YeS)         #16       Containers documented on Chain of Custody?       (YeS)         #17       Sufficient sample amount for indicated test(s)?       (YeS)         #18       All samples proper preserved?       (YeS)         #19       Subcontract of sample(s)?       YeS         #20       VOC samples have zero headspace?       (YeS)         Wariance Documentation       Contacted by:       (YeS)         Regarding:	No           No	ID written or Not App See E See E Not App	esent i l a ConL/Lid blicable i selow /a j selow	
#3. Chain of Custody present?       Yfes       No       I         #6 Sample instructions complete of Chain of Custody?       Yfes       No       I         #7 Chain of Custody sprees with sample label(s)?       Yfes       No       Io written on Cont/Ud         #8 Chain of Custody sprees with sample label(s)?       Yfes       No       No       Io written on Cont/Ud         #9 Container label(s) legible and intact?       Yfes       No       No       Io Applicable         #11 Container subel(s) legible and intact?       Yfes       No       Io Antice Applicable         #11 Containers supplied by ELOT?       Yfes       No       Io written on Cont/Ud         #12 Samples in proper container/ bottle?       Yfes       No       See Below         #13 Samples bottles intact?       Yfes       No       See Below         #14 Sample bottles intact?       Yfes       No       See Below         #15 Priceservations documented on Chain of Custody?       Yfes       No       See Below         #16 Containers documented on Chain of Custody?       Yfes       No       See Below         #17 Sufficient sample amount for indicated test(s)?       Yfes       No       See Below         #18 Subcontact of sample(s)?       Yfes       No       See Below         #19 Subcont	#5       Chain of Custody present?       (Yes)         #6       Sample instructions complete of Chain of Custody?       (Yes)         #7       Chain of Custody signed when relinquished/ received?       (Yes)         #8       Chain of Custody signed when relinquished/ received?       (Yes)         #9       Container label(s) legible and Intact?       (Yes)         #10       Sample matrix/ properties agree with Chain of Custody?       (Yes)         #11       Container supplied by ELOT?       (Yes)         #12       Samples in proper container/ bottle?       (Yes)         #13       Sample bottles intact?       (Yes)         #14       Sample bottles intact?       (Yes)         #15       Preservations documented on Chain of Custody?       (Yes)         #16       Containers documented on Chain of Custody?       (Yes)         #17       Sufficient sample amount for indicated test(s)?       (Yes)         #18       All samples have zero headspoce?       Yes)         #20       VOC samples have zero headspoce?       Yes)         Regarding:	No           No	ID written or Not App See B See E See E See E Not App	i a ConL/Lid blicable i selow /a jatow) jatow) jatow) jatow	
me       sample insurations complete or Chain of Custody?       LES       - NO         #7       Chain of Custody agrees with sample label(s)?       Yes       No       1         #8       Chain of Custody agrees with sample label(s)?       Yes       No       10 written on Con/Lid         #9       Container label(s) legible and Intact?       Yes       No       No       Applicable         #10       Sample matrix proper container/ bottle?       Yes       No       1	Ho       Sample insuccons complete of Chain of Custody?       CLES         #7       Chain of Custody signed when relinguished/ received?       CYes         #8       Chain of Custody agrees with sample label(s)?       CYes         #9       Container label(s) legible and intact?       (Yes)         #10       Sample matrix/ properties agree with Chain of Custody?       (Yes)         #11       Container supplied by ELOT?       (Yes)         #12       Samples in proper container/ bottle?       (Yes)         #13       Sample bottles intact?       (Yes)         #14       Sample bottles intact?       (Yes)         #15       Preservations documented on Chain of Custody?       (Yes)         #16       Containers' documented on Chain of Custody?       (Yes)         #17       Sufficient sample amount for indicated test(s)?       (Yes)         #18       All samples proper/symptotic distrogrammed to the sufficient hold time?       Yes         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspoce?       Yes         Wariance Documentation       Contacted by:	- R0 No No No No No No No No No No No No No	ID written or Not App See B See E See E See E Not App	i cont/Lid blicable i i setow i i setow i i i i i i i i i i i i i i i i i i i	
Total of Clusted version of Clusted version       Clasted version control (Clusted version)       Clasted version control (Clusted version)         #3       Chain of Clusted version control (Clusted version)       Yesy:       No       Not Applicable         #10       Sample matrixly properties agree with Chain of Clusted version       Yesy:       No       Not Applicable         #11       Container subpleted by ELOT?       Yesy:       No       1       1         #11       Containers subpleted by ELOT?       Yesy:       No       See Below's       1         #12       Samples import proserved?       Yesy:       No       See Below's       1         #13       Samples interit?       Yesy:       No       See Below's       1         #14       Sample bottles intact?       Yesy:       No       See Below's       1         #14       Sample amount for indicated test(s)?       Yes       No       1       1         #17       Sufficient noid function?       Yes       No       Not Applicable       1         #17       Sufficient noid function?       Yes       No       Not Applicable       1       1         #18       All samples received within sufficient noid function?       Yes       No       Not Applicable       1		No           No           No           No           No           No           No           No           No           No           No           No           No           No           No           No           No           No           No           No	ID written or Not App See B See E See E See E Not App	n ConL/Lid Dikable	
#2       Container label(s) legible and Intact?       Yesy       No       Not Applicable         #10       Sample matrix/ properties agree with Chain of Custody?       Yesy       No       Y         #11       Container label(s) legible and Intact?       Yesy       No       Y         #11       Container supplied by ELOT?       Yesy       No       Y         #12       Samples in proper container/ bottle?       Yesy       No       See Below // /////////////////////////////////	#9       Container label(s) legible and intact?       (Yes)         #10       Sample matrix/ properties agree with Chain of Custody?       (Yes)         #11       Containers supplied by ELOT?       (Yes)         #12       Samples in proper container/ bottle?       (Yes)         #13       Samples property preserved?       (Yes)         #14       Samples property preserved?       (Yes)         #15       Preservations documented on Chain of Custody?       (Yes)         #16       Containers' documented on Chain of Custody?       (Yes)         #17       Sufficient sample amount for indicated test(s)?       (Yes)         #18       All samples received within sufficient hold time?       Yes)         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspoce?       Yes         Variance Documentation       Contacted by:	No No No No No No No No No No	Not App	licable 1' letow k letow k letow letow	
#10       Sample matted properties agree with Chain of Custody?       Yes       No       1         #11       Containers supplied by ELOT?       Yes       No       1         #12       Samples in proper container/ bottle?       Yes       No       See Below!         #13       Samples incorenty preserved?       Yes       No       See Below!         #14       Samples incorenty preserved?       Yes       No       See Below!         #14       Sample bottles intact?       Yes       No       See Below!         #15       Preservations documented on Chain of Custody?       Yes       No       See Below!         #15       Containers documented on Chain of Custody?       Yes       No       See Below!         #16       Containers amount for indicated test(s)?       Yes       No       See Below!         #17       Subcontract of sample(s)?       Yes       No       No       For Applicable?         #20       VOC samples have zero headspace?       Yes       No       No       For Applicable?         #20       VOC samples have zero headspace?       Yes       No       For Applicable?         #20       VOC samples have zero headspace?       Yes       No       For Applicable?         Contact:	#10       Sample matrix/ properties agree with Chain of Custody?       (Yes /         #11       Containers supplied by ELOT?       (Yes /         #12       Samples in proper container/ bottle?       (Yes /         #13       Samples property preserved?       (Yes /         #14       Sample bottles intact?       (Yes /         #15       Preservations documented on Chain of Custody?       (Yes /         #15       Containers documented on Chain of Custody?       (Yes /         #16       Containers documented on Chain of Custody?       (Yes /         #17       Sufficient sample amount for indicated test(s)?       (Yes /         #18       All samples received within sufficient hold time?       (Yes /         #19       Subcontract of sample(s)?       Yes //         #20       VOC samples have zero headspoce?       Yes //         Variance Documentation       Contacted by:	No No No No No No No No	See E	I'	· · · · · · · · · · · · · · · · · · ·
#11 Containers supplied by ELOT?       Yes       No       See Below 1         #12 Samples in proper container/ bottle?       Yes       No       See Below 1         #13 Sample bottles intact?       Yes       No       See Below 1         #14 Sample bottles intact?       Yes       No       See Below 1         #15 Containers documented on Chain of Custody?       Yes       No       See Below 1         #15 Containers documented on Chain of Custody?       Yes       No       See Below 1         #15 Containers documented on Chain of Custody?       Yes       No       See Below 1         #15 Containers documented on Chain of Custody?       Yes       No       See Below 1         #17 Sufficient sample amount (or indicated test(s)?       Yes       No       See Below 1         #19 Subcontract of sample(s)?       Yes       No       No       Not Applicable 1         #20 VOC samples have zero headspace?       Yes       No       Not Applicable 1         Wariance Documentation       Yes       No       Not Applicable 1         Contact:       Contacted by:       Date/ Time.         Regarding:       Corrective Action Taken;       Client understands and would like to proceed with analysis         Cooling process had begun shortly after sampling event       Cooling process had	#11       Containers supplied by ELOT?       Yes         #12       Samples in proper container/ bottle?       Yes         #13       Samples inproper container/ bottle?       Yes         #14       Sample bottles intact?       Yes         #15       Preservations documented on Chain of Custody?       Yes         #16       Containers documented on Chain of Custody?       Yes         #17       Sufficient sample amount for indicated test(s)?       Yes         #18       All samples received within sufficient hold time?       Yes         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspoce?       Yes         Variance Documentation       Contact:       Contacted by:         Regarding:	Vo No No No No No No	See B See B See B See B See B	Below A	
#12_Samples in proper container/ botter?       (Ye3_No	#12       Samples in proper container/ bottle?       (Yes)         #13       Samples properly preserved?       (Yes)         #14       Sample bottles intact?       (Yes)         #15       Preservations documented on Chain of Custody?       (Yes)         #16       Containers documented on Chain of Custody?       (Yes)         #17       Sufficient sample amount for indicated test(s)?       (Yes)         #18       All samples received within sufficient hold time?       Yes         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspoce?       Yes         Variance Documentation       Yes         Regarding:	No- No No No No No No	See B See B See B See B See B See B	Below 2	
*13       Sample's buttles intact?       (152)       No	#14       Samples bubbely preserve (Yes)         #14       Sample bottles intact?         #15       Preservations documented on Chain of Custody?         #16       Containers documented on Chain of Custody?         #17       Sufficient sample amount for indicated test(s)?         #18       All samples received within sufficient hold time?         #19       Subcontract of sample(s)?         #20       VOC samples have zero headspoce?         Variance Documentation         Contact:       Contacted by:         Regarding:	No No No No No	See E	Setow:	
Image: Second contract of contract	#15       Preservations documented on Chain of Custody?       Yes.         #16       Containers documented on Chain of Custody?       Yes.         #17       Sufficient sample amount for indicated test(s)?       Yes.         #18       All samples received within sufficient hold time?       Yes.         #19       Subcontract of sample(s)?       Yes.         #20       VOC samples have zero headspoce?       Yes.         Variance Documentation       Yes.         Contact:       Contacted by:         Regarding:	No No No No	See E See E Not Ap	Jetow. Jetowi	
#16       Containers documented on Chain of Custody?       Yes       No       See Betow.         #17       Sufficient sample amount for indicated test(s)?       Yes       No.       See Betow.         #18       All samples received within sufficient hold time?       Yes       No.       See Betow.         #19       Subcontract of sample(s)?       Yes       No.       See Betow.         #19       Subcontract of sample(s)?       Yes       No.       See Betow.         #20       VOC samples have zero headspace?       Yes       No.       Not Applicable         Variance Documentation             Contact:	#16       Containers documented on Chain of Custody?       Yes         #17       Sufficient sample amount for indicated test(s)?       Yes         #18       All samples received within sufficient hold time?       Yes         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspace?       Yes         Variance Documentation       Yes         Contact:       Contacted by:         Regarding:	No No No	See E See E Not Apr	Setaw. Jelow!	
#17       Sufficient sample amount for indicated test(s)?       Yes       No.       See Betow.         #18       All samples received within sufficient hold time?       Yes       No.       See Betow.         #19       Subcontract of sample(s)?       Yes       No.       See Betow.         #20       VOC samples have zero headspace?       Yes       No.       Not Applicable         Variance Documentation             Contact:       Contacted by:       Date/ Time.          Regarding:            Corrective Action Taken:            Check all that Apply:       See attached e-mail/ fax        Client understands and would like to proceed with analysis         Cooling process had begun shortly after sampling event	#17       Sufficient sample amount for indicated test(s)?       Yes         #18       All samples received within sufficient hold time?       Yes         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspoce?       Yes         Variance Documentation       Yes         Contact:       Contacted by:         Regarding:	No No No	See E See E Not Apr	Below.	
#18       All samples received within sufficient hold time?       Yes       No.       See Below.         #19       Subcontract of sample(s)?       Yes       No.       Not Applicable         #20       VOC samples have zero headspace?       Yes       No.       Not Applicable         Variance Documentation       Variance Documentation       No.       Not Applicable         Contact:       Contacted by:       Date/ Time.         Regarding:	#18       All samples received within sufficient hold time?       Yes         #19       Subcontract of sample(s)?       Yes         #20       VOC samples have zero headspoce?       Yes         Variance Documentation       Yes         Contact:       Contacted by:         Regarding:	No No	Not Apr	Jelow.	<u>,                                     </u>
Artes       Yes       No       Not Applicable         #20       VOC samples have zero headspoce?       Yes       No       Not Applicable         Variance Documentation       Variance Documentation       Date/ Time.         Contact:       Contacted by:       Date/ Time.         Regarding:	#19       Subcontract of sample(s)/       res         #20       VOC samples have zero headspoce?.       Yes         Variance Documentation       Contact:       Contacted by:         Regarding:				
Variance Documentation         Contact:       Contacted by:         Regarding:         Corrective Action Taken:         Corrective Action Taken:         Check all that Apply:         See attached e-mail/ fax         Client understands and would like to proceed with analysis         Cooling process had begun shortly after sampling event	Variance Documentation Contact: Contacted by: Regarding: Corrective Action Taken:	<ol> <li>No"</li> </ol>	I TNOTAD	olicable	
Variance Documentation         Contact:       Contacted by:         Regarding:         Corrective Action Taken:         Corrective Action Taken:         Check all that Apply:         See attached e-mail/ fax         Client understands and would like to proceed with analysis         Cooling process had begun shortly after sampling event	Contact: Contacted by: Regarding: Corrective Action Taken:		· · · · · · · · · · · · · · · · · · ·	1.	
Contact:       Contacted by:       Date/ Time.         Regarding:	Contact: Contacted by: Regarding: Corrective Action Taken:			i	• •
Contacted by:	Contacted by:			. 1	
Regarding:	Regarding:	-	Date/ Ti	ine.	
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Check all that Apply: See attached e-mail/ fax Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event					· ,
Check all that Apply: See attached e-mail/ fax Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event			•	` <u> </u>	
Check all that Apply: See attached e-mail/ fax Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event	*				
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# Analytical Report 340059

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge

**Beeson Historical** 

12-AUG-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

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12-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 340059 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 340059. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 340059 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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## PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected Sample Depth	Lab Sample Id
SP-24	S	Aug-05-09 09:20	340059-001
SP-25	S	Aug-05-09 09:38	340059-002
SP-26	S	Aug-05-09 09:59	340059-003
SP-27	S	Aug-05-09 10:11	340059-004

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 340059

Report Date: 12-AUG-09 Date Received: 08/06/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

#### Analytical Non Conformances and Comments:

Batch: LBA-768017 Specific Conductance by EPA 120.1 None

Batch: LBA-768021 TX1005 None

Batch: LBA-768335 BTEX-MTBE EPA 8021B SW8021BM

Batch 768335, m,p-Xylenes recovered below QC limits in the Matrix Spike. Benzene, Ethylbenzene, Toluene, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 340059-003, -004, -002, -001.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

#### SW8021BM

Batch 768335, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 340059-002,340059-004,340059-003,340059-001. 4-Bromofluorobenzene recovered below QC limits QC Data not confirmed by re-analysis. Samples affected are: 535264-1-BLK.

4-Bromofluorobenzene recovered above QC limits QC Sample Data confirmed by re-analysis. Samples affected are: 340373-003 S, 340059-001, 340059-002, 340059-004, 340059-003

Contact: Jason Henry         Contact: Jason Henry         Lab Id: 340059-001         Analysis Requested       Lab Id: 340059-001         Analysis Requested       Pepth: SP-24         BTEX by EPA 8021B       Extracted: Aug-05-09 09:20         BTEX by EPA 8021B       Extracted: Aug-11-09 10:00         Brazene       Aug-11-09 11:06         Toluene       0.0338       0.0090         Ethylbenzene       0.0338       0.0090         Ethylbenzene       0.0338       0.0090         M.p.Xylenes       1.121       0.0050         M.p.Xylenes       0.8536       0.0050					
Project Location: Lea County, NM       Lab 1d:       340059-001         Analysis Requested       Field 1d:       587-24         Analysis Requested       Depth:       S01L         BTEX by EPA 8021B       Extracted:       Aug-11-09 10:00         BTEX by EPA 8021B       Extracted:       Aug-11-09 10:00         Benzene       Units/RL:       mg/kg       RL         Benzene       0.0338       0.0050       00500         Toluene       0.0338       0.0050       0.0338         M.P.Vylenes       1.121       0.0050       0.0350         O.Xylene       0.8535       0.0050       0.0050			Dat	e Received in Lab:	Thu Aug-06-09 05:40 pm
Lab Id:       340059-001         Analysis Requested       Ead Id:       340059-001         Analysis Requested       Eveld Id:       SP-24         Analysis Requested       Bepth:       SOIL         BTEX by EPA 8021B       Extracted:       Aug-05-09 09:20         BTEX by EPA 8021B       Extracted:       Aug-11-09 10:00         Brazence       Aug/12-ed:       Aug-11-09 10:00         Denzenc       IndiyZed:       Aug-11-09 10:00         Denzenc       IndiyZed:       Aug-11-09 10:00         Diutereco       0.0338       0.0050         Ethylbenzene       0.0338       0.0050         D.P.Xylene       0.8536       0.0050				Report Date:	12-AUG-09
Imalysis Requested       Lab Id:       340059-001         Field Id:       Field Id:       SP-24         Depta:       Depta:       SOIL         Matrix:       Somplea:       Aug-05-09 09:20         BTEX by EPA 8021B       Extracted:       Aug-11-09 10:00         Analyzed:       Aug-11-09 10:00       Analyzed:       Aug-11-09 10:00         BTEX by EPA 8021B       Extracted:       Aug-11-09 10:00       Analyzed:       Aug-11-09 10:00         Benzene       Units/RL:       mg/kg       RL       ND       0.0050         Toluene       0.0338       0.00338       0.0050       0.0050       0.0050         Toluene       0.2475       0.0050       0.0050       0.0050       0.0050         M.P. Xylenes       1.121       0.8536       0.0050       0.0050       0.0050				<b>Project Manager:</b>	Brent Barron, II
Analysis Requested         Field Id:         SP-24           Depth:         Depth::         SOIL           Matrix:         SOIL         SoilL           Sampled:         Aug-05-09         09:20           BTEX by EPA 8021B         Extracted:         Aug-11-09         10:00           Analyzed:         Aug-11-09         10:00         10:00           Indix RL         Nadyzed:         Aug-11-09         10:00           Indix RL         Nadyzed:         Nadyzed:         Nadyzed:         Nadyzed:           Indix RL         Nadyzed:         Nadyzed:         Nadyzed:         Nadyzed:           Indix RL         Nadyzed:         Nadyzed:         Nadyzed:         Nadyze:	29-001	340059-002	340059-003	340059-004	
Trituty sits Arequession         Depth:           Matrix:         Sampled:         SOIL           BTEX by EPA 8021B         Sampled:         Aug-05-09 09:20           BTEX by EPA 8021B         Extracted:         Aug-11-09 10:00           Imalyzed:         Aug-11-09 10:00         Anglyzed:         Aug-11-09 10:00           Extracted:         Aug-11-09 10:00         Anglyzed:         Aug-11-09 11:06           Imalyzed:         Imalyzed:         Aug-11-09 11:06         Monological           Imalyzed:         Aug-11-09 11:06         Units/RL:         mg/kg         RL           Benzene         Units/RL:         mg/kg         RL         ND         00009           Toluene         0.0338         0.0099         0.0338         0.0099         0.0350           m.p-Xylene         0.Xylene         0.8536         0.0050         0.0050         0.0050	-24	SP-25	SP-26	SP-27	
Matrix:         Soll.           Sampled:         Aug-05-09 09:20           BTEX by EPA 8021B         Extracted:         Aug-11-09 10:00           Analyzed:         Aug-11-09 11:06         Aug-11-09 11:06           Extracted:         Aug-11-09 11:06         Units/RL:         mg/kg         RL           Benzene         Units/RL:         mg/kg         RL         ND         0.0050           Toluene         0.0338         0.0050         ND         0.0050         0.0050           Toluene         0.2475         0.0050         0.0050         0.0050         0.0050           Tolvene         0.2475         0.0050         0.0050         0.0050         0.0050					
Sampled:         Aug-05-09         09:20           BTEX by EPA 8021B         Extracted:         Aug-11-09         10:00           Analyzed:         Aug-11-09         10:00         Aug-11-09         10:00           Benzene         Units/RL:         mg/kg         RL         RL           Ioluene         0:0338         0:0338         0:0090         0:0309           Ethylbenzene         0.2475         0:0309         0:0309         0:0309         0:0309           OXylene         0.8536         0:050         0:050         0:050         0:050         0:050         0:050         0:050	lic	SOIL	SOIL	SOIL	
BTEX by EPA 8021B         Extracted:         Aug.11.09 10:00           Analyzed:         Aug.11.09 11:06         Units/RL:         Aug.11.09 11:06           Benzene         Units/RL:         mg/kg         RL           Toluene         0.0338         0.0099           Ethylbenzene         0.2475         0.0050           m.p-Xylenes         1.121         0.0099           o-Xylene         0.8536         0.0050	-09 09:20 V	ug-05-09 09:38	Aug-05-09 09:59	Aug-05-09 10:11	
Analyzed:         Aug-11-09 11:06           Units/RL:         mg/kg         RL           Benzene         Units/RL:         mg/kg         RL           Denzene         0.0033         0.0090           Toluene         0.0338         0.0090           Di, P.Xylenes         1.121         0.0090           o.Xylene         0.8536         0.0050	-09 10:00	ug-11-09 10:00	Aug-11-09 10:00	Аид-11-09 10:00	
Units/RL:         mg/kg         RL           Benzene         ND         0.0050           Toluene         0.0338         0.0099           Ethylbenzene         0.2475         0.0099           m,p-Xylenes         1.121         0.0099           o-Xylene         0.8536         0.0050	-0911:06	ug-11-09 11:25	Aug-11-09 12:53	Aug-11-09 12:02	
Benzene         ND         0.0050           Toluene         0.0338         0.0099           Ethylbenzene         0.2475         0.0050           m,p-Xylenes         1.121         0.0099           o-Xylene         0.8536         0.0050	RL	mg/kg RL	mg/kg RL	mg/kg RL	
Toluene         0.0338         0.099           Ethylbenzene         0.2475         0.0050           m,p-Xylenes         1.121         0.0099           o-Xylene         0.8536         0.0050	ID 0:0050	ND 0.0207	0.1049 0.0510	ND 0.0210	
Ethylbenzene         0.2475         0.0050           m,p-Xylenes         1.121         0.0099           o-Xylene         0.8536         0.050	38 0.0099	0.0949 0.0414	0.6220 0.1021	1.211 0.0421	
m,p-Xylenes 1.121 0.0099 o-Xylene 0.8536 0.0050	75 0.0050	0.2422 0.0207	3.353 0.0510	0.5107 0.0210	
o-Xylene 0.8536 0.0050	21 0.0099	1.251 0.0414	22.90 0.1021	3.190 0.0421	
	36 0.0050	0.8874 0.0207	2.128 0.0510	1.835 0.0210	
Total Xylenes 1.975 0.0050	75 0.0050	2.138 0.0207	25.03 0.0510	5.025 0.0210	
Total BTEX 2.256 0.0050	56 0.0050	2.476 0.0207	29.11 0.0510	6.747 0.0210	
Percent Moisture Extracted	-				
Analyzed: Aug-10-09 09:02	-09 09:02 A	ug-10-09 09:02	Aug-10-09 09:02	Aug-10-09 09:02	
Units/RL: % RL	RL	% RL	% RL	% RL	
Percent Moisture ND 1.00	ID 1.00	3.31 1.00	2.01 1.00	4.96 1.00	
TPH By SW8015 Mod Extracted: Aug-09-09 19:03	-09 19:03 A	ug-09-09 19:03	Aug-09-09 19:03	Aug-09-09 19:03	
Analyzed: Aug-09-09 22:06	-09 22:06 A	ug-09-09 22:32	Aug-09-09 22:57	Aug-09-09 23:23	
Units/RL: mg/kg RL	RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons 315 74.4	15 74.4	607 15.5	1580 76.2	550 15.7	
C12-C28 Diesel Range Hydrocarbons 1650 74.4	50 74.4	2310 15.5	3260 76.2	1190 15.7	
C28-C35 Oil Range Hydrocarbons 184 74.4	84 74.4	194 15.5	338 76.2	113 15.7	
Total TPH 2149 74.4	49 74.4	3111 15.5	5178 76.2	1853 15.7	

HITH

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Certificate of Analysis Summary 340059 PLAINS ALL AMERICAN EH&S, Midland, TX

aboratories

This analytical report, and the entite data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and mades no warranty to the end use of the data hereby presented. Out liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

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l	.abo	ra	tor	ies

## Project Name: Beeson 8" Discharge

York Orders : 340059           Lab Batch #- 768335	, Sample: 535264-1-BKS/B	SKS Ba	Project II	D: Beeson Hi	storical	
Units: mg/kg	Date Analyzed: 08/11/09 09:15	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.03 14	0.0300	105	80-120	
4-Bromofluorobenzene		0.0333	0.0300	111	80-120	
Lab Batch #: 768335	Sample: 535264-1-BSD / B	SD Ba	tch: <sup> </sup> Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 08/11/09 09:34	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0345	0.0300	115	80-120	
Lab Batch #: 768335	Samule: 535264-1-BLK / E	I BLK Bai	tch: 1 Matri	ix: Solid	1	
Units: mg/kg	Date Analyzed: 08/11/09 10:11	SU	RROGATE RI	ECOVERY	STUDY	
BTEX	X by EPA 8021B Analytes	Атоunt Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0275	0.0300	92	80-120	
4-Bromofluorobenzene		0.0129	0.0300	43	80-120	0 *
Lab Batch #: 768335	Sample: 340059-001 / SMF	Batch: l Matrix: Soil				
Units: mg/kg	Date Analyzed: 08/11/09 11:06	SU	RROGATE RI	ECOVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R (D)	Control Limits %R	Flags
14-Difluorohenzene	Analytes	0.0705	0.0300	(-)	80.120	**
4-Bromofluorobenzene		0.2085	0.0300	695	80-120	**
Lab Batab #: 768335	Sample: 340059-002 / SMF		toh: 1 Matri	ix Soil		
Units: mg/kg	Date Analyzed: 08/11/09 11:25	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount įBį	Recovery %R [D]	Control Limits %R	Flags
	Analytes	-				
1,4-Difluorobenzene	Analytes	0.0211	0.0300	70	80-120	**

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.

XENCO
Laboratories

Project Name: Beeson 8" Discharge

ork Orders : 340059 I ab Batch #: 768335	', Sample: 340059-004 / SMP	Bai	Project II	): Beeson Hi	istorical	
Units: mg/kg	Date Analyzed: 08/11/09 12:02	SU	RROGATE RI	COVERY :	STUDY	<u></u>
BTE	X by EPA 8021B Analvtes	Amount Found  A	True Amount [B]	Recovery %R  D	Control Limits %R	Flag
1,4-Difluorobenzene		0.0207	0.0300	69	80-120	**
4-Bromofluorobenzene		0.0787	0.0300	262	80-120	**
Lab Batch #: 768335	Sample: 340059-003 / SMP	Bat	tch: <sup>1</sup> Matri	ix: Soil		<del></del>
Units: mg/kg	Date Analyzed: 08/11/09 12:53	SU	RROGATE RE	COVERY (	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
1.1 D'A. anghanyana	Analytes	0.0000	0.0300		70.100	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0202	0.0300	67	80-120	
	C + 240272.003.S / MS	0.0571	- 1 Maturi	170 C-11	00-120	<u> </u>
Lab Batch #: 100000	Sample: 340373-003 87 Mia	Bat SII	ch: 1 Matri PPOCATE RI	X: SOIL	STUDY	
Units: mg/kg	Date Analyzed: 08/11/09 16:05		KKUGATE NE		51001 T	<b>F</b>
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
14 Difluorohenzene	Analytes	0.0207	0.0700		90.170	
4-Bromofluorobenzene		0.0297	0.0300	123	80-120	*
	Semilar 340373 003 SD / N	49D B-4	Matri	Soil	00-120	1. •
Lab Batch #: 700555	Sample: 340373-003 507 M	4SD Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY				
BTEZ	X by EPA 8021B	Amount Found	True Amount	Recovery	Control Limits	Flas
	Analytes	[A]	[D]	7ок [D]	701	1
I,4-Difluorobenzene		0.0301	0.0300	100	80-120	
4-Bromofluorobenzene		0.0352	0.0300	117	80-120	
Lab Batch #: 768021	Sample: 535079-1-BKS / B	KS Bat	tch: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/09/09 19:59	SUI	RROGATE RF	COVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
	Analytes			(D)		
1-Chlorooctane		101	100	101	70-135	í
		10.0	50.0 94		36 70-135	(

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



## Project Name: Beeson 8" Discharge

ork Orders : 340059	, Sample: 535079-1-BSD / BS	D Ba	Project II	D: Beeson Hi	storical	
Units: mg/kg	Date Analyzed: 08/09/09 20:25	SU	RROGATE RI	ECOVERY	STUDY	
TPH 1	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	-	102	100	102	70-135	
o-Terphenyl		43.5	50.0	87	70-135	
Lab Batch #: 768021	Sample: 535079-1-BLK / BI	.K Bat	tch: 1 Matri	ix: Solid		
Units: mg/kg	Date Analyzed: 08/09/09 20:50	SU	RROGATE RI	<b>ECOVERY</b> 8	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found  A	True Amount  B]	Recovery %R  D	Control Limits %R	Flag
1-Chlorooctane		87.1	100	87	70-135	ı <u> </u>
o-Terphenyl		46.4	50.0	93	70-135	
Lab Batch #: 768021	Sample: 340059-001 / SMP	Ba	tch:   Matri	ix: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 08/09/09 22:06	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flag
1-Chlorooctane	Analytes	95.9	99.8 96	96	70-135	<u> </u>
o-Terphenyl		47.0	49.9	94	70-135	
Lab Batch #: 768021	Sample: 340059-002 / SMP	Batch:   Matrix: Soil SURROGATE RECOVERY STUDY				
Units: mg/kg	Date Analyzed: 08/09/09 22:32					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		97.7	99.9	98	70-135	
o-Terphenyl		50.0	50.0	100	70-135	
Lab Batch #: 768021	Sample: 340059-003 / SMP	Bat	tch: 1 Matri	ix: Soil	# <u></u>	
Unite: mg/kg		SU	<b>RROGATE RI</b>	COVERY	STUDY	
Omis, mg/kg	Date Analyzed: 08/09/09 22:57	50				
TPH 1	Date Analyzed: 08/09/09 22:57 By SW8015 Mod	Amount Found [A]	True Amount {B}	Recovery %R	Control Limits %R	Flag
TPH	Date Analyzed: 08/09/09 22:57 By SW8015 Mod Analytes	Amount Found [A]	True Amount {B;	Recovery %R [D]	Control Limits %R	Flag

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

 	XENCO
	Laboratories

Project Name: Beeson 8" Discharge

Vork Orders : 340059	· •		Project II	D: Beeson Hi	istorical	
Lab Batch #: 768021	Sample: 340059-004 / SMP	Bat	tch:   Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 08/09/09 23:23	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags
	Analytes		l	[D]		
I-Chlorooctane		107	99.7	107	70-135	
o-Terphenyl		47.0	49.9	94	70-135	
Lab Batch #: 768021	Sample: 340239-002 S / MS	S Bat	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 08/10/09 06:13	SU	RROGATE RI	ECOVERY	STUDY	
ТРН І	By SW8015 Mod	Amount Found  A	True Amount  B	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		107	99.7	107	70-135	
o-Terphenyl		44.4	49.9	89	70-135	
Lab Batch #: 768021	Sample: 340239-002 SD / N	(SD Bat	tch:   Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 08/10/09 06:39	SU	<b>RROGATE RI</b>	ECOVERY	STUDY	
ТРН І	By SW8015 Mod Analytes	Amount Found [A]	True Amount · [B]	Recovery %R  D	Control Limits %R	Flags
1-Chlorooctane		106	99.7	106	70-135	
o-Terphenyl		43.8	49.9	88	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 340059 Analyst: ASA Lab Batch ID: 768335

Units: mg/kg

Date Prepared: 08/11/2009 Batch #: 1

Sample: 535264-1-BKS

**Project ID:** Beeson Historical Date Analyzed: 08/11/2009 Matrix: Solid

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BTEX by EP	A 8021B	Blank	Spike	Blank Saite	Blank Seite	Spike	Blank	Blk. Spk	uad	Control	Control	Elar Elar
		[V]	hanne	Result	Spine %R	nanny	Duplicate	%R	<b>N</b>	%R	%RPD	
Analytes		1	[ <b>B</b> ]	[c]	[0]	[E]	Result [F]	[6]				
Benzene		Ð	0.1000	0.1104	110	0.1	0.1100	110	0	70-130	35	
Toluene		Ð	0.1000	0.1053	105	0,1	0.1054	105	0	70-130	35	
Ethylbenzene		Ð	0.1000	0.1149	115	0.1	0.1164	116	-	71-129	35	
m,p-Nylenes		Ð	0.2000	0.2360	118	0.2	0.2395	120	-	70-135	35	
o-Xylene		QN	0.1000	0.1105	111	0.1	0.1128	113	2	71-133	35	
Analyst: BHW		Da	te Prepare	ed: 08/09/200	6			Date Ar	nalyzed: 0	8/09/2009		
Lab Batch ID: 768021	Sample: 535079-1-B)	KS	Batch	#: 1					Matrix: S	bild		
	_		DI ANI	Z /DI ANV S	DIVE / I	NIV C	DIVE NITEL		110030		>	ſ

Units: mg/kg		DEMAN			LAIND 3		ICALE F			I	
TPH By SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Addeđ	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Lámits	Flag
	Z		Result	%R		Duplicate	%R	%	%R	%RPD	
Analytes		[B]	[C]	lal	[E]	Result [F]	<u>.</u>				
C6-C12 Gasoline Range Hydrocarbons	<b>CIN</b>	1000	866	87	1000	878	88	-	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	106	06 .	0001	921	92	7	70-135	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(Cy[B] Blank Spike Duplicate Recovery [G] = 100\*(Fy[E] All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries





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Work Order #: 340059

Date Analyzed: 08/11/2009 Lab Batch ID: 768335

Batch #: Analyst: QC- Sample ID: 340373-003 S Date Prepared: 08/11/2009

Matrix: Soil \_ ASA

Project ID: Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIKI	E / MATI	RIX SPII	KE DUPLICAT	fe rec	<b>DVERY</b>	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[Q]	[E]		[6]				
Benzene	ŊŊ	0.1149	0.0676	59	0.1149	0.0713	62	5	70-130	35	х
Toluene	<b>UN</b>	0.1149	0.0642	56	0.1149	0.0682	59	6	70-130	35	x
Ethylbenzene	ND	0.1149	0.0720	63	0.1149	0.0764	66	6	71-129	35	х
m,p-Xylenes	ŊŊ	0.2298	0.1509	66	0.2298	0.1601	70	6	70-135	35	Х
o-Xylene	QN	0.1149	0.0680	59	0.1149	0.0705	61	4	71-133	35	x
Lab Batch ID: 768021 Date Analyzed: 08/10/2009	)C- Sample ID: Date Prepared:	340239. 08/09/20	-002 S 009	Ba An	tch #: alyst: ]	l Matrix 3HW	: Soil				
Reporting Units: mg/kg		W	ATRIX SPIKI	E / MATI	RIX SPII	KE DUPLICAT	re reco	<b>DVERY</b>	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	<u>[</u> ]	8% 10]	Added [E]	Result [F]	<u>G</u> %	%	%R	%RPD	<u></u> .

35 35

70-135

-2

16 8

1050 1050

8 98

1050 1050

C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons

1070 968

40.3 g

1050 959

70-135

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F.A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Page 12 of 15





#### Project Name: Beeson 8" Discharge

Work Order #: 340059

Lab Batch #: 768017 Date Analyzed: 08/10/2009 QC- Sample ID: 340058-001 D	Date Prepared: 08/1 Batch #: 1	Proje 0/2009 An M	Project ID: Beeson Historical Analyst: BEV Matrix: Solid		
Reporting Units: %	SAMPLE	SAMPLE DUPI	LICATE REC	OVERY	
Percent Moisture	Parent Sample Result  A	Sample Duplicate RPI Result (Bl	Control Limits %RPD	Flag	
Analyte		(2)	1		
Percent Moisture	ND	ND NC	20		

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit .



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			المبيهة والمسترجب	ε. <i>Γ</i>
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Variance/ Corrective Action Repo	ort- Sample	≥ Log-in		
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Sample Receipt	becklist.			
Sample Receipte				
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1 Temperature of container/ cooler?	(Yes)	No	. 2.6 -0	<u> </u>
2: Shipping container in good condition?	· (Yes)	No'	e e e e e e e e e e e e e e e e e e e	i
3 Custody Seals intact on shipping container/ cooler?	(Yes)	No	Not Present	
4. · Custody Seals intact on sample hottles/ container?	Trest	~ No.	-/ No: Present -14	
5 (Choir of Custody aregant2)	· Nea.	No		<b>.</b>
5 Under Or Costody present r		- NI-		
Sample instructions complete of Chain of Custody?	1768.1	<u></u>	A., 4125	<u> </u>
7 Chain of Custody signed when relinguished/ received?	I (Yes)	_ No		
8 Chain of Custody agrees with sample tabel(s)?	1. Car 1	NO .	1D written on ContJ Lid	
9 Container label(s) legible and intact?	1 Vae?"	1 No	Not Applicable	
10 Sample matrix/ properties agree with Chain of Custody?	(ag)	No	7.	1. The second second second second second second second second second second second second second second second
11 Containant sumplied by SLOT2	1.1400	No~	l i i i i i i i i i i i i i i i i i i i	
Contastors Supplied by ELOT				
12 Samples in proper container/ ponte?	UES 1	-0%	See below: Ary	1
13 Samples properly preserved?	Ves	No.	. See Below. 1 1	
14 Sample bottles intact?	Yes?	No.	1. 1. 1. 1. 1. 1.	14 N. V. 1. 1. 2. 3
#15 Preservations documented on Chain of Custody?	Ves.	Nov	1. <u>1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1</u>	
#18 Comminate documented on Chain of Customic	Ver)	No		
FIG Company occumence of cherry a constant				
	1755		See Cauw	
TIS AU Samples received within sumcleat acid ume?	Ces	1110	· See Helow	^ · · ·
#15 Subcontract of sample(s)?	Yes	NO NO	Not Applicable	I
#20 VOC samples have zero headspace?.	(Yes)	ļ Nc ⊢	<ul> <li>Not Acplicable</li> </ul>	
		2.1	1 1 4 2 2 2	· · · · · · · · · · · · · · · · · · ·
Variance Docum	nentation	1 <b>1 1</b> 1		
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Contact: Contacted by: Regarding: Corrective Action Taken: Chack all that Apply: See attached e-mail/ fax Chack all that Apply: See attached e-mail/ fax Client understands and would Cooling process had begun to	d like to pro	beed with sampling	Date/ Time:	
Contact: Contacted by: Regarding: Corrective Action Taken: Chack all that Apply: See attached e-mail/ fax Chack all that Apply: See attached e-mail/ fax Chert understands and would Cooling process had begun to	d like to pro	ceed with sampling	Date/Time:	

# **Analytical Report 340491**

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge TNM-Beeson Historical

14-AUG-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Houston - Dallas - San Antonio - Tampa - Miami - Midland - Corpus Christi - Atlanta - Latin America



14-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 340491 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 340491. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 340491 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America


# Sample Cross Reference 340491



## PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-28	S	Aug-06-09 15:00		340491-001
SP-29	S	Aug-06-09 15:10		340491-002
SP-30	S	Aug-06-09 15:20		340491-003
SP-31	S	Aug-06-09 15:30		340491-004

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID:TNM-Beeson HistoricalWork Order Number:340491

Report Date: 14-AUG-09 Date Received: 08/10/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-768265 TX1005 None

Batch: LBA-768270 Percent Moisture None

Batch: LBA-768368 BTEX-MTBE EPA 8021B SW8021BM

Batch 768368, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 340491-001, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits

#### SW8021BM

Batch 768368, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 340491-001,340491-004.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 535290-1-BLK.

4-Bromofluorobenzene recovered above QC limits Data not cofirmed by re-analysis. Samples affected are: 535290-1-BKS, 535290-1-BSD, 340491-004, 340491-001.

#### **CASE NARRATIVE**



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID:TNM-Beeson HistoricalWork Order Number:340491

Report Date: 14-AUG-09 Date Received: 08/10/2009

Batch: LBA-768535 BTEX-MTBE EPA 8021B SW8021BM

Batch 768535, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 340491-003, -002. The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits

#### SW8021BM

Batch 768535, 4-Bromofluorobenzene recovered below QC limits Sample Data confirmed by reanalysis. Samples affected are: 535392-1-BLK,340491-002, 340491-003. 4-Bromofluorobenzene recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 535392-1-BKS and 535392-1-BSD

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Deniart Id. TNM. Reason Historical		Project Nan	ne: Beeson 8" Dis	scharge		
Contact: Jason Henry		3		Da	te Received in Lab: Mon	1 Aug-10-09 05:13 pm
Project Location: Lea County, NM					Report Date: 14-A	AUG-09
					Project Manager: Bren	nt Barron, II
	Lab Id:	340491-001	340491-002	340491-003	340491-004	
Australia Dave and ad	Field Id.	SP-28	SP-29	SP-30	SP-31	
naisanbay sistinuty	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Aug-06-09 15:00	Aug-06-09 15:10	Aug-06-09 15:20	Aug-06-09 15:30	
BTEX by EPA 8021B	Extracted:	Aug-12-09 17:00	Aug-13-09 17:00	Aug-13-09 17:00	Aug-12-09 17:00	
	Analyzed:	Aug-13-09 01:41	Aug-13-09 18:23	Aug-13-09 18:42	Aug-12-09 21:04	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		0.0698 0.0529	ND 0.0011	ND 0.2621	ND 0.0010	
Toluene		0.8179 0.1058	ND 0.0023	ND 0.5241	0.0072 0.0020	
Ethylbenzene		1.383 0.0529	ND 0.0011	10.94 0.2621	0.0145 0.0010	
m,p-Xylenes		8.153 0.1058	0.0031 0.0023	4.830 0.5241	0.0340 0.0020	
o-Xylene		6.059 0.0529	0.0015 0.0011	2.062 0.2621	0.0208 0.0010	
Total Xylenes		14.212 0.0529	0.0046 0.0011	6.892 0.2621	0.0548 0.0010	
Total BTEX		16.483 0.0529	0.0046 0.0011	17.83 0.2621	0.0765 0.0010	
Percent Moisture	Extracted:					
	Analyzed:	Aug-12-09 10:03	Aug-12-09 10:03	Aug-12-09 10:03	Aug-12-09 10:03	
	Units/RL:	% RL	% RL	% RL	% RL	
Percent Moisture		5.49 1.00	11.95 1.00	4.60 1.00	1.80 1.00	
TPH By SW8015 Mod	Extracted:	Aug-11-09 13:33	Aug-11-09 13:33	Aug-11-09 13:33	Aug-11-09 13:33	-
	Analyzed:	Aug-11-09 20:40	Aug-11-09 21:06	Aug-11-09 21:31	Aug-11-09 21:57	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		731 158	ND 17.0	1020 157	143 76.1	
C12-C28 Diesel Range Hydrocarbons		2830 158	204 17.0	4230 157	1300 76.1	
C28-C35 Oil Range Hydrocarbons		309 158	36.5 17.0	402 157	152 76.1	
Total TPH		3870 158	241 17.0	5652 157	1595 76.1	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and renults expressed throughout this analytical report nynearceal the best joindent of XENCO Laboratories. XENCO Laboratories assumes no responsibility and matken no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brent Barron, II Odessa Laboratory Manager

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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd. Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 Fast Odessa TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116
······································		



Project Name: Beeson 8" Discharge

Vork Orders:         340491           Lab Batch #:         768368	, Sample: 535290-1-BKS/B	KS Bai	Project II	<b>):</b> TNM-Bee: x: Solid	son Historie	cal
Units: mg/kg	Date Analyzed: 08/12/09 18:17	SU	RROGATE RE	COVERY S	STUDY	
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I,4-Difluorobenzene		0.0309	0.0300	103	80-120	
4-Bromofluorobenzene		0.0368	0.0300	123	80-120	*
Lab Batch #: 768368	Sample: 535290-1-BSD / B	SD Ba	tch: <sup>1</sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/12/09 18:35	SU	RROGATE RE	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	· · ·	0,0364	0.0300	121	80-120	•
Lah Batch # 768368	Sample: 535290-1-BLK / B	LK Ba	tch: ] Matri	x: Solid	1	
Units: mg/kg	Date Analyzed: 08/12/09 19:13	SURROGATE RECOVERY STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0275	0.0300	92	80-120	
4-Bromofluorobenzene		0.0135	0.0300	45	80-120	*
Lab Batch #: 768368	Sample: 340491-004 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/12/09 21:04	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
14 Difluornhonome	Analytes	0.0224	0.0200	75	80.120	*
4-Bromofluorobenzene		0.0224	0.0300	252	80-120	*
I -L D-4-L 4- 769369	Samala: 340401 001 / SME	0,07,00 D	toh: 1 Motol	L -22		
Lap Batch #: /00300	Sample: 340491-0017 SMr		RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags
	Analytes					
1,4-Difluorobenzene		0.0205	0.0300	68	80-120	*
4-Bromofluorobenzene		0.1519	0.0300	506	80-120	*

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Project Name: Beeson 8" Discharge

Vork Orders : 340491	, Sample: 340660-001 S / M	S Ba	Project II	): TNM-Bee	son Histori	cal
Units: mg/kg	Date Analyzed: 08/13/09 02:55		RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0305	0.0300	102	80-120	
4-Bromofluorobenzene		0.0320	0.0300	102	80-120	
Lab Batch #: 768368	Sample: 340660-001 SD / 1	MSD Ba	teh: i Matri	x: Soif	L	l
Units: mg/kg	Date Analyzed: 08/13/09 03:13	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
14 Difluorohanzana	Analytes	0.0202	0.0300			
4-Bromofluombenzene		0.0303	0.0300		80-120	
		0.0329	0.0300		80-120	i
Lab Batch #: 768535	Sample: 535392-1-BKS / E	BAS Batch: 1 Matrix: Solid SURROGATE RECOVERY STUDY				
Units: mg/kg	Units: mg/kg Date Analyzed: 08/13/09 17:09 SURROGATE RECOVERY STUDY					
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1,4-Difluorobenzene	······	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene		0.0368	0,0300	123	80-120	*
Lab Batch #: 768535	Sample: 535392-1-BSD / E	SD Bai	tch: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/13/09 17:27	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0366	0.0300	122	80-120	*
Lab Batch #: 768535	Sample: 535392-1-BLK / E	BLK Ba	tch: <sup>]</sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/13/09 18:04	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes		0.0202		00.100	
1,4-Diffuorobenzene		0.0265	0.0300	88	80-120	
4-promotiuorobenzene		0.0229	0.0300	/0	80-120	<u> </u>

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



## Project Name: Beeson 8" Discharge

<b>ork Orders :</b> 340491 Lab Batch #: 768535	, Sample: 340491-002 / SMP	Ba	Project II tch: ! Matri	D:TNM-Bee x: Soil	son Historio	cal
Units: mg/kg	Date Analyzed: 08/13/09 18:23	SU	<b>RROGATE RI</b>	COVERY	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0262	0.0300	87	80-120	
4-Bromofluorobenzene		0.0236	0.0300	79	80-120	**
Lab Batch #: 768535	Sample: 340491-003 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/13/09 18:42	SU	RROGATE RI	<b>ECOVERY</b>	STUDY	
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0249	0.0300	83	80-120	
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0430	0.0300	143	80-120	**
Lab Batch #: 768535	Sample: 340491-002 S / MS	Ba Ba	tch: <sup>]</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/14/09 00:14	4 SURROGATE RECOVERY STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0296	0.0300	99	80-120	
4-Bromofluorobenzene		0.0312	0.0300	104	80-120	
Lab Batch #: 768535	Sample: 340491-002 SD / N	1SD Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/14/09 00:33	SU	RROGATE RE	COVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes		0.000			
A Bromofluombenzene		0.0298	0.0300	99	80-120	
	6 1 525210 1 PKS / P	0.0312			80-120	
Lab Batch #: /08205	Sample: 335219-1-BKS7B	KS Ba	REACATE RE	X: SOIIG	STUDY	
Units: mg/kg	Date Analyzed: 08/11/09 14:39	Amount	True		Control	
	Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1-Chlorooctane		99.4	100	99	70-135	
o-Terphenyl		40.7	50.0	81	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Project Name: Beeson 8" Discharge

Vork Orders : 340491	, ,	6D D	Project II	D: TNM-Bee	son Historie	cal
Lab Batch #: 708205	Sample: 535219-1-BSD / B	SD Bat	RROGATE RE	COVERY	STUDY	_
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		102		102	70-135	
o-Terphenyl		41.1	50.0	82	70-135	
Lab Batch #: 768265	Sample: 535219-1-BLK / B	LK Bat	tch: <sup>1</sup> Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/11/09 15:30	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flags
I-Chlorooctane	7×11079 (05)	84.2	100	84	70-135	
o-Terphenyl		44.3	50.0	89	70-135	
Lab Batch #: 768265	Sample: 340491-001 / SMP	Bat	L teh: 1 Matri	x: Soil	1	
Units: mg/kg	Date Analyzed: 08/11/09 20:40	SURROGATE RECOVERY STUDY				
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		88.3	99.7	89	70-135	
o-Terphenyl		41.4	49.9	83	70-135	
Lab Batch #: 768265	Sample: 340491-002 / SMP	Bat	tch: <sup> </sup> Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 08/11/09 21:06	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			{D]		
I-Chlorooctane		81.3	99.7	82	70-135	
		41.8	49,9	0.11	10-135	
Lab Batch #: 768265	Sample: 340491-003 / SMP		tch: Matri	IX: SOIL	STUDV	
Units: mg/kg	Date Analyzed: 08/11/09 21:31	30	RROGATE RI			
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	•	103	99,6	103	70-135	
o-Tembenyl		43.9	49.8	88	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

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\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.



Project Name: Beeson 8" Discharge

Vork Orders: 340491	,		Project ID: TNM-Beeson Historical			
Lab Batch #: 768265	Sample: 340491-004 / SMP	Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg	Date Analyzed: 08/11/09 21:57	SU	RROGATE RI	ECOVERY ?	STUDY	
ТРН І	By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes				<u> </u> ]	ł
1-Chlorooctane		74.4	99.6	75	70-135	<b> </b> '
o-Terphenyl		37.9	49.8	76	70-135	I
Lab Batch #: 768265	Sample: 340373-004 S / MS	Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 08/11/09 22:47	SU	RROGATE RI	ECOVERY ?	STUDY	
TPH By SW8015 Mod		Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes		1	[D]	!	ı
1-Chlorooctane		98.8	99.9	99	70-135	ı
o-Terphenyl		39.6	50.0	79	70-135	1
Lab Batch #: 768265	Sample: 340373-004 SD / N	ISD Bar	tch: 1 Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 08/11/09 23:12	SURROGATE RECOVERY STUDY				
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount (B)	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		100	100	100	70-135	í
o-Terphenyl		40.9	50.0	82	70-135	í

Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 340491 Lab Batch ID: 768368 Analyst: ASA

Date Prepared: 08/12/2009 Batch #: 1

Sample: 535290-1-BKS

Project ID: TNM-Beeson Historical Date Analyzed: 08/12/2009 Matrix: Solid

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Units: mg/kg		BLAN	K /BLANK S	PIKE / I	ILANK S	PIKE DUPI	ICATE F	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result IAI	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Dunlicate	Blk. Spk Dup. %R	RPD %	Control Llmits %R	Control Limits %RPD	Hlag
Analytes		[ <b>B</b> ]		ā	[E]	Result [F]	5	2			
Benzene	₽	0.1000	0.1102	110	0.1	0.1092	601	-	70-130	35	
Tolucne	Ð	0.1000	0.1058	106	0.1	0.1046	105	1	70-130	35	
Ethylbenzene	Ð	0.1000	0.1193	119	0.1	0.1179	118	-	71-129	35	
m,p-Xylenes	₽	0.2000	0.2451	123	0.2	0.2420	121	_	70-135	35	
o-Xylene	QN	0.1000	0.1151	115	0.1	0.1139	114	1	71-133	35	
Analyst: ASA	D	te Prepar	ed: 08/13/200	6		-	Date An	nalyzed: 0	8/13/2009		
Lab Batch ID: 768535 Sample: 535392-1-E	BKS	Batch	1#: 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	PIKE / E	ILANK S	PIKE DUPL	ICATE F	RECOVE	RY STUD	Y	

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		(B)	(c)	[D]	[E]	Result [F]	[G]				
Benzene	Ð	0.1000	0.0968	<u>1</u> 6	0.1	0.0999	100	3	70-130	35	
Tolucne	QN	0.1000	0.0931	63	0.1	0.0966	97	4	70-130	35	
Ethylbenzene	Ð	0.1000	0.1046	105	0.1	0.1087	109	4	71-129	35	
m,p-Xylenes	QN .	0.2000	0.2160	108	0.2	0.2243	112	4	70-135	35	
o-Xylene	R	0.1000	0.1015	102	0.1	0.1060	106	4	71-133	35	

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 340491 Analyst: BHW Lab Batch ID: 768265

Units: mg/kg

Sample: 535219-1-BKS

Date Prepared: 08/11/2009 Batch #: 1

**Project ID:** TNM-Beeson Historical Date Analyzed: 08/11/2009 Matrix: Solid

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TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	,	[8]	[c]	[a]	[8]	Result [F]	[0]				
C6-C12 Gasoline Range Hydrocarbons	Q	1000	905	16	1000	923	92	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	1120	112	1000	1130	113	1	70-135	35	

;

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

Form 3 - MS/ MSD Recoveries



**Project Name: Beeson 8" Discharge** 

Work Order #: 340491

Date Analyzed: 08/13/2009 Lab Batch ID: 768368

Reporting Units: mg/kg

Project ID: TNM-Beeson Historical ---Batch #:

QC- Sample ID: 340660-001 S

Date Prepared: 08/12/2009

Matrix: Soil

ASA

Analyst:

Reporting Units: mg/kg		Z	IATRIX SPIK	E / MAT	RIX SPII	KE DUPLICA	TE RECO	<b>DVERY</b>	STUDY		
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Kesuft [A]	Added [B]		8% [0]	Added [E]	Result [F]	%R [G]	%	%К	%RPD	
Benzene	Ð	0.1111	0.0806	٤ ۲	0.1111	0.0821	74	2	70-130	35	
Toluene	Ð	0.1111	0.0662	60	0.1111	0.0663	60	0	70-130	35	х
Ethylbenzene	Q	0.1111	0.0729	99	0.1111	0.0716	64	2	71-129	35	×
m,p-Xylenes	QN	0.2222	0.1467	99	0.2222	0.1433	64	2	70-135	35	x
o-Xylene	DN	0.1111	0.0696	63	0.1111	0.0685	62	2	71-133	35	х
Lab Batch ID: 768535 Date Analyzed: 08/14/2009	QC- Sample ID: Date Prepared:	340491 08/13/2	-002 S 009	Ba An	tch #: alyst: /	l Matri) VSA	r: Soil				

: 768535	: 08/14/2
Batch ID	Analvzed
Lab	Date

Date Prepared: 08/13/2009

Limits %RPD Control 33 35 Control Limits %R 70-130 70-130 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % 4 -Spiked Dup. %R [G] 81 59 Duplkate Spiked Sample Result [F] 0.0434 0.0925 0.0671 Spike Added 0.1136 0.1136 0.1136 Ξ Spiked Sample %R [D] 82 62 Spiked Sample Result 0.0482 0.0699 0.0937 <u></u> Spike Added 0.1136 0.1136 0.1136 Ē Parent Sample Result [A] Ð Ð g BTEX by EPA 8021B Analytes Reporting Units: mg/kg Ethylbenzene Toluene Benzene

Flag

× × × ×

> 35 33 35

> 71-129 70-135 71-133

10 10

38 36 38

5

0.0452

0.1136

0.0487

0.1136

0.0015 0.0031

0.0942

0.2271

m,p-Xylenes o-Xylene

0.0851

0.2271

4 4 4

Matrix Spike Percent Recovery [D] = 100\*(C-A/B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, J = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit







Project Name: Beeson 8" Discharge

Work Order #: 340491

Lab Batch ID: 768265 Date Analyzed: 08/11/2009

Reporting Units: mg/k

Batch#: 1 Mat Analyst: BHW

QC- Sample ID: 340373-004 S

Date Prepared: 08/11/2009

l Matrix: Soil

Project ID: TNM-Beeson Historical

Reporting Units: mg/kg		W	ATRIX SPIK	E / MAT	RIX SPII	<b>CE DUPLICA</b>	FE RECO	<b>DVERY</b> 8	NUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spilked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	5	8% [0]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	5
C6-C12 Gasoline Range Hydrocarbons	Ð	1170	1090	56	1170	1100	94	-	70-135	35	
C12-C28 Diesel Range Hydrocarbons	CN	1170	1310	112	1170	1350	115	3	70-135	35	
	2										

Matrix Spike Percent Recovery [D] = 100\*(C-A)B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested. J = Interference, NA = Not ApplicableN = See Narrative, BQL = Estimated Quantitation Limit Page 16 of 19





#### Project Name: Beeson 8" Discharge

Work Order #: 340491

Lab Batch #: 768270		Projec	t ID: TNM-Be	eson Historica
Date Analyzed: 08/12/2009	Date Prepared: 08/12	/2009 An	alyst: BEV	
QC- Sample ID: 340491-001 D	Batch #: 1	Μ	atrix: Soil	
Reporting Units: %	SAMPLE 7	SAMPLE DUPL	ICATE REC	OVERY
Percent Moisture	Parent Sample Result  A	Sample Duplicate RPD Result	Control Limits %RPD	Flag
Analyte		[B]		
Percent Moisture	5.49	6.71 20	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



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Environmental La	b of Tex	as		
Variance/ Corrective Action Rep	orl-Samp	le LogHn		
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Sample Receipt	Checklist			
				Client Initiala
#1 Temperature of container/ cooler?	+Yes)	NO		
HZ Shipping container in good condition?	ves ·	r IND	A Ablas Draame	
22 Costedy Seals made on sample bettles/ container?	(YZe	No	Not Present	· · · · · ·
	Yat.	No	NOL PICACIN	<del>h (</del> )
#5 Sample instructions complete of Chain of Custody?	Yes -	No	- 100 Mar 1	
#7 Chain of Custody slaned when relinquished/ received?	Yes'	No		
#8 Chain of Custody agrees with sample label(s)?	Yes	No.	.ID written on Cont / Lic	1 C C
#9 Container label(s) legible and intact?	Yes	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	l &es	No		
#11 Containers supplied by ELOT?:	Yes	No .	· · · · · · · · · · · · · · · · · · ·	
#12 Samples in proper containe?/ bottle?** 1. 10	l' Yes	No	See Below	1 · · · · · · · · · · · · · · · · · · ·
#13 Samples property preserved?	Yes -	<u>1 Nc.'</u>	See Below	
1#14 Sample bottles intact?	Yes	No		، أخضيه
#15 Preservations documented on Chain of Custody?	Yes	No.	· · · · · ·	· · · ·
#16 Containers documented on Chain of Custody?	<u>i vies</u>	NO		
1#17 Sunicient sample amount for indicated test(s)?	1 Ves	<u>I NO "</u>	See Below All	
1410 All samples received within suncent hold (me) < 1 set	Ver	I NO	Mat Application	
1//20 VOC samples have zero beadspace?	Yes	No -	Not Applicable	
20 100 000 poor 100 000 000 000 000 000 000 000 000 00	<u></u>	1		· · · · · · · · · · · · · · · · · · ·
Variance Docur	nentation			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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Corrective Action Taken:	÷		• •	
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Check all that Apply: See attached e-mail/ fax				
Client understands and woul	d like to pro	ceed with	analysis	
Cooling process had begun	shortly after	sampling	event,	
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# Analytical Report 340658

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

**Beeson 8" Discharge** 

**Beeson Historical** 

18-AUG-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

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Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

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18-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 340658 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 340658. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 340658 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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# **ne**að

## Sample Cross Reference 340658

## PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id Matrix Date Collected Sample Depth Lab San	ıple Id
NSW-1 S Aug-11-09 10:50 340658	-001
NSW-2 S Aug-11-09 11:05 340658	-002
NSW-3 S Aug-11-09 11:14 340658	-003
NSW-4 S Aug-11-09 11:23 340658	-004
SP-32 S Aug-11-09 11:35 340658	-005
SP-33 S Aug-11-09 11:47 340658	-006
SP-34 S Aug-11-09 11:59 340658	-007
SP-35 S Aug-11-09 12:08 340658	-008

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 340658 Report Date: 18-AUG-09 Date Received: 08/12/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-768358 Percent Moisture AD2216A %Moisture

Batch 768358, Percent Moisture RPD recovered outside QC limits. This is most likely due to sample non-homogeneity. Samples affected are: 340658-001 D.

Batch: LBA-768368 BTEX-MTBE EPA 8021B SW8021BM

Batch 768368, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 340658-001, -002, -004, -003, -005. The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits

#### SW8021BM

Batch 768368, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by reanalysis. Samples affected are: 535290-1-BLK. 4-Bromofluorobenzene recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 535290-1-BKS, 535290-1-BSD, 340658-001, 340658-005

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 340658

Report Date: 18-AUG-09 Date Received: 08/12/2009

Batch: LBA-768535 BTEX-MTBE EPA 8021B SW8021BM

Batch 768535, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis Samples affected are: 340658-008,340658-007.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 535392-1-BLK.

4-Bromofluorobenzene recovered above QC limits QC Data not confirmed by re-analysis. Samples affected are: 535392-1-BKS, 535392-1-BSD, 340658-006, 340658-007, 340658-008.

#### SW8021BM

Batch 768535, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 340658-006, -008, -007. The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-768669 TPH by SW8015 Mod None



Contact: Jason Henry

Certificate of Analysis Summary 340658 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Wed Aug-12-09 08:45 am

Report Date: 18-AUG-09

Project Location: Lea County, NM							
					Project Manager: 1	Brent Barron, II	
	Lab Id:	340658-001	340658-002	340658-003	340658-004	340658-005	340658-006
2	Field Id:	I-WSN	NSW-2	NSW-3	NSW-4	SP-32	SP-33
Anaiysis Kequesiea	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-11-0910:50	Aug-11-09 11:05	Aug-11-09 11:14	Aug-11-09 11:23	Aug-11-09 11:35	Aug-11-09 11:47
BTEX by EPA 8021B	Extracted:	Aug-12-09 17:00	Aug-12-09 17:00	Aug-12-09 17:00	Aug-12-09 17:00	Aug-12-09 17:00	Aug-13-09 17:00
	Analyzed:	Aug-12-09 21:22	Aug-12-09 21:41	Aug-12-09 21:59	Aug-12-09 22:18	Aug-12-09 23:13	Aug-13-09 19:19
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		0100'0 CIN	ND 0.0010	ND 0.0010	ND 0.0014	0100.0 CIN	ND 0.0515
Toluene	2	ND 0.0020	ND 0.0020	ND 0.0020	ND 0.0027	ND 0.0020	ND 0.1029
Ethylbenzene		0.0076 0.0010	ND 0.0010	0100.0 CIN	ND 0.0014	0.0030 0.0010	0.5353 0.0515
m,p-Xylenes		0.0039 0.0020	ND 0.0020	ND 0.0020	ND 0.0027	0.0146 0.0020	1.189 0.1029
o-Xylene		0.0029 0.0010	ND 0.0010	0100.0 CIN	ND 0.0014	0.0119 0.0010	0.7469 0.0515
Total Xylenes		0.0068 0.0010	ND 0.0010	ND 0.0010	ND 0.0014	0.0265 0.0010	1.936 0.0515
Total BTEX		0.0144 0.0010	ND 0.0010	ND 0.0010	ND 0.0014	0.0295 0.0010	2.471 0.0515
Percent Moisture	Extracted:						
	Analyzed:	Aug-12-09 16:00	Aug-12-09 16:00	Aug-12-09 16:00	Aug-12-09 16:00	Aug-12-09 16:00	Aug-12-09 16:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		1.13 1.00	2.13 1.00	1.47 1.00	26.09 1.00	ND 1.00	2.86 1.00
TPH By SW8015 Mod	Extracted:	Aug-13-09 11:06	Aug-13-09 11:06	Aug-13-09 11:06	Aug-13-09 11:06	Aug-13-09 11:06	Aug-13-09 11:06
	Analyzed:	Aug-13-09 19:42	Aug-13-09 20:07	Aug-13-09 20:32	Aug-13-09 20:57	Aug-13-09 21:22	Aug-13-09 21:47
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		166 75.6	ND 15.3	1.97 UN	ND 20.2	90.4 15.1	454 15.4
C12-C28 Diesel Range Hydrocarbons		4460 75.6	21.0 15.3	691 76.1	ND 20.2	857 15.1	2230 15.4
C28-C35 Oil Range Hydrocarbons		371 75.6	ND 15.3	155 76.1	ND 20.2	84.4 15.1	156 15.4
Total TPH		4997 75.6	21.0 15.3	846 76.1	ND 20.2	1032 15.1	2840 15.4

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warmary to the end use of the data hereby presented. Our lisbility is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II

	Historical
	I: Beeson
NCO atories	Project Id

Contact: Jason Henry

Certificate of Analysis Summary 340658 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Wed Aug-12-09 08:45 am Report Date: 18-AUG-09

Project Location: Lea County, NM				Protect Manager	18-AUG-09 Breat Barron 11	
	Lab Id:	340658-007	340658-008			
Anaburic Domontal	Field Id:	SP-34	SP-35			
naicanhau ciclinuu	Depth:					
	Matrix:	SOIL	SOIL			
	Sampled:	Aug-11-09 11:59	Aug-11-09 12:08			
BTEX by EPA 8021B	Extracted:	Aug-13-09 17:00	Aug-13-09 17:00			
	Analyzed:	Аиg-13-09 19:37	Aug-13-09 19:56			
	Units/RL:	mg/kg RL	mg/kg RL			
Benzene		ND 0.0051	0.0068 0.0052			
Toluene		0.0878 0.0102	0.0967 0.0104			
Ethylbenzene		0.4292 0.0051	0.3133 0.0052			
m, p-Xylenes		2.060 0.0102	1.323 0.0104			
o-Xylene		1.685 0.0051	1.161 0.0052			
Total Xylenes		3.745 0.0051	2.484 0.0052			
Total BTEX		4.262 0.0051	2.901 0.0052			
Percent Moisture	Extracted:					
	Analyzed	Aug-12-09 16:00	Aug-12-09 16:00			
	Units/RL:	% RL	% RL			
Percent Moisture		1.96 1.00	3.54 1.00			
TPH By SW8015 Mod	Extracted:	Aug-13-09 11:06	Aug-13-09 11:06			
	Analyzed.	Aug-13-09 22:12	Aug-13-09 22:37			
	Units/RL:	mg/kg RL	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		459 76.5	478 77.8			
C12-C28 Diesel Range Hydrocarbons		2360 76.5	2130 77.8			
C28-C35 Oil Range Hydrocarbons		240 76.5	231 77.8			
Total TPH		3059 76.5	2839 77.8			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and renults expressed throughout this mailytical trapert represented the best joints of XENCO Laboratories. XENCO Laboratories assumes no responsibility and maker no warmany to the end use of the data hereby presented. Our liability is limited to the emount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brefit Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL Below Reporting Limit.
- **RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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2505 North Falkenburg Rd, Tampa, FL 33619 (813) 620-2000 (813) 620	)-2033
5757 NW 158th St, Miami Lakes, FL 33014 (305) 823-8500 (305) 823	3-8555
12600 West I-20 East, Odessa, TX 79765 (432) 563-1800 (432) 563	3-1713
842 Cantwell Lane, Corpus Christi, TX 78408 (361) 884-0371 (361) 884	1-9116

XENCO
Laboratories

Project Name: Beeson 8" Discharge

ork Orders : 340658 Lab Batch #: 768368	sample: 535290-1-BKS/B	KS Ba	Project II tch:   Matri	D: Beeson Hi x: Solid	storical	
Units: mg/kg	Date Analyzed: 08/12/09 18:17	SU	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	<i>.</i>	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene		0.0368	0.0300	123	80-120	*
Lab Batch #: 768368	Sample: 535290-1-BSD / B	SD Ba	tch:   Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/12/09 18:35	SU	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	······	0.0364	0,0300	121	80-120	*
Lab Batch #: 768368	Sample: 535290-1-BLK / B	LK Ba	teh: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/12/09 19:13	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1,4-Difluorobenzene		0.0275	0.0300	92	80-120	
4-Bromofluorobenzene		0.0135	0.0300	45	80-120	30-120 *
Lab Batch #: 768368	Sample: 340658-001 / SMF	' Ba	tch: 1 Mat <del>r</del> i	ix: Soil		
Units: mg/kg	Date Analyzed: 08/12/09 21:22	SURROGATE RECOVERY ST		STUDY	ГUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
1.4.D'0	Analytes		0.0000			
4-Bromofluorobenzene		0.0252	0.0300	132	80-120	*
- Dromonia.notreizene	240659 002 / SMI	0.0397	0.0500	132 	00-120	
LaD Baten #: /00300	Sample: 340038-0027 SMF		ICN: I MAT	COVERV	STUDY	
	X by EPA 8021B	Amount Found	True Amount	Recovery	Control Limits	Fla
	Analytes	[A]	[B]	%R [D]	%R	
1,4-Difluorobenzene		0.0263	0.0300	88	80-120	
4-Bromofluorobenzene		0.0310	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



# Project Name: Beeson 8" Discharge

/ork Orders : 340658 Lab Batch #: 768368	, Sample: 340658-003 / SMP	Bat	Project II	<b>):</b> Beeson Hi x: Soil	storical	
Units: mg/kg	Date Analyzed: 08/12/09 21:59	SU	RROGATE RE	ECOVERY	STUDY	<u> </u>
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0268	0.0300	89	80-120	
4-Bromofluorobenzene		0.0250	0.0300	83	80-120	
Lab Batch #: 768368	Sample: 340658-004 / SMP	Bat	tch: 1 Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/12/09 22:18	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A}	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0265	0.0300	88	80-120	
4-Bromofluorobenzene		0.0242	0.0300	81	80-120	
Lab Batch #: 768368	Sample: 340658-005 / SMP	Bat	tch: <sup>1</sup> Matri	x: Soil		,
Units: mg/kg	Date Analyzed: 08/12/09 23:13	SU	RROGATE RE	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0249	0.0300	83	80-120	
4-Bromofluorobenzene		0.0516	0.0300	172	80-120 *	*
Lab Batch #: 768368	Sample: 340660-001 S / MS	AS Batch: 1 Matrix: Soil SURROGATE RECOVERY S		STUDY		
Units: mg/kg	Date Analyzed: 08/13/09 02:55					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags
1.4-Difluorobenzene		0.0205	0.0300	102	80.120	
4-Bromofluorobenzene		0.0320	0.0300	102	80-120	
Lah Batch #- 768368	Sample: 340660-001 SD / N	ISD Ba	tch   Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/13/09 03:13	SU	RROGATE RI	COVERY	STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flags
14 Difluorohumana	Analytes	0.0303	0.0200	101	80-120	
4-Bromofluorobenzene		0.0303	0.0300	110	80-120	
		0.0527	0.0300	110	00-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 340658 Lab Batch #: 768535	s, Sample: 535392-1-BKS / B	KS Ba	Project II atch: <sup>1</sup> Matri	D: Beeson Hi x: Solid	storical		
Units: mg/kg	Date Analyzed: 08/13/09 17:09	SU	RROGATE RI	COVERY	STUDY		
BTE:	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene		0.0305	0.0300	102	80-120		
4-Bromofluorobenzene		0.0368	0.0300	123	80-120	*	
Lab Batch #: 768535	Sample: 535392-1-BSD / B	SD Ba	tch: <sup>1</sup> Matri	x: Solid			
Units: mg/kg	Date Analyzed: 08/13/09 17:27	SU	RROGATE RI	COVERY	STUDY		
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene		0.0307	0.0300	102	80-120		
4-Bromofluorobenzene		0.0366	0.0300	122	80-120	*	
Lah Batch #: 768535	Sample: 535392-1-BLK / B	LK Ba	tch: 1 Matri	v: Solid	1	1	
Units: mg/kg	Date Analyzed: 08/13/09 18:04	SU	RROGATE RE	ECOVERY :	STUDY		
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1.4-Difluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0265	0.0300	88	80-120		
4-Bromofluorobenzene		0.0229	0.0300	76	80-120	*	
Lah Batch #: 768535	Samule: 340658-006 / SMP	Ba	tch: 1 Matri	x: Soil			
Units: mg/kg	Date Analyzed: 08/13/09 19:19	SURROGATE RECOVERY ST		STUDY	FUDY		
BTE	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1,4-Difluorobenzene		0.0239	0.0300	80	80-120		
4-Bromofluorobenzene		0.0459	0.0300	153	80-120	**	
Lab Batch #: 768535	Sample: 340658-007 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil			
Units: mg/kg	Date Analyzed: 08/13/09 19:37	SU	RROGATE RI	ECOVERY	STUDY		
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
14 Difluorohomono	Analytes	0.0310	0.0200	70	80,120	**	
4-Bromofluorobenzene		0.0210	0.0300	1004	80-120	**	
Diomonuorobenzene		0.3011	0.0000	1004	00-120		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

'ork Orders : 340658 Lab Batch #: 768535	;, Sample: 340658-008 / SMF	, Ba	Project II tch: 1 Matr	): Beeson Hi ix: Soil	storical	
Units: mg/kg	Date Analyzed: 08/13/09 19:56	SU	RROGATE RF	COVERY (	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 4-Difluorobenzene	Analytus	0.0214	0.0300	71	80-120	**
4-Bromofluorobenzene		0.1932	0.0300	644	80-120	**
Lab Batch #: 768535	Sample: 340491-002 S / M <sup>*</sup>	S Ba	toh: 1 Matri	ix- Soil	<u> </u>	<u> </u>
Units: mg/kg	Date Analyzed: 08/14/09 00:14	SU'	RROGATE RI	COVERY	STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1.4 Diffuseshangana	Analytes					<b> </b>
4 Bromofluorobenzene		0.0296	0.0300	99	80-120	<b> </b>
		0.0312	0.0300	104	80-120	<u>i                                    </u>
Lab Batch #: 708333	Sample: 340491-002 SD / N	ISD Bat	ch: Matri	x: Soil	OTUNV	
Units: mg/kg	Date Analyzed: 08/14/09 00:33	301	RRUGALE RE			
BTE	X by EPA 8021B	Amount Found [A]	True Amount  B}	Recovery %R  D	Control Limits %R	Flags
1.4-Difluorobenzene		0.0298	0.0300	99	80-120	
4-Bromofluorobenzene		0.0312	0.0300	104	80-120	í
Lab Batch #: 768669	Sample: 535318-1-BKS/B	KS Bat	tch: 1 Matri	ix: Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 08/13/09 18:26	SU	RROGATE RF	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [Ã]	True Amount  B	Recovery %R	Control Limits %R	Flags
	Analytes	I		[D]		I
1-Chlorooctane		100	100	100	70-135	
o-Terphenyl		41.3	50.0	83	70-135	I
Lab Batch #: 768669	Sample: 535318-1-BSD / B'	SD Bat	ich: 1 Matri	x: Solid		
Units: mg/kg	Date Analyzed: 08/13/09 18:51	SUI	RROGATE RF	COVERY	STUDY	
ТРН І	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		1
I-Chlorooctane		102	100	102	70-135	I
o-Terphenyl	· · ·	42.6	50.0	85	- 70-135	 I

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders : 340658 Lab Batch #: 768669	3, Sample: 535318-1-BLK / B	LK Bat	Project II tch: 1 Matr	D:Beeson Hi ix: Solid	storical		
Units: mg/kg	Date Analyzed: 08/13/09 19:17	SU	RROGATE RI	ECOVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag	
1-Chlorooctane		86.9	100	87	70-135		
o-Terphenyl		46.2	50.0	92	70-135		
Lab Batch #: 768669	Sample: 340658-001 / SMP	Bat	tch: 1 Matri	ix: Soil	·		
Units: mg/kg	Date Analyzed: 08/13/09 19:42	SU	RROGATE RI	ECOVERY	STUDY		
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag	
1.011	Analytes			וען			
n-Uniorooctane	·	75.8	99.7	76	70-135		
		40.3	49.9	81	70-135		
Lab Batch #: 768669	Sample: 340658-002 / SMP	Bat	tch: 1 Matri	ix: Soil	,		
Units: mg/kg	Date Analyzed: 08/13/09 20:07	SU:	RROGATE RI	ECOVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag	
1-Chlorooctane		93.7	99.9	94 ·	70-135		
o-Terphenyl		47.9	50.0	96	70-135	15	
Lab Batch #: 768669	Sample: 340658-003 / SMP	Bat	tch: 1 Matri	x: Soil	·		
Units: mg/kg	Date Analyzed: 08/13/09 20:32	SURROGATE RECOVERY STUD		STUDY			
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag	
	Analytes			ועו			
o Tembend		89.8	100	90	70-135		
		40,3	50.0	93	70-135		
				· · ·			
Lab Batch #: 768669	Sample: 340658-004 / SMP	Bat	ch: 1 Matri	x: Soil			
Lab Batch #: 768669 Units: mg/kg	Sample: 340658-004 / SMP Date Analyzed: 08/13/09 20:57	Bat SUI	ch: <sup>1</sup> Matri RROGATE RI	x: Soil COVERY S	STUDY		
Lab Batch #: 768669 Units: mg/kg TPH	Sample: 340658-004 / SMP Date Analyzed: 08/13/09 20:57 By SW8015 Mod	Bat SU Amount Found [A]	rch: 1 Matri RROGATE RI True Amount [B]	x: Soil COVERY S Recovery %R	STUDY Control Limits %R	Flag	
Lab Batch #: 768669 Units: mg/kg TPH	Sample: 340658-004 / SMP Date Analyzed: 08/13/09 20:57 By SW8015 Mod Analytes	Bat SU Amount Found [A]	ch: 1 Matri RROGATE RI True Amount [B]	x: Soil ECOVERY S Recovery %R [D]	Control Limits %R	Flag	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.

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Project Name: Beeson 8" Discharge

ork Orders : 340658	Sample: 340658-005 / SMP	Ba	Project II	D: Beeson Hi	storical	
Units: mg/kg	Date Analyzed: 08/13/09 21:22	SU	RROGATE RE	COVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorpoctare	Analytes	97.6	100		70-135	
o-Terphenyl		44.9	50.0	90	70-135	
Lab Batch #: 768669	Sample: 340658-006 / SMP	Ba	tch: 1 Matri	x: Soil	1 1	
Units: mg/kg	Date Analyzed: 08/13/09 21:47	SU	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1-Chlorooctane		97	00.8	1⊷1 07	70-135	
o-Terphenyl		46.9	49.9	94	70-135	
Lab Batch #, 768669	Sample: 340658 007 / SMP		taba 1 Maturi	L		
Units: mg/kg	Date Analyzed: 08/13/09 22:12	SU	RROGATE RE	ECOVERY S	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
I-Chlorooctane		97.9	100	98	70-135	
o-Terphenyl		46.9	50.0	94	70-135	
Lab Batch #: 768669	Sample: 340658-008 / SMP	Ba	tch: <sup>1</sup> Matri	x: Soil		
Units: mg/kg	Date Analyzed: 08/13/09 22:37	SU	RROGATE RE	ECOVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R IDI	Control Limits %R	Flags
i-Chlorooctane		04.4	100	94	70-135	
o-Terphenyl		45.9	50.0	92	70-135	
Lab Batch #: 768669		Ba	tch:   Matri	x: Soil	!	
Units: mg/kg	Date Analyzed: 08/13/09 23:50	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found IAI	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes	11	(	(D)		
I-Chlorooctane		105	100	105	70-135	
o-Terphenyl		42.9	50.0	86	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

Work Orders : 340658	,		Project I	D: Beeson Hi	storical	
Lab Batch #: 768669	Sample: 340658-002 SD / N	ASD Ba	tch: I Mati	rix: Soil		
Units: mg/kg	Date Analyzed: 08/14/09 00:15	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[17]		
1-Chlorooctane		107	99.9	107	70-135	
o-Terphenyl		43.0	50.0	86	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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<b>XENCO</b> Laboratories			<b>3S / BSI</b>	) Reco	verie	S		>		
	Pr	oject Na	ume: Bees	son 8" D	ischarg	e				
Work Order #: 340658							Pro	ect ID: F	seeson Histo	2
Analyst: ASA	ä	ate Prepar	ed: 08/12/200	6			Date Aı	nalyzed: 0	8/12/2009	
Lab Batch ID: 768368 Sample: 535290-1-E	3KS	Batch	1#:1					Matrix: S	olid	
Units: mg/kg		BLAN	K /BLANK 3	SPIKE / B	LANK S	PIKE DUPL	ICATE ]	RECOVE	RY STUDY	
BTEX by EPA 8021B	Blank	Spike	Blank	Blank	Spike	Blank	BIK Spk		Control	- I
	Sample Result [A]	Added	Spike Result	Spike %R	Added	Spike Duplicate	Dup. %R	RPD %	Limits %R	
Analytes		[ <b>B</b> ]	[c]		[E]	Result [F]	[6]			
Benzene	Q	0.1000	0.1102	110	0.1	0.1092	109	1	70-130	
Toluene	Q	0.1000	0.1058	106	0.1	0.1046	105	1	70-130	
Ethylbenzene	CIN I	0.1000	0.1193	119	0.1	0.1179	118	1	71-129	
m,p-Xylenes	QN	0.2000	0.2451	123	0.2	0.2420	121	1	70-135	
o-Xylene	DN	0.1000	0.1151	115	0.1	0.1139	114	, I	71-133	1 1
Analyst: ASA	ñ	ate Prepar	ed: 08/13/200	6			Date AI	nalyzed: 0	8/13/2009	
Lab Batch ID: 768535 Sample: 535392-1-E	3KS	Batch	1 #: 1					Matrix: S	olid	
Units: mg/kg		BLAN	K /BLANK S	SPIKE / B	LANK S	PIKE DUPL	ICATE 1	RECOVE	RY STUDY	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)(B] Blank Spike Duplicate Recovery [G] = 100\*(F)[E] All results are based on MDL and Validated for QC Purposes

Project ID: Beeson Historical Date Analyzed: 08/12/2009

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pike Ided	Blank Spike	Bik. Spk Dup.	RPD	Control Limits	Control Limits	Flag
EJ	Duplicate Result [F]	Я% [G]	%	жк	%RPD	
0.1	0.1092	601	1	70-130	35	
0.1	0.1046	105	-	10-130	35	

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35

Matrix: Solid	KE / BLANK SPIKE DUPLICATE RECOVERY STUDY
Batch #: 1	BLANK /BLANK SPI
35392-1-BKS	

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[ <b>B</b> ]	[C]	(a)	[E]	Result [F]	[6]				
Benzene	QN	0.1000	8960.0	16	0.1	0.0999	100	'n	70-130	35	
Toluene	Q	0.1000	0.0931	93	0.1	0.0966	67	4	70-130	35	
Ethylbenzene	QN	0.1000	0.1046	105	0.1	0.1087	109	4	71-129	35	
m,p-Xylenes	QN	0.2000	0.2160	108	0.2	0.2243	112	4	70-135	35	
o-Xylene	QN	0.1000	0.1015	102	0.1	0.1060	106	4	71-133	35	



BS / BSD Recoveries



Project Name: Beeson 8" Discharge

Date Prepared: 08/13/2009

Batch #: 1

Project ID: Beeson Historical

Date Analyzed: 08/13/2009

Matrix: Solid

Work Order #: 340658 Analyst: BHW Lab Batch ID: 768669 Sample: 535318-1-BKS Units: mg/kg

Flag Control Limits %RPD 35 33 BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Control Lámits %R 70-135 70-135 RPD % ы ----Blk. Spk Dup %R% [G] 111 6 Duplicate Result [F] Blank Spike 1110 606 Spike Added 1000 1000 Ξ Blank Spike %R [D] 109 8 Blank Spike Result [C] 1090 906 Spike Added 1000 1000 E Sample Result Blank P Ð Ð TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Analytes

Relative Pervent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

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Form 3 - MS / MSD Recoveries



Project Name: Beeson 8" Discharge

Work Order #: 340658

Lab Batch ID: 768368 Date Analyzed: 08/13/2009 Reporting Units: mg/kg

QC- Sample ID: 340660-001 S Batch #: 1 Matrix: Soil Date Prepared: 08/12/2009 Analyst: ASA MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Project ID: Beeson Historical

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R {G]	RPD %	Control Limits %R	Control Llmits %RPD	Flag
Benzene	QN	0.111	0.0806	73	0.111	0.0821	74	2	70-130	35	
Toluene	QN	0.1111	0.0662	60	0.1111	0.0663	60	0	70-130	35	×
Ethylbenzene	QN	0.1111	0.0729	66	0.1111	0.0716	64	2	71-129	35	×
m, p-Xylenes	Q	0.2222	0.1467	66	0.2222	0.1433	64	5	70-135	35	×
o-Xylene	ND	0.1111	0.0696	63	0.1111	0.0685	62	2	71-133	35	x
Lab Batch ID: 768535 Date Analyzed: 08/14/2009	)C- Sample ID: Date Prepared:	340491- 08/13/2(	002 S 009	Ba An	tch #: alyst: /	l Matrix: \SA	Soil				
Reporting Units: mg/kg		W	ATRIX SPIKI	E / MAT	RIX SPII	KE DUPLICAT	E RECC	VERV S	TUDY		Γ

Reporting Units: mg/kg		W	ATRIX SPIKI	E / MAT	RIX SPII	KE DUPLICA'	re reco	<b>VERY S</b>	study			
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Solke	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag	
Analytes	Result [A]	Added [B]	[]	8% [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	P I	
Benzene	QN	0.1136	0.0937	82	0.1136	0.0925	81	-	70-130	35		
Toluene	QN	0.1136	0.0699	62	0.1136	0.0671	59	4	70-130	35	Х	
Ethylbenzene	CIN	0.1136	0.0482	42	0.1136	0.0434	38	10	71-129	35	x	
m,p-Xylenes	0.0031	0.2271	0.0942	40	0.2271	0.0851	36	10	70-135	35	х	
o-Xylene	0.0015	0.1136	0.0487	42	0.1136	0.0452	38	7	71-133	35	×	

Matrix Spike Percent Recovery [D] = 100\*(C-A)B Relative Percent Difference RPD = 200\*(C-F)((C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, J = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit







**Project Name: Beeson 8" Discharge** 

Work Order # : 340658

Lab Batch ID: 768669

Date Analyzed: 08/13/2009 Reporting Units: mg/kg

Project ID: Beeson Historical

QC- Sample ID: 340658-002 S Date Prepared: 08/13/2009

Batch #: 1 Matrix: Soil Analyst: BHW

Keporting Units: mg/kg		N	LATRIX SPIK	E / MATI	IIAS XIX	KE DUPLICAT	FE RECO	<b>DVERY S</b>	TUDY		
TPH RV SW8015 Mod	Parent		Spiked Sample	Spiked		Duplicate	Spiked		Control	Control	
	Sample	Spike	Result	Sample	Spike	Spiked Sample	Dup.	RPD	Limits	Limits	Flag
	Result	Added		%R	Added	Result [F]	%R	%	%R	%RPD	ł
Analytes	[ <b>A</b> ]	[B]	,	[0]	E		[6]				
C6-C12 Gasoline Range Hydrocarbons	Q	1020	955	64	1020	972	95	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	21.0	1020	1170	113	1020	1200	116	e	70-135	35	

Matrix Spike Percent Recovery [D] = 100<sup>4</sup>(C-A)B Relative Percent Difference RPD = 200<sup>4</sup>(C-F)((C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit Page 19 of 22




### Project Name: Beeson 8" Discharge

Work Order #: 340658

Lab Batch #: 768358 Date Analyzed: 08/12/2009 QC- Sample ID: 340658-001 D	Date Prepared: 08/1 Batch #: 1	12/2009	Project I Analy Matr	D: Beeson H st: WRU ix: Soil	listorical
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		<b>[B]</b>			
Percent Moisture	1.13	1.64	37	20	F

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



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	Environmental L	ab of , l ex	as		
	<ul> <li>Variance/ Corrective Action Re</li> </ul>	port-`Samp	le Log-In		
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Chent:	Mr. IPIAMS			*	-,7
Date/ Time:	octive 8:45			•	1 . S
1 mb ID #4	340050				نې <u>د مېرو</u>
				•	1. 1. D. C. C. C.
Initials	anna .			· •	2 · · · · · · · · · · · · · · · · · · ·
÷.				• •	
	Sample Receipt	Checklist			
tt Temperatura of central		1 (Vod)	Mo	41	Client Initials
#2 Shipping container in	nen condition?	(Yea)	No -		+
#3 Custody Seals intert	n shipping containert conler?	Yes	No	(Not Present)	· · · · · · · · · · · · · · · · · · ·
1#4 Custody Seels Intact of	on sample bottles/ container?	VED	No	Not Present	
t≠5 Chain of Custody pres	sent?	- Yes	No	1. 17 Cart 1.	- [
#E Sample instructions co	omplete of Chain of Custody?	ICE8	No		
#7 Chain of Custody sign	ed when relinguished/ received?	(Yes	No		<del>;;</del> 1`
#8 Chain of Custody agree	ees with sample label(s)?	- (Yes	No · ·	ID written on Cont / Lic	
#9 Container label(s) legi	ble and intact?	(Yes)	No -	Not Applicable	
#10 Sample matrix/ prope	arties agree with Chain of Custody?	Yes	No		A 1 12 m
#11 Containers supplied t	by ELOT?	· Yee .	-No *	e de la deserve	
#12 Samples in proper co	ontainer/ bottle? 🛁 🔬 🛶 🙀	<u> Sar</u>	No	See Below	
#13 Samples property pre	served?	Yes .	No-	See Below	
#14 Sample bottles Intact	?	<u>Yes</u>	No /	1.000	
#15 Preservations docum	ented on Chain of Custody?		No .	· · · · · · · · · · · · · · · · · · ·	
#15 Containers documen	ted on Chain of Custody?	2408	NO	1	
#17 Sunicient sample am	Notificated test(s)?		NO NO	See Below	
#10 Al samples received	wanter sunctern nod unter			See Below	
#20 VOC samples have 2	ero headsnace?	* Não	No	Not Applicable	the second second
			1 10		· · · · · · · · · · · · · · · · · · ·
		mentation	_ c <sup>1</sup> .		
		in			24.14
. Contact	Contacted by:			Date/ Time: 🖓 💪	1
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Regarding:	<u> </u>			<u> </u>	
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Corrective Action Taken:	<u>.</u>			<u></u>	
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Corrective Action Taken:					
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Corrective Action Taken:	See attached e-mai/ fax				
Corrective Action Taken:	See attached e-mail/ fax     Client understands and wou	uld like to pro	iceed with	analysia	
Check all that Apply:	See attached e-mail/ fax     Client understands and wou     Cooling process had begun	uld like to pro	ceed with sampling	analysia event	A Constraint of the second sec
Corrective Action Taken:	See attached e-meil/ fax     Cient understands and wou     Cooling process had begun	ald like to pro	ceed with sampling	analysis event	
Corrective Action Taken:	See attached e-msil/ fax     Client understands and wou     Cooling process had begun	ald like to pro	ceed with sampling	analysia event	

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# Analytical Report 341297

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

**Beeson 8" Discharge** 

**Beeson Historical** 

21-AUG-09





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



21-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 341297 Beeson 8" Discharge Project Address: Eddy County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 341297. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 341297 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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## Sample Cross Reference 341297

## PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
ESW-1	S	Aug-14-09 09:00		341297-001
ESW-2	S	Aug-14-09 09:15		341297-002
SSW-1	S	Aug-14-09 09:30		341297-003
SSW-2	S	Aug-14-09 09:45		341297-004
WSW-1	S	Aug-14-09 10:00		341297-005
WSW-2	S	Aug-14-09 10:15		341297-006
WSW-3	S	Aug-14-09 10:30		341297-007
SP-23 A	S	Aug-14-09 10:50		341297-008
SP-36	S	Aug-14-09 11:00		341297-009
SP-37	S	Aug-14-09 11:10		341297-010
SP-38	S	Aug-14-09 11:20		341297-011
SP-39	S	Aug-17-09 14:00		341297-012
SP-40	S	Aug-17-09 14:10		341297-013
SP-41	S	Aug-17-09 14:20		341297-014
SP-42	S	Aug-17-09 14:30		341297-015



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 341297 Report Date: 21-AUG-09 Date Received: 08/18/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-768928 Percent Moisture AD2216A Batch 768928, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity. Samples affected are: 341297-004, -005, -012, -002, -011, -003, -008, -009, -013, -001, -014, -007, -010, -006.

Batch: LBA-768931 Percent Moisture None



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 341297 Report Date: 21-AUG-09 Date Received: 08/18/2009

Batch: LBA-768993 BTEX-MTBE EPA 8021B SW8021BM

Batch 768993, m,p-Xylenes RPD was outside QC limits. Samples affected are: 341297-004, -005, -011, -003, -001, -006

#### SW8021BM

Batch 768993, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 341297-004, -005, -011, -003, -001, -006. The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits

#### SW8021BM

Batch 768993, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 341297-005. Data for 341297-002 was confirmed by re-analysis. 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 535698-1-BLK.

4-Bromofluorobenzene recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 341297-001 S and 341297-004. Data for 341297-002 was confirmed by re-analysis.

Batch: LBA-769017 TPH by SW8015 Mod None



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Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 341297 Report Date: 21-AUG-09 Date Received: 08/18/2009

Batch: LBA-769116 BTEX-MTBE EPA 8021B SW8021BM

Batch 769116, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 341297-002 DL,341297-014 D ,341297-007,341297-009,341297-010,341297-013,341297-014,341297-015,341297-008.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 535778-1-BLK.

4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 341297-002 DL,341297-014 D ,341297-007,341297-009,341297-010,341297-013,341297-014,341297-015,341297-008, 341297-012

1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 341297-014 D.

Batch: LBA-769146 TPH by SW8015 Mod None

Í	on Historical
0 #	ect Id: Beese
XENC	Proj

Contact: Jason Henry

Certificate of Analysis Summary 341297 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Tue Aug-18-09 08:30 am

Report Date: 21-AUG-09

Project Location: Eddy County, NM		•			Keport Date: 2	21-AUG-09	
					Project Manager: 1	Srent Barron, II	
	Lab Id:	341297-001	341297-002	341297-003	341297-004	341297-005	341297-006
Australia Damand	Field Id:	ESW-1	ESW-2	I-MSS	SSW-2	I-WSW	WSW-2
naisanhay sistinuy	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-14-09 09:00	Aug-14-09 09:15	Aug-14-09 09:30	Aug-14-09 09:45	Aug-14-09 10:00	Aug-14-09 10:15
BTEX by EPA 8021B	Extracted:	Aug-18-09 16:45	Aug-18-09 16:45	Aug-18-09 16:45	Aug-18-09 16:45	Aug-18-09 16:45	Aug-18-09 16:45
	Analyzed:	Aug-18-09 22:06	Aug-18-09 22:24	Aug-18-09 22:43	Aug-18-09 23:01	Aug-18-09 23:20	Aug-18-09 23:38
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RI
Benzene	-	ND 0.0012	0.0012 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	0.0022 0.001
Toluene		ND 0.0024	0.0610 0.0022	ND 0.0022	ND 0.0024	0.0022 0.0020	0.0021 0.002
Ethylbenzene		0.0031 0.0012	3.525 D 0.0112	0.0025 0.0011	0.0044 0.0012	0.0065 0.0010	0.0017 0.001
m,p-Xylenes		0.0035 0.0024	6.474 D 0.0224	0.0029 0.0022	0.0139 0.0024	0.0050 0.0020	0.0041 0.002
o-Xylene		ND 0.0012	0.0950 0.0011	ND 0.0011	0.0093 0.0012	0.0018 0.0010	100.0 CIN
Total Xylenes		0.0035 0.0012	6.569 0.0011	0.0029 0.0011	0.0232 0.0012	0.0068 0.0010	0.0041 0.001
Total BTEX		0.0066 0.0012	10.156 0.0011	0.0054 0.0011	0.0276 0.0012	0.0155 0.0010	0.0101 0.001
Percent Moisture	Extracted:						
	Analyzed:	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		15.62 1.00	10.83 1.00	11.08 1.00	16.29 1.00	1.65 1.00	3.23 1.0
TPH By SW8015 Mod	Extracted:	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17
	Analyzed:	Aug-19-09 14:57	Aug-19-09 15:23	Aug-19-09 15:48	Aug-19-09 16:14	Aug-19-09 17:04	Aug-19-09 17:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 17.8	468 83.7	ND 16.9	169 89.6	ND 15.3	ND 77.
C12-C28 Diesel Range Hydrocarbons		106 17.8	1790 83.7	350 16.9	2150 89.6	681 15.3	2930 77.
C28-C35 Oil Range Hydrocarbons		27.0 17.8	172 83.7	31.4 16.9	168 89.6	60.6 15.3	330 77.
Total TPH		133 17.8	2430 83.7	381 16.9	2487 89.6	742 15.3	3260 77.

This analytical report, and the entire data package it represents, has been made for your exclurive and confidential use. The interpretations and entite expressed throughout an analytical report represent the best juggment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and mades no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II



Contact: Jason Henry

Certificate of Analysis Summary 341297 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Beeson 8" Discharge

Date Received in Lab: Tue Aug-18-09 08:30 am

Report Date: 21-AUG-09

Project Location: Eddy County, NM					Report Date: 2	60-DUA-13	
					Project Manager: H	Brent Barron, II	
	Lab Id:	341297-007	341297-008	341297-009	341297-010	341297-011	341297-012
Auchieie Domoctad	Field Id:	8-WSW	SP-23 A	SP-36	SP-37	SP-38	SP-39
noiconhou sistinuu	Depth:						
	Matrix:	SOIL	SOIL	SOIL .	SOIL	SOIL	SOIL
	Sampled:	Aug-14-09 10:30	Aug-14-09 10:50	Aug-14-09 11:00	Aug-14-09 11:10	Aug-14-09 11:20	Aug-17-09 14:00
BTEX by EPA 8021B	Extracted:	Aug-19-09 15:05	Aug-19-09 13:05	Aug-19-09 15:05	Aug-19-09 13:05	Aug-18-09 16:45	Аив-19-09 15:05
	Analyzed:	Aug-19-09 17:58	Aug-19-09 18:35	Аид-19-09 19:12	Aug-19-09 20:45	Aug-19-09 00:15	Aug-19-09 21:22
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0054	0.0068 0.0051	0.2043 0.1075	0.4489 0.2656	0.0011 0.0010	ND 0.0502
Toluene		0.0525 0.0109	0.5732 0.0102	2.785 0.2151	3.395 0.5312	0.0025 0.0020	0.9690 0.1004
Ethylbenzene		1.548 0.0054	0.4312 0.0051	9.800 0.1075	22.23 0.2656	0.0025 0.0010	0.5023 0.0502
m,p-Xylenes		2.041 0.0109	1.969 0.0102	15.01 0.2151	20.69 0.5312	0.0038 0.0020	3.429 0.1004
o-Xylene		0.5163 0.0054	1.641 0.0051	5.697 0.1075	2.784 0.2656	0.0012 0.0010	0.9961 0.0502
Total Xylenes		2.557 0.0054	3.610 0.0051	20.71 0.1075	23.47 0.2656	0.0050 0.0010	4.425 0.0502
Total BTEX		4.158 0.0054	4.621 0.0051	33.50 0.1075	49.55 0.2656	0.0111 0.0010	5.896 0.0502
Percent Moisture	Extracted:						
	Analyzed:	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		7.88 1.00	1.95 1.00	7.00 1.00	5.88 1.00	2.18 1.00	00.1 UN
TPH By SW8015 Mod	Extracted:	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17	Aug-18-09 13:17
	Analyzed:	Aug-19-09 17:55	Aug-19-09 18:20	Aug-19-09 18:46	Aug-19-09 19:11	Aug-19-09 19:36	Aug-19-09 20:01
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		101 16.3	330 76.5	1420 80.6	986 79.4	ND 15.3	364 75.3
C12-C28 Diesel Range Hydrocarbons		354 16.3	1290 76.5	3880 80.6	2060 79.4	120 15.3	1250 75.3
C28-C35 Oil Range Hydrocarbons		35.2 16.3	130 76.5	307 80.6	165 79.4	17.3 15.3	120 75.3
Total TPH		490 16.3	1750 76.5	5607 80.6	3211 79.4	137 15.3	1734 75.3

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II

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Project Id: Beeson Historical Contact: Jason Henry

Certificate of Analysis Summary 341297 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Tue Aug-18-09 08:30 am Report Date: 21-AUG-09

Project Location: Eddy County, NM					Report Date: 21	I-AUG-09	
-					Project Manager: Br	rent Barron, II	
	Lab Id:	341297-013	341297-014	341297-015			
Amelicie Daniaciad	Field Id:	SP-40	SP-41	SP-42			
naisanhay sistinuy	Depth:						
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Aug-17-09 14:10	Aug-17-09 14:20	Aug-17-09 14:30			
BTEX by EPA 8021B	Extracted:	Aug-19-09 15:05	Aug-19-09 15:05	Aug-19-09 15:05			
	Analyzed:	Aug-19-09 21:59	Aug-19-09 22:36	Aug-19-09 23:13			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		ND 0.0513	0.4092 0.0531	0.8550 0.2740			
Toluene		0.8879 0.1026	3.440 0.1062	7.873 0.5481			
Ethylbenzene		2.057 0.0513	20.67 0.0531	41.94 0.2740			
m,p-Xylenes		2.383 0.1026	10.12 0.1062	26.67 0.5481			
o-Xylene		1.110 0.0513	2.142 0.0531	4.689 0.2740			
Total Xylenes		3.493 0.0513	12.26 0.0531	31.36 0.2740			
Total BTEX		6.438 0.0513	36.78 0.0531	82.03 0.2740			
Percent Moisture	Extracted:						
	Analyzed:	Aug-18-09 16:00	Aug-18-09 16:00	Aug-18-09 16:00			
	Units/RL:	% RL	% RL	% RL	<u> </u>		
Percent Moisture		2.52 1.00	5.80 1.00	8.77 1.00			
TPH By SW8015 Mod	Extracted:	Aug-18-09 13:17	Aug-18-09 13:17	Aug-19-09 12:21			
	Analyzed:	Aug-19-09 20:26	Aug-19-09 20:52	Aug-19-09 15:33			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		573 76.9	700 79.3	1710 81.8			
C12-C28 Diesel Range Hydrocarbons		2230 76.9	1630 79.3	2950 81.8			i
C28-C35 Oil Range Hydrocarbons		6'94 861	146 79.3	348 81.8			
Total TPH		3001 76.9	2476 79.3	5008 81.8			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and reaths expressed throughout this mailytical trapert represent the bas juggment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warmany to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order undess otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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,,		



## Project Name: Beeson 8" Discharge

ork Orders : 341297	7, c , 535600 1 PKS / PK		Project II	D: Beeson Hi	storical	
Units: mg/kg	Date Analyzed: 08/18/09 20:52	SU	RROGATE RI	ECOVERY :	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0317	0.0300	106	80-120	
4-Bromofluorobenzene		0.0340	0.0300	113	80-120	
Lab Batch #: 768993	Sample: 535698-1-BSD / BS	D Batcl	n: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 08/18/09 21:10	SŪ	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene	Analytes	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	· ····································	0.0348	0.0300	116	80-120	
ab Batab # 768993	Samples 535698 1 BLK / BL	K Datab	. 1 Billiotative	Solid		
Units: mg/kg	Date Analyzed: 08/18/09 21:47	SUI	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flag
1,4-Difluorobenzene	······	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene		0.0112	0.0300	37	80-120	*
Lab Batch #: 768993	Sample: 341297-001 / SMP	Batch	n: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 08/18/09 22:06	SUI	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0270	0.0300	90	80-120	
4-Bromofluorobenzene		0.0297	0.0300	99	80-120	
ab Batch #: 768993.	Sample: 341297-002 / SMP	Batch	n: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 08/18/09 22:24	SUI	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
	Analytes			וטו		
1,4-Difluorobenzene		0.0214	0.0300	71	80-120	**
4-Bromofluorobenzene		0.2111	0.0300	704	80-120	**

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

ork Orders: 341297	,		Project II	): Beeson Hi	storical	
Lab Batch #: 768993	Sample: 341297-003 / SMP	Batch	1: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 08/18/09 22:43	SUF	ROGATE RE	COVERY :	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes		·	[D]	!	۱
1,4-Difluorobenzene		0.0257	0.0300	86	80-120	
4-Bromofluorobenzene		0.0326	0.0300	109	80-120	
Lab Batch #: 768993	Sample: 341297-004 / SMP	Batch	1: 1 Matrix:	:Soil		
Units: mg/kg	Date Analyzed: 08/18/09 23:01	SUF	RROGATE RF	COVERY ?	STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes		<b>ا</b>	[n]	<u> </u>	<u> </u>
1,4-Difluorobenzene		0.0250	0.0300	83	80-120	Ē.
4-Bromofluorobenzene		0.0468	0.0300	156	80-120	*
<b>_ab Batch #:</b> 768993	Sample: 341297-005 / SMP	Batch	1: 1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 08/18/09 23:20	SUF	ROGATE RE	COVERY S	STUDY	
BTE	K by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes		,	[D]	<u>                                     </u>	1
1,4-Difluorobenzene		0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene		0.0298	0.0300	99	80-120	
Lab Batch #: 768993	Sample: 341297-006 / SMP	Batch	1: 1 Matrix:	:Soil		
Units: mg/kg	Date Analyzed: 08/18/09 23:38	SUF	ROGATE RF	COVERY S	STUDY	
BTEX	K by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]	1 1	1
1,4-Difluorobenzene		0.0244	0.0300	81	80-120	·
4-Bromofluorobenzene		0.0249	0.0300	83	80-120	1
_ab Batch #: 768993	Sample: 341297-011 / SMP	Batch	1: 1 Matrix:	; Soil		
Units: mg/kg	Date Analyzed: 08/19/09 00:15	SUF	ROGATE RF	COVERY S	STUDY	
втех	X by EPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flag
	Analytes	-	- 1	[D]		I _
				*	1	<u> </u>
1,4-Difluorobenzene		0.0243	0.0300	81	80-120	۱

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Laboratories

## Project Name: Beeson 8" Discharge

<b>ork Orders :</b> 341297	, ,		Project II	D: Beeson Hi	storical	
Lad Batch #: 700993	Sample: 541297-001 57 M	S Batel	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0309	0.0300	103	80-120	
4-Bromofluorobenzenc		0.0380	0.0300	105	80-120	*
Lah Batch #+ 768993	Sample: 341297-001 SD / /	MSD Batal	n l Matrix	Soil	1	
Units: mg/kg	Date Analyzed: 08/19/09 05:29	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B		Amount Found [A]	True Amount  B	Recovery %R	Control Limits %R	Flag
14-Difluorobenzene	Analytes	0.0201	0.0200	100	80,120	
4-Bromofluorobenzene		0.0301	0.0300	114	80-120	
	6 • 525770 L DVC ( I	0.0341	0.0500	G-1'1	00-120	
Lao Batch #: 709110	Sample: 555776-1-BKS7E	KS Batch:   Matrix: Solid				
Units: mg/kg	Date Analyzed: 08/19/09 15:29	30				
BTEX by EPA 8021B Analytes		Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0311	0.0300	104	80-120	
4-Bromofluorobenzene		0.0349	0.0300	116	80-120	
Lab Batch #: 769116	Sample: 535778-1-BSD / E	SD Batch	n: 1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 08/19/09 15:48	SUI	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
14 Difluorobenzene	Analytes	0.0717	0.0200	104	80,120	
4-Bromofluorobenzene		0.0343	0.0300	104	80-120	
Lab Batab # 760116	Samela 525779 1 DI V / D		0.0500	Solid	00-120	
Lad Baten #: 709110	Sample: 333776-1-BLK / C	SUI	RROGATE RE	COVERY S	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Controt Limits %R	Flag
I,4-Difluorobenzene		0.0274	0.0300	91	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Labo	ra	tor	ies

Project Name: Beeson 8" Discharge

Vork Orders : 341297 Lab Batch #: 769116	, Sample: 341297-002 / DL	Batc	Project II h: <sup>1</sup> Matrix	<b>):</b> Beeson Hi : Soil	storical	
Units: mg/kg	Date Analyzed: 08/19/09 17:21	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B		Amount Found [A]	True Amount  B}	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0237	0.0300	79	80-120	**
4-Bromofluorobenzene		0.1024	0.0300	341	80-120	**
Lab Batch #: 769116	Sample: 341297-007 / SMP	Bate	h: <sup>1</sup> Matrix	:Soil		
Units: mg/kg	Datc Analyzed: 08/19/09 17:58	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	11111 y te 3	0.0217	0.0300	77	80-120	**
4-Bromofluorobenzene		0.0988	0.0300	329	80-120	**
Lah Batch #: 769116	Sample: 341297-008 / SMP	Bate	l h· l Matrix	soil	I	
Units: mg/kg	Date Analyzed: 08/19/09 18:35	SU	RROGATE RI	COVERY	STUDY	
BTEX by EPA 8021B Analytes		Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0219	0.0300	73	80-120	**
4-Bromofluorobenzene		0.3073	0.0300	1024	80-120	**
Lab Batch #: 769116	Sample: 341297-009 / SMP	Bate	h: <sup>1</sup> Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/19/09 19:12	SURROGATE RECOVERY STUDY				
BTEX	X by EPA 8021B	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
1453	Analytes			ועו		
4 Bromofluombenzene		0.0216	0.0300	72	80-120	**
	241207.010 / 6140	0.0434	0.0300	161	80-120	
Lab Batch #: 709110	Sample: 341297-0107 SMP	Bate	h: I Matrix: PPOCATE PI	COVERV	STUDY	
Units: mg/kg	Date Analyzed: 08/19/09 20:45	50				
BTE	Anglytes	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags
1.4-Difluorobenzene	1 11m1 y 10.5	0.0224	0.0300	75	80-120	**
4-Bromofluorobenzene		0,0405	0.0300	135	80-120	**
					l	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



## Project Name: Beeson 8" Discharge

'ork Orders : 341297 Lab Batch #: 769116	, Sample: 341297-012 / SMP	Batel	Project II h: <sup>1</sup> Matrix:	<b>):</b> Beeson Hi ; Soil	storical	
Units: mg/kg	Date Analyzed: 08/19/09 21:22	SU	RROGATE RI	COVERY	STUDY	
BTEX by EPA 8021B Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	-	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene		0.0563	0.0300	188	80-120	**
Lab Batch #: 769116	Sample: 341297-013 / SMP	Batel	h: 1 Matrix:	Soil	·	
Units: mg/kg	Date Analyzed: 08/19/09 21:59	SU	RROGATE RI	COVERY	STUDY	
BTEX by EPA 8021B		Amount Found  A	True Amount  B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0232	0.0300	77	80-120	**
4-Bromofluorobenzene		0.0562	0.0300	187	80-120	**
ab Batch #: 769116	Sample: 341297-014 / SMP	Batcl	h l Matrix:	Soil	<u> </u>	<b>.</b>
Units: mg/kg	Date Analyzed: 08/19/09 22:36	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[U]		
1,4-Difluorobenzene		0.0219	0.0300	73	80-120	**
4-Bromotiuorobenzene		0,1686	0.0300	562	80-120	**
Lab Batch #: 769116	Sample: 341297-015 / SMP	Batch	h: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 08/19/09 23:13	501	RROGATE RE	COVERY :	STUDY	
BTEX	К by ЕРА 8021В	Amount Found [A]	True Amount  B	Recovery %R	Control Limits %R	Flags
	Analytes			נטן		
1,4-Difluorobenzene		0.0213	0.0300	71	80-120	**
4-Bromotluorobenzene		0.0603	0.0300	201	80-120	**
Lab Batch #: 769116	Sample: 341297-014 D / ME	) Batch	h: 1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 08/19/09 23:49	SUI	RROGATE RE	COVERY 2	STUDY	
втех	6 by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
14.010	Analytes	0.0203	0.0000	ותו	00.100	•
1,4-Difluorobenzene		0.0207	0.0300	69 502	80-120	•
4-Bromonuorobenzene		0.1508	0.0300	505	80-120	-

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Laboratories

Project Name: Beeson 8" Discharge

Lab Batch #: 769017	, Sample: 535701-1-BKS/BI	KS Batch	: 1 Matrix:	Solid	3011041	
Units: mg/kg	Date Analyzed: 08/18/09 14:20	SUI	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		·
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		43.7	50.0	87	70-135	
Lab Batch #: 769017	Sample: 535701-1-BSD / BS	SD Batch	: i Matrix	Solid		
Units: mg/kg	Date Analyzed: 08/18/09 14:45	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[0]		
1-Chlorooctane		106	100	106	70-135	
o- Terphenyl		43.6	50.0	87	70-135	
Lab Batch #: 769017	Sample: 535701-1-BLK / B	LK Batch	: 1 Matrix	Solid		
Units: mg/kg	Date Analyzed: 08/19/09 12:01	SUI	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		93.8	100	94	70-135	
o-Terphenyl		49.5	50.0	99	70-135	
Lab Batch #: 769017	Sample: 341297-001 / SMP	Batch	: 1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 08/19/09 14:57	SURROGATE RECOVERY STUDY				
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			{D}		
1-Chlorooctane		93.8	100	94	70-135	
o-Terphenyl	· · · ·	48.5	50.0	97	70-135	
Lab Batch #: 769017	Sample: 341297-002 / SMP	Batch	: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/19/09 15:23	SUI	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount {B	Recovery %R	Control Limits %R	Fla
	Analytes			[D]		
1-Chlorooctane		103	99.5	104	70-135	
				t		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Labo	ra	tories

## Project Name: Beeson 8" Discharge

'ork Orders : 341297 Lab Batch #: 769017	, Sample: 341297-003 / SMP	Batel	Project II h: <sup>1</sup> Matrix	D: Beeson Hi ; Soil	storical	
Units: mg/kg	Date Analyzed: 08/19/09 15:48	SUI	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		116	100	116	70-135	
o-Terphenyl		60.2	50.0	120	70-135	
Lab Batch #: 769017	Sample: 341297-004 / SMP	Batch	h: 1 Matrix	: Soil	•	
Units: mg/kg	Date Analyzed: 08/19/09 16:14	SUI	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod		Amount Found  A	True Amount [B]	Rccovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	7 mary (0.5	95.9	100	96	70-135	
o-Terphenyl		51.4	50.0	103	70-135	
Lab Batch #• 769017	Sample: 341297-005 / SMP	Batcl	h· 1 Matrix	I · Soil	}	
Units: mg/kg	Date Analyzed: 08/19/09 17:04	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		85.3	100	85	70-135	
o-Terphenyl		43.6	50.0	87	70-135	
Lab Batch #: 769017	Sample: 341297-006 / SMP	Batch	h: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/19/09 17:30	SUI	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags
1-Chlorooctane		90.8	100	91	70-135	
o-Terphenyl		47.5	50.0	95	70-135	
Lab Batch #: 769017			i			
	Sample: 341297-007 / SMP	Batch	h: l Matrix	: Soil		
Units: mg/kg	Sample: 341297-007 / SMP Date Analyzed: 08/19/09 17:55	Batch SUI	h: 1 Matrix RROGATE RI	: Soil ECOVERY S	STUDY	
Units: mg/kg	Sample: 341297-007 / SMP Date Analyzed: 08/19/09 17:55 By SW8015 Mod Analytes	Batch SUI Amount Found [A]	h: <sup>1</sup> Matrix RROGATE RI True Amount [B]	: Soil ECOVERY S Recovery %R [D]	STUDY Control Limits %R	Flags
Units: mg/kg TPH	Sample: 341297-007 / SMP Date Analyzed: 08/19/09 17:55 By SW8015 Mod Analytes	Batch SUI Amount Found [A] 88.5	h: 1 Matrix RROGATE RI True Amount [B] 99.8	Soil ECOVERY S Recovery %R IDJ 89	Control Limits %R	Flags

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



## Project Name: Beeson 8" Discharge

<b>'ork Orders :</b> 341297 Lab Batch #: 769017	, Sample: 341297-008 / SMP	Batch	Project II	D: Beeson Hi : Soil	istorical	
Units: mg/kg	Date Analyzed: 08/19/09 18:20	SUR	ROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		96.0	100	96	70-135	
o-Terphenyl		47.1	50.0	94	70-135	
Lab Batch #: 769017	Sample: 341297-009 / SMP	Batch	: l Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/19/09 18:46	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R -	Flag
1-Chlorooctane		115	100	115	70-135	
o-Terphenyl		49.4	50.0	99	70-135	
Lab Batch #: 769017	Sample: 341297-010 / SMP	Batch	: 1 Matrix	Soil	L	
Units: mg/kg	Date Analyzed: 08/19/09 19:11	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		113	99.6	113	70-135	
o-Terphenyl	<u> </u>	49.7	49.8	100	70-135	
Lab Batch #: 769017	Sample: 341297-011 / SMP	Batch	: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/19/09 19:36	SUR	ROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
I-Chlorooctane	Anaiy ICS	94.5	99.0	05	70-135	
o-Terphenyl		48.8	50.0	98	70-135	
Lab Batch #: 769017	Sample: 341297-012 / SMP	Batch	: 1 Matrix:	: Soil	1	
Units: mg/kg	Date Analyzed: 08/19/09 20:01	SUR	ROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount {Bl	Recovery %R	Control Limits %R	Flag
	Analytes	. ,		[D]		
1-Chlorooctane		102	100	102	70-135	
o-Terphenyl		50.1	50.0	100	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



## Project Name: Beeson 8" Discharge

Vork Orders : 341297 Lab Batch #: 769017	, Sample: 341297-013 / SMP	Batch	Project II 1: 1 Matrix	D: Beeson Hi Soil	storical	
Units: mg/kg	Date Analyzed: 08/19/09 20:26	SUI	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		100	100	100	70-135	
o-Terphenyl		48.3	50.0	97	70-135	
Lab Batch #: 769017	Sample: 341297-014 / SMP	Batch	n: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/19/09 20:52	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	101	99.6	101	70-135	<u> </u>
o-Terphenyl		47.7	49.8	96	70-135	i
Lab Batch #: 769017	Sample: 341297-011 D / M	) Batch	n   Matrix	l Soil	<b>I</b>	
Units: mg/kg	Date Analyzed: 08/19/09 21:16	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlomoctane		1 70	100	07	70.125	
o-Terphenyl		50.3	50.0	101	70-135	
1 ab Batch #: 769146	Sampler 535811-1-BKS / BI	XS Batak	. l Matrix	Solid		
Units: mg/kg	Date Analyzed: 08/19/09 14:15	SURROGATE RECOVERY STUDY				
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1 Chlomostane	Analytes	124	100	124	70.126	ļ
o-Temhenyl		55.0	50.0	124	70-135	
Lab Batab #. 769146	Same 535811 1 BSD / BS			Solid	1	L
Lab Batch #: 709140	Date Analyzed: 08/10/09 14:41	SUI	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			INI		
I-Chlorooctane		126	100	126	70-135	
o- i erpnenyi		20.8	50.0	i 14	/0-135	<u>.                                    </u>

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

XEN	(0)
Laboral	ories

## Project Name: Beeson 8" Discharge

ork Orders : 341297	,		Project II	D: Beeson Hi	storical	
Lab Batch #: 769146	Sample: 535811-1-BLK / B	LK Batel	n:   Matrix	; Solid		
Units: mg/kg	Date Analyzed: 08/19/09 15:07	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		105	100	105	70-135	
o-Terphenyl		58.8	50.0	118	70-135	
Lab Batch #: 769146	Sample: 341297-015 / SMF	Batch	n: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/19/09 15:33	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		119	99.5	120	70-135	
o-Terphenyl		62.5	49.8	126	70-135	
Lab Batch #: 769146	Sample: 341300-004 S / M3	S Batcl	n: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/20/09 00:38	SUI	RROGATE R	ECOVERY	STUDY	
ТРН І	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flags
1-Chlorooctane		126	100	126	70.175	
o-Terphenyl		54 1	50.0	108	70-135	
Lab Batch # 769146	Sample: 341300-004 SD / M	1 SD Batel	· · · · Matrix	Soil	10.100	
Units: mg/kg	Date Analyzed: 08/20/09 01:04	SUI	RROGATE RI	ECOVERY	STUDY	
····	-		<b>T</b>		Control	
TPHI	By SW8015 Mod	Amount Found [A]	I rue Amount [B]	Recovery %R [D]	Limits %R	Flags
TPH I	By SW8015 Mod Analytes	Amount Found [A]	Amount [B]	Recovery %R  D]	Limits %R 70-135	Flags

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

**BS / BSD Recoveries** 

A subset of the second second



Project Name: Beeson 8" Discharge

Work Order #: 341297 Lab Batch ID: 768993 Analyst: ASA

Date Prepared: 08/18/2009 Batch #: 1

Sample: 535698-1-BKS

Project ID: Beeson Historical Date Analyzed: 08/18/2009 Matrix: Solid

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** 

Flag

Units: mg/kg		BLAN	K /BLANK S	PIKE / B	LANK S	PIKE DUPL	ICATE ]	RECOVE	RY STUD	Y
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]			
3enzene	QN	0.1000	0.1050	\$01	0.1	0.1034	103	2	70-130	35
Coluene	CIN	0.1000	0.0997	001	0.1	0.0984	86	1	70-130	35
Sthylbenzene	QN	0.1000	0.1116	112	0.1	0.1108	111	1	71-129	35
n,p-Xylenes	QN	0.2000	0.2291	115	0.2	0.2254	113	2	70-135	35
≻Xylene	Q	0.1000	0.1090	109	0.1	0.1080	108	1	71-133	35

Lab Batch ID: 769116 Analyst: ASA

Sample: 535778-1-BKS

Date Prepared: 08/19/2009 Batch #: ]

Date Analyzed: 08/19/2009 Matrix: Solid **BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY** 

Units: mg/kg		BLAN	K /BLANK S	sPIKE / B	LANK S	PIKE DUPL	ICATE F	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duolicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[	B	C		[E]	Result [F]	ন্থ	!			
Benzene	Ð	0.1000	0.0949	56	0.1	0.0915	92	4	70-130	35	
Toluene	Ð	0.1000	0.0920	65	0.1	0.0881	88	4	70-130	35	
Ethylbenzene	Q	0.1000	0.1045	105	0.1	0.1000	100	4	71-129	35	
m,p-Xylenes	QN	0.2000	0.2160	108	0.2	0.2062	103	\$	70-135	35	
o-Xylene	Û	0.1000	0.1024	102	0.1	0.0975	98	5	71-133	35	

Relative Percent Difference RPD = 200\*(C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 341297 Analyst: BHW Lab Batch ID: 769017

Sample: 535701-1-BKS

Date Prepared: 08/18/2009 Batch #: 1

**Project ID:** Beeson Historical Date Analyzed: 08/18/2009 Matrix: Solid

Units: mg/kg		BLAN	K /BLANK S	PIKE / B	ILANK S	PIKE DUPL	ICATE I	RECOVE	CRY STUD	Y	
TPH By SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Bik Spk Dup.	RPD	Control Limits	Control Límits	Flag
Analytes	(A)	[8]	[C]	[0]	[E]	Dupucate Result [F]	[6]	%	X%	, TAN%	
C6-C12 Gasoline Range Hydrocarbons	Ð	1000	961	96	1000	950	95	-	70-135	35	
C12-C28 Diesel Range Hydrocarbons	Ð	1000	1170	117	1000	1160	116	1	70-135	35	
Analyst: BHW	Da	ite Prepar	ed: 08/19/200	6			Date Ar	ıalyzed: 0	8/19/2009		
Lab Batch ID: 769146 Sample: 535811-1-E	3KS	Batch	1#: I					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	PIKE / B	LANK S	PIKE DUPL	ICATE I	RECOVE	RY STUD	Y	
TPH Bv SW8015 Mod	Blank	Spike	Blank	Blank	Spike	Blank	Blk Spk		Control	Control	

	Sample Result [A]	Added	Spike Result	Spike %R	Added	Spike Dunlicate	Dup. %R	RPD %	Limits %R	Limits %RPD
Analytes		[B]	[c]	ē	[E]	Result [F]	ভ			
C6-C12 Gasoline Range Hydrocarbons	Q	1000	976	86	1000	066	8	-	70-135	35
C12-C28 Diesel Range Hydrocarbons	QN	1000	1040	104	1000	1070	107	3	70-135	35

Flag

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries



**Project Name: Beeson 8" Discharge** 

Work Order #: 341297

Date Analyzed: 08/19/2009 Lab Batch ID: 768993

: ting I Init.

Batch #: Analyst: QC- Sample ID: 341297-001 S Date Prepared: 08/18/2009

Matrix: Soil -ASA

Project ID: Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIKI	E/ MAT	RIX SPI	KE DUPLICAT	E RECO	VERY 3	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	Q	0.1185	0.0936	79	0.1185	0.0875	74	7	70-130	35	
Tohuene	QN	0.1185	0.0679	57	0.1185	0.0564	48	19	70-130	35	x
Ethylbenzene	0.0031	0.1185	0.0548	44	0.1185	0.0415	32	28	71-129	35	×
m,p-Xylenes	0.0035	0.2370	0.0695	28	0.2370	0.0394	15	55	70-135	35	XF
o-Xylene	DN	0.1185	0.0542	46	0.1185	0.0502	42	86	71-133	35	х
Lab Batch ID: 769146 Date Analyzed: 08/20/2009	QC- Sample ID: Date Prepared:	341300- 08/19/2	004 S 009	Ba An	tch #: alyst: ]	l Matrix: BHW	: Soil				
Reporting Units: mg/kg		Σ	ATRIX SPIKI	V MAT	IdS XI8	VE DUPLICAT	L RECC	VFRV	STUDY		

Keporting Units: mg/kg		M	ATRIX SPIKI	E / MATI	IIds XIX	KE DUPLICA	TE RECO	<b>DVERY</b> 5	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spilke	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	QN	1020	1090	107	1020	1100	108	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	336	1020	1500	114	1020	1530	117	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, P = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Work Order #: 341297

Sample Duplicate Recovery



### Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Lab Batch #: 769116 Date Analyzed: 08/19/2009 Date Prepared: 08/19/2009 Analyst: ASA QC- Sample ID: 341297-014 D Batch #: 1 Matrix: Soil Reporting Units: mg/kg SAMPLE / SAMPLE DUPLICATE RECOVERY BTEX by EPA 8021B Sample Control Parent Sample RPD Duplicate Limits Result Flag Result %RPD [A] **[B]** Analyte Benzene 0.4092 0.3572 14 35 Toluene 3.440 35 3.021 13 Ethylbenzene 20.67 3 35 20.06 m,p-Xylenes 10.12 9.927 2 35 -Xylene 2.142 1.845 15 35 Lab Batch #: 768928 Date Analyzed: 08/18/2009 Date Prepared: 08/18/2009 Analyst: WRU QC- Sample ID: 341294-001 D Batch #: 1 Matrix: Soil **Reporting Units: %** SAMPLE / SAMPLE DUPLICATE RECOVERY **Percent Moisture** Control Parent Sample Sample Duplicate RPD Limits Result Hag Result %RPD [A] [B] Analyte Percent Moisture 1.87 2.48 28 20 F Lab Batch #: 769017 Date Analyzed: 08/19/2009 Date Prepared: 08/18/2009 Analyst: BHW Batch #: QC- Sample ID: 341297-011 D 1 Matrix: Soil Reporting Units: mg/kg SAMPLE / SAMPLE DUPLICATE RECOVERY Control TPH By SW8015 Mod Sample Parent Sample Duplicate RPD Limits Result Flag Result %RPD [A] [B] Analyte C6-C12 Gasoline Range Hydrocarbons ND ND NC 35 C12-C28 Diesel Range Hydrocarbons 120 123 2 35 28-C35 Oil Range Hydrocarbons 17.3 15.8 9 35

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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Sample Receipt C	Checklist			· · · · · · · · · · · · · · · · · · ·
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#1 Temperature of container/ cooler?	Yes•2	No:	B B SINT AN . C W	14 pt - 2 3 2 4 4
#2'- Shipping container in good condition?	* (es)	No	Altering a few Warth	
#3 Custody Seals intact on shipping container/ cooler?	Yes	· No ·	Kiol Presento	
#4 Custody Seals intect on sample bottles/ container? /label-	(Yes)	'No'	Not Present	
#5 Chain of Custody present?	Yes	1"No "	and the stand of the	<u> </u>
#6 Sample instructions complete of Chain of Custody?	(Yes)	No	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	and a second
#7 Chain of Custody signed when relinquished/ received?	CYESD	No	the provider	
#8 Chain of Custody agrees with sample label(s)?	(Yes)	No	1D written on Cont / Lid.	
#9 Container label(s) legible and intact?	(Yes)	No :	- Not Applicable	- C - C - C - C - C - C - C - C - C - C
#10 Sample matrix/ properties agree with Chain of Custody? ***	(Yes)	No	1 1. 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Sec. 2. 2.
#11 Containers supplied by ELOT? **?	(Yes)	No .	1 - 2 - 1	
#12 Samples in proper container/ bottle?	(Yes)	No 🗧	Cent See Below Ten 214	23 2
#13 Samples property preserved?	Yes	No	See Below	
#14 Sample bottles intact?	Cress.	No	t . 47	<u> </u>
#15 Preservations documented on Chain of Custody?	(Yes)	No -		
#16 Containers documented on Chain of Custody?	(Yes)	No	Same States	
#17 Sufficient sample amount for Indicated test(s)?	Yes	No .	See Below	हरू देखें हैं।
#18 All samples received within sufficient hold time?	res	No	See Below	<u> </u>
#19 Subcontract of sample(s)?	Yes	No	/ (Nof Applicatite _	
#20 VOC samples have zero headspace?	(res)	No	Not Applicable	
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Cooling process had begun s	horthy after	sampling	event	· · · · · · · · · · · · · · · · · · ·
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# Analytical Report 341767

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

**Beeson 8" Discharge** 

**Beeson Historical** 

26-AUG-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

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26-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 341767 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 341767. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 341767 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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## Sample Cross Reference 341767

## PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-43	S	Aug-20-09 12:00		341767-001
SP-44	S	Aug-20-09 12:10		341767-002
SSW-3	S	Aug-20-09 12:20		341767-003
SSW-4	S	Aug-20-09 12:30		341767-004



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 341767

Report Date: 26-AUG-09 Date Received: 08/21/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-769451 Percent Moisture None

Batch: LBA-769468 BTEX-MTBE EPA 8021B SW8021BM

Batch 769468, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by reanalysis. Samples affected are: 536026-1-BLK.

Batch: LBA-769704 BTEX-MTBE EPA 8021B SW8021BM

Batch 769704, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 341767-001,341767-002.
4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 536183-1-BLK.
4-Bromofluorobenzene recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 342146-002S, 342146-002SD

Batch: LBA-769861 TPH by SW8015 Mod None

-	Historical
	d: Beeson
<b>NCO</b> preteries	Project I
× j	

Contact: Jason Henry

Certificate of Analysis Summary 341767 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Date Received in Lab: Fri Aug-21-09 08:13 am

Report Date: 26-AUG-09

Project Location: Lea County, NM					Keport Date: 2	6-AUG-09	
					Project Manager: E	srent Barron, II	
	Lab Id:	341767-001	341767-002	341767-003	341767-004		
Analycic Domoctod	Field Id:	SP-43	SP-44	5-WSS	SSW-4		
nareanhay ciclinuv	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Aug-20-09 12:00	Aug-20-09 12:10	Aug-20-09 12:20	Aug-20-09 12:30	<u></u>	
BTEX by EPA 8021B	Extracted:	Aug-25-09 11:00	Aug-25-09 11:00	Aug-21-09 15:00	Aug-21-09 15:00		
	Analyzed:	Aug-25-09 13:09	Aug-25-09 13:28	Aug-22-09 03:57	Aug-22-09 04:15		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		0.3636 0.2203	1.289 0.2145	0.0013 0.0011	0.0016 0.0012		
Tolucne		2.719 0.4407	6.218 0.4290	0.0037 0.0022	ND 0.0023		
Ethylbenzene		35.46 0.2203	50.44 0.2145	0.0122 0.0011	0.0037 0.0012		
m,p-Xylenes		25.87 0.4407	33.76 0.4290	0.0094 0.0022	0.0026 0.0023		
o-Xylene		5.539 0.2203	5.956 0.2145	0.0021 0.0011	ND 0.0012		
Total Xylenes		31.41 0.2203	39.72 0.2145	0.0115 0.0011	0.0026 0.0012		
Total BTEX		69.95 0.2203	97.66 0.2145	0.0287 0.0011	0.0079 0.0012		
Percent Moisture	Extracted:						
	Analyzed:	Aug-24-09 09:50	Aug-24-09 09:50	Aug-24-09 09:50	Aug-24-09 09:50		
	Units/RL:	% RL	% RL	% RL	% RL		
Percent Moisture		9.23 1.00	6.75 1.00	9.46 1.00	14.24 1.00		
TPH By SW8015 Mod	Extracted:	Aug-25-09 16:14	Aug-25-09 16:14	Aug-25-09 16:14	Aug-25-09 16:14		
	Analyzed:	Aug-25-09 18:50	Aug-25-09 19:15	Aug-25-09 19:40	Aug-25-09 20:05		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		1820 165	2370 161	ND 16.6	ND 17.5		
C12-C28 Diesel Range Hydrocarbons		3910 165	5640 161	ND 16.6	ND 17.5		
C28-C35 Oil Range Hydrocarbons		322 165	484 161	ND 16.6	ND 17.5		
Total TPH	•	6052 165	8494 161	ND 16.6	ND 17.5		

This smalyfical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical pertor trepresent the best juggment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brefit Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116


### Project Name: Beeson 8" Discharge

ork Orders : 341767 Lab Batch #: 769468	', Sample: 536026-1-BKS / BKS	S Batch:	Project II	D: Beeson Hi ; Solid	storical	
Units: mg/kg	Date Analyzed: 08/22/09 00:15	SURI	ROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0336	0.0300	112	80-120	
Lab Batch #: 769468	Sample: 536026-1-BSD / BSI	D Batch:	1 Matrix	Solid		
Units: mg/kg	Date Analyzed: 08/22/09 00:34	SURI	ROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R IDI	Control Limits %R	Flag
1.4-Difluorobenzene	Anarytes	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene		0.0330	0.0300	110	80-120	
ah Batah #• 769468	Sempler 536026-1-BLK / BL	K Batahi	1 Motrix	Solid		
Units: mg/kg	Date Analyzed: 08/22/09 01:10	SURI	ROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount  B]	Recovery %R  D	Control Limits %R	Flag
I,4-Difluorobenzene		0.0272	0.0300	91	80-120	
4-Bromofluorobenzene		0.0144	0.0300	48	80-120	*
L <b>ab Batch #:</b> 769468	Sample: 341767-003 / SMP	Batch:	l Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/22/09 03:57	SURI	ROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			וטן		
1,4-Difluorobenzene		0.0249	0.0300	83	80-120	
4-Bromofluorobenzene		0.0420	0.0300	140	80-120	*
Lab Batch #: 769468	Sample: 341767-004 / SMP	Batch:	1 Matrix:	: Soil		
Units: mg/kg	Date Analyzed: 08/22/09 04:15	SURI	ROGATE RI	ECOVERY	STUDY	
BTE		Amount	True		Control	L.J.o.
	Analytes	Found [A]	Amount [B]	Recovery %R  D	Limits %R	1, 192)
14-Difluorohenzene	Analytes	Found [A]	Amount [B]	Recovery %R  D  86	Limits %R	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

,

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

Vork Orders : 341767 Lab Batch #: 769468	7, Sample: 341867-004 S / M	S Batch	Project II n: 1 Matrix:	D: Beeson Hi Soil	storical	
Units: mg/kg	Date Analyzed: 08/22/09 09:48	SUI	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D]	Control Limits %R	Flags
1,4-Difluorobenzene	<i>.</i>	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene		0.0370	0.0300	123	80-120	*
Lab Batch #: 769468	Sample: 341867-004 SD / 1	MSD Batch	1: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/22/09 10:07	SUI	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R (D)	Control Limits %R	Flags
1.4-Difluorobenzene	· ·	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene		0.0353	0.0300	105	80-120	
Lab Batab #: 769704	Samplar 536183-1-BKS/B		. 1 Matrix	Solid		
Units: mg/kg	Date Analyzed: 08/25/09 09:11	SUI	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flags
1,4-Difluorobenzene		0.0301	0.0300	100	80-120	
4-Bromofluorobenzene		0.0345	0.0300	115	80-120	
Lab Batch #: 769704	Sample: 536183-1-BSD / B	SD Batch	n: 1 Matrix:	Solid	•	
Units: mg/kg	Date Analyzed: 08/25/09 09:30	SUI	RROGATE RI	COVERY	STUDY	
BTEZ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1 4 Difluorohanzana	Analytes	0.0207	0.0100	100	80.120	
4-Bromofluorobenzene		0.0348	0.0300	102	80-120	
Lab Batch #: 760704	Sample: 536183.1-BLV / E		. 1 Materia	Solid		
Lap Dattin #: 702707	Date Analyzed: 08/25/09 10:07	SUI	RROGATE RI	COVERY	STUDY	,
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1.4 Difluorobonzono	Analytes	0.0272	0.0100		80.120	
4-Bromofluombenzene		0.0272	0.0300	91 62	80-120	*
- Bromonuoro Ochizene		0.0100	0.0200	02	00-120	-

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

XENCO
Laboratories

### Project Name: Beeson 8" Discharge

'ork Orders : 341767 Lab Batch #: 769704	', Sample: 341767-001 / SMP	Batcl	Project II h: <sup>1</sup> Matrix	D: Beeson Hi : Soil	storical	
Units: mg/kg	Date Analyzed: 08/25/09 13:09	SUI	RROGATE RI	ECOVERY	STUDY	۰
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0217	0.0300	72	80-120	**
4-Bromofluorobenzene		0.0432	0.0300	144	80-120	**
Lab Batch #: 769704	Sample: 341767-002 / SMP	Batch	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/25/09 13:28	SUI	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
1.4 Diffuorohenzene	Analytes	0.0208	0.0100	4~-) 40	90.120	**
4-Bromofluorobenzene		0.0208	0.0300	144	80-120	**
			0.0000	e all	00-120	
Lab Batch #: 107/04	Sample: 342140-002 57 MG	S Baten	1: 1 Matrix: PROCATE RI	SOIL	STUDY	
Units: mg/kg	Date Analyzed: 08/25/09 14:23					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flags
1.4-Difluorobenzene	7 KIMK J + + + +	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene		0.0376	0.0300	125	80-120	*
		ASD Batch	- 1 Matrix	·Soil	11	
Units: mg/kg	Date Analyzed: 08/25/09 14:42	SUI	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes	· ]		[D]		
1,4-Difluorobenzene		0.0294	0.0300	98	80-120	
			······	170	00.100	*
4-Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·	0.0390	0.0300	130	80-120	
4-Bromofluorobenzene Lab Batch #: 769861	Sample: 536258-1-BKS / B	0.0390 KS Batch	0.0300 1: <sup>1</sup> Matrix:	Solid	80-120	
4-Bromofluorobenzene Lab Batch #: 769861 Units: mg/kg	Sample: 536258-1-BKS / B Date Analyzed: 08/25/09 17:35	0.0390 KS Batch SUI	0.0300 h: 1 Matrix: RROGATE RI	Solid	STUDY	
4-Bromofluorobenzene Lab Batch #: 769861 Units: mg/kg TPH 1	Sample: 536258-1-BKS / B Date Analyzed: 08/25/09 17:35 By SW8015 Mod	0.0390 KS Batch SUI Amount Found [A]	0.0300 h: 1 Matrix: RROGATE RI True Amount [B]	Solid ECOVERY S Recovery %R	STUDY Control Limits %R	Flags
4-Bromofluorobenzene Lab Batch #: 769861 Units: mg/kg TPH 1	Sample: 536258-1-BKS / B Date Analyzed: 08/25/09 17:35 By SW8015 Mod Analytes	0.0390 KS Batch SUI Amount Found [A]	0.0300 h: 1 Matrix: RROGATE RJ True Amount [B]	Solid ECOVERY S Recovery %R [D]	STUDY Control Limits %R	Flags

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Beeson 8" Discharge

/ork Orders : 341767 Lab Batch #: 769861	7, Sample: 536258-1-BSD / BSD	Batch:	Project II	<b>D:</b> Beeson Hi : Solid	storical	
Units: mg/kg	Date Analyzed: 08/25/09 18:00	SURF	ROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlomoctane		93.5	100	94	70-135	
o-Terphenyl		37.2	50.0	74	70-135	
Lah Batch #• 769861	Sample: 536258-1-BLK / BLK	Batch	l Matrix	I • Solid		ē.
Units: mg/kg	Date Analyzed: 08/25/09 18:25	SURI	ROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes					
1-Chlorooctane		78.9	99.9	79	70-135	<b></b>
o-Terphenyl		40.1	50.0	80	70-135	
Lab Batch #: 769861	Sample: 341767-001 / SMP	Batch:	l Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/25/09 18:50	SURF	ROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	-	107	99.8	107	70-135	·
o-Terphenyl	· · ·	41.9	49.9	84	70-135	
Lab Batch #: 769861	Sample: 341767-002 / SMP	Batch:	l Matrix	: Soil	·	
Units: mg/kg	Date Analyzed: 08/25/09 19:15	SURF	ROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount  B	Recovery %R	Control Limits %R	Flaş
1 Chlorestere	Analytes	120	100	100	70.126	
o-Tembenyl		42.9	50.0	94	70-135	
		42.9	50.0	0.1	70-133	<u> </u>
Lab Batch #: /09801	Sample: 341/67-0037 SMP	Batch:	I Matrix	; 5011 FCOVEDV (	STUDY	
Units: mg/kg	Date Analyzed: 08/25/09 19:40		NUGATE K			··
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			ועו		<b> </b>
1-Chlorooctane		79.1	100	79	70-135	
o-Terphenyl		40.0	50.0	80	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Project Name: Beeson 8" Discharge

Vork Orders: 341767	3		Project I	D: Beeson Hi	istorical	
Lab Batch #: 769861	Sample: 341767-004 / SMP	Batcl	n: l Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/25/09 20:05	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	•	75.5	100	76	70-135	L
o-Terphenyi		37.8	50.0	76	70-135	
Lab Batch #: 769861	Sample: 341767-003 S / MS	S Batel	n: I Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/26/09 03:31	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		105	99,9	105	70-135	
o-Terphenyl		41.5	50.0	83	70-135	
Lab Batch #: 769861	Sample: 341767-003 SD / N	ASD Batch	n: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/26/09 03:56	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		97.2	100	97	70-135	·
o-Terphenyl	<u> </u>	37.9	50.0	76	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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	orate
X	٩٩

**BS / BSD Recoveries** 



2

Project Name: Beeson 8" Discharge

Work Order #: 341767 Analyst: ASA Lab Batch ID: 769468

Units: mg/kg

Date Prepared: 08/21/2009 Batch #: 1

Sample: 536026-1-BKS

**Project ID:** Beeson Historical Date Analyzed: 08/22/2009 Matrix: Solid

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BTEX by EPA 8021B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
	[V]		Result	%R		Duplicate	%R	%	%R	%RPD	)
Analytes		<b>B</b>		[0]	E	Result [F]	[6]				
Benzene	QN	0.1000	0.1058	106	0.1	0.1045	105	1	70-130	35	
Toluene	Ð	0.1000	0.1040	104	0.1	0.1021	102	2	70-130	35	
Ethylbenzene	QN	0.1000	0.1135	114	0.1	0.1113	111	2	71-129	35	
m,p-Xylenes	Ð	0.2000	0.2306	115	0.2	0.2272	114		70-135	35	
o-Xylene	QN	0.1000	0.1093	109	0.1	0.1083	108	1	71-133	35	
Analyst: ASA	D	ate Preparo	ed: 08/25/200	6			Date Ar	alyzed: 0	8/25/2009		
Lab Batch ID: 769704 Sample: 536183-1-E	BKS	Batch	#: 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	PIKE / E	LANK S	PIKE DUPL	ICATE I	RECOVE	RY STUD	Y	

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result ICI	Blank Spike %R	Spike Added (F.)	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R 1G1	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes				1-1	[2]		1-1				
Benzene	Q	0.1000	0.0838	84	0.1	0.0852	85	2	70-130	35	
Tolucne	QN	0.1000	0.0810	81	0.1	0.0821	82	1	70-130	35	
Ethylbenzene	Q	0.1000	0.0901	90	0.1	0.0907	91	1	71-129	35	
m,p-Xylenes	QN	0.2000	0.1852	93	0.2	0.1876	94	1	70-135	35	
o-Xylene	Ð	0.1000	0.0885	89	0.1	0.0901	96	2	71-133	35	
					ļ						

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 341767 Analyst: BHW Lab Batch ID: 769861 Sample: 536258-1-BKS Units: mg/kg

Date Prepared: 08/25/2009

Batch #: 1

**Project ID:** Beeson Historical Date Analyzed: 08/25/2009 Matrix: Solid

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TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Lámits %R	Control Límits %RPD	Flag
Analytes		[B]	[C]	[a]	[E]	Result [F]	[0]				
C6-C12 Gasoline Range Hydrocarbons	Ð	1000	857	86	1000	874	<i>L</i> 8	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	Q.	1000	1000	100	1000	1020	102	2	70-135	35	

Relative Pervent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes

Form 3 - MS/ MSD Recoveries



Project Name: Beeson 8" Discharge

Project ID: Beeson Historical

Matrix: Soil

----ASA

Batch #:

QC-Sample ID: 341867-004 S

Analyst:

Work Order #: 341767

Lab Batch ID: 769468

Date Analyzed: 08/22/2009 Reporting Units: mg/kg

%RPD Control Limits 35 35 Control Limits %R 70-130 70-130 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % -¢ Spiked G % Du 82 76 Duplicate Spiked Sample Result [F] 0.0848 0.0811 Spike Added 0.1028 0.1028 Ξ Spiked Sample %R ā 82 76 Spiked Sample 0.0810 Result 0.0843 Ξ Date Prepared: 08/21/2009 Spike Added 0.1028 0.1028 Ē Parent Sample Result 0.0026 g Z **BTEX by EPA 8021B** Analytes

Flag

35 33

71-129 70-135 71-133

0

ŝ 8 76

0.0816 0.1654

0.1028

0.2056

35

0

0.0777

0.1028

75 79 81 0.0817 0.1672 0.0775 0.1028 0.2056 0.1028 g Ð Ð Lab Batch ID: 769704 Ethylbenzene m, p-Xylenes o-Xylene

Toluene

Benzene

Date Analyzed: 08/25/2009

Reporting Units: mg/kg

BTEX by EPA 8021B

Analytes

QC- Sample ID: 342146-002 S Date Prepared: 08/25/2009

---

Matrix: Soil

Analyst: Batch #:

ASA

Limits %RPD Control 35 33 Control Limits %R 70-130 70-130 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % 0 -Spiked Dup. %R [G] 8 76 Duplicate Spiked Sample Result [F] 0.0869 0.0823 Added 0.1079 0.1079 Spike Sample %R [D] Spiked F 3 Spiked Sample 0.0872 0.0829 Result <u>כ</u> Spilke Added [B] 0.1079 0.1079 Parent Sample Result QN Z £

Flag

35 33

71-129 70-135 71-133

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0.09200.1896

0.1079

80 8 84

0.0936 0.1911 0.0923

0.1079 0.2158 0.1079

0.0070

Ethylbenzene m,p-Xylenes

Toluene

Benzene

o-Xylene

0.0119

0.0016

0.2158

35

0

3

0.0924

0.1079

Matrix Spike Percent Recovery [D] = 100\*(C-A)B Relative Percent Difference RPD = 200\*(C-F)(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested. J = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Form 3 - MS/ MSD Recoveries



**Project Name: Beeson 8" Discharge** 

Work Order #: 341767

Lab Batch ID: 769861

Date Analyzed: 08/26/2009 Reporting Units: mg/kg

Batch#: 1 Matrix: Soil Analyst: BHW

QC-Sample ID: 341767-003 S

Date Prepared: 08/25/2009

Project ID: Beeson Historical

Reporting Units: mg/kg		W	ATRIX SPIK	E / MATI	RIX SPI	KE DUPLICAT	FE REC	<b>DVERY S</b>	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Kesult [A]	Added [B]	[c]	%R [D]	Added [E]	Result [F]	%R [G]	%	%К	%RPD	
C6-C12 Gasoline Range Hydrocarbons	DN	1100	01140	104	1100	1050	95	~	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1100	1290	117	1100	1240	113	4	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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ND – Not Detected, J – Present Below Reporting Limit, B = Present in Blank, NR – Not Requested, I – Interference, NA – Not ApplicableN – See Natrative, EQL – Estimated Quantitation Limit Page 15 of 18



Sample Duplicate Recovery



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### Project Name: Beeson 8" Discharge

Work Order #: 341767

Lab Batch #: 7694	<b>4</b> 51			Project I	D: Beeson H	listorical
Date Analyzed: 08/2	4/2009 Dat	e Prepared: 08/24/2009	Ana	lyst:BEV		
QC- Sample ID: 3417	769-001 D	Batch #: 1	Mat	rix: Soil		
Reporting Units: %		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Pere	cent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	·····	19.4	18.7	4	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

CHAIN OF CUSTODY RECORD AND MAL YSIS REQUEST 12500 Weil+20 East Chain Physics 12500 Weil+20 East Chain Physics 12:555-1800 Fast 12:555-1800	A CONTRACT OF A CONTRACT OF	LEC I CONTRACTOR AND AND AND AND AND AND AND AND AND AND	The second second second second second second second second second second second second second second second s Second second			A 1995 Control of the second		Ver Ver Ver Prevervation & 1 of Containers Marint, 9 1 1 2 2 2 2	92 (94) 4 3 3 3 3 3 4 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4		43 144 925611 925611 925611 9257 9257 9257 9257 9257 9257 9257 9257	Нана Нана	812012009 31200 3 1 X 1 X 1 2 X 1 X 1 X 1 X 1 X 1 X 1 X 1	8/20/2009 1210 11 X 501 X 501 X 1 X 1 X 1 X 1 X 1 X 1 X 1 X 1 X 1 X	1 2002000 × 1220 × 14 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 ×	8x2072009 1230 [1]X [] [.[.] [ Súi [X]"[ ] [] [] [] []				And the second community of the second second community of the second seco	Incomined by NOCA France Strat	3 Constant and an analysis of the constant and an analysis of the constant of	Received by State Active State Active	Received by ELOT:
	Project Manager: Camile Bryant	Company Name Basin Environmental Consult	Company Address: P. O. Bor 311	Citv/State/Zip: Lewington, NH 88260 -	Tatertrine Note (STENOS-1310 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	Sambor Signaturo:	I III III IIIIIIIIIIIIIIIIIIIIIIIIIIII	JALER #: 241-101-102		, (gda	ig Su 	1 · · · · · · · · · · · · · · · · · · ·	OI1 SP-43 W	1, m-ds 20	Code to the constant of the co	04 . (ssw4 2				Decial Instructional		TH-X Iskulado		

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0	Plana Re-	- <b>F</b>		-		
Client:	Mains / Asi					
Date/ Time:	08-21-09:C	0813				
Lab ID # ;	3417		•			
Initials:	JMF -					
	a	•	· · ·			
		Sample Rec	ceipt Checklist			
[ma =		~ · ·	1 6 3	Na		Client Initials
#1 Temperar	container in nond cond	tion?	Ves >	No		<u> </u>
#3 Custody S	eals intact on shipping	container/ cooler?	Yes	No.	Not Present>	
#4 Custody S	eats intact on sample	bottles/ container? //	khel (Yes)	No -	Not Present	
#5 Chain of C	Sustody present?		(Yes)	No		
#6 Sample in	structions complete of	Chain of Custody?	- Cree	No		
#7 Chain of C	Custody signed when r	elinquished/ received i	Cres	NO NIC		+
#8 Chain or (	label(s) legible and int	aci?		No	Not Applicable	
#10 Sample	natrix/ properties agree	with Chain of Custor	IV? ATES	No		
#11 Containe	rs supplied by ELOT?	, Maria di Sara	(Yes)	No .		
#12 Samples	in proper container/ bo	ottle?_	· Yes	No	See Below	
#13 Samples	property preserved?		(Yes->	No	See Below	<u></u>
#14 Sample t	bottles intact?	their of Custody?		No		
#16 Preserva	rs documented on Cha	in of Custody?	( es	NO NO		
#17 Sufficien	t sample amount for in	dicated test(s)?	(Ves.)	No	See Below	·
#18 All samp	les received within suff	icient hold time?	Yes	No	Fie See Bolow	
+#19 Subconti	act of sample(s)?		Yes	No	Not Applicable	,
#20_VOC sar	nples have zero heads	pace?		No	Not Applicable	
• • •		Varianco l	Documentation	19	willy h	R S T
1.5.1.2		, interest	្ទុះ្			
Contact:		Contacted by	- 1 - 1		Date/ Time:	
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# Analytical Report 342146

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge TNM-Beeson Historical

26-AUG-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



26-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 342146 Beeson 8" Discharge Project Address: Lea County, NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 342146. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 342146 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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## Sample Cross Reference 342146

### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor - I	S	Aug-24-09 15:00		342146-001
Floor -2	S	Aug-24-09 15:10		342146-002

#### **CASE NARRATIVE**



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Beeson 8" Discharge

Project ID: TNM-Beeson Historical Work Order Number: 342146 Report Date: 26-AUG-09 Date Received: 08/25/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-769696 Percent Moisture None

Batch: LBA-769704 BTEX-MTBE EPA 8021B SW8021BM

Batch 769704, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 342146-001.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 536183-1-BLK.

4-Bromofluorobenzene recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 342146-002, 342146-002S, 342146-002SD

Batch: LBA-769861 TPH by SW8015 Mod None

XENCO Laboratorios	Ler	tificate of A AINS ALL AM	IAIYSIS JUIIIIIAFY ERICAN EH&S, Mid	y J44140 dland, TX	
Project Id. TNM-Reeson Historical		Project Nai	ne: Beeson 8" Discharg	je	
Contact: Jason Henry				Date Received in Lab:	Tue Aug-25-09 08:30 am
Project Location: Lea County, NM				Report Date: Project Manager	26-AUG-09 Brent Barron 11
	Lab Id:	342146-001	342146-002		
- - -	Field Id:	Floor - I	Floor -2		
Analysis Kequested	Depth:				
	Matrix:	SOIL	SOIL		
	Sampled:	Aug-24-09 15:00	Aug-24-09 15:10		
BTEX by EPA 8021B	Extracted:	Aug-25-09 11:00	Aug-25-09 11:00		
	Analyzed:	Aug-25-09 13:46	Аиg-25-09 12:32		
	Units/RL:	mg/kg RL	mg/kg RL		
Benzene		1.405 0.2374	1100.0 CIN		
Toluene		11.95 0.4747	ND 0.0021		
Ethylbenzene		62.81 0.2374	0.0070 0.0011		
m,p-Xylenes		46.43 0.4747	0.0119 0.0021		
o-Xylene		9.274 0.2374	0.0016 0.0011		
Total Xylenes		55.70 0.2374	0.0135 0.0011		
Total BTEX		131.87 0.2374	0.0205 0.0011		
Percent Moisture	Extracted:				
	Analyzed:	Aug-25-09 14:39	Aug-25-09 14:39		
	Units/RL:	% RL	% RL		
Percent Moisture		15.74 1.00	7.33 1.00		
TPH By SW8015 Mod	Extracted:	Aug-25-09 16:14	Aug-25-09 16:14		
	Analyzed:	Aug-25-09 23:21	Aug-25-09 23:46		
	Units/RL:	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		2240 88.7	22.6 16.2		
C12-C28 Diesel Range Hydrocarbons		5460 88.7	200 16.2		
C28-C35 Oil Range Hydrocarbons		375 88.7	19.4 16.2		
Total TPH		8075 88.7	242 16.2		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and renuls expressed throughout this malytical report represent the best juggment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and matken no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brent Barron, II Odessa Laboratory Manager ě

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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116
, <b>.</b> — — — — — — — — — — — — — — — — — — —		

Î	XENCO
	Laboratories

### Project Name: Beeson 8" Discharge

ork Orders: 342146 Lab Batch #: 769704	, Sample: 536183-1-BKS / BKS	Batch:	Project II	<b>):</b> TNM-Bee Solid	son Historia	al
Units: mg/kg	Date Analyzed: 08/25/09 09:11	SUR	ROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flag
1,4-Difluorobenzene		0.0301	0.0300	100	80-120	
4-Bromofluorobenzene		0.0345	0.0300	115	80-120	
Lab Batch #: 769704	Sample: 536183-1-BSD / BSD	Batch:	1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 08/25/09 09:30	SUR	ROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
14 Diffuenchamura	Analytes	0.0303	0.0200	100	00.120	
4 Bromofluorobenzene		0.0307	0.0300	102	80-120	
4-Bromoridorodenzene		0.0348	0.0300	110	80-120	L
Lab Batch #: 769704	Sample: 536183-1-BLK / BLK	Batch:	1 Matrix:	Solid		
Units: mg/kg	Date Analyzed: 08/25/09 10:07	SUR	ROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Fla
1,4-Difluorobenzene		0.0272	0.0300	91	80-120	·
4-Bromofluorobenzene		0.0185	0.0300	62	80-120	•
L <b>ab Batch #: 7</b> 69704	Sample: 342146-002 / SMP	Batch:	1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 08/25/09 12:32	SUR	ROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes					ļ
1,4-Dilluorobenzene	······	0.0250	0.0300	83	80-120	-
4-Biomonuorobenzene		0.0375	0,0300	125	80-120	
Lab Batch #: 769704	Sample: 342146-001 / SMP	Batch:	Matrix:	Soil	TIDX	
Units: mg/kg	Date Analyzed: 08/25/09 13:46	SUR	RUGATE RI	COVERY		
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
	Analytes					
1,4-Difluorobenzene		0.0217	0.0300	72	80-120	*
4-Bromotiuorobenzene		0.0467	0.0300	156	80-120	*

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

XENCO
Laboratories

Project Name: Beeson 8" Discharge

Vork Orders : 342146	5, Sample: 342146-002.S/M	S Batch	Project II	D: TNM-Bee	son Histori	cal
Units: mg/kg	Date Analyzed: 08/25/09 14:23	SU	RROGATE RI	COVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flags
14 Difugrahanagan	Analytes	0.0200			00.100	
4-Bromofluombenzene		0.0289	0.0300	96	80-120	·····
		0.0370	0.0300	123	80-120	
Lab Batch #: 769704	Sample: 342146-002 SD / F	ASD Batch	h: <u>Matrix</u> :	Soil	OPTIPNU	
Units: mg/kg	Date Analyzed: 08/25/09 14:42	50	RRUGATE RI	COVERY		
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0294	0.0300	98	80-120	
4-Bromofluorobenzene		0.0390	0.0300	130	80-120	*
Lab Batch #: 769861	Sample: 536258-1-BKS/B	KS Batch	h:   Matrix:	: Solid	1	
Units: mg/kg	Date Analyzed: 08/25/09 17:35	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		91.5	100	92	70-135	
o-Terphenyl		36.4	50.0	73	70-135	
Lab Batch #: 769861	Sample: 536258-1-BSD / B	SD Batch	h:   Matrix:	Solid	1	<u> </u>
Units: mg/kg	Date Analyzed: 08/25/09 18:00	SUI	RROGATE RI	COVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits · %R	Flags
	Analytes			D]		
1-Chlorooctane		93.5	100	94	70-135	
o-Terphenyl		37.2	50.0	74	70-135	
Lab Batch #: 769861	Sample: 536258-1-BLK / B	LK Bateł	h:   Matrix:	Solid		
Units: mg/kg	Date Analyzed: 08/25/09 18:25	SUI	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes					
I-Chlorooctane	Analytes	78.9	99.9	79	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

.

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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Labor	ate	ories

Project Name: Beeson 8" Discharge

ork Orders : 342146	,		Project II	D: TNM-Bee	son Historie	cal
Lab Batch #: 769861	. Sample: 342146-001 / SMP	Batel	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/25/09 23:21	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		107	99.6	107	70-135	
o-Terphenyl		40.7	49.8	82	70-135	
Lab Batch #: 769861	Sample: 342146-002 / SMP	Batel	h: l Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/25/09 23:46	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		83.6	90.8	84	70-135	
o-Terphenyl	•••••••••••••••••••••••••••••••••••••••	42.0	49.9	84	70-135	
Lah Batch #: 769861	Sample: 341767-003 S / MS	Batel	h· 1 Matrix	· Soil		<u>.</u>
Units: mg/kg	Date Analyzed: 08/26/09 03:31	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found	True Amount (B)	Recovery %P	Control Limits	Flags
	Analytes		[0]	[D]	///	
I-Chlorooctane		105	99.9	105	70-135	
o-Terphenyl		41.5	50.0	83	70-135	
Lab Batch #: 769861	Sample: 341767-003 SD / M	(SD Batel	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/26/09 03:56	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes					
I-Chlorooctane		97.2	100	97	· 70-135	
o-rerphenyi		37.9	50.0	76	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

	Pr	oject N	ame: Bees	on 8" I	discharg	je					
Work Order #: 342146 Analyst: ASA	Ď	ate Prepar	ed: 08/25/200	6			Proj Date Al	lect ID: 7 nalyzed: 0	NM-Beesc 8/25/2009	n Historic	al
Lab Batch ID: 769704 Sample: 536183-1-	BKS	Batcl	n#: 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	PIKE / I	STANK S	PIKE DUPL	ICATE 1	RECOVE	RY STUD	Y	
BTEX by EPA 8021B	Blank Samole Result	Spike Added	Blank Snike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dun.	RPD	Control Limits	Control Limits	Flag
Analytes	[V]	[B]	[C]	8% [D]	E	Duplicate Result [F]	%R [G]	%	%R	%RPD	P I
Benzene	Ð	0.1000	0.0838	84	0.1	0.0852	85	2	70-130	35	
Toluene	Ð	0.1000	0.0810	81	0.1	0.0821	82	-	70-130	35	
Ethylbenzene	Ð	0.1000	1060.0	8	0.1	0.0907	16	1	71-129	35	
m.p-Xylenes	Ð	0.2000	0.1852	93	0.2	0.1876	94	1	70-135	35	
o-Xylene	QN	0.1000	0.0885	68	0.1	0.0901	8	2	71-133	35	
Analyst: BHW	D	te Prepar	ed: 08/25/200	6			Date Ai	alyzed: 0	8/25/2009		
Lab Batch ID: 769861 Sample: 536258-1-	BKS	Batcl	1#: I					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	PIKE / I	SLANK S	PIKE DUPL	ICATE	RECOVE	RY STUD	Y	
TPH By SW8015 Mod	Blank Sample Result IAI	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duolicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[	(B)	[C]	ē	[3]	Result [F]	[0]				
C6-C12 Gasoline Range Hydrocarbons	Ŕ	1000	857	86	1000	874	87	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	Ð	1000	1000	100	1000	1020	102	2	70-135	35	

melad

**BS / BSD Recoveries** 

Ч.

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes Page 10 of 14





**Project Name: Beeson 8" Discharge** 

Work Order #: 342146

Date Analyzed: 08/25/2009 Lab Batch ID: 769704

Reporting Units: mo/ko

Project ID: TNM-Becson Historical Matrix: Soil ---

> QC- Sample ID: 342146-002 S Date Prepared: 08/25/2009

ASA Analyst: Batch #:

Reporting Units: mg/kg		M	ATRIX SPIKI	E / MAT	RIX SPIE	<b>(E DUPLICA)</b>	FE RECO	<b>VERY</b>	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result ICI	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result IFI	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[Y]	[B]	2	ē	[E]		[0]	2			
Benzene	QN	0.1079	0.0872	81	0.1079	0.0869	81	0	70-130	35	
Toluene	QN	0.1079	0.0829	77	0.1079	0.0823	76	1	70-130	35	
Ethylberzene	0.0070	0.1079	0.0936	80	0.1079	0.0920	66	2	71-129	35	
m, p-Xylenes	0.0119	0.2158	0.1911	83	0.2158	0.1896	82	1	261-02	35	
o-Xylene	0.0016	0.1079	0.0923	84	0.1079	0.0924	84	0	71-133	35	
Lab Batch ID: 769861 Date Analyzed: 08/26/2009	QC- Sample ID: Date Prepared:	341767. 08/25/20	-003 S 009	Ba An	tch#: alyst: E	l Matrix 3HW	: Soil				
Reporting Units: mg/kg		Z	ATRIX SPIKI	( MAT	RIX SPIF	<b>CE DUPLICAT</b>	re reco	VERY S	STUDY		

Control Limits %RPD Control Limits %R 70-135 70-135 RPD % œ Spiked Dup. %R [G] 113 95 Duplicate Spiked Sample Result [F] 1050 1240 Spike Added 1100 1100 Ξ Spiked Sample %R 104 117 ē Spiked Sample Result 1290 1140 Ū Spike Added [B] 1100 1100 Parent Sample Result [A] Q g TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Analytes

Flag

33 35

4

Matrix Spike Percent Recovery [D] = 100°(C-A)/B Relative Percent Difference RPD = 200°(C-F)(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Page 11 of 14



## Sample Duplicate Recovery



### Project Name: Beeson 8" Discharge

Work Order #: 342146

Lab Batch #: 769696 Date Analyzed: 08/25/2009 QC- Sample ID: 342146-001 D	Date Prepared: 08/25/2009 Batch #: 1	9 Ana Ma	<b>Project I</b> lyst:BEV trix: Soil	D: TNM-B	eeson Historica
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	15.7	15.2	3	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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	Environment	al Lab of Tex	as		
	Variance/ Corrective Actio	on Report- Samp	le Log-In	I	
Client	Plains Basin		-		
Date/ Time:	nehsla an				
Lab ID # :	992190	· .			
Initials:	<u>gnas</u>				•
	Sample Re	celpt Checklist			
<u>`</u>				· · · ·	Slient Initials
#1 Temperature o	of container/ cooler?.	Yes' \	No	<u>.3.( c</u>	1 I I
#3 Custody Seals	intact on shipping container/ cooler?	·Yes	No	Not Present	
#4 Custody Seals	intact on sample bottles/ container?	des .	No	Not Present	·
#5 Chain of Custo	boy present?	. (Yes	No		
#U Sample instruct	tions complete of Chain of Custody?	2 / 195	No.		
#8 Chain of Custo	ady agrees with sample label(s)?		No	ID written on Cont / Lid	<u> </u> ,
#9 Container labe	a(s) legible and intact?	(Yes	No	Not Applicable	
#10 Sample matri	x/ properties agree with Chain of Custo	dy? ·· (YES	No		
#11 Containers su	pplied by ELOT?	(Yes)	<u>≏Noi</u>		a' 144
#12 Samples in pr	roper container/ contie /		NO	See Below	
#14 Sample botile	is intact?	T (Yes)	No	CCG DERM	1
#15 Preservations	documented on Chain of Custody?	? • (Yes)	No :	۱. ۱	, ~
#16 Containers do	ocumented on Chain of Custody?	Yes	No	. ,	
#17 Suncient san	nple amount for indicated (esi(s)?	. Tes	NO .	See Below	
#19 Subcontract of	of sample(s)?	Yes	. No 🖄	Not Applicable	
#20 VOC samples	s have zero headspace?		°No ≜.	Not Applicable	. <
	Varianco I	Documentation	8. <sup>1</sup> 7		
		· × ·			1
Contact:	Contacted by:			Date/ Time:	
Renardino	· · ·		•	· .	
			, -	4	
		•	•	• •	• • •
Corrective Action T	laken:				
·		- 1	<u> </u>	<u> </u>	
				· · · · · · · · · · · · · · · · · · ·	
				<u> </u>	
Check all that has	h: See stached e-mail/	fav			:
Check as that App	Client understands ar	nd would like to pro	ceed with	analysis	,
	Cooling process had	begun shortly after	sampling	event	•
				•	

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# Analytical Report 342302

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge TNM Beeson Historical

31-AUG-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



31-AUG-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 342302 Beeson 8" Discharge Project Address: Eddy Co., NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 342302. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 342302 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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## Sample Cross Reference 342302

### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-42A	S	Aug-25-09 15:10		342302-001

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: TNM Beeson Historical Work Order Number: 342302 Report Date: 31-AUG-09 Date Received: 08/26/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-769962 TPH by SW8015 Mod None

Batch: LBA-769966 Percent Moisture None

Batch: LBA-770141 BTEX-MTBE EPA 8021B SW8021BM

Batch 770141, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 342302-001 D,342302-001.

4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 342302-001, 342302-001 D.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 536427-1-BLK.

4-Bromofluorobenzene recovered above QC limits Sample Data not confirmed by re-analysis. Samples affected are: 536427-1-BKS, 536427-1-BSD, 342302-001, 342302-001 D.

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Certificate of Analysis Summary 342302 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Beeson 8" Discharge



Project Id: TNM Beeson Historical Contact: Jason Henry Project Location: Eddy Co., NM

Date Received in Lab: Wed Aug-26-09 08:32 am Report Date: 31-AUG-09

			Project Manager: Bren	at Barron, II
	Lab Id:	342302-001		
Analysis Romostad	Field Id:	SP-42A		
naicanhau ciclinuiz	Depth:			
	Matrix:	SOIL		
	Sampled:	Aug-25-09 15:10		
BTEX by EPA 8021B	Extracted:	Aug-27-09 10:00		
	Analyzed:	Aug-27-09 15:54		
	Units/RL:	mg/kg RL		
Benzene		0.1165 0.1073		
Tolucne		0.9024 0.2146		
Ethylbenzene		12.85 0.1073		
m,p-Xylencs		14.74 0.2146		
o-Xylene		4.062 0.1073		
Total Xylenes		18.80 0.1073		
Total BTEX		32.67 0.1073		
Percent Moisture	Extracted:			
	Analyzed:	Aug-26-09 14:00		
	Units/RL:	% RL		
Percent Moisture		6.80 1.00		
TPH By SW8015 Mod	Extracted:	Aug-26-09 13:34		
	Analyzed:	Аиg-26-09 19:24		
	Units/RL:	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		1220 161		
C12-C28 Diesel Range Hydrocarbons		3060 161		
C28-C35 Oil Range Hydrocarbons		297 161		
Total TPH		4577 161		

This analytical report, and the struite data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgm ent of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, ]





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Project Name: Beeson 8" Discharge

ork Orders : 342302	, ,	¥6	Project II	D: TNM Bee	son Historia	cal
Lab Batch #: 7/0141	Sample: 536427-1-BKS7B	KS Batel	h:   Matrix	Solid	STUDY	
Units: mg/kg	Date Analyzed: 08/27/09 11:42	50	RRUGATE RI			-
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
······································	Analytes			וטו		
1,4-Difluorobenzene		0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0362	0.0300	121	80-120	*
Lab Batch #: 770141	Sample: 536427-1-BSD / B	SD Batel	h: <sup>1</sup> Matrix	:Solid		
Units: mg/kg	Date Analyzed: 08/27/09 12:01	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
L 4-Difluorobenzene	Analytes	0.0211	0.0300	121	00.100	
4-Bromofluorobenzene		0.0363	0.0300	104	80-120	
		0.0303	0.0500	121	80-120	
Lab Batch #: 770141	Sample: 536427-1-BLK / B	LK Batel	h: <sup> </sup> Matrix	Solid		
Units: mg/kg	Date Analyzed: 08/27/09 12:38	SU	RROGATE RI	ECOVERY	STUDY	
BTE:	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0278	0.0300	93	80-120	
4-Bromofluorobenzene		0.0160	0.0300	53	80-120	*
Lab Batch #: 770141	Sample: 342302-001 / SMP	Batcl	h: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/27/09 15:54	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found  A	True Amount  B]	Recovery %R	Control Limits %R	Flag
	Analytes			(D)		
1,4-Difluorobenzene		0.0225	0.0300	75	80-120	**
4-Bromofluorobenzene		0.0470	0.0300	157	80-120	**
Lab Batch #: 770141	Sample: 342302-001 D / M	D Batch	h: i Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/27/09 17:26	SUI	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes					
1,4-Difluorobenzene		0.0228	0.0300	76	80-120	**
4-Bromofluorobenzene		0.0496	0.0300	165	80.120	**

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

	XENCO
_	Laboratories

Project Name: Beeson 8" Discharge

Vork Orders : 342302 Lab Batch #: 769962	, Sample: 536317-1-BKS / B	KS Bate	Project II h: <sup>1</sup> Matrix	D: TNM Bee : Solid	son Historie	cal
Units: mg/kg	Date Analyzed: 08/26/09 16:04	SU	RROGATE RI	ECOVERY	STUDY	<u></u>
ТРН	By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
1-Chlomostane	Analytes	102	100	107	20.126	
o-Ternhenvl		102	100	102	70-135	
		37.0	30.0		10-135	
Lab Batch #: /09902	Sample: 536317-1-BSD7B	SD Batel	h: Matrix	Solid		
Units: mg/kg	Date Analyzed: 08/26/09 16:29	SU	RROGATE KI	ECOVERY :	STUDY	
TPH	By SW8015 Mod Analvtes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	95.5	100	96	70-135	
o-Terphenyl		38.2	50.0	76	70-135	
I ab Ratch #• 769962	Sample: 536317-1-BLK / B	UK Batel	l b. 1 Mateix	l	<u> </u>	i
Lab Daten in terror	Date Analyzed: (18/26/09 16:54	SU	RROGATE RI	ECOVERY	STUDY	
		A		<u> </u>		
1PH I	By SW8015 Mod Analytes	Found [A]	Amount  B]	Recovery %R [D]	Limits %R	Flags
1-Chlorooctane		77.2	100	77	70-135	
o-Terphenyl		39.6	50.0	79	70-135	
Lah Batch #: 769962	Sample: 342302-001 / SMP	Batel	L b· 1 Matrix:	l Soil	<u> </u>	<u> </u>
Units: mg/kg	Date Analyzed: 08/26/09 19:24	SU	RROGATE RI	ECOVERY	STUDY	
ТРН І	By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		103	99.9	103	70-135	
o-Terphenyl		41.9	50.0	84	70-135	
Lab Batch #: 769962	Sample: 342293-001 S / MS	S Batel	h: <sup>1</sup> Matrix:	;Soil		
Units: mg/kg	Date Analyzed: 08/27/09 00:19	SU	RROGATE RE	COVERY	STUDY	
ТРН І	By SW8015 Mod	Amount Found  A	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[0]		
I-Chlorooctane		93.5	99.9	94	70-135	
o- i erphényi		37.4	50.0	75	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



#### Project Name: Beeson 8" Discharge

Work Orders : 342302,

Project ID: TNM Beeson Historical Lab Batch #: 769962 Sample: 342293-001 SD / MSD Matrix: Soil Batch: 1 SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 08/27/09 00:43 Amount True Control TPH By SW8015 Mod Limits Flags Found Amount Recovery [A] [B] %R %R [D] Analytes I-Chlorooctane 108 108 100 70-135 o-Terphenyl 44.9 50.0 90 70-135

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 342302 Lab Batch ID: 770141 Analyst: ASA

Sample: 536427-1-BKS

Date Prepared: 08/27/2009 Batch #: ]

Project ID: TNM Beeson Historical Date Analyzed: 08/27/2009 Matrix: Solid

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Units: mg/kg		BLAN	K /BLANK S	sPIKE / E	ILANK S	PIKE DUPL	<b>ICATE</b>	RECOVE	CRY STUD	Y,	_
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	1	[8]	[C]	a	[E]	Result [F]	[0]				
Benzene	Ð	0.1000	0.0924	92	0.1	0.0931	93		70-130	35	
Toluene	Ð	0.1000	8680.0	6	0.1	0.0904	96	-	70-130	35	
Ethylbenzene	Ð	0.1000	0.1007	101	0.1	0.1018	102	1	71-129	35	
m,p-Xylenes	Ð	0.2000	0.2064	103	0.2	0.2083	104	1	70-135	35	
o-Xylene	Q	0.1000	0.0980	86	0.1	0.0992	66	1	71-133	35	
Analyst: BHW	D	te Prepar	ed: 08/26/200	6			Date A	nalyzed: 0	8/26/2009		
Lab Batch ID: 769962 Sample: 536317-1-E	BKS	Batch	1#:1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / B	ILANK S	PIKE DUPL	ICATE	RECOVE	RY STUD	Y	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Dublicate	Bik. Spk Dup. %R	UAN %	Control Limits %R	Control Limits %RPD	Flag
Andress		B		Q	E	Result [F]	[6]				

Blank Spike Result [C]

35 35

70-135 70-135

> 9 •

102 87

1020 867

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108

1080 927

33

1000 1000

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C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons

Analytes

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Relative Percent Difference RPD = 200\*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes






**Project Name: Beeson 8" Discharge** 

Work Order #: 342302

Lab Batch ID: 769962

Date Analyzed: 08/27/2009 Reporting Units: mg/kg

Batch#: 1 Matrix: Soil Analyst: BHW

QC- Sample ID: 342293-001 S

Date Prepared: 08/26/2009

Project ID: TNM Beeson Historical

ceporung omus: mg/kg		M	ATRIX SPIKE	C/MATI	SIX SPIE	KE DUPLICAT	FE RECC	OVERY S	STUDY		
TPH By SW8015 Mod	Parent Sample Docute	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]		DI DI	Added [E]	Kesult [F]	Y%	\$	Х%	WKPD	
C6-C12 Gasoline Range Hydrocarbons	ΩN	1070	952	68	1070	1090	102	14	70-135	35	
Cl 2-C28 Diesel Range Hydrocarbons	113	1070	1180	100	1070	1360	117	14	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

.

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit. B = Present in Blank, NR = Not Requested. I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit Page 11 of 14



Sample Duplicate Recovery



#### Project Name: Beeson 8" Discharge

Work Order #: 342302

Lab Batch #: 770141				Project I	D: TNM Be	eson Histo
Date Analyzed: 08/27/2009	Date Prepar	ed: 08/27/2009	) Ana	lyst:ASA		
QC- Sample ID: 342302-001 D	Batch	n#: 1	Ma	trix: Soil		
Reporting Units: mg/kg		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
BTEX by EPA 8021B		Parent Sample Result  A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene		0,1165	0.1341	14	35	
Toluene	· · · · · · · · · · · · · · · · · · ·	0.9024	1.106	20	35	
Ethylbenzene		12.85	14.14	10	35	
m,p-Xylenes		14.74	16.36	10	35	
o-Xylene		4.062	4.638	13	35	
Lab Batch #: 769966 Date Analyzed: 08/26/2009 QC- Sample ID: 341905-001 D	Date Prepar Batch	ed:08/26/2009 1#: 1	) Ana Ma	llyst:BEV trix: Solid		
Reporting Units: %		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		23.6	23.3	1	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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Acris En inconsental	ion young			
Client: DUSTITENVIY.IMITTICAT				
Date/Time: 8/2/0/09 08:23				
347302				
IN.	۲			
Initials: 13				
Sample Receipt	Checklist		,	
· · · · · · · · · · · · · · · · · · ·	~~~~~		. (	Client Initials
#1 Temperature of container/ cooler?	(Yes)	*No	2.6°C	2 . M. 1
#2 Shipping container in good condition?	12 800	No	N/A CONT	· · · · · ·
#3 / Custody Seals intact on shipping container/ cooler? 1	Yes	<u> • No` -</u>	Not Present	
#4 - Custody Seals intact on sample bottles/ container?	(Yes	/ No	Not Present 1	
#5 Chain of Custody present?.	Cres	No ·		±
#6 Sample instructions complete of Chain of Custodry?.	1 cres	- NO	· · · · ·	······································
#7 Chain of Custody signed when reinquished/received /	1 Ales	.ivo	ID united on Cont ( ) id	
#0 Critati of Custody agrees with sample table(s) r	TYPES -	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	Tres	No		
#11 Containers supplied by ELOT?	Tes	Nor	·	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
#12 Samples In proper container/ bottle? 4	1 2000	No	See Below 31 g	
#13 Samples properly preserved?	Nes	No	See Below	
#14 Sample bottles intact?	Tes	No-		1 1 - 1
#15 Preservations documented on Chain of Custody?	res	No	1 1 4 A A A A	おうず
#16 Containers documented on Chain of Custody?****	ves/	No		
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	S
#18 All samples received within sufficient hold time?	Yes	NO.	See Below	-
#19 Subcontract of sample(s)7	Yes	NO	(Nol-Applicable)	<u> </u>
m20 VOO Saupes nave 200 neeuspacer	1.100	<u>1 ~ NO %</u>	(Not Applicable)	
Variance Docur	nentation			1-1-1-
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Contact: Contacted by:		_	Date/ Time:	
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# Analytical Report 342786

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

Beeson 8" Discharge

**Beeson Historical** 

02-SEP-09





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



02-SEP-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 342786 Beeson 8" Discharge Project Address: Eddy Co., NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 342786. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 342786 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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### Sample Cross Reference 342786

#### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-43A	S	Aug-28-09 13:30		342786-001
SP-44A	S	Aug-28-09 13:35		342786-002

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 342786

Report Date: 02-SEP-09 Date Received: 08/28/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

#### Analytical Non Conformances and Comments:

Batch: LBA-770489 Percent Moisture AD2216A Batch 770489, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity. Samples affected are: 342786-001, -002.

Batch: LBA-770617 BTEX-MTBE EPA 8021B SW8021BM

Batch 770617, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 342786-002,342786-001.
4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 536696-1-BLK.
4-Bromofluorobenzene recovered above QC limits Sample Data confirmed by re-analysis.

Samples affected are: 536696-1-BKS 342848-001 S, 342786-001, 342786-002.

SW8021BM

Batch 770617, Benzene, Ethylbenzene, Toluene, o-Xylene recovered below QC limits in the Matrix Spike. Samples affected are: 342786-001, -002. The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-770670 TX1005 None



Contact: Jason Henry

Certificate of Analysis Summary 342786 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Beeson 8" Discharge

Date Received in Lab: Fri Aug-28-09 05:25 pm Report Date: 02-SEP-09

Project Location: Eddy Co., NM				Report Date: 02-SEF-U9	
	-			Project Manager: Brent Barron, II	
	Lab Id:	342786-001	342786-002		
Amaticic Damactad	Field Id:	SP-43A	SP-44A		
naicanhau ciclimitu	Depth:				
	Matrix:	SOIL	SOIL		
	Sampled:	Aug-28-09 13:30	Aug-28-09 13:35		
BTEX by EPA 8021B	Extracted:	Sep-01-09 12:00	Sep-01-09 12:00		
	Analyzed	Sep-01-09 15:01	Sep-01-09 15:19		
	Units/RL:	mg/kg RL	mg/kg RL		
Benzene		0.0896 0.0533	0.1020 0.0531		
Toluene		2.153 0.1067	2.244 0.1062		
Ethylbenzene		7.300 0.0533	4.859 0.0531		
m, p-Xylenes		7.759 0.1067	4.945 0.1062		
o-Xylene		2.354 0.0533	1.477 0.0531		
Total Xylenes		10.113 0.0533	6.422 0.0531		•
Total BTEX		19.656 0.0533	13.627 0.0531		
Percent Moisture	Extracted:				
	Analyzed:	Sep-01-09 09:14	Sep-01-09 09:14		
	Units/RL:	% RL	% RL		
Percent Moisture		6.25 1.00	6.05 1.00		
TPH By SW8015 Mod	Extracted:	Sep-01-09 16:07	Sep-01-09 16:07		
	Analyzed:	Sep-01-09 18:34	Sep-01-09 19:00		
	Units/RL:	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		797 159	949 159		
C12-C28 Diesel Range Hydrocarbons		1640 159	2390 159		
C28-C35 Oil Range Hydrocarbons		160 159	180 159		
Total TPH		2597 159	3519 159		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The integrations and reputs expressed throughout thin analytical report represent the best jugment of XENCO Laboratories. XENCO Laboratories assumes no reponsibility wat mades no warmup to the end use of the data bratch presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West 1-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



#### Project Name: Beeson 8" Discharge

'ork Orders : 342786 Lab Batch #: 770617	', Sample: 536696-1-BKS / BI	KS Batch:	Project II	): Beeson Hi : Solid	storical	
Units: mg/kg	Date Analyzed: 09/01/09 09:42	SUR	ROGATE RF	COVERY	STUDY	
ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flag
1,4-Difluorobenzene		0.0313	0.0300	104	80-120	
4-Bromofluorobenzene		0.0375	0.0300	125	80-120	*
ab Batch #: 770617	Sample: 536696-1-BSD / BS	SD Batch:	1 Matrix:	: Solid	·	
Units: mg/kg	Date Analyzed: 09/01/09 10:00	SUR	ROGATE RE	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1 A Diquarahanzene	Analytes	0.0311	0.0300	104	90.120	
4-Bromofliorobenzene		0.0311	0.0500	104	80-120	
770617	C • 526606 1 DI V / D'		1.0500	- 110 - 114	00-120	
Lab Batch #: //001/	Sample: 330090-1-DLN / DL	STIR	I Matrix:	Solid	TUNV	
Units: mg/kg	Date Analyzed: 09/01/09 10:38		RUGAIE NE		51001	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1 4-Difluorobenzene	Analytes	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene		0.0118	0.0300	39	80-120	*
Lab Batch #: 770617	Sample: 342786-001 / SMP	Batch:	l Matrix:	Soil	<u>i i</u>	
Units: mg/kg	Date Analyzed: 09/01/09 15:01	SUR	ROGATE RF	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
	Analytes			[D]		L
1,4-Difluorobenzene		0.0207	0.0300	69	80-120	**
4-Bromofluorobenzene		0.1043	0.0300	348	80-120	**
Lab Batch #: 770617	Sample: 342786-002 / SMP	Batch:	1 Matrix:	Soil		
Units: mg/kg	Date Analyzed: 09/01/09 15:19	SUR	ROGATE RE	COVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
( (	Analytes		A 3344	[11]	02.100	-
1,4-Difluorobenzene		0.0221	0.0300	74	80-120	*
4-Bromotiuorobenzene		0.0711	0,0500	237	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



#### Project Name: Beeson 8" Discharge

/ork Orders : 342786 Lab Batch #: 770617	5, Sample: 342848-001 S / M3	5 Batch:	Project II	D: Beeson Hi : Soil	storical	
Units: mg/kg	Date Analyzed: 09/01/09 16:03	SURI	ROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0281	0.0300	94	80-120	
4-Bromofluorobenzene		0.0398	0.0300	133	80-120	*
Lab Batch #: 770670	Sample: 536776-1-BKS / B	KS Batch:	l Matrix	Solid	·	
Units: mg/kg	Date Analyzed: 09/01/09 17:17	SURF	ROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D] <sup>.</sup>	Control Limits %R	Flags
1-Chlorooctane		104	100	104	70-135	
o-Terphenyl		45.5	50.0	91	70-135	
Lab Batch #- 770670	Sample: 536776-1-BSD / B	SD Batch:	l Matrix	I Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 09/01/09 17:43	SURF	ROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		106	99.9	106	70-135	: 
o-Terphenyl		46.8	50.0	94	70-135	
Lab Batch #: 770670	Sample: 536776-1-BLK / B	LK Batch:	1 Matrix	:Solid	<u> </u>	
Units: mg/kg	Date Analyzed: 09/01/09 18:08	SURF	ROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes					
1-Chlorooctane		88.6	100	89	70-135	
o-Terphenyl		49.0	50.0	98	70-135	
Lab Batch #: 770670	Sample: 342786-001 / SMP	Batch:	l Matrix	Soil		
Units: mg/kg	Date Analyzed: 09/01/09 18:34	SURI	ROGATE RI	ECOVERY	STUDY	
			<b>T</b>		Control	
ТРН	By SW8015 Mod	Amount Found [A]	Amount [B]	Recovery %R  D	Limits %R	Flags
TPH	By SW8015 Mod Analytes	Amount Found [A]	Amount [B]	Recovery %R [D] 126	Limits %R	Flags

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



#### Project Name: Beeson 8" Discharge

Vork Orders: 342786.	3		Project II	D: Beeson Hi	istorical	
Lab Batch #: 770670	Sample: 342786-002 / SMP	Bate	h:   Matrix	: Soil		
Units: mg/kg	Date Analyzed: 09/01/09 19:00	SU	<b>RROGATE RI</b>	ECOVERY	STUDY	
ТРН Е	3y SW8015 Mod	Amount Found {A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
I-Chlorooctane		123	99.5	124	70-135	
o-Terphenyi		52.6	49.8	106	70-135	
Lab Batch #: 770670	Sample: 342848-001 S / MS	Bate	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 09/01/09 22:50	SU	<b>RROGATE RI</b>	ECOVERY	STUDY	
ТРН Е	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		109	100	109	70-135	
o-Terphenyl		46.9	50.0	94	70-135	
Lab Batch #: 770670	Sample: 342848-001 SD / M	SD Bate	h: <sup>1</sup> Matrix:	: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 09/01/09 23:15	SU	RROGATE RI	ECOVERY	STUDY	
ТРН Е	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane		109	99,9	109	70-135	
o-Terphenyl		47.2	50.0	94	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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**BS / BSD Recoveries** 



Project Name: Beeson 8" Discharge

Work Order #: 342786 Lab Batch ID: 770617 Analyst: ASA

Date Prepared: 09/01/2009 Batch #: 1

Sample: 536696-1-BKS

Project ID: Beeson Historical Date Analyzed: 09/01/2009 Matrix: Solid

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Units: mg/kg		BLAN	K /BLANK S	PIKE / E	STANK S	PIKE DUPL	ICATE ]	RECOVE	CRY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	D	<u>[</u> 0]	[3]	Result [F]	[6]				
Benzene	Ð	0.1000	8660.0	100	0.1	9660.0	100	0	70-130	35	
Toluene	₽	0.1000	0.0963	96	0.1	0.0961	96	0	70-130	35	
Ethylbenzene	Ð	0.1000	0.1098	110	0.1	0.1087	109	1	71-129	35	
m,p-Xylencs	₽	0.2000	0.2322	116	0.2	0.2296	115	I	70-135	35	
o-Xylene	Q	0.1000	0.1078	108	0.1	0.1068	107	1	71-133	35	
Analyst: BHW	Da	te Prepar	ed: 09/01/200	6			. Date A	nalyzed: 0	6/01/2006		
Lab Batch ID: 770670 Sample: 536776-1-B	3KS	Batc	1#:1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	PIKE / E	S XNK S	PIKE DUPL	ICATE ]	RECOVE	RY STUD	Y	
TPH By SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup. Aq2	RPD	Control Lámits	Control LJmits	Flag
Anglytes	[4]	[B]	(C)	1 <u>0</u>	[E]	Lupncare Result [F]	[6]	0/_	Nov	WIKED	

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70-135

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C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons

Analytes

927 878

934 897

70-135

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)| Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



#### Project Name: Beeson 8" Discharge

Work Order #: 342786						
Lab Batch #: 770617			Pro	ject ID:	Beeson His	torical
Date Analyzed: 09/01/2009	Date Prepared: 09/01	1/2009	А	nalyst: A	SA	
QC- Sample ID: 342848-001 S	Batch #: 1		N	Aatrix: S	oil	
Reporting Units: mg/kg	MATR	IX / MA	TRIX SPIKE	RECO	VERY STU	DY
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]				
Benzene	ND	0.1102	0.0733	67	70-130	x
Toluene	ND	0.1102	0.0673	61	70-130	x
Ethylbenzene	ND	0.1102	0.0745	68	71-129	X
m,p-Xylenes	ND	0.2204	0.1566	71	70-135	
o-Xylene	0.0017	0.1102	0.0716	63	71-133	х

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B) Il Results are based on MDL and Validated for QC Purposes

RL - Below Reporting Limit







**Project Name: Beeson 8" Discharge** 

Work Order #: 342786 Lab Batch ID: 770670

Date Analyzed: 09/01/2009

QC- Sample ID: 342848-001 S Date Prepared: 09/01/2009

Batch #: Analyst:

l Matrix: Soil BHW

Project ID: Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIKI	E / MATI	RIX SPII	KE DUPLICAT	fe reco	VERY 5	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Addad	Spiked Sample Result ICI	Spiked Sample %R	Spike	Duplicate Spiked Sample Beauty (E)	Spiked Dup. 05.B	RPD	Control Limits %B	Control Limits «RPD	Flag
Analytes	[A]	[B]	2	[a]	[E]		[6]	2	, an		
C6-C12 Gasoline Range Hydrocarbons	DN	1100	\$66	90	1100	066	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1100	1040	95	1100	1030	94	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*((C-F)/(C+F))

Matrix Spike Duplicate Percent Recovery [G] = 100°(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quartitation Limit Page 12 of 15



# Sample Duplicate Recovery



#### Project Name: Beeson 8" Discharge

Work Order #: 342786

Lab Batch #: 770489 Date Analyzed: 09/01/2009 QC- Sample ID: 342786-001 D	<b>Date Prepared:</b> 09/01/2009 <b>Batch #:</b> 1	) Anal Mat	Project I lyst:BEV rix: Soil	D: Beeson F	listorical
Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
			<u> </u>		ļ
Percent Moisture	6.25	8.90	35	20	F

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



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1 remperature of container/ codier / 40, and a rest of		TNO	- 4107 L	1 C. Salar	~ <u>`</u> \$
#2 Shipping container in good condition?	. Tes 7	*NO 🚁	. ( A.)	1. 1. A.	, Y.Y.
#3 Custody Seals intact on snipping container/ cooler?	Yes .	· NO	- Not Present	$\mathbf{D}_{\mathbf{r}}$	£
#4 Custody Seats Intact on sample bottles/ container?//a122		No -	Not Present 😽	· sin a	19° -
45 Chain of Custody present?	Yes-	Na	and the second second second second second second second second second second second second second second second		
#6 Sample instructions complete of Chain of Custody?	Fres	No ≩	Sec. Sec. Sec. Sec. Sec. Sec. Sec. Sec.	4 A 5	. · · ,
#7 Chain of Custody signed when relinquished/ received?	Fres	No	والمأتية بهرد الأراقي		ç.
#8 Chain of Custody agrees with sample label(s)?	(~ <del>~</del> **5~)	No	ID written on Cont./ Lid		· ·- ·
#9 Container label(s) legible and intact?	Yes	No	Not Applicable	1 . A.	· ·
#10 Sample matrix/ properties agree with Chain of Custody?	Yes	No			•
#11 Containers sumplied by ELOT?	(Yes -	No			
#12 Samples in proper container/ bottle?	1700	No	Con Dala		
#12 Samples in proper container bottlet	22200		Sie Seidw	<u> </u>	- · ·
#15 Samples property preserved?	Tes	110	See Below	-	Į
#14 Sample borbes intact?	(145)	NO		· · ·	
#15 Preservations documented on Chain of Custody?	(Tes )	NO	្រាំ		
1#16 Containers cocumented on Chain of Custedv?	Yes	A NO		· †	
	1 A A				1.
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	Ju. Mr.	,
#17 Sufficient sample amount for indicated test(s)?	(Yes) (Yes)	No No	See Below See Below	a	,
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#17       Sufficient sample amount for indicated test(s)?         #18       All samples received within sufficient hold time?         #19       Subcontract of sample(s)?         #20       VOC samples have zero headspace?	Yes Yes Yes	No No No No	See Below See Below Not Applicable Not Applicable		· ,
#17       Sufficient sample amount for indicated test(s)?         #18       All samples received within sufficient hold time?         #19       Subcontract of sample(s)?         #20       VOC samples have zero headspace?         Variance Docum         Contact:       Contacted by:	Yes Yes Yes Yes	No No No No	See Below See Below Not Applicable Not Applicable Date/ Time:		
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# Analytical Report 342888

for

### PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry** 

**Beeson 8" Discharge** 

**Beeson Historical** 

02-SEP-09





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



02-SEP-09



Project Manager: Jason Henry PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 342888 Beeson 8" Discharge Project Address: Eddy Co., NM

#### Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 342888. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 342888 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America





Sample Cross Reference 342888

### PLAINS ALL AMERICAN EH&S, Midland, TX

Beeson 8" Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor - 1A	S	Aug-31-09 14:46		342888-001

#### CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Beeson 8" Discharge

Project ID: Beeson Historical Work Order Number: 342888

Report Date: 02-SEP-09 Date Received: 09/01/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

#### Analytical Non Conformances and Comments:

Batch: LBA-770520 Percent Moisture None

Batch: LBA-770617 BTEX-MTBE EPA 8021B SW8021BM

Batch 770617, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 342888-001.

4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 536696-1-BLK.

4-Bromofluorobenzene recovered above QC limits Sample Data confirmed by re-analysis. Samples affected are: 536696-1-BKS, 342848-001 S, 342888-001.

SW8021BM

Batch 770617, Benzene, Ethylbenzene, Toluene, o-Xylene recovered below QC limits in the Matrix Spike. Samples affected are: 342888-001. The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-770670 TX1005 None



Contact: Jason Henry

Certificate of Analysis Summary 342888 PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Beeson 8" Discharge



Date Received in Lab: Tue Sep-01-09 08:38 am

Report Date: 02-SEP-09

Project Location: Eddy Co., NM			Keport Project Ma	Date: 02-SEF-09 nager: Brent Barron, II
	Lab Id:	342888-001		
Analysis Ramostad	Field Id:	Floor - 1A		
naicanhay ciclinuy	Depth:			
	Matrix:	SOIL		
	Sampled:	Aug-31-09 14:46		
BTEX by EPA 8021B	Extracted:	Sep-01-09 12:00		
	Analyzed:	Sep-01-09 14:31		
	Units/RL:	mg/kg RL		
Benzene		0.0428 0.0256		
Toluene		0.7113 0.0511		
Ethylbenzene		7.874 0.0256		
m,p-Xylenes		10.19 0.0511		
o-Xylene		3.469 0.0256		
Total Xylenes		13.66 0.0256		
Total BTEX		22.29 0.0256		
Percent Moisture	Extracted:			
	Analyzed:	Sep-01-09 11:15		
	Units/RL:	% RL		
Percent Moisture		21.89 1.00		
TPH By SW8015 Mod	Extracted:	Sep-01-09 16:07		
	Analyzed:	Sep-01-09 21:07		
	Units/RL:	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		568 191		
C12-C28 Diesel Range Hydrocarbons		1340 191		
C28-C35 Oil Range Hydrocarbons		161 QN		
Total TPH		1908 191		

This analytical report, and the status data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our fishtlify is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Manager Brent Barron, II





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



### Project Name: Beeson 8" Discharge

Sample: 536696-1-BKS / BK	S Batch:	Project II 1 Matrix:	<b>):</b> Beeson Hi Solid	storical	
Date Analyzed: 09/01/09 09:42	SUR	ROGATE RI	COVERY	STUDY	
by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	0.0313	0.0300	104	80-120	
	0.0375	0.0300	125	80-120	*
Sample: 536696-1-BSD / BS	D Batch:	1 Matrix:	Solid		
Date Analyzed: 09/01/09 10:00	SUR	ROGATE RI	ECOVERY S	STUDY	
A palvtes	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flag
	0.0311	0.0300	104	80-120	
	0.0354	0.0300	118	80-120	
Sample: 536696-1-BLK / BL	K Batch:	1 Matrix:	Solid		
Date Analyzed: 09/01/09 10:38	SUR	ROGATE RI	COVERY	STUDY	
by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
	0.0262	0.0300	87	80-120	. <u></u> i
	0.0118	0.0300	39	80-120	*
Sample: 342888-001 / SMP	Batch:	1 Matrix	Soil		•
Date Analyzed: 09/01/09 14:31	SUR	ROGATE RI	ECOVERY	STUDY	
L by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes			101		
	0.0211	0.0300	/0	80-120	**
242949 001 5 / 145	0.1074	0.0500	536	00-120	
Sample: 342848-001 S7 MS	Batch:	1 Matrix	FCOVERV	STUDY	
Date Analyzed: 09/01/09 16:03	30 <b>K</b> .	NUCATE N			1
		~			
L by EPA 8021B	Amount Found [A]	True Amount  B]	Recovery %R IDI	Control Limits %R	Flag
K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flag
	Sample: 536696-1-BKS / BK Date Analyzed: 09/01/09 09:42 by EPA 8021B Analytes Sample: 536696-1-BSD / BS Date Analyzed: 09/01/09 10:00 by EPA 8021B Analytes Sample: 536696-1-BLK / BL Date Analyzed: 09/01/09 10:38 by EPA 8021B Analytes Sample: 342888-001 / SMP Date Analyzed: 09/01/09 14:31 by EPA 8021B Analytes Sample: 342888-001 / SMP Date Analyzed: 09/01/09 14:31 by EPA 8021B Analytes	Sample:       536696-1-BKS / BKS       Batch:         Date Analyzed:       09/01/09       09:42       SUR         by EPA 8021B       Amount Found [A]       Amount [A]         Analytes       0.0313       0.0375         Sample:       536696-1-BSD / BSD       Batch:         Date Analyzed:       09/01/09       10:00       SUR         by EPA 8021B       Amount Found [A]       Amount Found [A]       Batch:         Date Analyzed:       09/01/09       10:00       SUR         by EPA 8021B       Amount Found [A]       Batch:         Date Analyzed:       09/01/09       10:38       SUR         Sample:       536696-1-BLK / BLK       Batch:         Date Analyzed:       09/01/09       10:38       SUR         by EPA 8021B       Amount Found [A]       Amount [A]       Batch:         Date Analyzed:       09/01/09       14:31       SUR         by EPA 8021B       Amount [A]       Batch:       SUR         by EPA 8021B       Amount [A]       Found [A]       [A]         Analytes       0.0211       0.1674         by EPA 8021B       Amount [A]       Found [A]       [A]         Date Analyzed:       09/01/09       B	Project II           Sample: 536696-1-BKS / BKS         Batch:         1         Matrix:           Date Analyzed: 09/01/09 09:42         SURROGATE RI         Matrix:           by EPA 8021B         Amount Found [A]         True Amount [A]         Amount [B]         True Amount [B]           Analytes         0.0313         0.0300         0.0300           Sample: 536696-1-BSD / BSD         Batch:         1         Matrix: Matrix:           Date Analyzed: 09/01/09 10:00         SURROGATE RI         Matrix: Matrix:           Date Analyzed: 09/01/09 10:00         SURROGATE RI         Matrix:           by EPA 8021B         Amount Found (A)         True Amount [A]         Matrix:           Date Analyzed: 09/01/09 10:38         SURROGATE RI         Matrix:           Date Analyzed: 09/01/09 14:31         SURROGATE RI         Matrix:           Date Analyzed: 09/01/09 14:31         SURROGATE RI         Amount [A]         IB]           Analytes         0.0	Project ID: Beeson Hi Batch: 1 Matrix: SolidDate Analyzed: 09/01/09 09:42SURROGATE RECOVERY : Matrix: Solidby EPA 8021BAmount Found [A]True [B]Recovery %R [D]Analytes0.03130.03001040.03750.0300125Sample: 536696-1-BSD / BSD Date Analyzed: 09/01/09 10:00Batch: 1 Matrix: SolidMatrix: SolidDate Analyzed: 09/01/09 10:00SURROGATE RECOVERY : (P]%R (P]Analytes0.03110.03001040.03540.03001040.03540.03001040.03540.03001040.03540.03001040.03540.03001040.03540.03001040.03540.03001040.03540.03001040.03540.03001040.03540.0300118Sample: 536696-1-BLK / BLKBatch: 1 Matrix: SolidMatrix: SolidDate Analyzed: 09/01/09 10:38SURROGATE RECOVERY : %R [D]Malytes0.02620.030039Sample: 342888-001 / SMP FoundBatch: 1 Matrix: SoilMatrix: SoilDate Analyzed: 09/01/09 14:31SURROGATE RECOVERY : %R [D]%R [D]Date Analyzed: 09/01/09 14:31SURROGATE RECOVERY : %R [D]%R [D]Date Analyzed: 09/01/09 14:31SURROGATE RECOVERY : %R [D]Date Analyzed: 09/01/09 14:31SURROGATE RECOVERY : %R [D]Date Analyzed: 09/01/09 14:3	Project ID: Beeson Historical Batch: 1         Matrix: Solid           Sample:         536696-1-BKS / BKS         Batch:         1         Matrix: Solid           by EPA 8021B         Amount Found         True Amount IAI         True (BI         Recovery %R         Control Limits           Analytes         0.0313         0.0300         104         80-120           Sample:         536696-1-BSD / BSD         Batch:         1         Matrix: Solid           Date Analyzed:         09/01/09 10:00         SURROGATE RECOVERY STUDY         S0-120           Sample:         536696-1-BSD / BSD         Batch:         1         Matrix: Solid           Date Analyzed:         09/01/09 10:00         SURROGATE RECOVERY STUDY         Control 104         80-120           by EPA 8021B         Amount Found         True (A)         Recovery (B)         Limits %R         101           Analytes         0.0311         0.0300         104         80-120           Sample:         536696-1-BLK / BLK         Batch:         1         Matrix: Solid           Date Analyzed:         09/01/09 10:38         SURROGATE RECOVERY STUDY         Control Limits           by EPA 8021B         Amount found         True found         Recovery found         Control limits<

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



#### Project Name: Beeson 8" Discharge

/ork Orders : 342888 Lab Batch #: 770670	sample: 536776-1-BKS/BI	<s batch:<="" th=""><th>Project II</th><th>D: Beeson Hi Solid</th><th>storical</th><th></th></s>	Project II	D: Beeson Hi Solid	storical	
Units: mg/kg	Date Analyzed: 09/01/09 17:17	SURI	ROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount  B	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		104	100	104	70-135	
o-Terphenyl		45.5	50.0	91	70-135	
Lab Batch #: 770670	Sample: 536776-1-BSD / BS	SD Batch:	1 Matrix	: Solid		
Units: mg/kg	Date Analyzed: 09/01/09 17:43	SURI	ROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flag
1-Chlorooctane		106	99.9	106	70-135	
o-Terphenyl		46.8	50.0	94	70-135	
Lab Batch #: 770670	Sample: 536776-1-BLK / BI	LK Batch:	1 Matrix	Solid	11	
Units: mg/kg	Date Analyzed: 09/01/09 18:08	SURI	ROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	-	88.6	100	89	70-135	
o-Terphenyl		49.0	50.0	98	70-135	
Lab Batch #: 770670	Sample: 342888-001 / SMP	Batch:	l Matrix	Soil		
Units: mg/kg	Date Analyzed: 09/01/09 21:07	SURI	ROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	~	113	99.5	· 114	70-135	
o-Terphenyl		52.9	49.8	106	70-135	
Lab Batch #: 770670	Sample: 342848-001 S / MS	Batch:	1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 09/01/09 22:50	SURI	ROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount  B]	Recovery %R	Control Limits %R	Flag
· · · · · · · · · · · · · · · · · · ·	Analytes					
1-Chlorooctane		109	100	109	70-135	
o-Terphenyl		46.9	50.0	94	70-135	L

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



# Project Name: Beeson 8" Discharge

Vork Orders: 342888 Lab Batch #: 770670	, Sample: 342848-001 SD / N	VISD Bate	Project I h: 1 Matrix	<b>D:</b> Beeson Hi ::Soil	storical	
Units: mg/kg	Date Analyzed: 09/01/09 23:15	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R  D	Control Limits %R	Flags
1-Chlorooctane	•	109	99.9	109	70-135	
o-Terphenyl		47.2	50.0	94	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis \*\*\* Poor recoveries due to dilution Surrogate Recovery [D] = 100 \* A / B

<b>O</b> NCO	ratories
X	Lobe

**BS / BSD Recoveries** 

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Project Name: Beeson 8" Discharge

Work Order #: 342888 Analyst: ASA Lab Batch ID: 770617

Date Prepared: 09/01/2009

Batch #: 1

Sample: 536696-1-BKS

**Project ID:** Beeson Historical Date Analyzed: 09/01/2009 Matrix: Solid

Units: mg/kg			BLAN	K /BLANK S	SPIKE / B	LANK S	PIKE DUPL	ICATE F	RECOVE	RY STUD	Y	
BTEX by EPA	8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes			[B]	<u>[c]</u>	[a]	E	Result [F]	<u>[</u>				
Benzene		Ð	0.1000	8660.0	100	0.1	0.0996	100	0	70-130	35	
Toluene		Q	0.1000	0.0963	8	0.1	0.0961	8	0.	70-130	35	
Ethylbenzene		Q	0.1000	0.1098	110	0.1	0.1087	109	-	71-129	35	
m,p-Xylenes		Q	0.2000	0.2322	116	0.2	0.2296	115	-	70-135	35	
o-Xylene		QN	0.1000	0.1078	108	0.1	0.1068	107	1	71-133	35	
Analyst: BHW		Da	te Prepar	əd: 09/01/200	6			Date An	alyzed: 0	6007/10/6	×	
Lab Batch ID: 770670	Sample: 536776-1-B)	KS	Batch	1 #: 1					Matrix: S	olid		
Units: mg/kg			BLAN	K /BLANK S	SPIKE / B	LANK S	<b>PIKE DUPL</b>	ICATE F	RECOVE	RY STUD	Y	

											Ĩ
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	1	[B]	[C]	(a)	[E]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	QN	1000	878	88	666	897	06	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	927	93	666	934	93	1	70-135	35	

Relative Percent Difference RPD = 200\*((C-F)/(C+F) Blank Spike Recovery [D] = 100\*(C)/[B] Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries



#### Project Name: Beeson 8" Discharge

	Work Order #: 342888					
-	Lab Batch #: 770617		Pro	oject ID	Beeson His	storical
	Date Analyzed: 09/01/2009	Date Prepared: 09/01/2009	A	Analyst: A	ASA	
	QC- Sample ID: 342848-001 S	Batch #: 1	1	Matrix: S	oil	
-	Reporting Units: mg/kg	MATRIX / N	IATRIX SPIKE	RECO	VERY STU	DY
ļ	BTEX by EPA 8021B	Parent Sample Spike Result Added SAI IBI	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Analytes	11 [D]		_		
	Benzene	ND 0.110	2 0.0733	67	70-130	x
<b>.</b>	Toluene	ND 0.1102	2 0.0673	61	70-130	x
	Ethylbenzene	ND 0.1102	2 0.0745	68	71-129	x
	m,p-Xylenes	ND 0.2204	4 0.1566	71	70-135	
	o-Xylene	0.0017 0.1102	2 0.0716	63	71-133	x

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Eclative Percent Difference [E] = 200\*(C-A)/(C+B) Il Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit







Project Name: Beeson 8" Discharge

Work Order #: 342888

Lab Batch ID: 770670

Date Analyzed: 09/01/2009 Renarting Units: mo/ko

Batch #: 1 Matrix: Soil

BHW

Analyst:

QC- Sample ID: 342848-001 S

Date Prepared: 09/01/2009

Project ID: Beeson Historical

Reporting Units: mg/kg		M	ATRIX SPIK	E / MATI	RIX SPII	KE DUPLICA	TE RECO	<b>VERY S</b>	STUDY	
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits
Analytes	Result [A]	Added [B]	[c]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD
C6-C12 Gasoline Range Hydrocarbons	Q	1100	995	06	1100	066	06	1	70-135	35
C12-C28 Diesel Range Hydrocarbons	Q	1100	1040	56	1100	0£01	94	I	70-135	35

Flag

Matrix Spike Percent Recovery [D] = 100\*(C-A)B Relative Percent Difference RPD = 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit Page 12 of 15



# Sample Duplicate Recovery



#### Project Name: Beeson 8" Discharge

•

Work Order #: 342888

Lab Batch #: 770520			<b>Project</b> I	<b>D:</b> Beeson I	Historical
Date Analyzed: 09/01/2009	Date Prepared: 09/01/20	09 Апа	lyst:BEV		
QC- Sample ID: 342859-008 D	Batch #: 1	Mat	rix: Soil		
Reporting Units: %	SAMPLI	E / SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Samp Result [A]	le Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[ <b>B</b> ]			
Percent Moisture	3.16	3.44	8	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



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Client Plains Plasun	•	يشر.		· •	
pourse soluting 8'2's	·	1		e	
Date rune. UP 10/10/10/10/10	- :	- <b>1</b>			,
-Lab ID #:- 342888	· · · ·			و الس	, in 1
And in					
		: . ·		•	· · · · · · ·
- Sample R	eceipt (	Chocklist"			
				Ction	Initiale
#1 Temperature of container/ cooler?		(Yes)	TNo 14	A la re clas	1
#2 Shipping container in good condition?		Tes	No	A PARA STATE	
#3 Custody Seals intact on shipping container/ cooler?	· · ·.*	Yes	No	Not Present	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
#4 : Custody Seals intact on sample bottles/ container?	12.5	(Yes)	No	. / Not Present	N. 10
#5 Chain of Custody present?	P.J	(Yes	No .	the state of the second	
#6 Sample instructions complete of Chain of Custody?		Res .	No .	1. 2 3. 45 F . T	
#7 Chain of Custody signed when relinquished/ receive	d7.	(Te)	No	· · · · · · · · · · · · · · · · · · ·	
#8 Chain of Custody agrees with sample tabel(s)?		(Yes	No"	ID written on Cont./ Lid	
#9 Container label(s) legible and intact?	<u>.</u>	(Yes)	No	Not Applicable	- <u></u>
#10 Sample matrix/ properties agree with Chain of Cust	ody?	Yes	No A		<u> </u>
#11 Containers supplied by ELOT?	- 9	CYebo	No (	1 14 - 14 - 14 - 14 - 14 - 14 - 14 - 14	
#12 Samples in proper container/ bottle?	140.4	'Yes	<u>~' No</u>	See Below	]
#13 Samples property preserved?	<u> </u>	(Yes	No	See Below	
#14 Sample bottles intact?		(Yes	No	The state of the state of the	<u>,</u>
#15 Preservations documented on Chain of Custody?	÷	(Yes)	No	a constantine of a series	
#16 Containers documented on Chain of Custody?	. <	Yes	No		
#17 Sufficient sample amount for indicated test(s)?	·	CYes	No	See Below	
i All samples received within sufficient hold time?		<u>Yes</u>	No	- See Below	/ )
#19 Subcontract of sample(s)?	· · ·	Yes	NO .	Not Applicable	
#20 VOC samples have zero headspace?	. <del>.</del>	Les-	<u>No</u>	Not Applicable	
		<u>}</u>	~ · r		
variance	nociu	nentation			
Contract Distanced big			•.	Data Timo	
Comacted by		· · · · · · · · · · · · · · · · · · ·	v · 1		
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, Check all that Apply: 🛄 See attached e-mail	/ fax				· · · · · ·
Cilent understands a	and would	d like to pro	ceed with	analysis	
- Cooling process had	Degun s	snortiy efter	sampling	event	
· · · · · · · · · · · · · · · · · · ·		1"			* · · ·
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# Appendix C Photographs

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Beeson 8-Inch Discharge Release Site prior to remediation activities



Beeson 8-Inch Discharge Release Site prior to remediation activities


Beeson 8-Inch Discharge Release Site during excavation activities



Beeson 8-Inch Discharge Release Site during excavation activities



Beeson 8-Inch Discharge Release Site during backfilling activities



Beeson 8-Inch Discharge Release Site during backfilling activities



Beeson 8-Inch Discharge Release Site during seeding activities



Beeson 8-Inch Discharge release site during seeding activities

## Appendix D Archaeological Resource Survey

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BOUNE ARCHAEULUGY

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		NMCRIS I	VESTIGA	TION A	BSTR	ACT FOR	RM (NI/	AF)			
	1. NMCRIS Activity No.: 111988	ng) Agency: 2b. Other Permitting Agency(ies):			(ies):	3. Lead Agen	cy Report No.:				
`.	4. Title of Report: Beeso	n 8" Historical petroleu	ım leak.				<u></u>	5. Type of Re	port		
	6. Investigation Type	K Survey/Inventory	(") Test Exc			cavation		tions/Non-Fiel	id Study		
ŀ	Overview/Lit Review	Overview/Lit Review Monitoring Ethnographic study Site specific visit Other									
	pipeline. Area No. 1 is a small pedestal near a cai Area No. 1 and area No. age. The impacted area vegetation. Cleanup met removed from the site.	large area where liquid liche capped road and 3 are very irregular shi plus a 100 feet buffer a nods are unknown but	I ran and poole area No. 3 is a aped, area 2 is around them w it is assumed	ad, it is local a large and a approximation as survey that contain	cated jus sa where nately 6 red and t iminated	t south of the liquid ran ar feet in diame he perimeter soil will be e	Plains B nd poolad tter. All ap flagged v excavated	eeson Station (See attache opear to be se with orange ta by large mac	h. Area No. 2 is a d LocationMap). veral years in pe tied to hines and		
·	8. Dates of Investigation:	(from: 27 Oct. 08 to:	)			9. Report D	Date: 30 C	oct. 08			
ſ	10. Performing Agency/C 2030 North Canal, C 575-885-1352	Performing Agency/Consultant: Boone Archaeological Services, LLC 2030 North Canal, Carlsbad, NM 88220 575-885-1352						11. Performing Agency/Consultant Report No.: BAS 10-08-09			
	Principal Investigate Field Personnel Nat	Principal Investigator: Danny Boone Field Supervisor: Danny Boone Field Personnel Names: Danny Boone						iral Resource	Permit No(s):		
	<ol> <li>Client/Customer (pro Contact: Curt D, Sta Address: 1301 S Co Midland, T Phone: (432) 682-53</li> </ol>	P. )	14. Cilent/Cuatom Ptains SRS, Beest			ler Project No.: on Historical					
	15. Land Ownership Status ( <u>Must</u> be indicated on project map): Land Owner Acres Surveyed Acres in APE										
	BLM		21 (+/-) 14.5		14.5 (-/+	)					
		· · · · · · · · · · · · · · · · · · ·	·····	·	· · · · · · · · · · · · · · · · · · ·						
		TOTALS	.\$ 21 (-/+) 14.5 (			)					
ŀ	16 Records Search(es):										
	Date(s) of ARMS File R Date(s) of NR/SR File R	) of ARMS File Review: 27 Oct. 08 Name of Reviewer(s): Ann Boone									
Date(s) of Other Agency File Review: 27 Oct. 08 Name of Reviewer(s): Danny Boone Agency: BLM, CF Findings: No previously recorded sites were located within 500 feet, LA 102543 is within 0.25 mile.											
ŀ	17. Survey Data:a. Sourc	e Graphics 🛛 NAC	27 🚺 NAD	83	Other to	oo mao. Scal		<del></del>			
		GPS Unit Acc	curacy	m 🖾	1–10m	🗍 10-100n	n 🛛>1	00m			
	Loco Hills, N. M.	(Prov. Ed. 1985)	32103-G8								
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L	c, County(les): Eddy						• · ·				
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DUUNE ARCHAEOLOGY

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e. Legal Descripti	on;			1/ 1/	1/					
	Township (N/S)	Range (E/W)	Section	74 74						
	185	JUE	3 (Area 2)	ne nw, nw ne, a						
			3 (Area 3)	6W 60, 50 50,						
		+								
		· <del>  · · · · · · · · · </del>		_ <del></del>						
	·		<u></u>							
Projected legal de f. Other Description	Projected legal description? Yes [ ] No [X] Unplatted [ ] f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):									
18. Survey Fleid Methods; Intensity: ⊠ 100% coverage □ <100% coverage										
Configuration: 🔀 t	lock survey units [	] linear survey unit	s(lxw): Ľ	] other survey units	(specify):					
Scope: 🛛 non-sel	sctive (all sites record	ed) 🔲 selective/t	- hematic (selected site	es recorded)						
Coverage Method:	X systematic perior	trian coverson	other method (descr	ribe)						
Survey Interval (m)	: 15 Crew Size: 1	Fieldwork Dates:	27 Oct. 08							
Survey Person Ho	uns: 5.5 Recording	Person Hours: 0 T	otal Houra: 5.5		(					
Additional Narrativ	e: Location and acres	are estimates base	d on a hand held GP	S Unit Area No. 1 a	od area No. 3 are verv					
irregular shaped, a	rea 2 is approximatei	y 6 fect in diameter	The impacted area p	olus a 100 feet buffer	around them was survey					
19. Environmental	Setting (NRCS soil d	esignation; vegetati	ve community; elevati	ion; etc.);						
Topography: Moderately rolling and undulating dunal plain.										
Vegetative community: Consists primarily of shinoak, sage brush, sand burrs, more sand burrs, yucca cactus, various grasses a other flora.										
NRCS: Kermit-Berino association: Sandy, deep soils from wind-worked mixed sand deposits										
Elevation: 3,530	Flavation: 3 530 (+/-) 25 feet									
20.a. Percent Ground Visibility: 70 overall b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): Project is where netroleum fluid leaked from a buried pipeline										
21 CHI TURAL RE		Yes See Pag	3 Millio Die	eure May Linknow						
<ul> <li>22. Required Attachments (check all appropriate boxes):</li> <li>23. Other Attachments:</li> <li>23. Other Attachments:</li> <li>24. Copy of NMCRIS Mapserver Map Check</li> <li>25. Copy of NMCRIS Mapserver Map Check</li> <li>26. LA Site Forms - new sites (with steet, map &amp; tooographic map)</li> <li>27. A Site Forms (update) - previously recorded &amp; un-relocated sites (fire! 2 pages minimum)</li> <li>28. Historic Cultural Property Inventory Forms</li> <li>29. List and Description of toolactes, if applicable</li> <li>29. Context Attachments:</li> <li>20. Context Attachments:</li> <li>21. Context Attachments:</li> <li>22. Context Attachments:</li> <li>23. Other Attachments:</li> <li>24. Context Attachments:</li> <li>25. Context Attachments:</li> <li>26. Context Attachments:</li> <li>27. Context Attachments:</li> <li>28. Context Attachments:</li> <li>29. Context Attachments:</li> <li>29. Context Attachments:</li> <li>20. Context Attachments:</li> <li>21. Context Attachments:</li> <li>22. Context Attachments:</li> <li>23. Other Attachments:</li> <li>24. Context Attachments:</li> <li>25. Context Attachments:</li> <li>26. Context Attachments:</li> <li>27. Context Attachments:</li> <li>28. Context Attachments:</li> <li>29. Context Attachments:</li> <li>29. Context Attachments:</li> <li>20. Context Attachments:</li> <li>21. Context Attachments:</li> <li>22. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>29. Context Attachments:</li> <li>21. Context Attachments:</li> <li>22. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>21. Context Attachments:</li> <li>22. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:</li> <li>23. Context Attachments:&lt;</li></ul>										
List and Descrip	24. I certify the information provided above is correct and accurate and meets all applicable agency standards.									
24. I certify the infi	ormation provided ab	Principal Investigator/Responsible Archaeologist: Danny Boone								
24. I certify the inf	ormation provided ab	eologist: Danny Bo	•							
List and Descrip 24. I certify the inf Principal Investigat Signature	ormation provided ab	eologist: Danny Bo	Date: 30 Oct. 0	8 Title (if not PI):						
List and Descrip 24. I certify the inf Principal Investigat Signature 26. Reviewing Age Reviewer's Name/	cor/Responsible Archa Brock Brock Date	eologist: Danny Bo 26 Re	Date: 30 Oct. 0 SHPO sviewer's Name/Date:	8 Title (if not Pl):						
List and Descrip 24. I certify the info Principal Investigal Signature	ormation provided ab tor/Responsible Archa ency. Date Rejected ( )	eologist: Danny Bo 26 Re Hi	Date: 30 Oct. 0 . SHPO sviewer's Name/Date: PD Log #:	8 Title (if not Pl):						
List and Descrip 24. I certify the infi Principal Investigal Signature	ror/Responsible Archa ency. Date Rejected ( )	eologist: Danny Bo 26 Re Hi Si	Date: 30 Oct. 0 . SHPO aviewer's Name/Date: PD Log #: IPO File Location:	8 Title (if not Pl):						

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CULTURAL RESOURCE FINDINGS [fill in appropriate section(s)] 2. Lead (Sponsoring) Agency: BLM, CFO 1. NMCRIS Activity No.: 3. Lead Agency Report No.: 111988 SURVEY RESULTS: Sites discovered and registered: 0 Sites discovered and NOT registered; 0 Previously recorded sites revisited (site update form required): 0 Previously recorded sites not relocated (site update form required): 0 TOTAL SITES VISITED: 0 Total isolates recorded: 0 Non-selective isolate recording? Total structures recorded (new and previously recorded, including acequias): 0 MANAGEMENT SUMMARY: No cultural resources were encountered therefore archaeological clearance of three areas flagged with orange tape tied to vegetation for the Beeson 8" Historical siles for Plains Marketing, L.P. is recommended. If cultural resources are encountered at any time all activity should cease and the BLM Archaeologist notified immediately. IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT. SURVEY LA NUMBER LOG Sites Discovered: LA No. Field/Agency No. Eligible? (Y/N. applicable criteria) Previously recorded revisited sites: LA No. Field/Agency No. Eligible? (Y/N, applicable criteria) MONITORING LA NUMBER LOG (site form required) Sites Discovered (site farm required) : Previously recorded sites (Site update form required): Field/Agency No. LA No. Field/Agency No. LA No. Areas outside known nearby site boundaries monitored? Yes D. No D If no explain why: TESTING & EXCAVATION LA NUMBER LOG (site form required) Tested I.A number(s) Excavated LA number(a)

BOUNE ARCHAEOLOGY

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## Appendix E BLM Correspondence

## Camille J. Bryant

From:<Paul\_Evans@nm.blm.gov>To:"Camille J. Bryant" <cjbryant@basin-consulting.com>Sent:Monday, March 02, 2009 10:23 AMSubject:Re: Plains Beeson 8-Inch Release SiteMs. Camille,

Your plan to blend the asphaltines location sounds fine, along as you have a good blend of soil to asphaltines. I will need to inspect the north and the middle areas before the reseeding is done. Thank you for the heads up on this.

Paul R Evans Bureau of Land Management Realty Environmental Protection Specialist Office 575-234-5972 Direct Line 575-234-5977 Mobile 575-361-7548 Fax 575-234-5927 Appendix F Release Notification and Corrective Action (Form C-141)

District		XIX4 98740		Sta	ate of	'New Mex	ico		Form C-14		
1625 N. French Dr., Hobbs. NM 85270 Exarict II Energy Minera				nerals	and Natura	l Resources		Revised October 10, 20			
District III	Avenue, Ann	- NINT 07210	,	Oil C	lonse	rvation Div	vision		Submit 2 Copies to appropria		
District IV	s Road, Arre	C, NAL 87410	-	1220	Sout	h St. Franc	is Dr.		with Rule 116 on bas		
1320 S. St. Frai	icis Dr., Santi	11 FC, NM 8750	) 	Sa	nta F	e, NM 875	505 ·		side of for		
			Rel	ease Notific	atio	n and Co	orrective A	etion			
						<b>OPER</b> A	ATOR	<u> </u>	itial Report 🔲 Final Rep		
Name of Co	ompany Ph	ains Pipeline		114 00720		Contact Camille Reynolds					
Facility Na	me Beeson	8" Discharg	vington, i e	NW 88200		Facility Typ	e 8"Steel Pipeli	ne			
Surfrue Ou	ana DL M		····	Minoral()					Ma		
Surface Ow	IIG DLW	·		T Minetal O	wher		<u> </u>	Lease	110.		
			F	LOCA	TIO	N OF REI	LEASE				
B	3	10wnship 18S	30E	rect from the	Noru	/South Line	reet from the	Last/West Line	Eddy		
		Latitud	e <u>32° 4(</u>	<u>oʻ 16.9"</u>	<u>.</u>	Longitude	103° 57' 20.7		·		
				NAT	URE	OF'RELI	EASE				
Type of Rele Source of Re	ase Crude C	<u>)il</u> el Pineline		- <u> </u>		Volume of Date and H	Release Unknow	n Volume	Recovered		
						Unknown 09/12/2008 (2), 14:30					
Was Immedi	ate Notice (	iiven? X	Yes 🔲	Ne 🗌 Not Rec	quired	If YES, To Whom? Mike Bratcher					
By Whom? (	amille Bry	ant Juid2				Date and Hour 09/32/2008 @ 09:00					
was a water	conne reac		Yes 🛛	No		A (1.5, volume impacting the watercourse.					
If a Watercou	urse was thu	pacted, Descri	ibe Fully."			, <u>I</u>			· · · · · · · · · · · · · · · · · · ·		
			,								
Describe Ca	se of Proble	m and Reme	tial Actio	Taken Historical	releasi	• identified by	the BLM (lim A	mostwill conved	interto BLM/NMOCD envidedmen		
Describe Car	36 01 1 10010	an and Renee		r raxen materia	(cicas)	e toenninea by	nic Don (init A	mosy with remeu	are to BEMMMMOCD Endemics		
									,		
Describe Are	a Affected a	and Cleanup A	ction Tak	en.* Impacted are	as alon	g pipeline RO	W for approxima	tely 0.7 mile.			
I bereby certi	fy that the i	nformation gi	ven above	is true and comple	ete to r	he best of my	knowledge and us	iderstand that pu	rsuant to NMOCD rules and		
regulations al public health	l operators ( or the envir	are required to oppose the contribution of the	acceptanc	d/or file certain re c of a C-141 repor	lease n t by th	ofilications an e NMOCD ma	id perform correct irked as "Final Re	tive actions for n port" does not n	cleases which may endanger lieve the operator of lightlity		
should their o	perations h	ave failed to a	dequately	investigate and re	mediat	e contaminatio	in that pose a thre	at to ground wat	er, surface water, human health		
iederal, state,	or local law	vs and/or regu	CD accep lations.	tance of a C+141 m	eport a	oes not reneve	: the operator of r	esponsibility for	compliance with any other		
						OIL CONSERVATION DIVISION					
Signature's Sector (1995) VELSIGNA											
Stenature: -	Printed Name: Camille Bryant					Approved by District Supervisor:					
Stenature:	: Camille B										
Printed Name Title: Remedi	: Camille B ation Coord	linator				Approval Date		Expiration	Date:		
Stenature:	: Camille B ation Coord ss: cjbryant;	linator @paalp.com				Approval Date Conditions of	:: Approval:	Expiration	Attached		
Printed Name Title: Remedi E-mail Addre Unite: 09/22/2	: Camille B ation Coord ss: cibryant; 008	linator		Phone: 575-441-05	265	Approval Date	Approval:	Expiration	Attached		

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