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Effective Solutions

APPROVED

REMEDIATION SUMMARY &

RISK-BASED SITE CLOSURE REQUEST

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
Lea County, New Mexico
Unit Letter "O" (SW/SE), Section 16, Township 18 South, Range 34 East
Latitude 32º 44' 31.2" North, Longitude 103º 33' 46.6" West
Plains SRS #2008-113
NMOCD Reference #1RP-1853

Prepared For:

Plains All American Pipeline, LP
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Houston, Texas 77002

Prepared By:

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November 2014

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1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains All American Pipeline, LP (Plains), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as EK Queen Pearce 6-Inch. The legal description of the site is Unit Letter "O" (SW/SE), Section 16, Township 18 South, Range 34 East, in Lea County, New Mexico. The property affected by the release is owned by The State of New Mexico and is administered by the New Mexico State Land Office (NMSLO; Right-of-Entry permit #ROE-1706). The geographic coordinates of the site are 32º 44' 31.2" North latitude and 103º 33' 46.6" West longitude. Please reference Figure 1 for a "Site Location Map".

On May 6, 2008, Plains discovered a crude oil release from a six-inch (6") steel gathering pipeline. The cause of the release was attributed to internal corrosion. During initial response activities, a temporary pipeline clamp was employed to mitigate the release. The release was immediately reported to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office. The Release Notification and Corrective Action (Form C-141) indicated approximately ten barrels (10 bbls) of crude oil were released, with no recovery. General photographs of the site are provided as Appendix A. The Form C-141 is provided as Appendix H.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated groundwater in Section 16, Township 18 South, Range 34 East, should be encountered at approximately one hundred and five (105) to one hundred and ten feet (110') below ground surface (bgs). Plains has installed four (4) monitor wells on-site, which indicate that groundwater ranges between approximately one hundred and seven (107) and one hundred and twenty-two feet (122') bgs. Laboratory analytical results from soil samples collected during the advancement of a delineation soil boring (SB-4) indicated total petroleum hydrocarbon (TPH) concentrations exceeded NMOCD regulatory standards within fifty feet (50') of groundwater. The depth of TPH impact results in a score of twenty (20) points being assigned to the site based on the NMOCD depth-to-groundwater criterion.

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

There is an ephemeral lake (playa) located less than two hundred feet (200') south of the release. Based on the NMOCD ranking system, twenty (20) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the EK Queen Pearce 6-Inch site has an initial ranking score of forty (40) points. The soil remediation action levels for a site with a ranking score greater than nineteen (>19) points are as follows:

- Benzene – 10 mg/kg
- Benzene, toluene, ethyl-benzene, and total xylene (BTEX) – 50 mg/kg
- TPH – 100 mg/kg

On February 25, 2009, the NMOCD Hobbs District Office approved a modified remediation action level of five thousand (5,000) mg/kg for TPH.

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

3.0 DISTRIBUTION OF CONTAMINANTS IN THE UNSATURATED ZONE

3.1 Summary of Soil Remediation Activities

On May 15, 2008, following initial response activities, excavation of hydrocarbon impacted soil commenced. A photo-ionization detector (PID) was utilized to field-screen impacted soil and to guide the excavation. Excavated soil was stockpiled on-site on a plastic liner to mitigate the leaching of contaminants into the vadose zone. The initial excavation of impacted soil was completed on June 10, 2008.

On June 10, 2008, a soil sample (Floor @ 17') was collected from the floor of the excavation at approximately seventeen feet (17') bgs and submitted to Xenco Laboratories in Odessa, Texas, for analysis of TPH concentrations using Environmental Protection Agency (EPA) Method SW-846 8015M. Laboratory analytical results indicated the TPH concentration was 24,840 mg/kg. Soil sample locations are depicted in Figure #2, "Site & Sample Location Map". Laboratory analytical results are summarized in Table 1, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Laboratory analytical reports are provided in Appendix E.

Review of laboratory analytical results indicated additional vertical delineation of the release site was required.

On July 25, 2008, a series of four (4) soil borings (SB-1, SB-2, SB-3, and SB-4) were advanced at the release site to further investigate the vertical extent of impacted soil. Soil samples were collected at five-foot (5') drilling intervals and field-screened using a Photo-Ionization Detector (PID). Selected soil samples were submitted to the laboratory for analysis of TPH concentrations and BTEX concentrations using EPA SW-846 8021b. Soil boring locations are depicted in Figure 2 and Figure 3, "Soil Boring & Well Location Map". Soil boring logs are provided in Appendix B.

Soil boring SB-1 was advanced southeast of the excavation, to a total depth of approximately forty feet (40') bgs. Soil samples collected at drilling depths of ten (10), twenty (20), thirty (30), and forty feet (40') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory method detection limit (MDL) in all submitted soil samples, with the exception of soil sample SB-1 @ 30', which exhibited a TPH concentration of 19.7 mg/kg.

Soil boring SB-2 was advanced northwest of the excavation, to a total depth of approximately thirty feet (30') bgs. Soil samples collected at drilling depths of ten (10), twenty (20), and thirty feet (30') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples.

Soil boring SB-3 was advanced north of the excavation, to a total depth of approximately thirty feet (30') bgs. Soil samples collected at drilling depths of ten (10), twenty (20), and thirty feet (30') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples.

Soil boring SB-4 was advanced south of the release point, in the floor of the excavation, at approximately seventeen feet (17') bgs. The soil boring was advanced to a total depth of approximately one hundred feet (100') bgs. Adjusting the depth of the soil boring in relation to the ground surface results in an actual soil boring depth of approximately one hundred seventeen feet (117') bgs. Soil samples collected at drilling depths of ten (10), twenty (20), thirty (30), forty (40), fifty (50), sixty (60), seventy (70), eighty (80), ninety (90), and one hundred feet (100') were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL in the soil samples collected at 107' bgs (SB-4 @ 90') and 117' bgs (SB-4 @ 100') to 19.6 mg/kg in the soil sample collected at 27' bgs (SB-4 @ 10'). BTEX concentrations ranged from 0.0071 mg/kg in the soil sample collected at 107' bgs (SB-4 @ 90') to 701 mg/kg in the soil sample collected at 27' bgs (SB-4 @ 10'). TPH concentrations ranged from 75.7 mg/kg in the soil sample collected at 67' bgs (SB-4 @ 50') to 86,350 mg/kg in the soil sample collected at 27' bgs (SB-4 @ 10').

During the advancement of soil boring SB-4, groundwater was encountered at a drilling depth of approximately ninety-three feet (93'), or approximately one hundred ten feet (110') bgs. A temporary casing was installed in the soil boring to allow collection of a "preliminary" groundwater sample [Prelim GW (SB-4)] for analysis of BTEX concentrations. A summary of the laboratory analytical results from the preliminary groundwater sample is included in Section 4.1, "Summary of Groundwater Monitoring Activities", below. Following collection of the groundwater sample, soil boring SB-4 was plugged with two (2) bags of cement and twenty (20) bags of bentonite, per NMOSE regulatory requirements.

On October 23, 2008, eight (8) soil samples (N-1 S/W, N-2 S/W, S-1 S/W, S-2 S/W, E-1 S/W, E-2 S/W, W-1 S/W, and W-2 S/W) were collected from the sidewalls of the excavation and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. TPH concentrations ranged from less than the laboratory MDL in soil samples N-1 S/W, N-2 S/W, S-1 S/W, and S-2 S/W to 1,456 mg/kg in soil sample W-1 S/W.

On November 7, 2008, heavy equipment was mobilized to the release site to excavate a hard caliche layer beneath and immediately south of the release point. The excavated material was blended with the existing stockpile on-site. A total of approximately eight thousand, five hundred cubic yards (8,500 yd^3) of soil was stockpiled on-site, pending final disposition.

From January 6 through January 8, 2009, after having procured the proper permit from the NMSLO (Water Easement #WM-200), three (3) groundwater monitor wells (MW-1 through MW-3) were installed at the EK Queen Pearce 6-Inch release site to evaluate the status of the underlying groundwater. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID. Selected soil samples were submitted to the laboratory for analysis of TPH and BTEX concentrations. The locations of the monitor wells are depicted in Figures 2 and 3. Monitor well drilling logs are provided in Appendix B. The NMSLO Water Easement is provided in Appendix D.

Monitor well MW-1 was installed northwest of the release point, to a total depth of approximately one hundred thirty-nine feet (139') bgs. Soil samples collected at drilling depths of ten (10), thirty (30), fifty (50), seventy (70), ninety (90), one hundred ten (110), and one hundred twenty seven feet (127') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples, with the exceptions of soil samples MW-1 @ 110' and MW-1 @ 117', which exhibited TPH concentrations of 36.0 mg/kg and 17.7 mg/kg, respectively.

Monitor well MW-2 was installed east of the release point, to a total depth of approximately one hundred thirty-five feet (135') bgs. Soil samples collected at drilling depths of ten (10), thirty (30), fifty (50), seventy (70), ninety-five (95), one hundred ten (110), and one hundred twenty feet (120') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples.

Monitor well MW-3 was installed east of the release point, to a total depth of approximately one hundred twenty-six feet (126') bgs. Soil samples collected at drilling depths of ten (10), thirty-five (35), fifty (50), seventy (70), ninety (90), one hundred ten (110), and one hundred thirteen feet (113') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples.

On January 9, 2009, one (1) additional soil boring (SB-5) was advanced on the east end of the excavation floor at approximately seventeen feet (17') bgs to further investigate the vertical extent of impacted soil. The soil boring was advanced to a total depth of approximately sixty feet (60') bgs. Adjusting the depth of the soil boring in relation to the ground surface results in an actual soil boring depth of approximately seventy-seven feet (77') bgs. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID. Soil samples collected at drilling depths of ten (10), twenty (20), thirty (30), forty (40), fifty (50) and sixty feet (60') were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. The location of the soil boring is depicted in Figures 2 and 3.

In May 2009, Basin Environmental, on behalf of Plains, prepared and submitted a *Remediation Summary and Proposed Soil Closure Strategy* (Work Plan) to the NMOCD Hobbs District Office summarizing the above-referenced activities and detailing a strategy to advance the EK Queen

Pearce 6-Inch release site to an NMOCD-approved closure. Due to the impracticability of transporting and/or disposing of the large caliche rocks and boulders that had been removed from the excavation, permission was requested to place the rocks and boulders back into the excavation for use as backfill material. A screen machine would be utilized to separate impacted soil from the rocks, and the screened material would then be aerated to facilitate bioremediation. When laboratory analytical results of stockpile soil samples indicated TPH and BTEX constituent concentrations were below the recommended remediation action levels established for the site, the blended soil would be used as backfill material. Prior to backfilling, an impermeable, twenty-millimeter (20mm), polyurethane liner would be installed on the floor of the western portion of the excavation.

Following backfilling, a series of soil vapor extraction (SVE) wells would be installed in the area represented by soil boring SB-4. The SVE wells would be positioned in a concentric ring pattern adjacent to and to the north, south, east, and west of soil boring SB-4. The wells would be spaced approximately ten (10) to twenty-five-foot (25') feet apart and advanced to depths ranging from approximately twenty (20) to forty-five feet (45') bgs. The SVE system would utilize a blower to create a vacuum at predetermined screened intervals below the ground surface, allowing areas of concern to be addressed. The vacuum created by the blower would cause volatile organic compounds (VOCs) in the screened intervals to be removed from the affected soil and vented to the atmosphere. The SVE system would be operated continuously, only ceasing operation for short internals for required maintenance. The SVE system was to be monitored and adjusted as conditions warranted, and emission air samples were to be collected and submitted to the laboratory as required by the New Mexico Environmental Department - Air Quality Bureau. When remediation goals had been achieved, a series of soil borings would be advanced in the area of the SVE wells to confirm the successful remediation of the targeted area of concern.

The Work Plan, SVE system installation, and plan of operation were approved by a representative of the NMOCD Hobbs District Office.

With NMOCD approval, from June 16 through June 26, 2009, the stockpiled material on-site was screened to separate impacted soil and large rocks. The segregated large rocks were placed back into the excavation as backfill. The screened material was blended with clean soil and/or lesser impacted stockpiled material on-site and aerated to facilitate bioremediation.

On June 17, 2009, three (3) soil samples (SP #1, SP #2, and SP #3) were collected from the blended material on-site and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 511 mg/kg in soil sample SP #2 to 3,538 mg/kg in soil sample SP #3. Benzene concentrations were less than the laboratory MDL in all submitted soil samples. BTEX concentrations ranged from 0.0115 mg/kg in soil sample SP #1 to 33.2 mg/kg in soil sample SP #3. Soil represented by soil samples SP #1, SP #2, and SP #3 was deemed acceptable for use as backfill material.

On June 22, 2009, two (2) soil samples (SP #4 and SP #5) were collected from the blended material on-site and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 3,186 mg/kg in soil sample SP #5 to 3,365 mg/kg in soil sample SP #4. Benzene concentrations ranged from less than the laboratory

MDL in soil sample SP #5 to 0.0213 mg/kg in soil sample SP #4. BTEX concentrations ranged from 9.22 mg/kg in soil sample SP #4 to 11.0 mg/kg in soil sample SP #5. Soil represented by soil samples SP #4 and SP #5 was deemed acceptable for use as backfill material.

On June 25, 2009, two (2) soil samples (SP #6 and SP #7) were collected from the blended material on-site and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 2,932 mg/kg in soil sample SP #6 to 3,157 mg/kg in soil sample SP #7. Benzene concentrations ranged from 0.0068 mg/kg in soil sample SP #6 to 0.0082 mg/kg in soil sample SP #7. BTEX concentrations ranged from 0.4203 mg/kg in soil sample SP #6 to 1.72 mg/kg in soil sample SP #7. Soil represented by soil samples SP #6 and SP #7 was deemed acceptable for use as backfill material.

On July 1, 2009, a twenty-millimeter (20mm), impermeable, polyurethane liner was installed in the floor of the western portion of the excavation at approximately fifteen feet (15') bgs. Approximately one foot (1') of non-impacted pad sand was installed both above and below the liner to protect the liner from damage during installation and backfilling activities. Following liner installation, Basin Environmental commenced backfilling of the excavation with the blended material on-site. The footprint of the liner is depicted in Figure 2.

On July 2, 2009, two (2) soil samples (SP #8 and Over Burden-2) were collected from the blended material and overburden on-site and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 117 mg/kg in soil sample Over Burden-2 to 3,062 mg/kg in soil sample SP #8. Benzene concentrations ranged from less than the laboratory MDL in soil sample SP #8 to 0.0031 mg/kg in soil sample SP #8. BTEX concentrations ranged from 0.0912 mg/kg in soil sample SP #8 to 0.1171 mg/kg in soil sample Over Burden-2. Soil represented by soil samples SP #8 and Over Burden-2 was deemed acceptable for use as backfill material.

On July 6, 2009, two (2) soil samples (Over Burden-1 and Over Burden-3) were collected from the overburden material on-site and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 16.7 mg/kg in soil sample Over Burden-1 to 22.6 mg/kg in soil sample Over Burden-3. BTEX constituent concentrations were less than the appropriate laboratory MDL in both soil samples. Soil represented by soil samples Over Burden-1 and Over Burden-3 was deemed acceptable for use as backfill material.

On July 13, 2009, backfilling of the excavation was completed, and the disturbed area was compacted and contoured to fit the surrounding topography. Final dimensions of the excavation were approximately one hundred sixty-two feet (162') in length, varying in width from approximately sixty-seven feet (67') to approximately one hundred and thirteen feet (113'), and varying in depth from approximately fifteen feet (15') to approximately seventeen feet (17') bgs.

From August 8 through August 17, 2009, hay bales and straw wattles were installed on-site to inhibit surface erosion.

On September 18, 2009, and March 10, 2010, the site was seeded with an NMSLO-approved seed mixture.

Per the Work Plan, from September 24 through September 25, 2009, a series of seven (7) SVE wells (SVE Deep Well #1 through Deep Well #5, SVE Shallow Well "A", and SVE Shallow Well "B") were installed in the area represented by soil boring SB-4. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID. Selected soil samples were submitted to the laboratory for analysis of TPH and BTEX concentrations. The locations of the SVE wells are depicted in Figure 3. Well drilling logs are provided in Appendix B.

SVE Deep Well #1 was advanced to the north of soil boring SB-4, to a total depth of approximately forty-two feet (42') bgs. Soil samples collected at drilling depths of thirty-five (35) and forty feet (40') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 8,650 mg/kg in soil sample SVE Deep #1 @ 35' to 10,030 mg/kg in soil sample SVE Deep #1 @ 40'. Benzene concentrations ranged from 3.93 mg/kg in soil sample SVE Deep #1 @ 35' to 5.11 mg/kg in soil sample SVE Deep #1 @ 40'. BTEX concentrations ranged from 290 mg/kg in soil sample SVE Deep #1 @ 35' to 323 mg/kg in soil sample SVE Deep #1 @ 40'.

SVE Deep Well #2 was advanced approximately twenty-five feet (25') to the north-northwest of SVE Deep Well #1, to a total depth of approximately forty-three feet (43') bgs. Soil samples collected at drilling depths of thirty-five (35) and forty-three feet (43') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in both soil samples.

SVE Deep Well #3 was advanced approximately twenty-five feet (25') to the east-northeast of SVE Deep Well #1, to a total depth of approximately forty-two feet (42') bgs. Soil samples collected at drilling depths of thirty-five (35) and forty feet (40') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in both soil samples.

SVE Deep Well #4 was advanced approximately twenty-five feet (25') to the south-southeast of SVE Deep Well #1, to a total depth of approximately forty-two feet (42') bgs. Soil samples collected at drilling depths of thirty-five (35) and forty feet (40') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in both soil samples.

SVE Deep Well #5 was advanced approximately twenty-five feet (25') to the west-southwest of SVE Deep Well #1, to a total depth of approximately forty-two feet (42') bgs. Soil samples collected at drilling depths of thirty-five (35) and forty feet (40') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in both soil samples. Benzene concentrations ranged from 0.0031 mg/kg in soil sample SVE Deep #5 @ 40' to 0.0051 mg/kg in

soil sample SVE Deep #5 @ 35'. BTEX concentrations ranged from 0.0583 mg/kg in soil sample SVE Deep #5 @ 40' to 0.0962 mg/kg in soil sample SVE Deep #5 @ 35'.

SVE Shallow Well "A" was advanced approximately ten feet (10') to the north-northwest of SVE Deep Well #1, to a total depth of approximately thirty-two feet (32') bgs. Soil samples collected at drilling depths of twenty (20), twenty-five (25), and thirty feet (30') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 2,586 mg/kg in soil sample SVE Shallow "A" @ 20' to 7,244 mg/kg in soil sample SVE Shallow "A" @ 25'. Benzene concentrations ranged from less than the laboratory MDL in soil samples SVE Shallow "A" @ 20' and SVE Shallow "A" @ 30' to 3.23 mg/kg in soil sample SVE Shallow "A" @ 25'. BTEX concentrations ranged from 30.6 mg/kg in soil sample SVE Shallow "A" @ 30' to 214 mg/kg in soil sample SVE Shallow "A" @ 25'.

SVE Shallow Well "B" was advanced approximately ten feet (10') to the south-southeast of SVE Deep Well #1, to a total depth of approximately thirty-two feet (32') bgs. Soil samples collected at drilling depths of twenty (20), twenty-five (25), and thirty feet (30') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 484 mg/kg in soil sample SVE Shallow "B" @ 20' to 4,710 mg/kg in soil sample SVE Shallow "B" @ 25'. Benzene concentrations ranged from 0.0205 mg/kg in soil sample SVE Shallow "B" @ 20' to 0.3639 mg/kg in soil sample SVE Shallow "B" @ 30'. BTEX concentrations ranged from 0.3702 mg/kg in soil sample SVE Shallow "B" @ 20' to 83.6 mg/kg in soil sample SVE Shallow "B" @ 30'.

From March 2 through March 30, 2010, PVC piping was installed to connect the wells to each other and to the SVE blower, which was housed in a portable building placed approximately seventy-five feet (75') to the northeast of SVE Deep Well #1 and adjacent to monitor well MW-2. To facilitate enhanced subsurface suction and attenuation of hydrocarbons in the areas of concern, the SVE wells were piped together in sections: SVE Deep Well #2 and SVE Deep Well #5 comprised section #1, SVE Shallow Well "A" and SVE Shallow Well "B" comprised section #2, SVE Deep Well #1 comprised section #3, SVE Deep Well #3 and SVE Deep Well #4 comprised section #4.

On March 31, 2010, the SVE system was activated, and air quality monitoring commenced on April 7, 2010. Air quality samples were collected on a monthly basis and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations decreased from 5,450 parts per million by volume (ppmv) on May 18, 2010, to less than 100 ppmv on May 12, 2011. TPH concentrations remained below 100 ppmv in all air quality samples submitted from May 2011 through February 28, 2013. Benzene concentrations decreased from 504 ppmv on April 7, 2010, to less than the laboratory MDL on January 27, 2011. Benzene concentrations were less than the laboratory MDL in all air quality samples submitted from January 2011 through February 28, 2013. BTEX concentrations decreased from 997 ppmv on April 7, 2010, to less than 50 ppmv on December 9, 2010. BTEX concentrations remained below 50 ppmv in all air quality samples submitted from December 2010 through February 28, 2013. Laboratory analytical results are summarized in Table 2, "SVE Emissions". Laboratory analytical reports are provided in Appendix G.

Based on laboratory analytical results from the monthly air quality samples, and per the May 2009 Work Plan, two (2) soil borings (SB-6 and SB-7) were advanced at the site on January 28, 2011, to assess the extent of hydrocarbon contamination remaining in-situ in and around the targeted area of concern. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID. Selected soil samples were submitted to the laboratory for analysis of TPH and BTEX concentrations, as well as chloride concentrations using EPA Method 300.1. The locations of the soil borings are depicted in Figure 3. Soil boring logs are provided in Appendix B.

Soil boring SB-6 was advanced approximately eight feet (8') to the south-southwest of SVE Deep Well #1 and approximately five feet (5') to the northwest of SVE Shallow Well "B", to a total depth of approximately forty-five feet (45') bgs. Soil samples collected at drilling depths of twenty (20), twenty-five (25), thirty (30), thirty-five (35), forty (40), and forty-five feet (45') bgs were submitted to the laboratory for analysis of TPH, BTEX, and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from 347 mg/kg in soil sample SB-6 @ 40' to 5,220 mg/kg in soil sample SB-6 @ 25'. Benzene concentrations ranged from less than the laboratory MDL in soil samples SB-6 @ 25', SB-6 @ 35', SB-6 @ 40', and SB-6 @ 45' to 0.0093 mg/kg in soil sample SB-6 @ 30'. BTEX concentrations ranged from 0.0612 mg/kg in soil sample SB-6 @ 45' to 1.67 mg/kg in soil sample SB-6 @ 25'. Chloride concentrations ranged from 9.38 mg/kg in soil sample SB-6 @ 40' to 23.1 mg/kg in soil sample SB-6 @ 20'.

Soil boring SB-7 was advanced approximately eight feet (8') to the northwest of SVE Deep Well #1 and approximately four feet (4') to the southwest of SVE Shallow Well "A", to a total depth of approximately fifty-two feet (52') bgs. In an attempt to make a direct comparison to the contaminant concentrations observed in soil boring SB-4, which was advanced in the floor of the excavation, soil samples were collected at drilling depths of twenty-two (22), twenty-seven (27), thirty-two (32), thirty-seven (37), forty-two (42), forty-seven (47), and fifty-two feet (52) bgs. The soil samples were submitted to the laboratory for analysis of TPH, BTEX, and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from 4,700 mg/kg in soil sample SB-7 @ 22' to 13,400 mg/kg in soil sample SB-7 @ 47'. Benzene concentrations ranged from less than the laboratory MDL in soil samples SB-7 @ 32', SB-7 @ 37', SB-7 @ 42', and SB-7 @ 52' to 0.0096 mg/kg in soil sample SB-7 @ 22'. BTEX concentrations ranged from 0.2964 mg/kg in soil sample SB-7 @ 52' to 6.51 mg/kg in soil sample SB-7 @ 47'. Chloride concentrations ranged from 8.93 mg/kg in soil sample SB-7 @ 42' to11.3 mg/kg in soil sample SB-7 @ 52'.

From January 20 through January 23, 2012, three (3) additional soil borings (SB-8 through SB-10) were advanced at the site to assess the extent of hydrocarbon contamination remaining in-situ in and around the targeted area of concern. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID. Selected soil samples were submitted to the laboratory for analysis of TPH and BTEX concentrations, as well as chloride concentrations using EPA Method 300.1. The locations of the soil borings are depicted in Figure 3. Soil boring logs are provided in Appendix B.

Soil boring SB-8 was advanced approximately five feet (5') to the northwest of SVE Deep Well #1 and approximately three feet (3') to the southeast of soil boring SB-7, to a total depth of approximately seventy feet (70') bgs. Soil samples collected at drilling depths of twenty (20),

twenty-five (25), thirty (30), thirty-five (35), forty (40), forty-five (45), fifty (50), fifty-five (55), sixty (60), and sixty-five feet (65') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 534 mg/kg in soil sample SB-8 @ 20' to 13,200 mg/kg in soil sample SB-8 @ 55'. Benzene concentrations ranged from less than the laboratory MDL in soil samples SB-8 @ 20', SB-8 @ 35', SB-8 @ 50', SB-8 @ 55', SB-8 @ 60', and SB-8 @ 65' to 0.0069 mg/kg in soil sample SB-8 @ 45'. BTEX concentrations ranged from 0.0485 mg/kg in soil sample SB-8 @ 20' to 72.9 mg/kg in soil sample SB-8 @ 60'.

Soil boring SB-9 was advanced approximately eight and one-half feet (8.5') to the northwest of SVE Shallow Well "A" and approximately ten feet (10') to the south-southwest of SVE Deep Well #2, to a total depth of approximately thirty-five feet (35') bgs. Soil samples collected at drilling depths of twenty (20) and thirty-five feet (35') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 29.9 mg/kg in soil sample SB-9 @ 35' to 1,350 mg/kg in soil sample SB-9 @ 20'. Benzene concentrations were less than the laboratory MDL in both submitted soil samples. BTEX concentrations ranged from less than the laboratory MDL in soil sample SB-9 @ 35' to 0.0030 mg/kg in soil sample SB-9 @ 20'.

Soil boring SB-10 was advanced approximately three feet (3') to the southwest of SVE Shallow Well "B" and approximately five feet (5') to the southeast of soil boring SB-6, to a total depth of approximately sixty feet (60') bgs. Soil samples collected at drilling depths of twenty (20), twenty-five (25), thirty (30), thirty-five (35), forty (40), forty-five (45), fifty (50), fifty-five (55), and sixty feet (60') bgs were submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH concentrations ranged from 1,030 mg/kg in soil sample SB-10 @ 60' to 10,300 mg/kg in soil sample SB-10 @ 35'. Benzene concentrations were less than the laboratory MDL in all submitted soil samples, with the exception of soil sample SB-10 @ 25', which exhibited a benzene concentration of 0.0070 mg/kg. BTEX concentrations ranged from less 0.0038 mg/kg in soil sample SB-10 @ 55' to 0.0629 mg/kg in soil sample SB-10 @ 25'.

On March 3, 2012, representatives of Plains and Basin Environmental met with a representative of the NMOCD Hobbs District Office to discuss the findings from the January 2011 and January 2012 drilling events, as well as the results from the monthly air quality monitoring samples collected from the SVE system. Since laboratory analytical data indicated that contaminated soil in the targeted area of concern had been remediated to the extent practicable and the SVE system was no longer effective, permission was requested to deactivate and remove the system from the site. The NMOCD representative requested additional time to review the supplied documentation, and no response was provided.

On June 21, 2012, representatives of Plains and Basin Environmental met with a representative of the NMOCD Hobbs District Office to again request permission to deactivate and remove the SVE system from the site. The request was denied. However, the NMOCD representative requested that the SVE system be deactivated for a period of one calendar quarter to allow the natural off-gassing of subsurface hydrocarbons, with the understanding that, if after one quarter of dormancy, the SVE system failed to increase in efficiency upon reactivation, it could be permanently deactivated and

removed from the site. The NMOCD representative also mandated the installation of an additional monitor well (MW-4) to evaluate the status of groundwater down-gradient of the SVE wells.

On July 7, 2012, per NMOCD request, the SVE system was temporarily deactivated. The SVE system piping was disconnected, and the caps of the SVE wells were left open to facilitate the natural off-gassing and attenuation of subsurface hydrocarbons.

On October 3, 2012, following approximately one calendar quarter of dormancy, the SVE system was reactivated, and monthly air quality monitoring recommenced. Review of laboratory analytical results from air quality samples collected on October 15 and November 5, 2012, and January 29 and February 28, 2013, confirmed that contaminated soil in the targeted area of concern had been remediated to the extent practicable.

On December 12, 2012, after having procured the proper permits from the NMSLO (Water Easement #WM-200) and the NMOSE (File #L-13211), installation of monitor well MW-4 commenced. Monitor well MW-4 was installed approximately seventy-five feet (75') down-gradient (northwest) of SVE Deep Well #1 and was advanced to a total depth of approximately one hundred and forty feet (140') bgs. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID. Soil samples collected at drilling depths of ten (10), twenty (20), thirty (30), forty (40), and sixty feet (60') bgs were submitted to the laboratory for analysis of BTEX and TPH concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. The location of the monitor well is depicted in Figures 2 and 3. A monitor well log is provided in Appendix B. NMSLO and NMOSE permits are provided in Appendix D.

On March 20, 2013, based on laboratory analytical documentation, representatives of Plains and Basin Environmental met with a representative of the NMOCD Hobbs District Office to request permission to permanently deactivate and remove the SVE system from the site. The request was approved by the NMOCD representative, and the system was deactivated by Basin Environmental personnel during a pre-scheduled service visit later that day.

On April 4, 2013, the SVE well piping was dismantled, and the building housing the blower system was removed on April 17, 2013.

3.2 Soil Closure Request

Soil remediation activities at the EK Queen Pearce 6-Inch release site met the objectives set forth in the *Remediation Summary and Proposed Soil Closure Strategy* dated May 2009. Impacted soil was excavated to the extent practicable. Soil samples collected from the sidewalls of the EK Queen Pearce 6-Inch excavation were analyzed by an NMOCD-approved laboratory, and concentrations of BTEX and TPH were below the recommended remediation action levels established for the site by the NMOCD.

An impermeable, twenty (20) mil polyurethane liner was installed on the floor of the western portion of the excavation prior to backfilling. This engineered control will inhibit vertical migration of contaminants from below the liner to the surface, protecting the vegetative zone. In

addition, the polyurethane liner will shed moisture to the edge of the liner and beyond the maximum horizontal extent of underlying impacted soil, effectively inhibiting vertical migration of contaminants to groundwater.
Basin Environmental recommends Plains provide the NMOCD Hobbs District Office and the NMSLO a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant soil closure status to the EK Queen Pearce 6-Inch release site.

4.0 DISTRIBUTION OF CONTAMINANTS IN THE SATURATED ZONE

4.1 Summary of Groundwater Monitoring Activities

On July 25, 2008, a groundwater sample [Prelim GW (SB-4)] was collected from the temporary casing installed in soil boring SB-4. Laboratory analytical results indicated a benzene concentration of 0.0016 mg/L, a toluene concentration of 0.008 mg/L, an ethyl-benzene concentration of 0.0074 mg/L, and a total xylene concentration of 0.014 mg/L. Table 3 summarizes the "Concentrations of Benzene, BTEX, TPH, Chloride, and Total Dissolved Solids in Groundwater".

Based on these analytical results, the NMOCD Hobbs District Office requested the installation of three (3) groundwater monitoring wells (MW-1 through MW-3) at the release site. A summary of the installation of the monitor wells and analytical results from the submitted soil samples is included in Section 3.1, "Summary of Soil Remediation Activities", above.

Groundwater monitoring events were conducted from the first quarter of 2009 (January 20, 2009) through the third quarter of 2014 (August 6, 2014), to assess the levels and extent of dissolved-phase constituents in the on-site monitor wells. The groundwater monitoring events consisted of measuring static water levels in the on-site monitor wells (MW-1 through MW-4), checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. The monitor wells were purged using disposable Teflon bailers of a minimum of three (3) well volumes of water, or until the wells were dry. Groundwater was allowed to recharge, and samples were obtained using clean, disposable Teflon bailers. Water samples were stored in clean, plastic or glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD-approved disposal facility near Monument, New Mexico.

Monitor wells MW-1 through MW-3 were sampled on a quarterly basis from January to December 2009. With NMOCD approval, following four (4) consecutive quarters with no detections of BTEX constituents, the wells were placed on a semi-annual monitoring schedule and are currently sampled during the second and fourth quarters of each calendar year (April – June and October – December, respectively).

On December 18, 2012, groundwater samples were collected from monitor well MW-4 to assess the baseline concentrations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), inorganic chemicals (anions & cations), Resource Conservation and Recovery Act (RCRA) metals, and New Mexico Water Quality Control Commission (NMWQCC)

metals. Contaminant concentrations are summarized in Table 5 through Table 8. Monitor well MW-4 is currently sampled for BTEX constituent concentrations on a quarterly basis.

Laboratory analytical results from groundwater samples were compared to NMOCD regulatory limits based on New Mexico groundwater standards found in Section 20.6.2.3103 of the NMAC. Laboratory analytical reports are provided in Appendix F. Groundwater contaminant concentrations for the most recent sampling events (February 10, May 7, and August 6, 2014) are depicted in Figures 5A through 5C.

Locations of groundwater monitoring wells and the inferred groundwater gradient constructed from groundwater elevation measurements collected during the most recent sampling events (February 10, May 7, and August 6, 2014) are depicted in Figures 4A through 4C. Groundwater was observed at depths ranging from 108.45 to 122.19 feet bgs in the on-site monitor wells, and the groundwater gradient maps indicate a general gradient of approximately 0.003 feet/foot to the northwest, as measured between monitor wells MW-1 and MW-3. Groundwater gauging data is provided in Table 4, "Groundwater Elevation Data".

No PSH was detected in the on-site monitor wells during any of the quarterly or semi-annual monitoring events.

4.2 Quarterly Monitoring Data

Data collected during the quarterly groundwater monitoring events is summarized below. Monitor wells MW-1 through MW-3 were sampled for BTEX constituent concentrations on January 20, June 15, September 15, and November 19, 2009. The monitor wells were also sampled for concentrations of chloride and total dissolved solids (TDS) during the January 20, 2009, sampling event.

Monitor well MW-4 was sampled for BTEX constituent concentrations on February 1, May 3, August 13, and November 15, 2013; and February 2, May 7, and August 6, 2014.

Monitor Well MW-1

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

The chloride concentration in the groundwater sample collected on January 20, 2009, was 200 mg/L, and the TDS concentration was 528 mg/L. Chloride and TDS concentrations were less than the NMWQCC regulatory standards of 250 mg/L and 1,000 mg/L, respectively.

Monitor Well MW-2

Benzene concentrations were less than the laboratory MDL in all submitted groundwater samples, with the exception of the sample collected on September 15, 2009, which exhibited a benzene concentration of 0.0020 mg/L. Benzene concentrations were less than NMWQCC regulatory

standards in all submitted samples. Toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

The chloride concentration in the groundwater sample collected on January 20, 2009, was 206 mg/L, and the TDS concentration was 572 mg/L. Chloride and TDS concentrations were less than the NMWQCC regulatory standards of 250 mg/L and 1,000 mg/L, respectively.

Monitor Well MW-3

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

The chloride concentration in the groundwater sample collected on January 20, 2009, was 126 mg/L, and the TDS concentration was 378 mg/L. Chloride and TDS concentrations were less than the NMWQCC regulatory standards of 250 mg/L and 1,000 mg/L, respectively.

Monitor Well MW-4

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

The chloride concentration in the groundwater sample collected on December 18, 2012, was 420 mg/L, which exceeded the NMWQCC regulatory standard of 250 mg/L.

4.3 Semi-Annual Monitoring Data

Data collected during the semi-annual groundwater monitoring events is summarized below. Monitor wells MW-1 through MW-3 were sampled on May 21 and November 2, 2010; May 5 and October 26, 2011; May 2 and October 12, 2012; May 3 and November 15, 2013; and May 7, 2014.

Monitor Well MW-1

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

Monitor Well MW-2

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

Monitor Well MW-3

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

4.4 Groundwater Closure Request

Groundwater samples collected from monitor wells MW-1 through MW-4 at the EK Queen Pearce 6-Inch release site were analyzed by an NMOCD-approved laboratory, and BTEX constituent concentrations have been both less than the appropriate laboratory MDL and less than NMWQCC and NMOCD regulatory standards since groundwater monitoring commenced in January 2009. Since no evidence of groundwater contamination exists, Plains hereby requests permission to cease groundwater monitoring activities at the EK Queen Pearce 6-Inch release site and to plug and abandon (P&A) the four (4) on-site monitor wells. Pending NMOCD approval, the monitor wells will be P&A'd pursuant to NMOSE and NMOCD regulatory requirements.

5.0 QA/QC PROCEDURES

5.1 Soil Sampling

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

- BTEX concentrations in accordance with EPA Method SW 846-8021b
- TPH concentrations in accordance with modified EPA Method SW 846-8015M
- Chloride concentrations in accordance with EPA Method 300.1

5.2 Groundwater Sampling

Groundwater samples were submitted to Xenco Laboratories in Odessa, Texas, for analysis of BTEX, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, anions/cations, and/or TDS concentrations using the methods described below. All samples were analyzed within EPA-designated hold times following the collection date.

- BTEX concentrations in accordance with EPA Method SW846-8021B
- VOC concentrations in accordance with EPA Method SW-846 8260B
- SVOC concentrations in accordance with EPA Method SW-846 8270C
- Metal concentrations in accordance with EPA Methods 200.7, 200.8, and/or 245.1 (mercury)
- Anion/cation concentrations in accordance with EPA Methods 300/300.1 (chloride, fluoride, nitrate, and sulfate) and/or SM2320B (carbonate)
- TDS concentrations in accordance with EPA Method SM2540C

5.3 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.

5.4 Laboratory Protocol

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

6.0 SITE CLOSURE REQUEST

Soil remediation activities at the EK Queen Pearce 6-Inch release site met the objectives set forth in the *Remediation Summary and Proposed Soil Closure Strategy* dated May 2009. Laboratory analytical results from quarterly and semi-annual groundwater monitoring samples collected from January 2009 through August 2014 indicate there is no evidence of groundwater contamination at the site. Basin Environmental recommends Plains provide the NMOCD Hobbs District Office and the NMSLO a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant site closure status to the EK Queen Pearce 6-Inch release site.

7.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Risk-Based Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental Service Technologies, LLC, has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Service Technologies, 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 Service Technologies, LLC, has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Service Technologies, 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 All American Pipeline, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express written consent of Basin Environmental Service Technologies, LLC, and/or Plains All American Pipeline, LP.

8.0 DISTRIBUTION:

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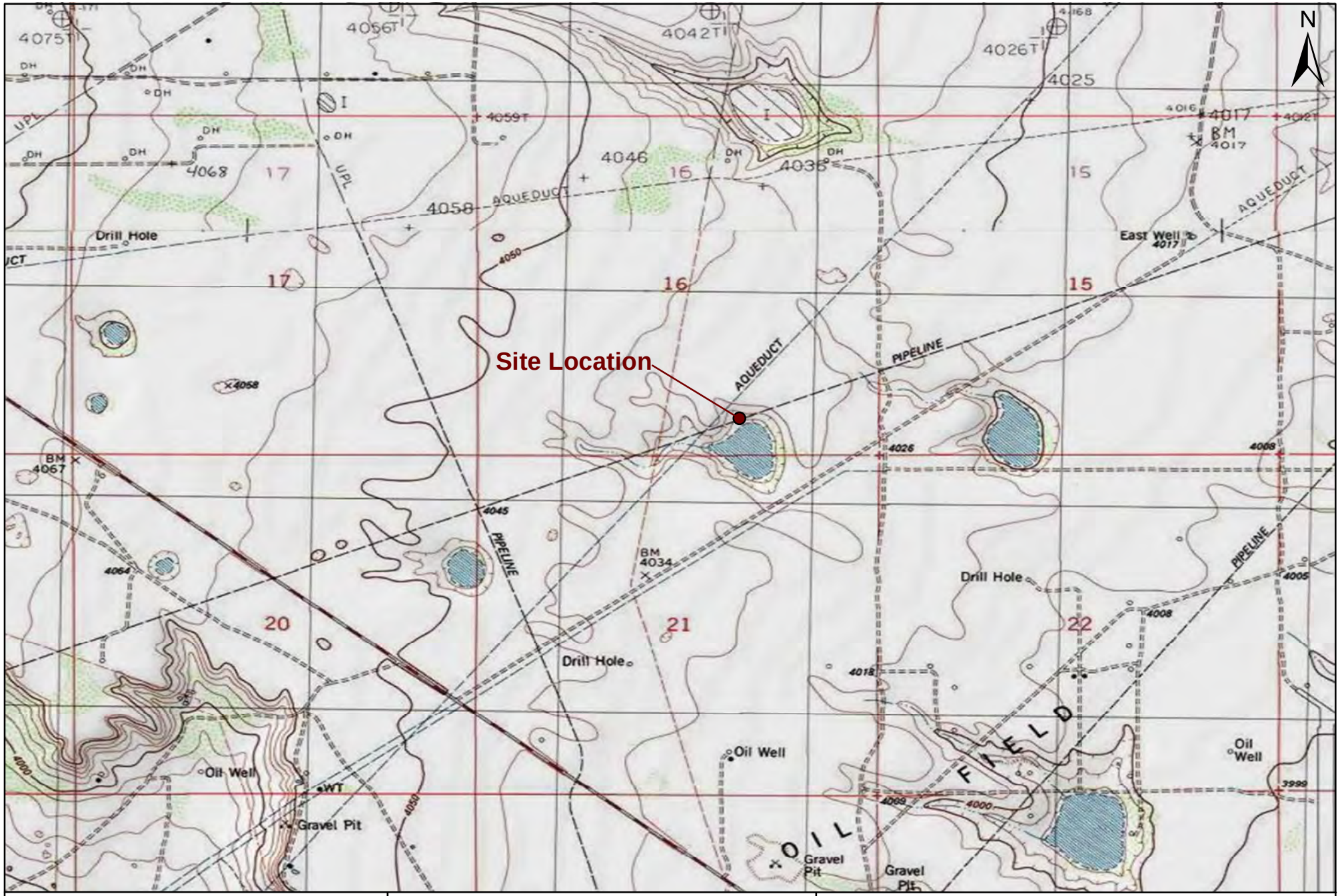
Lovington, NM 88260

Figures



1,000 500 0 1,000 2,000

Distance in Feet

Figure #1
Site Location Map
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

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

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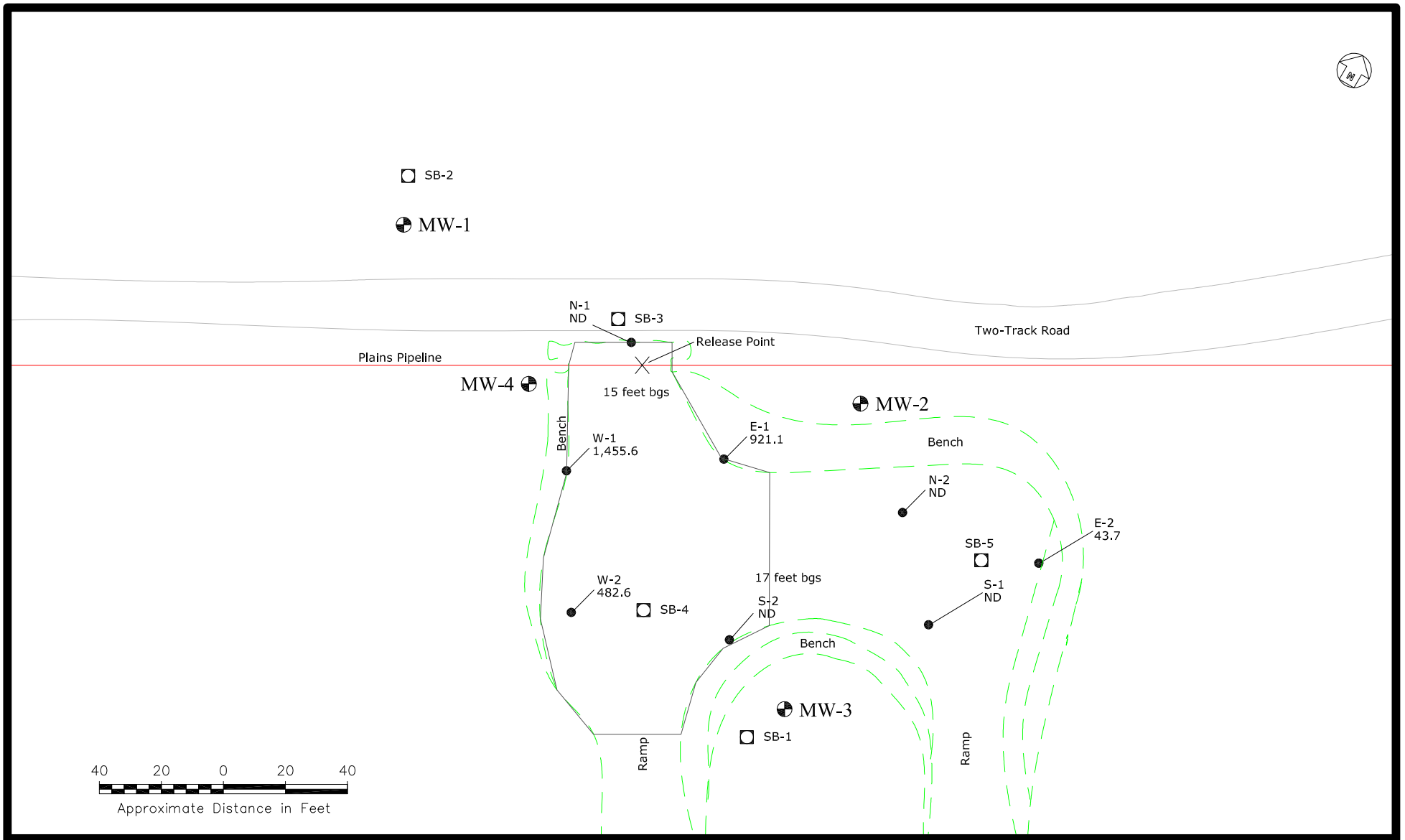

Legend:

- Excavation Extent
- Liner
- Pipeline
- MW-1 Monitor Well Location
- SB-1 Soil Boring
- W-1 97.7 Soil Sample Location with TPH concentration

Figure 2
Site & Sample Location Map

Plains All American Pipeline LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Ref. #: 1RP-1853

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

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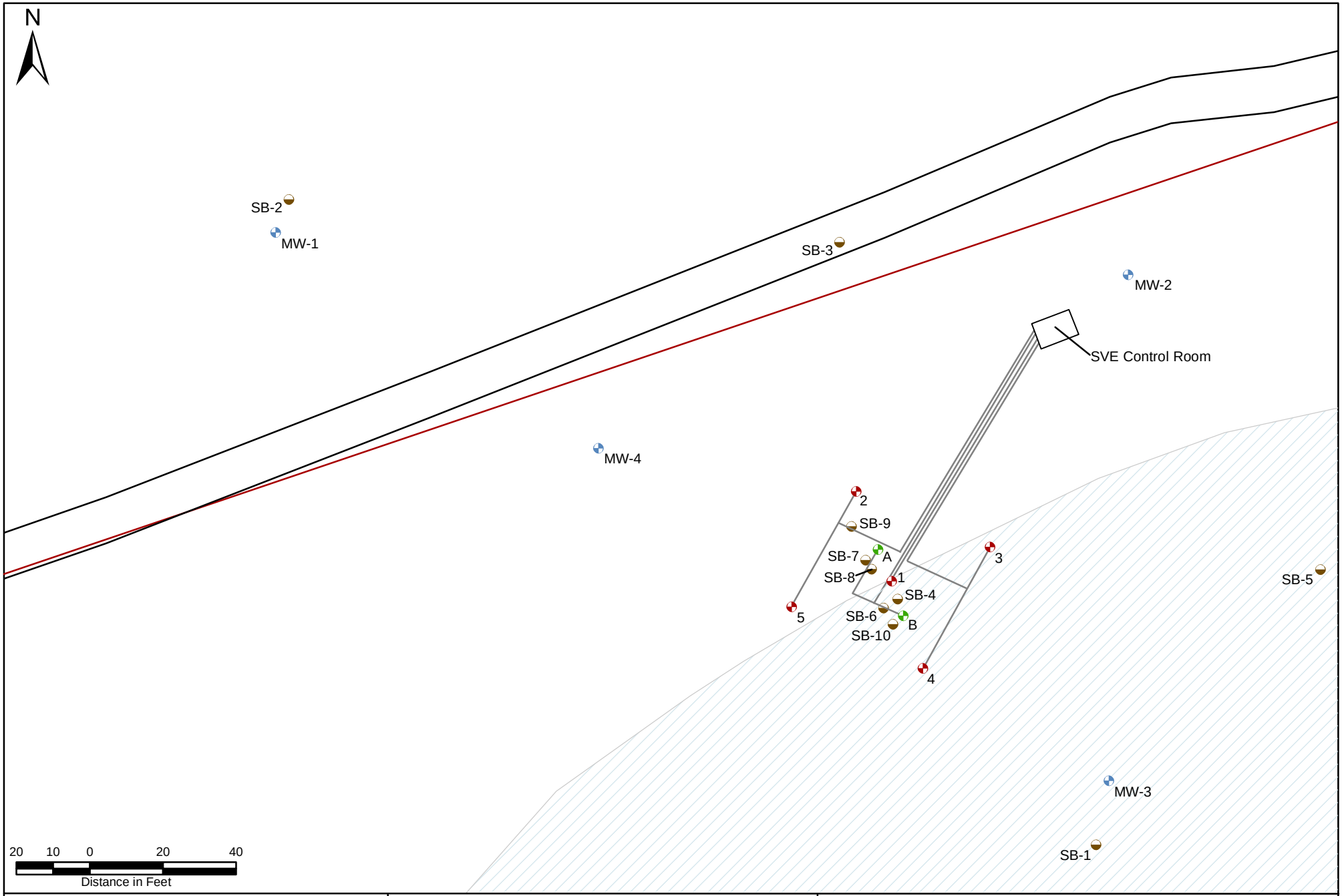

Legend

- Monitor Well
- SVE Deep Well
- SVE Shallow Well
- Soil Boring
- Pipeline
- Road
- SVE System Piping
- Playa Watershed

Figure 3
Soil Boring & Well Location Map
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

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Lovington, NM 88260

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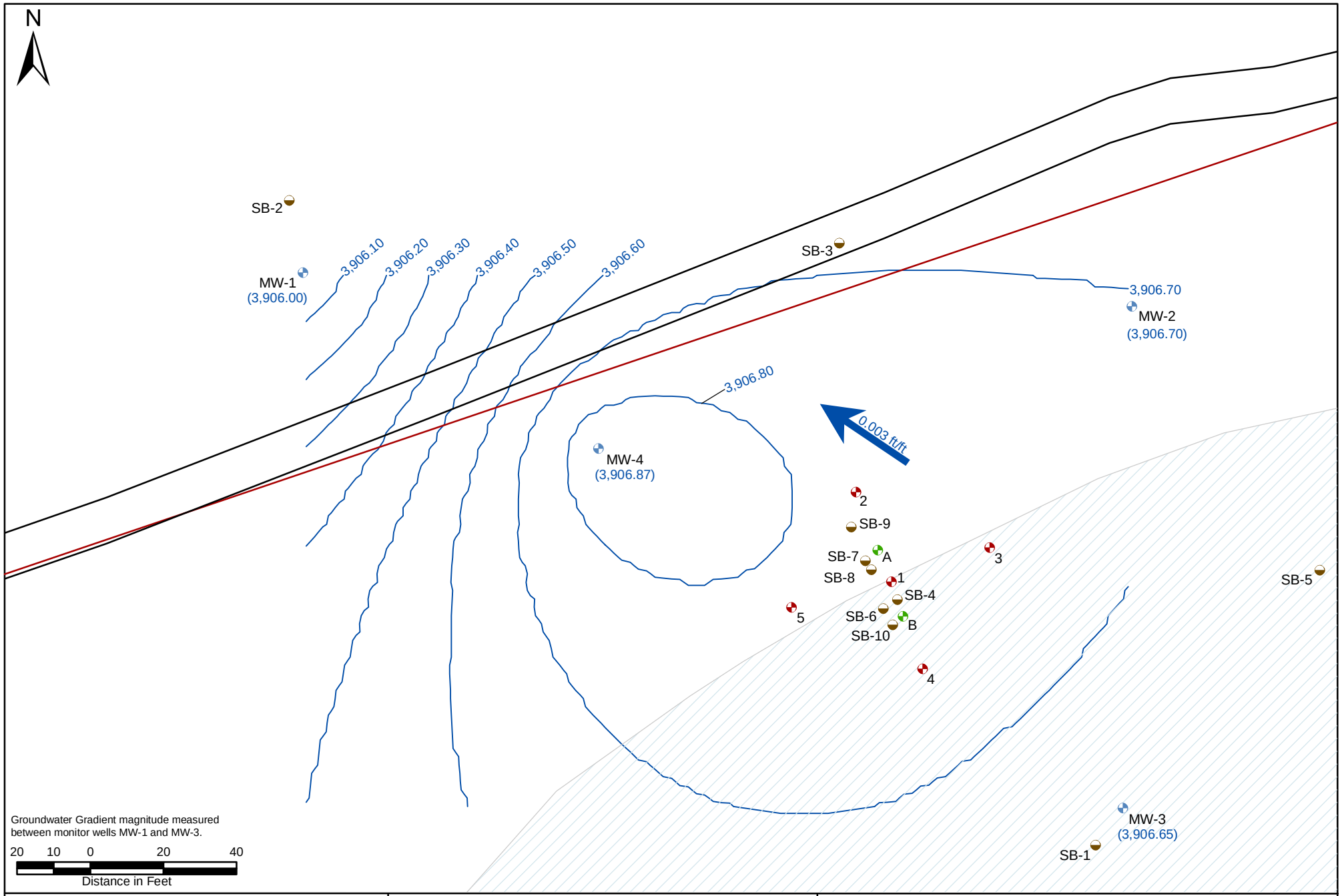

Legend

- Monitor Well
- SVE Deep Well
- SVE Shallow Well
- Soil Bore
- Playa Watershed
- Pipeline
- Road
- (3,720) Groundwater Elevation (ft)
- Groundwater Gradient & Magnitude

Figure 4A
Groundwater Gradient Map - 1Q2014
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

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Lovington, NM 88260

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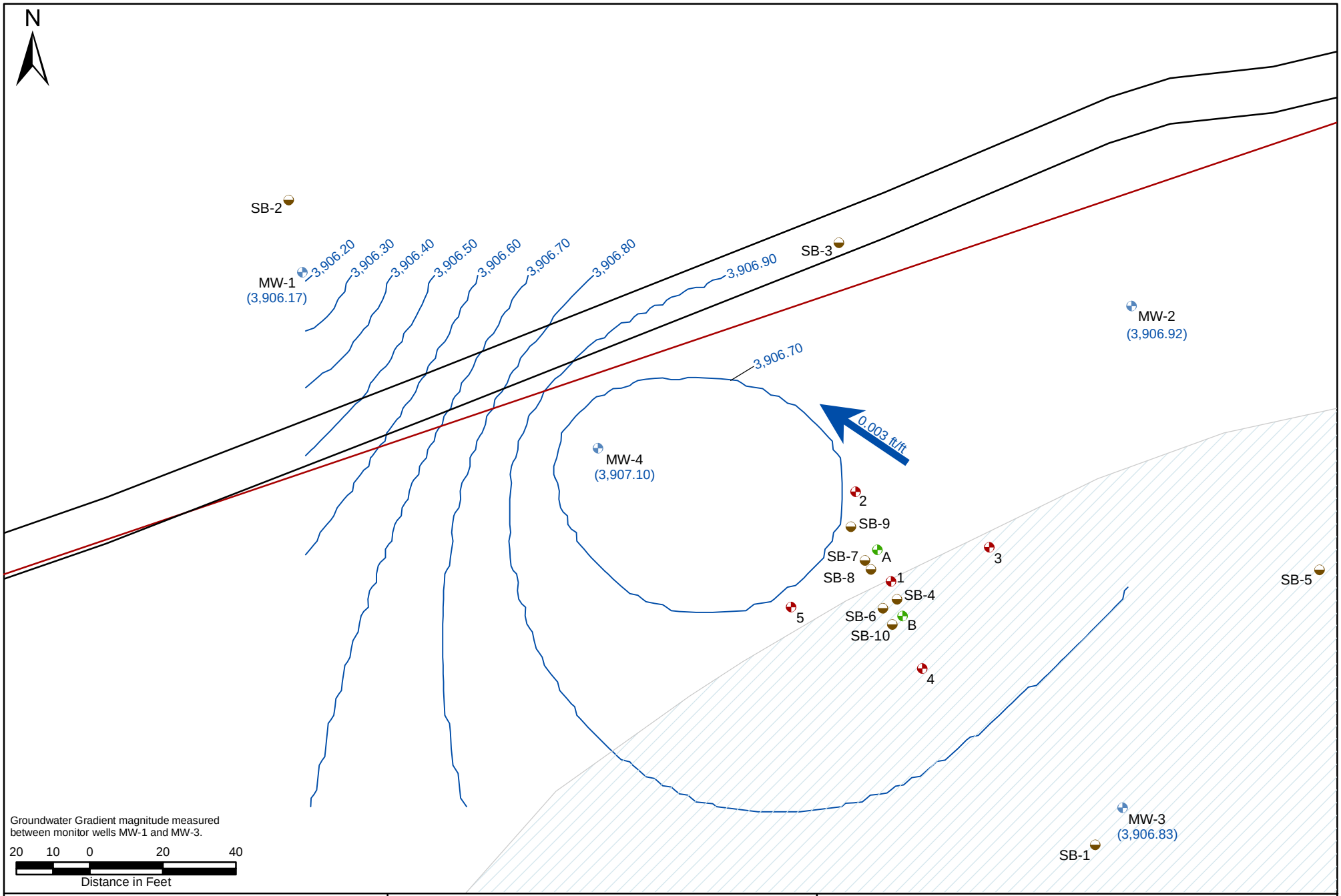

Legend

- Monitor Well
- SVE Deep Well
- SVE Shallow Well
- Soil Bore
- Playa Watershed
- Pipeline
- Road
- (3,720) Groundwater Elevation (ft)
- Groundwater Gradient & Magnitude

Figure 4B
Groundwater Gradient Map - 2Q2014
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

Basin Environmental Service Technologies, LLC
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Lovington, NM 88260

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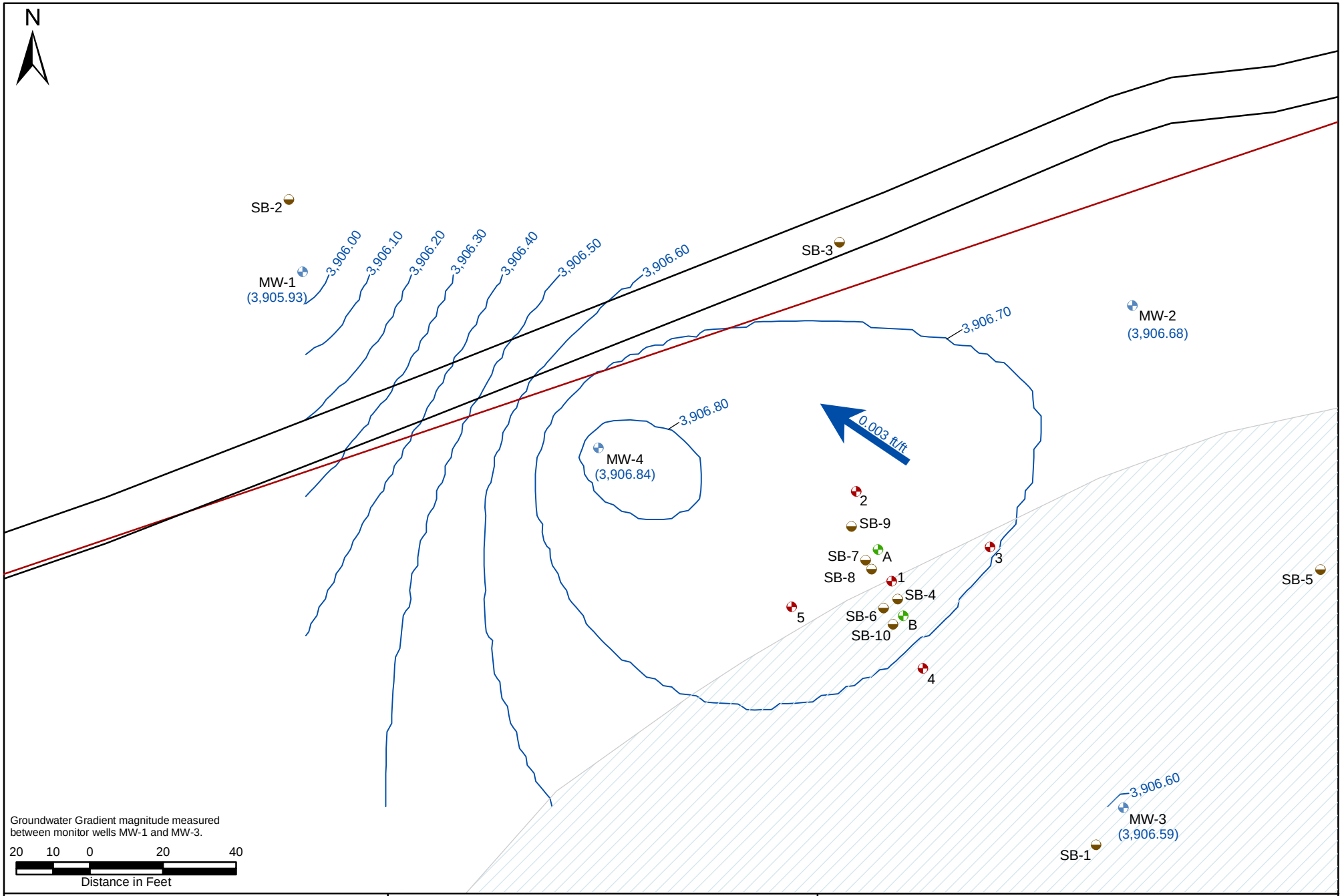

Legend

- Monitor Well
- SVE Deep Well
- SVE Shallow Well
- Soil Bore
- Playa Watershed
- Pipeline
- Road
- (3,720) Groundwater Elevation (ft)
- Groundwater Gradient & Magnitude

Figure 4C
Groundwater Gradient Map - 3Q2014
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

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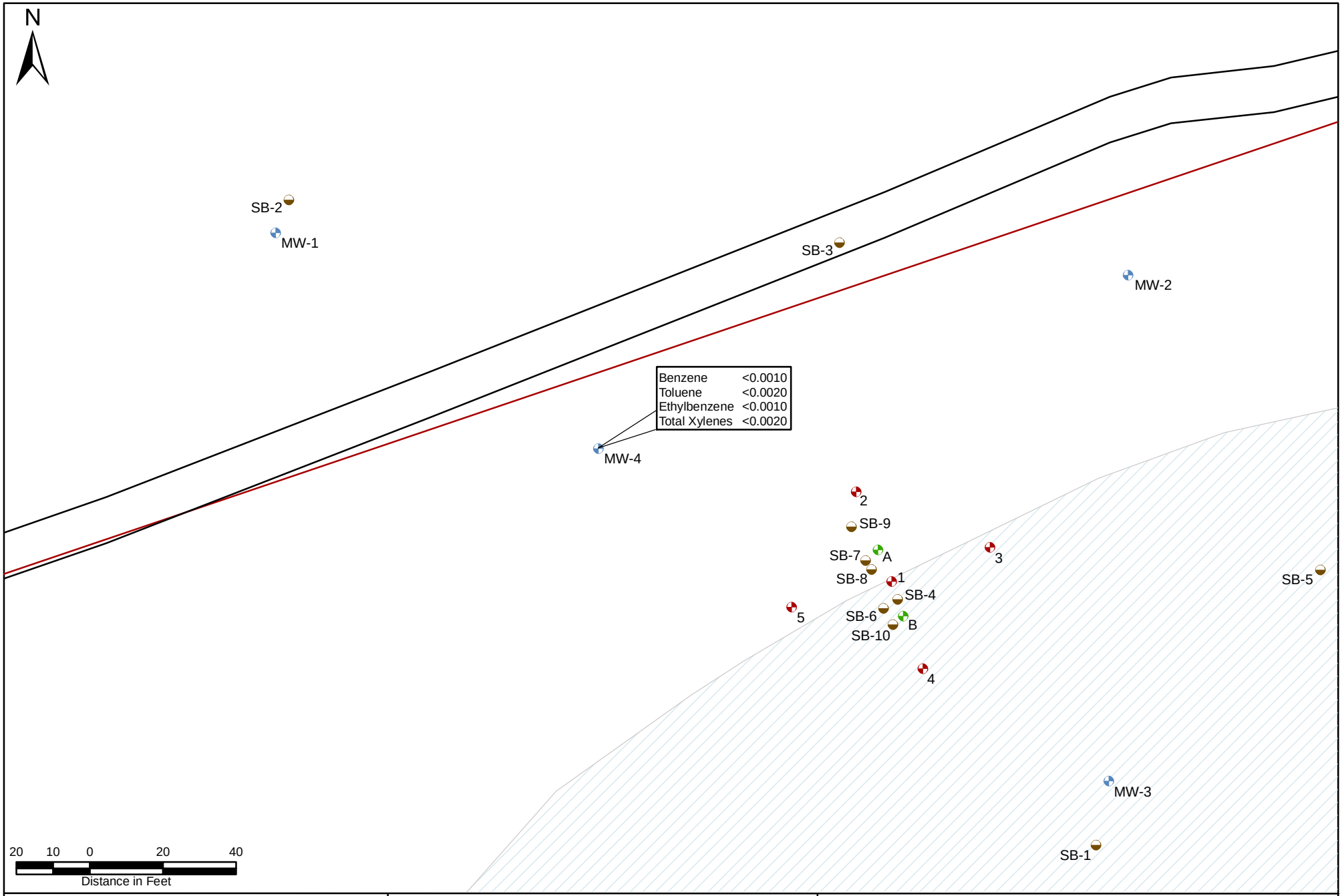

Legend

- Monitor Well
- SVE Deep Well
- SVE Shallow Well
- Soil Bore
- Pipeline
- Road
- Playa Watershed

Figure 5A
Groundwater Concentration Map - 1Q2014
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

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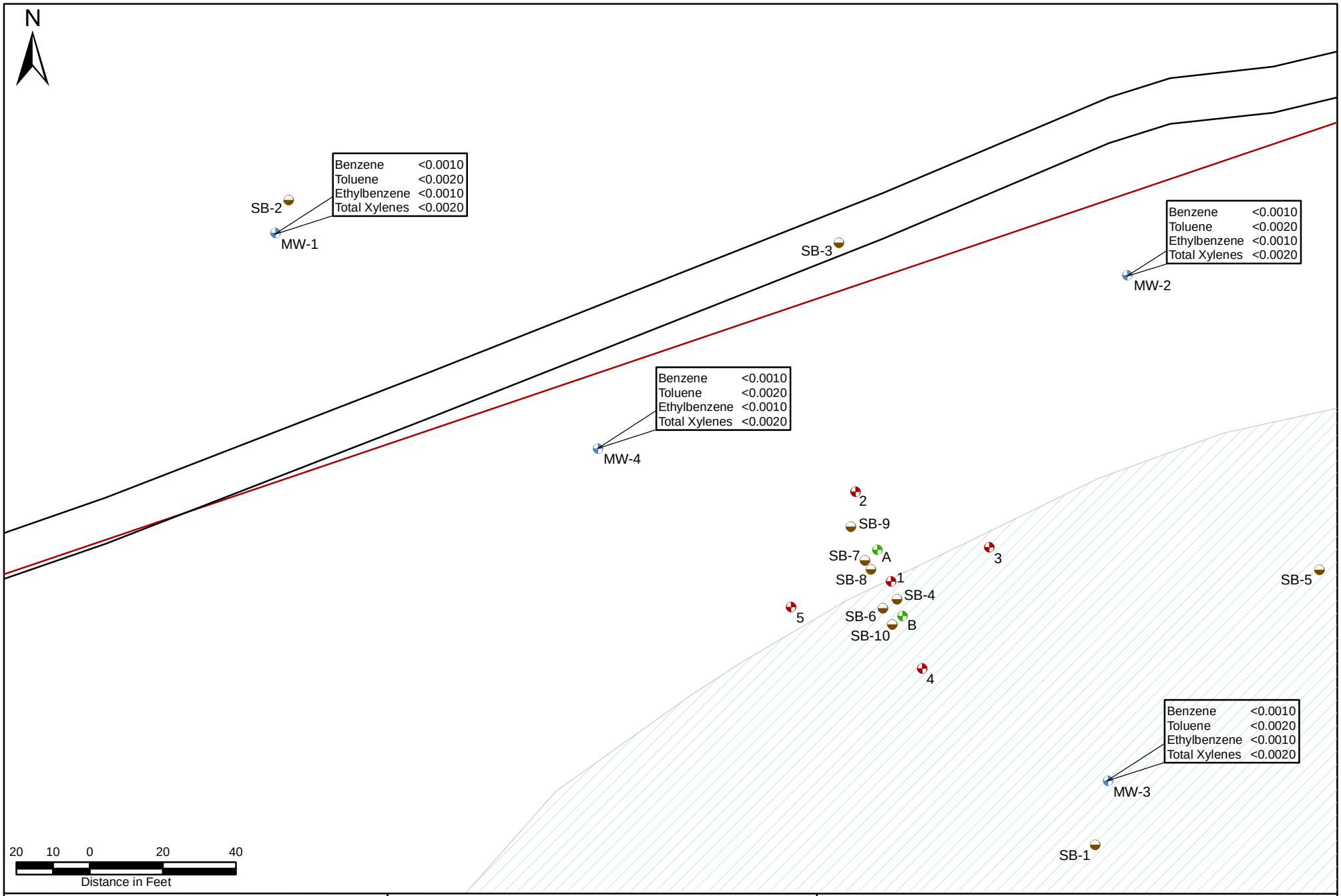

Legend

- Monitor Well
- SVE Deep Well
- SVE Shallow Well
- Soil Bore
- Pipeline
- Road
- Playa Watershed

Figure 5B
Groundwater Concentration Map - 2Q2014
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

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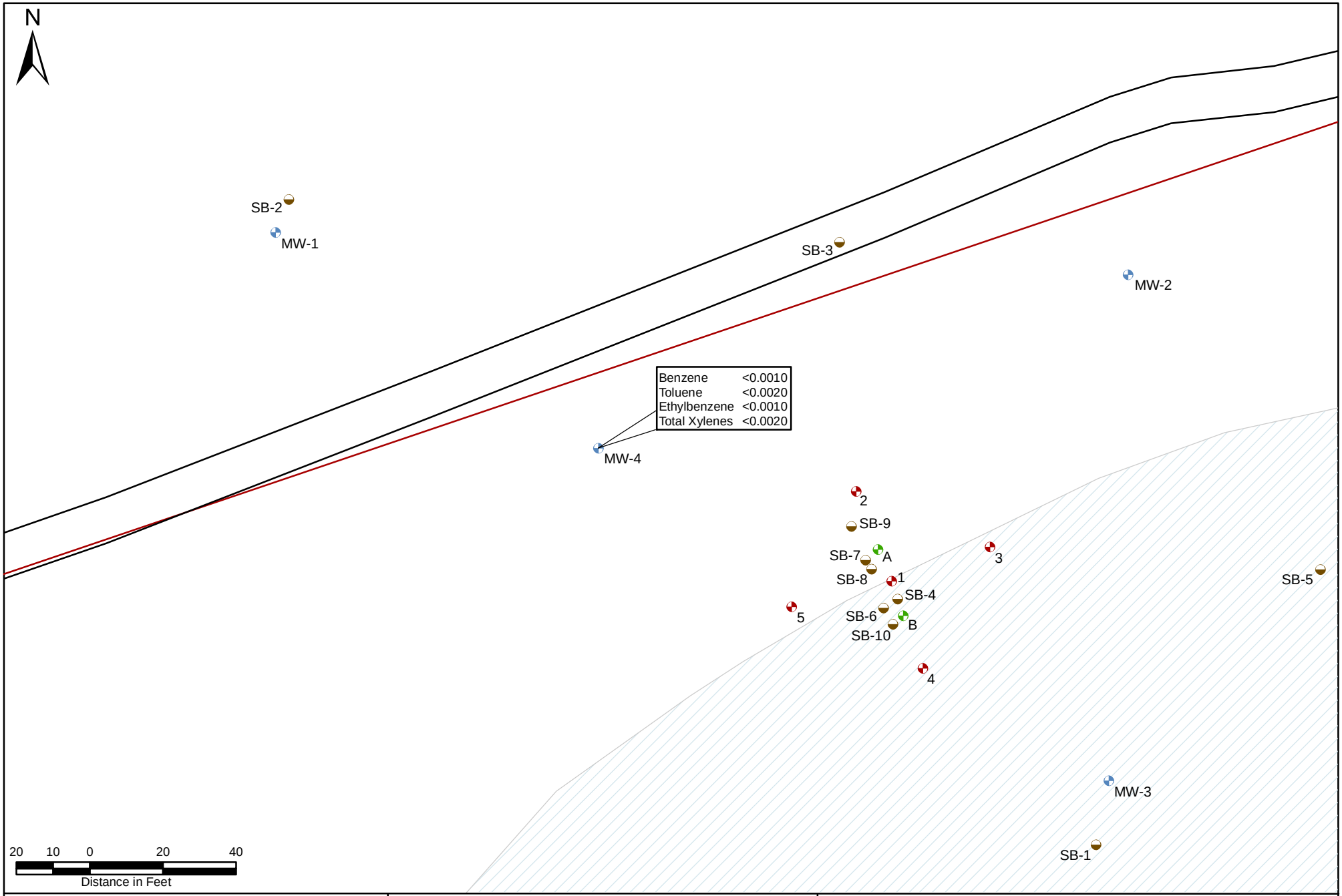

Legend

- Monitor Well
- SVE Deep Well
- SVE Shallow Well
- Soil Bore
- Pipeline
- Road
- Playa Watershed

Figure 5C
Groundwater Concentration Map - 3Q2014
Plains All American Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS #: 2008-113
NMOCD Reference #: 1RP-1853

Basin Environmental Service Technologies
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Basin Environmental Service Technologies, LLC
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Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
August 13, 2014	Scale: 1" = 35'

Tables

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

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M			TOTAL TPH C_6-C_{35} (mg/Kg)	E 300
				BENZENE (mg/Kg)	TOLUENE mg/Kg	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENE (mg/Kg)	TOTAL BTEX	GRO C_6-C_{12} (mg/Kg)	DRO C_{12}-C_{28} (mg/Kg)	ORO C_{28}-C_{35} (mg/Kg)		CHLORIDE (mg/Kg)
Floor @ 17'	17'	6/10/2008	In-Situ	-	-	-	-	-	-	4,470	17,600	2,770	**24,840**	-
SB-1 @ 10'	10'	7/25/2008	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	<16.2	<16.2	<16.2	-
SB-1 @ 20'	20'	7/25/2008	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.4	19.7	<16.4	19.7	-
SB-1 @ 30'	30'	7/25/2008	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	-
SB-1 @ 40'	40'	7/25/2008	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
SB-2 @ 10'	10'	7/25/2008	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.4	<15.4	<15.4	<15.4	-
SB-2 @ 20'	20'	7/25/2008	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.0	<15.0	<15.0	<15.0	-
SB-2 @ 30'	30'	7/25/2008	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.5	<15.5	<15.5	<15.5	-
SB-3 @ 10'	10'	7/25/2008	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
SB-3 @ 20'	20'	7/25/2008	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	-
SB-3 @ 30'	30'	7/25/2008	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.7	<15.7	<15.7	<15.7	-
SB-4 @ 10'	27'	7/25/2008	In-Situ	**19.6**	240	169	198	75.1	**701**	24,900	53,000	8,450	**86,350**	-
SB-4 @ 20'	37'	7/25/2008	In-Situ	2.72	110	130	172	83.4	**498**	23,400	53,900	7,870	**85,170**	-
SB-4 @ 30'	47'	7/25/2008	In-Situ	0.0609	0.4793	0.3975	0.4977	0.2369	1.67	67.2	876	127	1,070	-
SB-4 @ 40'	57'	7/25/2008	In-Situ	0.0104	0.0381	0.0240	0.0349	0.0208	0.1282	27.8	492	81.7	602	-
SB-4 @ 50'	67'	7/25/2008	In-Situ	0.0066	0.0191	0.0069	0.0078	0.0036	0.0440	<15.0	59.8	15.9	75.7	-
SB-4 @ 60'	77'	7/25/2008	In-Situ	0.0034	0.0116	0.0053	0.0071	0.0039	0.0313	<15.0	224	36.6	261	-
SB-4 @ 70'	87'	7/25/2008	In-Situ	0.0050	0.0755	0.0941	0.1263	0.0703	0.3712	43.3	801	133	977	-
SB-4 @ 80'	97'	7/25/2008	In-Situ	0.0018	0.0079	0.0145	0.0254	0.0149	0.0645	27.9	669	119	816	-
SB-4 @ 90'	107'	7/25/2008	In-Situ	<0.0011	0.0031	0.0016	0.0024	<0.0011	0.0071	<15.0	253	54.7	308	-
SB-4 @ 100'	117'	7/25/2008	In-Situ	<0.0011	0.0038	0.0071	0.0110	0.0068	0.0287	17.1	430	78.2	525	-
N-1 S/W	15'	10/23/2008	In-Situ	<0.0051	<0.0102	<0.0051	<0.0102	<0.0051	<0.0102	<15.2	<15.2	<15.2	<15.2	-
N-2 S/W	17'	10/23/2008	In-Situ	<0.0051	<0.0101	<0.0051	<0.0101	<0.0051	<0.0101	<15.2	<15.2	<15.2	<15.2	-
S-1 S/W	17'	10/23/2008	In-Situ	<0.0052	<0.0104	<0.0052	<0.0104	<0.0052	<0.0104	<15.6	<15.6	<15.6	<15.6	-
S-2 S/W	17'	10/23/2008	In-Situ	<0.0053	<0.0106	<0.0053	<0.0106	<0.0053	<0.0106	<15.9	<15.9	<15.9	<15.9	-
E-1 S/W	8'	10/23/2008	In-Situ	-	-	-	-	-	-	33.1	771	117	921	-
E-2 S/W	17'	10/23/2008	In-Situ	<0.0052	<0.0104	<0.0052	<0.0104	<0.0052	<0.0104	<15.6	21.8	21.9	43.7	-
W-1 S/W	8'	10/23/2008	In-Situ	-	-	-	-	-	-	16.6	1,160	279	1,456	-
W-2 S/W	17'	10/23/2008	In-Situ	-	-	-	-	-	-	<15.3	396	86.6	483	-
MW-1 @ 10'	10'	1/6/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
MW-1 @ 30'	30'	1/6/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.4	<15.4	<15.4	<15.4	-
MW-1 @ 50'	50'	1/6/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	-
MW-1 @ 70'	70'	1/6/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	-
MW-1 @ 90'	90'	1/6/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.4	<15.4	<15.4	<15.4	-
MW-1 @ 110'	110'	1/6/2009	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<16.1	36.0	<16.1	36.0	-
MW-1 @ 127'	127'	1/6/2009	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	17.7	<16.2	17.7	-

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

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M			TOTAL TPH C_6-C_{35} (mg/Kg)	E 300
				BENZENE (mg/Kg)	TOLUENE mg/Kg	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENE (mg/Kg)	TOTAL BTEX	GRO C_6-C_{12} (mg/Kg)	DRO C_{12}-C_{28} (mg/Kg)	ORO C_{28}-C_{35} (mg/Kg)		CHLORIDE (mg/Kg)
MW-2 @ 10'	10'	1/7/2009	In-Situ	<0.0010	<0.0020	<0.0010	,0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	-
MW-2 @ 30'	30'	1/7/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	-
MW-2 @ 50'	50'	1/7/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	-
MW-2 @ 70'	70'	1/7/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	-
MW-2 @ 95'	95'	1/7/2009	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<16.0	<16.0	<16.0	<16.0	-
MW-2 @ 110'	110'	1/7/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
MW-2 @ 120'	120'	1/7/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.7	<15.7	<15.7	<15.7	-
MW-3 @ 10'	10'	1/8/2009	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.8	<15.8	<15.8	<15.8	-
MW-3 @ 35'	35'	1/8/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.4	<15.4	<15.4	<15.4	-
MW-3 @ 50'	50'	1/8/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
MW-3 @ 70'	70'	1/8/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
MW-3 @ 90'	90'	1/8/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.7	<15.7	<15.7	<15.7	-
MW-3 @ 110'	110'	1/8/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.5	<15.5	<15.5	<15.5	-
MW-3 @ 113'	113'	1/8/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
SB-5 @ 10'	27'	1/9/2009	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.6	<16.6	<16.6	<16.6	-
SB-5 @ 20'	37'	1/9/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.7	<15.7	<15.7	<15.7	-
SB-5 @ 30'	47'	1/9/2009	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<16.0	<16.0	<16.0	<16.0	-
SB-5 @ 40'	57'	1/9/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	-
SB-5 @ 50'	67'	1/9/2009	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	-
SB-5 @ 60'	77'	1/9/2009	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.4	<16.4	<16.4	<16.4	-
SP #1	N/A	6/17/2009	Stockpiled	<0.0010	<0.0020	0.0012	0.0056	0.0047	0.0115	56.8	603	63.7	724	-
SP #2	N/A	6/17/2009	Stockpiled	<0.0010	<0.0020	0.0012	0.0064	0.0051	0.0127	47.6	412	51.7	511	-
SP #3	N/A	6/17/2009	Stockpiled	<0.0510	4.36	6.69	14.3	7.84	33.2	731	2,540	267	3,538	-
SP #4	N/A	6/22/2009	Stockpiled	0.0213	0.4974	1.05	4.69	2.97	9.22	491	2,640	234	3,365	-
SP #5	N/A	6/22/2009	Stockpiled	<0.0207	1.01	1.55	5.47	3.00	11.0	494	2,480	212	3,186	-
SP #6	N/A	6/25/2009	Stockpiled	0.0068	0.1090	0.0334	0.1183	0.1528	0.4203	362	2,360	210	2,932	-
SP #7	N/A	6/25/2009	Stockpiled	0.0082	0.3025	0.1636	0.7755	0.4720	1.72	473	2,450	234	3,157	-
Over Burden-2	N/A	7/2/2009	N/A	0.0031	0.0466	0.0143	0.0381	0.0150	0.1171	50.9	66.1	<15.5	117	-
SP #8	N/A	7/2/2009	Stockpiled	<0.0011	0.0168	0.0084	0.0386	0.0274	0.0912	289	2,620	153	3,062	-
Over Burden-1	N/A	7/6/2009	N/A	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.5	16.7	<16.5	16.7	-
Over Burden-3	N/A	7/6/2009	N/A	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.5	22.6	<16.5	22.6	-
SVE Deep #2 @ 35'	35'	9/24/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	-
SVE Deep #2 @ 43'	43'	9/24/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	-
SVE Shallow "A" @ 20'	20'	9/24/2009	In-Situ	<0.0505	4.51	10.0	13.6	5.90	34.0	611	1,740	235	2,586	-
SVE Shallow "A" @ 25'	25'	9/24/2009	In-Situ	3.23	71.1	53.7	60.9	25.1	**214**	2,000	4,330	914	**7,244**	-
SVE Shallow "A" @ 30'	30'	9/24/2009	In-Situ	<0.0512	3.01	9.16	12.6	5.81	30.6	768	2,560	695	4,023	-

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

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M			TOTAL TPH C_6-C_{35} (mg/Kg)	E 300 CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE mg/Kg	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENE (mg/Kg)	TOTAL BTEX	GRO C_6-C_{12} (mg/Kg)	DRO C_{12}-C_{28} (mg/Kg)	ORO C_{28}-C_{35} (mg/Kg)		
SVE Shallow "B" @ 20'	20'	9/25/2009	In-Situ	0.0205	0.1283	0.0490	0.1109	0.0615	0.3702	49.5	367.0	67.9	484	-
SVE Shallow "B" @ 25'	25'	9/25/2009	In-Situ	0.0584	17.1	16.7	24.9	11.1	**69.9**	1,280	2,700	730	4,710	-
SVE Shallow "B" @ 30'	30'	9/25/2009	In-Situ	0.3639	17.1	23.1	30.9	12.1	**83.6**	1,160	2,700	730	4,590	-
SVE Deep #1 @ 35'	35'	9/25/2009	In-Situ	3.93	79.5	76.4	93.8	36.5	**290**	2,370	5,070	1,210	**8,650**	-
SVE Deep #1 @ 40'	40'	9/25/2009	In-Situ	5.11	100	81.5	96.1	40.2	**323**	3,050	5,610	1,370	**10,030**	-
SVE Deep #3 @ 35'	35'	9/25/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	-
SVE Deep #3 @ 40'	40'	9/25/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	-
SVE Deep #4 @ 35'	35'	9/25/2009	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.5	<15.5	<15.5	<15.5	-
SVE Deep #4 @ 40'	40'	9/25/2009	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	-
SVE Deep #5 @ 35'	35'	9/25/2009	In-Situ	0.0051	0.0421	0.0196	0.0209	0.0085	0.0962	<15.3	<15.3	<15.3	<15.3	-
SVE Deep #5 @ 40'	40'	9/25/2009	In-Situ	0.0031	0.0251	0.0122	0.0127	0.0052	0.0583	<15.1	<15.1	<15.1	<15.1	-
SB-6 @ 20'	20'	1/28/2011	In-Situ	0.0069	0.0684	0.1594	0.2629	0.0490	0.5466	515	2,690	70.5	3,280	23.1
SB-6 @ 25'	25'	1/28/2011	In-Situ	<0.0011	0.0465	0.3581	3.65	0.2607	4.31	2,030	3,060	127	**5,220**	11.5
SB-6 @ 30'	30'	1/28/2011	In-Situ	0.0093	0.0623	0.1858	0.2929	0.0847	0.6350	1,270	3,750	178	**5,200**	12.6
SB-6 @ 35'	35'	1/28/2011	In-Situ	<0.0010	0.0042	0.0263	0.0398	0.0235	0.0938	113	920	27.4	1,060	10.6
SB-6 @ 40'	40'	1/28/2011	In-Situ	<0.0010	<0.0021	0.0121	0.0298	0.0232	0.0651	40.1	307	<15.4	347	9.38
SB-6 @ 45'	45'	1/28/2011	In-Situ	<0.0010	<0.0020	0.0163	0.0276	0.0173	0.0612	51.6	492	<15.3	544	10.9
SB-7 @ 22'	22'	1/28/2011	In-Situ	0.0096	0.2052	0.3484	0.4304	0.1863	1.18	584	4,020	94.3	4,700	11.2
SB-7 @ 27'	27'	1/28/2011	In-Situ	0.0011	0.0560	0.3173	2.91	2.82	2.11	3,270	8,960	215	**12,400**	9.54
SB-7 @ 32'	32'	1/28/2011	In-Situ	<0.0010	0.2217	0.9494	0.5347	0.2561	1.44	1,650	7,450	139	**9,240**	9.25
SB-7 @ 37'	37'	1/28/2011	In-Situ	<0.0010	0.0499	0.0864	0.1364	0.0871	0.3598	2,290	8,780	152	**11,200**	10.9
SB-7 @ 42'	42'	1/28/2011	In-Situ	<0.0010	0.0811	0.2919	0.5180	0.4076	1.30	2,460	8,590	192	**11,200**	8.93
SB-7 @ 47'	47'	1/28/2011	In-Situ	0.0018	1.11	8.01	12.2	7.60	6.51	3,510	9,660	220	**13,400**	9.52
SB-7 @ 52'	52'	1/28/2011	In-Situ	<0.0010	0.0265	0.0163	0.2199	0.0337	0.2964	2,960	7,950	145	**11,100**	11.3
SB-8 @ 20'	20'	1/20/2012	In-Situ	<0.0010	<0.0020	0.0097	0.0260	0.0128	0.0485	20.7	460	53.6	534	-
SB-8 @ 25'	25'	1/20/2012	In-Situ	0.0067	0.0325	0.5340	2.64	5.00	8.21	2,030	7,720	561	**10,300**	-
SB-8 @ 30'	30'	1/20/2012	In-Situ	0.0064	0.1920	0.7780	1.16	0.5610	2.70	1,250	10,300	947	**12,500**	-
SB-8 @ 35'	35'	1/20/2012	In-Situ	<0.0010	0.0091	0.0328	0.0750	0.0533	0.1700	1,750	9,360	608	**11,700**	-
SB-8 @ 40'	40'	1/20/2012	In-Situ	0.0058	0.0137	0.0426	0.1130	0.0731	0.2480	486	6,910	467	**7,860**	-
SB-8 @ 45'	45'	1/20/2012	In-Situ	0.0069	0.0801	0.3620	0.5780	0.2720	1.30	911	7,330	495	**8,740**	-
SB-8 @ 50'	50'	1/20/2012	In-Situ	<0.0207	0.2540	5.46	10.4	7.08	23.2	1,620	5,750	474	**7,840**	-
SB-8 @ 55'	55'	1/20/2012	In-Situ	<0.0209	0.2730	7.27	11.9	7.60	27.0	2,260	10,100	851	**13,200**	-
SB-8 @ 60'	60'	1/20/2012	In-Situ	<0.2680	4.65	22.3	30.8	15.1	**72.9**	2,270	6,990	427	**9,690**	-
SB-8 @ 65'	65'	1/20/2012	In-Situ	<0.0210	0.7980	7.91	11.8	2.60	23.1	1,960	9,610	709	**12,300**	-
SB-9 @ 20'	20'	1/23/2012	In-Situ	<0.0011	<0.0023	0.0014	0.0030	<0.0011	0.0044	33.3	1,160	155	1,350	-
SB-9 @ 35'	35'	1/23/2012	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<15.5	29.9	<15.5	29.9	-

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PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M			TOTAL TPH C_6-C_{35} (mg/Kg)	E 300 CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE mg/Kg	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENE (mg/Kg)	TOTAL BTEX	GRO C_6-C_{12} (mg/Kg)	DRO C_{12}-C_{28} (mg/Kg)	ORO C_{28}-C_{35} (mg/Kg)		
SB-10 @ 20'	20'	1/23/2012	In-Situ	<0.0010	<0.0020	0.0017	0.0029	<0.001	0.0046	49.8	1,050	124	1,220	-
SB-10 @ 25'	25'	1/23/2012	In-Situ	0.0070	<0.0107	0.0137	0.0307	0.0115	0.0629	492	6,010	445	**6,950**	-
SB-10 @ 30'	30'	1/23/2012	In-Situ	<0.0011	<0.0021	0.0018	0.0040	0.0014	0.0071	177	4,620	361	**5,160**	-
SB-10 @ 35'	35'	1/23/2012	In-Situ	<0.0011	<0.0021	0.0022	0.0037	0.0014	0.0071	<77.8	9,630	<77.8	**10,300**	-
SB-10 @ 40'	40'	1/23/2012	In-Situ	<0.0010	<0.0021	0.0020	0.0037	0.0015	0.0073	159	8,010	561	**8,730**	-
SB-10 @ 45'	45'	1/23/2012	In-Situ	<0.0011	<0.0021	0.0033	0.0060	0.0023	0.0116	175	5,190	407	**5,770**	-
SB-10 @ 50'	50'	1/23/2012	In-Situ	<0.0010	<0.0020	0.0023	0.0041	0.0018	0.0083	150	3,860	358	4,370	-
SB-10 @ 55'	55'	1/23/2012	In-Situ	<0.0011	<0.0021	<0.0011	0.0023	0.0015	0.0038	41.4	2,270	223	2,530	-
SB-10 @ 60'	60'	1/23/2012	In-Situ	<0.0010	<0.0020	0.0022	0.0039	0.0019	0.0080	29.7	910	91.8	1,030	-
MW-4 @ 10'	10'	12/11/2012	In-Situ	<0.0012	<0.0025	<0.0012	<0.0025	<0.0012	<0.0025	<18.2	<18.2	<18.2	<18.2	-
MW-4 @ 20'	20'	12/11/2012	In-Situ	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<17.0	<17.0	<17.0	<17.0	-
MW-4 @ 30'	30'	12/11/2012	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	<16.2	<16.2	<16.2	-
MW-4 @ 40'	40'	12/11/2012	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	-
MW-4 @ 60'	60'	12/11/2012	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	<16.2	<16.2	<16.2	-
NMOCD Criteria				**10**					**50**				**5,000**	

TABLE 2
SVE EMISSIONS

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

SAMPLE NAME	SAMPLE DATE	METHODS: EPA 18M T104704215							EPA 18M
		BENZENE (ppmv)	TOLUENE (ppmv)	ETHYL-BENZENE (ppmv)	M,P-XYLENES (ppmv)	O-XYLENES (ppmv)	TOTAL XYLENE (ppmv)	TOTAL BTEX (ppmv)	TPH GRO (ppmv)
SVE Discharge	04/07/2010	504	357	60.1	54.7	21.2	75.9	997	5150
SVE Discharge - 1	05/18/2010	106	215	42	51	19.3	70.3	433	5450
SVE Discharge - 2	07/26/2010	19	53.9	20.2	17.6	6.01	23.61	116.7	803
SVE Discharge - 3	08/30/2010	6.19	40.7	18.4	17.3	5.66	22.96	88.3	700
SVE Discharge - 4	09/23/2010	6.49	57.7	23.4	25.8	11	36.8	124.4	910
SVE Discharge - 5	11/18/2010	3.19	25.58	13	24.21	11.35	35.56	77.33	588
SVE Discharge - 6	12/09/2010	1.07	17.88	12.37	12.48	5.65	18.13	49.45	432
SVE Discharge - 7	01/27/2011	<1.00	10.2	8.75	8.67	3.57	12.24	31.19	284
SVE Discharge - 8	02/28/2011	<1.00	4.2	3.76	4.49	1.94	6.43	14.40	124
SVE Discharge - 9	04/12/2011	<1.00	7.69	6.31	4.91	2.85	7.76	21.8	186
SVE Discharge - 10	05/12/2011	<1.00	3.45	2.24	<2.00	<1.00	0.00	5.69	<100
SVE Discharge - 11	06/28/2011	<1.00	1.97	2.62	2.93	1.31	4.24	8.83	<100
SVE Discharge - 12	08/05/2011	<1.00	1.01	1.35	2.05	<1.00	2.05	4.41	101
SVE Discharge - 13	09/08/2011	<1.00	1.75	2.00	<2.00	<1.00	0.00	3.75	<100
SVE Discharge - 14	10/10/2011	<1.00	1.88	2.45	2.82	4.78	7.60	11.90	<100
SVE Discharge - 15	11/30/2011	<1.00	1.12	1.28	<2.00	<1.00	0.00	2.40	<100
SVE Discharge - 16	12/14/2011	<1.00	<1.00	1.00	<2.00	<1.00	0.00	1.00	<100
SVE Discharge - 17	01/05/2012	<1.00	<1.00	1.18	<2.00	<1.00	<2.00	1.18	<100
SVE Discharge - 18	02/07/2012	<0.314	0.486	0.723	0.425	0.445	0.870	2.08	36.6
SVE Discharge - 19	03/01/2012	<0.314	0.427	0.714	0.442	0.417	0.859	2.00	<24.5
SVE Discharge - 20	04/12/2012	<0.314	0.281	0.468	0.280	0.265	0.545	1.29	<24.5
SVE Discharge - 21	05/02/2012	<0.314	1.25	0.806	0.667	0.606	1.27	3.33	91.7
SVE Discharge - 22	06/20/2012	<0.314	0.361	0.597	0.394	0.415	0.81	1.77	<24.5
SVE Discharge - 23	10/15/2012	<0.314	0.690	0.650	0.590	0.548	1.14	2.48	30.6
SVE Discharge - 24	11/05/2012	<0.314	<0.531	0.449	0.276	0.283	0.559	1.01	<24.5
SVE Discharge - 25	01/29/2013	<0.314	<0.265	0.449	0.321	0.290	0.611	1.06	24.5
SVE Discharge - 26	02/28/2013	<0.314	<0.265	0.251	<0.230	<0.230	<0.230	<0.230	27.3

TABLE 3
CONCENTRATIONS OF BENZENE, BTEX, CHLORIDE & TOTAL DISSOLVED SOLIDS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021B, 5030							CHLORIDE (mg/L)	TDS (mg/L)
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P-XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENE (mg/L)	TOTAL BTEX (mg/L)		
Prelim GW (SB-4)	07/25/2008	0.0016	0.008	0.0074	0.0091	0.0049	0.014	0.031	-	-
MW-1	01/20/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	200	528
	06/15/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/15/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/19/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/21/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/02/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/05/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/26/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/02/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/12/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/03/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/15/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/07/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-2	01/20/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	206	572
	06/15/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/15/2009	0.0020	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0020	-	-
	11/19/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/21/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/02/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/05/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/26/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/02/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/12/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/03/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/15/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/07/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-3	01/20/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	126	378
	06/15/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/15/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/19/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/21/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/02/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/05/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/26/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/02/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/12/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/03/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/15/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/07/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-4	12/18/2012	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0100	<0.0100	**402**	-
	02/01/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/03/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/13/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/15/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/10/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/07/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/06/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
NMOCD CRITERIA		**0.01**	**0.75**	**0.75**	**TOTAL XYLENES 0.62**				**250**	**10,000**

TABLE 4
GROUNDWATER ELEVATION DATA

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	01/20/2009	4,028.12	-	120.63	-	3,907.49
	06/15/2009	4,028.12	-	120.6	-	3,907.52
	09/16/2009	4,028.12	-	120.71	-	3,907.41
	11/19/2009	4,028.12	-	120.67	-	3,907.45
	03/11/2010	4,028.12	-	121.01	-	3,907.11
	05/21/2010	4,028.12	-	120.87	-	3,907.25
	11/02/2010	4,028.12	-	120.75	-	3,907.37
	05/05/2011	4,028.12	-	121.26	-	3,906.86
	10/26/2011	4,028.12	-	121.64	-	3,906.48
	05/02/2012	4,028.12	-	121.55	-	3,906.57
	08/10/2012	4,028.12	-	121.57	-	3,906.55
	10/12/2012	4,028.12	-	121.60	-	3,906.52
	02/01/2013	4,028.12	-	121.75	-	3,906.37
	05/03/2013	4,028.12	-	121.90	-	3,906.22
	09/25/2013	4,028.12	-	121.86	-	3,906.26
	11/15/2013	4,028.12	-	121.61	-	3,906.51
	02/10/2014	4,028.12	-	122.12	-	3,906.00
	05/06/2014	4,028.12	-	121.95	-	3,906.17
	08/06/2014	4,028.12	-	122.19	-	3,905.93
MW-2	01/20/2009	4,024.41	-	116.18	-	3,908.23
	06/15/2009	4,024.41	-	116.27	-	3,908.14
	09/16/2009	4,024.41	-	116.29	-	3,908.12
	11/19/2009	4,024.41	-	116.27	-	3,908.14
	03/11/2010	4,024.41	-	116.68	-	3,907.73
	05/21/2010	4,024.41	-	116.45	-	3,907.96
	11/02/2010	4,024.41	-	116.36	-	3,908.05
	05/05/2011	4,024.41	-	116.80	-	3,907.61
	10/26/2011	4,024.41	-	117.33	-	3,907.08
	05/02/2012	4,024.41	-	117.15	-	3,907.26
	08/10/2012	4,024.41	-	117.17	-	3,907.24
	10/12/2012	4,024.41	-	117.18	-	3,907.23
	02/01/2013	4,024.41	-	117.36	-	3,907.05
	05/03/2013	4,024.41	-	117.65	-	3,906.76
	09/25/2013	4,024.41	-	117.47	-	3,906.94
	11/15/2013	4,024.41	-	117.22	-	3,907.19
	02/10/2014	4,024.41	-	117.71	-	3,906.70
	05/06/2014	4,024.41	-	117.49	-	3,906.92
	08/06/2014	4,024.41	-	117.73	-	3,906.68

TABLE 4
GROUNDWATER ELEVATION DATA

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-3	01/20/2009	4,015.28	-	107.04	-	3,908.24
	06/15/2009	4,015.28	-	107.09	-	3,908.19
	09/16/2009	4,015.28	-	107.22	-	3,908.06
	11/19/2009	4,015.28	-	107.21	-	3,908.07
	03/11/2010	4,015.28	-	107.64	-	3,907.64
	05/21/2010	4,015.28	-	107.41	-	3,907.87
	11/02/2010	4,015.28	-	107.27	-	3,908.01
	05/05/2011	4,015.28	-	107.85	-	3,907.43
	10/26/2011	4,015.28	-	108.24	-	3,907.04
	05/02/2012	4,015.28	-	108.10	-	3,907.18
	08/10/2012	4,015.28	-	108.10	-	3,907.18
	10/12/2012	4,015.28	-	108.10	-	3,907.18
	02/01/2013	4,015.28	-	108.26	-	3,907.02
	05/03/2013	4,015.28	-	108.54	-	3,906.74
	09/25/2013	4,015.28	-	108.35	-	3,906.93
	11/15/2013	4,015.28	-	108.18	-	3,907.10
	02/10/2014	4,015.28	-	108.63	-	3,906.65
	05/06/2014	4,015.28	-	108.45	-	3,906.83
	08/06/2014	4,015.28	-	108.69	-	3,906.59
MW-4	12/18/2012	4,024.22	-	116.97	-	3,907.25
	02/01/2013	4,024.22	-	116.99	-	3,907.23
	05/03/2013	4,024.22	-	117.20	-	3,907.02
	09/25/2013	4,024.22	-	117.09	-	3,907.13
	11/15/2013	4,024.22	-	116.86	-	3,907.36
	02/10/2014	4,024.22	-	117.35	-	3,906.87
	05/06/2014	4,024.22	-	117.12	-	3,907.10
	08/06/2014	4,024.22	-	117.38	-	3,906.84

Elevations based on the North American Vertical Datum of 1988

- = Not applicable

TABLE 5
CONCENTRATIONS OF RCRA & NMWQCC METALS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS REFERENCE #: 2008-113
NMOCD REFERENCE #: 1RP-1853

All concentrations are reported in mg/L

SAMPLE LOCATION	SAMPLE DATE	EPA Methods 200.7, 200.8, 245.1																
		Aluminum	Arsenic	Barium	Boron	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Zinc	Mercury
MW-4	12/18/2012	**15.2**	0.0133	**1.06**	0.0800	<0.0010	0.0090	0.0082	0.0052	**11.0**	0.0153	**1.71**	0.0024	0.0098	0.0061	<0.0010	0.0263	<0.0002
Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-101.UU and 3-103.A.		5.0 mg/L	0.1 mg/L	1.0 mg/L	0.75 mg/L	0.01 mg/L	0.05 mg/L	0.05 mg/L	1.0 mg/L	1.0 mg/L	0.05 mg/L	0.2 mg/L	1.0 mg/L	0.2 mg/L	0.05 mg/L	0.05 mg/L	10.0 mg/L	0.002 mg/L

TABLE 6
CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

All concentrations are reported in mg/L

Date Sampled	Sample Location	EPA Method SW-846 8260B														
		Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	2-Butanone	MTBE	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane
12/18/2012	MW-4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01
Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A.		0.01 mg/L	-	-	-	-	-	-	-	-	-	-	-	0.01 mg/L	-	-

TABLE 6
CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

All concentrations are reported in mg/L

Date Sampled	Sample Location	EPA Method SW-846 8260B																	
		2-Chloroethyl vinyl ether	Chloroform	Chloromethane	2-Chlorotoluene	4-Chlorotoluene	p-Cymene(p-Isopropyltoluene)	Dibromochloromethane	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	Dibromomethane (methylene bromide)	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluormethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene
12/18/2012	MW-4	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A.		-	0.1mg/L	-	-	-	-	-	-	0.0001 mg/L	-	-	-	-	-	0.005 mg/L	0.01 mg/L	0.005 mg/L	0.1mg/L

TABLE 6
CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

All concentrations are reported in mg/L

Date Sampled	Sample Location	EPA Method SW-846 8260B																
		trans-1,2-Dichloroethene	1,2-Dichloropropane	1,3-Dichloropropane	2,2-Dichloropropane	1,1-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Hexachlorobutadiene	2-Hexanone	Isopropylbenzene	Methylene chloride	4-Methyl-2-pentanone (MIBK)	Naphthalene	n-Propylbenzene	Styrene	1,1,1,2-Tetrachloroethane
12/18/2012	MW-4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.05	<0.01	<0.005	<0.005	<0.005
Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A.		-	-	-	-	-	-	-	0.75 mg/L	-	-	-	0.1mg/L	-	0.03 mg/L	-	-	-

TABLE 6
CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

All concentrations are reported in mg/L

Date Sampled	Sample Location	EPA Method SW-846 8260B														
		1,1,2,2-Tetrachloroethane	Tetrachloroethene (PCE)	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	o-Xylene	m,p-Xylene	Vinyl Chloride
12/18/2012	MW-4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.0020
Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A.		**0.02 mg/L**	**-**	**0.75 mg/L**	**-**	**-**	**0.06 mg/L**	**-**	**0.01 mg/ L**	**-**	**-**	**-**	**-**	**Total Xylene 0.62 mg/L**		**0.001 mg/L**

TABLE 7
CONCENTRATIONS OF SEMI-VOLATILE COMPOUNDS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

All concentrations are reported in mg/L

SAMPLE LOCATION	SAMPLE DATE	EPA Method SW846-8270C															
		Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Naphthalene	Phenanthrene	Pyrene
MW-4	12/18/2012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

TABLE 8
CONCENTRATIONS OF ANIONS & CATIONS IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, LP
EK QUEEN PEARCE 6-INCH
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2008-113
NMOCD REFERENCE #: 1RP-1853

All concentrations are reported in mg/L

SAMPLE DATE	SAMPLE LOCATION	EPA Methods 200.7, 300/300.1, SM2320B										
		Bicarbonate	Calcium	Carbonate	Chloride	Flouride	Magnesium	Nitrate	Phosphate	Potassium	Sodium	Sulfate
12/18/2012	MW-4	172	272	<4.00	**402**	0.876	16.4	2.77	4.87	5.87	201	46.2
Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-101.UU and 3-103.A.		-	-	-	**250 mg/L**	**1.6 mg/L**	-	**10.0 mg/L**	-	-	-	**600 mg/L**

Appendices

Appendix A
Photographs

EK Queen Pearce 6-Inch - Release Site

EK Queen Pearce 6-Inch - Release Site

EK Queen Pearce 6-Inch – Release Site

EK Queen Pearce 6-Inch – Release Site

EK Queen Pearce 6-Inch – Release Site

EK Queen Pearce 6-Inch – Excavation (Looking North)

EK Queen Pearce 6-Inch – Excavation (Looking Southeast)

EK Queen Pearce 6-Inch – Excavation (Looking Southeast)

EK Queen Pearce 6-Inch – Excavation

EK Queen Pearce 6-Inch – Excavation (Looking East)

EK Queen Pearce 6-Inch – Excavation (Looking South)

EK Queen Pearce 6-Inch – Excavation (Looking North)

EK Queen Pearce 6-Inch – Installation of Monitor Well MW-3

EK Queen Pearce 6-Inch – Liner Installation

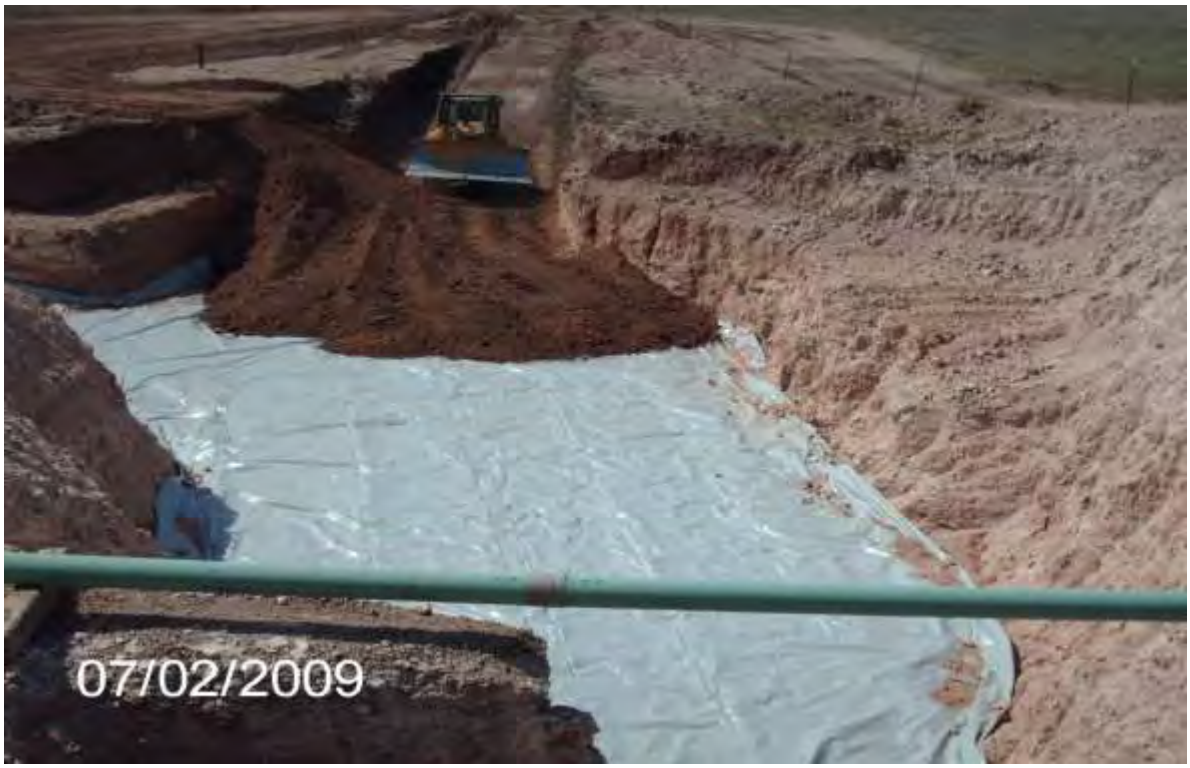
EK Queen Pearce 6-Inch - Liner Installation

EK Queen Pearce 6-Inch - Liner Installation

EK Queen Pearce 6-Inch - Liner Installation

EK Queen Pearce 6-Inch - Liner Installation

EK Queen Pearce 6-Inch – Liner Installation



EK Queen Pearce 6-Inch – Pad Sand Installation

EK Queen Pearce 6-Inch – Pad Sand Installation & Backfilling

EK Queen Pearce 6-Inch - Backfilling

EK Queen Pearce 6-Inch - Backfilling

EK Queen Pearce 6-Inch - Backfilling

EK Queen Pearce 6-Inch - Backfilling

EK Queen Pearce 6-Inch – Backfilling (Near Completion, Looking South)

EK Queen Pearce 6-Inch – Backfilling (Near Completion, Looking East)

EK Queen Pearce 6-Inch – 2009 Seeding (Looking South)

EK Queen Pearce 6-Inch – 2009 Seeding
(Looking Northwest; Monitor Well MW-1 & Erosion Control System Visible in Background)

EK Queen Pearce 6-Inch – Backfilled Excavation
(Following 2009 Seeding Event; Monitor Well MW-3 Visible in Background)

EK Queen Pearce 6-Inch – Backfilled Excavation
(Following Seeding; Monitor Well MW-1 & Erosion Control System Visible in Background)

EK Queen Pearce 6-Inch – SVE System Housing & Extraction Wells

EK Queen Pearce 6-Inch – SVE Wells & System Piping (Looking Southwest)

EK Queen Pearce 6-Inch – 2010 Seeding
(Looking Southeast; SVE Wells & Monitor Well MW-3 visible in Background)

EK Queen Pearce 6-Inch – 2010 Seeding
(Monitor Well MW-1 & Erosion Control System Visible in Background)

EK Queen Pearce 6-Inch – Advancement of Soil Boring SB-8

EK Queen Pearce 6-Inch – Installation of Monitor Well MW-4

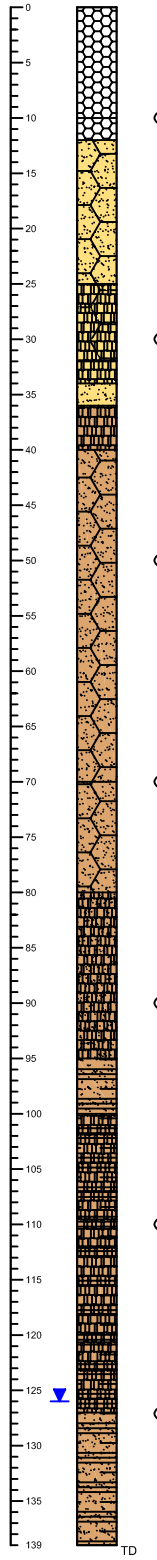
EK Queen Pearce 6-Inch – SVE System Removal

EK Queen Pearce 6-Inch – Site Following SVE System Removal

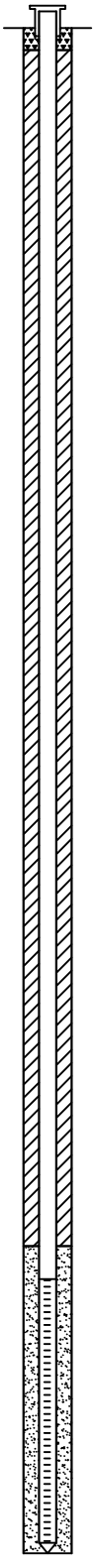
Appendix B

Soil Boring & Monitor Well Logs

Monitor Well MW-1



Drilling Depth	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				
	1.3	None	None	0 - 10' bgs - Caliche, white, dry
		None	None	
10	1.2			
		None	None	10 - 12' bgs - Caliche, white, dry
15	1.3	None	None	
		None	None	12 - 25' bgs - Sand, tan with caliche nodules, dry
20	1.1			
		None	None	
25	1.6			
		None	None	25 - 32' bgs - Sand, white - tan caliche nodules, silicious
30	1.4			
		None	None	32 - 34' bgs - Sandstone, hard, dry, silicious
35	1.3			34 - 36' bgs - Sand, tan, very fine grained
		None	None	36 - 40' bgs - Sandstone, hard, dry, silicious
40	1.5			
		None	None	
45	1.3			
		None	None	
50	1.2			
		None	None	40 - 70' bgs - Sand, brown, very fine grained, dry with caliche nodules
55	1.4			
		None	None	
60	1.5			
		None	None	
65	1.2			
		None	None	
70	1.5			
		None	None	
75	1.4			70 - 80' bgs - Sand, brown, very fine grained, damp with caliche nodules
		None	None	
80	1.1			
		None	None	
85	1.7			
		None	None	80 - 95' bgs - Sand, brown with clay and sandstone nodules, damp
90	1.8			
		None	None	
95	1.5			
		None	None	95 - 100 bgs - Clay, brown, sandy, damp
100	1.6			
		None	None	
105	1.6			
		None	None	
110	2.1			
		None	None	
115	2.4			100 - 127 bgs - Clay, brown with Sandstone nodules, damp
		None	None	
120	2.2			
		None	None	
125	2.2			
	2.6	None	None	
130				127 - 139 bgs - Clay, brown, sandy
135				
139				



Monitor Well MW-1

Date Drilled: January 6, 2009
Thickness of Bentonite Seal: 139 Ft
Depth of Exploratory Boring: 139 Ft bgs
Depth to Groundwater: 126 Ft
Ground Water Elevation:

Indicates the PSH level measured on
Indicates the groundwater level measured on January 6, 2009
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

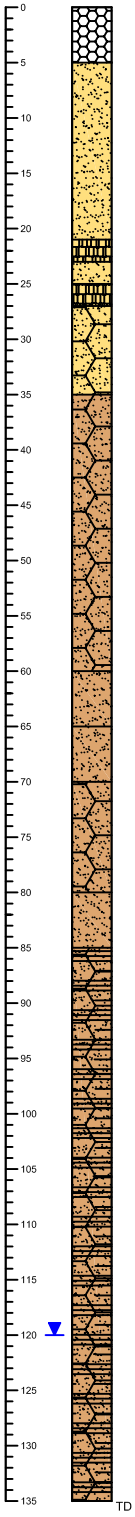
Monitor Well Details
MW-1

E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

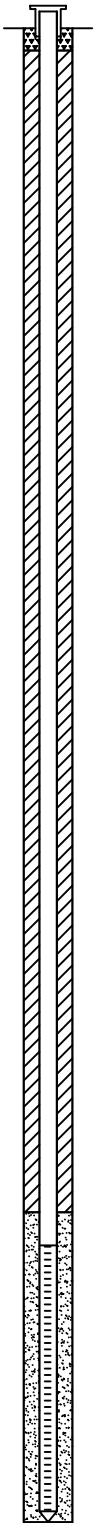
Basin Environmental Services

Prep By: CDS	Checked By: CDS
November 17, 2008	

Monitor Well MW-2



Drilling Depth	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
		None	None	
	1.8			0 - 5' bgs - Caliche, white, dry
		None	None	
	(2.7)			
		None	None	5 - 21' bgs - Sand, tan, very fine grained, dry
	2.4			
		None	None	
	2.1			
		None	None	21 - 23' bgs - Sandstone, tan, silicious
				23 - 25' bgs - Sand, tan, very fine grained, dry
	1.8			
		None	None	25 - 27' bgs - Sandstone, tan, silicious
	(2.8)			
		None	None	27 - 35' bgs - Sand, tan, with caliche nodules, dry
	3.2			
		None	None	
	3.5			
		None	None	
	3.4			
		None	None	
	(3.2)			
		None	None	35 - 60' bgs - Sand, brown, very fine grained, dry with caliche nodules
	3.2			
		None	None	
	3.0			
		None	None	60 - 65' bgs - Sand, brown, very fine grained, dry
	3.0			
		None	None	65 - 70' bgs - Sand, brown, very fine grained, damp
	(3.0)			
		None	None	
	3.7			70 - 80' bgs - Sand, brown, damp with caliche nodules
		None	None	
	3.3			80 - 85' bgs - Sand, brown, very fine grained, damp
		None	None	
	3.3			
		None	None	
	3.2			
		None	None	
	(4.0)			
		None	None	
	2.9			
		None	None	
	2.8			
		None	None	85 - 135' bgs - Clay, brown, sandy, damp with caliche nodules
	(3.1)			
		None	None	
	2.5			
		None	None	
	(2.1)			
		None	None	



Monitor Well MW-2

Date Drilled: January 6, 2009
Thickness of Bentonite Seal: 135 Ft
Depth of Exploratory Boring: 135 Ft bgs
Depth to Groundwater: 120 Ft
Ground Water Elevation:

Indicates the PSH level measured on
Indicates the groundwater level measured on January 6, 2009
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

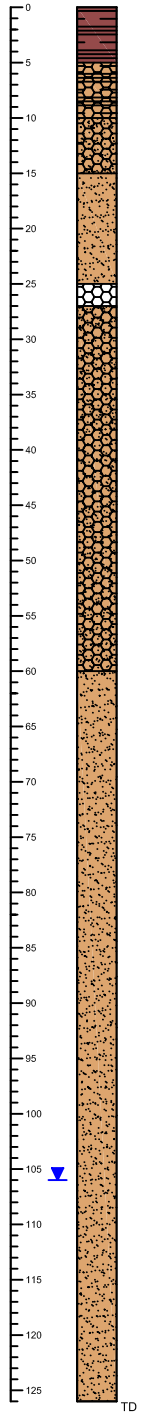
Monitor Well Details
MW-2

E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

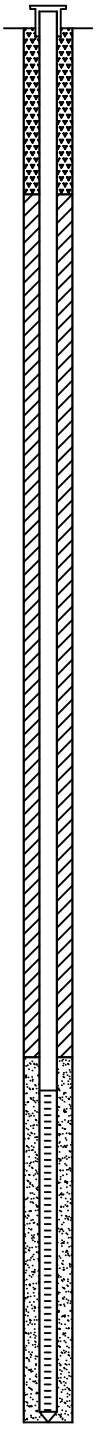
Basin Environmental Services

Prep By: CDS	Checked By: CDS
November 17, 2008	

Monitor Well MW-3



Drilling Depth	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
	3.0	None	None	0 - 5' bgs - Clay, dark brown with caliche nodules and some organic material, dry
		None	None	5 - 10' bgs - Clay, brown, silty with caliche nodules, dry
	(2.9)	None	None	10 - 15' bgs - Sand, brown, very fine grained with caliche nodules, dry
	2.5	None	None	
	2.6	None	None	15 - 25' bgs - Sand, brown, very fine grained,damp
	2.3	None	None	
	3.0	None	None	25 - 27' bgs - Caliche, white, hard
	(4.3)	None	None	
	3.3	None	None	
	2.3	None	None	27 - 60' bgs - Sand, brown with caliche nodules, damp
	(2.2)	None	None	
	2.6	None	None	
	3.0	None	None	
	2.3	None	None	
	(2.0)	None	None	
	1.9	None	None	
	1.7	None	None	
	1.8	None	None	
	(2.9)	None	None	60 - 126' bgs - Sand, brown, very fine grained, damp
	2.2	None	None	
	1.6	None	None	
	2.4	None	None	
	3.4	None	None	
	(3.6)	None	None	



Monitor Well MW-3

Date Drilled January 8, 2009
Thickness of Bentonite Seal 126 Ft
Depth of Exploratory Boring 126 Ft bgs
Depth to Groundwater 106 Ft
Ground Water Elevation

Indicates the PSH level measured on
Indicates the groundwater level measured on January 9, 2009
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

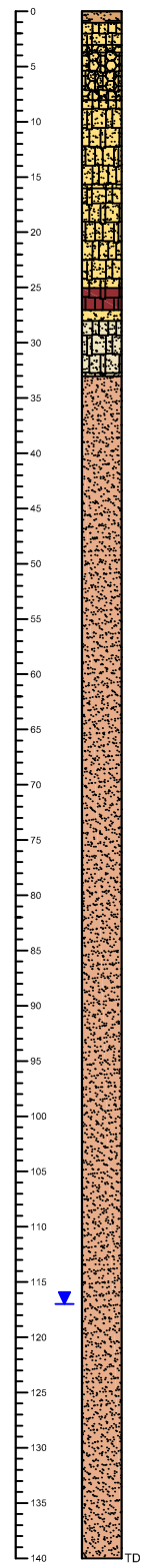
Monitor Well Details
MW-3

E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

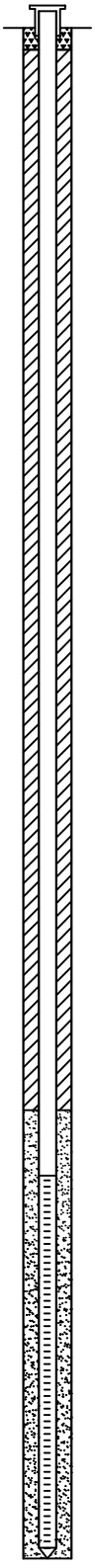
Basin Environmental Services

Prep By: CDS	Checked By: CDS
March 9, 2009	

Monitor Well MW-4



Drilling Depth	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
		None	None	0' - 1' bgs - Brown silty sand with clay 1' - 3' bgs - Tan fine sand, soft sandstone
	3.3	None	None	3' - 8' bgs - Tan fine sand, caliche, calicified hard sandstone
	(6.6)	None	None	
	0.5	None	None	8' - 16' bgs - Tan fine sand, sandstone
	(4.9)	None	None	
	2.5	None	None	16' - 25' bgs - Tan very fine sand, soft sandstone
	(4.9)	None	None	25' - 27' bgs - Red siliceous sandstone 27' - 28' bgs - Tan fine sand
	2.2	None	None	28' - 33' bgs - Pale tan fine sand, sandstone
	(7.4)	None	None	
	5.0	None	None	
	2.8	None	None	
	3.0	None	None	
	(4.2)	None	None	
	3.3	None	None	
	0.4	None	None	
		None	None	
		None	None	
		None	None	
		None	None	
		None	None	33' - 140' bgs - Reddish tan very fine sand (damp)
		None	None	
		None	None	
		None	None	
		None	None	
		None	None	
		None	None	
		None	None	



Monitor Well MW-4

Date Drilled December 11, 2012
Thickness of Bentonite Seal 97 Ft
Depth of Exploratory Boring 140 Ft bgs
Depth to Groundwater 117 Ft
Ground Water Elevation

Indicates the PSH level measured on
Indicates the groundwater level measured on January 6, 2009
Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack
Screen

Completion Notes

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.010 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

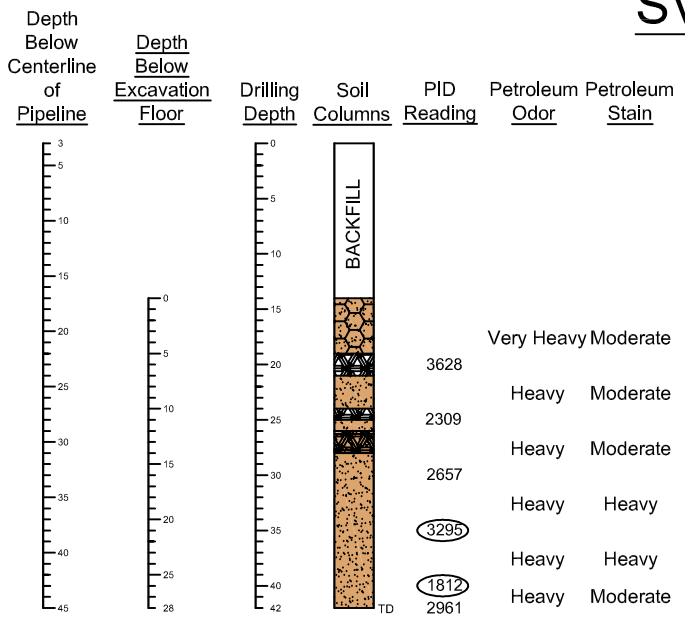
Monitor Well Details
MW-4

EK Queen Pearce 6-Inch
Lea County, New Mexico
Plains Marketing, LP

Basin Environmental Service Technologies, LLC

Prep By: BJA	Checked By: BRB
November 17, 2014	

SVE Deep #1 Well



Soil Description

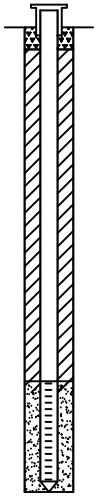
0 - 14' - Backfill material - Not Sampled

14 - 19' - Sand, brown, very fine grained, caliche, gray

19 - 21' - Chert, white to rose, very hard

21 - 24' - Sand, brown, very fine grained
24 - 25' - Chert, white to rose, very hard
25 - 26' - Sand, brown, very fine grained
26 - 28' - Chert, white to rose, very hard with some sand layers

28 - 42' - Sand, brown, very fine grained



SVE Deep #1 Well

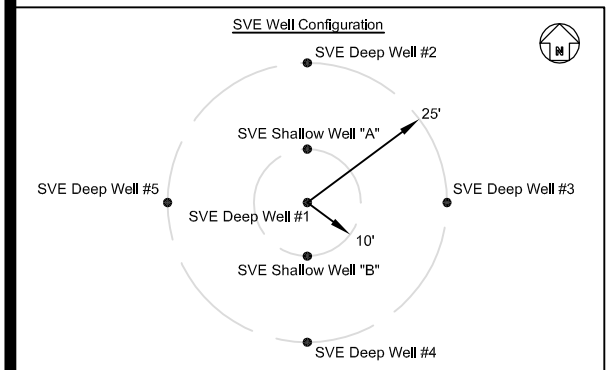
Date Drilled September 25, 2009
Thickness of Bentonite Seal 30 Ft
Depth of Exploratory Boring 42 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

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

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack



Completion Notes

Screen

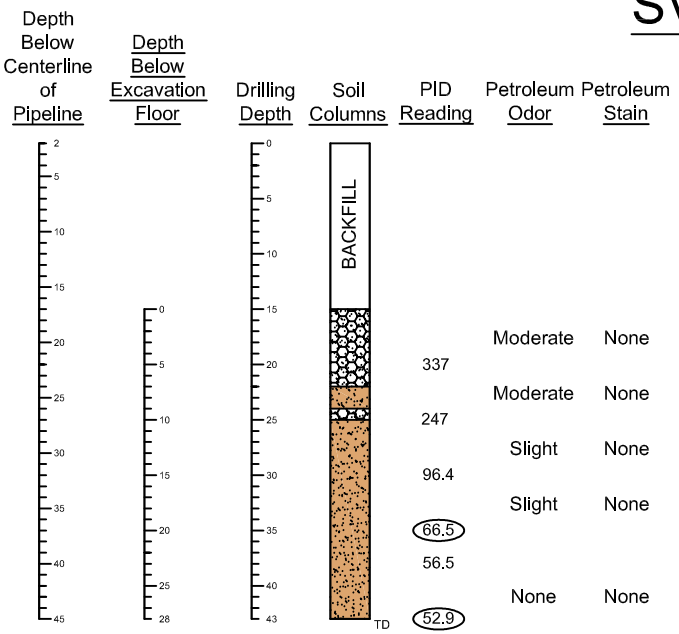
1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

SVE Deep #1 Well
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains Pipeline, L.P.

Basin Environmental Consulting

Prep By: CDS	Checked By: CDS
October 7, 2009	

SVE Deep #2 Well



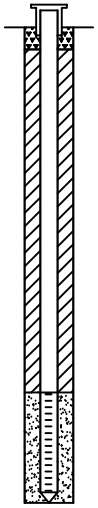
Soil Description

0 - 15' - Backfill material - Not Sampled

15 - 22' - Caliche, white, hard, dry, sandy

22 - 24' - Sand, brown, very fine grained
24 - 25' - Caliche, white, hard, dry, sandy

25 - 43' - Sand, brown, very fine grained



SVE Deep #2 Well

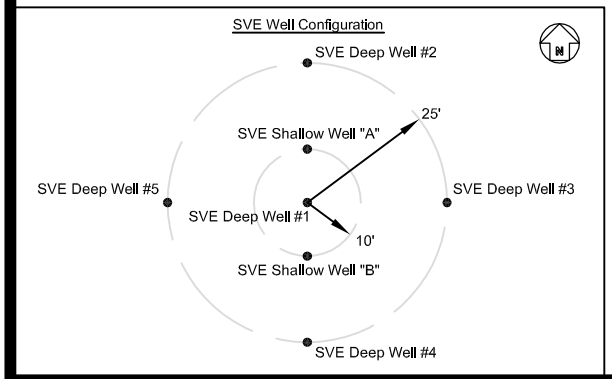
Date Drilled September 24, 2009
Thickness of Bentonite Seal 31 Ft
Depth of Exploratory Boring 43 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

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

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack



Completion Notes

Screen

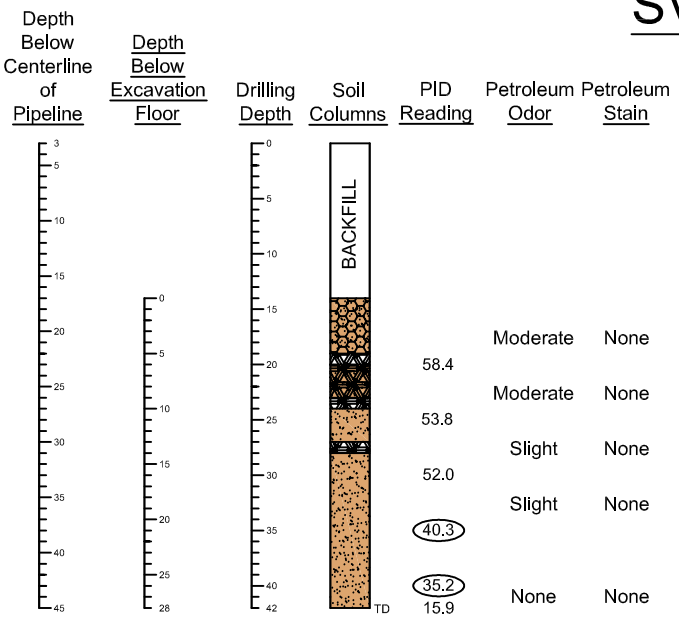
1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

SVE Deep #2 Well
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains Pipeline, L.P.

Basin Environmental Consulting

Prep By: CDS	Checked By: CDS
October 7, 2009	

SVE Deep #3 Well

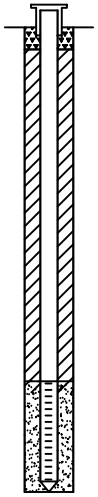


Soil Description

0 - 14' - Backfill material - Not Sampled

14 - 19' - Sand, brown, very fine grained, Caliche, white
19 - 20' - Chert, white to rose, very hard
20 - 23' - Sand, brown, very fine grained with som chert fragments
23 - 24' - Chert, white to rose, very hard
24 - 27' - Sand, brown, very fine grained
27 - 28' - Chert, white to rose, very hard

28 - 42' - Sand, brown, very fine grained

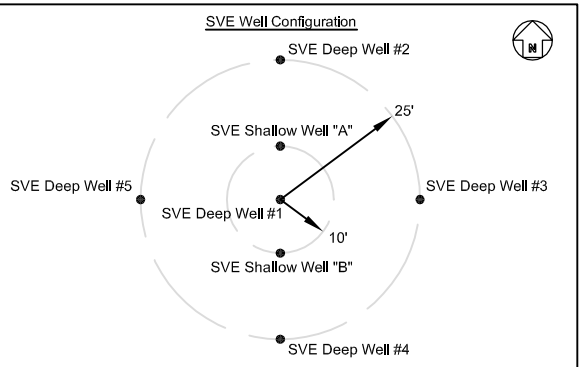


SVE Deep #3 Well

Date Drilled September 25, 2009
Thickness of Bentonite Seal 30 Ft
Depth of Exploratory Boring 42 Ft bgs
Depth to Groundwater
Ground Water Elevation

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

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack



Completion Notes

Screen

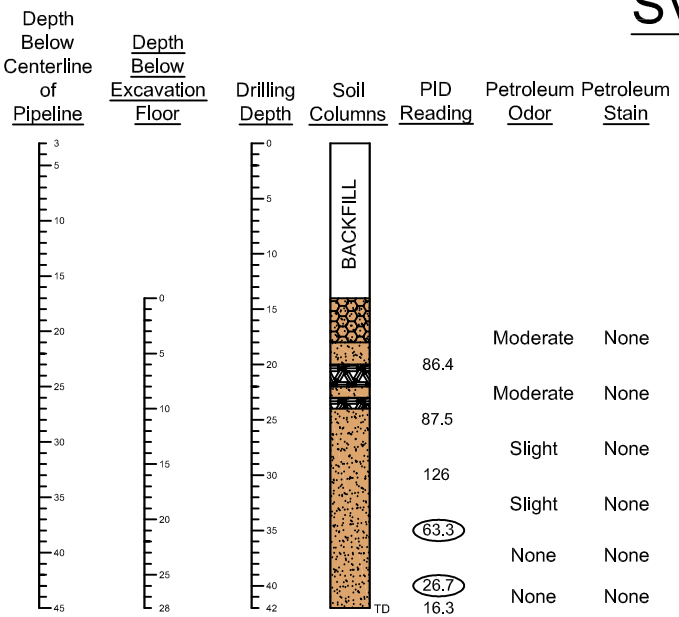
1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

SVE Deep #3 Well
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains Pipeline, L.P.

Basin Environmental Consulting

Prep By: CDS	Checked By: CDS
October 7, 2009	

SVE Deep #4 Well



Soil Description

0 - 14' - Backfill material - Not Sampled

14 - 18' - Sand, brown, very fine grained, Caliche, white

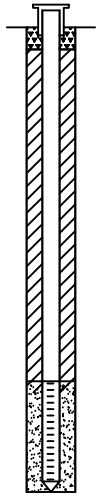
18 - 20' - Sand, brown, very fine grained

20 - 22' - Chert, white to rose, very hard

22 - 23' - Sand, brown, very fine grained

23 - 24' - Chert, white to rose, very hard

24 - 42' - Sand, brown, very fine grained



SVE Deep #4 Well

Date Drilled September 25, 2009

Thickness of Bentonite Seal 30 Ft

Depth of Exploratory Boring 42 Ft bgs

Depth to Groundwater _____

Ground Water Elevation _____

Indicates the PSH level measured on _____

Indicates the groundwater level measured on _____

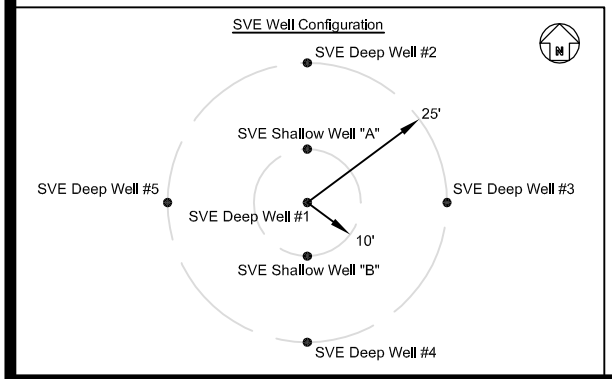
Indicates samples selected for Laboratory Analysis.

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

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack



Completion Notes

Screen

1.) The monitor well was advanced on date using air rotary drilling techniques.

2.) The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.

3.) The well is protected with a locked stick up steel cover and compression cap.

4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

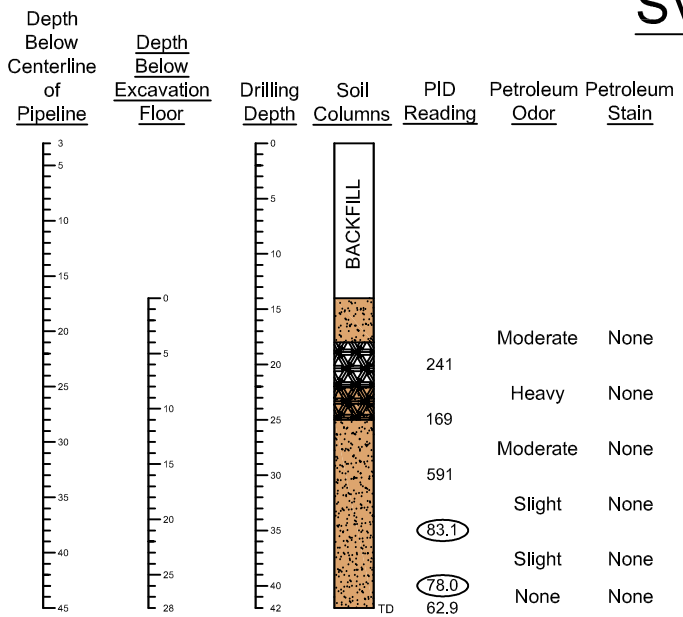
3.) The depths indicated are referenced from ground surface.

SVE Deep #4 Well
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains Pipeline, L.P.

Basin Environmental Consulting

Prep By: CDS	Checked By: CDS
October 7, 2009	

SVE Deep #5 Well



Soil Description

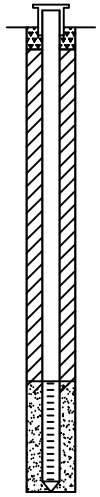
0 - 14' - Backfill material - Not Sampled

14 - 18' - Sand, brown, very fine grained

18 - 22' - Chert, white to rose, very hard

22 - 25' - Sand, brown, very fine grained with some chert fragments

25 - 42' - Sand, brown, very fine grained



SVE Deep #5 Well

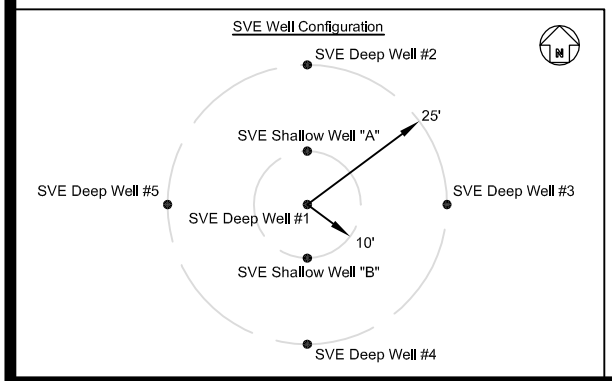
Date Drilled September 25, 2009
Thickness of Bentonite Seal 30 Ft
Depth of Exploratory Boring 42 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

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

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack



Completion Notes

Screen

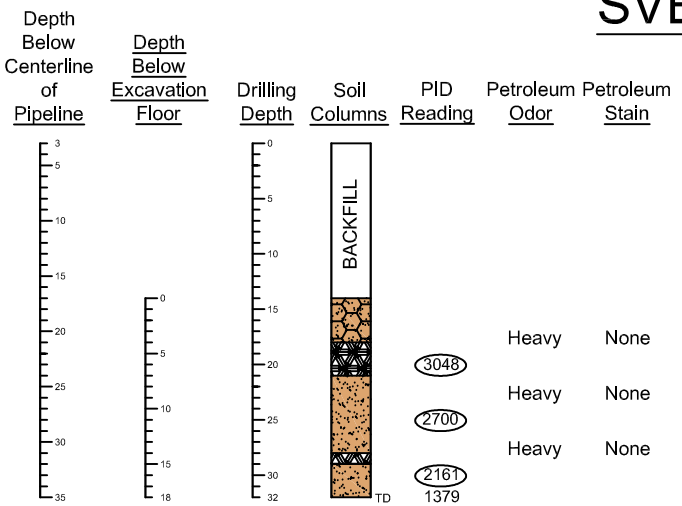
1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

SVE Deep #5 Well
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains Pipeline, L.P.

Basin Environmental Consulting

Prep By: CDS	Checked By: CDS
October 7, 2009	

SVE Shallow "A" Well



Soil Description

0 - 14' - Backfill material - Not Sampled

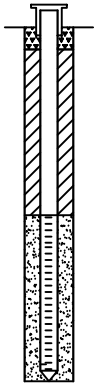
14 - 18' - Sand, brown, very fine grained, caliche, gray

18 - 21' - Chert, white to rose, very hard

21 - 28' - Sand, brown, very fine grained

28 - 29' - Chert, white to rose, very hard

29 - 32' - Sand, brown, very fine grained



SVE Shallow "A" Well

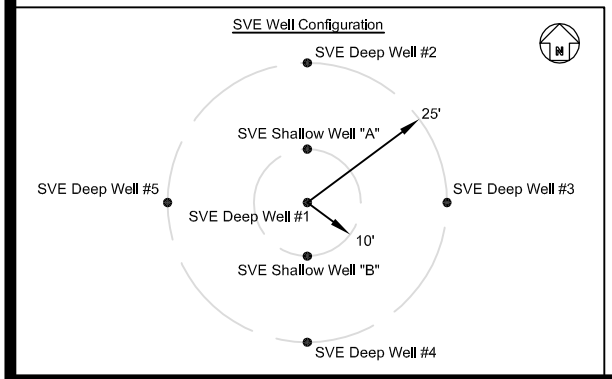
Date Drilled September 24, 2009
Thickness of Bentonite Seal 15 Ft
Depth of Exploratory Boring 32 Ft bgs
Depth to Groundwater
Ground Water Elevation

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

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack



Completion Notes

Screen

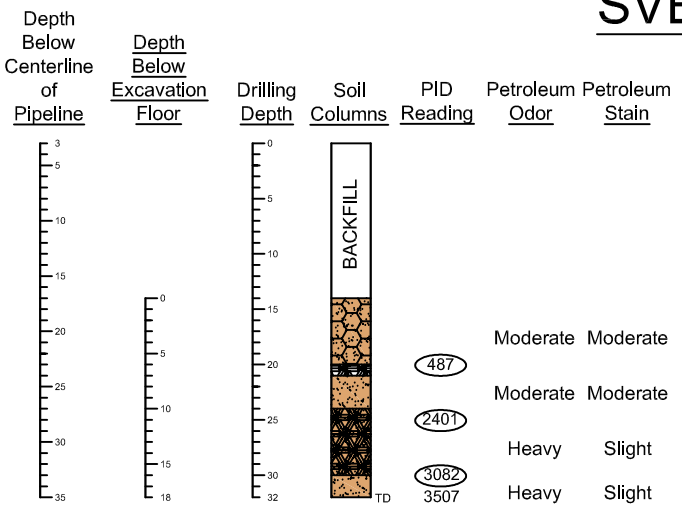
1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

SVE Shallow "A" Well
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains Pipeline, L.P.

Basin Environmental Consulting

Prep By: CDS	Checked By: CDS
October 7, 2009	

SVE Shallow "B" Well



Soil Description

0 - 14' - Backfill material - Not Sampled

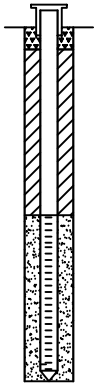
14 - 20' - Sand, brown, very fine grained, caliche, gray

20 - 21' - Chert, white to rose, very hard

21 - 24' - Sand, brown, very fine grained

24 - 30' - Chert, white to rose, very hard with sand layers

30 - 32' - Sand, brown, very fine grained

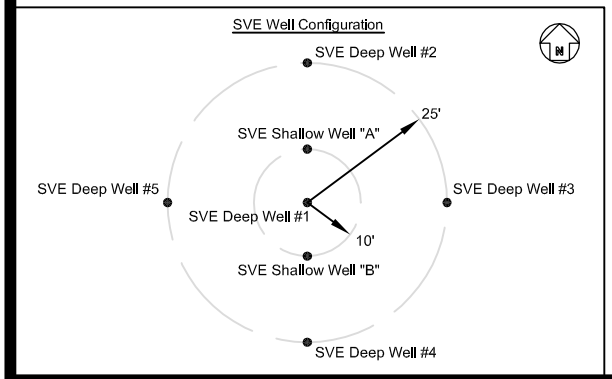


SVE Shallow "B" Well

Date Drilled September 25, 2009
Thickness of Bentonite Seal 15 Ft
Depth of Exploratory Boring 32 Ft bgs
Depth to Groundwater
Ground Water Elevation

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

Grout Surface Seal
Bentonite Pellet Seal
Sand Pack



Completion Notes

Screen

1.) The monitor well was advanced on date using air rotary drilling techniques.
2.) The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3.) The well is protected with a locked stick up steel cover and compression cap.
4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3.) The depths indicated are referenced from ground surface.

SVE Shallow "B" Well
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains Pipeline, L.P.

Basin Environmental Consulting

Prep By: CDS	Checked By: CDS
October 7, 2009	

Soil Boring SB-1

Depth Below Ground Surface	Drilling Depth	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	0					
5	5		0	None	None	0 - 8' - Clay, silty, brown, some organics, moist
10	10		(0)	None	None	8 - 10' - Clay, sandy, brown, dry
15	15		0	None	None	10 - 20' - Sand, brown, moist, very fine grained
20	20		(0)	None	None	20 - 22' - Caliche, white
25	25		0	None	None	
30	30		(0)	None	None	22 - 40' - Sand, brown, moist, very fine grained
35	35		0	None	None	
40	40		(0)			

Soil Boring Details

Date Drilled July 25, 2008

Thickness of Bentonite Seal 40 Ft

Depth of Exploratory Boring 40 Ft bgs

Depth to Groundwater _____

Ground Water Elevation _____

▼ Indicates the PSH level measured on _____

▼ Indicates the groundwater level measured on _____

(0) Indicates samples selected for Laboratory Analysis.

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

Notes

1.) The soil boring was advanced on date using air rotary drilling techniques.

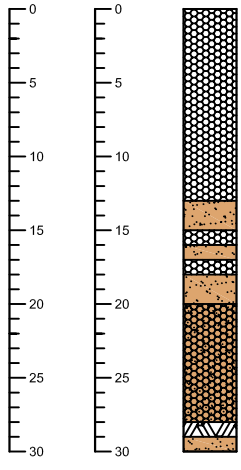
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Boring Log Details
Soil Boring SB-1
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

Basin Environmental Services

Prep By: CDS	Checked By: CDS
November 17, 2008	

Soil Boring SB-2

Depth Below Ground Surface	Drilling Depth	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	0		0	None	None	0 - 13' - Caliche, white, dry, soft
5	5					
10	10		0	None	None	13 - 15' - Sand, brown, very fine grained
15	15		0	None	None	15 - 16' - Caliche, white 16 - 17' - Sand, brown, very fine grained
20	20		0	None	None	17 - 18' - Caliche, white 18 - 20' - Sand, brown, very fine grained
25	25		0	None	None	20 - 28' - Sand, brown, very fine grained with some caliche nodules
30	30		0	None	None	28 - 29' - Chert, white, hard 29 - 30' - Sand, brown, very fine grained

Soil Boring Details

Date Drilled July 25, 2008

Thickness of Bentonite Seal 30 Ft

Depth of Exploratory Boring 30 Ft bgs

Depth to Groundwater _____

Ground Water Elevation _____

▼ Indicates the PSH level measured on _____

▼ Indicates the groundwater level measured on _____

⬭ Indicates samples selected for Laboratory Analysis.

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

Notes

1.) The soil boring was advanced on date using air rotary drilling techniques.

2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

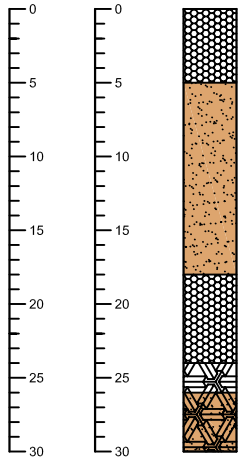
Boring Log Details
Soil Boring SB-2
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

Basin Environmental Services

Prep By: CDS	Checked By: CDS
November 17, 2008	

Soil Boring SB-3

Depth Below Ground Surface	Drilling Depth	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain
0	0				
5	5		0	None	None
10	10		0.1	None	None
15	15		0.1	None	None
20	20		0.1	None	None
25	25		0	None	None
30	30		0	None	None



Soil Description

0 - 5' - Caliche, sandy, white to brown

5 - 17' - Sand, brown, very fine grained

17 - 24' - Caliche, sandy, white to brown

24 - 26' - Chert, white, hard
26 - 30' - Sand, brown, very fine grained, with chert laminations

Soil Boring Details

Date Drilled July 25, 2008
Thickness of Bentonite Seal 30 Ft
Depth of Exploratory Boring 30 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

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

Notes

1.) The soil boring was advanced on date using air rotary drilling techniques.

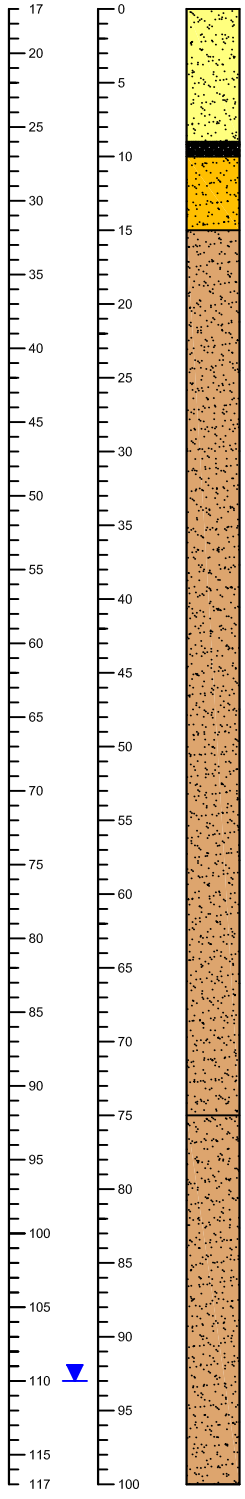
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Boring Log Details
Soil Boring SB-3
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

Basin Environmental Services

Prep By: CDS	Checked By: CDS
November 17, 2008	

Soil Boring SB-4



PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
861	Heavy	Slight	0 - 9' - Sand, yellow, very fine grained
(545)	Heavy	Slight	9 - 10' - Chert, white, hard
1348	Moderate	Slight	10 - 15' - Sand, yellowish brown, very fine grained
(1436)	Moderate	None	
597	Moderate	None	
(283)	Moderate	None	
133	Moderate	None	
(275)	Slight	None	
132	Slight	None	15 - 75' bgs - Sand, brown, very fine grained
(22.2)	Slight	None	
219	Moderate	None	
(76)	Moderate	None	
144	Moderate	None	
(158)	Moderate	None	
47.9	Slight	None	
(139)	Slight	None	
106	Slight	None	75 - 100' bgs - Sand / Clay, brown, dry
(35.2)	Slight	None	
60.8	Slight	None	
(35.2)			

Soil Boring Details

Date Drilled: July 25, 2008
Thickness of Bentonite Seal: 100 Ft
Depth of Exploratory Boring: 100 Ft bgs
Depth to Groundwater: 110 Ft
Ground Water Elevation: _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on July 25, 2008
⬭ Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-ionization detector.

Notes

1.) The soil boring was advanced on date using air rotary drilling techniques.

2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Boring Log Details
Soil Boring SB-4
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

Basin Environmental Services

Prep By: CDS	Checked By: CDS
November 17, 2008	

Soil Boring SB-5

Depth Below Ground Surface	Drilling Depth	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain
17	0				
20	5		17.5	None	None
25	10		50.2	None	None
30	15		16.2	None	None
35	20		16.3	None	None
40	25		11.8	None	None
45	30		10.6	None	None
50	35		9.8	None	None
55	40		9.8	None	None
60	45		6.8	None	None
65	50		12.2	None	None
70	55		11.3	None	None
75	60	TD	11.4	None	None

Soil Description

0 - 2' - Chert and calcified Sandstone, white, hard

2 - 7' - Sand, brown, medium grained with gravel, well rounded

7 - 10' - Sand, brown, medium grained with gravel, well rounded, moist

10 - 39' - Sand, brown, fine grained, moist

39 - 40' - Sand, brown, very fine grained, dry

40 - 60' - Sand, brown, very fine grained, moist

Soil Boring Details

Date Drilled January 9, 2009

Thickness of Bentonite Seal 60 Ft

Depth of Exploratory Boring Approx. 77 Ft bgs

Depth to Groundwater _____

Ground Water Elevation _____

▼ Indicates the PSH level measured on _____

▼ Indicates the groundwater level measured on _____

⬭ Indicates samples selected for Laboratory Analysis.

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

Notes

1.) The soil boring was advanced on date using air rotary drilling techniques.

2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

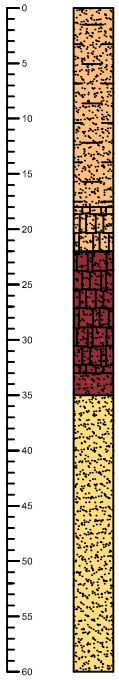
Boring Log Details
Soil Boring SB-5
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

Basin Environmental Services

Prep By: CDS	Checked By: CDS
March 9, 2009	

Soil Boring SB-6

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
				None	None	
			24.8	None	None	
			67.7	None	None	0' - 18' - Backfill (tan silty sand with clay)
			100	None	None	
			(330)	Moderate	None	18' - 22' - Tan fine sand - sandstone
			(862)	Heavy	None	
			(403)	Heavy	None	22' - 33' - Red fine sand - sandstone
			(252)	Heavy	None	33' - 35' - Red silty sand - silty clay
			(98.0)	Heavy	None	
			(84.6)	Heavy	None	
			131	Heavy	None	35' - 60' - Gold fine to very fine sand
			181	Heavy	None	
			30.3	Heavy	None	



Boring SB-6

Date Drilled: January 28, 2011
Thickness of Bentonite Seal: 60 Ft
Depth of Exploratory Boring: 60 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

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

Completion Notes

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

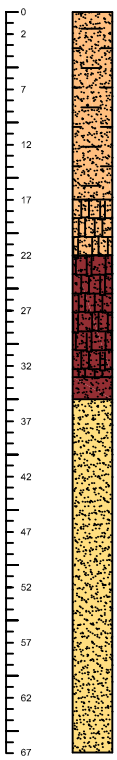
Soil Boring SB-6

Plains Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico

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

Prep By: BJA	Checked By: BRB
March 15, 2011	

Soil Boring SB-7



Depth Below Ground Surface	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0			None	None	
2			None	None	
7			None	None	0' - 17' - Backfill (tan silty sand with clay)
12			None	None	
17		34.0	Moderate	None	
22		622	Heavy	None	17' - 22' - Tan fine sand - sandstone
27		1,053	Heavy	None	22' - 33' - Red fine sand - sandstone
32		299	Heavy	None	
37		444	Heavy	None	33' - 35' - Red silty sand - silty clay
42		729	Heavy	None	
47		1,781	Heavy	None	
52		1,967	Heavy	None	35' - 67' - Gold fine to very fine sand
57		861	Heavy	None	
62		2,600	Heavy	None	
67		3,648	Heavy	None	

Boring SB-7

Date Drilled: January 28, 2011
Thickness of Bentonite Seal: 67 Ft
Depth of Exploratory Boring: 67 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

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

Completion Notes

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

Soil Boring SB-7

Plains Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico

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

Prep By: BJA	Checked By: BRB
March 15, 2011	

Soil Boring SB-8

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				None	None	
5				None	None	
10				None	None	0' - 18' - Backfill (tan silty sand with clay)
15				None	None	
20			48.0	Moderate	None	18' - 22' - Tan fine sand - sandstone
25			1,309	Heavy	None	
30			271	Heavy	None	22' - 33' - Red fine sand - sandstone
35			400	Heavy	None	33' - 35' - Red silty sand - silty clay
40			140	Heavy	None	
45			328	Heavy	None	
50			1,389	Heavy	None	35' - 70' - Gold fine to very fine sand
55			1,296	Heavy	None	
60			986	Heavy	None	
65			892	Heavy	None	
70			802	Heavy	None	70' - TD - Tan fine sand - sandstone

Boring SB-8

Date Drilled: January 20, 2012
Thickness of Bentonite Seal: 70 Ft
Depth of Exploratory Boring: 70 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

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

Completion Notes

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

Soil Boring SB-8

Plains Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico

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

Prep By: BJA	Checked By: BRB
May 15, 2012	

Soil Boring SB-9

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				None	None	
5				None	None	
10				None	None	0' - 18' - Brown fine sandy clay
15				None	None	
20			(45.1)	None	None	18' - 21' - Tan fine sand - calcified sandstone 21' - 22' - Tan fine sand - siliceous sandstone
25			6.0	None	None	
30			8.6	None	None	22' - 35' - Tan fine sand - sandstone (layers)
35			(7.9)	None	None	

Boring SB-9

Date Drilled: January 23, 2012
Thickness of Bentonite Seal: 35 Ft
Depth of Exploratory Boring: 35 Ft bgs
Depth to Groundwater: _____
Ground Water Elevation: _____

▼ Indicates the PSH level measured on _____
▼ Indicates the groundwater level measured on _____
( ) Indicates samples selected for Laboratory Analysis.
PID Head-space reading in ppm obtained with a photo-Ionization detector.

Completion Notes

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

Soil Boring SB-9

Plains Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico

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

Prep By: BJA	Checked By: BRB
May 15, 2012	

Soil Boring SB-10

Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				None	None	
5				None	None	
10				None	None	0' - 19' - Backfill (tan fine sandy clay)
15				None	None	
20			82.1	Moderate	None	19' - 21' - Tan fine sand - silty sandstone
25			115	Heavy	None	21' - 26' - Tan fine sandstone (layers)
30			68.8	Moderate	None	
35			23.4	Slight	None	
40			43.8	Slight	None	26' - 60' - Tan to gold fine sand
45			57.7	Moderate	None	
50			144	Heavy	None	
55			36.8	Slight	None	
60			45.6	Slight	None	

Boring SB-10

Date Drilled January 23, 2012
Thickness of Bentonite Seal 60 Ft
Depth of Exploratory Boring 60 Ft bgs
Depth to Groundwater _____
Ground Water Elevation _____

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

Completion Notes

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

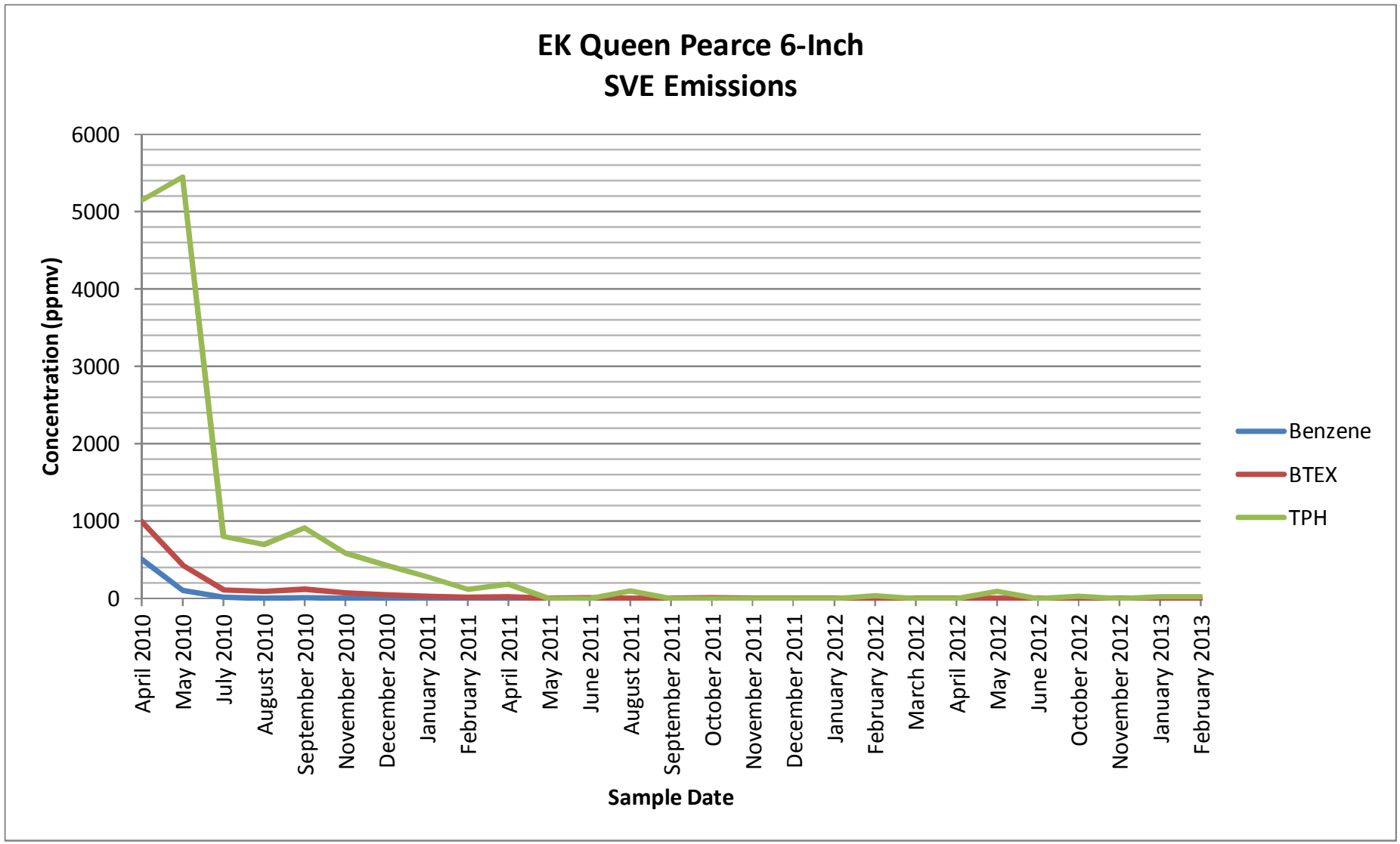
Soil Boring SB-10

Plains Pipeline, LP
EK Queen Pearce 6-Inch
Lea County, New Mexico

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

Prep By: BJA	Checked By: BRB
May 15, 2012	

Appendix C
SVE Discharge Graph


EK Queen Pearce 6-Inch
SVE Emissions
Concentration (ppmv)
6000
5000
4000
3000
2000
1000
0
April 2010
May 2010
July 2010
August 2010
September 2010
November 2010
December 2010
January 2011
February 2011
April 2011
May 2011
June 2011
August 2011
September 2011
October 2011
November 2011
December 2011
January 2012
February 2012
March 2012
April 2012
May 2012
June 2012
October 2012
November 2012
January 2013
February 2013
Sample Date
Benzene
BTEX
TPH

Appendix D

Permits

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

State of New Mexico
Commissioner of Public Lands
310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE
Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

November 1, 2012

Plains Pipeline, LP
333 Clay Street, Suite 1600
Houston, TX 77002

Attn: Jeffrey P. Dann – Senior Environmental & Regulatory Specialist

Re: Approved New Mexico Water Easement No: WM-200

Dear Mr. Dann:

Enclosed, please find your approved original document(s) of WM-200. If any corrections are necessary, please notify this office and we will amend this document as required.

If we can be of further assistance, please feel free to contact me at (505) 827-5899.

The New Mexico State Land Office thanks you for your business and we look forward to a successful business relationship.

Sincerely,

Philip Garcia, Water Management Analyst
Rights of Way and Water Resources Bureau
Surface Resources Division

Enclosures

cc: File

EK Queen (Pearce)
2008-113 NM

2012 OCT 15 AM 10 14

NEW MEXICO STATE LAND OFFICE
WATER EASEMENT
(Monitoring)

NO. WM-200
Amendment

THIS AGREEMENT, dated this **25th** day of **November, 2008,** made and entered into between the State of New Mexico Commissioner of Public Lands, acting trustee pursuant to the Act of June 21, 1910, 36 Stat. 557, ch. 310, § 10, (Commissioner), and **Plains Pipeline , LP.**, whose address is **333 Clay Street, Suite 1600, Houston, TX 77002** (Grantee). This Water Easement becomes effective upon the date it is signed by the Commissioner.

A. Grant of Easement:

1. Grant: For consideration, including the covenants herein, the Commissioner renews and grants to Grantee a Water Easement within the area described as follows:

Quarter-Quarter Section	*Section*	*Township*	*Range*	*Acreage*
SW4SE4	**16**	**18 South**	**34 East**	**7.5**

The **four (4)** 2.5-acre well-sites permitted under this Water Easement are described in attached Exhibit A and as follows:

Well Designation(name/number)	**Expected Volume**
MW-1; MW-2; MW-3, MW-4	**Less than 500 gallons**

These well-sites may overlap.

2. Purpose: This grant of easement is for the purpose of allowing Grantee's placement of a water quality monitoring well. Grantee shall not seek or acquire any water rights in connection with this Water Easement. The circumstances requiring the placement of this well are briefly stated as follows: **monitoring groundwater to prevent possible hydrocarbon contamination.**

3. Related Uses: This grant of water easement entitles Grantee to the exclusive use of the water easement for the permitted purposes, to install such improvements as are necessary to those purposes for the term of this easement. The Commissioner may permit other uses on or within this Water Easement to the extent that they do not impair Grantee's permitted purpose.

B. Terms, Covenants, and Conditions:

2012 OCT 15 AM 10 14

1. Consideration for Grant: In addition to such fees as have been or shall be assessed for this Permit, Grantee shall provide to The Commissioner copies of all interim and final reports created during the monitoring process of which this well is a part.

2. Annual Rental; Payment: Grantee shall pay annual rental in the amount of **$2,000.00** to be due on or before **November 25** of each year. Payment of all sums due hereunder shall be made at the office of the Commissioner of Public Lands, 310 Santa Fe Trail, P.O. Box 1148, Santa Fe, New Mexico 87504-1148.

3. Term of Easement: The grant of this Water Monitoring Easement is for a term of five (5) years, commencing **November 25, 2008** and expiring **November 24, 2013** unless terminated earlier as provided herein. Upon expiration, and upon thirty **(30)** days advance notice by Grantee to the Commissioner, the parties may renew this easement if the Commissioner, in his sole discretion, determines such renewal to be in the best interests of the trust. At such time that this easement expires and is not renewed, or when Grantee shall fail to use the Land for the permitted purposes for a period of one year, the land shall *ipso facto* revert to the Commissioner who may, in his sole discretion, thereafter make this easement, with water rights and improvements, if any, available. The Commissioner shall give written notice by regular mail of this, and no further notice shall be required.

4. Amendment: With the consent of the Commissioner, Grantee may add more monitoring wells to this easement as are necessary. The form of such amendments will be prescribed by the Commissioner. The term of this easement shall be unaffected by such amendments. Each additional well shall be subject to the terms of this Water Easement.

5. Relationship With Other State Agencies: Grantee shall comply with all applicable laws pertaining to, and with all rules and regulations and procedures of, any other state agency having proper jurisdiction over the water. Copies of any permits, licenses etc. obtained from the State Engineer shall be provided to the Commissioner herein.

6. Grantee Standard of Care: Grantee shall act prudently in drilling and monitoring water. "Prudent" within the context of this provision means that standard of care, operating and action of reasonable water user acting pursuant to provisions of New Mexico Water Law and any other applicable laws, rules, and regulations. When Grantee has completed monitoring use of the well, Grantee will plug the well and provide Commissioner written evidence of having done so.

7. Grantee Improvements: Grantee may make or place such improvements and equipment upon the easement land as may reasonably be necessary to the stated purposes of the grant of easement. No pipelines shall be installed. No Water Rights are to be obtained or developed. All Grantee improvements such as well housing, piping, casing, and related equipment installed or obtained by Grantee on the granted easement shall remain Grantee's sole property and liability. Upon the termination, expiration or assignment of Grantee's interest in this easement, Grantee shall remove all such improvements, unless otherwise directed by the Commissioner. Any improvements left by Grantee without the Commissioner's consent shall continue to be Grantee's sole property and liability, shall be deemed in trespass, and shall give rise to such remedies for trespass and waste as may be available to the Commissioner at law or in equity.

8. Non-impairment: Grantee's uses and activities under this easement shall not impair existing appropriations of water on state trust lands within the easement or on state trust lands in adjacent areas.

9. Rights-of-way: Grantee shall have the right, without further consideration, upon reasonable notice to the Commissioner, to define and establish rights-of-way upon the surrounding section of trust land section to install or maintain any necessary equipment or facilities on the water easement. Grantee must accurately plat and define such rights-of-way and provide such plats to Grantee as soon as practicable. Commissioner reserves the right to require such rights-of-way to be moved when the development or other use of the surrounding trust lands require this. Rights of way outside the surrounding section will be granted by the Commissioner in his discretion. No right-of-way, or other access across, or use of any lands other than those expressly granted in this water easement is implied or expressed.

10. Assignment: Grantee, upon payment of the required fee and completion of required forms indicating the Commissioner's consent, may assign or collaterally assign this Water Easement, in whole or in part. No such assignment shall attempt to convey any interest in water rights. Upon approval of the assignment, in writing, by the Commissioner, Grantee shall stand relieved from all duties and obligations to the Commissioner with respect to the lands embraced in the assignment, and the Commissioner shall likewise be relieved from all obligations to the Grantee/assignor as to such lands, provided that the assignee shall expressly succeed to all of the duties, obligations, rights, and privileges of the Grantee/assignor with respect to such. No assignment shall relieve Grantee from any liability incurred prior to the assignment.

11. Relinquishment: With the consent of the Commissioner and payment of a fee of $30.00, the Grantee may relinquish this Water Development Easement, in whole or in part, to the Commissioner; provided, however, that this clause shall become absolutely inoperative immediately and concurrently with the filing of any suit in any court of law or equity by the Commissioner or Grantee or any assignee to enforce any of the terms of this Water Development Easement.

12. Grantee Breach: The Commissioner may terminate this Water Easement for breach of any term or covenant; provided, however, that the Commissioner must mail to the Grantee, by certified mail, addressed to the mailing address of Grantee shown in the Commissioner's current records, a thirty day notice of intention to terminate, specifying the reasons for which the notice is given. Proof of mailing, but no proof of receipt of notice, shall be necessary, and thirty days after such mailing this easement shall terminate *ipso facto* without further notice or proceeding required of the Commissioner; provided, however, there shall be no termination and reversion if Grantee has previously made arrangements satisfactory to the Commissioner to discharge or resolve the breach.

13. Documentation: Grantee shall furnish copies of records and such reports and plats of his operation, including but not limited to well logs, drill cores, and other data relating to hydrology and geological formations as the Commissioner may reasonably request from time to time.

14. Survey, Posting and Fencing: Grantee shall survey each well site and submit a copy of the survey plat to the Commissioner. Grantee shall post on each well a sign with the Grantee's name, Water Development Easement number, State Land Office well number, State Engineer Office permit number and location by legal description. Grantee may fence only that portion of each well site location which is reasonably required to be fenced.

15. Applicable Land Office Rules: This Water Development Easement is made subject to all Rules of the New Mexico State Land Office, as though they were fully set forth herein. Grantee is expected to be familiar with such rules, and a copy will be provided upon request.

16. Compliance With Laws: Grantee, including its heirs, assigns, agents and contractors shall at their own expense fully comply with all laws, regulations, rules, ordinances, and requirements of city, county, regional, state and federal authorities and agencies, in all matters and things affecting the premises and operations thereon which may be enacted or promulgated under the governmental police powers pertaining to public health and welfare, including but not limited to conservation, sanitation, aesthetics, pollution, cultural properties, fire, and environment. Such agencies are not to be deemed third party beneficiaries hereunder; however, this clause is enforceable by the Commissioner as herein provided or as otherwise permitted by law.

17. Indemnity: Subject to the limitations and exclusions contained in 56-7-2 NMSA 1978, Grantee shall save, hold harmless, indemnify, and defend the Commissioner, his employees, agents, contractors, and beneficiaries in both their official and individual capacities, from any and all liabilities, claims, demands, losses, damages, or expenses, including, but not limited to, reasonable attorneys' fees, loss of land value, third-party claims, penalties for removal, remedial or restoration costs arising out of or in connection with: (1) the actions, use and occupancy under this easement of Grantee and Grantee's employees, agents, contractors or invitees; (2) any Hazardous Materials located in, under, or upon or otherwise affecting the easement land or adjacent property, whether caused before or after the Effective Date; (3) the activities of third parties on the easement land to the extent that Grantee knew or should have known of such. This Section shall survive the termination or expiration of this easement, and any cause of action the Commissioner may have to enforce this Section shall not be deemed to accrue until the Commissioner's actual discovery of said liability, claim, demand, loss, damage, or expense.

To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to any indemnity by Grantee of the Commissioner provided for in this easement, such indemnity shall not extend to liability, claims, damages, losses or expenses, including fees of lawyers, arising out of: (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the Commissioner, or his agents or employees; or (2) the giving of or the failure to give directions or instructions by the Commissioner, or his agents or employees, where the giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

18. Bond: Prior to commencement of operations under this Water Development Easement. Grantee shall obtain the Commissioner's approval of and file a bond with the Commissioner in the amount of **$500.00** to secure the payment, to the Commissioner, of such damage as may occur to livestock, range, water, crops or tangible improvements on the subject lands as may result from Grantee's use and occupation under this Water Easement. Such bond shall be payable for the term of this easement, and may be utilized for reclamation of disturbed lands following the operations of Grantee under this easement. Payment under this paragraph is to be made to the Commissioner and not to any other party. Grantee's bond shall not be liquidated damages, and the Commissioner reserves the right to pursue any other remedy for damages available at law or in equity.

19. Dispute Resolution: Any disputes arising under or in connection with this easement shall be first submitted to non-binding mediation if the parties agree; thereafter, or otherwise, any such dispute must be resolved by mandatory contest pursuant to 19.2.15 NMAC. Subsequent appeal, if any, shall be in the First Judicial District Court of Santa Fe. In all instances, the law of New Mexico shall apply.

20. No Waiver by Commissioner: No employee or agent of the Commissioner has the power, right, or authority to orally waive any of the conditions, covenants, or agreements of this easement; and no waiver by the Commissioner of any of the conditions, covenants, or agreements of this Easement shall be effective unless in writing and executed by the Commissioner.

The Commissioner's waiver of Grantee's breach or default of any of the conditions, covenants, or agreements hereof shall not constitute or be construed as a waiver of any other or subsequent breach or default by Grantee. The failure of the Commissioner to enforce at any time any of the conditions, covenants, or agreements of this easement, or to exercise any option herein provided, or to require at any time performance by Grantee of any of the conditions, covenants, or agreements of this Easement shall not constitute or be construed to be a waiver of such conditions, covenants, or agreements, nor shall it affect the validity of this easement or any part thereof, or the Commissioner's right to thereafter enforce each and every such condition, covenant, or agreement.

21. Holding Over: Upon termination or expiration of this easement, any act or conduct of Grantee, including, but not limited to, the unapproved entry upon, occupancy, or use, whether continuous or not, of all or any part of the easement land by Grantee, the Grantee's agents, or by any unauthorized improvements or other improvements required or ordered to be removed upon termination or expiration shall constitute Holding Over. At the termination or expiration of this easement, Grantee immediately shall deliver possession to the Commissioner. In the event of Grantee's Holding Over, Grantee shall pay the Commissioner from time to time, upon demand, as rental for the period of any hold over, to be due for each day of such hold over, an amount equal to two hundred percent (200%) of the annual rent. Nothing contained herein shall be construed as a grant to Grantee of the right to hold over or otherwise enter the Land for any purpose after the expiration or termination of this easement without the prior written approval of the Commissioner. At any time that Grantee is holding over, the Commissioner shall, without requirement of further notice or grace period, have any and all rights to evict or otherwise remove Grantee by force or otherwise, with all costs and fees incurred in such action to be due and payable by Grantee. This Section shall survive the termination or expiration of this easement.

22. Scope of Agreement: This easement incorporates all the agreements, covenants, and understandings between the Commissioner and Grantee concerning the subject matter hereof and all such agreements, covenants, and understandings are merged into this easement. In addition, this easement incorporates the terms of Grantee's contemporaneous standard Water Rights Agreement as though set out fully herein. No prior agreement or understanding between The Commissioner and Grantee shall be valid or enforceable unless expressly embodied in this easement.

23. Amendment: This easement shall not be altered, changed, or amended except by a written instrument executed by both the Commissioner and Grantee.

24. Non-Impairment: Nothing in this Easement is to be construed to impair the rights of any lawful holder, present or future, of any geothermal resources, or any mineral, grazing, commercial, easement, or water rights on the subject or any other state trust lands.

25. Applicable Law: The laws of the State of New Mexico shall govern this easement, without giving effect to the conflict of law provisions of the State of New Mexico. Grantee consents to venue and jurisdiction in the District Court in and for the County of Santa Fe, State of New Mexico for purposes of any appeal pursuant to 19.2.15 NMAC, and to service of process under the laws of the State of New Mexico in any action relating to this easement or its subject matter.

26. Successors In Interest: All terms, conditions, and covenants of this easement and all amendments thereto shall extend to and bind the permitted heirs, successors, and assigns of Grantee and The Commissioner.

27. Time: Time is of the essence in the performance of each and every provision of this easement. Grantee's failure to perform any or all of its obligations under this easement in a timely manner shall be a breach of this easement.

28. Singular And Plural; Use Of Genders: Whenever the singular is used herein, the same shall include the plural; whenever a particular gender is used herein, the same shall include the other gender and no gender.

29. Headings and Titles: The use of section or paragraph headings and titles herein is for descriptive purposes only and is independent of the covenants, conditions, and agreements contained herein.

30. Severability: In the event that any provision of this easement is held invalid or unenforceable under applicable law, this easement shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

31. No Joint Venture: The Commissioner is not and will not be construed or held to be a partner, joint venturer or associate of Grantee in the conduct of the business of Grantee. The Commissioner will not be liable for any debts incurred by Grantee in the conduct of the business of Grantee. The relationship between The Commissioner and Grantee is, and will remain, solely that of the Commissioner and Grantee.

32. Security: Any and all security of any kind for Grantee, Grantee's agents, employees or invitees, the Land, or any personal property thereon shall be the sole responsibility and obligation of Grantee, and shall be provided by Grantee at Grantee's sole cost and expense. Grantee agrees to provide reasonable security to the easement land and all construction areas within the Land consistent with standard industry practices and in conformity with Grantee's duty to prevent waste and trespass.

33. No Commissioner Personal Liability: In the event of a court action, Grantee shall not seek damages from The Commissioner or any employee of SLO or the State of New Mexico in their individual capacity. This Section shall survive termination of this Easement.

34. Notices: Written notice by registered or certified U.S. Postal Service, return receipt requested, or delivered by reputable overnight courier, return receipt of tracking system, to the addresses of the party hereunder shall constitute sufficient notice to comply with the terms of this easement. Notice will be deemed effective upon delivery. Either the Commissioner or Grantee may change its respective address as provided in this Section effective three (3) business days after giving written notice of the change to the other. The addresses for notice are:

Notice to The Commissioner:
New Mexico Commissioner of Public Lands
P.O. Box 1148
Santa Fe, New Mexico 87504-1148
FAX: (505) 827-5766
Attn: Water Resources Unit

With copy to:
New Mexico State Land Office
General Counsel
P.O. Box 1148
Santa Fe, NM 87504-1148
FAX: (505) 827-4262

Notice to Grantee:
Plains Pipeline, LP
P.O. Box 4648
Houston, TX 77210-4648
FAX: 713-646-4310
Attn: Jeffrey P. Dann, Sr. Environmental & Regulatory Specialist

GRANTEE:

By Jeffrey P. Dann, Sr. Environmental & Regulatory Specialist

STATE OF TEXAS)
) ss
COUNTY OF HARRIS)

Subscribed and sworn to before me this 11th day of October 2012,

by Jeffrey P. Dann, Grantee.

SEAL

September 19, 2016
MY COMMISSION EXPIRES

NOTARY PUBLIC

Received on $500.00 July, 26 2012 :

☑ $500.00 per well fee, total cash due $ 0 ; and

☐ $500.00 single-well bond, or

☐ $1,000.00 blanket bond

TIFFANEY NICOLE ODEWALE
My Commission Expires
September 19, 2016

COMMISSIONER

Ray Powell M.S., D.V.M., Commissioner of Public Lands

dated: 10-19-12

SEAL

2012 OCT 15 AM 10 15

Scott A. Verhines, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 516944
File Nbr: L 13211

Nov. 16, 2012

BEN J ARGUIJO (BASIN ENVIRONMENTAL)
PLAINS PIPELINE LP
333 CLAY STREET
SUITE 1600
HOUSTON, TX 77002

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 11/30/2013, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 11/30/2013.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

for Andy Morley
(575)622-6521

Enclosure

File No.

NEW MEXICO OFFICE OF THE STATE ENGINEER

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

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/ 2-32225

Purpose:	☐ Pollution Control And / Or Recovery	☐ Geo-Thermal
☒ Exploratory	☐ Construction Site De-Watering	☐ Other (Describe):
☒ Monitoring	☐ Mineral De-Watering	

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

☐ Temporary Request - Requested Start Date: **11/6/2012** Requested End Date: **11/6/2013**

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: **Plains Pipeline, LP**	Name:
Contact or Agent: check here if Agent ☒ **Ben J. Arguijo (Basin Environmental)**	Contact or Agent: check here if Agent ☐
Mailing Address: **333 Clay Street, Suite 1600**	Mailing Address:
City: **Houston**	City:
State: **TX** Zip Code: **77002**	State: Zip Code:
Phone: **(713)201-3548** ☐ Home ☒ Cell Phone (Work): **(713)646-4657**	Phone: ☐ Home ☐ Cell Phone (Work):
E-mail (optional): **jpdann@paalp.com** **bjarguijo@basinenv.com**	E-mail (optional):

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

File Number: L-13211	Trn Number: 516944
Trans Description (optional):	
Sub-Basin:	
PCW/LOG Due Date: 11-30-13	

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

2-32225

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

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

☒ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range)* OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
MW-4	32 44 30.8 n	103 33 46.7 w	Unit Letter "O" (SW/SE), Section 16, Township 18 South, Range 34 East

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

Other description relating well to common landmarks, streets, or other: **See attached "Site Location Map" and "Proposed Monitor Well Location Map".**

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

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

Approximate depth of well (feet): **140.00**	Outside diameter of well casing (inches): **2.00**
Driller Name: **Straub Corporation**	Driller License Number: **WD1478**

3. **ADDITIONAL STATEMENTS OR EXPLANATIONS**

Three (3) monitor wells currently exist on-site. One (1) additional two-inch (2") diameter monitor well will be drilled to approximately one hundred and forty feet (140') below ground surface to further monitor groundwater quality at the site and to determine the extent of hydrocarbon impact (if any). Quarterly monitoring of the well will continue until laboratory analytical results indicate contaminant levels are below the regulatory remediation action levels established for the site by the New Mexico Oil Conservation Division (NMOCD).

Additional information is provided in the attached water easement documentation from the New Mexico State Land Office.

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

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

ACKNOWLEDGEMENT

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

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

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

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

Witness my hand and seal this 16th day of November 2012, for the State Engineer,

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

By: Andy Morley
Signature Print

Title: Andy Morley, Acting Manager District II

FOR OSE INTERNAL USE Application for Permit, Form wr-07

File Number: L-13211	Trn Number: 516944

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE - MONITOR

SPECIFIC CONDITIONS OF APPROVAL

1B Depth of the well shall not exceed the thickness of the Ogallala formation.

4 No water shall be appropriated and beneficially used under this permit.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.

C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before 11/30/2013, unless a permit to use water from this well is acquired from the Office of the State Engineer.

P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between geologic zones.

LOG The Point of Diversion L 13211 POD1 must be completed and the Well Log filed on or before 11/30/2013.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 11/08/2012 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 16th day of Nov A.D., 2012

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

By: Andy Morley
Andy Morley

Trn Desc: L-13211 MONITOR

File Number: L 13211
Trn Number: 516944

Appendix E
Laboratory Analytical Reports (Soil)

Analytical Report 305463

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

E K Queen 6" Pearce

2008-113

12-JUN-08

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

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 - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

12-JUN-08

Project Manager: **Camille Reynolds**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **305463**
E K Queen 6" Pearce
Project Address: Lea County, NM

Camille Reynolds:

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 305463. 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. 305463 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

Sample Cross Reference 305463

PLAINS ALL AMERICAN EH&S, Midland, TX

E K Queen 6" Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor @ 17'	S	Jun-06-08 14:00		305463-001

Certificate of Analysis Summary 305463

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E K Queen 6" Pearce

Project Id: 2008-113
Contact: Camille Reynolds
Project Location: Lea County, NM

Date Received in Lab: Tue Jun-10-08 09:02 am
Report Date: 12-JUN-08
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	305463-001					
	Field Id:	Floor @ 17'					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jun-06-08 14:00					
Percent Moisture	***Extracted:***						
	Analyzed:	Jun-10-08 16:50					
	Units/RL:	%	RL				
Percent Moisture		3.25					
TPH by SW8015 Mod	***Extracted:***	Jun-11-08 15:33					
	Analyzed:	Jun-12-08 11:25					
	Units/RL:	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		4470	77.5				
C12-C28 Diesel Range Hydrocarbons		17600	77.5				
C28-C35 Oil Range Hydrocarbons		2770	77.5				
Total TPH		24840					

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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(PQL) and above the SQL(MDL).

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.

* Outside XENCO'S scope of NELAC Accreditation

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

	Phone	Fax
11381 Meadowglen Lane Suite L Houston, Tx 77082-2647	(281) 589-0692	(281) 589-0695
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238	(210) 509-3334	(210) 509-3335
2505 N. 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
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 305463 **Project ID:** 2008-113

Lab Batch #: 725253 **Sample:** 305463-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	152	100	152	70-135	**
o-Terphenyl	163	50.0	326	70-135	**

Lab Batch #: 725253 **Sample:** 305532-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.2	100	97	70-135	
o-Terphenyl	52.5	50.0	105	70-135	

Lab Batch #: 725253 **Sample:** 305532-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	100	96	70-135	
o-Terphenyl	53.9	50.0	108	70-135	

Lab Batch #: 725253 **Sample:** 510516-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.2	100	87	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 725253 **Sample:** 510516-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	100	83	70-135	
o-Terphenyl	45.9	50.0	92	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 305463 **Project ID:** 2008-113

Lab Batch #: 725253 **Sample:** 510516-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.0	100	91	70-135	
o-Terphenyl	49.9	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

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

BS / BSD Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 305463 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 06/11/2008 **Date Analyzed:** 06/11/2008

Lab Batch ID: 725253 **Sample:** 510516-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	906	91	1000	928	93	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	914	91	1000	931	93	2	70-135	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+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: E K Queen 6" Pearce

Work Order # : 305463 **Project ID:** 2008-113

Lab Batch ID: 725253 **QC- Sample ID:** 305532-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/12/2008 **Date Prepared:** 06/11/2008 **Analyst:** ASA

Reporting Units: mg/kg

TPH by SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1040	1000	96	1040	1000	96	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1040	1010	97	1040	1020	98	1	70-135	35	

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

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

Sample Duplicate Recovery

Project Name: E K Queen 6" Pearce

Work Order #: 305463

Lab Batch #: 725130 **Project ID:** 2008-113

Date Analyzed: 06/10/2008 **Date Prepared:** 06/10/2008 **Analyst:** WRU

QC- Sample ID: 305463-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.25	3.11	4	20	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 01 OF 01

Project Name: E K QUEEN 6" Pearce

Company Name: Basin Environmental Service Technologies, LLC

Project #: 2008-113

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - C. J. Reynolds

Telephone No: (505) 441-2244 Fax No: (505) 396-1429

Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: Curt Stanley for Billy Blackwood

e-mail: cstanley@basinenv.com

(lab use only)

ORDER #: 305463

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Oth	Analyze For: TCLP:	TOTAL: TPH: 418.1 / 8015M	TPH: TX 1005	TPH: TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	HCl	N.O.R.M	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
																		8015B									X				
01	Floor @ 17'			6/6/2008	1400		1	X								SOIL		X													X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	6/10/08	902			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Cindy Lam	6/10/08	9:02

Laboratory Comments:

Sample Containers Intact?	N
VOCs Free of Headspace?	N
Labels on container(s)	N
Custody seals on container(s)	N
Custody seals on cooler(s)	(N)
Sample Hand Delivered by Sampler/Client Rep. ?	N
by Courier? UPS DHL FedEx Lone Star	402916955
Temperature Upon Receipt:	4.5 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env. / Plains

Date/ Time: 6.10.08 9:02

Lab ID # : 305463

Initials: CL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	4.5 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	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?	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?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See 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

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

Analytical Report 308807

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

E K QUEEN 6" PEARCE

2008-113

04-AUG-08

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

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 - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

04-AUG-08

Project Manager: **Camille Reynolds**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **308807**
E K QUEEN 6" PEARCE
Project Address: Lea County, NW

Camille Reynolds:

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 308807. 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. 308807 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

Sample Cross Reference 308807

PLAINS ALL AMERICAN EH&S, Midland, TX

E K QUEEN 6" PEARCE

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1 @ 10'	S	Jul-25-08 08:55		308807-001
SB-1 @ 20'	S	Jul-25-08 09:05		308807-002
SB-1 @ 30'	S	Jul-25-08 09:15		308807-003
SB-1 @ 40'	S	Jul-25-08 09:25		308807-004
SB-2 @ 10'	S	Jul-25-08 09:55		308807-005
SB-2 @ 20'	S	Jul-25-08 10:05		308807-006
SB-2 @ 30'	S	Jul-25-08 10:15		308807-007
SB-3 @ 10'	S	Jul-25-08 11:25		308807-008
SB-3 @ 20'	S	Jul-25-08 11:40		308807-009
SB-3 @ 30'	S	Jul-25-08 11:50		308807-010
SB-4 @ 10'	S	Jul-25-08 12:35		308807-011
SB-4 @ 20'	S	Jul-25-08 12:45		308807-012
SB-4 @ 30'	S	Jul-25-08 12:55		308807-013
SB-4 @ 40'	S	Jul-25-08 13:05		308807-014
SB-4 @ 50'	S	Jul-25-08 13:15		308807-015
SB-4 @ 60'	S	Jul-25-08 13:35		308807-016
SB-4 @ 70'	S	Jul-25-08 13:55		308807-017
SB-4 @ 80'	S	Jul-25-08 14:30		308807-018
SB-4 @ 90'	S	Jul-25-08 15:15		308807-019
SB-4 @ 100'	S	Jul-25-08 16:40		308807-020

Certificate of Analysis Summary 308807

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E K QUEEN 6" PEARCE

Project Id: 2008-113
Contact: Camille Reynolds
Project Location: Lea County, NW

Date Received in Lab: Tue Jul-29-08 08:30 am
Report Date: 04-AUG-08
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	308807-001		308807-002		308807-003		308807-004		308807-005		308807-006	
	Field Id:	SB-1 @ 10'		SB-1 @ 20'		SB-1 @ 30'		SB-1 @ 40'		SB-2 @ 10'		SB-2 @ 20'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-25-08 08:55		Jul-25-08 09:05		Jul-25-08 09:15		Jul-25-08 09:25		Jul-25-08 09:55		Jul-25-08 10:05	
BTEX by EPA 8021B	***Extracted:***	Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00	
	Analyzed:	Jul-30-08 16:04		Jul-30-08 17:16		Jul-30-08 17:40		Jul-30-08 18:04		Jul-30-08 18:27		Jul-30-08 18:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010
Toluene		ND	0.0022	ND	0.0022	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021
Ethylbenzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010
m,p-Xylenes		ND	0.0022	ND	0.0022	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021
o-Xylene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010
Total Xylenes		ND		ND		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND		ND		ND	
Percent Moisture	***Extracted:***												
	Analyzed:	Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.47	1.00	8.33	1.00	5.79	1.00	3.98	1.00	2.75	1.00	3.19	1.00
TPH by SW8015 Mod	***Extracted:***	Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 13:45	
	Analyzed:	Jul-30-08 14:27		Jul-29-08 14:17		Jul-30-08 12:42		Jul-30-08 16:20		Jul-30-08 16:47		Jul-30-08 02:22	
	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	16.2	ND	16.4	ND	15.9	ND	15.6	ND	15.4	ND	15.0
C12-C28 Diesel Range Hydrocarbons		ND	16.2	19.7	16.4	ND	15.9	ND	15.6	ND	15.4	ND	15.0
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	16.4	ND	15.9	ND	15.6	ND	15.4	ND	15.0
Total TPH		ND		19.7		ND		ND		ND		ND	

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 308807

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E K QUEEN 6" PEARCE

Project Id: 2008-113
Contact: Camille Reynolds
Project Location: Lea County, NW

Date Received in Lab: Tue Jul-29-08 08:30 am
Report Date: 04-AUG-08
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	308807-007		308807-008		308807-009		308807-010		308807-011		308807-012	
	Field Id:	SB-2 @ 30'		SB-3 @ 10'		SB-3 @ 20'		SB-3 @ 30'		SB-4 @ 10'		SB-4 @ 20'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-25-08 10:15		Jul-25-08 11:25		Jul-25-08 11:40		Jul-25-08 11:50		Jul-25-08 12:35		Jul-25-08 12:45	
BTEX by EPA 8021B	***Extracted:***	Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00		Aug-03-08 11:00		Aug-03-08 11:00	
	Analyzed:	Jul-30-08 19:15		Jul-30-08 19:39		Jul-30-08 20:51		Jul-30-08 21:15		Aug-04-08 02:36		Aug-04-08 03:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	19.62	0.5150	2.721	0.5163
Toluene		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	240.2	1.030	110.3	1.033
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	168.7	0.5150	130.0	0.5163
m,p-Xylenes		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	197.5	1.030	171.5	1.033
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	75.06	0.5150	83.38	0.5163
Total Xylenes		ND		ND		ND		ND		272.56		254.88	
Total BTEX		ND		ND		ND		ND		701.08		497.901	
Percent Moisture	***Extracted:***												
	Analyzed:	Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.51	1.00	4.09	1.00	5.39	1.00	4.21	1.00	2.92	1.00	3.15	1.00
TPH by SW8015 Mod	***Extracted:***	Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40	
	Analyzed:	Jul-30-08 17:14		Jul-30-08 17:43		Jul-30-08 18:11		Jul-30-08 18:40		Jul-30-08 19:39		Jul-30-08 20:06	
	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	15.5	ND	15.6	ND	15.9	ND	15.7	24900	386	23400	387
C12-C28 Diesel Range Hydrocarbons		ND	15.5	ND	15.6	ND	15.9	ND	15.7	53000	386	53900	387
C28-C35 Oil Range Hydrocarbons		ND	15.5	ND	15.6	ND	15.9	ND	15.7	8450	386	7870	387
Total TPH		ND		ND		ND		ND		86350		85170	

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Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 308807

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E K QUEEN 6" PEARCE

Project Id: 2008-113
Contact: Camille Reynolds
Project Location: Lea County, NW

Date Received in Lab: Tue Jul-29-08 08:30 am
Report Date: 04-AUG-08
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	308807-013		308807-014		308807-015		308807-016		308807-017		308807-018	
	Field Id:	SB-4 @ 30'		SB-4 @ 40'		SB-4 @ 50'		SB-4 @ 60'		SB-4 @ 70'		SB-4 @ 80'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-25-08 12:55		Jul-25-08 13:05		Jul-25-08 13:15		Jul-25-08 13:35		Jul-25-08 13:55		Jul-25-08 14:30	
BTEX by EPA 8021B	***Extracted:***	Aug-01-08 16:00		Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00		Jul-30-08 10:00	
	Analyzed:	Aug-02-08 17:22		Jul-30-08 22:50		Jul-30-08 23:14		Jul-30-08 23:38		Jul-31-08 00:02		Jul-31-08 00:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.0609	0.0512	0.0104	0.0010	0.0066	0.0010	0.0034	0.0011	0.0050	0.0011	0.0018	0.0011
Toluene		0.4793	0.1023	0.0381	0.0021	0.0191	0.0021	0.0116	0.0021	0.0755	0.0022	0.0079	0.0021
Ethylbenzene		0.3975	0.0512	0.0240	0.0010	0.0069	0.0010	0.0053	0.0011	0.0941	0.0011	0.0145	0.0011
m,p-Xylenes		0.4977	0.1023	0.0349	0.0021	0.0078	0.0021	0.0071	0.0021	0.1263	0.0022	0.0254	0.0021
o-Xylene		0.2369	0.0512	0.0208	0.0010	0.0036	0.0010	0.0039	0.0011	0.0703	0.0011	0.0149	0.0011
Total Xylenes		0.7346		0.0557		0.0114		0.011		0.1966		0.0403	
Total BTEX		1.6723		0.1282		0.044		0.0313		0.3712		0.0645	
Percent Moisture	***Extracted:***												
	Analyzed:	Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00		Jul-30-08 08:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		2.26	1.00	2.42	1.00	4.19	1.00	6.67	1.00	8.14	1.00	6.08	1.00
TPH by SW8015 Mod	***Extracted:***	Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 11:40		Jul-29-08 13:45	
	Analyzed:	Jul-29-08 18:29		Jul-29-08 19:00		Jul-29-08 19:27		Jul-29-08 19:53		Jul-29-08 20:21		Jul-30-08 02:48	
	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		67.2	15.0	27.8	15.0	ND	15.0	ND	15.0	43.3	15.0	27.9	15.0
C12-C28 Diesel Range Hydrocarbons		876	15.0	492	15.0	59.8	15.0	224	15.0	801	15.0	669	15.0
C28-C35 Oil Range Hydrocarbons		127	15.0	81.7	15.0	15.9	15.0	36.6	15.0	133	15.0	119	15.0
Total TPH		1070.2		601.5		75.7		260.6		977.3		815.9	

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 308807

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E K QUEEN 6" PEARCE

Project Id: 2008-113
Contact: Camille Reynolds
Project Location: Lea County, NW

Date Received in Lab: Tue Jul-29-08 08:30 am
Report Date: 04-AUG-08
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	308807-019		308807-020					
	Field Id:	SB-4 @ 90'		SB-4 @ 100'					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Jul-25-08 15:15		Jul-25-08 16:40					
BTEX by EPA 8021B	***Extracted:***	Jul-31-08 11:00		Jul-31-08 11:00					
	Analyzed:	Jul-31-08 18:19		Jul-31-08 18:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.0011	ND	0.0011				
Toluene		0.0031	0.0021	0.0038	0.0022				
Ethylbenzene		0.0016	0.0011	0.0071	0.0011				
m,p-Xylenes		0.0024	0.0021	0.0110	0.0022				
o-Xylene		ND	0.0011	0.0068	0.0011				
Total Xylenes		0.0024		0.0178					
Total BTEX		0.0071		0.0287					
Percent Moisture	***Extracted:***								
	Analyzed:	Jul-30-08 08:00		Jul-30-08 08:00					
	Units/RL:	%	RL	%	RL				
Percent Moisture		5.51	1.00	7.73	1.00				
TPH by SW8015 Mod	***Extracted:***	Jul-29-08 13:45		Jul-29-08 13:45					
	Analyzed:	Jul-30-08 03:15		Jul-30-08 03:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	15.0	17.1	15.0				
C12-C28 Diesel Range Hydrocarbons		253	15.0	430	15.0				
C28-C35 Oil Range Hydrocarbons		54.7	15.0	78.2	15.0				
Total TPH		307.7		525.3					

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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(PQL) and above the SQL(MDL).

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.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729470 **Sample:** 308807-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 729470 **Sample:** 308807-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 729470 **Sample:** 308807-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 729470 **Sample:** 308807-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 729470 **Sample:** 308807-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729470 **Sample:** 308807-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 729470 **Sample:** 308807-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 729470 **Sample:** 308807-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 729470 **Sample:** 308807-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0297	0.0300	99	80-120	

Lab Batch #: 729470 **Sample:** 308807-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729470 **Sample:** 308807-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 729470 **Sample:** 308807-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 729470 **Sample:** 308807-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0354	0.0300	118	80-120	
4-Bromofluorobenzene	0.0247	0.0300	82	80-120	

Lab Batch #: 729470 **Sample:** 308807-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 729470 **Sample:** 308807-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0364	0.0300	121	80-120	**
4-Bromofluorobenzene	0.0364	0.0300	121	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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729470 **Sample:** 308807-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0403	0.0300	134	80-120	**
4-Bromofluorobenzene	0.0582	0.0300	194	80-120	**

Lab Batch #: 729470 **Sample:** 308807-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	80-120	
4-Bromofluorobenzene	0.0264	0.0300	88	80-120	

Lab Batch #: 729470 **Sample:** 512994-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 729470 **Sample:** 512994-1-BSD / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 729725 **Sample:** 308807-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0347	0.0300	116	80-120	
4-Bromofluorobenzene	0.0357	0.0300	119	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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729725 **Sample:** 308807-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	80-120	
4-Bromofluorobenzene	0.0396	0.0300	132	80-120	**

Lab Batch #: 729725 **Sample:** 308850-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0953	0.0300	318	80-120	**

Lab Batch #: 729725 **Sample:** 308850-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0348	0.0300	116	80-120	
4-Bromofluorobenzene	0.0757	0.0300	252	80-120	**

Lab Batch #: 729725 **Sample:** 513100-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0328	0.0300	109	80-120	

Lab Batch #: 729725 **Sample:** 513100-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729725 **Sample:** 513100-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 729840 **Sample:** 308807-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0351	0.0300	117	80-120	
4-Bromofluorobenzene	0.0375	0.0300	125	80-120	**

Lab Batch #: 729840 **Sample:** 308887-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0342	0.0300	114	80-120	

Lab Batch #: 729840 **Sample:** 308887-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0331	0.0300	110	80-120	

Lab Batch #: 729840 **Sample:** 513177-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729840 **Sample:** 513177-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0347	0.0300	116	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 729840 **Sample:** 513177-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0306	0.0300	102	80-120	

Lab Batch #: 729864 **Sample:** 308807-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0442	0.0300	147	80-120	**
4-Bromofluorobenzene	0.0501	0.0300	167	80-120	**

Lab Batch #: 729864 **Sample:** 308807-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0457	0.0300	152	80-120	**
4-Bromofluorobenzene	0.0784	0.0300	261	80-120	**

Lab Batch #: 729864 **Sample:** 308887-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0322	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

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

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729864 **Sample:** 308887-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 729864 **Sample:** 513197-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 729864 **Sample:** 513197-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 729864 **Sample:** 513197-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 729435 **Sample:** 308807-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.0	100	95	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

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

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729435 **Sample:** 308807-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.9	100	100	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

Lab Batch #: 729435 **Sample:** 308807-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.2	100	96	70-135	
o-Terphenyl	57.0	50.0	114	70-135	

Lab Batch #: 729435 **Sample:** 308807-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.9	100	99	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 729435 **Sample:** 308807-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	100	98	70-135	
o-Terphenyl	54.3	50.0	109	70-135	

Lab Batch #: 729435 **Sample:** 512968-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	59.1	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

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

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729435 **Sample:** 512968-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

Lab Batch #: 729435 **Sample:** 512968-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.3	100	98	70-135	
o-Terphenyl	51.3	50.0	103	70-135	

Lab Batch #: 729462 **Sample:** 308657-007 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.7	100	95	70-135	
o-Terphenyl	49.6	50.0	99	70-135	

Lab Batch #: 729462 **Sample:** 308657-007 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	100	92	70-135	
o-Terphenyl	48.5	50.0	97	70-135	

Lab Batch #: 729462 **Sample:** 308807-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	100	92	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729462 **Sample:** 308807-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.6	100	93	70-135	
o-Terphenyl	48.1	50.0	96	70-135	

Lab Batch #: 729462 **Sample:** 308807-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	100	95	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

Lab Batch #: 729462 **Sample:** 308807-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.3	100	91	70-135	
o-Terphenyl	46.6	50.0	93	70-135	

Lab Batch #: 729462 **Sample:** 308807-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.9	100	94	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 729462 **Sample:** 308807-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	190	100	190	70-135	**
o-Terphenyl	88.2	50.0	176	70-135	**

** 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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729462 **Sample:** 308807-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.8	100	88	70-135	
o-Terphenyl	45.1	50.0	90	70-135	

Lab Batch #: 729462 **Sample:** 308807-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.1	100	89	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 729462 **Sample:** 308807-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.7	100	89	70-135	
o-Terphenyl	45.9	50.0	92	70-135	

Lab Batch #: 729462 **Sample:** 308807-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	799	100	799	70-135	**
o-Terphenyl	667	50.0	1334	70-135	**

Lab Batch #: 729462 **Sample:** 308807-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	891	100	891	70-135	**
o-Terphenyl	668	50.0	1336	70-135	**

** 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.

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729462 **Sample:** 308807-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.4	100	92	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

Lab Batch #: 729462 **Sample:** 308807-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.6	100	89	70-135	
o-Terphenyl	49.6	50.0	99	70-135	

Lab Batch #: 729462 **Sample:** 308807-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

Lab Batch #: 729462 **Sample:** 308807-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.8	100	92	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 729462 **Sample:** 308807-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.0	100	92	70-135	
o-Terphenyl	59.0	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

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

Form 2 - Surrogate Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729462 **Sample:** 512991-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	56.3	50.0	113	70-135	

Lab Batch #: 729462 **Sample:** 512991-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 729462 **Sample:** 512991-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

** 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.

Blank Spike Recovery

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Lab Batch #: 729470 **Sample:** 512994-1-BSD **Matrix:** Solid

Date Analyzed: 07/30/2008 **Date Prepared:** 07/30/2008 **Analyst:** BRB

Reporting Units: mg/kg **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	0.0500	0.0459	92	70-130	
Toluene	ND	0.0500	0.0427	85	70-130	
Ethylbenzene	ND	0.0500	0.0469	94	71-129	
m,p-Xylenes	ND	0.1000	0.0988	99	70-135	
o-Xylene	ND	0.0500	0.0475	95	71-133	

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

BS / BSD Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Analyst: BRB **Date Prepared:** 07/31/2008 **Date Analyzed:** 07/31/2008

Lab Batch ID: 729725 **Sample:** 513100-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.0500	0.0500	100	0.05	0.0460	92	8	70-130	35	
Toluene	ND	0.0500	0.0487	97	0.05	0.0445	89	9	70-130	35	
Ethylbenzene	ND	0.0500	0.0552	110	0.05	0.0500	100	10	71-129	35	
m,p-Xylenes	ND	0.1000	0.1159	116	0.1	0.1048	105	10	70-135	35	
o-Xylene	ND	0.0500	0.0564	113	0.05	0.0513	103	9	71-133	35	

Analyst: ASA **Date Prepared:** 08/01/2008 **Date Analyzed:** 08/02/2008

Lab Batch ID: 729840 **Sample:** 513177-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1149	115	0.1	0.1060	106	8	70-130	35	
Toluene	ND	0.1000	0.1132	113	0.1	0.1050	105	8	70-130	35	
Ethylbenzene	ND	0.1000	0.1230	123	0.1	0.1147	115	7	71-129	35	
m,p-Xylenes	ND	0.2000	0.2527	126	0.2	0.2359	118	7	70-135	35	
o-Xylene	ND	0.1000	0.1167	117	0.1	0.1094	109	6	71-133	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+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: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Analyst: BRB **Date Prepared:** 08/03/2008 **Date Analyzed:** 08/03/2008

Lab Batch ID: 729864 **Sample:** 513197-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0877	88	0.1	0.0833	83	5	70-130	35	
Toluene	ND	0.1000	0.0926	93	0.1	0.0882	88	5	70-130	35	
Ethylbenzene	ND	0.1000	0.1066	107	0.1	0.1018	102	5	71-129	35	
m,p-Xylenes	ND	0.2000	0.2234	112	0.2	0.2124	106	5	70-135	35	
o-Xylene	ND	0.1000	0.1057	106	0.1	0.1006	101	5	71-133	35	

Analyst: ASA **Date Prepared:** 07/29/2008 **Date Analyzed:** 07/30/2008

Lab Batch ID: 729435 **Sample:** 512968-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	964	96	1000	883	88	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	1020	102	1000	931	93	9	70-135	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+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: E K QUEEN 6" PEARCE

Work Order #: 308807 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 07/29/2008 **Date Analyzed:** 07/29/2008

Lab Batch ID: 729462 **Sample:** 512991-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	969	97	1000	882	88	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	1020	102	1000	921	92	10	70-135	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+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: E K QUEEN 6" PEARCE

Work Order #: 308807
Lab Batch #: 729435
Date Analyzed: 07/30/2008
QC- Sample ID: 308807-006 S
Reporting Units: mg/kg

Project ID: 2008-113
Date Prepared: 07/29/2008
Analyst: ASA
Batch #: 1
Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	884	88	70-135	
C12-C28 Diesel Range Hydrocarbons	ND	1000	935	94	70-135	

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

Form 3 - MS / MSD Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order # : 308807 **Project ID:** 2008-113

Lab Batch ID: 729470 **QC- Sample ID:** 308807-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/30/2008 **Date Prepared:** 07/30/2008 **Analyst:** BRB

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1081	0.0364	34	0.1081	0.0348	32	6	70-130	35	X
Toluene	ND	0.1081	0.0343	32	0.1081	0.0329	30	6	70-130	35	X
Ethylbenzene	ND	0.1081	0.0370	34	0.1081	0.0354	33	3	71-129	35	X
m,p-Xylenes	ND	0.2161	0.0778	36	0.2161	0.0744	34	6	70-135	35	X
o-Xylene	ND	0.1081	0.0378	35	0.1081	0.0363	34	3	71-133	35	X

Lab Batch ID: 729725 **QC- Sample ID:** 308850-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/31/2008 **Date Prepared:** 07/31/2008 **Analyst:** BRB

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.0015	0.0508	0.0278	52	0.0508	0.0261	48	8	70-130	35	X
Toluene	0.0092	0.0508	0.0189	19	0.0508	0.0173	16	17	70-130	35	X
Ethylbenzene	0.0079	0.0508	0.0135	11	0.0508	0.0136	11	0	71-129	35	X
m,p-Xylenes	0.0232	0.1016	0.0352	12	0.1016	0.0315	8	40	70-135	35	XF
o-Xylene	0.0136	0.0508	0.0203	13	0.0508	0.0182	9	36	71-133	35	XF

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

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

Form 3 - MS / MSD Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order # : 308807 **Project ID:** 2008-113

Lab Batch ID: 729840 **QC- Sample ID:** 308887-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/02/2008 **Date Prepared:** 08/01/2008 **Analyst:** ASA

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	ND	0.1299	0.1199	92	0.1299	0.1186	91	1	70-130	35	
Toluene	ND	0.1299	0.1189	92	0.1299	0.1174	90	2	70-130	35	
Ethylbenzene	ND	0.1299	0.1260	97	0.1299	0.1258	97	0	71-129	35	
m,p-Xylenes	ND	0.2598	0.2592	100	0.2598	0.2584	99	1	70-135	35	
o-Xylene	ND	0.1299	0.1188	91	0.1299	0.1171	90	1	71-133	35	

Lab Batch ID: 729864 **QC- Sample ID:** 308887-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/04/2008 **Date Prepared:** 08/03/2008 **Analyst:** BRB

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	ND	0.1307	0.0938	72	0.1307	0.0981	75	4	70-130	35	
Toluene	ND	0.1307	0.0978	75	0.1307	0.1026	79	5	70-130	35	
Ethylbenzene	ND	0.1307	0.1100	84	0.1307	0.1161	89	6	71-129	35	
m,p-Xylenes	ND	0.2615	0.2291	88	0.2615	0.2416	92	4	70-135	35	
o-Xylene	ND	0.1307	0.1077	82	0.1307	0.1129	86	5	71-133	35	

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

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

Form 3 - MS / MSD Recoveries

Project Name: E K QUEEN 6" PEARCE

Work Order # : 308807 **Project ID:** 2008-113

Lab Batch ID: 729462 **QC- Sample ID:** 308657-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/29/2008 **Date Prepared:** 07/29/2008 **Analyst:** ASA

Reporting Units: mg/kg

TPH by SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1120	956	85	1120	942	84	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1120	943	84	1120	967	86	2	70-135	35	

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

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

Sample Duplicate Recovery

Project Name: E K QUEEN 6" PEARCE

Work Order #: 308807

Lab Batch #: 729500 **Project ID:** 2008-113

Date Analyzed: 07/30/2008 **Date Prepared:** 07/30/2008 **Analyst:** IRO

QC- Sample ID: 308807-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.47	6.59	13	20	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 02 OF 02

Project Name: E K QUEEN 6" PEARCE

Company Name: Basin Environmental Service Technologies, LLC

Project #: 2008-113

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - C. J. Reynolds

Telephone No: (505) 441-2244 Fax No: (505) 396-1429

Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: e-mail: cstanley@basinenv.com

(lab use only)

ORDER #: 308807

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW – Drinking Water SL – Sludge	GW = Groundwater S = Soil/Solid	NP – Non-Potable Specify Other	Analyze For: TCLP:	TOTAL: TPH: 418.1 / 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
11	SB-4 @ 10'			7/25/2008	1235		1	X								SOIL			X								X				X
12	SB-4 @ 20'			7/25/2008	1245		1	X								SOIL			X								X				X
13	SB-4 @ 30			7/25/2008	1255		1	X								SOIL			X								X				X
14	SB-4 @ 40'			7/25/2008	1305		1	X								SOIL			X								X				X
15	SB-4 @ 50'			7/25/2008	1315		1	X								SOIL			X								X				X
16	SB-4 @ 60'			7/25/2008	1335		1	X								SOIL			X								X				X
17	SB-4 @ 70'			7/25/2008	1355		1	X								SOIL			X								X				X
18	SB-4 @ 80'			7/25/2008	1430		1	X								SOIL			X								X				X
19	SB-4 @ 90'			7/25/2008	1515		1	X								SOIL			X								X				X
20	SB-4 @ 100'			7/25/2008	1640		1	X								SOIL			X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	7/29/08	830			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				7/29/08	8:30

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.0Z 0.5 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 01 OF 02

Project Name: E K QUEEN 6" PEARCE

Company Name: Basin Environmental Service Technologies, LLC

Project #: 2008-113

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - C. J. Reynolds

Telephone No: (505) 441-2244 Fax No: (505) 396-1429

Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature:

e-mail: cstanley@basinenv.com

(lab use only)

ORDER #: 308807

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW – Drinking Water SL – Sludge; GW = Groundwater S = Soil/Sol; NP – Non-Potable Specify Oth	Analyze For: TPH: 418.1 (8015M) 8015R	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
																	TCLP:													
																	TOTAL:								X				
1	SB-1 @ 10'			7/25/2008	855		1	X								SOIL	X								X				X
2	SB-1 @ 20'			7/25/2008	905		1	X								SOIL	X								X				X
3	SB-1 @ 30			7/25/2008	915		1	X								SOIL	X								X				X
4	SB-1 @ 40'			7/25/2008	925		1	X								SOIL	X								X				X
5	SB-2 @ 10'			7/25/2008	955		1	X								SOIL	X								X				X
6	SB-2 @ 20'			7/25/2008	1005		1	X								SOIL	X								X				X
7	SB-2 @ 30'			7/25/2008	1015		1	X								SOIL	X								X				X
8	SB-3 @ 10'			7/25/2008	1125		1	X								SOIL	X								X				X
9	SB-3 @ 20'			7/25/2008	1140		1	X								SOIL	X								X				X
10	SB-3 @ 30'			7/25/2008	1150		1	X								SOIL	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	7/24/08	830			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				7/24/08	8:30

Laboratory Comments:

Sample Containers Intact?	N
VOCs Free of Headspace?	N
Labels on container(s)	N
Custody seals on container(s)	N
Custody seals on cooler(s)	N
Sample Hand Delivered	N
by Sampler/Client Rep. ?	Y
by Courier? UPS DHL FedEx Lone Star	

Temperature Upon Receipt: 4.0 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Environmental

Date/ Time: 7/29/08 8:30

Lab ID # : 308807

Initials: JG

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	0.5 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	(Yes)	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 315760

for

PLAINS ALL AMERICAN EH&S

Project Manager: Daniel Bryant

EK Queen Pearce 6"

2008-113

31-OCT-08

E84880

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-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 - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

31-OCT-08

Project Manager: **Daniel Bryant**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **315760**
EK Queen Pearce 6"
Project Address: Lea County, NM

Daniel Bryant:

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 315760. 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. 315760 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

Sample Cross Reference 315760

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce 6"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
N-1 S/W	S	Oct-23-08 16:00		315760-001
E-1 S/W	S	Oct-23-08 16:04		315760-002
W-1 S/W	S	Oct-23-08 16:11		315760-003
E-2 S/W	S	Oct-23-08 16:20		315760-004
S-1 S/W	S	Oct-23-08 16:25		315760-005
N-2 S/W	S	Oct-23-08 16:30		315760-006
S-2 S/W	S	Oct-23-08 16:34		315760-007
W-2 S/W	S	Oct-23-08 16:38		315760-008

Certificate of Analysis Summary 315760

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Fri Oct-24-08 05:25 pm
Report Date: 31-OCT-08
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	315760-001		315760-002		315760-003		315760-004		315760-005		315760-006	
	Field Id:	N-1 S/W		E-1 S/W		W-1 S/W		E-2 S/W		S-1 S/W		N-2 S/W	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-23-08 16:00		Oct-23-08 16:04		Oct-23-08 16:11		Oct-23-08 16:20		Oct-23-08 16:25		Oct-23-08 16:30	
BTEX by EPA 8021B	***Extracted:***	Oct-30-08 16:15						Oct-30-08 16:15		Oct-30-08 16:15		Oct-30-08 16:15	
	Analyzed:	Oct-30-08 21:51						Oct-30-08 22:13		Oct-30-08 22:35		Oct-30-08 22:57	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0051					ND	0.0052	ND	0.0052	ND	0.0051
Toluene		ND	0.0102					ND	0.0104	ND	0.0104	ND	0.0101
Ethylbenzene		ND	0.0051					ND	0.0052	ND	0.0052	ND	0.0051
m,p-Xylenes		ND	0.0102					ND	0.0104	ND	0.0104	ND	0.0101
o-Xylene		ND	0.0051					ND	0.0052	ND	0.0052	ND	0.0051
Total Xylenes		ND						ND		ND		ND	
Total BTEX		ND						ND		ND		ND	
Percent Moisture	***Extracted:***												
	Analyzed:	Oct-27-08 17:00		Oct-27-08 17:00		Oct-27-08 17:00		Oct-27-08 17:00		Oct-27-08 17:00		Oct-27-08 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		1.56	1.00	7.75	1.00	8.82	1.00	3.67	1.00	3.73	1.00	1.30	1.00
TPH By SW8015 Mod	***Extracted:***	Oct-27-08 14:30		Oct-27-08 14:30		Oct-27-08 14:30		Oct-27-08 14:30		Oct-27-08 14:30		Oct-27-08 14:30	
	Analyzed:	Oct-28-08 07:14		Oct-28-08 07:40		Oct-28-08 08:06		Oct-28-08 08:32		Oct-28-08 08:59		Oct-28-08 16:10	
	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	15.2	33.1	16.3	16.6	16.5	ND	15.6	ND	15.6	ND	15.2
C12-C28 Diesel Range Hydrocarbons		ND	15.2	771	16.3	1160	16.5	21.8	15.6	ND	15.6	ND	15.2
C28-C35 Oil Range Hydrocarbons		ND	15.2	117	16.3	279	16.5	21.9	15.6	ND	15.6	ND	15.2
Total TPH		ND		921.1		1455.6		43.7		ND		ND	

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 315760

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Fri Oct-24-08 05:25 pm
Report Date: 31-OCT-08
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	315760-007	315760-008				
	Field Id:	S-2 S/W	W-2 S/W				
	Depth:						
	Matrix:	SOIL	SOIL				
	Sampled:	Oct-23-08 16:34	Oct-23-08 16:38				
BTEX by EPA 8021B	***Extracted:***	Oct-30-08 16:15					
	Analyzed:	Oct-30-08 23:19					
	Units/RL:	mg/kg RL					
Benzene		ND 0.0053					
Toluene		ND 0.0106					
Ethylbenzene		ND 0.0053					
m,p-Xylenes		ND 0.0106					
o-Xylene		ND 0.0053					
Total Xylenes		ND					
Total BTEX		ND					
Percent Moisture	***Extracted:***						
	Analyzed:	Oct-27-08 17:00	Oct-27-08 17:00				
	Units/RL:	% RL	% RL				
Percent Moisture		5.74 1.00	1.88 1.00				
TPH By SW8015 Mod	***Extracted:***	Oct-27-08 14:30	Oct-27-08 14:30				
	Analyzed:	Oct-28-08 09:53	Oct-28-08 10:18				
	Units/RL:	mg/kg RL	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 15.9	ND 15.3				
C12-C28 Diesel Range Hydrocarbons		ND 15.9	396 15.3				
C28-C35 Oil Range Hydrocarbons		ND 15.9	86.6 15.3				
Total TPH		ND	482.6				

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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(PQL) and above the SQL(MDL).

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.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 315760, **Project ID:** 2008-113

Lab Batch #: 738706 **Sample:** 315760-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0234	0.0300	78	80-120	**

Lab Batch #: 738706 **Sample:** 315760-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 738706 **Sample:** 315760-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	80-120	
4-Bromofluorobenzene	0.0212	0.0300	71	80-120	**

Lab Batch #: 738706 **Sample:** 315760-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0230	0.0300	77	80-120	**

Lab Batch #: 738706 **Sample:** 315760-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0387	0.0300	129	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 315760, **Project ID:** 2008-113

Lab Batch #: 738706 **Sample:** 315760-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0342	0.0300	114	80-120	

Lab Batch #: 738706 **Sample:** 315760-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0210	0.0300	70	80-120	**

Lab Batch #: 738706 **Sample:** 518351-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0296	0.0300	99	80-120	

Lab Batch #: 738706 **Sample:** 518351-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0213	0.0300	71	80-120	**

Lab Batch #: 738706 **Sample:** 518351-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0277	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 315760, **Project ID:** 2008-113

Lab Batch #: 738479 **Sample:** 315760-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	54.3	50.0	109	70-135	

Lab Batch #: 738479 **Sample:** 315760-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	59.5	50.0	119	70-135	

Lab Batch #: 738479 **Sample:** 315760-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 738479 **Sample:** 315760-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	63.0	50.0	126	70-135	

Lab Batch #: 738479 **Sample:** 315760-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	131	100	131	70-135	
o-Terphenyl	77.6	50.0	155	70-135	**

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 315760, **Project ID:** 2008-113

Lab Batch #: 738479 **Sample:** 315760-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	100	132	70-135	
o-Terphenyl	64.5	50.0	129	70-135	

Lab Batch #: 738479 **Sample:** 315760-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	55.8	50.0	112	70-135	

Lab Batch #: 738479 **Sample:** 315760-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	55.6	50.0	111	70-135	

Lab Batch #: 738479 **Sample:** 315760-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 738479 **Sample:** 315760-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	59.0	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 315760, **Project ID:** 2008-113

Lab Batch #: 738479 **Sample:** 518217-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	59.2	50.0	118	70-135	

Lab Batch #: 738479 **Sample:** 518217-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	58.8	50.0	118	70-135	

Lab Batch #: 738479 **Sample:** 518217-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	65.0	50.0	130	70-135	

** 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.

BS / BSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order #: 315760 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 10/30/2008 **Date Analyzed:** 10/30/2008

Lab Batch ID: 738706 **Sample:** 518351-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.5000	0.4784	96	0.5	0.4682	94	2	70-130	35	
Toluene	ND	0.5000	0.4916	98	0.5	0.4755	95	3	70-130	35	
Ethylbenzene	ND	0.5000	0.4873	97	0.5	0.4575	92	6	71-129	35	
m,p-Xylenes	ND	1.000	1.100	110	1	1.023	102	7	70-135	35	
o-Xylene	ND	0.5000	0.5111	102	0.5	0.4732	95	8	71-133	35	

Analyst: ASA **Date Prepared:** 10/27/2008 **Date Analyzed:** 10/28/2008

Lab Batch ID: 738479 **Sample:** 518217-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	849	85	1000	839	84	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	897	90	1000	881	88	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order # : 315760 **Project ID:** 2008-113

Lab Batch ID: 738706 **QC- Sample ID:** 315760-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/31/2008 **Date Prepared:** 10/30/2008 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.5066	0.0923	18	0.5066	0.1567	31	53	70-130	35	XF
Toluene	ND	0.5066	0.2428	48	0.5066	0.2280	45	6	70-130	35	X
Ethylbenzene	ND	0.5066	0.2900	57	0.5066	0.2664	53	7	71-129	35	X
m,p-Xylenes	ND	1.013	0.9000	89	1.013	0.7311	72	21	70-135	35	
o-Xylene	ND	0.5066	0.4241	84	0.5066	0.3403	67	23	71-133	35	X

Lab Batch ID: 738479 **QC- Sample ID:** 315760-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/28/2008 **Date Prepared:** 10/27/2008 **Analyst:** ASA

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1020	813	80	1020	809	79	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1020	889	87	1020	885	87	0	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

Sample Duplicate Recovery

Project Name: EK Queen Pearce 6"

Work Order #: 315760

Lab Batch #: 738311 **Project ID:** 2008-113

Date Analyzed: 10/27/2008 **Date Prepared:** 10/27/2008 **Analyst:** BEV

QC- Sample ID: 738311-1 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.28	7.28	NC	20	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)605-7210

Fax No: (505) 396-1429

Sampler Signature: C Bryant

e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce 6"

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - D. Bryant

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 315760

Analyze For: TCLP: / TOTAL: X (BTEX)

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix (DW - Drinking Water SL - Sludge GW = Groundwater S - Soil/Solid NP - Non-Potable Specify Other)	TPH: 418.1 (8015M) 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	(BTEX 8021B)/5030 or BTEX 8260	RCI	N.O.R.M.				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	N-1 S/W			23-Oct-08	1600		1	X								SOIL	X															X
02	E-1 S/W			23-Oct-08	1604		1	X								SOIL	X															X
03	W-1 S/W			23-Oct-08	1611		1	X								SOIL	X															X
04	E-2 S/W			23-Oct-08	1620		1	X								SOIL	X															X
05	S-1 S/W			23-Oct-08	1625		1	X								SOIL	X															X
06	N-2 S/W			23-Oct-08	1630		1	X								SOIL	X															X
07	S-2 S/W			23-Oct-08	1634		1	X								SOIL	X															X
08	W-2 S/W			23-Oct-08	1638		1	X								SOIL	X															X

Special Instructions:
Please run BTEX 8021B on all samples below 100 ppm TPH

Relinquished by:	Date	Time	Received by:	Date	Time
C Bryant	10/24/08	1427	[signature]	10/24/08	1427
[signature]	10/24/08	1727			
			Received by ELOT: [signature]	10/24/08	1725

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 4 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains | Basin Env.

Date/ Time: 10.24.08 17:27

Lab ID # : 315760

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	4 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	(Yes)	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 322297

for

PLAINS ALL AMERICAN EH&S

Project Manager: Daniel Bryant

EK Queen Pearce 6"

2008-113

15-JAN-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

15-JAN-09

Project Manager: **Daniel Bryant**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **322297**
EK Queen Pearce 6"
Project Address: Lea County, NM

Daniel Bryant:

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 322297. 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. 322297 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

Sample Cross Reference 322297

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce 6"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1 10'	S	Jan-06-09 10:00		322297-001
MW-1 30'	S	Jan-06-09 10:10		322297-002
MW-1 50'	S	Jan-06-09 10:30		322297-003
MW-1 70'	S	Jan-06-09 10:55		322297-004
MW-1 90'	S	Jan-06-09 11:20		322297-005
MW-1 110'	S	Jan-06-09 11:50		322297-006
MW-1 127'	S	Jan-06-09 12:35		322297-007
MW-2 10'	S	Jan-07-09 11:00		322297-008
MW-2 30'	S	Jan-07-09 11:10		322297-009
MW-2 50'	S	Jan-07-09 11:30		322297-010
MW-2 70'	S	Jan-07-09 11:50		322297-011
MW-2 95'	S	Jan-07-09 12:15		322297-012
MW-2 110'	S	Jan-07-09 12:40		322297-013
MW-2 120'	S	Jan-07-09 13:15		322297-014
MW-3 10'	S	Jan-08-09 09:30		322297-015
MW-3 35'	S	Jan-08-09 09:40		322297-016
MW-3 50'	S	Jan-08-09 09:55		322297-017
MW-3 70'	S	Jan-08-09 10:15		322297-018
MW-3 90'	S	Jan-08-09 10:40		322297-019
MW-3 110'	S	Jan-08-09 11:10		322297-020
MW-3 113'	S	Jan-08-09 11:50		322297-021
SB-5 10'	S	Jan-09-09 10:20		322297-022
SB-5 20'	S	Jan-09-09 10:25		322297-023
SB-5 30'	S	Jan-09-09 10:35		322297-024
SB-5 40'	S	Jan-09-09 10:45		322297-025
SB-5 50'	S	Jan-09-09 11:00		322297-026
SB-5 60'	S	Jan-09-09 11:20		322297-027

Certificate of Analysis Summary 322297

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Tue Jan-13-09 10:36 am
Report Date: 15-JAN-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	322297-001		322297-002		322297-003		322297-004		322297-005		322297-006	
	Field Id:	MW-1 10'		MW-1 30'		MW-1 50'		MW-1 70'		MW-1 90'		MW-1 110'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-06-09 10:00		Jan-06-09 10:10		Jan-06-09 10:30		Jan-06-09 10:55		Jan-06-09 11:20		Jan-06-09 11:50	
BTEX by EPA 8021B	*Extracted:*	Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15	
	Analyzed:	Jan-14-09 04:46		Jan-14-09 05:07		Jan-14-09 05:28		Jan-14-09 05:48		Jan-14-09 06:09		Jan-14-09 06:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
Toluene		ND	0.0021	ND	0.0021	ND	0.0020	ND	0.0020	ND	0.0021	ND	0.0021
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
m,p-Xylenes		ND	0.0021	ND	0.0021	ND	0.0020	ND	0.0020	ND	0.0021	ND	0.0021
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
Total Xylenes		ND	0.0021	ND	0.0021	ND	0.0020	ND	0.0020	ND	0.0021	ND	0.0021
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
Percent Moisture	*Extracted:*												
	Analyzed:	Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.56	1.00	2.43	1.00	1.18	1.00	1.42	1.00	2.84	1.00	6.79	1.00
TPH By SW8015 Mod	*Extracted:*	Jan-13-09 13:30		Jan-13-09 13:30		Jan-13-09 13:30		Jan-13-09 13:30		Jan-13-09 13:30		Jan-13-09 13:30	
	Analyzed:	Jan-13-09 21:50		Jan-13-09 22:15		Jan-13-09 22:40		Jan-13-09 23:05		Jan-13-09 23:30		Jan-13-09 23:55	
	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	15.6	ND	15.4	ND	15.2	ND	15.2	ND	15.4	ND	16.1
C12-C28 Diesel Range Hydrocarbons		ND	15.6	ND	15.4	ND	15.2	ND	15.2	ND	15.4	36.0	16.1
C28-C35 Oil Range Hydrocarbons		ND	15.6	ND	15.4	ND	15.2	ND	15.2	ND	15.4	ND	16.1
Total TPH		ND	15.6	ND	15.4	ND	15.2	ND	15.2	ND	15.4	36	16.1

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 322297

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Tue Jan-13-09 10:36 am
Report Date: 15-JAN-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	322297-007		322297-008		322297-009		322297-010		322297-011		322297-012	
	Field Id:	MW-1 127'		MW-2 10'		MW-2 30'		MW-2 50'		MW-2 70'		MW-2 95'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-06-09 12:35		Jan-07-09 11:00		Jan-07-09 11:10		Jan-07-09 11:30		Jan-07-09 11:50		Jan-07-09 12:15	
TPH By SW8015 Mod	***Extracted:***	Jan-13-09 13:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30	
	Analyzed:	Jan-14-09 00:20		Jan-14-09 16:24		Jan-14-09 16:46		Jan-14-09 17:08		Jan-14-09 17:31		Jan-14-09 17:54	
	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		ND	16.2	ND	15.3	ND	15.3	ND	15.2	ND	15.3	ND	16.0
C12-C28 Diesel Range Hydrocarbons		17.7	16.2	ND	15.3	ND	15.3	ND	15.2	ND	15.3	ND	16.0
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	15.3	ND	15.3	ND	15.2	ND	15.3	ND	16.0
Total TPH		17.7	16.2	ND	15.3	ND	15.3	ND	15.2	ND	15.3	ND	16.0

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 322297

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Tue Jan-13-09 10:36 am
Report Date: 15-JAN-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	322297-007		322297-008		322297-009		322297-010		322297-011		322297-012	
	Field Id:	MW-1 127'		MW-2 10'		MW-2 30'		MW-2 50'		MW-2 70'		MW-2 95'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-06-09 12:35		Jan-07-09 11:00		Jan-07-09 11:10		Jan-07-09 11:30		Jan-07-09 11:50		Jan-07-09 12:15	
BTEX by EPA 8021B	***Extracted:***	Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15	
	Analyzed:	Jan-14-09 06:50		Jan-14-09 07:11		Jan-14-09 07:31		Jan-14-09 07:52		Jan-14-09 08:54		Jan-14-09 09:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
Toluene		ND	0.0022	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0021
Ethylbenzene		ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
m,p-Xylenes		ND	0.0022	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0021
o-Xylene		ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
Total Xylenes		ND	0.0022	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0021
Total BTEX		ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011
Percent Moisture	***Extracted:***												
	Analyzed:	Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.14	1.00	2.22	1.00	1.91	1.00	1.13	1.00	1.91	1.00	6.10	1.00

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 322297

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Tue Jan-13-09 10:36 am
Report Date: 15-JAN-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	322297-013		322297-014		322297-015		322297-016		322297-017		322297-018	
	Field Id:	MW-2 110'		MW-2 120'		MW-3 10'		MW-3 35'		MW-3 50'		MW-3 70'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-07-09 12:40		Jan-07-09 13:15		Jan-08-09 09:30		Jan-08-09 09:40		Jan-08-09 09:55		Jan-08-09 10:15	
BTEX by EPA 8021B	*Extracted:*	Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:15	
	Analyzed:	Jan-14-09 09:36		Jan-14-09 09:57		Jan-14-09 10:39		Jan-14-09 11:00		Jan-14-09 11:21		Jan-14-09 11:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010
Toluene		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010
m,p-Xylenes		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010
Total Xylenes		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0021
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0010
Percent Moisture	*Extracted:*												
	Analyzed:	Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.74	1.00	4.61	1.00	4.90	1.00	2.89	1.00	3.75	1.00	3.73	1.00
TPH By SW8015 Mod	*Extracted:*	Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30	
	Analyzed:	Jan-14-09 18:17		Jan-14-09 19:03		Jan-14-09 19:27		Jan-14-09 19:50		Jan-14-09 20:13		Jan-14-09 20:37	
	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	15.6	ND	15.7	ND	15.8	ND	15.4	ND	15.6	ND	15.6
C12-C28 Diesel Range Hydrocarbons		ND	15.6	ND	15.7	ND	15.8	ND	15.4	ND	15.6	ND	15.6
C28-C35 Oil Range Hydrocarbons		ND	15.6	ND	15.7	ND	15.8	ND	15.4	ND	15.6	ND	15.6
Total TPH		ND	15.6	ND	15.7	ND	15.8	ND	15.4	ND	15.6	ND	15.6

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 322297

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Tue Jan-13-09 10:36 am
Report Date: 15-JAN-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	322297-019		322297-020		322297-021		322297-022		322297-023		322297-024	
	Field Id:	MW-3 90'		MW-3 110'		MW-3 113'		SB-5 10'		SB-5 20'		SB-5 30'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-08-09 10:40		Jan-08-09 11:10		Jan-08-09 11:50		Jan-09-09 10:20		Jan-09-09 10:25		Jan-09-09 10:35	
BTEX by EPA 8021B	***Extracted:***	Jan-13-09 13:15		Jan-13-09 13:15		Jan-13-09 13:00		Jan-13-09 13:00		Jan-13-09 13:00		Jan-13-09 13:00	
	Analyzed:	Jan-14-09 12:04		Jan-14-09 12:25		Jan-13-09 22:07		Jan-13-09 22:28		Jan-13-09 22:49		Jan-13-09 23:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0011
Toluene		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0022	ND	0.0021	ND	0.0021
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0011
m,p-Xylenes		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0022	ND	0.0021	ND	0.0021
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0011
Total Xylenes		ND	0.0021	ND	0.0021	ND	0.0021	ND	0.0022	ND	0.0021	ND	0.0021
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0011
Percent Moisture	***Extracted:***												
	Analyzed:	Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.33	1.00	3.09	1.00	3.61	1.00	9.75	1.00	4.67	1.00	5.99	1.00
TPH By SW8015 Mod	***Extracted:***	Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 14:30		Jan-14-09 15:00	
	Analyzed:	Jan-14-09 21:00		Jan-14-09 21:23		Jan-14-09 21:46		Jan-14-09 22:10		Jan-14-09 22:33		Jan-15-09 02:47	
	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		ND	15.7	ND	15.5	ND	15.6	ND	16.6	ND	15.7	ND	16.0
C12-C28 Diesel Range Hydrocarbons		ND	15.7	ND	15.5	ND	15.6	ND	16.6	ND	15.7	ND	16.0
C28-C35 Oil Range Hydrocarbons		ND	15.7	ND	15.5	ND	15.6	ND	16.6	ND	15.7	ND	16.0
Total TPH		ND	15.7	ND	15.5	ND	15.6	ND	16.6	ND	15.7	ND	16.0

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 322297

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Daniel Bryant
Project Location: Lea County, NM

Date Received in Lab: Tue Jan-13-09 10:36 am
Report Date: 15-JAN-09
Project Manager: Brent Barron, II

Analysis Requested												
	Lab Id:	322297-025		322297-026		322297-027						
	Field Id:	SB-5 40'		SB-5 50'		SB-5 60'						
	Depth:											
	Matrix:	SOIL		SOIL		SOIL						
	Sampled:	Jan-09-09 10:45		Jan-09-09 11:00		Jan-09-09 11:20						
BTEX by EPA 8021B	***Extracted:***	Jan-13-09 13:00		Jan-13-09 13:00		Jan-13-09 13:00						
	Analyzed:	Jan-13-09 23:32		Jan-13-09 23:53		Jan-14-09 00:14						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Benzene		ND	0.0010	ND	0.0011	ND	0.0011					
Toluene		ND	0.0021	ND	0.0021	ND	0.0022					
Ethylbenzene		ND	0.0010	ND	0.0011	ND	0.0011					
m,p-Xylenes		ND	0.0021	ND	0.0021	ND	0.0022					
o-Xylene		ND	0.0010	ND	0.0011	ND	0.0011					
Total Xylenes		ND	0.0021	ND	0.0021	ND	0.0022					
Total BTEX		ND	0.0010	ND	0.0011	ND	0.0011					
Percent Moisture	***Extracted:***											
	Analyzed:	Jan-13-09 17:00		Jan-13-09 17:00		Jan-13-09 17:00						
	Units/RL:	%	RL	%	RL	%	RL					
Percent Moisture		3.79	1.00	5.63	1.00	8.76	1.00					
TPH By SW8015 Mod	***Extracted:***	Jan-14-09 15:00		Jan-14-09 15:00		Jan-14-09 15:00						
	Analyzed:	Jan-15-09 03:10		Jan-15-09 03:33		Jan-15-09 03:56						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
C6-C12 Gasoline Range Hydrocarbons		ND	15.6	ND	15.9	ND	16.4					
C12-C28 Diesel Range Hydrocarbons		ND	15.6	ND	15.9	ND	16.4					
C28-C35 Oil Range Hydrocarbons		ND	15.6	ND	15.9	ND	16.4					
Total TPH		ND	15.6	ND	15.9	ND	16.4					

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746367 **Sample:** 322296-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0310	0.0300	103	80-120	

Lab Batch #: 746367 **Sample:** 322296-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 746367 **Sample:** 322297-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 746367 **Sample:** 322297-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0336	0.0300	112	80-120	

Lab Batch #: 746367 **Sample:** 322297-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0324	0.0300	108	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746367 **Sample:** 322297-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

Lab Batch #: 746367 **Sample:** 322297-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0325	0.0300	108	80-120	

Lab Batch #: 746367 **Sample:** 322297-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 746367 **Sample:** 322297-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0322	0.0300	107	80-120	

Lab Batch #: 746367 **Sample:** 522852-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746367 **Sample:** 522852-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0331	0.0300	110	80-120	

Lab Batch #: 746367 **Sample:** 522852-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 746371 **Sample:** 322297-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0308	0.0300	103	80-120	

Lab Batch #: 746371 **Sample:** 322297-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0311	0.0300	104	80-120	

Lab Batch #: 746371 **Sample:** 322297-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0308	0.0300	103	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746371 **Sample:** 322297-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0306	0.0300	102	80-120	

Lab Batch #: 746371 **Sample:** 322297-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0309	0.0300	103	80-120	

Lab Batch #: 746371 **Sample:** 322297-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0310	0.0300	103	80-120	

Lab Batch #: 746371 **Sample:** 322297-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 746371 **Sample:** 322297-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0308	0.0300	103	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746371 **Sample:** 322297-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0306	0.0300	102	80-120	

Lab Batch #: 746371 **Sample:** 322297-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0302	0.0300	101	80-120	

Lab Batch #: 746371 **Sample:** 322297-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 746371 **Sample:** 322297-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 746371 **Sample:** 322297-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746371 **Sample:** 322297-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 746371 **Sample:** 322297-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 746371 **Sample:** 322297-015 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0312	0.0300	104	80-120	

Lab Batch #: 746371 **Sample:** 322297-015 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 746371 **Sample:** 322297-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0323	0.0300	108	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746371 **Sample:** 322297-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 746371 **Sample:** 322297-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0326	0.0300	109	80-120	

Lab Batch #: 746371 **Sample:** 322297-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0328	0.0300	109	80-120	

Lab Batch #: 746371 **Sample:** 322297-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0329	0.0300	110	80-120	

Lab Batch #: 746371 **Sample:** 522855-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0275	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746371 **Sample:** 522855-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 746371 **Sample:** 522855-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0278	0.0300	93	80-120	

Lab Batch #: 746422 **Sample:** 322296-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	48.9	50.0	98	70-135	

Lab Batch #: 746422 **Sample:** 322296-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	48.4	50.0	97	70-135	

Lab Batch #: 746422 **Sample:** 322297-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746422 **Sample:** 322297-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.8	100	97	70-135	
o-Terphenyl	51.4	50.0	103	70-135	

Lab Batch #: 746422 **Sample:** 322297-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	100	98	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

Lab Batch #: 746422 **Sample:** 322297-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.8	100	99	70-135	
o-Terphenyl	52.4	50.0	105	70-135	

Lab Batch #: 746422 **Sample:** 322297-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	100	99	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 746422 **Sample:** 322297-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.3	100	99	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746422 **Sample:** 322297-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.5	100	94	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

Lab Batch #: 746422 **Sample:** 522884-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 746422 **Sample:** 522884-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	54.6	50.0	109	70-135	

Lab Batch #: 746422 **Sample:** 522884-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	52.5	50.0	105	70-135	

Lab Batch #: 746545 **Sample:** 322297-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	54.6	50.0	109	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746545 **Sample:** 322297-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 746545 **Sample:** 322297-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

Lab Batch #: 746545 **Sample:** 322297-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 746545 **Sample:** 322297-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 746545 **Sample:** 322297-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746545 **Sample:** 322297-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	56.6	50.0	113	70-135	

Lab Batch #: 746545 **Sample:** 322297-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.6	100	100	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 746545 **Sample:** 322297-015 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 746545 **Sample:** 322297-015 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	57.9	50.0	116	70-135	

Lab Batch #: 746545 **Sample:** 322297-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	50.4	50.0	101	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746545 **Sample:** 322297-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

Lab Batch #: 746545 **Sample:** 322297-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 746545 **Sample:** 322297-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.4	100	99	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

Lab Batch #: 746545 **Sample:** 322297-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

Lab Batch #: 746545 **Sample:** 322297-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746545 **Sample:** 322297-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	51.4	50.0	103	70-135	

Lab Batch #: 746545 **Sample:** 322297-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 746545 **Sample:** 522939-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	100	128	70-135	
o-Terphenyl	60.6	50.0	121	70-135	

Lab Batch #: 746545 **Sample:** 522939-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	56.0	50.0	112	70-135	

Lab Batch #: 746545 **Sample:** 522939-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	58.5	50.0	117	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746564 **Sample:** 322297-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 746564 **Sample:** 322297-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

Lab Batch #: 746564 **Sample:** 322297-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.4	50.0	105	70-135	

Lab Batch #: 746564 **Sample:** 322297-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 746564 **Sample:** 322381-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.0	50.0	120	70-135	

** 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 322297, **Project ID:** 2008-113

Lab Batch #: 746564 **Sample:** 322381-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	63.0	50.0	126	70-135	

Lab Batch #: 746564 **Sample:** 522946-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 746564 **Sample:** 522946-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 746564 **Sample:** 522946-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	62.9	50.0	126	70-135	

** 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.

BS / BSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order #: 322297 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/13/2009 **Date Analyzed:** 01/13/2009

Lab Batch ID: 746367 **Sample:** 522852-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0988	99	0.1	0.0978	98	1	70-130	35	
Toluene	ND	0.1000	0.0965	97	0.1	0.0958	96	1	70-130	35	
Ethylbenzene	ND	0.1000	0.1028	103	0.1	0.1022	102	1	71-129	35	
m,p-Xylenes	ND	0.2000	0.2038	102	0.2	0.2025	101	1	70-135	35	
o-Xylene	ND	0.1000	0.0985	99	0.1	0.0978	98	1	71-133	35	

Analyst: ASA **Date Prepared:** 01/13/2009 **Date Analyzed:** 01/14/2009

Lab Batch ID: 746371 **Sample:** 522855-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0923	92	0.1	0.0939	94	2	70-130	35	
Toluene	ND	0.1000	0.0880	88	0.1	0.0899	90	2	70-130	35	
Ethylbenzene	ND	0.1000	0.0910	91	0.1	0.0927	93	2	71-129	35	
m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1820	91	2	70-135	35	
o-Xylene	ND	0.1000	0.0874	87	0.1	0.0891	89	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: EK Queen Pearce 6"

Work Order #: 322297 **Project ID:** 2008-113

Analyst: BHW **Date Prepared:** 01/13/2009 **Date Analyzed:** 01/13/2009

Lab Batch ID: 746422 **Sample:** 522884-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	1110	111	1000	1110	111	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	1090	109	1000	1070	107	2	70-135	35	

Analyst: BHW **Date Prepared:** 01/14/2009 **Date Analyzed:** 01/14/2009

Lab Batch ID: 746545 **Sample:** 522939-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	1020	102	1000	999	100	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	1110	111	1000	1060	106	5	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

BS / BSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order #: 322297 **Project ID:** 2008-113

Analyst: BHW **Date Prepared:** 01/14/2009 **Date Analyzed:** 01/15/2009

Lab Batch ID: 746564 **Sample:** 522946-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	945	95	1000	925	93	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	997	100	1000	968	97	3	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: EK Queen Pearce 6"

Work Order # : 322297 **Project ID:** 2008-113

Lab Batch ID: 746367 **QC- Sample ID:** 322296-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/14/2009 **Date Prepared:** 01/13/2009 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1088	0.0666	61	0.1088	0.0689	63	3	70-130	35	X
Toluene	ND	0.1088	0.0647	59	0.1088	0.0665	61	3	70-130	35	X
Ethylbenzene	ND	0.1088	0.0674	62	0.1088	0.0690	63	2	71-129	35	X
m,p-Xylenes	ND	0.2176	0.1332	61	0.2176	0.1359	62	2	70-135	35	X
o-Xylene	ND	0.1088	0.0612	56	0.1088	0.0629	58	4	71-133	35	X

Lab Batch ID: 746371 **QC- Sample ID:** 322297-015 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/14/2009 **Date Prepared:** 01/13/2009 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1052	0.0710	67	0.1052	0.0727	69	3	70-130	35	X
Toluene	ND	0.1052	0.0702	67	0.1052	0.0723	69	3	70-130	35	X
Ethylbenzene	ND	0.1052	0.0743	71	0.1052	0.0768	73	3	71-129	35	
m,p-Xylenes	ND	0.2103	0.1464	70	0.2103	0.1514	72	3	70-135	35	
o-Xylene	ND	0.1052	0.0661	63	0.1052	0.0692	66	5	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order # : 322297 **Project ID:** 2008-113

Lab Batch ID: 746422 **QC- Sample ID:** 322296-001 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 01/14/2009 **Date Prepared:** 01/13/2009 **Analyst:** BHW
Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1090	1160	106	1090	1180	108	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1090	1120	103	1090	1140	105	2	70-135	35	

Lab Batch ID: 746545 **QC- Sample ID:** 322297-015 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 01/14/2009 **Date Prepared:** 01/14/2009 **Analyst:** BHW
Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1050	996	95	1050	999	95	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1050	1060	101	1050	1060	101	0	70-135	35	

Lab Batch ID: 746564 **QC- Sample ID:** 322381-002 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 01/15/2009 **Date Prepared:** 01/14/2009 **Analyst:** BHW
Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1110	1030	93	1110	1020	92	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	70.1	1110	1070	90	1110	1060	89	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 Quantitation Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce 6"

Work Order #: 322297

Lab Batch #: 746380 **Project ID:** 2008-113

Date Analyzed: 01/13/2009 **Date Prepared:** 01/13/2009 **Analyst:** BEV

QC- Sample ID: 322296-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	8.07	10.4	25	20	F

Lab Batch #: 746383

Date Analyzed: 01/13/2009 **Date Prepared:** 01/13/2009 **Analyst:** BEV

QC- Sample ID: 322297-015 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	4.90	7.07	36	20	F

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)605-7210 Fax No: (505) 396-1429

Sampler Signature: Camille Bryant e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce 6"

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - D. Bryant

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 322297

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Sol; NP = Non-Potable Specify Other	Analyze For: TPH 418.1	8015M	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	MW-1 10'			6-Jan-09	1000		1	X								SOIL	X										X				X
02	MW-1 30'			6-Jan-09	1010		1	X								SOIL	X										X				X
03	MW-1 50'			6-Jan-09	1030		1	X								SOIL	X										X				X
04	MW-1 70'			6-Jan-09	1055		1	X								SOIL	X										X				X
05	MW-1 90'			6-Jan-09	1120		1	X								SOIL	X										X				X
06	MW-1 110'			6-Jan-09	1150		1	X								SOIL	X										X				X
07	MW-1 127'			6-Jan-09	1235		1	X								SOIL	X										X				X
08	MW-2 10'			7-Jan-09	1100		1	X								SOIL	X										X				X
09	MW-2 30'			7-Jan-09	1110		1	X								SOIL	X										X				X
10	MW-2 50'			7-Jan-09	1130		1	X								SOIL	X										X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	1/13/09	715		1/13/09	7:15
Relinquished by:	Date	Time	Received by:	Date	Time
	1/13/09	10:36			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Andrea Lerma	1-13-09	10:36

Laboratory Comments:

Sample Containers Intact?	Y N
VOCs Free of Headspace?	Y N
Labels on container(s)	Y N
Custody seals on container(s)	Y N
Custody seals on cooler(s)	Y (N)
Sample Hand Delivered by Sampler/Client Rep. ?	Y N

by Courier? UPS DHL FedEx Lone Star

402 91955

Temperature Upon Receipt: -7.0 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Project Name: EK Queen Pearce 6"

Company Name: Basin Environmental Service Technologies, LLC

Project #: 2008-113

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - D. Bryant

Telephone No: (575)605-7210

Fax No: (505) 396-1429

Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: Camille Bryant

e-mail: cjbryant@basin-consulting.com

(lab use only)
ORDER #: 322297

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge GW = Groundwater S = Soil/Soil NP = Non-Potable Specify Oth	Analyze For: TCLP: TPH 418.1 / 8015M 8015B	TPH TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
11	MW-2 70'			7-Jan-09	1150		1	X								SOIL	X								X				X
12	MW-2 95'			7-Jan-09	1215		1	X								SOIL	X								X				X
13	MW-2 110'			7-Jan-09	1240		1	X								SOIL	X								X				X
14	MW-2 120'			7-Jan-09	1315		1	X								SOIL	X								X				X
15	MW-3 10'			8-Jan-09	0930		1	X								SOIL	X								X				X
16	MW-3 35'			8-Jan-09	0940		1	X								SOIL	X								X				X
17	MW-3 50'			8-Jan-09	0955		1	X								SOIL	X								X				X
18	MW-3 70'			8-Jan-09	1015		1	X								SOIL	X								X				X
19	MW-3 90'			8-Jan-09	1040		1	X								SOIL	X								X				X
20	MW-3 110'			8-Jan-09	1110		1	X								SOIL	X								X				X

Special Instructions:

	Date	Time		Date	Time
Relinquished by: Camille Bryant	1/13/09	7:15	Received by:	1/13/09	7:15
Relinquished by:	1/13/09	10:36	Received by:		
Relinquished by:			Received by ELOT: Andrea Lenn	1.13.09	10.36

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

402919555

Temperature Upon Receipt: -2.0 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

3 of 3

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)605-7210 Fax No: (505) 396-1429

Sampler Signature: Camille Bryant e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce 6"

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - D. Bryant

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 322297

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: GW - Drinking Water SL - Sludge	GW - Groundwater S - Soil/Sol	NP - Non-Potable Specify Oth	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 80218/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
21	MW-3 113'			8-Jan-09	1150		1	X								SOIL			X								X				X
22	SB-5 10'			9-Jan-09	1020		1	X								SOIL			X								X				X
23	SB-5 20'			9-Jan-09	1025		1	X								SOIL			X								X				X
24	SB-5 30'			9-Jan-09	1035		1	X								SOIL			X								X				X
25	SB-5 40'			9-Jan-09	1045		1	X								SOIL			X								X				X
26	SB-5 50'			9-Jan-09	1100		1	X								SOIL			X								X				X
27	SB-5 60'			9-Jan-09	1120		1	X								SOIL			X								X				X

Special Instructions:

Relinquished by: Camille Bryant	Date: 1/13/09	Time: 715	Received by:	Date: 1/13/09	Time: 7:15
Relinquished by:	Date: 1/13/09	Time: 10:36	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by ELOT: Andrea Lam	Date: 1.13.09	Time: 10:36

Laboratory Comments:

Sample Containers Intact?	N
VOCs Free of Headspace?	N
Labels on container(s)	N
Custody seals on container(s)	N
Custody seals on cooler(s)	N
Sample Hand Delivered	N
by Sampler/Client Rep. ?	N

by Courier? UPS DHL FedEx Lone Star

402 9455

Temperature Upon Receipt: 2.0 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env. | Plains

Date/ Time: 1.13.09 10:36

Lab ID #: 32262 97

Initials: AL

Sample Receipt Checklist

					Client Initials
1	Temperature of container/ cooler?	(Yes)	No	2.0 °C	
2	Shipping container in good condition?	(Yes)	No		
3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
11	Containers supplied by ELOT?	(Yes)	No		
12	Samples in proper container/ bottle?	(Yes)	No	See Below	
13	Samples properly preserved?	(Yes)	No	See Below	
14	Sample bottles intact?	(Yes)	No		
15	Preservations documented on Chain of Custody?	(Yes)	No		
16	Containers documented on Chain of Custody?	(Yes)	No		
17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 335951

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E K Queen 6" Pearce

2008-113

26-JUN-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-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

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

26-JUN-09

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

Reference: XENCO Report No: **335951**
E K Queen 6" Pearce
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 335951. 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. 335951 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

Sample Cross Reference 335951

PLAINS ALL AMERICAN EH&S, Midland, TX

E K Queen 6" Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP # 1	S	Jun-17-09 15:00		335951-001
SP # 2	S	Jun-17-09 15:10		335951-002
SP # 3	S	Jun-18-09 14:00		335951-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: E K Queen 6" Pearce

Project ID:	*2008-113*	*Report Date:*	*26-JUN-09*
Work Order Number:	*335951*	*Date Received:*	*06/19/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-763001 Percent Moisture
None

Batch: LBA-763323 TPH by SW8015 Mod
None

Batch: LBA-763558 BTEX-MTBE EPA 8021B
SW8021BM

Batch 763558, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532559-1-BLK, 335951-001, 335951-002. Matrix interference is suspected in sample surrogate failures.

Batch: LBA-763672 BTEX-MTBE EPA 8021B
SW8021BM

Batch 763672, 1,4-Difluorobenzene recovered below QC limits. Data confirmed by re-analysis Samples affected are: 335951-003.
4-Bromofluorobenzene recovered below QC limits. Data confirmed by re-analysis. Samples affected are: 532618-1-BLK, 335951-003.

Certificate of Analysis Summary 335951

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E K Queen 6" Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Fri Jun-19-09 08:40 am
Report Date: 26-JUN-09
Project Manager: Brent Barron, II

Analysis Requested												
	Lab Id:	335951-001		335951-002		335951-003						
	Field Id:	SP # 1		SP # 2		SP # 3						
	Depth:											
	Matrix:	SOIL		SOIL		SOIL						
	Sampled:	Jun-17-09 15:00		Jun-17-09 15:10		Jun-18-09 14:00						
BTEX by EPA 8021B	***Extracted:***	Jun-24-09 17:00		Jun-24-09 17:00		Jun-25-09 17:00						
	Analyzed:	Jun-24-09 23:35		Jun-24-09 23:56		Jun-26-09 01:02						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Benzene		ND	0.0010	ND	0.0010	ND	0.0510					
Toluene		ND	0.0020	ND	0.0020	4.358	0.1020					
Ethylbenzene		0.0012	0.0010	0.0012	0.0010	6.690	0.0510					
m,p-Xylenes		0.0056	0.0020	0.0064	0.0020	14.34	0.1020					
o-Xylene		0.0047	0.0010	0.0051	0.0010	7.838	0.0510					
Total Xylenes		0.0103	0.0010	0.0115	0.0010	22.178	0.0510					
Total BTEX		0.0115	0.0010	0.0127	0.0010	33.226	0.0510					
Percent Moisture	***Extracted:***											
	Analyzed:	Jun-22-09 10:23		Jun-22-09 10:23		Jun-22-09 10:23						
	Units/RL:	%	RL	%	RL	%	RL					
Percent Moisture		ND	1.00	ND	1.00	1.94	1.00					
TPH By SW8015 Mod	***Extracted:***	Jun-22-09 08:57		Jun-22-09 08:57		Jun-22-09 08:57						
	Analyzed:	Jun-23-09 08:34		Jun-23-09 09:00		Jun-23-09 09:25						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
C6-C12 Gasoline Range Hydrocarbons		56.8	15.0	47.6	15.1	731	15.3					
C12-C28 Diesel Range Hydrocarbons		603	15.0	412	15.1	2540	15.3					
C28-C35 Oil Range Hydrocarbons		63.7	15.0	51.7	15.1	267	15.3					
Total TPH		723.5	15.0	511.3	15.1	3538	15.3					

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Orders : 335951,

Project ID: 2008-113

Lab Batch #: 763558 **Sample:** 532559-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/24/09 21:26

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0315	0.0300	105	80-120	

Lab Batch #: 763558 **Sample:** 532559-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/24/09 21:47

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0331	0.0300	110	80-120	

Lab Batch #: 763558 **Sample:** 532559-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/24/09 22:30

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0214	0.0300	71	80-120	*

Lab Batch #: 763558 **Sample:** 335951-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/24/09 23:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	80-120	
4-Bromofluorobenzene	0.0420	0.0300	140	80-120	*

Lab Batch #: 763558 **Sample:** 335951-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/24/09 23:56

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0426	0.0300	142	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.

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Orders : 335951,

Project ID: 2008-113

Lab Batch #: 763672 **Sample:** 532618-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/25/09 22:10

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 763672 **Sample:** 532618-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/25/09 22:31

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0326	0.0300	109	80-120	

Lab Batch #: 763672 **Sample:** 532618-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/25/09 23:15

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0157	0.0300	52	80-120	*

Lab Batch #: 763672 **Sample:** 335951-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/09 01:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.1145	0.0300	382	80-120	**

Lab Batch #: 763323 **Sample:** 532416-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/23/09 07:17

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	39.0	50.0	78	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.

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Orders : 335951,

Project ID: 2008-113

Lab Batch #: 763323 **Sample:** 532416-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/23/09 07:42

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

Lab Batch #: 763323 **Sample:** 532416-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/23/09 08:08

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.9	100	76	70-135	
o-Terphenyl	39.1	50.0	78	70-135	

Lab Batch #: 763323 **Sample:** 335951-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/23/09 08:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.7	99.5	90	70-135	
o-Terphenyl	48.3	49.8	97	70-135	

Lab Batch #: 763323 **Sample:** 335951-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/23/09 09:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.5	99.7	87	70-135	
o-Terphenyl	47.1	49.9	94	70-135	

Lab Batch #: 763323 **Sample:** 335951-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/23/09 09:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.7	106	70-135	
o-Terphenyl	56.4	49.9	113	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.

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Orders : 335951,

Project ID: 2008-113

Lab Batch #: 763323 **Sample:** 335951-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/23/09 17:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.6	119	70-135	
o-Terphenyl	53.7	49.8	108	70-135	

Lab Batch #: 763323 **Sample:** 335951-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/23/09 18:11

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	99.7	88	70-135	
o-Terphenyl	38.9	49.9	78	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.

BS / BSD Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 335951 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 06/24/2009 **Date Analyzed:** 06/24/2009

Lab Batch ID: 763558 **Sample:** 532559-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.0996	0.0994	100	0.099	0.0987	100	1	70-130	35	
Toluene	ND	0.0996	0.0972	98	0.099	0.0964	97	1	70-130	35	
Ethylbenzene	ND	0.0996	0.1029	103	0.099	0.1024	103	0	71-129	35	
m,p-Xylenes	ND	0.1992	0.2067	104	0.198	0.2055	104	1	70-135	35	
o-Xylene	ND	0.0996	0.0972	98	0.099	0.0974	98	0	71-133	35	

Analyst: ASA **Date Prepared:** 06/25/2009 **Date Analyzed:** 06/25/2009

Lab Batch ID: 763672 **Sample:** 532618-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1077	108	0.1	0.1091	109	1	70-130	35	
Toluene	ND	0.1000	0.1054	105	0.1	0.1069	107	1	70-130	35	
Ethylbenzene	ND	0.1000	0.1112	111	0.1	0.1127	113	1	71-129	35	
m,p-Xylenes	ND	0.2000	0.2232	112	0.2	0.2261	113	1	70-135	35	
o-Xylene	ND	0.1000	0.1067	107	0.1	0.1080	108	1	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: E K Queen 6" Pearce

Work Order #: 335951 **Project ID:** 2008-113

Analyst: BHW **Date Prepared:** 06/22/2009 **Date Analyzed:** 06/23/2009

Lab Batch ID: 763323 **Sample:** 532416-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	773	77	1000	736	74	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	715	72	1000	763	76	6	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: E K Queen 6" Pearce

Work Order # : 335951 **Project ID:** 2008-113

Lab Batch ID: 763323 **QC- Sample ID:** 335951-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/23/2009 **Date Prepared:** 06/22/2009 **Analyst:** BHW

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	56.8	998	943	89	999	895	84	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	603	998	1600	100	999	1390	79	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

Sample Duplicate Recovery

Project Name: E K Queen 6" Pearce

Work Order #: 335951

Lab Batch #: 763001 **Project ID:** 2008-113

Date Analyzed: 06/22/2009 **Date Prepared:** 06/22/2009 **Analyst:** BEV

QC- Sample ID: 335900-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	9.45	10.1	7	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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant PAGE 01 OF 01 Project Name: E K Queen 6" Pearce

Company Name: Basin Environmental Service Technologies, LLC Project #: 2008-113

Company Address: P. O. Box 301 Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260 PO #: PAA - J. Henry

Telephone No: (575) 605-7210 Fax No: (505) 396-1429 Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: Camille Bryant e-mail: cjbryant@basin-consulting.com

(lab use only) ORDER #: 335951

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers (4oz glass)	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge GW = Groundwater S = Soil/Sol NP = Non-Potable Specify Oth	Analyze For: TCLP: TOTAL: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 X	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	SP #1			06/17/09	1500		1	X								SOIL	X								X				X
02	SP #2			06/17/09	1510		1	X								SOIL	X								X				X
03	SP#3			6/18/09	1400		1	X								Soil	X								X				X

Special Instructions:

	Date	Time		Date	Time
Relinquished by: Camille Bryant	6/18/09	1500	Received by:	6/18/09	1500
Relinquished by:	6/19/09	0840	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Jeanne Fitch	06-19-09	0840

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	(Y)	N
Labels on container(s)	(Y)	N
Custody seals on container(s) /label	(Y)	N
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sample/Client Rep.?	Y	N
by Courier? UPS DHL	FedEx	Lone Star

Temperature Upon Receipt: 1.6 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains / Basin

Date/ Time: 06-19-09 @ 0840

Lab ID # : 335951

Initials: JMF

Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	1.6 °C	
#2 Shipping container in good condition?	(Yes)	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4 Custody Seals intact on sample bottles/ container? /label	(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?	(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?	(Yes)	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11 Containers supplied by ELOT?	(Yes)	No		
#12 Samples in proper container/ bottle?	(Yes)	No	See Below	
#13 Samples properly preserved?	(Yes)	No	See Below	
#14 Sample bottles intact?	(Yes)	No		
#15 Preservations documented on Chain of Custody?	(Yes)	No		
#16 Containers documented on Chain of Custody?	(Yes)	No		
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 336188

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce 6"

2008-113

29-JUN-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-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

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

29-JUN-09

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

Reference: XENCO Report No: **336188**
EK Queen Pearce 6"
Project Address: West of Hobbs, 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 336188. 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. 336188 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

Sample Cross Reference 336188

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce 6"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP # 4	S	Jun-22-09 14:10		336188-001
SP # 5	S	Jun-22-09 14:20		336188-002

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce 6"

Project ID:	*2008-113*	*Report Date:*	*29-JUN-09*
Work Order Number:	*336188*	*Date Received:*	*06/23/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-763345 Percent Moisture
None

Batch: LBA-763477 TX1005
None

Batch: LBA-763727 BTEX-MTBE EPA 8021B
SW8021BM

Batch 763727, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 336188-002,336188-001.
4-Bromofluorobenzene recovered below QC limits; QC Data not confirmed by re-analysis.
Samples affected are: 532647-1-BLK.

Certificate of Analysis Summary 336188

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Jason Henry
Project Location: West of Hobbs, NM

Date Received in Lab: Tue Jun-23-09 09:25 am
Report Date: 29-JUN-09
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	336188-001		336188-002					
	Field Id:	SP # 4		SP # 5					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Jun-22-09 14:10		Jun-22-09 14:20					
BTEX by EPA 8021B	***Extracted:***	Jun-26-09 08:30		Jun-26-09 08:30					
	Analyzed:	Jun-26-09 18:08		Jun-26-09 18:30					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		0.0213	0.0207	ND	0.0207				
Toluene		0.4974	0.0415	1.006	0.0414				
Ethylbenzene		1.047	0.0207	1.549	0.0207				
m,p-Xylenes		4.685	0.0415	5.468	0.0414				
o-Xylene		2.965	0.0207	3.003	0.0207				
Total Xylenes		7.65	0.0207	8.471	0.0207				
Total BTEX		9.2157	0.0207	11.026	0.0207				
Percent Moisture	***Extracted:***								
	Analyzed:	Jun-24-09 10:42		Jun-24-09 10:42					
	Units/RL:	%	RL	%	RL				
Percent Moisture		3.69	1.00	3.74	1.00				
TPH By SW8015 Mod	***Extracted:***	Jun-24-09 14:06		Jun-24-09 14:06					
	Analyzed:	Jun-24-09 22:50		Jun-24-09 23:16					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		491	15.6	494	15.5				
C12-C28 Diesel Range Hydrocarbons		2640	15.6	2480	15.5				
C28-C35 Oil Range Hydrocarbons		234	15.6	212	15.5				
Total TPH		3365	15.6	3186	15.5				

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 336188,

Project ID: 2008-113

Lab Batch #: 763727 **Sample:** 532647-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/09 09:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0322	0.0300	107	80-120	

Lab Batch #: 763727 **Sample:** 532647-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/09 09:37

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 763727 **Sample:** 532647-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/09 10:20

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0208	0.0300	69	80-120	*

Lab Batch #: 763727 **Sample:** 336188-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/09 18:08

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0212	0.0300	71	80-120	**
4-Bromofluorobenzene	0.0649	0.0300	216	80-120	**

Lab Batch #: 763727 **Sample:** 336188-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/09 18:30

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0215	0.0300	72	80-120	**
4-Bromofluorobenzene	0.0585	0.0300	195	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 336188,

Project ID: 2008-113

Lab Batch #: 763477 **Sample:** 532498-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/24/09 14:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 763477 **Sample:** 532498-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/24/09 15:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	50.8	50.1	101	70-135	

Lab Batch #: 763477 **Sample:** 532498-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/24/09 15:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	100	98	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 763477 **Sample:** 336188-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/24/09 22:50

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	63.4	50.0	127	70-135	

Lab Batch #: 763477 **Sample:** 336188-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/24/09 23:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.5	112	70-135	
o-Terphenyl	60.4	49.8	121	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 336188,

Project ID: 2008-113

Lab Batch #: 763477 **Sample:** 336111-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/25/09 00:58

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.6	118	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 763477 **Sample:** 336111-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/25/09 01:23

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	99.6	121	70-135	
o-Terphenyl	53.6	49.8	108	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order #: 336188 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 06/26/2009 **Date Analyzed:** 06/26/2009

Lab Batch ID: 763727 **Sample:** 532647-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0916	92	0.1	0.0915	92	0	70-130	35	
Toluene	ND	0.1000	0.0897	90	0.1	0.0894	89	0	70-130	35	
Ethylbenzene	ND	0.1000	0.0953	95	0.1	0.0954	95	0	71-129	35	
m,p-Xylenes	ND	0.2000	0.1918	96	0.2	0.1916	96	0	70-135	35	
o-Xylene	ND	0.1000	0.0915	92	0.1	0.0919	92	0	71-133	35	

Analyst: BHW **Date Prepared:** 06/24/2009 **Date Analyzed:** 06/24/2009

Lab Batch ID: 763477 **Sample:** 532498-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	817	82	1000	844	84	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	873	87	1000	898	90	3	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: EK Queen Pearce 6"

Work Order # : 336188 **Project ID:** 2008-113

Lab Batch ID: 763477 **QC- Sample ID:** 336111-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/25/2009 **Date Prepared:** 06/24/2009 **Analyst:** BHW

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1240	1110	90	1240	1130	91	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1240	1220	98	1240	1220	98	0	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

Sample Duplicate Recovery

Project Name: EK Queen Pearce 6"

Work Order #: 336188

Lab Batch #: 763345 **Project ID:** 2008-113

Date Analyzed: 06/24/2009 **Date Prepared:** 06/24/2009 **Analyst:** BEV

QC- Sample ID: 336189-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	8.76	7.66	13	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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1743

Project Manager: Curt Stanley
Company Name: Basin Environmental
Company Address: 2800 Plains Hwy
City/State/Zip: Lovington, NM 88260
Telephone No: 575-441-2274 Fax No:
Sampler Signature: Curt Stanley e-mail:

Project Name: E-K Queen Pearce 6"
Project #: 2008-113
Project Loc: West of Hobbs, NM
PO #: PAA - J. Henry
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 336188

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	SP #4			6/22/09	1410		1	X								Soil	X								X				X
02	SP #5			6/22/09	1420		1	X								Soil	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	6/23/09	0925			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				06/23/09	9:25

Laboratory Comments: 4 oz g.c.

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	(Y)	N
Labels on container(s)	(Y)	N
Custody seals on container(s)	Y	(N)
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.1 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin / Plains

Date/ Time: 06/23/09 9:25

Lab ID # : 336188

Initials: gmA

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	4.1 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 336676

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce 6"

2008-113

07-JUL-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

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

Arixona certification numbers:
Houston, TX AZ0738

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

07-JUL-09

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

Reference: XENCO Report No: **336676**
EK Queen Pearce 6"
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 336676. 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. 336676 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

Sample Cross Reference 336676

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce 6"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP # 6	S	Jun-25-09 13:30		336676-001
SP # 7	S	Jun-25-09 13:45		336676-002

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce 6"

Project ID:	*2008-113*	*Report Date:*	*07-JUL-09*
Work Order Number:	*336676*	*Date Received:*	*06/29/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-763938 Percent Moisture
AD2216A
Batch 763938, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.
Samples affected are: 336676-002, -001.

Batch: LBA-764121 TPH by SW8015 Mod
None

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: EK Queen Pearce 6"

Project ID:	2008-113	Report Date:	07-JUL-09
Work Order Number:	336676	Date Received:	06/29/2009

Batch: LBA-764550 BTEX-MTBE EPA 8021B
SW8021BM

Batch 764550, Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 336676-001.
The Laboratory Control Sample for m,p-Xylenes , Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 764550, Benzene, Toluene recovered below QC limits in the laboratory control sample these compounds were within QC limits in the CCVs as well as the Laboratory Control Sample Duplicate, analyst spiking error is suspected, there should be no appreciable affect to the sample data..
Samples affected are: 336676-001.

SW8021BM

Batch 764550, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 336676-001.
4-Bromofluorobenzene recovered below QC limits QC Data not confirmed by re-analysis.
Samples affected are: 533130-1-BLK.

SW8021BM

Batch 764550, Benzene RPD was outside laboratory control limits In the LCS. The RPD was within limits for the Matrix Spike and Matrix Spike duplicate. Analyst spiking error suspected.
Samples affected are: 336676-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce 6"

Project ID:	*2008-113*	*Report Date:*	*07-JUL-09*
Work Order Number:	*336676*	*Date Received:*	*06/29/2009*

Batch: LBA-764617 BTEX-MTBE EPA 8021B
SW8021BM

Batch 764617, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 336676-002.
4-Bromofluorobenzene recovered below QC limits; QC Data not confirmed by re-analysis.
Samples affected are: 533185-1-BLK.

Certificate of Analysis Summary 336676

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Jun-29-09 11:46 am
Report Date: 07-JUL-09
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	336676-001		336676-002			
	Field Id:	SP # 6		SP # 7			
	Depth:						
	Matrix:	SOIL		SOIL			
	Sampled:	Jun-25-09 13:30		Jun-25-09 13:45			
BTEX by EPA 8021B	***Extracted:***	Jul-01-09 15:30		Jul-06-09 10:00			
	Analyzed:	Jul-03-09 03:20		Jul-06-09 12:07			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		0.0068	0.0010	0.0082	0.0052		
Toluene		0.1090	0.0021	0.3025	0.0105		
Ethylbenzene		0.0334	0.0010	0.1636	0.0052		
m,p-Xylenes		0.1183	0.0021	0.7755	0.0105		
o-Xylene		0.1528	0.0010	0.4720	0.0052		
Total Xylenes		0.2711	0.0010	1.2475	0.0052		
Total BTEX		0.4203	0.0010	1.7218	0.0052		
Percent Moisture	***Extracted:***						
	Analyzed:	Jun-30-09 08:43		Jun-30-09 08:43			
	Units/RL:	%	RL	%	RL		
Percent Moisture		3.40	1.00	4.62	1.00		
TPH By SW8015 Mod	***Extracted:***	Jun-30-09 11:01		Jun-30-09 11:01			
	Analyzed:	Jun-30-09 21:11		Jun-30-09 21:36			
	Units/RL:	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		362	77.6	473	78.4		
C12-C28 Diesel Range Hydrocarbons		2360	77.6	2450	78.4		
C28-C35 Oil Range Hydrocarbons		210	77.6	234	78.4		
Total TPH		2932	77.6	3157	78.4		

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 336676,

Project ID: 2008-113

Lab Batch #: 764550 **Sample:** 533130-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/02/09 22:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 764550 **Sample:** 533130-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/02/09 23:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 764550 **Sample:** 533130-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/02/09 23:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0146	0.0300	49	80-120	**

Lab Batch #: 764550 **Sample:** 336676-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/03/09 03:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0218	0.0300	73	80-120	**
4-Bromofluorobenzene	0.0809	0.0300	270	80-120	**

Lab Batch #: 764550 **Sample:** 336622-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/03/09 07:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 336676,

Project ID: 2008-113

Lab Batch #: 764550 **Sample:** 336622-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/03/09 07:58

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 764617 **Sample:** 533185-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/06/09 10:41

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0357	0.0300	119	80-120	

Lab Batch #: 764617 **Sample:** 533185-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/06/09 11:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0368	0.0300	123	80-120	*

Lab Batch #: 764617 **Sample:** 533185-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/06/09 11:45

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0163	0.0300	54	80-120	*

Lab Batch #: 764617 **Sample:** 336676-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/06/09 12:07

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0882	0.0300	294	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 336676,

Project ID: 2008-113

Lab Batch #: 764121 **Sample:** 532892-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/30/09 19:53

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 764121 **Sample:** 532892-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/30/09 20:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 764121 **Sample:** 532892-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/30/09 20:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	100	99	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 764121 **Sample:** 336676-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/30/09 21:11

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	56.1	50.0	112	70-135	

Lab Batch #: 764121 **Sample:** 336676-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/30/09 21:36

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.7	119	70-135	
o-Terphenyl	57.3	49.9	115	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 336676,

Project ID: 2008-113

Lab Batch #: 764121 **Sample:** 336676-001 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/30/09 23:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	56.7	50.0	113	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order #: 336676 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 07/01/2009 **Date Analyzed:** 07/02/2009

Lab Batch ID: 764550 **Sample:** 533130-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0534	53	0.1	0.0802	80	40	70-130	35	LF
Toluene	ND	0.1000	0.0608	61	0.1	0.0841	84	32	70-130	35	L
Ethylbenzene	ND	0.1000	0.0722	72	0.1	0.0922	92	24	71-129	35	
m,p-Xylenes	ND	0.2000	0.1470	74	0.2	0.1844	92	23	70-135	35	
o-Xylene	ND	0.1000	0.0719	72	0.1	0.0880	88	20	71-133	35	

Analyst: ASA **Date Prepared:** 07/06/2009 **Date Analyzed:** 07/06/2009

Lab Batch ID: 764617 **Sample:** 533185-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0905	91	0.1	0.0940	94	4	70-130	35	
Toluene	ND	0.1000	0.0872	87	0.1	0.0910	91	4	70-130	35	
Ethylbenzene	ND	0.1000	0.0978	98	0.1	0.1017	102	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.2006	100	0.2	0.2085	104	4	70-135	35	
o-Xylene	ND	0.1000	0.0949	95	0.1	0.0987	99	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: EK Queen Pearce 6"

Work Order #: 336676 **Project ID:** 2008-113

Analyst: BHW **Date Prepared:** 06/30/2009 **Date Analyzed:** 06/30/2009

Lab Batch ID: 764121 **Sample:** 532892-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	846	85	1000	832	83	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	897	90	1000	877	88	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce 6"

Work Order # : 336676 **Project ID:** 2008-113

Lab Batch ID: 764550 **QC- Sample ID:** 336622-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/03/2009 **Date Prepared:** 07/01/2009 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1006	0.0873	87	0.1006	0.0879	87	1	70-130	35	
Toluene	ND	0.1006	0.0712	71	0.1006	0.0719	71	1	70-130	35	
Ethylbenzene	ND	0.1006	0.0399	40	0.1006	0.0394	39	1	71-129	35	X
m,p-Xylenes	ND	0.2013	0.0793	39	0.2013	0.0840	42	6	70-135	35	X
o-Xylene	ND	0.1006	0.0538	53	0.1006	0.0526	52	2	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

Sample Duplicate Recovery

Project Name: EK Queen Pearce 6"

Work Order #: 336676

Lab Batch #: 763938 **Project ID:** 2008-113

Date Analyzed: 06/30/2009 **Date Prepared:** 06/30/2009 **Analyst:** BEV

QC- Sample ID: 336431-004 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.04	7.97	154	20	F

Lab Batch #: 764121

Date Analyzed: 06/30/2009 **Date Prepared:** 06/30/2009 **Analyst:** BHW

QC- Sample ID: 336676-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

TPH By SW8015 Mod Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	362	370	2	35	
C12-C28 Diesel Range Hydrocarbons	2360	2400	2	35	
C28-C35 Oil Range Hydrocarbons	210	212	1	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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Company Name: Basin Environmenatal Consulting, LLC

Company Address: P.O. Box 381

City/State/Zip: Lovington, NM 88260

Telephone No: (575)605-7210 Fax No: (505) 396-1429

Sampler Signature: Camille Bryant e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce 6"

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA- J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 336616

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Soil NP=Non-Potable Specify Oth	Analyze For: TPH: 418.1 / 8015M	TPH: TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SP #6			25-Jun-09	1330		1	X								SOIL	X								X				X
02	SP #7			25-Jun-09	1345		1	X								SOIL	X								X				X

TCLP: / TOTAL: X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	6/29/09	1146			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Fern	Date 6.29.09	Time 11:46

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	(Y)	N
Labels on container(s)	(Y)	N
Custody seals on container(s)	(Y)	N
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star

2-4oz glass

Temperature Upon Receipt: 3.1 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env / Plains

Date/ Time: 6.29.09 11:46

Lab ID # : 336676

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	3.1 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 337166

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6" Pearce

2008-113

09-JUL-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

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

Arizona certification numbers:
Houston, TX AZ0738

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

09-JUL-09

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

Reference: XENCO Report No: **337166**
E.K. Queen 6" Pearce
Project Address: Lea 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 337166. 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. 337166 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

Sample Cross Reference 337166

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6" Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Over Burden-2	S	Jul-02-09 13:05		337166-001
SP # 8	S	Jul-02-09 15:00		337166-002

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: E.K. Queen 6" Pearce

Project ID:	*2008-113*	*Report Date:*	*09-JUL-09*
Work Order Number:	*337166*	*Date Received:*	*07/02/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-764625 Percent Moisture
None

Batch: LBA-764775 TX1005
None

Batch: LBA-764887 BTEX-MTBE EPA 8021B
SW8021BM

Batch 764887, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; sample data confirmed by re-analysis
Samples affected are: 337166-002.

4-Bromofluorobenzene recovered below QC limits; QC data not confirmed by re-analyses.
Samples affected are: 533308-1-BLK.
Surrogates that fail high in QC samples but all other QC is passing are not re-analyzed.

4-Bromofluorobenzene recovered above QC limits; Sample Data confirmed by re-analysis.
Samples affected are: 337166-002

Certificate of Analysis Summary 337166

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6" Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea Co., NM

Date Received in Lab: Thu Jul-02-09 04:34 pm
Report Date: 09-JUL-09
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	337166-001		337166-002			
	Field Id:	Over Burden-2		SP # 8			
	Depth:						
	Matrix:	SOIL		SOIL			
	Sampled:	Jul-02-09 13:05		Jul-02-09 15:00			
BTEX by EPA 8021B	***Extracted:***	Jul-06-09 18:00		Jul-06-09 18:00			
	Analyzed:	Jul-08-09 12:27		Jul-08-09 13:53			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		0.0031	0.0010	ND	0.0011		
Toluene		0.0466	0.0021	0.0168	0.0021		
Ethylbenzene		0.0143	0.0010	0.0084	0.0011		
m,p-Xylenes		0.0381	0.0021	0.0386	0.0021		
o-Xylene		0.0150	0.0010	0.0274	0.0011		
Total Xylenes		0.0531	0.0010	0.066	0.0011		
Total BTEX		0.1171	0.0010	0.0912	0.0011		
Percent Moisture	***Extracted:***						
	Analyzed:	Jul-06-09 12:45		Jul-06-09 12:45			
	Units/RL:	%	RL	%	RL		
Percent Moisture		3.72	1.00	6.75	1.00		
TPH By SW8015 Mod	***Extracted:***	Jul-07-09 12:24		Jul-07-09 12:24			
	Analyzed:	Jul-07-09 13:05		Jul-07-09 13:31			
	Units/RL:	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		50.9	15.5	289	16.1		
C12-C28 Diesel Range Hydrocarbons		66.1	15.5	2620	16.1		
C28-C35 Oil Range Hydrocarbons		ND	15.5	153	16.1		
Total TPH		117	15.5	3062	16.1		

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Pearce

Work Orders : 337166,

Project ID: 2008-113

Lab Batch #: 764887 **Sample:** 533308-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/08/09 08:37

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	118	80-120	

Lab Batch #: 764887 **Sample:** 533308-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/08/09 08:59

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0380	0.0300	127	80-120	*

Lab Batch #: 764887 **Sample:** 533308-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/08/09 09:42

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0166	0.0300	55	80-120	*

Lab Batch #: 764887 **Sample:** 337166-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 12:27

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 764887 **Sample:** 337166-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 13:53

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0532	0.0300	177	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Pearce

Work Orders : 337166,

Project ID: 2008-113

Lab Batch #: 764887 **Sample:** 337016-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 20:21

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0340	0.0300	113	80-120	
4-Bromofluorobenzene	0.0404	0.0300	135	80-120	*

Lab Batch #: 764887 **Sample:** 337016-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 20:43

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0378	0.0300	126	80-120	*

Lab Batch #: 764775 **Sample:** 533254-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/07/09 11:21

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	43.9	50.0	88	70-135	

Lab Batch #: 764775 **Sample:** 533254-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/07/09 11:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	41.4	50.0	83	70-135	

Lab Batch #: 764775 **Sample:** 533254-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/07/09 12:12

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	100	96	70-135	
o-Terphenyl	45.3	50.0	91	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Pearce

Work Orders : 337166,

Project ID: 2008-113

Lab Batch #: 764775 **Sample:** 337166-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/07/09 13:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.8	101	70-135	
o-Terphenyl	47.1	49.9	94	70-135	

Lab Batch #: 764775 **Sample:** 337166-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/07/09 13:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.3	50.0	105	70-135	

Lab Batch #: 764775 **Sample:** 337224-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/07/09 21:26

SURROGATE RECOVERY STUDY

TPH 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	51.9	50.0	104	70-135	

Lab Batch #: 764775 **Sample:** 337224-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/07/09 21:51

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.9	129	70-135	
o-Terphenyl	47.5	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

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

BS / BSD Recoveries

Project Name: E.K. Queen 6" Pearce

Work Order #: 337166 **Project ID:** 2008-113

Analyst: BRB **Date Prepared:** 07/06/2009 **Date Analyzed:** 07/08/2009

Lab Batch ID: 764887 **Sample:** 533308-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0885	89	0.5	0.4494	90	134	70-130	35	
Toluene	ND	0.1000	0.0836	84	0.5	0.4291	86	135	70-130	35	
Ethylbenzene	ND	0.1000	0.0935	94	0.5	0.4909	98	136	71-129	35	
m,p-Xylenes	ND	0.2000	0.1901	95	1	1.002	100	136	70-135	35	
o-Xylene	ND	0.1000	0.0904	90	0.5	0.4748	95	136	71-133	35	

Analyst: BHW **Date Prepared:** 07/07/2009 **Date Analyzed:** 07/07/2009

Lab Batch ID: 764775 **Sample:** 533254-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	865	87	1000	842	84	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	1020	102	1000	970	97	5	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: E.K. Queen 6" Pearce

Work Order # : 337166 **Project ID:** 2008-113

Lab Batch ID: 764887 **QC- Sample ID:** 337016-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/08/2009 **Date Prepared:** 07/06/2009 **Analyst:** BRB

Reporting Units: mg/kg

BTEX by EPA 8021B	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
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	0.1015	0.0824	81	0.1015	0.0767	76	7	70-130	35	
Toluene	ND	0.1015	0.0884	87	0.1015	0.0787	78	12	70-130	35	
Ethylbenzene	ND	0.1015	0.0922	91	0.1015	0.0846	83	9	71-129	35	
m,p-Xylenes	ND	0.2029	0.1928	95	0.2029	0.1733	85	11	70-135	35	
o-Xylene	ND	0.1015	0.0914	90	0.1015	0.0819	81	11	71-133	35	

Lab Batch ID: 764775 **QC- Sample ID:** 337224-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/07/2009 **Date Prepared:** 07/07/2009 **Analyst:** BHW

Reporting Units: mg/kg

TPH By SW8015 Mod	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
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**
C6-C12 Gasoline Range Hydrocarbons	729	1130	1840	98	1130	1870	101	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	3940	1130	5230	114	1130	5440	133	4	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

Sample Duplicate Recovery

Project Name: E.K. Queen 6" Pearce

Work Order #: 337166

Lab Batch #: 764625 **Project ID:** 2008-113

Date Analyzed: 07/06/2009 **Date Prepared:** 07/06/2009 **Analyst:** LATCOR

QC- Sample ID: 337166-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.72	4.09	9	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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley

Company Name: Basin Environment

Company Address: 2800 Plains Hwy

City/State/Zip: Lovington, NM 88260

Telephone No: 575-441-2244 Fax No: 575-396-1429

Sampler Signature: C. H. Stanley e-mail:

Project Name: E.K. Queen 6" Pearce

Project #: 2008-113

Project Loc: Lea Co, NM

PO #: AAA - S. Henry

Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 337166

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW=Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 8015B / 8015M 418.1	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	Over Burden - 2			7/2/09	1305		1	X							SL		X								X				X
02	SP #8			7/2/09	1500		1	X							SL		X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
C. H. Stanley	7/2/09	1634			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Sears	7.2.09	16:34

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

402glass

Temperature Upon Receipt: 2.6 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env / Plains

Date/ Time: 7.2.09 16:34

Lab ID # : 337166

Initials: AL

Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	2.6 °C	
#2 Shipping container in good condition?	(Yes)	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4 Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11 Containers supplied by ELOT?	(Yes)	No		
#12 Samples in proper container/ bottle?	(Yes)	No	See Below	
#13 Samples properly preserved?	(Yes)	No	See Below	
#14 Sample bottles intact?	(Yes)	No		
#15 Preservations documented on Chain of Custody?	(Yes)	No		
#16 Containers documented on Chain of Custody?	(Yes)	No		
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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) AL	

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

Analytical Report 337283

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6" Pearce

2008-113

13-JUL-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

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

Arizona certification numbers: Houston, TX AZ0738

New Jersey certification numbers: Houston, TX TX007

Pennsylvania certification numbers: Houston, TX 68-03610

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

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

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

13-JUL-09

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

Reference: XENCO Report No: **337283**
E.K. Queen 6" Pearce
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 337283. 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. 337283 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

Sample Cross Reference 337283

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6" Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Over Burden - 1	S	Jul-06-09 15:00		337283-001
Over Burden - 3	S	Jul-06-09 15:05		337283-002

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: E.K. Queen 6" Pearce

Project ID:	*2008-113*	*Report Date:*	*13-JUL-09*
Work Order Number:	*337283*	*Date Received:*	*07/07/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-764742 Percent Moisture
None

Batch: LBA-764867 TPH by SW8015 Mod
None

Batch: LBA-765081 BTEX-MTBE EPA 8021B
SW8021BM

Batch 765081, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 337283-002,337283-001, 533433-1-BKS

Certificate of Analysis Summary 337283

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6" Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Tue Jul-07-09 10:15 am
Report Date: 13-JUL-09
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	337283-001		337283-002			
	Field Id:	Over Burden - 1		Over Burden - 3			
	Depth:						
	Matrix:	SOIL		SOIL			
	Sampled:	Jul-06-09 15:00		Jul-06-09 15:05			
BTEX by EPA 8021B	***Extracted:***	Jul-09-09 17:00		Jul-09-09 17:00			
	Analyzed:	Jul-10-09 10:47		Jul-10-09 11:09			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		ND	0.0011	ND	0.0011		
Toluene		ND	0.0022	ND	0.0022		
Ethylbenzene		ND	0.0011	ND	0.0011		
m,p-Xylenes		ND	0.0022	ND	0.0022		
o-Xylene		ND	0.0011	ND	0.0011		
Total Xylenes		ND	0.0011	ND	0.0011		
Total BTEX		ND	0.0011	ND	0.0011		
Percent Moisture	***Extracted:***						
	Analyzed:	Jul-07-09 16:00		Jul-07-09 16:00			
	Units/RL:	%	RL	%	RL		
Percent Moisture		9.13	1.00	9.34	1.00		
TPH By SW8015 Mod	***Extracted:***	Jul-08-09 13:39		Jul-08-09 13:39			
	Analyzed:	Jul-08-09 18:33		Jul-08-09 18:59			
	Units/RL:	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		ND	16.5	ND	16.5		
C12-C28 Diesel Range Hydrocarbons		16.7	16.5	22.6	16.5		
C28-C35 Oil Range Hydrocarbons		ND	16.5	ND	16.5		
Total TPH		16.7	16.5	22.6	16.5		

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Pearce

Work Orders : 337283,

Project ID: 2008-113

Lab Batch #: 765081 **Sample:** 533433-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/10/09 09:22

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0366	0.0300	122	80-120	*

Lab Batch #: 765081 **Sample:** 533433-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/10/09 09:43

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0361	0.0300	120	80-120	

Lab Batch #: 765081 **Sample:** 533433-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/10/09 10:26

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 765081 **Sample:** 337283-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/10/09 10:47

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0190	0.0300	63	80-120	*

Lab Batch #: 765081 **Sample:** 337283-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/10/09 11:09

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0226	0.0300	75	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Pearce

Work Orders : 337283,

Project ID: 2008-113

Lab Batch #: 764867 **Sample:** 533304-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/08/09 15:03

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 764867 **Sample:** 533304-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/08/09 15:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 764867 **Sample:** 533304-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/08/09 15:56

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	55.5	50.0	111	70-135	

Lab Batch #: 764867 **Sample:** 337283-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 18:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.9	107	70-135	
o-Terphenyl	55.8	50.0	112	70-135	

Lab Batch #: 764867 **Sample:** 337283-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 18:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.8	110	70-135	
o-Terphenyl	56.6	49.9	113	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Pearce

Work Orders : 337283,

Project ID: 2008-113

Lab Batch #: 764867 **Sample:** 337279-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 19:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 764867 **Sample:** 337279-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/08/09 19:51

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.9	129	70-135	
o-Terphenyl	54.2	50.0	108	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.

BS / BSD Recoveries

Project Name: E.K. Queen 6" Pearce

Work Order #: 337283 **Project ID:** 2008-113

Analyst: BRB **Date Prepared:** 07/09/2009 **Date Analyzed:** 07/10/2009

Lab Batch ID: 765081 **Sample:** 533433-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0787	79	0.1	0.0802	80	2	70-130	35	
Toluene	ND	0.1000	0.0751	75	0.1	0.0766	77	2	70-130	35	
Ethylbenzene	ND	0.1000	0.0845	85	0.1	0.0859	86	2	71-129	35	
m,p-Xylenes	ND	0.2000	0.1724	86	0.2	0.1751	88	2	70-135	35	
o-Xylene	ND	0.1000	0.0813	81	0.1	0.0827	83	2	71-133	35	

Analyst: BHW **Date Prepared:** 07/08/2009 **Date Analyzed:** 07/08/2009

Lab Batch ID: 764867 **Sample:** 533304-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	816	82	1000	818	82	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	848	85	1000	843	84	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: E.K. Queen 6" Pearce

Work Order # : 337283 **Project ID:** 2008-113

Lab Batch ID: 764867 **QC- Sample ID:** 337279-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/08/2009 **Date Prepared:** 07/08/2009 **Analyst:** BHW

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	23.7	1030	872	82	1020	891	85	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	126	1030	1040	89	1020	1060	92	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, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: E.K. Queen 6" Pearce

Work Order #: 337283

Lab Batch #: 764742 **Project ID:** 2008-113

Date Analyzed: 07/07/2009 **Date Prepared:** 07/07/2009 **Analyst:** BEV

QC- Sample ID: 337200-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	4.27	3.58	18	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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: CURT STANLEY

Company Name: BASIN ENVIRONMENTAL

Company Address: 2000 PLAINS Hwy

City/State/Zip: LOVINGTON, NM 88260

Telephone No: 575-441-2244 Fax No:

Sampler Signature: C.T. Stanley e-mail:

Project Name: E.K. QUEEN 6" PEARCE

Project #: 2008-113

Project Loc: LEA, CO, NM

PO #: PAA - J. HENRY

Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 337283

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW=Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	TPH: 418.1 / 8015M	TPH: TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
																	Analyze For: TCLP: / TOTAL:													
	QUERBURDEN-1			7/6	1500		1	X									X								X				X
	QUERBURDEN-3			7/6	1505		1	X									X								X				X

Special Instructions:

Laboratory Comments: 2-402 g.c.

Relinquished by: C.T. Stanley	Date 1/7/09	Time 1015	Received by:	Date	Time	
Relinquished by:	Date	Time	Received by:	Date	Time	
Relinquished by:	Date	Time	Received by ELOT: QUAvalos	Date 01/07/09	Time 10:15	

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	(Y)	N
Labels on container(s)	(Y)	N
Custody seals on container(s)	(Y)	N
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 0.4 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin / Plains

Date/ Time: 07/07/09 10:15

Lab ID # : 337283

Initials: AM

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	0.4 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 346220

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen 6-Inch Pearce

2008-113

06-OCT-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)

06-OCT-09

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

Reference: XENCO Report No: **346220**
EK Queen 6-Inch Pearce
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 346220. 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. 346220 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

Sample Cross Reference 346220

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen 6-Inch Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Deep # 2 @ 35'	S	Sep-24-09 14:30		346220-001
SVE Deep # 2 @ 43'	S	Sep-24-09 14:45		346220-002
SVE Shallow "A" @ 20'	S	Sep-24-09 15:50		346220-003
SVE Shallow "A" @ 25'	S	Sep-24-09 16:10		346220-004
SVE Shallow "A" @ 30'	S	Sep-24-09 16:40		346220-005
SVE Deep # 5 @ 35'	S	Sep-25-09 08:10		346220-006
SVE Deep # 5 @ 40'	S	Sep-25-09 08:40		346220-007
SVE Deep # 1 @ 35'	S	Sep-25-09 09:30		346220-008
SVE Deep # 1 @ 40'	S	Sep-25-09 09:50		346220-009
SVE Shallow "B" @ 20'	S	Sep-25-09 11:00		346220-010
SVE Shallow "B" @ 25'	S	Sep-25-09 11:20		346220-011
SVE Shallow "B" @ 30'	S	Sep-25-09 11:50		346220-012
SVE Deep # 3 @ 35'	S	Sep-25-09 13:40		346220-013
SVE Deep # 3 @ 40'	S	Sep-24-09 13:55		346220-014
SVE Deep # 4 @ 35'	S	Sep-24-09 14:50		346220-015
SVE Deep # 4 @ 40'	S	Sep-25-09 15:30		346220-016

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen 6-Inch Pearce

Project ID:	*2008-113*	*Report Date:*	*06-OCT-09*
Work Order Number:	*346220*	*Date Received:*	*09/28/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-774613 Percent Moisture
None

Batch: LBA-774616 Percent Moisture
AD2216A
Batch 774616, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.
Samples affected are: 346220-009, -011, -006, -013, -016, -007, -012, -005, -015, -008, -010, -014.

Batch: LBA-774858 BTEX-MTBE EPA 8021B
SW8021BM

Batch 774858, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 346220-010.

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: EK Queen 6-Inch Pearce

Project ID:	2008-113	Report Date:	06-OCT-09
Work Order Number:	346220	Date Received:	09/28/2009

Batch: LBA-774935 BTEX-MTBE EPA 8021B
SW8021BM

Batch 774935, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 346220-004,346220-009,346220-008.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 346220-005.

SW8021BM

Batch 774935, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 346220-009, -004, -013, -016, -012, -005, -015, -008, -014.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-775029 TPH by SW8015 Mod
None

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen 6-Inch Pearce

Project ID:	*2008-113*	*Report Date:*	*06-OCT-09*
Work Order Number:	*346220*	*Date Received:*	*09/28/2009*

Batch: LBA-775688 BTEX-MTBE EPA 8021B
SW8021BM

Batch 775688, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 346220-003, -011.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 775688, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 346220-003,346220-011.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 346220-011,346220-003.

Certificate of Analysis Summary 346220

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6-Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Sep-28-09 09:35 am
Report Date: 06-OCT-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	346220-001		346220-002		346220-003		346220-004		346220-005		346220-006	
	Field Id:	SVE Deep # 2 @ 35'		SVE Deep # 2 @ 43'		SVE Shallow "A" @ 20'		SVE Shallow "A" @ 25'		SVE Shallow "A" @ 30'		SVE Deep # 5 @ 35'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-24-09 14:30		Sep-24-09 14:45		Sep-24-09 15:50		Sep-24-09 16:10		Sep-24-09 16:40		Sep-25-09 08:10	
BTEX by EPA 8021B	***Extracted:***	Sep-29-09 15:50		Sep-29-09 15:50		Oct-05-09 11:34		Sep-30-09 10:00		Sep-30-09 10:00		Sep-29-09 15:50	
	Analyzed:	Sep-29-09 23:07		Sep-29-09 23:27		Oct-05-09 13:58		Sep-30-09 17:45		Sep-30-09 18:06		Sep-30-09 00:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0505	3.225	0.2004	ND	0.0512	0.0051	0.0010
Toluene		ND	0.0020	ND	0.0020	4.508	0.1010	71.12	0.4009	3.009	0.1024	0.0421	0.0020
Ethylbenzene		ND	0.0010	ND	0.0010	10.04	0.0505	53.67	0.2004	9.162	0.0512	0.0196	0.0010
m,p-Xylenes		ND	0.0020	ND	0.0020	13.58	0.1010	60.85	0.4009	12.64	0.1024	0.0209	0.0020
o-Xylene		ND	0.0010	ND	0.0010	5.902	0.0505	25.12	0.2004	5.810	0.0512	0.0085	0.0010
Total Xylenes		ND	0.0010	ND	0.0010	19.48	0.0505	85.97	0.2004	18.45	0.0512	0.0294	0.0010
Total BTEX		ND	0.0010	ND	0.0010	34.03	0.0505	213.99	0.2004	30.62	0.0512	0.0962	0.0010
TPH By SW8015 Mod	***Extracted:***	Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25	
	Analyzed:	Sep-30-09 14:59		Sep-30-09 15:26		Sep-30-09 15:53		Sep-30-09 16:20		Sep-30-09 16:46		Sep-30-09 17:13	
	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		ND	15.3	ND	15.1	611	75.7	2000	75.8	768	15.4	ND	15.3
C12-C28 Diesel Range Hydrocarbons		ND	15.3	ND	15.1	1740	75.7	4330	75.8	2560	15.4	ND	15.3
C28-C35 Oil Range Hydrocarbons		ND	15.3	ND	15.1	235	75.7	914	75.8	695	15.4	ND	15.3
Total TPH		ND	15.3	ND	15.1	2586	75.7	7244	75.8	4023	15.4	ND	15.3

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 346220

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6-Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Sep-28-09 09:35 am
Report Date: 06-OCT-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	346220-001		346220-002		346220-003		346220-004		346220-005		346220-006	
	Field Id:	SVE Deep # 2 @ 35'		SVE Deep # 2 @ 43'		SVE Shallow "A" @ 20'		SVE Shallow "A" @ 25'		SVE Shallow "A" @ 30'		SVE Deep # 5 @ 35'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-24-09 14:30		Sep-24-09 14:45		Sep-24-09 15:50		Sep-24-09 16:10		Sep-24-09 16:40		Sep-25-09 08:10	
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-29-09 09:07		Sep-29-09 09:07		Sep-29-09 09:07		Sep-29-09 09:07		Sep-29-09 09:15		Sep-29-09 09:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		1.89	1.00	ND	1.00	ND	1.00	1.01	1.00	2.31	1.00	1.78	1.00

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 346220

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6-Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Sep-28-09 09:35 am
Report Date: 06-OCT-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	346220-007		346220-008		346220-009		346220-010		346220-011		346220-012	
	Field Id:	SVE Deep # 5 @ 40'		SVE Deep # 1 @ 35'		SVE Deep # 1 @ 40'		SVE Shallow "B" @ 20'		SVE Shallow "B" @ 25'		SVE Shallow "B" @ 30'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-25-09 08:40		Sep-25-09 09:30		Sep-25-09 09:50		Sep-25-09 11:00		Sep-25-09 11:20		Sep-25-09 11:50	
BTEX by EPA 8021B	**Extracted:**	Sep-29-09 15:50		Sep-30-09 10:00		Sep-30-09 10:00		Sep-29-09 15:50		Oct-05-09 11:34		Sep-30-09 10:00	
	Analyzed:	Sep-30-09 01:07		Sep-30-09 18:27		Sep-30-09 18:49		Sep-30-09 02:07		Oct-05-09 18:14		Oct-01-09 12:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.0031	0.0010	3.931	0.5047	5.105	0.2531	0.0205	0.0010	0.0584	0.0508	0.3639	0.2545
Toluene		0.0251	0.0020	79.46	1.009	100.4	0.5062	0.1283	0.0021	17.10	0.1016	17.05	0.5090
Ethylbenzene		0.0122	0.0010	76.44	0.5047	81.54	0.2531	0.0490	0.0010	16.71 D	0.2540	23.14	0.2545
m,p-Xylenes		0.0127	0.0020	93.77	1.009	96.10	0.5062	0.1109	0.0021	24.91	0.1016	30.93	0.5090
o-Xylene		0.0052	0.0010	36.50	0.5047	40.16	0.2531	0.0615	0.0010	11.09	0.0508	12.08	0.2545
Total Xylenes		0.0179	0.0010	130.27	0.5047	136.26	0.2531	0.1724	0.0010	36.00	0.0508	43.01	0.2545
Total BTEX		0.0583	0.0010	290.10	0.5047	323.3	0.2531	0.3702	0.0010	69.87	0.0508	83.56	0.2545
Percent Moisture	**Extracted:**												
	Analyzed:	Sep-29-09 09:15		Sep-29-09 09:15		Sep-29-09 09:15		Sep-29-09 09:15		Sep-29-09 09:15		Sep-29-09 09:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		ND	1.00	1.12	1.00	1.61	1.00	4.55	1.00	1.59	1.00	1.76	1.00
TPH By SW8015 Mod	**Extracted:**	Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25	
	Analyzed:	Sep-30-09 17:40		Sep-30-09 18:07		Sep-30-09 18:34		Sep-30-09 22:06		Sep-30-09 22:59		Sep-30-09 23:25	
	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	15.1	2370	75.8	3050	76.2	49.5	15.7	1280	15.2	1160	15.3
C12-C28 Diesel Range Hydrocarbons		ND	15.1	5070	75.8	5610	76.2	367	15.7	2700	15.2	2700	15.3
C28-C35 Oil Range Hydrocarbons		ND	15.1	1210	75.8	1370	76.2	67.9	15.7	730	15.2	730	15.3
Total TPH		ND	15.1	8650	75.8	10030	76.2	484	15.7	4710	15.2	4590	15.3

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 346220

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6-Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Sep-28-09 09:35 am
Report Date: 06-OCT-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	346220-013		346220-014		346220-015		346220-016					
	Field Id:	SVE Deep # 3 @ 35'		SVE Deep # 3 @ 40'		SVE Deep # 4 @ 35'		SVE Deep # 4 @ 40'					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Sep-25-09 13:40		Sep-24-09 13:55		Sep-24-09 14:50		Sep-25-09 15:30					
BTEX by EPA 8021B	*Extracted:*	Sep-30-09 10:00		Sep-30-09 10:00		Sep-30-09 10:00		Sep-30-09 10:00					
	Analyzed:	Oct-01-09 10:29		Oct-01-09 10:50		Oct-01-09 11:11		Oct-01-09 11:33					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
Toluene		ND	0.0020	ND	0.0020	ND	0.0021	ND	0.0020				
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0021	ND	0.0020				
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
Total Xylenes		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
Percent Moisture	*Extracted:*												
	Analyzed:	Sep-29-09 09:15		Sep-29-09 09:15		Sep-29-09 09:15		Sep-29-09 09:15					
	Units/RL:	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		ND	1.00	ND	1.00	3.21	1.00	ND	1.00				
TPH By SW8015 Mod	*Extracted:*	Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25		Sep-30-09 12:25					
	Analyzed:	Sep-30-09 23:51		Oct-01-09 00:17		Oct-01-09 00:43		Oct-01-09 01:09					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	15.1	ND	15.1	ND	15.5	ND	15.1				
C12-C28 Diesel Range Hydrocarbons		ND	15.1	ND	15.1	ND	15.5	ND	15.1				
C28-C35 Oil Range Hydrocarbons		ND	15.1	ND	15.1	ND	15.5	ND	15.1				
Total TPH		ND	15.1	ND	15.1	ND	15.5	ND	15.1				

Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 774858 **Sample:** 539196-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/29/09 21:47

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 774858 **Sample:** 539196-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/29/09 22:07

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 774858 **Sample:** 539196-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/29/09 22:47

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
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	0.0289	0.0300	96	80-120	

Lab Batch #: 774858 **Sample:** 346220-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/29/09 23:07

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 774858 **Sample:** 346220-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/29/09 23:27

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0254	0.0300	85	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 774858 **Sample:** 346220-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 00:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 774858 **Sample:** 346220-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 01:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 774858 **Sample:** 346220-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 02:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0226	0.0300	75	80-120	*
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 774858 **Sample:** 346220-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 06:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 774858 **Sample:** 346220-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 06:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0308	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 774935 **Sample:** 539231-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/09 13:14

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 774935 **Sample:** 539231-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/09 13:56

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0302	0.0300	101	80-120	

Lab Batch #: 774935 **Sample:** 346220-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 17:45

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0214	0.0300	71	80-120	**
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 774935 **Sample:** 346220-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 18:06

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0393	0.0300	131	80-120	**

Lab Batch #: 774935 **Sample:** 346220-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 18:27

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	**
4-Bromofluorobenzene	0.0321	0.0300	107	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 774935 **Sample:** 346220-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 18:49

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0218	0.0300	73	80-120	**
4-Bromofluorobenzene	0.0346	0.0300	115	80-120	

Lab Batch #: 774935 **Sample:** 346220-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 10:29

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0303	0.0300	101	80-120	

Lab Batch #: 774935 **Sample:** 346220-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 10:50

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0309	0.0300	103	80-120	

Lab Batch #: 774935 **Sample:** 346220-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 11:11

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 774935 **Sample:** 346220-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 11:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 774935 **Sample:** 346220-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 12:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 774935 **Sample:** 346186-005 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 12:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0347	0.0300	116	80-120	

Lab Batch #: 774935 **Sample:** 346186-005 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 12:57

SURROGATE RECOVERY STUDY

BTEX 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	0.0328	0.0300	109	80-120	

Lab Batch #: 775688 **Sample:** 539649-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/05/09 09:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0304	0.0300	101	80-120	

Lab Batch #: 775688 **Sample:** 539649-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/05/09 10:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0293	0.0300	98	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 775688 **Sample:** 539649-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/05/09 10:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 775688 **Sample:** 346220-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/05/09 13:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0233	0.0300	78	80-120	**
4-Bromofluorobenzene	0.0370	0.0300	123	80-120	**

Lab Batch #: 775688 **Sample:** 346220-011 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/05/09 14:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 775688 **Sample:** 346220-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/05/09 18:14

SURROGATE RECOVERY STUDY

BTEX 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	0.0365	0.0300	122	80-120	**

Lab Batch #: 775688 **Sample:** 346401-002 S / MS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/05/09 18:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 775688 **Sample:** 346401-002 SD / MSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/05/09 18:56

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 775029 **Sample:** 539272-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/09 13:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	47.3	50.0	95	70-135	

Lab Batch #: 775029 **Sample:** 539272-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/09 14:05

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	47.2	50.0	94	70-135	

Lab Batch #: 775029 **Sample:** 539272-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/09 14:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.1	100	91	70-135	
o-Terphenyl	48.9	50.0	98	70-135	

Lab Batch #: 775029 **Sample:** 346220-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 14:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.5	100	87	70-135	
o-Terphenyl	47.0	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 775029 **Sample:** 346220-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 15:26

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 775029 **Sample:** 346220-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 15:53

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 775029 **Sample:** 346220-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 16:20

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	54.8	50.0	110	70-135	

Lab Batch #: 775029 **Sample:** 346220-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 16:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	56.2	50.0	112	70-135	

Lab Batch #: 775029 **Sample:** 346220-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 17:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl	46.1	50.0	92	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 775029 **Sample:** 346220-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 17:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

Lab Batch #: 775029 **Sample:** 346220-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 18:07

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 775029 **Sample:** 346220-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 18:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	50.9	50.0	102	70-135	

Lab Batch #: 775029 **Sample:** 346220-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 22:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.1	100	91	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 775029 **Sample:** 346220-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 22:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	57.9	50.0	116	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 775029 **Sample:** 346220-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 23:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 775029 **Sample:** 346220-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/09 23:51

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.1	100	87	70-135	
o-Terphenyl	45.5	50.0	91	70-135	

Lab Batch #: 775029 **Sample:** 346220-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 00:17

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.9	100	86	70-135	
o-Terphenyl	44.9	50.0	90	70-135	

Lab Batch #: 775029 **Sample:** 346220-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 00:43

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.8	100	89	70-135	
o-Terphenyl	46.7	50.0	93	70-135	

Lab Batch #: 775029 **Sample:** 346220-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 01:09

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.2	100	89	70-135	
o-Terphenyl	47.0	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Orders : 346220,

Project ID: 2008-113

Lab Batch #: 775029 **Sample:** 346220-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 03:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	45.5	50.0	91	70-135	

Lab Batch #: 775029 **Sample:** 346220-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/09 03:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	43.7	50.0	87	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.

Blank Spike Recovery

Project Name: EK Queen 6-Inch Pearce

Work Order #: 346220 **Project ID:** 2008-113

Lab Batch #: 774935 **Sample:** 539231-1-BKS **Matrix:** Solid

Date Analyzed: 09/30/2009 **Date Prepared:** 09/30/2009 **Analyst:** ASA

Reporting Units: mg/kg **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	0.1000	0.0926	93	70-130	
Toluene	ND	0.1000	0.0917	92	70-130	
Ethylbenzene	ND	0.1000	0.0941	94	71-129	
m,p-Xylenes	ND	0.2000	0.2057	103	70-135	
o-Xylene	ND	0.1000	0.0990	99	71-133	

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

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Order #: 346220 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 09/29/2009 **Date Analyzed:** 09/29/2009

Lab Batch ID: 774858 **Sample:** 539196-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0924	92	0.1	0.0945	95	2	70-130	35	
Toluene	ND	0.1000	0.0911	91	0.1	0.0937	94	3	70-130	35	
Ethylbenzene	ND	0.1000	0.0919	92	0.1	0.0949	95	3	71-129	35	
m,p-Xylenes	ND	0.2000	0.2002	100	0.2	0.2070	104	3	70-135	35	
o-Xylene	ND	0.1000	0.0978	98	0.1	0.1011	101	3	71-133	35	

Analyst: ASA **Date Prepared:** 10/05/2009 **Date Analyzed:** 10/05/2009

Lab Batch ID: 775688 **Sample:** 539649-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1016	102	0.1	0.0988	99	3	70-130	35	
Toluene	ND	0.1000	0.1000	100	0.1	0.0969	97	3	70-130	35	
Ethylbenzene	ND	0.1000	0.1014	101	0.1	0.0979	98	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.2220	111	0.2	0.2148	107	3	70-135	35	
o-Xylene	ND	0.1000	0.1063	106	0.1	0.1029	103	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

BS / BSD Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Order #: 346220 **Project ID:** 2008-113

Analyst: BHW **Date Prepared:** 09/30/2009 **Date Analyzed:** 09/30/2009

Lab Batch ID: 775029 **Sample:** 539272-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	874	87	1000	876	88	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	999	100	1000	1000	100	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Order # : 346220 **Project ID:** 2008-113

Lab Batch ID: 774858 **QC- Sample ID:** 346220-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/30/2009 **Date Prepared:** 09/29/2009 **Analyst:** ASA

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	ND	0.1013	0.0769	76	0.1019	0.0770	76	0	70-130	35	
Toluene	ND	0.1013	0.0779	77	0.1019	0.0773	76	1	70-130	35	
Ethylbenzene	ND	0.1013	0.0751	74	0.1019	0.0750	74	0	71-129	35	
m,p-Xylenes	ND	0.2026	0.1634	81	0.2039	0.1621	79	1	70-135	35	
o-Xylene	ND	0.1013	0.0794	78	0.1019	0.0794	78	0	71-133	35	

Lab Batch ID: 774935 **QC- Sample ID:** 346186-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/01/2009 **Date Prepared:** 09/30/2009 **Analyst:** ASA

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	ND	0.1262	0.0663	53	0.1262	0.0669	53	1	70-130	35	X
Toluene	ND	0.1262	0.0673	53	0.1262	0.0678	54	1	70-130	35	X
Ethylbenzene	ND	0.1262	0.0685	54	0.1262	0.0689	55	1	71-129	35	X
m,p-Xylenes	ND	0.2523	0.1479	59	0.2523	0.1498	59	1	70-135	35	X
o-Xylene	ND	0.1262	0.0700	55	0.1262	0.0694	55	1	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen 6-Inch Pearce

Work Order # : 346220 **Project ID:** 2008-113

Lab Batch ID: 775688 **QC- Sample ID:** 346401-002 S **Batch #:** 1 **Matrix:** Solid

Date Analyzed: 10/05/2009 **Date Prepared:** 10/05/2009 **Analyst:** ASA

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	ND	0.1040	0.0561	54	0.1040	0.0576	55	3	70-130	35	X
Toluene	ND	0.1040	0.0426	41	0.1040	0.0435	42	2	70-130	35	X
Ethylbenzene	ND	0.1040	0.0283	27	0.1040	0.0277	27	2	71-129	35	X
m,p-Xylenes	ND	0.2079	0.0564	27	0.2079	0.0541	26	4	70-135	35	X
o-Xylene	ND	0.1040	0.0291	28	0.1040	0.0264	25	10	71-133	35	X

Lab Batch ID: 775029 **QC- Sample ID:** 346220-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/01/2009 **Date Prepared:** 09/30/2009 **Analyst:** BHW

Reporting Units: mg/kg

TPH By SW8015 Mod 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
C6-C12 Gasoline Range Hydrocarbons	ND	1000	836	84	1000	824	82	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	968	97	1000	945	95	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, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: EK Queen 6-Inch Pearce

Work Order #: 346220

Lab Batch #: 774613 **Project ID:** 2008-113

Date Analyzed: 09/29/2009 **Date Prepared:** 09/29/2009 **Analyst:** BEV

QC- Sample ID: 346186-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	12.2	13.0	7	20	

Lab Batch #: 774616

Date Analyzed: 09/29/2009 **Date Prepared:** 09/29/2009 **Analyst:** BEV

QC- Sample ID: 346220-005 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.31	6.95	100	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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

PAGE 01 OF 02

Project Manager: Curt Stanley

Company Name: Basin Environmental Service Technologies, LLC

Company Address: 2800 Plains Hwy

City/State/Zip: Lovington, NM 88260

Telephone No: (575) 441-2244 Fax No: (505) 396-1429

Sampler Signature:

e-mail: cstanley@basinenv.com

Project Name: EK Queen 6-Inch Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 346220

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl (VOA X 2)	H2SO4	NaOH	Na2S2O3	None (PAH)	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B 5030 or BTEX 8260	RCI	N.O.R.M.	PAH	EPA Paint Filter Test	Chlorides E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	SVE Deep #2 @ 35'			9/24/2009	1430		1	X								Soil	X								X							X
02	SVE Deep #2 @ 43'			9/24/2009	1445		1	X								Soil	X								X							X
03	SVE Shallow "A" @ 20'			9/24/2009	1550		1	X								Soil	X								X							X
04	SVE Shallow "A" @ 25'			9/24/2009	1610		1	X								Soil	X								X							X
05	SVE Shallow "A" @ 30'			9/25/2009	1640		1	X								Soil	X								X							X
06	SVE Deep #5 @ 35'			9/25/2009	0810		1	X								Soil	X								X							X
07	SVE Deep #5 @ 40'			9/25/2009	0840		1	X								Soil	X								X							X
08	SVE Deep #1 @ 35'			9/25/2009	0930		1	X								Soil	X								X							X
09	SVE Deep #1 @ 40'			9/25/2009	0950		1	X								Soil	X								X							X
10	SVE Shallow "B" @ 20'			9/25/2009	1100		1	X								Soil	X								X							X

Special Instructions:

	Date	Time		Date	Time
Relinquished by:	9/28/09	0935	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by ELOT: Andrea Senn	9.28.09	9:35

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

4 oz glass

Temperature Upon Receipt: 3.6 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley
Company Name: Basin Environmental Service Technologies, LLC
Company Address: 2800 Plains Hwy
City/State/Zip: Lovington, NM 88260
Telephone No: (575) 441-2244
Fax No: (505) 396-1429
Sampler Signature:
e-mail: cstanley@basinenv.com

Project Name: EK Queen 6-Inch Pearce
Project #: 2008-113
Project Loc: Lea County, NM
PO #: PAA - J. Henry
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 346220

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl (VOA X 2)	H2SO4	NaOH	Na2S2O3	None (PAH)	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 / 8015M	TPH: TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX (8021B/5030 or BTEX 8260)	RCI	N.O.R.M.	PAH	EPA Paint Filter Test	Chlorides E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
																			TCLP:																
																			TOTAL:								X							
11	SVE Shallow "B" @ 25'			9/25/2009	1120		1	X									Soil		X								X							X
12	SVE Shallow "B" @ 30'			9/25/2009	1150		1	X									Soil		X								X							X
13	SVE Deep #3 @ 35'			9/25/2009	1340		1	X									Soil		X								X							X
14	SVE Deep #3 @ 40'			9/25/2009	1355		1	X									Soil		X								X							X
15	SVE Deep #4 @ 35'			9/25/2009	1450		1	X									Soil		X								X							X
16	SVE Deep #4 @ 40'			9/25/2009	1530		1	X									Soil		X								X							X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	9/28/09	0935			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Andrea Fenn	9.28.09	9.35

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star
4629455

Temperature Upon Receipt: 3.6 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env. | Plains

Date/ Time: 9.28.09 9:35

Lab ID # : 346220

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	3.6 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Gracie Avalos

From: Camille J. Bryant [cjbryant@basin-consulting.com]
Sent: Wednesday, September 30, 2009 8:11 AM
To: Gracie Avalos
Subject: Re: WO 346220 / EK Queen 6-Inch Pearce

Gracie,

The sample SVE Shallow "A" was indeed collected on the 24th as per the container, thanks for catching our mistake.

Camille

----- Original Message -----
From: Gracie Avalos
To: cdstanley@basin-consulting.com ; 'Camille J. Bryant'
Sent: Wednesday, September 30, 2009 7:08 AM
Subject: WO 346220 / EK Queen 6-Inch Pearce

Mr. Stanley / Ms. Bryant,

Please confirm that sample SVE Shallow "A" @ 30' (lab id -005) was indeed sampled on 09/24/09 @ 16:40, per your label on the sample container. I ask as your chain of custody reflects being sampled on the 25th. Let me know.

Gracie Avalos
Project Assistant
Xenco Labs - Odessa
432-563-1800 Office
432-4563-1713 Fax
gracie.avalos@xenco.com

9/30/2009

Analytical Report 405302

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

04-FEB-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

04-FEB-11

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

Reference: XENCO Report No: **405302**
EK Queen Pearce
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 405302. 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. 405302 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

Sample Cross Reference 405302

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-6 @ 20'	S	Jan-28-11 09:45		405302-001
SB-6 @ 25'	S	Jan-28-11 09:50		405302-002
SB-6 @ 30'	S	Jan-28-11 09:55		405302-003
SB-6 @ 35'	S	Jan-28-11 10:00		405302-004
SB-6 @ 40'	S	Jan-28-11 10:05		405302-005
SB-6 @ 45'	S	Jan-28-11 10:10		405302-006

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*04-FEB-11*
Work Order Number:	*405302*	*Date Received:*	*01/31/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-842121 BTEX by EPA 8021
SW8021BM

Batch 842121, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Ethylbenzene recovered below QC limits in the Matrix Spike Duplicate.
Samples affected are: 405302-005, -001, -006, -004, -002, -003.
The Laboratory Control Sample for m_p-Xylenes , o-Xylene, Ethylbenzene is within laboratory Control Limits

SW8021BM

Batch 842121, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 405302-003.
Batch 842121, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 405302-002.

Batch: LBA-842208 TPH by SW8015 Mod

Batch: LBA-842217 Inorganic Anions In Soil by E300
RPD is outside QC limits for Chloride.
Samples affected 405302-001 thru 405302-006.

Project ID:	*2008-113*	*Report Date:*	*04-FEB-11*
Work Order Number:	*405302*	*Date Received:*	*01/31/2011*

Batch: LBA-842370 BTEX by EPA 8021
SW8021BM

Batch 842370, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 405302-002,405600-001 D.

Batch 840062, RPD is outside QC limits for compounds m_p-xylene, ethylbenzene and o-xylene between sample and sample duplicate, samples affected are: 405302-002 .

Certificate of Analysis Summary 405302

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Jan-31-11 04:40 pm
Report Date: 04-FEB-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	405302-001		405302-002		405302-003		405302-004		405302-005		405302-006	
	Field Id:	SB-6 @ 20'		SB-6 @ 25'		SB-6 @ 30'		SB-6 @ 35'		SB-6 @ 40'		SB-6 @ 45'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-28-11 09:45		Jan-28-11 09:50		Jan-28-11 09:55		Jan-28-11 10:00		Jan-28-11 10:05		Jan-28-11 10:10	
BTEX by EPA 8021	*Extracted:*	Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15	
	Analyzed:	Feb-01-11 20:19		Feb-01-11 21:04		Feb-01-11 21:49		Feb-01-11 18:49		Feb-01-11 19:11		Feb-01-11 19:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.0069	0.0011	ND	0.0011	0.0093	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Toluene		0.0684	0.0022	0.0465	0.0021	0.0623	0.0021	0.0042	0.0020	ND	0.0021	ND	0.0020
Ethylbenzene		0.1594	0.0011	0.3581	0.0011	0.1858	0.0010	0.0263	0.0010	0.0121	0.0010	0.0163	0.0010
m_p-Xylenes		0.2629	0.0022	3.649 D	0.0212	0.2929	0.0021	0.0398	0.0020	0.0298	0.0021	0.0276	0.0020
o-Xylene		0.0490	0.0011	0.2607	0.0011	0.0847	0.0010	0.0235	0.0010	0.0232	0.0010	0.0173	0.0010
Xylenes, Total		0.3119	0.0011	1.270	0.0011	0.3776	0.0010	0.0633	0.0010	0.0530	0.0010	0.0449	0.0010
Total BTEX		0.5466	0.0011	1.674	0.0011	0.6350	0.0010	0.0938	0.0010	0.0651	0.0010	0.0612	0.0010
Inorganic Anions In Soil by E300	*Extracted:*												
	Analyzed:	Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.1	5.43	11.5	5.29	12.6	5.28	10.6	5.11	9.38	5.15	10.9	5.12
Percent Moisture	*Extracted:*												
	Analyzed:	Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.89	1.00	5.46	1.00	5.24	1.00	2.20	1.00	2.93	1.00	2.26	1.00
TPH by SW8015 Mod	*Extracted:*	Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15	
	Analyzed:	Feb-02-11 14:40		Feb-02-11 14:58		Feb-02-11 15:16		Feb-02-11 15:35		Feb-02-11 15:53		Feb-02-11 16:11	
	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		515	16.3	2030	15.9	1270	15.8	113	15.3	40.1	15.4	51.6	15.3
C12-C28 Diesel Range Hydrocarbons		2690	16.3	3060	15.9	3750	15.8	920	15.3	307	15.4	492	15.3
C28-C35 Oil Range Hydrocarbons		70.5	16.3	127	15.9	178	15.8	27.4	15.3	ND	15.4	ND	15.3
Total TPH		3280	16.3	5220	15.9	5200	15.8	1060	15.3	347	15.4	544	15.3

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405302,

Project ID: 2008-113

Lab Batch #: 842121 **Sample:** 594720-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/01/11 16:55

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 842121 **Sample:** 594720-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/01/11 17:18

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0300	0.0300	100	80-120	

Lab Batch #: 842121 **Sample:** 594720-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/01/11 18:26

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0276	0.0300	92	80-120	

Lab Batch #: 842121 **Sample:** 405302-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 18:49

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 842121 **Sample:** 405302-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 19:11

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0312	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405302,

Project ID: 2008-113

Lab Batch #: 842121 **Sample:** 405302-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 19:34

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0288	0.0300	96	80-120	

Lab Batch #: 842121 **Sample:** 405302-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 20:19

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0327	0.0300	109	80-120	

Lab Batch #: 842121 **Sample:** 405302-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 21:04

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.3875	0.0300	1292	80-120	**

Lab Batch #: 842121 **Sample:** 405302-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 21:49

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.1155	0.0300	385	80-120	*

Lab Batch #: 842121 **Sample:** 405302-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 06:43

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405302,

Project ID: 2008-113

Lab Batch #: 842121 **Sample:** 405302-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 07:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 842370 **Sample:** 594857-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/11 10:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0299	0.0300	100	80-120	

Lab Batch #: 842370 **Sample:** 594857-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/11 11:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0271	0.0300	90	80-120	

Lab Batch #: 842370 **Sample:** 594857-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/11 12:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0267	0.0300	89	80-120	

Lab Batch #: 842370 **Sample:** 405302-002 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/11 12:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 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	0.0999	0.0300	333	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405302, **Project ID:** 2008-113

Lab Batch #: 842370 **Sample:** 405600-001 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/11 16:02

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.6522	0.0300	2174	80-120	**

Lab Batch #: 842208 **Sample:** 594767-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/02/11 12:50

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.6	101	85	70-135	
o-Terphenyl	39.6	50.3	79	70-135	

Lab Batch #: 842208 **Sample:** 594767-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/02/11 13:09

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

Lab Batch #: 842208 **Sample:** 594767-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/02/11 13:27

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.6	100	73	70-135	
o-Terphenyl	36.3	50.1	72	70-135	

Lab Batch #: 842208 **Sample:** 405302-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 14:40

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.1	99.9	89	70-135	
o-Terphenyl	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
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405302,

Project ID: 2008-113

Lab Batch #: 842208 **Sample:** 405302-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 14:58

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	38.6	50.0	77	70-135	

Lab Batch #: 842208 **Sample:** 405302-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 15:16

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

Lab Batch #: 842208 **Sample:** 405302-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 15:35

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.2	99.6	74	70-135	
o-Terphenyl	48.9	49.8	98	70-135	

Lab Batch #: 842208 **Sample:** 405302-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 15:53

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.8	99.8	76	70-135	
o-Terphenyl	39.2	49.9	79	70-135	

Lab Batch #: 842208 **Sample:** 405302-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 16:11

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.1	99.9	75	70-135	
o-Terphenyl	41.6	50.0	83	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 405302 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 02/01/2011 **Date Analyzed:** 02/01/2011

Lab Batch ID: 842121 **Sample:** 594720-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0010	0.1000	0.1015	102	0.1000	0.1042	104	3	70-130	35	
Toluene	<0.0020	0.1000	0.0976	98	0.1000	0.0998	100	2	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0974	97	0.1000	0.0990	99	2	71-129	35	
m_p-Xylenes	<0.0020	0.2000	0.1999	100	0.2000	0.2038	102	2	70-135	35	
o-Xylene	<0.0010	0.1000	0.0975	98	0.1000	0.0999	100	2	71-133	35	

Analyst: ASA **Date Prepared:** 02/03/2011 **Date Analyzed:** 02/03/2011

Lab Batch ID: 842370 **Sample:** 594857-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0010	0.0998	0.0861	86	0.1000	0.0959	96	11	70-130	35	
Toluene	<0.0020	0.0998	0.0840	84	0.1000	0.0925	93	10	70-130	35	
Ethylbenzene	<0.0010	0.0998	0.0822	82	0.1000	0.0886	89	7	71-129	35	
m_p-Xylenes	<0.0020	0.1996	0.1607	81	0.2000	0.1740	87	8	70-135	35	
o-Xylene	<0.0010	0.0998	0.0850	85	0.1000	0.0914	91	7	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: EK Queen Pearce

Work Order #: 405302 **Project ID:** 2008-113

Analyst: LATCOR **Date Prepared:** 02/02/2011 **Date Analyzed:** 02/02/2011

Lab Batch ID: 842217 **Sample:** 842217-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions In Soil by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	11.2	112	10.0	11.3	113	1	75-125	20	

Analyst: BEV **Date Prepared:** 02/02/2011 **Date Analyzed:** 02/02/2011

Lab Batch ID: 842208 **Sample:** 594767-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<50.1	1010	890	88	1000	932	93	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<50.1	1010	794	79	1000	882	88	11	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: EK Queen Pearce

Work Order #: 405302
Lab Batch #: 842217
Project ID: 2008-113
Date Analyzed: 02/02/2011
Date Prepared: 02/02/2011
Analyst: LATCOR
QC- Sample ID: 405302-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	23.1	109	125	93	75-125	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 405302 **Project ID:** 2008-113

Lab Batch ID: 842121 **QC- Sample ID:** 405302-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/02/2011 **Date Prepared:** 02/01/2011 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.0010	0.1025	0.0902	88	0.1022	0.0863	84	4	70-130	35	
Toluene	0.0042	0.1025	0.0850	79	0.1022	0.0791	73	7	70-130	35	
Ethylbenzene	0.0263	0.1025	0.1011	73	0.1022	0.0895	62	12	71-129	35	X
m_p-Xylenes	0.0398	0.2049	0.1808	69	0.2045	0.1550	56	15	70-135	35	X
o-Xylene	0.0235	0.1025	0.0856	61	0.1022	0.0747	50	14	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

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 405302

Lab Batch #: 842370 **Project ID:** 2008-113

Date Analyzed: 02/03/2011 16:02 **Date Prepared:** 02/03/2011 **Analyst:** ASA

QC- Sample ID: 405600-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	0.0730	0.0907	22	35	
Toluene	1.477	1.619	9	35	
Ethylbenzene	2.667	4.106	42	35	F
m_p-Xylenes	8.190	12.60	42	35	F
o-Xylene	4.532	7.107	44	35	F

Lab Batch #: 842217

Date Analyzed: 02/02/2011 09:30 **Date Prepared:** 02/02/2011 **Analyst:** LATCOR

QC- Sample ID: 405302-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions In Soil by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	23.1	17.0	30	20	F

Lab Batch #: 842042

Date Analyzed: 02/01/2011 17:00 **Date Prepared:** 02/01/2011 **Analyst:** WRU

QC- Sample ID: 405302-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.89	7.60	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 405302

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; CW = Groundwater S = Soil/Sol; NP = Non-Potable Specify Oth	Analyze For: TPH: 418.1 / 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SB-6 @ 20'			01/28/11	0945		1	X								Soil	X								X			X		X
02	SB-6 @ 25'			01/28/11	0950		1	X								Soil	X								X			X		X
03	SB-6 @ 30'			01/28/11	0955		1	X								Soil	X								X			X		X
04	SB-6 @ 35'			01/28/11	1000		1	X								Soil	X								X			X		X
05	SB-6 @ 40'			01/28/11	1005		1	X								Soil	X								X			X		X
06	SB-6 @ 45'			01/28/11	1010		1	X								Soil	X								X			X		X

Special Instructions:

	Date	Time		Date	Time
Relinquished by:	1/31/11	1640	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by ELOT: Andrea Elam	1.31.11	16:40

Laboratory Comments:

Sample Containers Intact?	N
VOCs Free of Headspace?	N
Labels on container(s)	N
Custody seals on container(s)	N
Custody seals on cooler(s)	N
Sample Hand Delivered	N

by Sampler/Client Rep. ? by Courier? UPS DHL FedEx Lone Star

4 02 glass

Temperature Upon Receipt: 1.6 °C

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 1.31.11 16:40
Lab ID #: 405302
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	1.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 405303

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

04-FEB-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

04-FEB-11

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

Reference: XENCO Report No: **405303**
EK Queen Pearce
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 405303. 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. 405303 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

Sample Cross Reference 405303

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-7 @ 22'	S	Jan-28-11 10:30		405303-001
SB-7 @ 27'	S	Jan-28-11 10:35		405303-002
SB-7 @ 32'	S	Jan-28-11 10:40		405303-003
SB-7 @ 37'	S	Jan-28-11 10:45		405303-004
SB-7 @ 42'	S	Jan-28-11 10:50		405303-005
SB-7 @ 47'	S	Jan-28-11 10:55		405303-006
SB-7 @ 52'	S	Jan-28-11 11:00		405303-007

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	2008-113	Report Date:	04-FEB-11
Work Order Number:	405303	Date Received:	01/31/2011

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-842121 BTEX by EPA 8021
SW8021BM

Batch 842121, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 405303-007.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 405303-002,405303-003,405303-007,405303-006.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 405303-004,405303-005.

SW8021BM

Batch 842121, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Ethylbenzene recovered below QC limits in the Matrix Spike Duplicate.
Samples affected are: 405303-004, -003, -006, -007, -001, -005, -002.
The Laboratory Control Sample for m_p-Xylenes , o-Xylene, Ethylbenzene is within laboratory Control Limits

Batch: LBA-842208 TPH by SW8015 Mod

Batch: LBA-842217 Inorganic Anions In Soil by E300

Batch: LBA-842370 BTEX by EPA 8021
SW8021BM

Batch 842370, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 405600-001 D.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 405303-002,405303-003,405303-006,405303-007,405600-001 D.

Batch 840062, RPD is outside QC limits for compounds m_p-xylene, ethylbenzene and o-xylene between sample and sample duplicate, samples affected are: 405303-002, 405303-003, 405303-006, 405303-007 .

Certificate of Analysis Summary 405303

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Jan-31-11 04:40 pm
Report Date: 04-FEB-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	405303-001		405303-002		405303-003		405303-004		405303-005		405303-006	
	Field Id:	SB-7 @ 22'		SB-7 @ 27'		SB-7 @ 32'		SB-7 @ 37'		SB-7 @ 42'		SB-7 @ 47'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-28-11 10:30		Jan-28-11 10:35		Jan-28-11 10:40		Jan-28-11 10:45		Jan-28-11 10:50		Jan-28-11 10:55	
BTEX by EPA 8021	*Extracted:*	Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15		Feb-01-11 16:15	
	Analyzed:	Feb-01-11 19:57		Feb-01-11 22:35		Feb-01-11 23:20		Feb-02-11 00:05		Feb-02-11 01:34		Feb-02-11 02:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.0096	0.0011	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0018	0.0010
Toluene		0.2052	0.0021	0.0560	0.0021	0.2217	0.0021	0.0499	0.0021	0.0811	0.0020	1.105 D	0.0413
Ethylbenzene		0.3484	0.0011	0.3173	0.0010	0.9494 D	0.0052	0.0864	0.0010	0.2919	0.0010	8.011 D	0.0207
m_p-Xylenes		0.4304	0.0021	2.914 D	0.0208	0.5347	0.0021	0.1364	0.0021	0.5180	0.0020	12.16 D	0.0413
o-Xylene		0.1863	0.0011	2.815 D	0.0104	0.2561	0.0010	0.0871	0.0010	0.4076	0.0010	7.596 D	0.0207
Xylenes, Total		0.6167	0.0011	1.736	0.0010	0.7908	0.0010	0.2235	0.0010	0.9256	0.0010	4.253	0.0010
Total BTEX		1.180	0.0011	2.110	0.0010	1.438	0.0010	0.3598	0.0010	1.299	0.0010	6.510	0.0010
Inorganic Anions In Soil by E300	*Extracted:*												
	Analyzed:	Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30		Feb-02-11 09:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11.2	5.35	9.54	5.21	9.25	5.17	10.9	5.16	8.93	5.14	9.52	5.17
Percent Moisture	*Extracted:*												
	Analyzed:	Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00		Feb-01-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.51	1.00	4.00	1.00	3.38	1.00	3.16	1.00	2.69	1.00	3.24	1.00
TPH by SW8015 Mod	*Extracted:*	Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15		Feb-02-11 10:15	
	Analyzed:	Feb-02-11 16:30		Feb-02-11 17:07		Feb-02-11 17:25		Feb-02-11 17:43		Feb-02-11 18:01		Feb-02-11 18:20	
	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		584	16.0	3270	78.0	1650	77.5	2290	77.2	2460	77.1	3510	77.3
C12-C28 Diesel Range Hydrocarbons		4020	16.0	8960	78.0	7450	77.5	8780	77.2	8590	77.1	9660	77.3
C28-C35 Oil Range Hydrocarbons		94.3	16.0	215	78.0	139	77.5	152	77.2	192	77.1	220	77.3
Total TPH		4700	16.0	12400	78.0	9240	77.5	11200	77.2	11200	77.1	13400	77.3

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 405303

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Jan-31-11 04:40 pm
Report Date: 04-FEB-11
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	405303-007					
	Field Id:	SB-7 @ 52'					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jan-28-11 11:00					
BTEX by EPA 8021	***Extracted:***	Feb-01-11 16:15					
	Analyzed:	Feb-02-11 03:03					
	Units/RL:	mg/kg	RL				
Benzene		ND	0.0010				
Toluene		0.0265	0.0021				
Ethylbenzene		0.0163	0.0010				
m_p-Xylenes		0.2199	0.0021				
o-Xylene		0.0337	0.0010				
Xylenes, Total		0.2536	0.0010				
Total BTEX		0.2964	0.0010				
Inorganic Anions In Soil by E300	***Extracted:***						
	Analyzed:	Feb-02-11 09:30					
	Units/RL:	mg/kg	RL				
Chloride		11.3	5.17				
Percent Moisture	***Extracted:***						
	Analyzed:	Feb-01-11 17:00					
	Units/RL:	%	RL				
Percent Moisture		3.23	1.00				
TPH by SW8015 Mod	***Extracted:***	Feb-02-11 10:15					
	Analyzed:	Feb-02-11 18:38					
	Units/RL:	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		2960	77.4				
C12-C28 Diesel Range Hydrocarbons		7950	77.4				
C28-C35 Oil Range Hydrocarbons		145	77.4				
Total TPH		11100	77.4				

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405303,

Project ID: 2008-113

Lab Batch #: 842121 **Sample:** 594720-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/01/11 16:55

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 842121 **Sample:** 594720-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/01/11 17:18

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0300	0.0300	100	80-120	

Lab Batch #: 842121 **Sample:** 594720-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/01/11 18:26

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0276	0.0300	92	80-120	

Lab Batch #: 842121 **Sample:** 405303-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 19:57

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 842121 **Sample:** 405303-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 22:35

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.2709	0.0300	903	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405303,

Project ID: 2008-113

Lab Batch #: 842121 **Sample:** 405303-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/01/11 23:20

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0628	0.0300	209	80-120	**

Lab Batch #: 842121 **Sample:** 405303-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 00:05

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.1346	0.0300	449	80-120	*

Lab Batch #: 842121 **Sample:** 405303-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 01:34

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.2212	0.0300	737	80-120	*

Lab Batch #: 842121 **Sample:** 405303-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 02:19

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.1742	0.0300	581	80-120	**

Lab Batch #: 842121 **Sample:** 405303-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 03:03

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0005	0.0300	2	80-120	**
4-Bromofluorobenzene	0.1220	0.0300	407	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405303, **Project ID:** 2008-113

Lab Batch #: 842121 **Sample:** 405302-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 06:43

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 842121 **Sample:** 405302-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 07:05

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 842370 **Sample:** 594857-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/11 10:17

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0299	0.0300	100	80-120	

Lab Batch #: 842370 **Sample:** 594857-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/11 11:23

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0271	0.0300	90	80-120	

Lab Batch #: 842370 **Sample:** 594857-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/11 12:07

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0267	0.0300	89	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405303,

Project ID: 2008-113

Lab Batch #: 842370 **Sample:** 405303-002 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/11 12:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.1199	0.0300	400	80-120	**

Lab Batch #: 842370 **Sample:** 405303-003 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/11 13:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0392	0.0300	131	80-120	**

Lab Batch #: 842370 **Sample:** 405303-006 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/11 13:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0693	0.0300	231	80-120	**

Lab Batch #: 842370 **Sample:** 405303-007 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/11 13:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 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	0.0621	0.0300	207	80-120	**

Lab Batch #: 842370 **Sample:** 405600-001 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/11 16:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.6522	0.0300	2174	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405303, **Project ID:** 2008-113

Lab Batch #: 842208 **Sample:** 594767-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/02/11 12:50

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.6	101	85	70-135	
o-Terphenyl	39.6	50.3	79	70-135	

Lab Batch #: 842208 **Sample:** 594767-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/02/11 13:09

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

Lab Batch #: 842208 **Sample:** 594767-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/02/11 13:27

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.6	100	73	70-135	
o-Terphenyl	36.3	50.1	72	70-135	

Lab Batch #: 842208 **Sample:** 405303-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 16:30

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.8	100	90	70-135	
o-Terphenyl	45.1	50.0	90	70-135	

Lab Batch #: 842208 **Sample:** 405303-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 17:07

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.9	108	70-135	
o-Terphenyl	54.6	50.0	109	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.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 405303, **Project ID:** 2008-113

Lab Batch #: 842208 **Sample:** 405303-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 17:25

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	99.8	99	70-135	
o-Terphenyl	52.3	49.9	105	70-135	

Lab Batch #: 842208 **Sample:** 405303-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 17:43

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.7	113	70-135	
o-Terphenyl	59.6	49.9	119	70-135	

Lab Batch #: 842208 **Sample:** 405303-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 18:01

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 842208 **Sample:** 405303-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 18:20

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.7	117	70-135	
o-Terphenyl	59.1	49.9	118	70-135	

Lab Batch #: 842208 **Sample:** 405303-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/02/11 18:38

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	51.9	50.0	104	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 405303 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 02/01/2011 **Date Analyzed:** 02/01/2011

Lab Batch ID: 842121 **Sample:** 594720-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0010	0.1000	0.1015	102	0.1000	0.1042	104	3	70-130	35	
Toluene	<0.0020	0.1000	0.0976	98	0.1000	0.0998	100	2	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0974	97	0.1000	0.0990	99	2	71-129	35	
m_p-Xylenes	<0.0020	0.2000	0.1999	100	0.2000	0.2038	102	2	70-135	35	
o-Xylene	<0.0010	0.1000	0.0975	98	0.1000	0.0999	100	2	71-133	35	

Analyst: ASA **Date Prepared:** 02/03/2011 **Date Analyzed:** 02/03/2011

Lab Batch ID: 842370 **Sample:** 594857-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0010	0.0998	0.0861	86	0.1000	0.0959	96	11	70-130	35	
Toluene	<0.0020	0.0998	0.0840	84	0.1000	0.0925	93	10	70-130	35	
Ethylbenzene	<0.0010	0.0998	0.0822	82	0.1000	0.0886	89	7	71-129	35	
m_p-Xylenes	<0.0020	0.1996	0.1607	81	0.2000	0.1740	87	8	70-135	35	
o-Xylene	<0.0010	0.0998	0.0850	85	0.1000	0.0914	91	7	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: EK Queen Pearce

Work Order #: 405303 **Project ID:** 2008-113

Analyst: LATCOR **Date Prepared:** 02/02/2011 **Date Analyzed:** 02/02/2011

Lab Batch ID: 842217 **Sample:** 842217-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions In Soil by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	11.2	112	10.0	11.3	113	1	75-125	20	

Analyst: BEV **Date Prepared:** 02/02/2011 **Date Analyzed:** 02/02/2011

Lab Batch ID: 842208 **Sample:** 594767-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<50.1	1010	890	88	1000	932	93	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<50.1	1010	794	79	1000	882	88	11	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: EK Queen Pearce

Work Order #: 405303
Lab Batch #: 842217
Project ID: 2008-113
Date Analyzed: 02/02/2011
Date Prepared: 02/02/2011
Analyst: LATCOR
QC- Sample ID: 405302-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	23.1	109	125	93	75-125	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 405303 **Project ID:** 2008-113

Lab Batch ID: 842121 **QC- Sample ID:** 405302-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/02/2011 **Date Prepared:** 02/01/2011 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.0010	0.1025	0.0902	88	0.1022	0.0863	84	4	70-130	35	
Toluene	0.0042	0.1025	0.0850	79	0.1022	0.0791	73	7	70-130	35	
Ethylbenzene	0.0263	0.1025	0.1011	73	0.1022	0.0895	62	12	71-129	35	X
m_p-Xylenes	0.0398	0.2049	0.1808	69	0.2045	0.1550	56	15	70-135	35	X
o-Xylene	0.0235	0.1025	0.0856	61	0.1022	0.0747	50	14	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

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 405303

Lab Batch #: 842370 **Project ID:** 2008-113
Date Analyzed: 02/03/2011 16:02 **Date Prepared:** 02/03/2011 **Analyst:** ASA
QC- Sample ID: 405600-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	0.0730	0.0907	22	35	
Toluene	1.477	1.619	9	35	
Ethylbenzene	2.667	4.106	42	35	F
m_p-Xylenes	8.190	12.60	42	35	F
o-Xylene	4.532	7.107	44	35	F

Lab Batch #: 842217
Date Analyzed: 02/02/2011 09:30 **Date Prepared:** 02/02/2011 **Analyst:** LATCOR
QC- Sample ID: 405302-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions In Soil by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	23.1	17.0	30	20	F

Lab Batch #: 842042
Date Analyzed: 02/01/2011 17:00 **Date Prepared:** 02/01/2011 **Analyst:** WRU
QC- Sample ID: 405302-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.89	7.60	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 405303

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M	TOTAL: TPH: 8015B TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SB-7 @ 22'			01/28/11	1030		1	X								Soil	X								X			X		X
02	SB-7 @ 27'			01/28/11	1035		1	X								Soil	X								X			X		X
03	SB-7 @ 32'			01/28/11	1040		1	X								Soil	X								X			X		X
04	SB-7 @ 37'			01/28/11	1045		1	X								Soil	X								X			X		X
05	SB-7 @ 42'			01/28/11	1050		1	X								Soil	X								X			X		X
06	SB-7 @ 47'			01/28/11	1055		1	X								Soil	X								X			X		X
07	SB-7 @ 52'			01/28/11	1100		1	X								Soil	X								X			X		X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	1/31/11	1640			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Andrea Elam	1-31-11	16:40

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?		
by Courier? UPS DHL FedEx Lone Star	402 9455	
Temperature Upon Receipt:	1.6 °C	

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 1·31·11 16:40
Lab ID #: 405303
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	1.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 435671

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

01-FEB-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

01-FEB-12

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

Reference: XENCO Report No: **435671**
EK Queen Pearce
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 435671. 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. 435671 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

Sample Cross Reference 435671

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-8 @ 20'	S	01-20-12 13:55		435671-001
SB-8 @ 25'	S	01-20-12 14:00		435671-002
SB-8 @ 30'	S	01-20-12 14:05		435671-003
SB-8 @ 35'	S	01-20-12 14:10		435671-004
SB-8 @ 40'	S	01-20-12 14:45		435671-005
SB-8 @ 45'	S	01-20-12 14:50		435671-006
SB-8 @ 50'	S	01-20-12 15:00		435671-007
SB-8 @ 55"	S	01-20-12 15:05		435671-008
SB-8 @ 60'	S	01-20-12 15:25		435671-009
SB-8 @ 65'	S	01-20-12 15:30		435671-010

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*01-FEB-12*
Work Order Number:	*435671*	*Date Received:*	*01/25/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-879921 BTEX by EPA 8021B
SW8021BM

Batch 879921, o-Xylene recovered below QC limits in the Matrix Spike.
Samples affected are: 435671-001.
The Laboratory Control Sample for o-Xylene is within laboratory Control Limits

Batch: LBA-880037 BTEX by EPA 8021B
SW8021BM

Batch 880037, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 435671-007.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 435671-007,435671-010,435671-009,435671-008.

SW8021BM

Batch 880037, Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 435671-008, -007, -009, -010.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits

Batch: LBA-880041 BTEX by EPA 8021B
SW8021BM

Batch 880041, Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 435671-004.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits

SW8021BM

Batch 880041, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 435671-004.

Batch: LBA-880133 TPH By SW8015 Mod
SW8015MOD_NM

Batch 880133, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 435671-002,435671-004,435671-007,435671-008,435671-009,435671-010.
o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 435671-010.

Batch: LBA-880171 BTEX by EPA 8021B
SW8021BM

Batch 880171, Benzene recovered below QC limits in the Matrix Spike. Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 435671-003, -005, -006, -002.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits

SW8021BM

Batch 880171, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 435671-002,435671-003,435671-005,435671-006.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 435671-002.

Certificate of Analysis Summary 435671

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Jan-25-12 03:15 pm
Report Date: 01-FEB-12
Project Manager: Brent Barron II

Analysis Requested													
	Lab Id:	435671-001		435671-002		435671-003		435671-004		435671-005		435671-006	
	Field Id:	SB-8 @ 20'		SB-8 @ 25'		SB-8 @ 30'		SB-8 @ 35'		SB-8 @ 40'		SB-8 @ 45'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-20-12 13:55		Jan-20-12 14:00		Jan-20-12 14:05		Jan-20-12 14:10		Jan-20-12 14:45		Jan-20-12 14:50	
BTEX by EPA 8021B	Extracted:	Jan-26-12 16:25		Jan-31-12 08:50		Jan-31-12 08:50		Jan-27-12 15:15		Jan-31-12 08:50		Jan-31-12 08:50	
	Analyzed:	Jan-26-12 21:28		Jan-31-12 20:15		Jan-31-12 21:01		Jan-28-12 08:55		Jan-31-12 21:24		Jan-31-12 21:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00100	0.00671	0.00524	0.00643	0.00523	ND	0.00103	0.00577	0.00520	0.00693	0.00525
Toluene		ND	0.00200	0.0325	0.0105	0.192	0.0105	0.00909	0.00206	0.0137	0.0104	0.0801	0.0105
Ethylbenzene		0.00970	0.00100	0.534	0.00524	0.778	0.00523	0.0328	0.00103	0.0426	0.00520	0.362	0.00525
m_p-Xylenes		0.0260	0.00200	2.64	0.0105	1.16	0.0105	0.0750	0.00206	0.113	0.0104	0.578	0.0105
o-Xylene		0.0128	0.00100	5.00 D	0.0210	0.561	0.00523	0.0533	0.00103	0.0731	0.00520	0.272	0.00525
Total Xylenes		0.0388	0.00100	7.64	0.0105	1.72	0.00523	0.128	0.00103	0.186	0.00520	0.850	0.00525
Total BTEX		0.0485	0.00100	8.21	0.00524	2.70	0.00523	0.170	0.00103	0.248	0.00520	1.30	0.00525
Percent Moisture	Extracted:												
	Analyzed:	Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.87	1.00	4.22	1.00	4.16	1.00	3.13	1.00	3.30	1.00	5.28	1.00
TPH By SW8015 Mod	Extracted:	Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 13:35	
	Analyzed:	Jan-28-12 14:42		Jan-30-12 16:43		Jan-30-12 17:10		Jan-30-12 17:37		Jan-30-12 18:04		Jan-30-12 18:31	
	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		20.7	15.9	2030	78.6	1250	156	1750	77.3	486	77.9	911	79.1
C12-C28 Diesel Range Hydrocarbons		460	15.9	7720	78.6	10300	156	9360	77.3	6910	77.9	7330	79.1
C28-C35 Oil Range Hydrocarbons		53.6	15.9	561	78.6	947	156	608	77.3	467	77.9	495	79.1
Total TPH		534	15.9	10300	78.6	12500	156	11700	77.3	7860	77.9	8740	79.1

Brent Barron II
Odessa Laboratory Manager

Certificate of Analysis Summary 435671

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Jan-25-12 03:15 pm
Report Date: 01-FEB-12
Project Manager: Brent Barron II

Analysis Requested											
	Lab Id:	435671-007		435671-008		435671-009		435671-010			
	Field Id:	SB-8 @ 50'		SB-8 @ 55"		SB-8 @ 60'		SB-8 @ 65'			
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Jan-20-12 15:00		Jan-20-12 15:05		Jan-20-12 15:25		Jan-20-12 15:30			
BTEX by EPA 8021B	***Extracted:***	Jan-27-12 16:00		Jan-27-12 16:00		Jan-27-12 16:00		Jan-27-12 16:00			
	Analyzed:	Jan-28-12 18:27		Jan-28-12 19:13		Jan-28-12 19:35		Jan-28-12 20:44			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		ND	0.0207	ND	0.0209	ND	0.268	ND	0.0210		
Toluene		0.254	0.0414	0.273	0.0418	4.65	0.535	0.798	0.0421		
Ethylbenzene		5.46	0.0207	7.27	0.0209	22.3	0.268	7.91	0.0210		
m_p-Xylenes		10.4	0.0414	11.9	0.0418	30.8	0.535	11.8	0.0421		
o-Xylene		7.08	0.0207	7.60	0.0209	15.1	0.268	2.60	0.0210		
Total Xylenes		17.5	0.0207	19.5	0.0209	45.9	0.268	14.4	0.0210		
Total BTEX		23.2	0.0207	27.0	0.0209	72.9	0.268	23.1	0.0210		
Percent Moisture	***Extracted:***										
	Analyzed:	Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30			
	Units/RL:	%	RL	%	RL	%	RL	%	RL		
Percent Moisture		3.10	1.00	4.26	1.00	6.73	1.00	4.96	1.00		
TPH By SW8015 Mod	***Extracted:***	Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 13:35			
	Analyzed:	Jan-30-12 18:58		Jan-30-12 19:25		Jan-30-12 19:51		Jan-30-12 20:18			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		1620	77.6	2260	156	2270	80.4	1960	78.9		
C12-C28 Diesel Range Hydrocarbons		5750	77.6	10100	156	6990	80.4	9610	78.9		
C28-C35 Oil Range Hydrocarbons		474	77.6	851	156	427	80.4	709	78.9		
Total TPH		7840	77.6	13200	156	9690	80.4	12300	78.9		

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 879921 **Sample:** 435671-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 21:28

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 880041 **Sample:** 435671-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 08:55

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.186	0.0300	620	80-120	*

Lab Batch #: 880133 **Sample:** 435671-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 14:42

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.4	100	89	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 880037 **Sample:** 435671-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 18:27

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0231	0.0300	77	80-120	**
4-Bromofluorobenzene	0.150	0.0300	500	80-120	**

Lab Batch #: 880037 **Sample:** 435671-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:13

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.350	0.0300	1167	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880037 **Sample:** 435671-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0364	0.0300	121	80-120	**

Lab Batch #: 880037 **Sample:** 435671-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 20:44

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0695	0.0300	232	80-120	**

Lab Batch #: 880133 **Sample:** 435671-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 16:43

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	166	100	166	70-135	**
o-Terphenyl	58.8	50.2	117	70-135	

Lab Batch #: 880133 **Sample:** 435671-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 17:10

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.5	129	70-135	
o-Terphenyl	49.1	49.8	99	70-135	

Lab Batch #: 880133 **Sample:** 435671-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 17:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	176	99.9	176	70-135	**
o-Terphenyl	58.7	50.0	117	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880133 **Sample:** 435671-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 18:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	53.7	50.2	107	70-135	

Lab Batch #: 880133 **Sample:** 435671-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 18:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 880133 **Sample:** 435671-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 18:58

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	165	100	165	70-135	**
o-Terphenyl	59.0	50.1	118	70-135	

Lab Batch #: 880133 **Sample:** 435671-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 19:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	171	99.5	172	70-135	**
o-Terphenyl	65.8	49.8	132	70-135	

Lab Batch #: 880133 **Sample:** 435671-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 19:51

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	150	100	150	70-135	**
o-Terphenyl	57.7	50.0	115	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880133 **Sample:** 435671-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 20:18

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	181	100	181	70-135	**
o-Terphenyl	68.0	50.0	136	70-135	**

Lab Batch #: 880171 **Sample:** 435671-002 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 19:52

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0879	0.0300	293	80-120	**

Lab Batch #: 880171 **Sample:** 435671-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 20:15

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.141	0.0300	470	80-120	**

Lab Batch #: 880171 **Sample:** 435671-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 21:01

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0215	0.0300	72	80-120	**
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 880171 **Sample:** 435671-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 21:24

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0207	0.0300	69	80-120	**
4-Bromofluorobenzene	0.0301	0.0300	100	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880171 **Sample:** 435671-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 21:46

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0212	0.0300	71	80-120	**
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 879921 **Sample:** 617047-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 19:57

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 880041 **Sample:** 617121-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 23:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0295	0.0300	98	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 09:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	100	99	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

Lab Batch #: 880037 **Sample:** 617120-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 11:54

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0283	0.0300	94	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880171 **Sample:** 617208-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/31/12 13:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

Lab Batch #: 879921 **Sample:** 617047-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 18:26

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0335	0.0300	112	80-120	

Lab Batch #: 880041 **Sample:** 617121-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 22:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 08:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	100	94	70-135	
o-Terphenyl	39.1	50.0	78	70-135	

Lab Batch #: 880037 **Sample:** 617120-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 10:25

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880171 **Sample:** 617208-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/31/12 11:53

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0347	0.0300	116	80-120	

Lab Batch #: 879921 **Sample:** 617047-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 18:49

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0305	0.0300	102	80-120	

Lab Batch #: 880041 **Sample:** 617121-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 22:24

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 08:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 880037 **Sample:** 617120-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 10:47

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880171 **Sample:** 617208-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/31/12 12:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0341	0.0300	114	80-120	

Lab Batch #: 879921 **Sample:** 435786-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 22:59

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0315	0.0300	105	80-120	

Lab Batch #: 880041 **Sample:** 435769-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 03:42

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 880037 **Sample:** 435769-007 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 16:10

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0338	0.0300	113	80-120	

Lab Batch #: 880133 **Sample:** 435520-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:05

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.6	103	70-135	
o-Terphenyl	46.2	49.8	93	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671, **Project ID:** 2008-113

Lab Batch #: 880171 **Sample:** 435769-010 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 17:36

SURROGATE RECOVERY STUDY

BTEX 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	0.0341	0.0300	114	80-120	

Lab Batch #: 879921 **Sample:** 435786-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 23:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 880041 **Sample:** 435769-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 04:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 880037 **Sample:** 435769-007 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 16:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

Lab Batch #: 880133 **Sample:** 435520-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	99.5	98	70-135	
o-Terphenyl	41.6	49.8	84	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435671,

Project ID: 2008-113

Lab Batch #: 880171 **Sample:** 435769-010 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 17:59

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0349	0.0300	116	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 435671 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/26/2012 **Date Analyzed:** 01/26/2012

Lab Batch ID: 879921 **Sample:** 617047-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.105	105	0.100	0.0985	99	6	70-130	35	
Toluene	<0.00200	0.100	0.104	104	0.100	0.0977	98	6	70-130	35	
Ethylbenzene	<0.00100	0.100	0.102	102	0.100	0.0954	95	7	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.200	0.200	100	6	70-135	35	
o-Xylene	<0.00100	0.100	0.102	102	0.100	0.0960	96	6	71-133	35	

Analyst: ASA **Date Prepared:** 01/27/2012 **Date Analyzed:** 01/28/2012

Lab Batch ID: 880037 **Sample:** 617120-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0923	92	0.100	0.0915	92	1	70-130	35	
Toluene	<0.00200	0.100	0.0924	92	0.100	0.0910	91	2	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0919	92	0.100	0.0899	90	2	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.183	92	0.200	0.179	90	2	70-135	35	
o-Xylene	<0.00100	0.100	0.0913	91	0.100	0.0891	89	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: EK Queen Pearce

Work Order #: 435671 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/27/2012 **Date Analyzed:** 01/27/2012

Lab Batch ID: 880041 **Sample:** 617121-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0924	92	0.100	0.0996	100	8	70-130	35	
Toluene	<0.00200	0.100	0.0927	93	0.100	0.101	101	9	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0923	92	0.100	0.100	100	8	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.187	94	0.200	0.204	102	9	70-135	35	
o-Xylene	<0.00100	0.100	0.0926	93	0.100	0.101	101	9	71-133	35	

Analyst: ASA **Date Prepared:** 01/31/2012 **Date Analyzed:** 01/31/2012

Lab Batch ID: 880171 **Sample:** 617208-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0922	92	0.100	0.0941	94	2	70-130	35	
Toluene	<0.00200	0.100	0.0919	92	0.100	0.0932	93	1	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0913	91	0.100	0.0919	92	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.191	96	0.200	0.192	96	1	70-135	35	
o-Xylene	<0.00100	0.100	0.0941	94	0.100	0.0947	95	1	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: EK Queen Pearce

Work Order #: 435671
Analyst: ASA
Lab Batch ID: 880133
Sample: 617186-1-BKS
Units: mg/kg

Date Prepared: 01/26/2012
Batch #: 1

Project ID: 2008-113
Date Analyzed: 01/28/2012
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	820	82	1000	843	84	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	783	78	1000	916	92	16	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: EK Queen Pearce

Work Order # : 435671 **Project ID:** 2008-113

Lab Batch ID: 879921 **QC- Sample ID:** 435786-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/26/2012 **Date Prepared:** 01/26/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.000994	0.0994	0.0774	78	0.100	0.0809	81	4	70-130	35	
Toluene	<0.00199	0.0994	0.0757	76	0.100	0.0795	80	5	70-130	35	
Ethylbenzene	<0.000994	0.0994	0.0709	71	0.100	0.0748	75	5	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.146	73	0.200	0.154	77	5	70-135	35	
o-Xylene	<0.000994	0.0994	0.0690	69	0.100	0.0729	73	5	71-133	35	X

Lab Batch ID: 880037 **QC- Sample ID:** 435769-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/28/2012 **Date Prepared:** 01/27/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.00111	0.111	0.0694	63	0.112	0.0764	68	10	70-130	35	X
Toluene	<0.00223	0.111	0.0672	61	0.112	0.0728	65	8	70-130	35	X
Ethylbenzene	<0.00111	0.111	0.0647	58	0.112	0.0692	62	7	71-129	35	X
m_p-Xylenes	<0.00223	0.223	0.131	59	0.224	0.141	63	7	70-135	35	X
o-Xylene	<0.00111	0.111	0.0655	59	0.112	0.0703	63	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 435671 **Project ID:** 2008-113

Lab Batch ID: 880041 **QC- Sample ID:** 435769-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/28/2012 **Date Prepared:** 01/27/2012 **Analyst:** ASA

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.00112	0.112	0.0743	66	0.112	0.0733	65	1	70-130	35	X
Toluene	<0.00225	0.112	0.0732	65	0.112	0.0718	64	2	70-130	35	X
Ethylbenzene	<0.00112	0.112	0.0711	63	0.112	0.0695	62	2	71-129	35	X
m_p-Xylenes	<0.00225	0.225	0.142	63	0.224	0.138	62	3	70-135	35	X
o-Xylene	<0.00112	0.112	0.0692	62	0.112	0.0673	60	3	71-133	35	X

Lab Batch ID: 880171 **QC- Sample ID:** 435769-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/31/2012 **Date Prepared:** 01/31/2012 **Analyst:** ASA

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.00111	0.111	0.0712	64	0.111	0.0773	70	8	70-130	35	X
Toluene	<0.00222	0.111	0.0700	63	0.111	0.0746	67	6	70-130	35	X
Ethylbenzene	<0.00111	0.111	0.0686	62	0.111	0.0716	65	4	71-129	35	X
m_p-Xylenes	<0.00222	0.222	0.140	63	0.223	0.146	65	4	70-135	35	X
o-Xylene	<0.00111	0.111	0.0696	63	0.111	0.0733	66	5	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 435671 **Project ID:** 2008-113

Lab Batch ID: 880133 **QC- Sample ID:** 435520-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/28/2012 **Date Prepared:** 01/26/2012 **Analyst:** ASA

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	<17.5	1170	1000	85	1170	931	80	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.5	1170	1130	97	1170	982	84	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

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 435671

Lab Batch #: 879919 **Project ID:** 2008-113

Date Analyzed: 01/26/2012 08:30 **Date Prepared:** 01/26/2012 **Analyst:** BRB

QC- Sample ID: 435671-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.87	6.31	7	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 435671

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M	TOTAL: TPH: 8015M	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.		Chlorides		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SB-8 @ 20'			1/20/2012	1355		1	X								Soil	X									X							X
02	SB-8 @ 25'			1/20/2012	1400		1	X								Soil	X									X							X
03	SB-8 @ 30'			1/20/2012	1405		1	X								Soil	X									X							X
04	SB-8 @ 35'			1/20/2012	1410		1	X								Soil	X									X							X
05	SB-8 @ 40'			1/20/2012	1445		1	X								Soil	X									X							X
06	SB-8 @ 45'			1/20/2012	1450		1	X								Soil	X									X							X
07	SB-8 @ 50'			1/20/2012	1500		1	X								Soil	X									X							X
08	SB-8 @ 55'			1/20/2012	1505		1	X								Soil	X									X							X
09	SB-8 @ 60'			1/20/2012	1525		1	X								Soil	X									X							X
10	SB-8 @ 65'			1/20/2012	1530		1	X								Soil	X									X							X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	1/25/12	0700	Dakotah Walker	1/25/12	0700
Relinquished by: Dakotah Walker	1/25/12	1515	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	1.25.12	15:15

Laboratory Comments:

Sample Containers Intact?	Y Y Y Y
VOCs Free of Headspace?	N N N N
Labels on container(s)	Y
Custody seals on container(s)	N
Custody seals on cooler(s)	Y
Sample Hand Delivered	Y
by Sampler/Client Rep. ?	N

by Courier? UPS DHL FedEx Lone Star

4 0z glass

Temperature Upon Receipt: -2.5 °C

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin / Plains

Date/Time: 1.25.12 15:15

Lab ID # : 435671

Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	2.5 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 435675

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

31-JAN-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

31-JAN-12

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

Reference: XENCO Report No: **435675**
EK Queen Pearce
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 435675. 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. 435675 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

Sample Cross Reference 435675

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-9 @ 20'	S	01-23-12 14:00		435675-001
SB-9 @ 35'	S	01-23-12 14:15		435675-002

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*31-JAN-12*
Work Order Number:	*435675*	*Date Received:*	*01/25/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 435675

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Jan-25-12 03:15 pm
Report Date: 31-JAN-12
Project Manager: Brent Barron II

Analysis Requested									
	Lab Id:	435675-001		435675-002					
	Field Id:	SB-9 @ 20'		SB-9 @ 35'					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Jan-23-12 14:00		Jan-23-12 14:15					
BTEX by EPA 8021	***Extracted:***	Jan-26-12 16:25		Jan-26-12 16:25					
	Analyzed:	Jan-26-12 22:14		Jan-26-12 22:36					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.00113	ND	0.00110				
Toluene		ND	0.00226	ND	0.00220				
Ethylbenzene		0.00140	0.00113	ND	0.00110				
m_p-Xylenes		0.00297	0.00226	ND	0.00220				
o-Xylene		ND	0.00113	ND	0.00110				
Xylenes, Total		0.00297	0.00113	ND	0.00110				
Total BTEX		0.00437	0.00113	ND	0.00110				
Percent Moisture	***Extracted:***								
	Analyzed:	Jan-26-12 08:30		Jan-26-12 09:00					
	Units/RL:	%	RL	%	RL				
Percent Moisture		5.41	1.00	3.19	1.00				
TPH by SW8015 Mod	***Extracted:***	Jan-26-12 13:35		Jan-26-12 13:35					
	Analyzed:	Jan-28-12 11:36		Jan-28-12 12:02					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		33.3	15.9	ND	15.5				
C12-C28 Diesel Range Hydrocarbons		1160	15.9	29.9	15.5				
C28-C35 Oil Range Hydrocarbons		155	15.9	ND	15.5				
Total TPH		1350	15.9	29.9	15.5				

Brent Barron II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435675, **Project ID:** 2008-113

Lab Batch #: 879921 **Sample:** 435675-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 22:14

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0284	0.0300	95	80-120	

Lab Batch #: 879921 **Sample:** 435675-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 22:36

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0278	0.0300	93	80-120	

Lab Batch #: 880133 **Sample:** 435675-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 11:36

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	44.0	50.0	88	70-135	

Lab Batch #: 880133 **Sample:** 435675-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 12:02

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.5	99.8	82	70-135	
o-Terphenyl	41.1	49.9	82	70-135	

Lab Batch #: 879921 **Sample:** 617047-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 19:57

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435675, **Project ID:** 2008-113

Lab Batch #: 880133 **Sample:** 617186-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 09:02

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	100	99	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

Lab Batch #: 879921 **Sample:** 617047-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 18:26

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0335	0.0300	112	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 08:13

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	100	94	70-135	
o-Terphenyl	39.1	50.0	78	70-135	

Lab Batch #: 879921 **Sample:** 617047-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 18:49

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0305	0.0300	102	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 08:38

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	46.8	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
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435675, **Project ID:** 2008-113

Lab Batch #: 879921 **Sample:** 435786-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 22:59

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0315	0.0300	105	80-120	

Lab Batch #: 880133 **Sample:** 435520-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:05

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.6	103	70-135	
o-Terphenyl	46.2	49.8	93	70-135	

Lab Batch #: 879921 **Sample:** 435786-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 23:22

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 880133 **Sample:** 435520-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:30

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	99.5	98	70-135	
o-Terphenyl	41.6	49.8	84	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 435675 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/26/2012 **Date Analyzed:** 01/26/2012

Lab Batch ID: 879921 **Sample:** 617047-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.105	105	0.100	0.0985	99	6	70-130	35	
Toluene	<0.00200	0.100	0.104	104	0.100	0.0977	98	6	70-130	35	
Ethylbenzene	<0.00100	0.100	0.102	102	0.100	0.0954	95	7	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.200	0.200	100	6	70-135	35	
o-Xylene	<0.00100	0.100	0.102	102	0.100	0.0960	96	6	71-133	35	

Analyst: ASA **Date Prepared:** 01/26/2012 **Date Analyzed:** 01/28/2012

Lab Batch ID: 880133 **Sample:** 617186-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	820	82	1000	843	84	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	783	78	1000	916	92	16	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: EK Queen Pearce

Work Order # : 435675 **Project ID:** 2008-113

Lab Batch ID: 879921 **QC- Sample ID:** 435786-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/26/2012 **Date Prepared:** 01/26/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.000994	0.0994	0.0774	78	0.100	0.0809	81	4	70-130	35	
Toluene	<0.00199	0.0994	0.0757	76	0.100	0.0795	80	5	70-130	35	
Ethylbenzene	<0.000994	0.0994	0.0709	71	0.100	0.0748	75	5	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.146	73	0.200	0.154	77	5	70-135	35	

Lab Batch ID: 880133 **QC- Sample ID:** 435520-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/28/2012 **Date Prepared:** 01/26/2012 **Analyst:** ASA

Reporting Units: mg/kg

TPH by SW8015 Mod 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
C6-C12 Gasoline Range Hydrocarbons	<17.5	1170	1000	85	1170	931	80	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.5	1170	1130	97	1170	982	84	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

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 435675

Lab Batch #: 879919 **Project ID:** 2008-113

Date Analyzed: 01/26/2012 08:30 **Date Prepared:** 01/26/2012 **Analyst:** BRB

QC- Sample ID: 435671-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.87	6.31	7	20	

Lab Batch #: 879922

Date Analyzed: 01/26/2012 09:00 **Date Prepared:** 01/26/2012 **Analyst:** BRB

QC- Sample ID: 435675-002 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.19	3.09	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 435675

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW = Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1	8015M	8015B TPH: TX 1005	TX 1006 Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
-01	SB-9 @ 20'			1/23/2012	1400		1	X								Soil	X									X					X
-02	SB-9 @ 35'			1/23/2012	1415		1	X								Soil	X									X					X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	1/25/12	0700	Patrick Ward	1/25/12	0710
Relinquished by: Patrick Ward	1/25/12	1515	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea ECam	1.25.12	15:15

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star 402919955

Temperature Upon Receipt: -2.5 °C

XENCO Laboratories		Document Title: Sample Receipt Checklist
XENCO Laboratories		Document No.: SYS-SRC
Atlanta, Boca Raton, Corpus Christi, Dallas		Revision/Date: No. 01, 5/27/2010
Houston, Miami, Odessa, Philadelphia		Effective Date: 6/1/2010 Page 1 of 1
Phoenix, San Antonio, Tampa		

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin / Plains

Date/Time: 1.25.12 15:15

Lab ID # : 435675

Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	~~Water~~	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	-2.5 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 435679

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

01-FEB-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

01-FEB-12

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

Reference: XENCO Report No: **435679**
EK Queen Pearce
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 435679. 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. 435679 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

Sample Cross Reference 435679

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-10 @ 20'	S	01-23-12 15:00		435679-001
SB-10 @ 25'	S	01-23-12 15:05		435679-002
SB-10 @ 30'	S	01-23-12 15:10		435679-003
SB-10 @ 35'	S	01-23-12 15:15		435679-004
SB-10 @ 40'	S	01-23-12 15:30		435679-005
SB-10 @ 45'	S	01-23-12 15:35		435679-006
SB-10 @ 50'	S	01-23-12 15:50		435679-007
SB-10 @ 55'	S	01-23-12 15:55		435679-008
SB-10 @ 60'	S	01-23-12 16:05		435679-009

Project ID:	*2008-113*	*Report Date:*	*01-FEB-12*
Work Order Number:	*435679*	*Date Received:*	*01/25/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-880041 BTEX by EPA 8021
SW8021BM

Batch 880041, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 435679-004.

SW8021BM

Batch 880041, Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 435679-004, -009, -008.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits

Batch: LBA-880171 BTEX by EPA 8021
SW8021BM

Batch 880171, 1,4-Difluorobenzene, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 435679-002.

SW8021BM

Batch 880171, Benzene recovered below QC limits in the Matrix Spike. Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 435679-002, -007, -005, -003, -006.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits

Certificate of Analysis Summary 435679

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Jan-25-12 03:15 pm
Report Date: 01-FEB-12
Project Manager: Brent Barron II

Analysis Requested													
	Lab Id:	435679-001		435679-002		435679-003		435679-004		435679-005		435679-006	
	Field Id:	SB-10 @ 20'		SB-10 @ 25'		SB-10 @ 30'		SB-10 @ 35'		SB-10 @ 40'		SB-10 @ 45'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-23-12 15:00		Jan-23-12 15:05		Jan-23-12 15:10		Jan-23-12 15:15		Jan-23-12 15:30		Jan-23-12 15:35	
BTEX by EPA 8021	***Extracted:***	Jan-26-12 16:25		Jan-31-12 08:50		Jan-31-12 08:50		Jan-27-12 15:15		Jan-31-12 08:50		Jan-31-12 08:50	
	Analyzed:	Jan-26-12 21:51		Jan-31-12 22:09		Jan-31-12 16:28		Jan-28-12 07:26		Jan-31-12 16:51		Jan-31-12 17:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.000994	0.00701	0.00535	ND	0.00106	ND	0.00105	ND	0.00103	ND	0.00105
Toluene		ND	0.00199	ND	0.0107	ND	0.00211	ND	0.00209	ND	0.00206	ND	0.00210
Ethylbenzene		0.00169	0.000994	0.0137	0.00535	0.00176	0.00106	0.00219	0.00105	0.00203	0.00103	0.00327	0.00105
m_p-Xylenes		0.00291	0.00199	0.0307	0.0107	0.00395	0.00211	0.00369	0.00209	0.00374	0.00206	0.00603	0.00210
o-Xylene		ND	0.000994	0.0115	0.00535	0.00135	0.00106	0.00135	0.00105	0.00151	0.00103	0.00225	0.00105
Xylenes, Total		0.00291	0.000994	0.0422	0.00535	0.00530	0.00106	0.00504	0.00105	0.00525	0.00103	0.00828	0.00105
Total BTEX		0.00460	0.000994	0.0629	0.00535	0.00706	0.00106	0.00723	0.00105	0.00728	0.00103	0.0116	0.00105
Percent Moisture	***Extracted:***												
	Analyzed:	Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.65	1.00	6.75	1.00	5.93	1.00	3.36	1.00	3.53	1.00	3.64	1.00
TPH by SW8015 Mod	***Extracted:***	Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 13:35		Jan-26-12 14:45		Jan-26-12 14:45		Jan-26-12 14:45	
	Analyzed:	Jan-28-12 12:30		Jan-30-12 16:18		Jan-28-12 13:22		Jan-30-12 13:36		Jan-30-12 14:04		Jan-27-12 08:35	
	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		49.8	15.9	492	80.0	177	15.9	ND	77.8	159	77.4	175	15.6
C12-C28 Diesel Range Hydrocarbons		1050	15.9	6010	80.0	4620	15.9	9630	77.8	8010	77.4	5190	15.6
C28-C35 Oil Range Hydrocarbons		124	15.9	445	80.0	361	15.9	679	77.8	561	77.4	407	15.6
Total TPH		1220	15.9	6950	80.0	5160	15.9	10300	77.8	8730	77.4	5770	15.6

Brent Barron II
Odessa Laboratory Manager

Certificate of Analysis Summary 435679

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Jan-25-12 03:15 pm
Report Date: 01-FEB-12
Project Manager: Brent Barron II

Analysis Requested											
	Lab Id:	435679-007		435679-008		435679-009					
	Field Id:	SB-10 @ 50'		SB-10 @ 55'		SB-10 @ 60'					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jan-23-12 15:50		Jan-23-12 15:55		Jan-23-12 16:05					
BTEX by EPA 8021	***Extracted:***	Jan-31-12 08:50		Jan-27-12 15:15		Jan-27-12 15:15					
	Analyzed:	Jan-31-12 19:29		Jan-28-12 03:20		Jan-28-12 05:34					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.00102	ND	0.00107	ND	0.00100				
Toluene		ND	0.00204	ND	0.00213	ND	0.00200				
Ethylbenzene		0.00232	0.00102	ND	0.00107	0.00220	0.00100				
m_p-Xylenes		0.00414	0.00204	0.00232	0.00213	0.00391	0.00200				
o-Xylene		0.00179	0.00102	0.00147	0.00107	0.00186	0.00100				
Xylenes, Total		0.00593	0.00102	0.00379	0.00107	0.00577	0.00100				
Total BTEX		0.00825	0.00102	0.00379	0.00107	0.00797	0.00100				
Percent Moisture	***Extracted:***										
	Analyzed:	Jan-26-12 08:30		Jan-26-12 08:30		Jan-26-12 08:30					
	Units/RL:	%	RL	%	RL	%	RL				
Percent Moisture		2.62	1.00	5.45	1.00	ND	1.00				
TPH by SW8015 Mod	***Extracted:***	Jan-26-12 14:45		Jan-26-12 14:45		Jan-26-12 14:45					
	Analyzed:	Jan-27-12 09:02		Jan-27-12 09:29		Jan-27-12 09:54					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		150	15.4	41.4	15.8	29.7	15.0				
C12-C28 Diesel Range Hydrocarbons		3860	15.4	2270	15.8	910	15.0				
C28-C35 Oil Range Hydrocarbons		358	15.4	223	15.8	91.8	15.0				
Total TPH		4370	15.4	2530	15.8	1030	15.0				

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 879921 **Sample:** 435679-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 21:51

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 880123 **Sample:** 435679-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/27/12 08:35

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	100	99	70-135	
o-Terphenyl	56.3	50.2	112	70-135	

Lab Batch #: 880123 **Sample:** 435679-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/27/12 09:02

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	99.7	94	70-135	
o-Terphenyl	57.1	49.9	114	70-135	

Lab Batch #: 880123 **Sample:** 435679-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/27/12 09:29

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.7	99.7	90	70-135	
o-Terphenyl	49.9	49.9	100	70-135	

Lab Batch #: 880123 **Sample:** 435679-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/27/12 09:54

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.0	99.9	82	70-135	
o-Terphenyl	43.4	50.0	87	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 880041 **Sample:** 435679-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 03:20

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0304	0.0300	101	80-120	

Lab Batch #: 880041 **Sample:** 435679-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 05:34

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 880041 **Sample:** 435679-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 07:26

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0224	0.0300	75	80-120	*

Lab Batch #: 880133 **Sample:** 435679-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 12:30

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.4	100	94	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 880133 **Sample:** 435679-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 13:22

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	99.9	97	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
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 880123 **Sample:** 435679-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 13:36

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	64.4	50.1	129	70-135	

Lab Batch #: 880123 **Sample:** 435679-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 14:04

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	61.3	49.8	123	70-135	

Lab Batch #: 880133 **Sample:** 435679-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/30/12 16:18

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.9	99.5	97	70-135	
o-Terphenyl	49.9	49.8	100	70-135	

Lab Batch #: 880171 **Sample:** 435679-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 16:28

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 880171 **Sample:** 435679-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 16:51

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 880171 **Sample:** 435679-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 17:13

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 880171 **Sample:** 435679-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 19:29

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0335	0.0300	112	80-120	

Lab Batch #: 880171 **Sample:** 435679-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 22:09

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0223	0.0300	74	80-120	**
4-Bromofluorobenzene	0.0176	0.0300	59	80-120	**

Lab Batch #: 879921 **Sample:** 617047-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 19:57

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 880123 **Sample:** 617180-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 07:19

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1-Chlorooctane	94.7	100	95	70-135	
o-Terphenyl	52.3	50.0	105	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 880041 **Sample:** 617121-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 23:33

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 09:02

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1-Chlorooctane	98.7	100	99	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

Lab Batch #: 880171 **Sample:** 617208-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/31/12 13:02

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

Lab Batch #: 879921 **Sample:** 617047-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 18:26

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0335	0.0300	112	80-120	

Lab Batch #: 880123 **Sample:** 617180-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 06:28

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1-Chlorooctane	93.6	100	94	70-135	
o-Terphenyl	41.6	50.0	83	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 880041 **Sample:** 617121-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 22:02

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 08:13

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1-Chlorooctane	93.8	100	94	70-135	
o-Terphenyl	39.1	50.0	78	70-135	

Lab Batch #: 880171 **Sample:** 617208-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/31/12 11:53

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0347	0.0300	116	80-120	

Lab Batch #: 879921 **Sample:** 617047-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/26/12 18:49

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 880123 **Sample:** 617180-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 06:53

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1-Chlorooctane	90.5	100	91	70-135	
o-Terphenyl	41.2	50.0	82	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 880041 **Sample:** 617121-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/27/12 22:24

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

Lab Batch #: 880133 **Sample:** 617186-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/28/12 08:38

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 880171 **Sample:** 617208-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/31/12 12:16

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0341	0.0300	114	80-120	

Lab Batch #: 879921 **Sample:** 435786-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 22:59

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0315	0.0300	105	80-120	

Lab Batch #: 880123 **Sample:** 435689-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/27/12 16:17

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.7	99.6	96	70-135	
o-Terphenyl	44.7	49.8	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679, **Project ID:** 2008-113

Lab Batch #: 880041 **Sample:** 435769-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 03:42

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 880133 **Sample:** 435520-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:05

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1-Chlorooctane	103	99.6	103	70-135	
o-Terphenyl	46.2	49.8	93	70-135	

Lab Batch #: 880171 **Sample:** 435769-010 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 17:36

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

Lab Batch #: 879921 **Sample:** 435786-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/26/12 23:22

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 880123 **Sample:** 435689-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/27/12 16:42

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1-Chlorooctane	93.5	99.6	94	70-135	
o-Terphenyl	42.7	49.8	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
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 435679,

Project ID: 2008-113

Lab Batch #: 880041 **Sample:** 435769-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 04:05

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 880133 **Sample:** 435520-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/28/12 19:30

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	99.5	98	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 880171 **Sample:** 435769-010 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/31/12 17:59

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0349	0.0300	116	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 435679 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/26/2012 **Date Analyzed:** 01/26/2012

Lab Batch ID: 879921 **Sample:** 617047-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.105	105	0.100	0.0985	99	6	70-130	35	
Toluene	<0.00200	0.100	0.104	104	0.100	0.0977	98	6	70-130	35	
Ethylbenzene	<0.00100	0.100	0.102	102	0.100	0.0954	95	7	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.200	0.200	100	6	70-135	35	
o-Xylene	<0.00100	0.100	0.102	102	0.100	0.0960	96	6	71-133	35	

Analyst: ASA **Date Prepared:** 01/27/2012 **Date Analyzed:** 01/27/2012

Lab Batch ID: 880041 **Sample:** 617121-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0924	92	0.100	0.0996	100	8	70-130	35	
Toluene	<0.00200	0.100	0.0927	93	0.100	0.101	101	9	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0923	92	0.100	0.100	100	8	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.187	94	0.200	0.204	102	9	70-135	35	
o-Xylene	<0.00100	0.100	0.0926	93	0.100	0.101	101	9	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: EK Queen Pearce

Work Order #: 435679 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/31/2012 **Date Analyzed:** 01/31/2012

Lab Batch ID: 880171 **Sample:** 617208-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0922	92	0.100	0.0941	94	2	70-130	35	
Toluene	<0.00200	0.100	0.0919	92	0.100	0.0932	93	1	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0913	91	0.100	0.0919	92	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.191	96	0.200	0.192	96	1	70-135	35	
o-Xylene	<0.00100	0.100	0.0941	94	0.100	0.0947	95	1	71-133	35	

Analyst: ASA **Date Prepared:** 01/26/2012 **Date Analyzed:** 01/27/2012

Lab Batch ID: 880123 **Sample:** 617180-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	801	80	1000	807	81	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	832	83	1000	956	96	14	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

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 435679 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/26/2012 **Date Analyzed:** 01/28/2012

Lab Batch ID: 880133 **Sample:** 617186-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	820	82	1000	843	84	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	783	78	1000	916	92	16	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: EK Queen Pearce

Work Order # : 435679 **Project ID:** 2008-113

Lab Batch ID: 879921 **QC- Sample ID:** 435786-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/26/2012 **Date Prepared:** 01/26/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.000994	0.0994	0.0774	78	0.100	0.0809	81	4	70-130	35	
Toluene	<0.00199	0.0994	0.0757	76	0.100	0.0795	80	5	70-130	35	
Ethylbenzene	<0.000994	0.0994	0.0709	71	0.100	0.0748	75	5	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.146	73	0.200	0.154	77	5	70-135	35	

Lab Batch ID: 880041 **QC- Sample ID:** 435769-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/28/2012 **Date Prepared:** 01/27/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.00112	0.112	0.0743	66	0.112	0.0733	65	1	70-130	35	X
Toluene	<0.00225	0.112	0.0732	65	0.112	0.0718	64	2	70-130	35	X
Ethylbenzene	<0.00112	0.112	0.0711	63	0.112	0.0695	62	2	71-129	35	X
m_p-Xylenes	<0.00225	0.225	0.142	63	0.224	0.138	62	3	70-135	35	X
o-Xylene	<0.00112	0.112	0.0692	62	0.112	0.0673	60	3	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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 435679 **Project ID:** 2008-113

Lab Batch ID: 880171 **QC- Sample ID:** 435769-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/31/2012 **Date Prepared:** 01/31/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.00111	0.111	0.0712	64	0.111	0.0773	70	8	70-130	35	X
Toluene	<0.00222	0.111	0.0700	63	0.111	0.0746	67	6	70-130	35	X
Ethylbenzene	<0.00111	0.111	0.0686	62	0.111	0.0716	65	4	71-129	35	X
m_p-Xylenes	<0.00222	0.222	0.140	63	0.223	0.146	65	4	70-135	35	X
o-Xylene	<0.00111	0.111	0.0696	63	0.111	0.0733	66	5	71-133	35	X

Lab Batch ID: 880123 **QC- Sample ID:** 435689-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/27/2012 **Date Prepared:** 01/26/2012 **Analyst:** ASA

Reporting Units: mg/kg

TPH by SW8015 Mod 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
C6-C12 Gasoline Range Hydrocarbons	<15.5	1030	857	83	1030	850	83	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.5	1030	996	97	1030	916	89	8	70-135	35	

Lab Batch ID: 880133 **QC- Sample ID:** 435520-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/28/2012 **Date Prepared:** 01/26/2012 **Analyst:** ASA

Reporting Units: mg/kg

TPH by SW8015 Mod 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
C6-C12 Gasoline Range Hydrocarbons	<17.5	1170	1000	85	1170	931	80	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.5	1170	1130	97	1170	982	84	14	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 435679

Lab Batch #: 879919 **Project ID:** 2008-113

Date Analyzed: 01/26/2012 08:30 **Date Prepared:** 01/26/2012 **Analyst:** BRB

QC- Sample ID: 435671-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.87	6.31	7	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 435679

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M	TOTAL: TPH: 8015B TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 X	RCI	N.O.R.M.	Chlorides	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SB-10 @ 20'			1/23/2012	1500		1	X								Soil	X								X					X
02	SB-10 @ 25'			1/23/2012	1505		1	X								Soil	X								X					X
03	SB-10 @ 30'			1/23/2012	1510		1	X								Soil	X								X					X
04	SB-10 @ 35'			1/23/2012	1515		1	X								Soil	X								X					X
05	SB-10 @ 40'			1/23/2012	1530		1	X								Soil	X								X					X
06	SB-10 @ 45'			1/23/2012	1535		1	X								Soil	X								X					X
07	SB-10 @ 50'			1/23/2012	1550		1	X								Soil	X								X					X
08	SB-10 @ 55'			1/23/2012	1555		1	X								Soil	X								X					X
09	SB-10 @ 60'			1/23/2012	1605		1	X								Soil	X								X					X
VOC																														

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	1/25/12	0700	Dakota Wall	1/25/12	0700
Dakota Wall	1/25/12	1515			
			Received by ELOT: Andrea Elam	1-25-12	1515

Laboratory Comments:

Sample Containers Intact?	Y
VOCs Free of Headspace?	Y
Labels on container(s)	Y
Custody seals on container(s)	N
Custody seals on cooler(s)	N
Sample Hand Delivered	N
by Sampler/Client Rep. ?	N
by Courier? UPS DHL FedEx Lone Star	

Temperature Upon Receipt: 4029455 -2.5 °C

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin / Plains

Date/Time: 1.25.12 15:15

Lab ID # : 435679

Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs -2.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact:_____ **Contacted by:**_____ **Date/Time:**_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 454259

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

2008-113

20-DEC-12

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

20-DEC-12

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **454259**
EK Queen Pearce
Project Address: Lea County, NM

Ben Arguijo:

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(s) 454259. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 454259 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 454259

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4@10'	S	12-11-12 11:40		454259-001
MW-4@20'	S	12-11-12 11:50		454259-002
MW-4@30'	S	12-11-12 12:00		454259-003
MW-4@40'	S	12-11-12 12:10		454259-004
MW-4@60'	S	12-11-12 12:30		454259-005

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*20-DEC-12*
Work Order Number(s):	*454259*	*Date Received:*	*12/17/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 454259

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Mon Dec-17-12 09:40 am
Report Date: 20-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested											
	Lab Id:	454259-001		454259-002		454259-003		454259-004		454259-005	
	Field Id:	MW-4@10'		MW-4@20'		MW-4@30'		MW-4@40'		MW-4@60'	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-11-12 11:40		Dec-11-12 11:50		Dec-11-12 12:00		Dec-11-12 12:10		Dec-11-12 12:30	
BTEX by EPA 8021B	***Extracted:***	Dec-17-12 10:20		Dec-17-12 10:20		Dec-17-12 10:20		Dec-17-12 10:20		Dec-17-12 10:20	
	Analyzed:	Dec-18-12 08:30		Dec-17-12 14:11		Dec-17-12 14:28		Dec-17-12 15:02		Dec-17-12 14:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00123	ND	0.00114	ND	0.00110	ND	0.00106	ND	0.00108
Toluene		ND	0.00245	ND	0.00228	ND	0.00220	ND	0.00211	ND	0.00217
Ethylbenzene		ND	0.00123	ND	0.00114	ND	0.00110	ND	0.00106	ND	0.00108
m_p-Xylenes		ND	0.00245	ND	0.00228	ND	0.00220	ND	0.00211	ND	0.00217
o-Xylene		ND	0.00123	ND	0.00114	ND	0.00110	ND	0.00106	ND	0.00108
Total Xylenes		ND	0.00123	ND	0.00114	ND	0.00110	ND	0.00106	ND	0.00108
Total BTEX		ND	0.00123	ND	0.00114	ND	0.00110	ND	0.00106	ND	0.00108
Percent Moisture	***Extracted:***										
	Analyzed:	Dec-17-12 15:08		Dec-17-12 15:08		Dec-17-12 15:08		Dec-17-12 15:10		Dec-17-12 15:10	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		18.0	1.00	11.8	1.00	7.34	1.00	5.65	1.00	8.14	1.00
TPH By SW8015 Mod	***Extracted:***	Dec-18-12 14:00		Dec-18-12 14:00		Dec-18-12 14:00		Dec-18-12 14:00		Dec-18-12 14:00	
	Analyzed:	Dec-18-12 19:53		Dec-18-12 20:26		Dec-19-12 09:30		Dec-18-12 21:29		Dec-18-12 22:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	18.2	ND	17.0	ND	16.2	ND	15.9	ND	16.2
C12-C28 Diesel Range Hydrocarbons		ND	18.2	ND	17.0	ND	16.2	ND	15.9	ND	16.2
C28-C35 Oil Range Hydrocarbons		ND	18.2	ND	17.0	ND	16.2	ND	15.9	ND	16.2
Total TPH		ND	18.2	ND	17.0	ND	16.2	ND	15.9	ND	16.2

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

	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
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454259, **Project ID:** 2008-113

Lab Batch #: 903016 **Sample:** 454259-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/17/12 14:11

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0252	0.0300	84	80-120	

Lab Batch #: 903016 **Sample:** 454259-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/17/12 14:28

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 903016 **Sample:** 454259-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/17/12 14:45

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 903016 **Sample:** 454259-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/17/12 15:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	80-120	

Lab Batch #: 903016 **Sample:** 454259-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/18/12 08:30

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454259, **Project ID:** 2008-113

Lab Batch #: 903201 **Sample:** 454259-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/18/12 19:53

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.5	99.7	90	70-135	
o-Terphenyl	44.0	49.9	88	70-135	

Lab Batch #: 903201 **Sample:** 454259-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/18/12 20:26

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.5	100	88	70-135	
o-Terphenyl	42.8	50.1	85	70-135	

Lab Batch #: 903201 **Sample:** 454259-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/18/12 21:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	99.7	98	70-135	
o-Terphenyl	46.9	49.9	94	70-135	

Lab Batch #: 903201 **Sample:** 454259-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/18/12 22:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.5	99.5	88	70-135	
o-Terphenyl	42.3	49.8	85	70-135	

Lab Batch #: 903201 **Sample:** 454259-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/19/12 09:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.2	99.8	87	70-135	
o-Terphenyl	43.1	49.9	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
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454259, **Project ID:** 2008-113

Lab Batch #: 903016 **Sample:** 631322-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/17/12 09:54

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0271	0.0300	90	80-120	

Lab Batch #: 903201 **Sample:** 631430-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/18/12 16:44

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.7	99.8	94	70-135	
o-Terphenyl	45.7	49.9	92	70-135	

Lab Batch #: 903016 **Sample:** 631322-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/17/12 09:26

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0268	0.0300	89	80-120	

Lab Batch #: 903201 **Sample:** 631430-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/18/12 15:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.9	99.8	97	70-135	
o-Terphenyl	56.8	49.9	114	70-135	

Lab Batch #: 903016 **Sample:** 631322-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/17/12 09:38

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	80-120	
4-Bromofluorobenzene	0.0312	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
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454259, **Project ID:** 2008-113

Lab Batch #: 903201 **Sample:** 631430-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/18/12 16:15

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.9	99.9	89	70-135	
o-Terphenyl	52.8	50.0	106	70-135	

Lab Batch #: 903016 **Sample:** 454259-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/17/12 15:19

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0283	0.0300	94	80-120	

Lab Batch #: 903201 **Sample:** 454258-005 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/19/12 02:09

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.3	99.8	94	70-135	
o-Terphenyl	55.6	49.9	111	70-135	

Lab Batch #: 903016 **Sample:** 454259-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/17/12 15:36

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0325	0.0300	108	80-120	

Lab Batch #: 903201 **Sample:** 454258-005 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/19/12 02:39

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.7	99.9	96	70-135	
o-Terphenyl	51.7	50.0	103	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 454259 **Project ID:** 2008-113

Analyst: KEB **Date Prepared:** 12/17/2012 **Date Analyzed:** 12/17/2012

Lab Batch ID: 903016 **Sample:** 631322-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00101	0.101	0.0876	87	0.0996	0.110	110	23	70-130	35	
Toluene	<0.00201	0.101	0.0888	88	0.0996	0.111	111	22	70-130	35	
Ethylbenzene	<0.00101	0.101	0.0872	86	0.0996	0.107	107	20	71-129	35	
m_p-Xylenes	<0.00201	0.201	0.187	93	0.199	0.227	114	19	70-135	35	
o-Xylene	<0.00101	0.101	0.0906	90	0.0996	0.113	113	22	71-133	35	

Analyst: KEB **Date Prepared:** 12/18/2012 **Date Analyzed:** 12/18/2012

Lab Batch ID: 903201 **Sample:** 631430-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	1030	103	999	949	95	8	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	999	100	999	930	93	7	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: EK Queen Pearce

Work Order # : 454259 **Project ID:** 2008-113

Lab Batch ID: 903016 **QC- Sample ID:** 454259-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/17/2012 **Date Prepared:** 12/17/2012 **Analyst:** KEB

Reporting Units: mg/kg

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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.00114	0.114	0.108	95	0.114	0.111	97	3	70-130	35	
Toluene	<0.00227	0.114	0.109	96	0.114	0.114	100	4	70-130	35	
Ethylbenzene	<0.00114	0.114	0.101	89	0.114	0.107	94	6	71-129	35	
m_p-Xylenes	<0.00227	0.227	0.213	94	0.228	0.223	98	5	70-135	35	
o-Xylene	<0.00114	0.114	0.100	88	0.114	0.118	104	17	71-133	35	

Lab Batch ID: 903201 **QC- Sample ID:** 454258-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/19/2012 **Date Prepared:** 12/18/2012 **Analyst:** KEB

Reporting Units: mg/kg

TPH By SW8015 Mod 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
C6-C12 Gasoline Range Hydrocarbons	<19.5	1300	1400	108	1300	1320	102	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<19.5	1300	1350	104	1300	1300	100	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

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

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 454259

Lab Batch #: 903085 **Project ID:** 2008-113

Date Analyzed: 12/17/2012 11:55 **Date Prepared:** 12/17/2012 **Analyst:** WRU

QC- Sample ID: 454205-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.16	1.11	4	20	

Lab Batch #: 903092

Date Analyzed: 12/17/2012 15:10 **Date Prepared:** 12/17/2012 **Analyst:** WRU

QC- Sample ID: 454259-004 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.65	5.65	0	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo
Project Name: EK Queen Pearce

Company Name: Basin Environmental Service Technologies, LLC
Project #: 2008-113

Company Address: P. O. Box 301
Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260
PO #: PAA - J. Henry

Telephone No: (575)396-2378
Fax No: (575) 396-1429
Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature:
e-mail: bjarguijo@basinenv.com

(lab use only) ORDER #: 454259

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M	TPH: 8015B TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	MW-4 @ 10'			12/11/2012	1140		1	X								Soil	X							X					X
02	MW-4 @ 20'			12/11/2012	1150		1	X								Soil	X							X					X
03	MW-4 @ 30'			12/11/2012	1200		1	X								Soil	X							X					X
04	MW-4 @ 40'			12/11/2012	1210		1	X								Soil	X							X					X
05	MW-4 @ 60'			12/11/2012	1230		1	X								Soil	X							X					X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	12/14/12	1405		12.14.12	14.55
Relinquished by:	Date	Time	Received by:	Date	Time
	12-14-12	15:40		12-14-12	1541
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				12/19/12	9:40

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 11.1 °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 12/17/2012 09:40:00 AM

Work Order #: 454259

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	-1.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: _____ Date: _____

Checklist reviewed by: _____ Date: _____

Appendix F
Laboratory Analytical Reports
(Groundwater)

Analytical Report 308796

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

E K Queen 6" Pearce

2008-113

31-JUL-08

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

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 - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

31-JUL-08

Project Manager: **Camille Reynolds**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **308796**
E K Queen 6" Pearce
Project Address: Lea County, NM

Camille Reynolds:

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 308796. 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. 308796 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

Sample Cross Reference 308796

PLAINS ALL AMERICAN EH&S, Midland, TX

E K Queen 6" Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Prelim GW	W	Jul-25-08 16:45		308796-001

Certificate of Analysis Summary 308796

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E K Queen 6" Pearce

Project Id: 2008-113
Contact: Camille Reynolds
Project Location: Lea County, NM

Date Received in Lab: Tue Jul-29-08 08:30 am
Report Date: 31-JUL-08
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	308796-001					
	Field Id:	Prelim GW					
	Depth:						
	Matrix:	WATER					
	Sampled:	Jul-25-08 16:45					
BTEX by EPA 8021B	***Extracted:***	Jul-30-08 16:02					
	Analyzed:	Jul-31-08 06:24					
	Units/RL:	mg/L RL					
Benzene		0.0016 0.0010					
Toluene		0.0080 0.0020					
Ethylbenzene		0.0074 0.0010					
m,p-Xylenes		0.0091 0.0020					
o-Xylene		0.0049 0.0010					
Total Xylenes		0.014					
Total BTEX		0.031					

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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(PQL) and above the SQL(MDL).

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.

* Outside XENCO'S scope of NELAC Accreditation

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

	Phone	Fax
11381 Meadowglen Lane Suite L Houston, Tx 77082-2647	(281) 589-0692	(281) 589-0695
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238	(210) 509-3334	(210) 509-3335
2505 N. 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
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 308796 **Project ID:** 2008-113

Lab Batch #: 729592 **Sample:** 308660-010 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 729592 **Sample:** 308660-010 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	

Lab Batch #: 729592 **Sample:** 308796-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0369	0.0300	123	80-120	**
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 729592 **Sample:** 513044-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0340	0.0300	113	80-120	

Lab Batch #: 729592 **Sample:** 513044-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0350	0.0300	117	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	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.

Form 2 - Surrogate Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 308796 **Project ID:** 2008-113

Lab Batch #: 729592 **Sample:** 513044-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	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.

BS / BSD Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 308796 **Project ID:** 2008-113

Analyst: BRB **Date Prepared:** 07/30/2008 **Date Analyzed:** 07/31/2008

Lab Batch ID: 729592 **Sample:** 513044-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.0500	0.0553	111	0.05	0.0456	91	19	70-125	25	
Toluene	ND	0.0500	0.0544	109	0.05	0.0434	87	22	70-125	25	
Ethylbenzene	ND	0.0500	0.0583	117	0.05	0.0467	93	22	71-129	25	
m,p-Xylenes	ND	0.1000	0.1213	121	0.1	0.0971	97	22	70-131	25	
o-Xylene	ND	0.0500	0.0598	120	0.05	0.0472	94	24	71-133	25	

Relative Percent Difference RPD = 200*|(D-F)/(D+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: E K Queen 6" Pearce

Work Order # : 308796 **Project ID:** 2008-113

Lab Batch ID: 729592 **QC- Sample ID:** 308660-010 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 07/31/2008 **Date Prepared:** 07/30/2008 **Analyst:** BRB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY 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	ND	0.0500	0.0521	104	0.0500	0.0430	86	19	70-125	25	
Toluene	ND	0.0500	0.0497	99	0.0500	0.0397	79	22	70-125	25	
Ethylbenzene	ND	0.0500	0.0538	108	0.0500	0.0432	86	23	71-129	25	
m,p-Xylenes	ND	0.1000	0.1121	112	0.1000	0.0902	90	22	70-131	25	
o-Xylene	ND	0.0500	0.0545	109	0.0500	0.0445	89	20	71-133	25	

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

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 01 OF 01

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (505) 441-2244 Fax No: (505) 396-1429

Sampler Signature: e-mail: cstanley@basinenv.com

Project Name: E K QUEEN 6" PEARCE

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - C. J. Reynolds

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 308796

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Sol; NP = Non-Potable Specify Other	Analyze For: TCLP: TPH 418.1	8015M	8015B	TPH TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	PRELIM GW			7/25/2008	1645		3	X		X						GW												X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	7/29/08	830			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	7/29/08	8:30

Laboratory Comments:

Sample Containers Intact?		N
VOCs Free of Headspace?		N
Labels on container(s)		N
Custody seals on container(s)		N
Custody seals on cooler(s)		N
Sample Hand Delivered by Sampler/Client Rep. ?		N

Sample Hand Delivered by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: VOA 0.5 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Environmental

Date/ Time: 7/24/08 8:30

Lab ID #: 308796

Initials: JG

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	0.5 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	(Yes)	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 322927

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6 Inch Pearce

2008-113

22-JAN-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

22-JAN-09

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

Reference: XENCO Report No: **322927**
E.K. Queen 6 Inch Pearce
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 322927. 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. 322927 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

Sample Cross Reference 322927

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6 Inch Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Jan-20-09 10:45		322927-001
MW-2	W	Jan-20-09 11:45		322927-002
MW-3	W	Jan-20-09 13:30		322927-003

Certificate of Analysis Summary 322927

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6 Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Jan-21-09 08:32 am
Report Date: 22-JAN-09
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	322927-001		322927-002		322927-003					
	Field Id:	MW-1		MW-2		MW-3					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Jan-20-09 10:45		Jan-20-09 11:45		Jan-20-09 13:30					
Anions by EPA 300	***Extracted:***										
	Analyzed:	Jan-21-09 09:37		Jan-21-09 09:37		Jan-21-09 09:37					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		200	5.00	206	5.00	126	5.00				
BTEX by EPA 8021B	***Extracted:***	Jan-21-09 16:00		Jan-21-09 16:00		Jan-21-09 16:00					
	Analyzed:	Jan-22-09 03:36		Jan-22-09 03:58		Jan-22-09 04:19					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.0010	ND	0.0010	ND	0.0010				
Toluene		ND	0.0020	ND	0.0020	ND	0.0020				
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010				
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020				
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010				
Total Xylenes		ND	0.0010	ND	0.0010	ND	0.0010				
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010				
TDS by SM2540C	***Extracted:***										
	Analyzed:	Jan-21-09 16:05		Jan-21-09 16:05		Jan-21-09 16:05					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Total dissolved solids		528	5.00	572	5.00	378	5.00				

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 322927, **Project ID:** 2008-113

Lab Batch #: 747222 **Sample:** 322896-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 747222 **Sample:** 322896-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 747222 **Sample:** 322927-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 747222 **Sample:** 322927-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 747222 **Sample:** 322927-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	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

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

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 322927, **Project ID:** 2008-113

Lab Batch #: 747222 **Sample:** 523400-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0278	0.0300	93	80-120	

Lab Batch #: 747222 **Sample:** 523400-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 747222 **Sample:** 523400-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	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.

Blank Spike Recovery

Project Name: E.K. Queen 6 Inch Pearce

Work Order #: 322927 **Project ID:** 2008-113

Lab Batch #: 747179 **Sample:** 747179-1-BKS **Matrix:** Water

Date Analyzed: 01/21/2009 **Date Prepared:** 01/21/2009 **Analyst:** LATCOR

Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.91	99	90-110	

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

BS / BSD Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Order #: 322927 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 01/21/2009 **Date Analyzed:** 01/21/2009

Lab Batch ID: 747222 **Sample:** 523400-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0891	89	0.1	0.0908	91	2	70-125	25	
Toluene	ND	0.1000	0.0873	87	0.1	0.0891	89	2	70-125	25	
Ethylbenzene	ND	0.1000	0.0968	97	0.1	0.0994	99	3	71-129	25	
m,p-Xylenes	ND	0.2000	0.1912	96	0.2	0.1962	98	3	70-131	25	
o-Xylene	ND	0.1000	0.0929	93	0.1	0.0956	96	3	71-133	25	

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: E.K. Queen 6 Inch Pearce

Work Order #: 322927
Lab Batch #: 747179
Project ID: 2008-113
Date Analyzed: 01/21/2009
Date Prepared: 01/21/2009
Analyst: LATCOR
QC- Sample ID: 322927-001 S
Batch #: 1
Matrix: Water
Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	200	100	304	104	80-120	

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

Form 3 - MS / MSD Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Order # : 322927 **Project ID:** 2008-113

Lab Batch ID: 747222 **QC- Sample ID:** 322896-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/22/2009 **Date Prepared:** 01/21/2009 **Analyst:** ASA

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY 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	ND	0.1000	0.0826	83	0.1000	0.0858	86	4	70-125	25	
Toluene	ND	0.1000	0.0806	81	0.1000	0.0837	84	4	70-125	25	
Ethylbenzene	ND	0.1000	0.0895	90	0.1000	0.0925	93	3	71-129	25	
m,p-Xylenes	ND	0.2000	0.1770	89	0.2000	0.1824	91	2	70-131	25	
o-Xylene	ND	0.1000	0.0845	85	0.1000	0.0875	88	3	71-133	25	

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

Sample Duplicate Recovery

Project Name: E.K. Queen 6 Inch Pearce

Work Order #: 322927

Lab Batch #: 747179 **Project ID:** 2008-113

Date Analyzed: 01/21/2009 **Date Prepared:** 01/21/2009 **Analyst:** LATCOR

QC- Sample ID: 322927-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	200	200	0	20	

Lab Batch #: 747236

Date Analyzed: 01/21/2009 **Date Prepared:** 01/21/2009 **Analyst:** WRU

QC- Sample ID: 322927-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	528	538	2	30	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 01 OF 01 Project Name: E.K. Queen 6 inch Pearce

Company Name: Basin Environmental Service Technologies, LLC Project #: 2008-113

Company Address: P. O. Box 301 Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260 PO #: PAA - J. Henry

Telephone No: (505) 441-2244 Fax No: (505) 396-1429 Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: Curt O. Stanley for Chris Reposas E-mail: cstanley@basinenv.com

(lab use only)
ORDER #: 322927

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW – Drinking Water SL – Sludge	GW – Groundwater S – Soil/Solid	NP – Non-Potable Specify Other	Analyze For: TPH 418.1 / 8015M	TPH TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M	PAH 8270	TDS (EPA METHOD SM 2540c)	CHLORIDES E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	MW-1			1/20/2009	1045		3	X									GW										X				X	X		X
02	MW-2			1/20/2009	1145		3	X									GW										X				X	X		X
03	MW-3			1/20/2009	1330		3	X									GW										X				X	X		X

TCLP:
TOTAL: X

Special Instructions: 1 VOA FOR MW-2

Relinquished by:	Date	Time	Received by:	Date	Time
	1/21/09	0832			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				1-21-09	0832

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 3.5 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env / Plains

Date/ Time: 12101 [illegible] 8:32

Lab ID #: 322921

Initials: CK

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	3.5 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	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?	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?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See 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

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

Analytical Report 335808

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6 Inch Pearce

2008-113

24-JUN-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-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

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

24-JUN-09

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

Reference: XENCO Report No: **335808**
E.K. Queen 6 Inch Pearce
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 335808. 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. 335808 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

Sample Cross Reference 335808

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6 Inch Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Jun-15-09 10:00		335808-001
MW-2	W	Jun-15-09 11:00		335808-002
MW-3	W	Jun-15-09 12:00		335808-003

Certificate of Analysis Summary 335808

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6 Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Jun-18-09 08:34 am
Report Date: 24-JUN-09
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	335808-001		335808-002		335808-003		
	Field Id:	MW-1		MW-2		MW-3		
	Depth:							
	Matrix:	WATER		WATER		WATER		
	Sampled:	Jun-15-09 10:00		Jun-15-09 11:00		Jun-15-09 12:00		
BTEX by EPA 8021B	***Extracted:***	Jun-19-09 17:10		Jun-19-09 17:10		Jun-19-09 17:10		
	Analyzed:	Jun-20-09 14:37		Jun-20-09 14:58		Jun-20-09 15:21		
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020	
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	
Total Xylenes		ND	0.0010	ND	0.0010	ND	0.0010	
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010	

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 335808,

Project ID: 2008-113

Lab Batch #: 763207 **Sample:** 532282-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 13:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 763207 **Sample:** 532282-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 13:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0322	0.0300	107	80-120	

Lab Batch #: 763207 **Sample:** 532282-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 14:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0258	0.0300	86	80-120	
4-Bromofluorobenzene	0.0239	0.0300	80	80-120	

Lab Batch #: 763207 **Sample:** 335808-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 14:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0234	0.0300	78	80-120	*

Lab Batch #: 763207 **Sample:** 335808-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 14:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0258	0.0300	86	80-120	
4-Bromofluorobenzene	0.0233	0.0300	78	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 335808,

Project ID: 2008-113

Lab Batch #: 763207 **Sample:** 335808-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 15:21

SURROGATE RECOVERY STUDY

BTEX 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	0.0229	0.0300	76	80-120	*

Lab Batch #: 763207 **Sample:** 335808-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 22:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 763207 **Sample:** 335808-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/20/09 23:17

SURROGATE RECOVERY STUDY

BTEX 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	0.0321	0.0300	107	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.

BS / BSD Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Order #: 335808 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 06/19/2009 **Date Analyzed:** 06/20/2009

Lab Batch ID: 763207 **Sample:** 532282-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1041	104	0.1	0.1036	104	0	70-125	25	
Toluene	ND	0.1000	0.1016	102	0.1	0.1012	101	0	70-125	25	
Ethylbenzene	ND	0.1000	0.1088	109	0.1	0.1084	108	0	71-129	25	
m,p-Xylenes	ND	0.2000	0.2172	109	0.2	0.2169	108	0	70-131	25	
o-Xylene	ND	0.1000	0.1037	104	0.1	0.1039	104	0	71-133	25	

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: E.K. Queen 6 Inch Pearce

Work Order # : 335808 **Project ID:** 2008-113

Lab Batch ID: 763207 **QC- Sample ID:** 335808-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 06/20/2009 **Date Prepared:** 06/19/2009 **Analyst:** ASA

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY 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	ND	0.1000	0.0962	96	0.1000	0.0959	96	0	70-125	25	
Toluene	ND	0.1000	0.0934	93	0.1000	0.0930	93	0	70-125	25	
Ethylbenzene	ND	0.1000	0.0994	99	0.1000	0.0989	99	1	71-129	25	
m,p-Xylenes	ND	0.2000	0.1971	99	0.2000	0.1916	96	3	70-131	25	
o-Xylene	ND	0.1000	0.0954	95	0.1000	0.0940	94	1	71-133	25	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 01 OF 01 Project Name: E.K. Queen 6 inch Pearce

Company Name: Basin Environmental Service Technologies, LLC Project #: 2008-113

Company Address: P. O. Box 301 Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260 PO #: PAA - J. Henry

Telephone No: (505) 441-2244 Fax No: (505) 396-1429 Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: e-mail: cstanley@basinenv.com

(lab use only) ORDER #: 335808

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW – Drinking Water; GW – Groundwater; S – Soil/Sol; NP – Non-Potable; Specify Other	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX (8021B/5030 or BTEX 8260	RCI	N.O.R.M.	PAH 8270	TDS (EPA METHOD SM 2540c)	CHLORIDES E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	MW-1			6/15/2009	1000		3	X		X						GW									X							X
02	MW-2			6/15/2009	1100		3	X		X						GW									X							X
03	MW-3			6/15/2009	1200		3	X		X						GW									X							X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Curt Stanley	6/18/09	0834			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Jeanne Fitch	06-18-09	0834

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	(Y)	N
Labels on container(s)	(Y)	N
Custody seals on container(s) kbas	(Y)	N
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered by Sampler/Client Rep. ?	(Y)	N
by Courier? UPS DHL FedEx Lone Star	Y	N

Temperature Upon Receipt: 4.5 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains/Basin

Date/ Time: 06-18-09 @ 0834

Lab ID #: 335808

Initials: JMF

Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	4.5 °C	
#2 Shipping container in good condition?	(Yes)	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4 Custody Seals intact on sample bottles/ container? label	(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?	(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?	(Yes)	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11 Containers supplied by ELOT?	(Yes)	No		
#12 Samples in proper container/ bottle?	(Yes)	No	See Below	
#13 Samples properly preserved?	(Yes)	No	See Below	
#14 Sample bottles intact?	(Yes)	No		
#15 Preservations documented on Chain of Custody?	(Yes)	No		
#16 Containers documented on Chain of Custody?	(Yes)	No		
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 344695

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6 inch Pearce

2008-113

17-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)

17-SEP-09

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

Reference: XENCO Report No: **344695**
E.K. Queen 6 inch Pearce
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 344695. 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. 344695 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

Sample Cross Reference 344695

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6 inch Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Sep-15-09 12:30		344695-001
MW-2	W	Sep-15-09 12:50		344695-002
MW-3	W	Sep-15-09 13:15		344695-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: E.K. Queen 6 inch Pearce

Project ID:	*2008-113*	*Report Date:*	*17-SEP-09*
Work Order Number:	*344695*	*Date Received:*	*09/16/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-772783 BTEX-MTBE EPA 8021B
SW8021BM

Batch 772783, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 538006-1-BLK,344695-003,344695-001. Matrix interference is suspected in sample surrogate failures.
4-Bromofluorobenzene recovered below QC limits Data confirmed by re-analysis. Samples affected are: 344695-002

Certificate of Analysis Summary 344695

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6 inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Sep-16-09 08:40 am
Report Date: 17-SEP-09
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	344695-001		344695-002		344695-003					
	Field Id:	MW-1		MW-2		MW-3					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Sep-15-09 12:30		Sep-15-09 12:50		Sep-15-09 13:15					
BTEX by EPA 8021B	***Extracted:***	Sep-16-09 17:00		Sep-16-09 17:00		Sep-16-09 17:00					
	Analyzed:	Sep-16-09 20:24		Sep-16-09 20:43		Sep-16-09 21:01					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.0010	0.0020	0.0010	ND	0.0010				
Toluene		ND	0.0020	ND	0.0020	ND	0.0020				
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010				
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020				
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010				
Total Xylenes		ND	0.0010	ND	0.0010	ND	0.0010				
Total BTEX		ND	0.0010	0.0020	0.0010	ND	0.0010				

Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 inch Pearce

Work Orders : 344695,

Project ID: 2008-113

Lab Batch #: 772783 **Sample:** 538006-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/16/09 18:15

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 772783 **Sample:** 538006-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/16/09 18:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0325	0.0300	108	80-120	

Lab Batch #: 772783 **Sample:** 538006-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/16/09 19:10

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0187	0.0300	62	80-120	*

Lab Batch #: 772783 **Sample:** 344695-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/16/09 20:24

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0168	0.0300	56	80-120	*

Lab Batch #: 772783 **Sample:** 344695-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/16/09 20:43

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0130	0.0300	43	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 inch Pearce

Work Orders : 344695,

Project ID: 2008-113

Lab Batch #: 772783 **Sample:** 344695-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/16/09 21:01

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0119	0.0300	40	80-120	*

Lab Batch #: 772783 **Sample:** 344695-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/17/09 02:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0318	0.0300	106	80-120	

Lab Batch #: 772783 **Sample:** 344695-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/17/09 02:34

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0336	0.0300	112	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.

BS / BSD Recoveries

Project Name: E.K. Queen 6 inch Pearce

Work Order #: 344695 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 09/16/2009 **Date Analyzed:** 09/16/2009

Lab Batch ID: 772783 **Sample:** 538006-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1025	103	0.1	0.1030	103	0	70-125	25	
Toluene	ND	0.1000	0.0972	97	0.1	0.0981	98	1	70-125	25	
Ethylbenzene	ND	0.1000	0.1087	109	0.1	0.1097	110	1	71-129	25	
m,p-Xylenes	ND	0.2000	0.2217	111	0.2	0.2232	112	1	70-131	25	
o-Xylene	ND	0.1000	0.1059	106	0.1	0.1068	107	1	71-133	25	

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: E.K. Queen 6 inch Pearce

Work Order # : 344695 **Project ID:** 2008-113

Lab Batch ID: 772783 **QC- Sample ID:** 344695-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 09/17/2009 **Date Prepared:** 09/16/2009 **Analyst:** ASA

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY 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	ND	0.1000	0.0975	98	0.1000	0.0997	100	2	70-125	25	
Toluene	ND	0.1000	0.0923	92	0.1000	0.0940	94	2	70-125	25	
Ethylbenzene	ND	0.1000	0.1015	102	0.1000	0.1039	104	2	71-129	25	
m,p-Xylenes	ND	0.2000	0.2017	101	0.2000	0.1989	99	1	70-131	25	
o-Xylene	ND	0.1000	0.0969	97	0.1000	0.0976	98	1	71-133	25	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley — PAGE 01 OF 01 — Project Name: E.K. Queen 6 inch Pearce

Company Name: Basin Environmental Service Technologies, LLC — Project #: 2008-113

Company Address: P. O. Box 301 — Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260 — PO #: PAA - J. Henry

Telephone No: (505) 441-2244 — Fax No: (505) 396-1429 — Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: — e-mail: cstanley@basinenv.com

(lab use only) ORDER #: 344695

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl 40 mL VOAs	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW – Drinking Water SL – Sludge; GW – Groundwater S – Soil/Soil; NP – Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	PAH 8270	TDS (EPA METHOD SM 2540c)	CHLORIDES E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
001	MW-1			9/15/2009	1230		3	X		X						GW									X							X
002	MW-2			9/15/2009	1250		3	X		X						GW									X							X
003	MW-3			9/15/2009	1315		3	X		X						GW									X							X

TCLP: — TOTAL: X

Special Instructions:

Laboratory Comments: 40 mL VOAs

Relinquished by:	Date 9-15-09	Time 14:30	Received by: Curt D Stanley	Date 9/15/09	Time 1430	Sample Containers Intact? Y N
Relinquished by:	Date 9/15/09	Time 0840	Received by:	Date	Time	VOCs Free of Headspace? Y N
Relinquished by:	Date 9/15/09	Time	Received by ELOT: gmvalor	Date 9/15/09	Time 8:40	Labels on container(s) Y N
						Custody seals on container(s) Y N
						Custody seals on cooler(s) Y N
						Sample Hand Delivered by Sampler/Client Rep.? Y N
						by Courier? UPS DHL FedEx Lone Star
						Temperature Upon Receipt: 3.6 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env.

Date/ Time: 09/16/09 8:40

Lab ID #: 344695

Initials: qmA

Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	3.6 °C	
#2 Shipping container in good condition?	(Yes)	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4 Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11 Containers supplied by ELOT?	(Yes)	No		
#12 Samples in proper container/ bottle?	(Yes)	No	See Below	
#13 Samples properly preserved?	(Yes)	No	See Below	
#14 Sample bottles intact?	(Yes)	No		
#15 Preservations documented on Chain of Custody?	(Yes)	No		
#16 Containers documented on Chain of Custody?	(Yes)	No		
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 353107

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6 Inch Pearce

2008-113

30-NOV-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)

30-NOV-09

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

Reference: XENCO Report No: **353107**
E.K. Queen 6 Inch Pearce
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 353107. 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. 353107 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

Sample Cross Reference 353107

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6 Inch Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Nov-19-09 09:20		353107-001
MW-2	W	Nov-19-09 10:05		353107-002
MW-3	W	Nov-19-09 11:20		353107-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: E.K. Queen 6 Inch Pearce

Project ID:	*2008-113*	*Report Date:*	*30-NOV-09*
Work Order Number:	*353107*	*Date Received:*	*11/20/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-783632 BTEX by EPA 8021
None

Certificate of Analysis Summary 353107

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6 Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Fri Nov-20-09 04:45 pm
Report Date: 30-NOV-09
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	353107-001	353107-002	353107-003			
	Field Id:	MW-1	MW-2	MW-3			
	Depth:						
	Matrix:	WATER	WATER	WATER			
	Sampled:	Nov-19-09 09:20	Nov-19-09 10:05	Nov-19-09 11:20			
BTEX by EPA 8021	***Extracted:***	Nov-25-09 11:45	Nov-25-09 11:45	Nov-25-09 11:45			
	Analyzed:	Nov-27-09 02:11	Nov-27-09 02:32	Nov-27-09 02:53			
	Units/RL:	mg/L RL	mg/L RL	mg/L RL			
Benzene		ND 0.0010	ND 0.0010	ND 0.0010			
Toluene		ND 0.0020	ND 0.0020	ND 0.0020			
Ethylbenzene		ND 0.0010	ND 0.0010	ND 0.0010			
m,p-Xylenes		ND 0.0020	ND 0.0020	ND 0.0020			
o-Xylene		ND 0.0010	ND 0.0010	ND 0.0010			
Xylenes, Total		ND 0.0010	ND 0.0010	ND 0.0010			
Total BTEX		ND 0.0010	ND 0.0010	ND 0.0010			

Brent Barron, II
Odessa Laboratory Manager

Final Ver. 1.000

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 353107,

Project ID: 2008-113

Lab Batch #: 783632 **Sample:** 544331-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 00:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0296	0.0300	99	80-120	

Lab Batch #: 783632 **Sample:** 544331-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 00:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0291	0.0300	97	80-120	

Lab Batch #: 783632 **Sample:** 544331-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 01:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 783632 **Sample:** 353107-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 02:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 783632 **Sample:** 353107-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 02:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 353107,

Project ID: 2008-113

Lab Batch #: 783632 **Sample:** 353107-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 02:53

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 783632 **Sample:** 353107-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 16:57

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	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	0.0286	0.0300	95	80-120	

Lab Batch #: 783632 **Sample:** 353107-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/27/09 17:18

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	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	0.0319	0.0300	106	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.

BS / BSD Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Order #: 353107 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 11/25/2009 **Date Analyzed:** 11/27/2009

Lab Batch ID: 783632 **Sample:** 544331-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0927	93	0.1	0.0917	92	1	70-125	25	
Toluene	ND	0.1000	0.0929	93	0.1	0.0919	92	1	70-125	25	
Ethylbenzene	ND	0.1000	0.0896	90	0.1	0.0882	88	2	71-129	25	
m,p-Xylenes	ND	0.2000	0.1918	96	0.2	0.1885	94	2	70-131	25	
o-Xylene	ND	0.1000	0.0965	97	0.1	0.0945	95	2	71-133	25	

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: E.K. Queen 6 Inch Pearce

Work Order # : 353107 **Project ID:** 2008-113

Lab Batch ID: 783632 **QC- Sample ID:** 353107-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 11/27/2009 **Date Prepared:** 11/25/2009 **Analyst:** ASA

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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	0.0890	89	0.1000	0.0872	87	2	70-125	25	
Toluene	ND	0.1000	0.0882	88	0.1000	0.0876	88	1	70-125	25	
Ethylbenzene	ND	0.1000	0.0841	84	0.1000	0.0841	84	0	71-129	25	
m,p-Xylenes	ND	0.2000	0.1755	88	0.2000	0.1764	88	1	70-131	25	
o-Xylene	ND	0.1000	0.0899	90	0.1000	0.0909	91	1	71-133	25	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 01 OF 01

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (505) 441-2244 Fax No: (505) 396-1429

Sampler Signature: C.L. Stanley for C.L. Reynolds e-mail: cstanley@basinenv.com

Project Name: E.K. Queen 6 inch Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 353107

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl 40 ml VOA	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Solid; NP = Non-Potable Specify Other	Analyze For: TCLP:	TOTAL:	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 X	RCI	N.O.R.M.	PAH 8270	TDS (EPA METHOD SM 2540c)	CHLORIDES E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	MW-1			11/19/2009	0920		3	X		X						GW										X								X
02	MW-2			11/19/2009	1005		3	X		X						GW										X								X
03	MW-3			11/19/2009	1120		3	X		X						GW										X								X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	11/20/09	1645			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Fern	Date 11-20-09	Time 16:45

Laboratory Comments:

Sample Containers Intact?	Y N
VOCs Free of Headspace?	N
Labels on container(s)	Y N
Custody seals on container(s)	N
Custody seals on cooler(s)	N
Sample Hand Delivered	N
by Sampler/Client Rep. ?	N
by Courier? UPS DHL FedEx Lone Star	
Temperature Upon Receipt: 5.6 °C	

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin / Plains

Date/ Time: 11.20.09 16:45

Lab ID # : 353107

Initials: AL

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	5.6 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

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

Analytical Report 374690

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6 Inch Pearce

2008-113

03-JUN-10

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)

03-JUN-10

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

Reference: XENCO Report No: **374690**
E.K. Queen 6 Inch Pearce
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 374690. 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. 374690 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

Sample Cross Reference 374690

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6 Inch Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	May-21-10 09:00		374690-001
MW-2	W	May-21-10 10:00		374690-002
MW-3	W	May-21-10 11:00		374690-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: E.K. Queen 6 Inch Pearce

Project ID:	*2008-113*	*Report Date:*	*03-JUN-10*
Work Order Number:	*374690*	*Date Received:*	*05/27/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-809036 BTEX by EPA 8021
SW8021BM

Batch 809036, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 374690-001.

Certificate of Analysis Summary 374690

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6 Inch Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu May-27-10 01:40 pm
Report Date: 03-JUN-10
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	374690-001		374690-002		374690-003		
	Field Id:	MW-1		MW-2		MW-3		
	Depth:							
	Matrix:	WATER		WATER		WATER		
	Sampled:	May-21-10 09:00		May-21-10 10:00		May-21-10 11:00		
BTEX by EPA 8021	***Extracted:***	Jun-01-10 14:30		Jun-01-10 14:30		Jun-01-10 14:30		
	Analyzed:	Jun-02-10 10:38		Jun-02-10 11:00		Jun-02-10 11:23		
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020	
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	
Xylenes, Total		ND	0.0010	ND	0.0010	ND	0.0010	
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010	

Brent Barron, II
Odessa Laboratory Manager

Final Ver. 1.000

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 374690,

Project ID: 2008-113

Lab Batch #: 809036 **Sample:** 564762-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/01/10 15:26

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 809036 **Sample:** 564762-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/01/10 15:48

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 809036 **Sample:** 564762-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/01/10 16:34

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 809036 **Sample:** 374690-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/02/10 10:38

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 809036 **Sample:** 374690-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/02/10 11:00

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 374690,

Project ID: 2008-113

Lab Batch #: 809036 **Sample:** 374690-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/02/10 11:23

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 809036 **Sample:** 374248-007 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/02/10 14:00

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 809036 **Sample:** 374248-007 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06/02/10 14:22

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
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	0.0276	0.0300	92	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.

BS / BSD Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Order #: 374690 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 06/01/2010 **Date Analyzed:** 06/01/2010

Lab Batch ID: 809036 **Sample:** 564762-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0917	92	0.1	0.0967	97	5	70-125	25	
Toluene	ND	0.1000	0.0906	91	0.1	0.0950	95	5	70-125	25	
Ethylbenzene	ND	0.1000	0.0938	94	0.1	0.0970	97	3	71-129	25	
m,p-Xylenes	ND	0.2000	0.1887	94	0.2	0.1943	97	3	70-131	25	
o-Xylene	ND	0.1000	0.0913	91	0.1	0.0952	95	4	71-133	25	

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: E.K. Queen 6 Inch Pearce

Work Order # : 374690 **Project ID:** 2008-113

Lab Batch ID: 809036 **QC- Sample ID:** 374248-007 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 06/02/2010 **Date Prepared:** 06/01/2010 **Analyst:** ASA

Reporting Units: mg/L

BTEX by EPA 8021 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.0906	91	0.1000	0.0914	91	1	70-125	25	
Toluene	ND	0.1000	0.0873	87	0.1000	0.0885	89	1	70-125	25	
Ethylbenzene	ND	0.1000	0.0882	88	0.1000	0.0888	89	1	71-129	25	
m,p-Xylenes	ND	0.2000	0.1752	88	0.2000	0.1735	87	1	70-131	25	
o-Xylene	ND	0.1000	0.0864	86	0.1000	0.0862	86	0	71-133	25	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Curt Stanley PAGE 01 OF 01

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (505) 441-2244 Fax No: (505) 396-1429

Sampler Signature:

e-mail: cstanley@basinenv.com

Project Name: E.K. Queen 6 inch Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 374690

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl 40ml VOA	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW – Drinking Water SL – Sludge; GW – Groundwater S – Soil/Soil; NP – Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	PAH 8270	TDS (EPA METHOD SM 2540c)	CHLORIDES E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	MW-1			5/21/2010	900		3	X		X						GW									X							X
02	MW-2			5/21/2010	1000		3	X		X						GW									X							X
03	MW-3			5/21/2010	1100		3	X		X						GW									X							X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	5-27-10	13:40			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Senn	5.27.10	13:40

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 3.6 °C

XENCO Laboratories	Document Title: Sample Receipt Checklist Document No.: SYS - SRC Revision/Date : No.00 , 05/18/10 Effective Date: 05/20/10 Page No.: 1 of 1
XENCO Laboratories Atlanta, Corpus Christi, Dallas, Houston, Miami, Midland, Philadelphia, San Antonio, Tampa	

Prelogin / Nonconformance Report – Sample Log-In

Client: Basin Env. / Plains

Date/Time: 5.27.10 13:40

Lab ID #: 374690

Initials: AL

Sample Receipt Checklist

1. Sample on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample lable(s)?	(Yes)	No		
9. Container labels legible legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. Voc sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

_____

Corrective ActionTaken:_____

_____

_____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.

☐ Initial and Backup Temperature confirm out of temperature conditions

☐ Client understands and would like to proceed with analysis

Analytical Report 396347

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

09-NOV-10

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

09-NOV-10

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

Reference: XENCO Report No: **396347**
EK Queen Pearce
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 396347. 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. 396347 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

Sample Cross Reference 396347

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Nov-02-10 12:00		396347-001
MW-2	W	Nov-02-10 13:00		396347-002
MW-3	W	Nov-02-10 14:00		396347-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*09-NOV-10*
Work Order Number:	*396347*	*Date Received:*	*11/05/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 396347

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Fri Nov-05-10 03:15 pm
Report Date: 09-NOV-10
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	396347-001		396347-002		396347-003					
	Field Id:	MW-1		MW-2		MW-3					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Nov-02-10 12:00		Nov-02-10 13:00		Nov-02-10 14:00					
BTEX by EPA 8021B	***Extracted:***	Nov-08-10 11:45		Nov-08-10 11:45		Nov-08-10 11:45					
	Analyzed:	Nov-09-10 03:46		Nov-09-10 04:09		Nov-09-10 04:31					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.0010	ND	0.0010	ND	0.0010				
Toluene		ND	0.0020	ND	0.0020	ND	0.0020				
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010				
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020				
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010				
Total Xylenes		ND	0.0010	ND	0.0010	ND	0.0010				
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010				

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 396347,

Project ID: 2008-113

Lab Batch #: 831143 **Sample:** 578218-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/08/10 23:36

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0296	0.0300	99	80-120	

Lab Batch #: 831143 **Sample:** 578218-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/08/10 23:59

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 831143 **Sample:** 578218-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/09/10 01:08

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0278	0.0300	93	80-120	

Lab Batch #: 831143 **Sample:** 396347-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/09/10 03:46

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0290	0.0300	97	80-120	

Lab Batch #: 831143 **Sample:** 396347-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/09/10 04:09

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0285	0.0300	95	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.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 396347,

Project ID: 2008-113

Lab Batch #: 831143 **Sample:** 396347-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/09/10 04:31

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 831143 **Sample:** 396347-003 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/09/10 05:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0313	0.0300	104	80-120	

Lab Batch #: 831143 **Sample:** 396347-003 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/09/10 05:39

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 396347 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 11/08/2010 **Date Analyzed:** 11/08/2010

Lab Batch ID: 831143 **Sample:** 578218-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1061	106	0.1	0.1150	115	8	70-125	25	
Toluene	ND	0.1000	0.0974	97	0.1	0.1060	106	8	70-125	25	
Ethylbenzene	ND	0.1000	0.0944	94	0.1	0.1031	103	9	71-129	25	
m,p-Xylenes	ND	0.2000	0.1928	96	0.2	0.2106	105	9	70-131	25	
o-Xylene	ND	0.1000	0.0949	95	0.1	0.1031	103	8	71-133	25	

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

Final 1.000

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 396347 **Project ID:** 2008-113

Lab Batch ID: 831143 **QC- Sample ID:** 396347-003 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 11/09/2010 **Date Prepared:** 11/08/2010 **Analyst:** ASA

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1139	114	0.1000	0.1149	115	1	70-125	25	
Toluene	ND	0.1000	0.1043	104	0.1000	0.1044	104	0	70-125	25	
Ethylbenzene	ND	0.1000	0.1018	102	0.1000	0.1020	102	0	71-129	25	
m,p-Xylenes	ND	0.2000	0.2049	102	0.2000	0.1988	99	3	70-131	25	
o-Xylene	ND	0.1000	0.1018	102	0.1000	0.1012	101	1	71-133	25	

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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (505) 396-1429

Sampler Signature: Scott Lowry e-mail: pm@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 396347

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Soil	NP=Non-Potable Specify Oth	Analyze For: TCLP:	TOTAL:	TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 X	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	MW-1			2-Nov-10	1200		3	x		x						GW												x				x
	MW-2			2-Nov-10	1300		3	x		x						GW												x				x
	MW-3			2-Nov-10	1400		3	x		x						GW												x				x

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date 11/5/10	Time 1515	Received by ELOT: Lisa Murdock	Date 11-5-10	Time 15:15

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 2.6 °C

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Tampa
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Environmental
Date/Time: 11-5-10 15:15
Lab ID # : 396347
Initials: XM

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	(No)	N/A	
17. VOC sample have zero headspace?	(Yes)	No	N/A	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 No.		Cooler 5 No.	
lbs 2.6 °C lbs °C lbs °C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: ______ Contacted by: ______ Date/Time: ______

Regarding: ______

Corrective Action Taken: ______

Check all that apply:
☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 415745

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

12-MAY-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

12-MAY-11

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

Reference: XENCO Report No: **415745**
EK Queen Pearce
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 415745. 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. 415745 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

Sample Cross Reference 415745

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	May-05-11 15:30		415745-001
MW-2	W	May-05-11 13:45		415745-002
MW-3	W	May-05-11 12:30		415745-003
Travel Blank	W	May-05-11 12:00		415745-004

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*12-MAY-11*
Work Order Number:	*415745*	*Date Received:*	*05/06/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 415745

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Fri May-06-11 03:27 pm
Report Date: 12-MAY-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	415745-001		415745-002		415745-003		415745-004					
	Field Id:	MW-1		MW-2		MW-3		Travel Blank					
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER					
	Sampled:	May-05-11 15:30		May-05-11 13:45		May-05-11 12:30		May-05-11 12:00					
BTEX by EPA 8021	***Extracted:***	May-09-11 09:02		May-09-11 09:02		May-09-11 09:02		May-09-11 16:12					
	Analyzed:	May-10-11 11:35		May-10-11 12:36		May-10-11 12:58		May-10-11 17:40					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020				
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
m_p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020				
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
Xylenes, Total		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				
Total BTEX		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010				

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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

MDL Method Detection Limit

PQL Practical Quantitation Limit

LOD Limit of Detection

LOQ Limit of Quantitation

DL Method Detection Limit

*** Outside XENCO's scope of NELAC Accreditation.**

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 415745,

Project ID: 2008-113

Lab Batch #: 855386 **Sample:** 602414-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/09/11 11:23

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0325	0.0300	108	80-120	

Lab Batch #: 855386 **Sample:** 602414-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/09/11 11:45

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 855386 **Sample:** 602414-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/09/11 12:52

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

Lab Batch #: 855386 **Sample:** 415745-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/09/11 18:21

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0340	0.0300	113	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 855386 **Sample:** 415745-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/09/11 18:43

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0322	0.0300	107	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 415745, **Project ID:** 2008-113

Lab Batch #: 855386 **Sample:** 415745-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/10/11 11:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0262	0.0300	87	80-120	

Lab Batch #: 855386 **Sample:** 415745-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/10/11 12:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

Lab Batch #: 855386 **Sample:** 415745-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/10/11 12:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 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	0.0258	0.0300	86	80-120	

Lab Batch #: 855780 **Sample:** 602621-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/10/11 15:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0358	0.0300	119	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 855780 **Sample:** 602621-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/10/11 15:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0317	0.0300	106	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 415745,

Project ID: 2008-113

Lab Batch #: 855780 **Sample:** 602621-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/10/11 16:55

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0256	0.0300	85	80-120	

Lab Batch #: 855780 **Sample:** 415745-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/10/11 17:40

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0259	0.0300	86	80-120	

Lab Batch #: 855780 **Sample:** 415803-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/11/11 10:08

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0313	0.0300	104	80-120	

Lab Batch #: 855780 **Sample:** 415803-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/11/11 10:31

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY 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	0.0317	0.0300	106	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.

Final 1.000

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 415745 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 05/09/2011 **Date Analyzed:** 05/09/2011

Lab Batch ID: 855386 **Sample:** 602414-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.104	104	0.100	0.103	103	1	70-125	25	
Toluene	<0.00200	0.100	0.117	117	0.100	0.115	115	2	70-125	25	
Ethylbenzene	<0.00100	0.100	0.112	112	0.100	0.110	110	2	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.230	115	0.200	0.227	114	1	70-131	25	
o-Xylene	<0.00100	0.100	0.109	109	0.100	0.107	107	2	71-133	25	

Analyst: ASA **Date Prepared:** 05/09/2011 **Date Analyzed:** 05/10/2011

Lab Batch ID: 855780 **Sample:** 602621-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.111	111	0.100	0.106	106	5	70-125	25	
Toluene	<0.00200	0.100	0.120	120	0.100	0.116	116	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.118	118	0.100	0.111	111	6	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.236	118	0.200	0.233	117	1	70-131	25	
o-Xylene	<0.00100	0.100	0.115	115	0.100	0.108	108	6	71-133	25	

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: EK Queen Pearce

Work Order # : 415745 **Project ID:** 2008-113

Lab Batch ID: 855386 **QC- Sample ID:** 415745-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 05/09/2011 **Date Prepared:** 05/09/2011 **Analyst:** ASA

Reporting Units: mg/L

BTEX by EPA 8021 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.00100	0.100	0.108	108	0.100	0.110	110	2	70-125	25	
Toluene	<0.00200	0.100	0.118	118	0.100	0.124	124	5	70-125	25	
Ethylbenzene	<0.00100	0.100	0.115	115	0.100	0.123	123	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.244	122	0.200	0.259	130	6	70-131	25	
o-Xylene	<0.00100	0.100	0.109	109	0.100	0.118	118	8	71-133	25	

Lab Batch ID: 855780 **QC- Sample ID:** 415803-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 05/11/2011 **Date Prepared:** 05/09/2011 **Analyst:** ASA

Reporting Units: mg/L

BTEX by EPA 8021 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
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Benzene	<0.00100	0.100	0.104	104	0.100	0.104	104	0	70-125	25	
Toluene	<0.00200	0.100	0.110	110	0.100	0.115	115	4	70-125	25	
Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.111	111	3	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.216	108	0.200	0.225	113	4	70-131	25	
o-Xylene	<0.00100	0.100	0.102	102	0.100	0.107	107	5	71-133	25	

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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 415745

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	MW-1			5/5/2011	1530		3	x		x						GW								X				x
	MW-2			5/5/2011	1345		3	x		x						GW								X				x
	MW-3			5/5/2011	1230		3	x		x						GW								X				x
	Travel Blank			5/5/11	1200		3	X		X						GW								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	5/6/11	0740	Dakotah Ward	5/6/11	0740
Dakotah Ward	5/6/11	2:37 p.m.			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Lisa Murdock	5-6-11	2:27

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N/A
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N

by Sampler/Client Rep. ? by Courier? UPS DHL FedEx Lone Star

VOAs

Temperature Upon Receipt: 5.6 °C

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 5.6.11 2:27

Lab ID # : 415745

Initials: KM

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	(No)	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	5.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 430361

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

28-OCT-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

28-OCT-11

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

Reference: XENCO Report No: **430361**
EK Queen Pearce
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 430361. 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. 430361 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

Sample Cross Reference 430361

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	10-26-11 14:00		430361-001
MW-2	W	10-26-11 13:00		430361-002
MW-3	W	10-26-11 15:50		430361-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*28-OCT-11*
Work Order Number:	*430361*	*Date Received:*	*10/27/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 430361

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Oct-27-11 12:05 pm
Report Date: 28-OCT-11
Project Manager: Brent Barron II

Analysis Requested											
	Lab Id:	430361-001		430361-002		430361-003					
	Field Id:	MW-1		MW-2		MW-3					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Oct-26-11 14:00		Oct-26-11 13:00		Oct-26-11 15:50					
BTEX by EPA 8021	***Extracted:***	Oct-27-11 14:30		Oct-27-11 14:30		Oct-27-11 14:30					
	Analyzed:	Oct-27-11 23:51		Oct-28-11 00:14		Oct-28-11 00:37					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.00100	ND	0.00100	ND	0.00100				
Toluene		ND	0.00200	ND	0.00200	ND	0.00200				
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100				
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200				
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100				
Xylenes, Total		ND	0.00100	ND	0.00100	ND	0.00100				
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100				

Brent Barron II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 430361,

Project ID: 2008-113

Lab Batch #: 873382 **Sample:** 430361-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/27/11 23:51

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 873382 **Sample:** 430361-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/28/11 00:14

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 873382 **Sample:** 430361-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/28/11 00:37

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0251	0.0300	84	80-120	

Lab Batch #: 873382 **Sample:** 613305-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/27/11 17:25

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 873382 **Sample:** 613305-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/27/11 15:53

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	SURROGATE RECOVERY STUDY				
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 430361,

Project ID: 2008-113

Lab Batch #: 873382 **Sample:** 613305-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/27/11 16:16

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 873382 **Sample:** 430347-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/28/11 02:07

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0277	0.0300	92	80-120	

Lab Batch #: 873382 **Sample:** 430347-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/28/11 02:30

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 430361 **Project ID:** 2008-113

Analyst: ASA **Date Prepared:** 10/27/2011 **Date Analyzed:** 10/27/2011

Lab Batch ID: 873382 **Sample:** 613305-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.101	101	0.100	0.104	104	3	70-125	25	
Toluene	<0.00200	0.100	0.103	103	0.100	0.106	106	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.107	107	0.100	0.111	111	4	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.212	106	0.200	0.220	110	4	70-131	25	
o-Xylene	<0.00100	0.100	0.106	106	0.100	0.110	110	4	71-133	25	

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

Final 1.000

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 430361 **Project ID:** 2008-113

Lab Batch ID: 873382 **QC- Sample ID:** 430347-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 10/28/2011 **Date Prepared:** 10/27/2011 **Analyst:** ASA

Reporting Units: mg/L

BTEX by EPA 8021 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.00321	0.100	0.0904	87	0.100	0.0944	91	4	70-125	25	
Toluene	<0.00200	0.100	0.0863	86	0.100	0.0919	92	6	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0873	87	0.100	0.0932	93	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.153	77	0.200	0.161	81	5	70-131	25	
o-Xylene	<0.00100	0.100	0.0815	82	0.100	0.0879	88	8	71-133	25	

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

Final 1.000

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Cody Ward e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only) ORDER #: 430361

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 (TCLP: / TOTAL: X)	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	MW-1			10/26/2011	1400		3			X						GW								X				X
02	MW-2			10/26/2011	1300		3			X						GW								X				X
03	MW-3			10/26/2011	1550		3			X						GW								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Cody Ward	10/27/11	0745	[signature]	10/27/11	7:50
[signature]	10/27/11	12:05pm	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Andrea Elam	10-27-11	12:05

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep.?	Y	N

by Courier? UPS DHL FedEx Lone Star

40 ml VOC

Temperature Upon Receipt: 2.5 °C

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains

Date/Time: 10.27.11 12:05

Lab ID # : 430361

Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	~~Water~~	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	2.5 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 441692

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

08-MAY-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

08-MAY-12

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

Reference: XENCO Report No: **441692**
EK Queen Pearce
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 441692. 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. 441692 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 441692

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	05-02-12 07:00		441692-001
MW-2	W	05-02-12 07:45		441692-002
MW-3	W	05-02-12 08:30		441692-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*08-MAY-12*
Work Order Number:	*441692*	*Date Received:*	*05/02/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-887368 BTEX by EPA 8021
The Quality Control sample 621542-1-BSD was spiked twice and is double the amount of 625542-1-BKS. All results are within quality control limts.

SW8021BM

Batch 887368, Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered above QC limits in the Blank Spike Duplicate.
Samples affected are: 441692-001, -003, -002.

SW8021BM

Batch 887368, Benzene, Ethylbenzene, Toluene, m_p-Xylenes , o-Xylene RPD was outside laboratory control limits.
Samples affected are: 441692-001, -003, -002
The Quality Control sample 621542-1-BSD was spiked twice and is double the amount of 625542-1-BKS. All results are within quality control limts.

Certificate of Analysis Summary 441692

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed May-02-12 02:00 pm
Report Date: 08-MAY-12
Project Manager: Nicholas Straccione

Analysis Requested											
	Lab Id:	441692-001		441692-002		441692-003					
	Field Id:	MW-1		MW-2		MW-3					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	May-02-12 07:00		May-02-12 07:45		May-02-12 08:30					
BTEX by EPA 8021	***Extracted:***	May-07-12 10:16		May-07-12 10:16		May-07-12 10:16					
	Analyzed:	May-07-12 18:31		May-07-12 20:23		May-07-12 20:45					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.00100	ND	0.00100	ND	0.00100				
Toluene		ND	0.00200	ND	0.00200	ND	0.00200				
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100				
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200				
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100				
Xylenes, Total		ND	0.00100	ND	0.00100	ND	0.00100				
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100				

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = 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
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 441692, **Project ID:** 2008-113

Lab Batch #: 887368 **Sample:** 441692-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 18:31

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0245	0.0300	82	80-120	

Lab Batch #: 887368 **Sample:** 441692-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 20:23

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0247	0.0300	82	80-120	

Lab Batch #: 887368 **Sample:** 441692-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 20:45

BTEX by EPA 8021 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	0.0245	0.0300	82	80-120	

Lab Batch #: 887368 **Sample:** 621542-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 12:43

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 887368 **Sample:** 621542-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 11:14

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 441692,

Project ID: 2008-113

Lab Batch #: 887368 **Sample:** 621542-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 11:36

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	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	0.0299	0.0300	100	80-120	

Lab Batch #: 887368 **Sample:** 441692-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 18:53

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	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	0.0299	0.0300	100	80-120	

Lab Batch #: 887368 **Sample:** 441692-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/07/12 19:16

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 441692 **Project ID:** 2008-113

Analyst: SMG **Date Prepared:** 05/07/2012 **Date Analyzed:** 05/07/2012

Lab Batch ID: 887368 **Sample:** 621542-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0839	84	0.200	0.178	89	5	70-125	25	
Toluene	<0.00200	0.100	0.0833	83	0.200	0.175	88	6	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0813	81	0.200	0.171	86	6	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.168	84	0.400	0.358	90	7	70-131	25	
o-Xylene	<0.00100	0.100	0.0865	87	0.200	0.177	89	2.2	71-133	25	

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: EK Queen Pearce

Work Order # : 441692 **Project ID:** 2008-113

Lab Batch ID: 887368 **QC- Sample ID:** 441692-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 05/07/2012 **Date Prepared:** 05/07/2012 **Analyst:** SMG

Reporting Units: mg/L

BTEX by EPA 8021 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.00100	0.100	0.0896	90	0.100	0.0815	82	9	70-125	25	
Toluene	<0.00200	0.100	0.0885	89	0.100	0.0813	81	8	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0857	86	0.100	0.0787	79	9	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.173	87	0.200	0.158	79	9	70-131	25	
o-Xylene	<0.00100	0.100	0.0877	88	0.100	0.0811	81	8	71-133	25	

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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 441692

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	MW-1			5/2/2012	0700		3			X						GW								X				X
02	MW-2			5/2/2012	0745		3			X						GW								X				X
03	MW-3			5/2/2012	0830		3			X						GW								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	5-2-12	1400			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				5/2/12	14:00

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: corrected as read 4.0 / 5.5 °C

Final 1.000

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 5/2/12 14:00

Lab ID # : 441692

Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	4.0 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 450842

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

2008-113

19-OCT-12

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

19-OCT-12

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **450842**
EK Queen Pearce
Project Address: Lea County, NM

Ben Arguijo:

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 450842. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 450842 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 450842

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	10-12-12 12:10		450842-001
MW-2	W	10-12-12 13:00		450842-002
MW-3	W	10-12-12 13:35		450842-003

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*19-OCT-12*
Work Order Number:	*450842*	*Date Received:*	*10/16/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 450842

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Tue Oct-16-12 03:00 pm
Report Date: 19-OCT-12
Project Manager: Nicholas Straccione

Analysis Requested											
	Lab Id:	450842-001		450842-002		450842-003					
	Field Id:	MW-1		MW-2		MW-3					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Oct-12-12 12:10		Oct-12-12 13:00		Oct-12-12 13:35					
BTEX by EPA 8021B	***Extracted:***	Oct-17-12 08:40		Oct-17-12 08:40		Oct-17-12 08:40					
	Analyzed:	Oct-17-12 14:03		Oct-17-12 14:18		Oct-17-12 14:33					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.00100	ND	0.00100	ND	0.00100				
Toluene		ND	0.00200	ND	0.00200	ND	0.00200				
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100				
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200				
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100				
Total Xylenes		ND	0.00100	ND	0.00100	ND	0.00100				
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100				

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = 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
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 450842, **Project ID:** 2008-113

Lab Batch #: 898995 **Sample:** 450842-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 14:03

SURROGATE RECOVERY STUDY

BTEX 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	0.0262	0.0300	87	80-120	

Lab Batch #: 898995 **Sample:** 450842-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 14:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 898995 **Sample:** 450842-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 14:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0264	0.0300	88	80-120	

Lab Batch #: 898995 **Sample:** 628724-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 09:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0252	0.0300	84	80-120	

Lab Batch #: 898995 **Sample:** 628724-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 09:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0272	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
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 450842, **Project ID:** 2008-113

Lab Batch #: 898995 **Sample:** 628724-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 09:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0282	0.0300	94	80-120	

Lab Batch #: 898995 **Sample:** 450850-003 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 15:47

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0309	0.0300	103	80-120	

Lab Batch #: 898995 **Sample:** 450850-003 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/17/12 16:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0314	0.0300	105	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 450842 **Project ID:** 2008-113

Analyst: KEB **Date Prepared:** 10/17/2012 **Date Analyzed:** 10/17/2012

Lab Batch ID: 898995 **Sample:** 628724-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.111	111	0.100	0.105	105	6	70-125	25	
Toluene	<0.00200	0.100	0.113	113	0.100	0.107	107	5	70-125	25	
Ethylbenzene	<0.00100	0.100	0.110	110	0.100	0.103	103	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.238	119	0.200	0.215	108	10	70-131	25	
o-Xylene	<0.00100	0.100	0.112	112	0.100	0.108	108	4	71-133	25	

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: EK Queen Pearce

Work Order # : 450842 **Project ID:** 2008-113

Lab Batch ID: 898995 **QC- Sample ID:** 450850-003 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 10/17/2012 **Date Prepared:** 10/17/2012 **Analyst:** KEB

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.0123	0.100	0.113	101	0.100	0.106	94	6	70-125	25	
Toluene	<0.00200	0.100	0.106	106	0.100	0.101	101	5	70-125	25	
Ethylbenzene	0.00107	0.100	0.103	102	0.100	0.0966	96	6	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.212	106	0.200	0.200	100	6	70-131	25	
o-Xylene	<0.00100	0.100	0.109	109	0.100	0.102	102	7	71-133	25	

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 10/16/2012 03:00:00 PM

Work Order #: 450842

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: _____ Date: _____

Checklist reviewed by: _____ Date: _____

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo
Company Name: Basin Environmental Service Technologies, LLC
Company Address: P. O. Box 301
City/State/Zip: Lovington, NM 88260
Telephone No: (575)396-2378 Fax No: (575) 396-1429
Sampler Signature: e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce
Project #: 2008-113
Project Loc: Lea County, NM
PO #: PAA-J. Henry
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only) ORDER #: 450842

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Soli NP=Non-Potable Specify Othe	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TCLP:	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	MW-1			10/12/2012	12:10		3			X						GW										X							X
	MW-2			10/12/2012	13:00		3			X						GW										X							X
	MW-3			10/12/2012	13:35		3			X						GW										X							X

Special Instructions:

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 9.7 °C

Relinquished by:	Date	Time	Received by:	Date	Time
	10.15.12	17:00		10/15/12	1705
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				10-16-12	8:30

Analytical Report 454473

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

2008-113

27-DEC-12

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

27-DEC-12

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **454473**
EK Queen Pearce
Project Address: Lea County, NM

Ben Arguijo:

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(s) 454473. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 454473 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4	W	12-18-12 13:00		454473-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*27-DEC-12*
Work Order Number(s):	*454473*	*Date Received:*	*12/19/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-903506 Inorganic Anions by EPA 300/300.1
E300

Batch 903506, Chloride, Sulfate recovered below QC limits in the Matrix Spike.
Samples affected are: 454473-001.
The Laboratory Control Sample for Chloride , Sulfate is within laboratory Control Limits

Batch: LBA-903558 SVOCs by SW-846 8270D
SW8270C

Batch 903558, 2-Fluorophenol, Phenol-d6 recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 454473-001.

SW8270C

Batch 903558, 2,4-Dinitrophenol recovered below QC limitsBenzoic Acid recovered below QC limits in the Blank Spike Duplicate. 2-Chloronaphthalene recovered below QC limits in the Blank Spike Duplicate. Fluoranthene recovered above QC limits in the laboratory control sample.
Samples affected are: 454473-001.

SW8270C

Batch 903558, 2,4,6-Trichlorophenol, 2-Chloronaphthalene, 2-Methylnaphthalene, 2-methylphenol, 3&4-Methylphenol, 4-Bromophenyl-phenylether, 4-chloro-3-methylphenol, Fluoranthene, Hexachloroethane, Isophorone, Nitrobenzene, di-n-Butyl Phthalate RPD was outside laboratory control limits.
Samples affected are: 454473-001

SW8270C

Batch 903558, 2-Chloronaphthalene recovered below QC limits in the Matrix Spike.
Samples affected are: 454473-001.
The Laboratory Control Sample for 2-Chloronaphthalene is within laboratory Control Limits

1 compound failed low in the BKS but was within limits for BSD. 1 compound failed low in the BSD but was within limits for BKS.

Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.

Batch: LBA-903654 Metals by EPA 200.8
E200.8

Batch 903654, Arsenic recovered below QC limits in the Matrix Spike.
Samples affected are: 454473-001.
The Laboratory Control Sample for Arsenic is within laboratory Control Limits

Batch: LBA-903670 VOAs by SW-846 8260B
SW8260B

Batch 903670, Hexachlorobutadiene recovered above QC limits in the Matrix Spike Duplicate.
Samples affected are: 454473-001.
The Laboratory Control Sample for Hexachlorobutadiene is within laboratory Control Limits

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
Alkalinity by SM2320B SUB: TX104704215	***Extracted:***						
	Analyzed:	Dec-20-12 14:38					
	Units/RL:	mg/L	RL				
Alkalinity, Total (as CaCO3)		172	4.00				
Alkalinity, Bicarbonate (as CaCO3)		172	4.00				
Alkalinity, Carbonate (as CaCO3)		ND	4.00				
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	***Extracted:***	Dec-20-12 12:37					
	Analyzed:	Dec-20-12 12:37					
	Units/RL:	mg/L	RL				
Chloride		402	4.00				
Fluoride		0.876	0.0400				
Nitrate as N		2.77	0.452				
Sulfate		46.2	4.00				
Mercury, Total by EPA 245.1 SUB: TX104704215	***Extracted:***	Dec-22-12 07:00					
	Analyzed:	Dec-22-12 11:22					
	Units/RL:	mg/L	RL				
Mercury		ND	0.000200				

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
Metals by EPA 200.8 SUB: TX104704215	***Extracted:***	Dec-22-12 10:00					
	Analyzed:	Dec-25-12 05:32					
	Units/RL:	mg/L	RL				
Arsenic		0.0133	0.00200				
Barium		1.06	0.00200				
Cadmium		ND	0.00100				
Chromium		0.00899	0.00300				
Cobalt		0.00817	0.00500				
Copper		0.00517	0.00200				
Iron		11.0	0.150				
Lead		0.0153	0.00200				
Manganese		1.71	0.00200				
Molybdenum		0.00237	0.00200				
Nickel		0.00975	0.00500				
Selenium		0.00609	0.00200				
Silver		ND	0.00100				
Zinc		0.0263	0.00300				
Metals per ICP by EPA 200.7 SUB: TX104704215	***Extracted:***	Dec-21-12 13:20					
	Analyzed:	Dec-22-12 03:54					
	Units/RL:	mg/L	RL				
Aluminum		15.2	0.200				
Boron		0.0800	0.0500				
Calcium		272	0.200				
Magnesium		16.4	0.200				
Potassium		5.87	0.500				
Sodium		201	0.500				

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
SVOAs by EPA 8270C **SUB: TX104704215**	***Extracted:***	Dec-21-12 10:09					
	Analyzed:	Dec-21-12 17:52					
	Units/RL:	mg/L RL					
1,2,4-Trichlorobenzene		ND 0.00515					
1,2-Dichlorobenzene		ND 0.00515					
1,3-Dichlorobenzene		ND 0.00515					
1,4-Dichlorobenzene		ND 0.00515					
2,4,5-Trichlorophenol		ND 0.00515					
2,4,6-Trichlorophenol		ND 0.00515					
2,4-Dichlorophenol		ND 0.00515					
2,4-Dimethylphenol		ND 0.00515					
2,4-Dinitrophenol		ND 0.0103					
2,4-Dinitrotoluene		ND 0.00258					
2,6-Dinitrotoluene		ND 0.00515					
2-Chloronaphthalene		ND 0.00515					
2-Chlorophenol		ND 0.00515					
2-Methylnaphthalene		ND 0.00515					
2-methylphenol		ND 0.00515					
2-Nitroaniline		ND 0.0103					
2-Nitrophenol		ND 0.00515					
3&4-Methylphenol		ND 0.00515					
3,3-Dichlorobenzidine		ND 0.0103					
3-Nitroaniline		ND 0.0103					
4,6-dinitro-2-methyl phenol		ND 0.0103					
4-Bromophenyl-phenylether		ND 0.00515					
4-chloro-3-methylphenol		ND 0.00515					
4-Chloroaniline		ND 0.0103					
4-Chlorophenyl Phenyl Ether		ND 0.00515					

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
SVOAs by EPA 8270C **SUB: TX104704215**	***Extracted:***	Dec-21-12 10:09					
	Analyzed:	Dec-21-12 17:52					
	Units/RL:	mg/L RL					
4-Nitroaniline		ND 0.0103					
4-Nitrophenol		ND 0.0103					
Acenaphthene		ND 0.00515					
Acenaphthylene		ND 0.00515					
Aniline (Phenylamine, Aminobenzene)		ND 0.0103					
Anthracene		ND 0.00515					
Benzo(a)anthracene		ND 0.00515					
Benzo(a)pyrene		ND 0.00515					
Benzo(b)fluoranthene		ND 0.00515					
Benzo(g,h,i)perylene		ND 0.00515					
Benzo(k)fluoranthene		ND 0.00515					
Benzoic Acid		ND 0.0309					
Benzyl Butyl Phthalate		ND 0.00515					
bis(2-chloroethoxy) methane		ND 0.00515					
bis(2-chloroethyl) ether		ND 0.00515					
bis(2-chloroisopropyl) ether		ND 0.00515					
bis(2-ethylhexyl) phthalate		0.0121 0.00515					
Chrysene		ND 0.00515					
Dibenz(a,h)Anthracene		ND 0.00515					
Dibenzofuran		ND 0.00515					
Diethyl Phthalate		ND 0.00515					
Dimethyl Phthalate		ND 0.00515					
di-n-Butyl Phthalate		ND 0.00515					
di-n-Octyl Phthalate		ND 0.00515					
Fluoranthene		ND 0.00515					

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
SVOAs by EPA 8270C **SUB: TX104704215**	***Extracted:***	Dec-21-12 10:09					
	Analyzed:	Dec-21-12 17:52					
	Units/RL:	mg/L RL					
Fluorene		ND 0.00515					
Hexachlorobenzene		ND 0.00258					
Hexachlorobutadiene		ND 0.00515					
Hexachlorocyclopentadiene		ND 0.00515					
Hexachloroethane		ND 0.00515					
Indeno(1,2,3-c,d)Pyrene		ND 0.00515					
Isophorone		ND 0.00515					
Naphthalene		ND 0.00515					
Nitrobenzene		ND 0.00515					
N-Nitrosodi-n-Propylamine		ND 0.00515					
N-Nitrosodiphenylamine		ND 0.00515					
Pentachlorophenol		ND 0.0103					
Phenanthrene		ND 0.00515					
Phenol		ND 0.0103					
Pyrene		ND 0.00515					
Pyridine		ND 0.0103					

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
VOAs by SW-846 8260B SUB: TX104704215	***Extracted:***	Dec-26-12 14:00					
	Analyzed:	Dec-26-12 14:19					
	Units/RL:	mg/L RL					
Benzene		ND 0.00500					
Bromobenzene		ND 0.00500					
Bromochloromethane		ND 0.00500					
Bromodichloromethane		ND 0.00500					
Bromoform		ND 0.00500					
Methyl bromide		ND 0.00500					
n-Butylbenzene		ND 0.00500					
Sec-Butylbenzene		ND 0.00500					
tert-Butylbenzene		ND 0.00500					
Carbon Tetrachloride		ND 0.00500					
Chlorobenzene		ND 0.00500					
Chloroethane		ND 0.0100					
Chloroform		ND 0.00500					
Methyl Chloride		ND 0.0100					
2-Chlorotoluene		ND 0.00500					
4-Chlorotoluene		ND 0.00500					
p-Cymene (p-Isopropyltoluene)		ND 0.00500					
Dibromochloromethane		ND 0.00500					
1,2-Dibromo-3-Chloropropane		ND 0.00500					
1,2-Dibromoethane		ND 0.00500					
Methylene bromide		ND 0.00500					
1,2-Dichlorobenzene		ND 0.00500					
1,3-Dichlorobenzene		ND 0.00500					
1,4-Dichlorobenzene		ND 0.00500					
Dichlorodifluoromethane		ND 0.00500					

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
VOAs by SW-846 8260B SUB: TX104704215	***Extracted:***	Dec-26-12 14:00					
	Analyzed:	Dec-26-12 14:19					
	Units/RL:	mg/L RL					
1,1-Dichloroethane		ND 0.00500					
1,2-Dichloroethane		ND 0.00500					
1,1-Dichloroethene		ND 0.00500					
cis-1,2-Dichloroethylene		ND 0.00500					
trans-1,2-dichloroethylene		ND 0.00500					
1,2-Dichloropropane		ND 0.00500					
1,3-Dichloropropane		ND 0.00500					
2,2-Dichloropropane		ND 0.00500					
1,1-Dichloropropene		ND 0.00500					
cis-1,3-Dichloropropene		ND 0.00500					
trans-1,3-dichloropropene		ND 0.00500					
Ethylbenzene		ND 0.00500					
Hexachlorobutadiene		ND 0.00500					
Isopropylbenzene		ND 0.00500					
Methylene Chloride		ND 0.00500					
MTBE		ND 0.00500					
Naphthalene		ND 0.0100					
n-Propylbenzene		ND 0.00500					
Styrene		ND 0.00500					
1,1,1,2-Tetrachloroethane		ND 0.00500					
1,1,2,2-Tetrachloroethane		ND 0.00500					
Tetrachloroethylene		ND 0.00500					
Toluene		ND 0.00500					
1,2,3-Trichlorobenzene		ND 0.00500					
1,2,4-Trichlorobenzene		ND 0.00500					

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 454473

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-19-12 02:00 pm
Report Date: 27-DEC-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	454473-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Dec-18-12 13:00					
VOAs by SW-846 8260B SUB: TX104704215	***Extracted:***	Dec-26-12 14:00					
	Analyzed:	Dec-26-12 14:19					
	Units/RL:	mg/L RL					
1,1,1-Trichloroethane		ND 0.00500					
1,1,2-Trichloroethane		ND 0.00500					
Trichloroethylene		ND 0.00500					
Trichlorofluoromethane		ND 0.00500					
1,2,3-Trichloropropane		ND 0.00500					
1,2,4-Trimethylbenzene		ND 0.00500					
1,3,5-Trimethylbenzene		ND 0.00500					
o-Xylene		ND 0.00500					
m,p-Xylenes		ND 0.0100					
Vinyl Chloride		ND 0.00200					

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454473, 454473 **Project ID:** 2008-113

Lab Batch #: 903558 **Sample:** 454473-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/21/12 17:52

SVOAs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	9.56	50.0	19	30-100	**
Phenol-d6	6.06	50.0	12	15-94	**
Nitrobenzene-d5	26.5	50.0	53	46-111	
2-Fluorobiphenyl	27.2	50.0	54	44-117	
2,4,6-Tribromophenol	34.5	50.0	69	48-117	
Terphenyl-D14	28.0	50.0	56	46-126	

Lab Batch #: 903670 **Sample:** 454473-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/26/12 14:19

VOAs by SW-846 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0490	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0466	0.0500	93	63-144	
Toluene-D8	0.0505	0.0500	101	80-117	
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	

Lab Batch #: 903558 **Sample:** 631543-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/21/12 17:05

SVOAs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	15.9	50.0	32	30-100	
Phenol-d6	9.14	50.0	18	15-94	
Nitrobenzene-d5	30.4	50.0	61	46-111	
2-Fluorobiphenyl	28.2	50.0	56	44-117	
2,4,6-Tribromophenol	31.6	50.0	63	48-117	
Terphenyl-D14	48.0	50.0	96	46-126	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454473, 454473 **Project ID:** 2008-113

Lab Batch #: 903670 **Sample:** 631735-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/26/12 13:54

VOAs by SW-846 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0505	0.0500	101	63-144	
Toluene-D8	0.0505	0.0500	101	80-117	
4-Bromofluorobenzene	0.0512	0.0500	102	74-124	

Lab Batch #: 903558 **Sample:** 631543-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/21/12 17:20

SVOAs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	21.8	50.0	44	30-100	
Phenol-d6	14.4	50.0	29	15-94	
Nitrobenzene-d5	33.8	50.0	68	46-111	
2-Fluorobiphenyl	37.7	50.0	75	44-117	
2,4,6-Tribromophenol	41.0	50.0	82	48-117	
Terphenyl-D14	54.1	50.0	108	46-126	

Lab Batch #: 903670 **Sample:** 631735-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/26/12 12:35

VOAs by SW-846 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0510	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0508	0.0500	102	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	
4-Bromofluorobenzene	0.0511	0.0500	102	74-124	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454473, 454473 **Project ID:** 2008-113

Lab Batch #: 903558 **Sample:** 631543-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/21/12 17:36

SVOAs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	20.1	50.0	40	30-100	
Phenol-d6	14.2	50.0	28	15-94	
Nitrobenzene-d5	52.0	50.0	104	46-111	
2-Fluorobiphenyl	30.6	50.0	61	44-117	
2,4,6-Tribromophenol	37.6	50.0	75	48-117	
Terphenyl-D14	49.0	50.0	98	46-126	

Lab Batch #: 903558 **Sample:** 454456-001 S / MS **Batch:** 1 **Matrix:** Solid

Units: mg/L **Date Analyzed:** 12/21/12 18:40

SVOAs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	29.1	50.0	58	30-100	
Phenol-d6	27.3	50.0	55	15-94	
Nitrobenzene-d5	33.3	50.0	67	46-111	
2-Fluorobiphenyl	32.6	50.0	65	44-117	
2,4,6-Tribromophenol	40.8	50.0	82	48-117	
Terphenyl-D14	40.8	50.0	82	46-126	

Lab Batch #: 903670 **Sample:** 454473-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/26/12 14:43

VOAs by SW-846 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0518	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0493	0.0500	99	63-144	
Toluene-D8	0.0508	0.0500	102	80-117	
4-Bromofluorobenzene	0.0498	0.0500	100	74-124	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 454473, 454473 **Project ID:** 2008-113

Lab Batch #: 903670 **Sample:** 454473-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12/26/12 15:08

VOAs by SW-846 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0521	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0498	0.0500	100	63-144	
Toluene-D8	0.0507	0.0500	101	80-117	
4-Bromofluorobenzene	0.0492	0.0500	98	74-124	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 454473 **Project ID:** 2008-113

Lab Batch #: 903511 **Sample:** 631628-1-BKS **Matrix:** Water

Date Analyzed: 12/22/2012 **Date Prepared:** 12/22/2012 **Analyst:** RKO

Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Mercury, Total by EPA 245.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Mercury	<0.000200	0.00400	0.00390	98	85-115	

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

BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 454473 **Project ID:** 2008-113

Lab Batch #: 903670 **Sample:** 631735-1-BKS **Matrix:** Water

Date Analyzed: 12/26/2012 **Date Prepared:** 12/26/2012 **Analyst:** ZHO

Reporting Units: mg/L **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.00500	0.0500	0.0512	102	68-123	
Bromobenzene	<0.00500	0.0500	0.0482	96	83-124	
Bromochloromethane	<0.00500	0.0500	0.0475	95	68-119	
Bromodichloromethane	<0.00500	0.0500	0.0518	104	72-132	
Bromoform	<0.00500	0.0500	0.0459	92	65-136	
Methyl bromide	<0.00500	0.0500	0.0431	86	48-120	
n-Butylbenzene	<0.00500	0.0500	0.0557	111	82-128	
Sec-Butylbenzene	<0.00500	0.0500	0.0544	109	83-130	
tert-Butylbenzene	<0.00500	0.0500	0.0537	107	83-131	
Carbon Tetrachloride	<0.00500	0.0500	0.0515	103	68-135	
Chlorobenzene	<0.00500	0.0500	0.0504	101	78-124	
Chloroethane	<0.0100	0.0500	0.0461	92	55-120	
Chloroform	<0.00500	0.0500	0.0508	102	71-119	
Methyl Chloride	<0.0100	0.0500	0.0423	85	54-114	
2-Chlorotoluene	<0.00500	0.0500	0.0540	108	83-128	
4-Chlorotoluene	<0.00500	0.0500	0.0536	107	81-125	
p-Cymene (p-Isopropyltoluene)	<0.00500	0.0500	0.0548	110	85-129	
Dibromochloromethane	<0.00500	0.0500	0.0501	100	74-135	
1,2-Dibromo-3-Chloropropane	<0.00500	0.0500	0.0453	91	62-134	
1,2-Dibromoethane	<0.00500	0.0500	0.0484	97	77-129	
Methylene bromide	<0.00500	0.0500	0.0491	98	71-124	
1,2-Dichlorobenzene	<0.00500	0.0500	0.0507	101	81-123	
1,3-Dichlorobenzene	<0.00500	0.0500	0.0515	103	82-126	
1,4-Dichlorobenzene	<0.00500	0.0500	0.0521	104	80-119	
Dichlorodifluoromethane	<0.00500	0.0500	0.0389	78	59-121	
1,1-Dichloroethane	<0.00500	0.0500	0.0532	106	75-125	
1,2-Dichloroethane	<0.00500	0.0500	0.0490	98	64-130	
1,1-Dichloroethene	<0.00500	0.0500	0.0476	95	68-116	
cis-1,2-Dichloroethylene	<0.00500	0.0500	0.0512	102	74-130	
trans-1,2-dichloroethylene	<0.00500	0.0500	0.0492	98	64-109	
1,2-Dichloropropane	<0.00500	0.0500	0.0504	101	72-127	
1,3-Dichloropropane	<0.00500	0.0500	0.0521	104	79-133	
2,2-Dichloropropane	<0.00500	0.0500	0.0570	114	71-134	

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

BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 454473 **Project ID:** 2008-113

Lab Batch #: 903670 **Sample:** 631735-1-BKS **Matrix:** Water

Date Analyzed: 12/26/2012 **Date Prepared:** 12/26/2012 **Analyst:** ZHO

Reporting Units: mg/L **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,1-Dichloropropene	<0.00500	0.0500	0.0514	103	69-124	
cis-1,3-Dichloropropene	<0.00500	0.0500	0.0526	105	74-138	
trans-1,3-dichloropropene	<0.00500	0.0500	0.0501	100	70-132	
Ethylbenzene	<0.00500	0.0500	0.0529	106	69-131	
Hexachlorobutadiene	<0.00500	0.0500	0.0568	114	74-130	
Isopropylbenzene	<0.00500	0.0500	0.0497	99	66-133	
Methylene Chloride	<0.00500	0.0500	0.0484	97	60-121	
MTBE	<0.00500	0.100	0.106	106	60-152	
Naphthalene	<0.0100	0.0500	0.0472	94	69-140	
n-Propylbenzene	<0.00500	0.0500	0.0549	110	86-129	
Styrene	<0.00500	0.0500	0.0523	105	79-128	
1,1,1,2-Tetrachloroethane	<0.00500	0.0500	0.0504	101	78-131	
1,1,2,2-Tetrachloroethane	<0.00500	0.0500	0.0489	98	80-133	
Tetrachloroethylene	<0.00500	0.0500	0.0520	104	79-122	
Toluene	<0.00500	0.0500	0.0506	101	62-132	
1,2,3-Trichlorobenzene	<0.00500	0.0500	0.0522	104	76-126	
1,2,4-Trichlorobenzene	<0.00500	0.0500	0.0547	109	77-127	
1,1,1-Trichloroethane	<0.00500	0.0500	0.0535	107	72-124	
1,1,2-Trichloroethane	<0.00500	0.0500	0.0497	99	71-135	
Trichloroethylene	<0.00500	0.0500	0.0515	103	74-123	
Trichlorofluoromethane	<0.00500	0.0500	0.0589	118	70-143	
1,2,3-Trichloropropane	<0.00500	0.0500	0.0511	102	75-134	
1,2,4-Trimethylbenzene	<0.00500	0.0500	0.0541	108	79-132	
1,3,5-Trimethylbenzene	<0.00500	0.0500	0.0553	111	72-139	
o-Xylene	<0.00500	0.0500	0.0508	102	67-132	
m,p-Xylenes	<0.0100	0.100	0.106	106	69-132	
Vinyl Chloride	<0.00200	0.0500	0.0460	92	59-124	

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

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 454473, 454473 **Project ID:** 2008-113

Analyst: JOL **Date Prepared:** 12/20/2012 **Date Analyzed:** 12/20/2012

Lab Batch ID: 903506 **Sample:** 631625-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	54.3	109	50.0	53.6	107	1	90-110	20	
Fluoride	<0.0200	2.00	2.16	108	2.00	2.19	110	1	90-110	20	
Nitrate as N	<0.226	2.26	2.25	100	2.26	2.16	96	4	90-110	20	
Sulfate	<2.00	50.0	54.3	109	50.0	51.5	103	5	90-110	20	

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: EK Queen Pearce

Work Order #: 454473, 454473 **Project ID:** 2008-113

Analyst: MKO **Date Prepared:** 12/22/2012 **Date Analyzed:** 12/25/2012

Lab Batch ID: 903654 **Sample:** 631631-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals by EPA 200.8 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.00200	0.100	0.0932	93	0.100	0.0935	94	0	85-115	20	
Barium	<0.00200	0.100	0.0960	96	0.100	0.0968	97	1	85-115	20	
Cadmium	<0.00100	0.100	0.104	104	0.100	0.104	104	0	85-115	20	
Chromium	<0.00300	0.100	0.0923	92	0.100	0.0927	93	0	85-115	20	
Cobalt	<0.00500	0.100	0.0933	93	0.100	0.0952	95	2	85-115	20	
Copper	<0.00200	0.100	0.0946	95	0.100	0.0938	94	1	85-115	20	
Iron	<0.150	0.500	0.486	97	0.500	0.471	94	3	85-115	20	
Lead	<0.00200	0.100	0.0988	99	0.100	0.100	100	1	85-115	20	
Manganese	<0.00200	0.100	0.0928	93	0.100	0.0942	94	1	85-115	20	
Molybdenum	<0.00200	0.100	0.105	105	0.100	0.106	106	1	85-115	20	
Nickel	<0.00500	0.100	0.0935	94	0.100	0.0938	94	0	85-115	20	
Selenium	<0.00200	0.100	0.0874	87	0.100	0.0882	88	1	85-115	20	
Silver	<0.00100	0.0500	0.0523	105	0.0500	0.0533	107	2	85-115	20	
Zinc	<0.00300	0.100	0.0906	91	0.100	0.0913	91	1	85-115	20	

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: EK Queen Pearce

Work Order #: 454473, 454473
Project ID: 2008-113
Analyst: MKO
Date Prepared: 12/21/2012
Date Analyzed: 12/22/2012
Lab Batch ID: 903536
Sample: 631622-1-BKS
Batch #: 1
Matrix: Water
Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals per ICP by EPA 200.7 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Aluminum	<0.200	5.00	4.85	97	5.00	4.83	97	0	85-115	20	
Boron	<0.0500	1.00	1.02	102	1.00	1.01	101	1	85-115	20	
Calcium	<0.200	25.0	23.7	95	25.0	23.3	93	2	85-115	20	
Magnesium	<0.200	25.0	24.4	98	25.0	23.9	96	2	85-115	20	
Potassium	<0.500	10.0	9.55	96	10.0	9.54	95	0	85-115	20	
Sodium	<0.500	25.0	24.0	96	25.0	23.8	95	1	85-115	20	

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: EK Queen Pearce

Work Order #: 454473, 454473 **Project ID:** 2008-113

Analyst: KAN **Date Prepared:** 12/21/2012 **Date Analyzed:** 12/21/2012

Lab Batch ID: 903558 **Sample:** 631543-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

SVOAs by EPA 8270C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2,4-Trichlorobenzene	<0.00500	0.0500	0.0398	80	0.0500	0.0383	77	4	56-104	25	
1,2-Dichlorobenzene	<0.00500	0.0500	0.0356	71	0.0500	0.0345	69	3	53-106	25	
1,3-Dichlorobenzene	<0.00500	0.0500	0.0361	72	0.0500	0.0368	74	2	52-105	25	
1,4-Dichlorobenzene	<0.00500	0.0500	0.0358	72	0.0500	0.0361	72	1	54-105	25	
2,4,5-Trichlorophenol	<0.00500	0.0500	0.0379	76	0.0500	0.0346	69	9	55-114	25	
2,4,6-Trichlorophenol	<0.00500	0.0500	0.0395	79	0.0500	0.0293	59	30	57-113	25	F
2,4-Dichlorophenol	<0.00500	0.0500	0.0359	72	0.0500	0.0385	77	7	60-110	25	
2,4-Dimethylphenol	<0.00500	0.0500	0.0355	71	0.0500	0.0375	75	5	50-108	25	
2,4-Dinitrophenol	<0.0100	0.0500	0.0248	50	0.0500	0.0314	63	23	52-111	25	L
2,4-Dinitrotoluene	<0.00250	0.0500	0.0439	88	0.0500	0.0418	84	5	60-116	25	
2,6-Dinitrotoluene	<0.00500	0.0500	0.0414	83	0.0500	0.0417	83	1	60-115	25	
2-Chloronaphthalene	<0.00500	0.0500	0.0303	61	0.0500	0.0233	47	26	58-105	25	LF
2-Chlorophenol	<0.00500	0.0500	0.0343	69	0.0500	0.0358	72	4	58-106	25	
2-Methylnaphthalene	<0.00500	0.0500	0.0296	59	0.0500	0.0389	78	27	57-106	25	F
2-methylphenol	<0.00500	0.0500	0.0368	74	0.0500	0.0265	53	33	52-106	25	F
2-Nitroaniline	<0.0100	0.0500	0.0387	77	0.0500	0.0332	66	15	55-120	25	
2-Nitrophenol	<0.00500	0.0500	0.0339	68	0.0500	0.0394	79	15	57-105	25	
3&4-Methylphenol	<0.00500	0.0500	0.0410	82	0.0500	0.0251	50	48	23-140	25	F
3,3-Dichlorobenzidine	<0.0100	0.0500	0.0434	87	0.0500	0.0463	93	6	36-123	25	
3-Nitroaniline	<0.0100	0.0500	0.0391	78	0.0500	0.0426	85	9	49-120	25	

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: EK Queen Pearce

Work Order #: 454473, 454473 **Project ID:** 2008-113

Analyst: KAN **Date Prepared:** 12/21/2012 **Date Analyzed:** 12/21/2012

Lab Batch ID: 903558 **Sample:** 631543-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

SVOAs by EPA 8270C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4,6-dinitro-2-methyl phenol	<0.0100	0.0500	0.0309	62	0.0500	0.0346	69	11	57-119	25	
4-Bromophenyl-phenylether	<0.00500	0.0500	0.0411	82	0.0500	0.0314	63	27	58-112	25	F
4-chloro-3-methylphenol	<0.00500	0.0500	0.0304	61	0.0500	0.0412	82	30	58-116	25	F
4-Chloroaniline	<0.0100	0.0500	0.0355	71	0.0500	0.0367	73	3	2-123	25	
4-Chlorophenyl Phenyl Ether	<0.00500	0.0500	0.0399	80	0.0500	0.0353	71	12	59-109	25	
4-Nitroaniline	<0.0100	0.0500	0.0393	79	0.0500	0.0365	73	7	52-118	25	
4-Nitrophenol	<0.0100	0.0500	0.0119	24	0.0500	0.0145	29	20	18-104	25	
Acenaphthene	<0.00500	0.0500	0.0390	78	0.0500	0.0372	74	5	54-114	25	
Acenaphthylene	<0.00500	0.0500	0.0402	80	0.0500	0.0435	87	8	53-113	25	
Aniline (Phenylamine, Aminobenzene)	<0.0100	0.0500	0.0335	67	0.0500	0.0355	71	6	35-104	25	
Anthracene	<0.00500	0.0500	0.0424	85	0.0500	0.0375	75	12	56-116	25	
Benzo(a)anthracene	<0.00500	0.0500	0.0420	84	0.0500	0.0412	82	2	59-116	25	
Benzo(a)pyrene	<0.00500	0.0500	0.0410	82	0.0500	0.0415	83	1	58-118	25	
Benzo(b)fluoranthene	<0.00500	0.0500	0.0394	79	0.0500	0.0393	79	0	54-123	25	
Benzo(g,h,i)perylene	<0.00500	0.0500	0.0428	86	0.0500	0.0423	85	1	47-129	25	
Benzo(k)fluoranthene	<0.00500	0.0500	0.0427	85	0.0500	0.0418	84	2	52-122	25	
Benzoic Acid	<0.0300	0.150	<0.0300	0	0.150	<0.0300	0	NC	4-113	25	L
Benzyl Butyl Phthalate	<0.00500	0.0500	0.0540	108	0.0500	0.0547	109	1	57-122	25	
bis(2-chloroethoxy) methane	<0.00500	0.0500	0.0318	64	0.0500	0.0341	68	7	53-112	25	
bis(2-chloroethyl) ether	<0.00500	0.0500	0.0321	64	0.0500	0.0341	68	6	57-108	25	

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: EK Queen Pearce

Work Order #: 454473, 454473 **Project ID:** 2008-113

Analyst: KAN **Date Prepared:** 12/21/2012 **Date Analyzed:** 12/21/2012

Lab Batch ID: 903558 **Sample:** 631543-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

SVOAs by EPA 8270C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
bis(2-chloroisopropyl) ether	<0.00500	0.0500	0.0316	63	0.0500	0.0330	66	4	54-111	25	
bis(2-ethylhexyl) phthalate	<0.00500	0.0500	0.0496	99	0.0500	0.0452	90	9	59-119	25	
Chrysene	<0.00500	0.0500	0.0425	85	0.0500	0.0535	107	23	58-116	25	
Dibenz(a,h)Anthracene	<0.00500	0.0500	0.0434	87	0.0500	0.0424	85	2	46-131	25	
Dibenzofuran	<0.00500	0.0500	0.0393	79	0.0500	0.0436	87	10	56-111	25	
Diethyl Phthalate	<0.00500	0.0500	0.0410	82	0.0500	0.0387	77	6	62-114	25	
Dimethyl Phthalate	<0.00500	0.0500	0.0390	78	0.0500	0.0357	71	9	59-113	25	
di-n-Butyl Phthalate	<0.00500	0.0500	0.0466	93	0.0500	0.0312	62	40	60-118	25	F
di-n-Octyl Phthalate	<0.00500	0.0500	0.0417	83	0.0500	0.0532	106	24	49-129	25	
Fluoranthene	<0.00500	0.0500	0.0648	130	0.0500	0.0331	66	65	55-120	25	HF
Fluorene	<0.00500	0.0500	0.0395	79	0.0500	0.0341	68	15	56-114	25	
Hexachlorobenzene	<0.00250	0.0500	0.0401	80	0.0500	0.0336	67	18	60-109	25	
Hexachlorobutadiene	<0.00500	0.0500	0.0379	76	0.0500	0.0378	76	0	52-107	25	
Hexachlorocyclopentadiene	<0.00500	0.0500	0.0429	86	0.0500	0.0365	73	16	32-115	25	
Hexachloroethane	<0.00500	0.0500	0.0428	86	0.0500	0.0316	63	30	46-115	25	F
Indeno(1,2,3-c,d)Pyrene	<0.00500	0.0500	0.0428	86	0.0500	0.0422	84	1	44-132	25	
Isophorone	<0.00500	0.0500	0.0292	58	0.0500	0.0408	82	33	57-107	25	F
Naphthalene	<0.00500	0.0500	0.0369	74	0.0500	0.0370	74	0	53-110	25	
Nitrobenzene	<0.00500	0.0500	0.0306	61	0.0500	0.0463	93	41	56-107	25	F
N-Nitrosodi-n-Propylamine	<0.00500	0.0500	0.0405	81	0.0500	0.0380	76	6	21-137	25	

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: EK Queen Pearce

Work Order #: 454473, 454473
Analyst: KAN
Lab Batch ID: 903558
Sample: 631543-1-BKS
Units: mg/L

Date Prepared: 12/21/2012
Batch #: 1

Project ID: 2008-113
Date Analyzed: 12/21/2012
Matrix: Water

SVOAs by EPA 8270C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
N-Nitrosodiphenylamine	<0.00500	0.0500	0.0389	78	0.0500	0.0415	83	6	50-121	25	
Pentachlorophenol	<0.0100	0.0500	0.0397	79	0.0500	0.0363	73	9	36-132	25	
Phenanthrene	<0.00500	0.0500	0.0405	81	0.0500	0.0388	78	4	56-116	25	
Phenol	<0.0100	0.0500	0.0163	33	0.0500	0.0164	33	1	19-89	25	
Pyrene	<0.00500	0.0500	0.0595	119	0.0500	0.0502	100	17	57-119	25	
Pyridine	<0.0100	0.0500	0.0228	46	0.0500	0.0180	36	24	5-94	25	

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: EK Queen Pearce

Work Order #: 454473

Lab Batch #: 903506 **Project ID:** 2008-113

Date Analyzed: 12/20/2012 **Date Prepared:** 12/20/2012 **Analyst:** JOL

QC- Sample ID: 454411-001 S **Batch #:** 1 **Matrix:** Waste Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	181	50.0	213	64	80-120	X
Fluoride	1.23	2.00	3.11	94	80-120	
Nitrate as N	0.798	2.26	3.43	116	80-120	
Sulfate	556	50.0	545	0	80-120	X

Lab Batch #: 903654

Date Analyzed: 12/25/2012 **Date Prepared:** 12/22/2012 **Analyst:** MKO

QC- Sample ID: 454373-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Metals by EPA 200.8 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Arsenic	0.0581	0.100	0.147	89	70-130	
Barium	0.109	0.100	0.212	103	70-130	
Cadmium	<0.00100	0.100	0.0965	97	70-130	
Chromium	<0.00300	0.100	0.0961	96	70-130	
Cobalt	<0.00500	0.100	0.0918	92	70-130	
Copper	0.0100	0.100	0.0968	87	70-130	
Iron	<0.150	0.500	0.516	103	70-130	
Lead	<0.00200	0.100	0.103	103	70-130	
Manganese	0.00224	0.100	0.0967	94	70-130	
Molybdenum	0.0215	0.100	0.127	106	70-130	
Nickel	<0.00500	0.100	0.0894	89	70-130	
Selenium	0.0150	0.100	0.104	89	70-130	
Silver	<0.00100	0.0500	0.0475	95	70-130	
Zinc	<0.00300	0.100	0.0847	85	70-130	

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

BRL - Below Reporting Limit

Form 3 - MS Recoveries

Project Name: EK Queen Pearce

Work Order #: 454473
Lab Batch #: 903558
Project ID: 2008-113
Date Analyzed: 12/21/2012
Date Prepared: 12/21/2012
Analyst: KAN
QC- Sample ID: 454456-001 S
Batch #: 1
Matrix: Solid
Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
1,2,4-Trichlorobenzene	<0.0250	0.250	0.174	70	56-104	
1,2-Dichlorobenzene	<0.0250	0.250	0.165	66	53-106	
1,3-Dichlorobenzene	<0.0250	0.250	0.172	69	52-105	
1,4-Dichlorobenzene	<0.0250	0.250	0.169	68	54-105	
2,4,5-Trichlorophenol	<0.0250	0.250	0.170	68	55-114	
2,4,6-Trichlorophenol	<0.0250	0.250	0.160	64	57-113	
2,4-Dichlorophenol	<0.0250	0.250	0.180	72	60-110	
2,4-Dimethylphenol	<0.0250	0.250	0.179	72	50-108	
2,4-Dinitrophenol	<0.0500	0.250	0.220	88	52-111	
2,4-Dinitrotoluene	<0.0125	0.250	0.200	80	60-116	
2,6-Dinitrotoluene	<0.0250	0.250	0.192	77	60-115	
2-Chloronaphthalene	<0.0250	0.250	0.133	53	58-105	X
2-Chlorophenol	<0.0250	0.250	0.177	71	58-106	
2-Methylnaphthalene	<0.0250	0.250	0.177	71	57-106	
2-methylphenol	<0.0250	0.250	0.175	70	52-106	
2-Nitroaniline	<0.0500	0.250	0.192	77	55-120	
2-Nitrophenol	<0.0250	0.250	0.188	75	57-105	
3&4-Methylphenol	<0.0250	0.250	0.176	70	23-140	
3,3-Dichlorobenzidine	<0.0500	0.250	0.196	78	36-123	
3-Nitroaniline	<0.0500	0.250	0.202	81	49-120	
4,6-dinitro-2-methyl phenol	<0.0500	0.250	0.219	88	57-119	
4-Bromophenyl-phenylether	<0.0250	0.250	0.204	82	58-112	
4-chloro-3-methylphenol	<0.0250	0.250	0.191	76	58-116	
4-Chloroaniline	<0.0500	0.250	0.161	64	2-123	
4-Chlorophenyl Phenyl Ether	<0.0250	0.250	0.180	72	59-109	
4-Nitroaniline	<0.0500	0.250	0.194	78	52-118	
4-Nitrophenol	<0.0500	0.250	0.106	42	18-104	
Acenaphthene	<0.0250	0.250	0.178	71	54-114	
Acenaphthylene	<0.0250	0.250	0.185	74	53-113	
Aniline (Phenylamine, Aminobenzene)	<0.0500	0.250	0.168	67	35-104	
Anthracene	<0.0250	0.250	0.188	75	56-116	
Benzo(a)anthracene	<0.0250	0.250	0.208	83	59-116	
Benzo(a)pyrene	<0.0250	0.250	0.198	79	58-118	
Benzo(b)fluoranthene	<0.0250	0.250	0.216	86	54-123	

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

BRL - Below Reporting Limit

Form 3 - MS Recoveries

Project Name: EK Queen Pearce

Work Order #: 454473
Lab Batch #: 903558
Project ID: 2008-113
Date Analyzed: 12/21/2012
Date Prepared: 12/21/2012
Analyst: KAN
QC- Sample ID: 454456-001 S
Batch #: 1
Matrix: Solid
Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes		Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzo(g,h,i)perylene	<0.0250	0.250	0.203	81	47-129	
Benzo(k)fluoranthene	<0.0250	0.250	0.172	69	52-122	
Benzoic Acid	<0.150	0.750	0.494	66	4-113	
Benzyl Butyl Phthalate	<0.0250	0.250	0.217	87	57-122	
bis(2-chloroethoxy) methane	<0.0250	0.250	0.159	64	53-112	
bis(2-chloroethyl) ether	<0.0250	0.250	0.161	64	57-108	
bis(2-chloroisopropyl) ether	<0.0250	0.250	0.239	96	54-111	
bis(2-ethylhexyl) phthalate	<0.0250	0.250	0.225	90	59-119	
Chrysene	<0.0250	0.250	0.177	71	58-116	
Dibenz(a,h)Anthracene	<0.0250	0.250	0.205	82	46-131	
Dibenzofuran	<0.0250	0.250	0.184	74	56-111	
Diethyl Phthalate	<0.0250	0.250	0.187	75	62-114	
Dimethyl Phthalate	<0.0250	0.250	0.184	74	59-113	
di-n-Butyl Phthalate	<0.0250	0.250	0.186	74	60-118	
di-n-Octyl Phthalate	<0.0250	0.250	0.255	102	49-129	
Fluoranthene	<0.0250	0.250	0.241	96	55-120	
Fluorene	<0.0250	0.250	0.180	72	56-114	
Hexachlorobenzene	<0.0125	0.250	0.202	81	60-109	
Hexachlorobutadiene	<0.0250	0.250	0.172	69	52-107	
Hexachlorocyclopentadiene	<0.0250	0.250	0.173	69	32-115	
Hexachloroethane	<0.0250	0.250	0.174	70	46-115	
Indeno(1,2,3-c,d)Pyrene	<0.0250	0.250	0.202	81	44-132	
Isophorone	<0.0250	0.250	0.171	68	57-107	
Naphthalene	<0.0250	0.250	0.169	68	53-110	
Nitrobenzene	<0.0250	0.250	0.170	68	56-107	
N-Nitrosodi-n-Propylamine	<0.0250	0.250	0.173	69	21-137	
N-Nitrosodiphenylamine	<0.0250	0.250	0.210	84	50-121	
Pentachlorophenol	<0.0500	0.250	0.217	87	36-132	
Phenanthrene	<0.0250	0.250	0.167	67	56-116	
Phenol	<0.0500	0.250	0.145	58	19-89	
Pyrene	<0.0250	0.250	0.213	85	57-119	
Pyridine	<0.0500	0.250	0.110	44	5-94	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 454473 **Project ID:** 2008-113

Lab Batch ID: 903511 **QC- Sample ID:** 454566-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 12/22/2012 **Date Prepared:** 12/22/2012 **Analyst:** RKO

Reporting Units: mg/L

Mercury, Total by EPA 245.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Mercury	<0.000200	0.00100	0.000888	89	0.00100	0.000880	88	1	70-130	20	

Lab Batch ID: 903654 **QC- Sample ID:** 454669-002 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 12/25/2012 **Date Prepared:** 12/22/2012 **Analyst:** MKO

Reporting Units: mg/L

Metals by EPA 200.8 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Arsenic	0.519	0.100	0.577	58	0.100	0.602	83	4	70-130	20	X
Barium	0.0750	0.100	0.188	113	0.100	0.199	124	6	70-130	20	
Cadmium	<0.00100	0.100	0.0851	85	0.100	0.0850	85	0	70-130	20	
Chromium	0.00656	0.100	0.0986	92	0.100	0.106	99	7	70-130	20	
Cobalt	<0.00500	0.100	0.0891	89	0.100	0.0950	95	6	70-130	20	
Copper	0.0326	0.100	0.113	80	0.100	0.121	88	7	70-130	20	
Iron	<0.150	0.500	0.509	102	0.500	0.545	109	7	70-130	20	
Lead	<0.00200	0.100	0.105	105	0.100	0.110	110	5	70-130	20	
Manganese	<0.00200	0.100	0.0939	94	0.100	0.102	102	8	70-130	20	
Molybdenum	0.139	0.100	0.235	96	0.100	0.239	100	2	70-130	20	
Nickel	<0.00500	0.100	0.0869	87	0.100	0.0919	92	6	70-130	20	
Selenium	0.0126	0.100	0.0878	75	0.100	0.0944	82	7	70-130	20	
Silver	<0.00100	0.0500	0.0431	86	0.0500	0.0440	88	2	70-130	20	
Zinc	0.0349	0.100	0.112	77	0.100	0.114	79	2	70-130	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 454473 **Project ID:** 2008-113

Lab Batch ID: 903536 **QC- Sample ID:** 454052-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 12/22/2012 **Date Prepared:** 12/21/2012 **Analyst:** MKO

Reporting Units: mg/L

Metals per ICP by EPA 200.7 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Aluminum	<0.200	5.00	4.95	99	5.00	4.91	98	1	70-130	20	
Boron	0.0689	1.00	1.08	101	1.00	1.07	100	1	70-130	20	
Calcium	12.1	25.0	36.2	96	25.0	35.9	95	1	70-130	20	
Magnesium	1.96	25.0	26.2	97	25.0	25.5	94	3	70-130	20	
Potassium	3.97	10.0	14.2	102	10.0	13.9	99	2	70-130	20	
Sodium	8.27	25.0	32.8	98	25.0	32.8	98	0	70-130	20	

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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 454473 **Project ID:** 2008-113

Lab Batch ID: 903670 **QC- Sample ID:** 454473-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 12/26/2012 **Date Prepared:** 12/26/2012 **Analyst:** ZHO

Reporting Units: mg/L

VOAs by SW-846 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.00500	0.0500	0.0503	101	0.0500	0.0532	106	6	66-142	25	
Bromobenzene	<0.00500	0.0500	0.0473	95	0.0500	0.0501	100	6	75-125	25	
Bromochloromethane	<0.00500	0.0500	0.0481	96	0.0500	0.0506	101	5	60-140	25	
Bromodichloromethane	<0.00500	0.0500	0.0507	101	0.0500	0.0552	110	8	75-125	25	
Bromoform	<0.00500	0.0500	0.0454	91	0.0500	0.0493	99	8	75-125	25	
Methyl bromide	<0.00500	0.0500	0.0425	85	0.0500	0.0492	98	15	60-140	25	
n-Butylbenzene	<0.00500	0.0500	0.0555	111	0.0500	0.0575	115	4	75-125	25	
Sec-Butylbenzene	<0.00500	0.0500	0.0541	108	0.0500	0.0557	111	3	75-125	25	
tert-Butylbenzene	<0.00500	0.0500	0.0537	107	0.0500	0.0551	110	3	75-125	25	
Carbon Tetrachloride	<0.00500	0.0500	0.0501	100	0.0500	0.0553	111	10	62-125	25	
Chlorobenzene	<0.00500	0.0500	0.0496	99	0.0500	0.0512	102	3	60-133	25	
Chloroethane	<0.0100	0.0500	0.0443	89	0.0500	0.0469	94	6	60-140	25	
Chloroform	<0.00500	0.0500	0.0512	102	0.0500	0.0526	105	3	70-130	25	
Methyl Chloride	<0.0100	0.0500	0.0405	81	0.0500	0.0468	94	14	60-140	25	
2-Chlorotoluene	<0.00500	0.0500	0.0524	105	0.0500	0.0535	107	2	73-125	25	
4-Chlorotoluene	<0.00500	0.0500	0.0515	103	0.0500	0.0533	107	3	74-125	25	
p-Cymene (p-Isopropyltoluene)	<0.00500	0.0500	0.0546	109	0.0500	0.0565	113	3	75-125	25	
Dibromochloromethane	<0.00500	0.0500	0.0480	96	0.0500	0.0504	101	5	73-125	25	
1,2-Dibromo-3-Chloropropane	<0.00500	0.0500	0.0490	98	0.0500	0.0506	101	3	59-125	25	
1,2-Dibromoethane	<0.00500	0.0500	0.0465	93	0.0500	0.0509	102	9	73-125	25	
Methylene bromide	<0.00500	0.0500	0.0492	98	0.0500	0.0548	110	11	69-127	25	
1,2-Dichlorobenzene	<0.00500	0.0500	0.0509	102	0.0500	0.0539	108	6	75-125	25	
1,3-Dichlorobenzene	<0.00500	0.0500	0.0509	102	0.0500	0.0532	106	4	75-125	25	

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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 454473 **Project ID:** 2008-113

Lab Batch ID: 903670 **QC- Sample ID:** 454473-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 12/26/2012 **Date Prepared:** 12/26/2012 **Analyst:** ZHO

Reporting Units: mg/L

VOAs by SW-846 8260B 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
1,4-Dichlorobenzene	<0.00500	0.0500	0.0507	101	0.0500	0.0527	105	4	75-125	25	
Dichlorodifluoromethane	<0.00500	0.0500	0.0399	80	0.0500	0.0440	88	10	70-130	25	
1,1-Dichloroethane	<0.00500	0.0500	0.0526	105	0.0500	0.0570	114	8	72-125	25	
1,2-Dichloroethane	<0.00500	0.0500	0.0485	97	0.0500	0.0530	106	9	68-127	25	
1,1-Dichloroethene	<0.00500	0.0500	0.0481	96	0.0500	0.0512	102	6	59-172	25	
cis-1,2-Dichloroethylene	<0.00500	0.0500	0.0510	102	0.0500	0.0543	109	6	75-125	25	
trans-1,2-dichloroethylene	<0.00500	0.0500	0.0503	101	0.0500	0.0526	105	4	75-125	25	
1,2-Dichloropropane	<0.00500	0.0500	0.0492	98	0.0500	0.0543	109	10	74-125	25	
1,3-Dichloropropane	<0.00500	0.0500	0.0489	98	0.0500	0.0530	106	8	75-125	25	
2,2-Dichloropropane	<0.00500	0.0500	0.0510	102	0.0500	0.0591	118	15	75-125	25	
1,1-Dichloropropene	<0.00500	0.0500	0.0496	99	0.0500	0.0544	109	9	75-125	25	
cis-1,3-Dichloropropene	<0.00500	0.0500	0.0512	102	0.0500	0.0551	110	7	74-125	25	
trans-1,3-dichloropropene	<0.00500	0.0500	0.0484	97	0.0500	0.0529	106	9	66-125	25	
Ethylbenzene	<0.00500	0.0500	0.0511	102	0.0500	0.0527	105	3	75-125	25	
Hexachlorobutadiene	<0.00500	0.0500	0.0622	124	0.0500	0.0639	128	3	75-125	25	X
Isopropylbenzene	<0.00500	0.0500	0.0477	95	0.0500	0.0500	100	5	75-125	25	
Methylene Chloride	<0.00500	0.0500	0.0485	97	0.0500	0.0532	106	9	75-125	25	
MTBE	<0.00500	0.100	0.105	105	0.100	0.117	117	11	65-135	25	
Naphthalene	<0.0100	0.0500	0.0519	104	0.0500	0.0577	115	11	70-130	25	
n-Propylbenzene	<0.00500	0.0500	0.0538	108	0.0500	0.0555	111	3	75-125	25	
Styrene	<0.00500	0.0500	0.0513	103	0.0500	0.0531	106	3	75-125	25	
1,1,1,2-Tetrachloroethane	<0.00500	0.0500	0.0490	98	0.0500	0.0511	102	4	72-125	25	
1,1,2,2-Tetrachloroethane	<0.00500	0.0500	0.0474	95	0.0500	0.0505	101	6	74-125	25	

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

Form 3 - MS / MSD Recoveries

Project Name: EK Queen Pearce

Work Order # : 454473 **Project ID:** 2008-113

Lab Batch ID: 903670 **QC- Sample ID:** 454473-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 12/26/2012 **Date Prepared:** 12/26/2012 **Analyst:** ZHO

Reporting Units: mg/L

VOAs by SW-846 8260B 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
Tetrachloroethylene	<0.00500	0.0500	0.0489	98	0.0500	0.0511	102	4	71-125	25	
Toluene	<0.00500	0.0500	0.0512	102	0.0500	0.0534	107	4	59-139	25	
1,2,3-Trichlorobenzene	<0.00500	0.0500	0.0596	119	0.0500	0.0644	129	8	75-137	25	
1,2,4-Trichlorobenzene	<0.00500	0.0500	0.0603	121	0.0500	0.0623	125	3	75-135	25	
1,1,1-Trichloroethane	<0.00500	0.0500	0.0520	104	0.0500	0.0563	113	8	75-125	25	
1,1,2-Trichloroethane	<0.00500	0.0500	0.0502	100	0.0500	0.0538	108	7	75-127	25	
Trichloroethylene	<0.00500	0.0500	0.0515	103	0.0500	0.0541	108	5	62-137	25	
Trichlorofluoromethane	<0.00500	0.0500	0.0597	119	0.0500	0.0642	128	7	60-140	25	
1,2,3-Trichloropropane	<0.00500	0.0500	0.0492	98	0.0500	0.0534	107	8	75-125	25	
1,2,4-Trimethylbenzene	<0.00500	0.0500	0.0534	107	0.0500	0.0544	109	2	75-125	25	
1,3,5-Trimethylbenzene	<0.00500	0.0500	0.0534	107	0.0500	0.0553	111	3	70-125	25	
o-Xylene	<0.00500	0.0500	0.0497	99	0.0500	0.0516	103	4	75-125	25	
m,p-Xylenes	<0.0100	0.100	0.102	102	0.100	0.103	103	1	75-125	25	
Vinyl Chloride	<0.00200	0.0500	0.0435	87	0.0500	0.0501	100	14	60-140	25	

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

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 454473

Lab Batch #: 903414 **Project ID:** 2008-113

Date Analyzed: 12/20/2012 14:44 **Date Prepared:** 12/20/2012 **Analyst:** ALA

QC- Sample ID: 454473-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Alkalinity by SM2320B Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	172	172	0	20	
Alkalinity, Bicarbonate (as CaCO3)	172	172	0	20	
Alkalinity, Carbonate (as CaCO3)	<4.00	<4.00	0	20	U

Lab Batch #: 903414

Date Analyzed: 12/20/2012 16:03 **Date Prepared:** 12/20/2012 **Analyst:** ALA

QC- Sample ID: 454484-004 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Alkalinity by SM2320B Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Bicarbonate (as CaCO3)	250	252	1	20	
Alkalinity, Carbonate (as CaCO3)	<4.00	<4.00	0	20	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo
Project Name: EK Queen Pearce

Company Name: Basin Environmental Service Technologies, LLC
Project #: 2008-113

Company Address: P. O. Box 301
Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260
PO #: PAA-J. Henry

Telephone No: (575)396-2378
Fax No: (575) 396-1429
Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: Miguel Rivera
e-mail: bjarguijo@basinenv.com

(lab use only) ORDER #: 454473

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M	TPH: TX 1005 TX 1006 8015B	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity) 300.0	SAR / ESP / CEC	Metals (As Ag Ba Cd Cr Pb Hg Se)	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 (TCLP: / TOTAL: X)	RCI	Chloride 300	Cu, Fe, Mn, Zn, Al, B	Co, Mo, Ni	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	MW-4			12/18/2012	13:00		11	X	X	X						GW			X	X		X	X	X				X	X		X

Special Instructions:
* * See attached sheet for detailed list of analyses required * *

Relinquished by:	Date	Time	Received by:	Date	Time
Miguel Rivera	12.17.12	15:10	Steve Butler	12/18/12	1510
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Shaunee Smith	Date 12/19/12	Time 1400

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 14.0 °C

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 12/19/2012 02:00:00 PM

Work Order #: 454473

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	14
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: _____ Date: 12/19/2012

Checklist reviewed by: _____ Date: 12/19/2012

Analytical Report 456943

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

#2008-113

07-FEB-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

07-FEB-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **456943**
EK Queen Pearce
Project Address: Lovington

Ben Arguijo:

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(s) 456943. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 456943 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 456943

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4	W	02-01-13 12:40		456943-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 456943

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: #2008-113
Contact: Ben Arguijo
Project Location: Lovington

Date Received in Lab: Mon Feb-04-13 11:50 am
Report Date: 07-FEB-13
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	456943-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Feb-01-13 12:40					
BTEX by EPA 8021B	***Extracted:***	Feb-06-13 09:00					
	Analyzed:	Feb-06-13 13:24					
	Units/RL:	mg/L RL					
Benzene		ND 0.00100					
Toluene		ND 0.00200					
Ethylbenzene		ND 0.00100					
m_p-Xylenes		ND 0.00200					
o-Xylene		ND 0.00100					
Total Xylenes		ND 0.00100					
Total BTEX		ND 0.00100					

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = 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
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 456943, **Project ID:** #2008-113

Lab Batch #: 906400 **Sample:** 456943-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/06/13 13:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 906400 **Sample:** 633456-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/06/13 10:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0254	0.0300	85	80-120	
4-Bromofluorobenzene	0.0252	0.0300	84	80-120	

Lab Batch #: 906400 **Sample:** 633456-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/06/13 10:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 906400 **Sample:** 633456-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/06/13 10:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 906400 **Sample:** 456863-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/06/13 11:11

SURROGATE RECOVERY STUDY

BTEX 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	0.0311	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 456943,

Project ID: #2008-113

Lab Batch #: 906400 **Sample:** 456863-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/06/13 11:28

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0313	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

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

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 456943 **Project ID:** #2008-113

Analyst: KEB **Date Prepared:** 02/06/2013 **Date Analyzed:** 02/06/2013

Lab Batch ID: 906400 **Sample:** 633456-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.106	106	0.100	0.0849	85	22	70-125	25	
Toluene	<0.00200	0.100	0.107	107	0.100	0.0846	85	23	70-125	25	
Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.0846	85	24	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.200	0.166	83	25	70-131	25	
o-Xylene	<0.00100	0.100	0.105	105	0.100	0.0842	84	22	71-133	25	

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: EK Queen Pearce

Work Order # : 456943 **Project ID:** #2008-113

Lab Batch ID: 906400 **QC- Sample ID:** 456863-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 02/06/2013 **Date Prepared:** 02/06/2013 **Analyst:** KEB

Reporting Units: mg/L

BTEX by EPA 8021B	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
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	<0.00100	0.100	0.0886	89	0.100	0.102	102	14	70-125	25	
Toluene	<0.00200	0.100	0.0840	84	0.100	0.104	104	21	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0854	85	0.100	0.103	103	19	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.165	83	0.200	0.199	100	19	70-131	25	
o-Xylene	<0.00100	0.100	0.0818	82	0.100	0.102	102	22	71-133	25	

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

XENCO Laboratories
Environmental Asbestos Radiochemistry

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O #: 456943

Field billable Hrs :

Company: Basin Environmental Service Technologies, LLC	Phone: (575)396-2378
Address: 3100 Plains Hwy.	Fax: (575)396-1429
City: Lovington State: NM	Zip: 88260
PM/Attn: Ben Arguijo	Email: bjarguijo@basinenv.com
Project ID: EK Queen Pearce #2008-113 SRS	PO#: PAA-J. Henry
Invoice To: Jason Henry Plains All American	Quote #:

TAT Work Days = D Need results by:______ Time:______
Std (5-7D) 5Hrs 1D 2D 3D 4D **5D 7D** (circled) 10D 14D Other______

Sampler Signature: [signature]

Circle One Event: Daily Weekly Monthly Quartely (circled) Semi-Annual Annual N/A

Container Type Codes
VA Vial Amber; VC Vial Clear; VP Vial Pre-preserved; GA Glass Amber; GC Glass Clear; PA Plastic Amber; PC Plastic Clear; Other
ES Encore Sampler; TS TerraCore Sampler; AC Air Canister; TB Tedlar Bag; ZB Zip Lock Bag; PC Plastic Clear
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal

Preservative Type Codes
A. None; B. HNO_3; C. H_2SO_4; D. NaOH; E. HCL (circled); F. MeOH; G. $Na_2S_2O_3$; H. $NaHSO_4$; I. Ice (circled); J. MCAA; K. ZnAc&NaOH; L Asbc Acid&NaOH; O.

Matrix Type Codes
GW Ground Water; WW Waste Water; DW Drinking Water; SW Surface Water; OW Ocean/Sea Water; PL Product-Liquid; PS Product-Solid; SL Sludge; Other
S Soil/Sediment/Solid; W Wipe; A Air; O Oil; T Tissue; U Urine; B Blood

ANALYSES REQUESTED

	Example	TPH	BTEX	Chloride
Cont Type	VC		VP	
Pres Type	E		E,I	
# Cont	Example Volatiles by 8260	Lab Only:		

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code	Field Filtered	Integrity OK (Y/N)	Total # of containers	TPH	BTEX	Chloride	REMARKS
1	MW-4	2/1/13	12:40	GW			3		X		
2											
3											
4											
5											
6											
7											
8											
9											
0											

Hold Sample (Call) Run/Hold Only If

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 2 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	1 9.6 2 3 5.5

	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	[signature]	Basin Env	2-1-13	15:25	K Butler	MS	2/1/13	3:50pm
2					Shaune Smith	Xenco	2/4/13	11:50
3								
4								

Lab use Only	YES	NO	NA
Non-Conformances found?			✓
Samples intact upon arrival?	✓		
Received on Wet Ice?	✓		
Labeled with proper preservatives?	✓		
Received within holding time?	✓		
Custody seals intact?	✓		
VOCs rec'd w/o headspace?	✓		
Proper containers used?	✓		
pH verified-acceptable, excl VOCs?	✓		
Received on time to meet HTs?	✓		

C.O.C. Serial #

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/04/2013 11:50:00 AM

Work Order #: 456943

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: _____ Date: _____

Checklist reviewed by: _____ Date: _____

Analytical Report 462519

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

E.K. Queen 6 Inch Pearce

2008-113

09-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

09-MAY-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **462519**
E.K. Queen 6 Inch Pearce
Project Address: Lea County, NM

Ben Arguijo:

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(s) 462519. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 462519 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 462519

PLAINS ALL AMERICAN EH&S, Midland, TX

E.K. Queen 6 Inch Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	05-03-13 09:00		462519-001
MW-2	W	05-03-13 10:00		462519-002
MW-3	W	05-03-13 11:00		462519-003
MW-4	W	05-03-13 12:00		462519-004

Project ID:	*2008-113*	Report Date:	*09-MAY-13*
Work Order Number(s):	*462519*	Date Received:	*05/03/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 462519

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6 Inch Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Fri May-03-13 02:30 pm
Report Date: 09-MAY-13
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	462519-001		462519-002		462519-003		462519-004			
	Field Id:	MW-1		MW-2		MW-3		MW-4			
	Depth:										
	Matrix:	WATER		WATER		WATER		WATER			
	Sampled:	May-03-13 09:00		May-03-13 10:00		May-03-13 11:00		May-03-13 12:00			
BTEX by EPA 8021B	***Extracted:***	May-08-13 08:00		May-08-13 08:00		May-08-13 08:00		May-08-13 08:00			
	Analyzed:	May-08-13 15:14		May-08-13 15:31		May-08-13 17:36		May-08-13 15:47			
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL		
Benzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100		
Toluene		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200		
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100		
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200		
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100		
Total Xylenes		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100		
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100		

Kelsey Brooks
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 462519, **Project ID:** 2008-113

Lab Batch #: 913186 **Sample:** 462519-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 15:14 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 913186 **Sample:** 462519-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 15:31 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 913186 **Sample:** 462519-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 15:47 **SURROGATE RECOVERY STUDY**

BTEX 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	0.0307	0.0300	102	80-120	

Lab Batch #: 913186 **Sample:** 462519-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 17:36 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0352	0.0300	117	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 913186 **Sample:** 637750-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 09:50 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	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.

Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Orders : 462519,

Project ID: 2008-113

Lab Batch #: 913186 **Sample:** 637750-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 08:23

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

Lab Batch #: 913186 **Sample:** 637750-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 08:39

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0259	0.0300	86	80-120	

Lab Batch #: 913186 **Sample:** 462546-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/08/13 14:58

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	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.

BS / BSD Recoveries

Project Name: E.K. Queen 6 Inch Pearce

Work Order #: 462519 **Project ID:** 2008-113

Analyst: DYV **Date Prepared:** 05/08/2013 **Date Analyzed:** 05/08/2013

Lab Batch ID: 913186 **Sample:** 637750-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0994	99	0.100	0.102	102	3	70-125	25	
Toluene	<0.00200	0.100	0.106	106	0.100	0.106	106	0	70-125	25	
Ethylbenzene	<0.00100	0.100	0.107	107	0.100	0.110	110	3	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.198	99	0.200	0.208	104	5	70-131	25	
o-Xylene	<0.00100	0.100	0.0965	97	0.100	0.104	104	7	71-133	25	

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: E.K. Queen 6 Inch Pearce

Work Order #: 462519
Lab Batch #: 913186
Project ID: 2008-113
Date Analyzed: 05/08/2013
Date Prepared: 05/08/2013
Analyst: DYV
QC- Sample ID: 462546-001 S
Batch #: 1
Matrix: Water
Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00100	0.100	0.113	113	70-125	
Toluene	<0.00200	0.100	0.115	115	70-125	
Ethylbenzene	<0.00100	0.100	0.118	118	71-129	
m_p-Xylenes	<0.00200	0.200	0.234	117	70-131	
o-Xylene	<0.00100	0.100	0.114	114	71-133	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Project Name: E.K. Queen 6 inch Pearce

Company Name: Basin Environmental Service Technologies, LLC

Project #: 2008-113

Company Address: P.O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - J. Henry

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: e-mail: pm@basinenv.com

(lab use only)
ORDER #: 462519

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Solid; NP = Non-Potable Specify Other	Analyze For: TCLP:	TOTAL:	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	PAH 8270	TDS (EPA METHOD SM 2540c)	CHLORIDES E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	MW-1			5/3/2013	9:00		2	X		X						GW											X							X
	MW-2			5/3/2013	10:00		2	X		X						GW											X							X
	MW-3			5/3/2013	11:00		2	X		X						GW											X							X
	MW-4			5/3/2013	12:00		2	X		X						GW											X							X

Special Instructions:

Laboratory Comments:

Sample Containers Intact? Y N
VOCs Free of Headspace? Y N N/A
Labels on container(s) Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 3.3 °C

Relinquished by:	Date	Time	Received by:	Date	Time
Josh Smith	5-3-12	1430	Perla Resendiz	5-3-13	2:30
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				5-4-13	9:00

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/03/2013 02:30:00 PM

Work Order #: 462519

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 05/06/2013

Checklist reviewed by: Kelsey Brooks Date: 05/06/2013

Analytical Report 468775

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

23-AUG-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-13-14-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

23-AUG-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **468775**
EK Queen Pearce
Project Address: New Mexico

Ben Arguijo:

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(s) 468775. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 468775 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 468775

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4	W	08-13-13 15:00		468775-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:
Work Order Number(s): *468775*

Report Date: *23-AUG-13*
Date Received: *08/16/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 468775

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id:
Contact: Ben Arguijo
Project Location: New Mexico

Date Received in Lab: Fri Aug-16-13 02:10 pm
Report Date: 23-AUG-13
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	468775-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Aug-13-13 15:00					
BTEX by EPA 8021B	***Extracted:***	Aug-22-13 09:05					
	Analyzed:	Aug-22-13 11:42					
	Units/RL:	mg/L RL					
Benzene		ND 0.00100					
Toluene		ND 0.00200					
Ethylbenzene		ND 0.00100					
m_p-Xylenes		ND 0.00200					
o-Xylene		ND 0.00100					
Total Xylenes		ND 0.00100					
Total BTEX		ND 0.00100					

Kelsey Brooks
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 468775, 468775 **Project ID:**

Lab Batch #: 921235 **Sample:** 468775-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/22/13 11:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0264	0.0300	88	80-120	

Lab Batch #: 921235 **Sample:** 642911-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/22/13 11:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0258	0.0300	86	80-120	

Lab Batch #: 921235 **Sample:** 642911-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/22/13 10:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0341	0.0300	114	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 921235 **Sample:** 642911-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/22/13 10:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 921235 **Sample:** 468775-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/22/13 15:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0349	0.0300	116	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 468775, 468775 **Project ID:**

Analyst: KEB **Date Prepared:** 08/22/2013 **Date Analyzed:** 08/22/2013

Lab Batch ID: 921235 **Sample:** 642911-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.110	110	0.100	0.116	116	5	70-125	25	
Toluene	<0.00200	0.100	0.101	101	0.100	0.108	108	7	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0991	99	0.100	0.106	106	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.197	99	0.200	0.210	105	6	70-131	25	
o-Xylene	<0.00100	0.100	0.0984	98	0.100	0.105	105	6	71-133	25	

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: EK Queen Pearce

Work Order #: 468775
Lab Batch #: 921235
Project ID:
Date Analyzed: 08/22/2013
Date Prepared: 08/22/2013
Analyst: KEB
QC- Sample ID: 468775-001 S
Batch #: 1
Matrix: Water
Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00100	0.100	0.121	121	70-125	
Toluene	<0.00200	0.100	0.112	112	70-125	
Ethylbenzene	<0.00100	0.100	0.109	109	71-129	
m_p-Xylenes	<0.00200	0.200	0.215	108	70-131	
o-Xylene	<0.00100	0.100	0.107	107	71-133	

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

BRL - Below Reporting Limit

CHAIN OF CUSTODY RECORD

XENCO Laboratories
Environmental Asbestos Radiochemistry
Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

LAB W.O#: 468775

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben Arguijo	Email:	bjarguijo@basinenv.com
Project ID:	EK Queen Pearce SRS #2008-113	PO#:	PAA-J. Henry
Invoice To:	Jason Henry Plains All American	Quote #:	

TAT Work Days = D Need results by:_____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D **5D 7D** 10D 14D Other_____

Sampler Signature:

Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A

ANALYSES REQUESTED

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	TPH	BTEX	Chloride						Hold Sample (CALL) Run PAH on Highest TPH Only if
								# Cont	Lab Only:								
Cont Type * VC										VP							
Pres Type** E, I										E,I							
1	MW-4	8/13/13	1500	GW			3			X							
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
0																	

* Container Type Codes

VA Vial Amber, VC Vial Clear, VP Vial Pre-preserved, GA Glass Amber, GC Glass Clear, PA Plastic Amber, PC Plastic Clear, ES Encore Sampler, TS TerraCore Sampler, AC Air Canister, TB Tedlar Bag, ZB Zip Lock Bag, PC Plastic Clear
Other _____
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

** Preservative Type Codes

A. None, E. HCL, I. Ice, B. HNO_3, F. MeOH, J. MCAA, C. H_2SO_4, G. $Na_2S_2O_3$, K. ZnAc&NaOH, D. NaOH, H. $NaHSO_4$, L Asbc Acid&NaOH, O. _____

^ Matrix Type Codes

GW Ground Water, WW Waste Water, DW Drinking Water, SW Surface Water, OW Ocean/Sea Water, PL Product-Liquid, PS Product-Solid, SL Sludge, Other, S Soil/Sediment/Solid, W Wipe, A Air, O Oil, T Tissue, U Urine, B Blood

REMARKS

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 **2** 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	1 2 3

	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1		Basin Env.	8/15/13	0745		8/15/13	8/15/13	0745
2		Basin Env.	8/15/13	1345		8/15/13	8/15/13	145
3						xenco		
4						8/16/13	8-16-13	14:10

Lab Use Only	YES	NO	N/A
Non-Conformances found?			
Samples intact upon arrival?			
Received on Wet Ice?			
Labeled with proper preservatives?			
Received within holding time?			
Custody seals intact?			
VOCs rec'd w/o headspace?			
Proper containers used?			
pH verified-acceptable, excl VOCs?			
Received on time to meet HTs?			

C.O.C. Serial #

 Revision Date: Nov 12, 2009

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/16/2013 02:10:00 PM

Work Order #: 468775

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 08/19/2013

Checklist reviewed by: Kelsey Brooks Date: 08/19/2013

Analytical Report 474179

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

SRS#2008-113

22-NOV-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-13-15-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

22-NOV-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **474179**
EK Queen Pearce
Project Address: New Mexico

Ben Arguijo:

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(s) 474179. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 474179 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 474179

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	11-15-13 13:15		474179-001
MW-2	W	11-15-13 12:00		474179-002
MW-3	W	11-15-13 12:20		474179-003
MW-4	W	11-15-13 12:40		474179-004

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 474179

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: SRS#2008-113
Contact: Ben Arguijo
Project Location: New Mexico

Date Received in Lab: Fri Nov-15-13 03:02 pm
Report Date: 22-NOV-13
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	474179-001		474179-002		474179-003		474179-004					
	Field Id:	MW-1		MW-2		MW-3		MW-4					
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER					
	Sampled:	Nov-15-13 13:15		Nov-15-13 12:00		Nov-15-13 12:20		Nov-15-13 12:40					
BTEX by EPA 8021	***Extracted:***	Nov-21-13 15:00		Nov-21-13 15:00		Nov-21-13 15:00		Nov-21-13 15:00					
	Analyzed:	Nov-21-13 18:38		Nov-21-13 18:53		Nov-21-13 19:09		Nov-21-13 19:30					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
Toluene		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200				
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200				
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
Xylenes, Total		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				

Kelsey Brooks
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.

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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 474179,

Project ID: SRS#2008-113

Lab Batch #: 928301 **Sample:** 474179-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 18:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0291	0.0300	97	80-120	

Lab Batch #: 928301 **Sample:** 474179-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 18:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 928301 **Sample:** 474179-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 19:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 928301 **Sample:** 474179-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 19:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 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	0.0264	0.0300	88	80-120	

Lab Batch #: 928301 **Sample:** 647366-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 18:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 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	0.0285	0.0300	95	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 474179,

Project ID: SRS#2008-113

Lab Batch #: 928301 **Sample:** 647366-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 16:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 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	0.0318	0.0300	106	80-120	

Lab Batch #: 928301 **Sample:** 647366-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 17:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 928301 **Sample:** 474260-017 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 17:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	80-120	

Lab Batch #: 928301 **Sample:** 474260-017 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/21/13 17:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	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	0.0327	0.0300	109	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 474179 **Project ID:** SRS#2008-113

Analyst: ARM **Date Prepared:** 11/21/2013 **Date Analyzed:** 11/21/2013

Lab Batch ID: 928301 **Sample:** 647366-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0937	94	0.100	0.0936	94	0	70-125	25	
Toluene	<0.00200	0.100	0.0966	97	0.100	0.0964	96	0	70-125	25	
Ethylbenzene	<0.00100	0.100	0.105	105	0.100	0.104	104	1	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.200	0.212	106	0	70-131	25	
o-Xylene	<0.00100	0.100	0.106	106	0.100	0.107	107	1	71-133	25	

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: EK Queen Pearce

Work Order # : 474179 **Project ID:** SRS#2008-113

Lab Batch ID: 928301 **QC- Sample ID:** 474260-017 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 11/21/2013 **Date Prepared:** 11/21/2013 **Analyst:** ARM

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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	<0.00100	0.100	0.0963	96	0.100	0.0984	98	2	70-125	25	
Toluene	<0.00200	0.100	0.0994	99	0.100	0.103	103	4	70-125	25	
Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.113	113	5	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.220	110	0.200	0.229	115	4	70-131	25	
o-Xylene	<0.00100	0.100	0.110	110	0.100	0.114	114	4	71-133	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/15/2013 03:02:00 PM

Work Order #: 474179

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6 *Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**No**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Candace James Date: 11/18/2013
Candace James

Checklist reviewed by: Kelsey Brooks Date: 11/18/2013
Kelsey Brooks

CHAIN OF CUSTODY RECORD

XENCO Laboratories
Environmental Asbestos Radiochemistry

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O#: 474179

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben Arguijo	Email:	bjarguijo@basinenv.com
Project ID:	EK Queen Pearce SRS #2008-113	PO#:	PAA-C. Bryant
Invoice To:	Camille Bryant Plains All American	Quote #:	
Sampler Signature:		Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A	

TAT Work Days = D Need results by:_____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D **5D 7D** 10D 14D Other_____

ANALYSES REQUESTED

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	TPH	BTEX	Chloride						Hold Sample (CALL) Run PAH on Highest TPH Only if
							# Cont	Lab Only:									
							Cont Type * VC		VP								
							Pres Type** E, I		E,I								
1	MW-1	11/15/13	1315	GW			3			X							
2	MW-2	11/15/13	1200	GW			3			X							
3	MW-3	11/15/13	1220	GW			3			X							
4	MW-4	11/15/13	1240	GW			3			X							
5																	
6																	
7																	
8																	
9																	
10																	

* Container Type Codes

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

** Preservative Type Codes

A. None E. HCL I. Ice
B. HNO_3 F. MeOH J. MCAA C.
H_2SO_4 G. $Na_2S_2O_3$ K. ZnAc&NaOH
D. NaOH H. $NaHSO_4$ L Asbc Acid&NaOH
O. _____

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other

REMARKS

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 **2** 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	1 7-8 2 3

	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1		ET	11/15/13	2:45		Basin Env.	11/15/13	1445
2						M/S Xenco	11-15-13	1502
3					Julian M	Od Xenco	11-16-13	15:15
4								

Lab Use Only

	YES	NO	N/A
Non-Conformances found?			
Samples intact upon arrival?			
Received on Wet Ice?			
Labeled with proper preservatives?			
Received within holding time?			
Custody seals intact?			
VOCs rec'd w/o headspace?			
Proper containers used?			
pH verified-acceptable, excl VOCs?			
Received on time to meet HTs?			

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial # Final 1 Temp 5°C

 Revision Date: Nov 12, 2009

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/15/2013 03:02:00 PM

Work Order #: 474179

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6 *Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**No**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Candace James Date: 11/18/2013
Candace James

Checklist reviewed by: Kelsey Brooks Date: 11/18/2013
Kelsey Brooks

Analytical Report 479073

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

SRS# 2008-113

19-FEB-14

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

19-FEB-14

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **479073**
EK Queen Pearce
Project Address: NM

Ben Arguijo:

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(s) 479073. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 479073 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,

Kelsey Brooks
Project 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 - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Sample Cross Reference 479073

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4	W	02-10-14 10:00		479073-001

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 479073

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: SRS# 2008-113
Contact: Ben Arguijo
Project Location: NM

Date Received in Lab: Mon Feb-10-14 03:50 pm
Report Date: 19-FEB-14
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	479073-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Feb-10-14 10:00					
BTEX by EPA 8021B	***Extracted:***	Feb-19-14 09:00					
	Analyzed:	Feb-19-14 15:34					
	Units/RL:	mg/L RL					
Benzene		ND 0.00100					
Toluene		ND 0.00200					
Ethylbenzene		ND 0.00100					
m_p-Xylenes		ND 0.00200					
o-Xylene		ND 0.00100					
Total Xylenes		ND 0.00100					
Total BTEX		ND 0.00100					

Kelsey Brooks
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.

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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 479073,

Project ID: SRS# 2008-113

Lab Batch #: 934362 **Sample:** 479073-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/19/14 15:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 934362 **Sample:** 651272-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/19/14 10:45

SURROGATE RECOVERY STUDY

BTEX 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	0.0270	0.0300	90	80-120	

Lab Batch #: 934362 **Sample:** 651272-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/19/14 09:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0305	0.0300	102	80-120	

Lab Batch #: 934362 **Sample:** 651272-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/19/14 10:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0310	0.0300	103	80-120	

Lab Batch #: 934362 **Sample:** 479541-003 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/19/14 15:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0309	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

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

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 479073, **Project ID:** SRS# 2008-113

Lab Batch #: 934362 **Sample:** 479541-003 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/19/14 16:05

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 479073 **Project ID:** SRS# 2008-113

Analyst: KEB **Date Prepared:** 02/19/2014 **Date Analyzed:** 02/19/2014

Lab Batch ID: 934362 **Sample:** 651272-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.108	108	0.100	0.110	110	2	70-125	25	
Toluene	<0.00200	0.100	0.110	110	0.100	0.113	113	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.110	110	0.100	0.113	113	3	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.218	109	0.200	0.224	112	3	70-131	25	
o-Xylene	<0.00100	0.100	0.109	109	0.100	0.113	113	4	71-133	25	

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: EK Queen Pearce

Work Order # : 479073 **Project ID:** SRS# 2008-113

Lab Batch ID: 934362 **QC- Sample ID:** 479541-003 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 02/19/2014 **Date Prepared:** 02/19/2014 **Analyst:** KEB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY 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	<0.00100	0.100	0.108	108	0.100	0.115	115	6	70-125	25	
Toluene	<0.00200	0.100	0.109	109	0.100	0.117	117	7	70-125	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.118	118	8	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.214	107	0.200	0.232	116	8	70-131	25	
o-Xylene	<0.00100	0.100	0.108	108	0.100	0.117	117	8	71-133	25	

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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

CHAIN OF CUSTODY RECORD

XENCO Laboratories
Environmental Asbestos Radiochemistry
Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

LAB W.O#: 479073

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben Arguijo	Email:	cjbryant@paalp.com, bjarguijo@basinenv.com
Project ID:	EK Queen Pearce SRS #2008-113	PO#:	PAA-C. Bryant
Invoice To:	Camille Bryant Plains All American	Quote #:	
Sampler Signature:			

TAT Work Days = D Need results by:_____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D **5D 7D** 10D 14D Other_____

Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A

ANALYSES REQUESTED

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Cont Type * VC	Pres Type** E, I	Example Volatiles by 8260	BTEX									Hold Sample (CALL) Run PAH on Highest TPH Only if
								# Cont	Lab Only:											
1	MW-4	2-10-14	10:00	GW			3			X										
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

* Container Type Codes

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

** Preservative Type Codes

A. None E. HCL I. Ice
B. HNO_3 F. MeOH J. MCAA C.
H_2SO_4 G. $Na_2S_2O_3$ K. ZnAc&NaOH
D. NaOH H. $NaHSO_4$ L Asbc Acid&NaOH
O. _____

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other

REMARKS

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 **2** 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	1 2 3 8.3

	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1		E+	~~10~~ 2-10-14	3:50	Perla Reseno	MJ	2-10-14	3:50
2								
3								
4						Xenco	2-11-14	14:20

Lab Use Only	YES	NO	N/A
Non-Conformances found?			
Samples intact upon arrival?			
Received on Wet Ice?			
Labeled with proper preservatives?			
Received within holding time?			
Custody seals intact?			
VOCs rec'd w/o headspace?			
Proper containers used?			
pH verified-acceptable, excl VOCs?			
Received on time to meet HTs?			

C.O.C. Serial #

 Revision Date: Nov 12, 2009

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/10/2014 03:50:00 PM

Work Order #: 479073

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	8.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6 *Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 02/11/2014

Checklist reviewed by: Kelsey Brooks Date: 02/11/2014

Analytical Report 484840

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

SRS# 2008-113

14-MAY-14

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

14-MAY-14

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **484840**
EK Queen Pearce
Project Address: NM

Ben Arguijo:

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(s) 484840. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 484840 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 484840

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	05-07-14 10:30		484840-001
MW-2	W	05-07-14 13:30		484840-002
MW-3	W	05-07-14 09:45		484840-003
MW-4	W	05-07-14 11:30		484840-004

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 484840

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: SRS# 2008-113
Contact: Ben Arguijo
Project Location: NM

Date Received in Lab: Wed May-07-14 03:17 pm
Report Date: 14-MAY-14
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	484840-001		484840-002		484840-003		484840-004					
	Field Id:	MW-1		MW-2		MW-3		MW-4					
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER					
	Sampled:	May-07-14 10:30		May-07-14 13:30		May-07-14 09:45		May-07-14 11:30					
BTEX by EPA 8021B	***Extracted:***	May-13-14 18:00		May-13-14 18:00		May-13-14 18:00		May-13-14 18:00					
	Analyzed:	May-13-14 21:44		May-13-14 22:00		May-13-14 22:17		May-13-14 22:33					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
Toluene		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200				
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200				
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
Total Xylenes		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100				

Kelsey Brooks
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.

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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 484840,

Project ID: SRS# 2008-113

Lab Batch #: 940837 **Sample:** 484840-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 21:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 940837 **Sample:** 484840-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 22:00

SURROGATE RECOVERY STUDY

BTEX 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	0.0284	0.0300	95	80-120	

Lab Batch #: 940837 **Sample:** 484840-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 22:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 940837 **Sample:** 484840-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 22:33

SURROGATE RECOVERY STUDY

BTEX 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	0.0280	0.0300	93	80-120	

Lab Batch #: 940837 **Sample:** 655390-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 20:05

SURROGATE RECOVERY STUDY

BTEX 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	0.0275	0.0300	92	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 484840,

Project ID: SRS# 2008-113

Lab Batch #: 940837 **Sample:** 655390-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 20:21

SURROGATE RECOVERY 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	0.0317	0.0300	106	80-120	

Lab Batch #: 940837 **Sample:** 655390-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 20:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 940837 **Sample:** 484840-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 20:54

SURROGATE RECOVERY STUDY

BTEX 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	0.0320	0.0300	107	80-120	

Lab Batch #: 940837 **Sample:** 484840-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/13/14 21:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 484840 **Project ID:** SRS# 2008-113

Analyst: ARM **Date Prepared:** 05/13/2014 **Date Analyzed:** 05/13/2014

Lab Batch ID: 940837 **Sample:** 655390-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0942	94	0.100	0.0942	94	0	70-125	25	
Toluene	<0.00200	0.100	0.0941	94	0.100	0.0941	94	0	70-125	25	
Ethylbenzene	<0.00100	0.100	0.101	101	0.100	0.100	100	1	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.207	104	0.200	0.206	103	0	70-131	25	
o-Xylene	<0.00100	0.100	0.103	103	0.100	0.103	103	0	71-133	25	

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: EK Queen Pearce

Work Order # : 484840 **Project ID:** SRS# 2008-113

Lab Batch ID: 940837 **QC- Sample ID:** 484840-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 05/13/2014 **Date Prepared:** 05/13/2014 **Analyst:** ARM

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY 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	<0.00100	0.100	0.0961	96	0.100	0.0979	98	2	70-125	25	
Toluene	<0.00200	0.100	0.0962	96	0.100	0.0981	98	2	70-125	25	
Ethylbenzene	<0.00100	0.100	0.103	103	0.100	0.105	105	2	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.212	106	0.200	0.215	108	1	70-131	25	
o-Xylene	<0.00100	0.100	0.106	106	0.100	0.108	108	2	71-133	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

CHAIN OF CUSTODY RECORD

XENCO Laboratories — Environmental Asbestos Radiochemistry

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O#: 414840

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben Arguijo	Email:	cjbryant@paalp.com, bjarguijo@basinenv.com
Project ID:	EK Queen Pearce SRS #2008-113	PO#:	PAA-C. Bryant
Invoice To:	Camille Bryant Plains All American	Quote #:	
Sampler Signature:		Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A	

TAT Work Days = D Need results by:_____ Time:_____

Std (5-7D) 5Hrs 1D 2D 3D 4D **5D** **7D** 10D 14D Other_____

ANALYSES REQUESTED

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Cont Type * VC	Pres Type** E, I	Example Volatiles by 8260	BTEX									Hold Sample (CALL__) on Highest TPH	Run PAH Only if
								# Cont	Lab Only:												
1	MW-1	5/6/14	1030	GW			3			X											
2	MW-2	5/6/14	1330	GW			3			X											
3	MW-3	5/6/14	945	GW			3			X											
4	MW-4	5/6/14	1130	GW			3			X											
5																					
6																					
7																					
8																					
9																					
10																					

* Container Type Codes

VA Vial Amber, VC Vial Clear, VP Vial Pre-preserved, GA Glass Amber, GC Glass Clear, PA Plastic Amber, PC Plastic Clear, ES Encore Sampler, TS TerraCore Sampler, AC Air Canister, TB Tedlar Bag, ZB Zip Lock Bag, PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

** Preservative Type Codes

A. None, E. HCL, I. Ice, B. HNO_3, F. MeOH, J. MCAA, C. H_2SO_4, G. $Na_2S_2O_3$, K. ZnAc&NaOH, D. NaOH, H. $NaHSO_4$, L Asbc Acid&NaOH, O. _____

^ Matrix Type Codes

GW Ground Water, WW Waste Water, DW Drinking Water, SW Surface Water, OW Ocean/Sea Water, PL Product-Liquid, PS Product-Solid, SL Sludge, S Soil/Sediment/Solid, W Wipe, A Air, O Oil, T Tissue, U Urine, B Blood
Other

REMARKS

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 **2** 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	1 10.4°C 2 0° 3

	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1			5/6/14	1535	V. Castillo	MS	5/6/14	3:35
2					Mineva Rios xenco		5/7/14	15:17
3								
4								

Lab Use Only

	YES	NO	N/A
Non-Conformances found?			
Samples intact upon arrival?			
Received on Wet Ice?			
Labeled with proper preservatives?			
Received within holding time?			
Custody seals intact?			
VOCs rec'd w/o headspace?			
Proper containers used?			
pH verified-acceptable, excl VOCs?			
Received on time to meet HTs?			

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

 Revision Date: Nov 12, 2009

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/07/2014 03:17:00 PM

Work Order #: 484840

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	0
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**No**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**No**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 05/08/2014

Checklist reviewed by: Kelsey Brooks Date: 05/08/2014

Analytical Report 491032

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

13-AUG-14

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

13-AUG-14

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **491032**
EK Queen Pearce
Project Address: New Mexico

Ben Arguijo:

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(s) 491032. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 491032 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 491032

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4	W	08-06-14 14:45		491032-001

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 491032

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id:
Contact: Ben Arguijo
Project Location: New Mexico

Date Received in Lab: Thu Aug-07-14 11:21 am
Report Date: 13-AUG-14
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	491032-001					
	Field Id:	MW-4					
	Depth:						
	Matrix:	WATER					
	Sampled:	Aug-06-14 14:45					
BTEX by EPA 8021B	***Extracted:***	Aug-11-14 10:00					
	Analyzed:	Aug-11-14 17:32					
	Units/RL:	mg/L RL					
Benzene		ND 0.00100					
Toluene		ND 0.00200					
Ethylbenzene		ND 0.00100					
m_p-Xylenes		ND 0.00200					
o-Xylene		ND 0.00100					
Total Xylenes		ND 0.00100					
Total BTEX		ND 0.00100					

Kelsey Brooks
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.

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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 491032,

Project ID:

Lab Batch #: 947952 **Sample:** 491032-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/11/14 17:32

SURROGATE RECOVERY 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	0.0296	0.0300	99	80-120	

Lab Batch #: 947952 **Sample:** 659867-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/11/14 11:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 947952 **Sample:** 659867-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/11/14 11:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Lab Batch #: 947952 **Sample:** 659867-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/11/14 11:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

Lab Batch #: 947952 **Sample:** 490785-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/11/14 12:05

SURROGATE RECOVERY STUDY

BTEX 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	0.0330	0.0300	110	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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 491032, **Project ID:**

Lab Batch #: 947952 **Sample:** 490785-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 08/11/14 12:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0335	0.0300	112	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.

BS / BSD Recoveries

Project Name: EK Queen Pearce

Work Order #: 491032 **Project ID:**

Analyst: ARM **Date Prepared:** 08/11/2014 **Date Analyzed:** 08/11/2014

Lab Batch ID: 947952 **Sample:** 659867-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0941	94	0.100	0.0997	100	6	70-125	25	
Toluene	<0.00200	0.100	0.0989	99	0.100	0.105	105	6	70-125	25	
Ethylbenzene	<0.00100	0.100	0.104	104	0.100	0.111	111	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.209	105	0.200	0.222	111	6	70-131	25	
o-Xylene	<0.00100	0.100	0.103	103	0.100	0.110	110	7	71-133	25	

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: EK Queen Pearce

Work Order # : 491032 **Project ID:**

Lab Batch ID: 947952 **QC- Sample ID:** 490785-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 08/11/2014 **Date Prepared:** 08/11/2014 **Analyst:** ARM

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY 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	0.0101	0.100	0.0977	88	0.100	0.101	91	3	70-125	25	
Toluene	<0.00200	0.100	0.0962	96	0.100	0.0997	100	4	70-125	25	
Ethylbenzene	<0.00100	0.100	0.101	101	0.100	0.105	105	4	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.203	102	0.200	0.212	106	4	70-131	25	
o-Xylene	<0.00100	0.100	0.100	100	0.100	0.105	105	5	71-133	25	

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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

CHAIN OF CUSTODY RECORD

XENCO Laboratories — Environmental Asbestos Radiochemistry

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

LAB W.O#: 491032

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben Arguijo	Email:	cjbryant@paalp.com, bjarguijo@basinenv.com
Project ID:	EK Queen Pearce SRS #2008-113	PO#:	PAA-C. Bryant
Invoice To:	Camille Bryant Plains All American	Quote #:	

TAT Work Days = D Need results by:_____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D **5D 7D** 10D 14D Other_____

Sampler Signature: Daley Taylor

Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A

ANALYSES REQUESTED

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Cont Type * VC	Pres Type** E, I	Example Volatiles by 8260	BTEX									Hold Sample (CALL___) Run PAH on Highest TPH___ Only if
								# Cont	Lab Only:											
1	MW-4	8.6.14	14:45	GW			3			X										
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
0																				

* Container Type Codes

VA Vial Amber, VC Vial Clear, VP Vial Pre-preserved, GA Glass Amber, GC Glass Clear, PA Plastic Amber, PC Plastic Clear, ES Encore Sampler, TS TerraCore Sampler, AC Air Canister, TB Tedlar Bag, ZB Zip Lock Bag, PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

** Preservative Type Codes

A. None, E. HCL, I. Ice, B. HNO_3, F. MeOH, J. MCAA, C. H_2SO_4, G. $Na_2S_2O_3$, K. ZnAc&NaOH, D. NaOH, H. $NaHSO_4$, L. Asbc Acid&NaOH, O. _____

^ Matrix Type Codes

GW Ground Water, WW Waste Water, DW Drinking Water, SW Surface Water, OW Ocean/Sea Water, PL Product-Liquid, PS Product-Solid, SL Sludge, Other, S Soil/Sediment/Solid, W Wipe, A Air, O Oil, T Tissue, U Urine, B Blood

REMARKS

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 2 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	12.8 2 1.3

	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	Daley Taylor	Basin Environ.	8-6-14	4:26	V. Castillo	MS	8/6/14	4:30
2					MRIOS	Xenco	8/7/14	11:21
3								
4								

Lab Use Only	YES	NO	N/A
Non-Conformances found?			
Samples intact upon arrival?			
Received on Wet Ice?			
Labeled with proper preservatives?			
Received within holding time?			
Custody seals intact?			
VOCs rec'd w/o headspace?			
Proper containers used?			
pH verified-acceptable, excl VOCs?			
Received on time to meet HTs?			

C.O.C. Serial #

 Revision Date: Nov 12, 2009

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/07/2014 11:21:00 AM

Work Order #: 491032

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**No**
#6 *Custody Seals Signed and dated?	**No**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**No**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**No**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 08/07/2014

Checklist reviewed by: Date:

Appendix G
Laboratory Analytical Reports (Air)

Analytical Report 368359

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen 6" Pearce

2008-113

12-APR-10

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)

12-APR-10

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

Reference: XENCO Report No: **368359**
EK Queen 6" Pearce
Project Address: Lea 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 368359. 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. 368359 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

Sample Cross Reference 368359

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen 6" Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge	A	Apr-07-10 15:00		368359-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen 6" Pearce

Project ID:	*2008-113*	*Report Date:*	*12-APR-10*
Work Order Number:	*368359*	*Date Received:*	*04/07/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-801815 BTEX in Air by EPA 18M
None

Batch: LBA-801820 GRO in Air by EPA 18M
None

Certificate of Analysis Summary 368359

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6" Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea Co, NM

Date Received in Lab: Wed Apr-07-10 05:30 pm
Report Date: 12-APR-10
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	368359-001						
	Field Id:	SVE Discharge						
	Depth:							
	Matrix:	AIR						
	Sampled:	Apr-07-10 15:00						
BTEX in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Apr-09-10 15:23						
	Analyzed:	Apr-09-10 15:23						
	Units/RL:	ppmv	RL					
Benzene		504	10.0					
Toluene		357	10.0					
Ethylbenzene		60.1	10.0					
m,p-Xylenes		54.7	20.0					
o-Xylene		21.2	10.0					
Total Xylenes		75.9	10.0					
Total BTEX		997	10.0					
GRO in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Apr-09-10 15:23						
	Analyzed:	Apr-09-10 15:23						
	Units/RL:	ppmv	RL					
TPH-GRO		5150	1000					

Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Pearce

Work Orders : 368359, **Project ID:** 2008-113

Lab Batch #: 801815 **Sample:** 560306-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 10:26 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.6	30.0	89	75-125	

Lab Batch #: 801815 **Sample:** 560306-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 11:50 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.8	30.0	103	75-125	

Lab Batch #: 801815 **Sample:** 368246-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 13:07 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.8	30.0	96	75-125	

Lab Batch #: 801815 **Sample:** 368359-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 15:23 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.1	30.0	94	75-125	

Lab Batch #: 801820 **Sample:** 560307-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 11:11 **SURROGATE RECOVERY STUDY**

GRO in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.4	30.0	98	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Pearce

Work Orders : 368359,

Project ID: 2008-113

Lab Batch #: 801820 **Sample:** 560307-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 11:50

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.8	30.0	103	75-125	

Lab Batch #: 801820 **Sample:** 368246-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 13:07

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.8	30.0	96	75-125	

Lab Batch #: 801820 **Sample:** 368359-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/09/10 15:23

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.1	30.0	94	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen 6" Pearce

Work Order #: 368359 **Project ID:** 2008-113

Lab Batch #: 801815 **Sample:** 560306-1-BKS **Matrix:** Air

Date Analyzed: 04/09/2010 **Date Prepared:** 04/09/2010 **Analyst:** CAA

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	10.0	10.1	101	75-125	
Toluene	ND	10.0	8.35	84	70-125	
Ethylbenzene	ND	10.0	9.03	90	71-129	
m,p-Xylenes	ND	20.0	17.1	86	70-131	
o-Xylene	ND	10.0	8.35	84	71-133	

Lab Batch #: 801820 **Sample:** 560307-1-BKS **Matrix:** Air

Date Analyzed: 04/09/2010 **Date Prepared:** 04/09/2010 **Analyst:** CAA

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

GRO in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	ND	500	457	91	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen 6" Pearce

Work Order #: 368359

Lab Batch #: 801815 **Project ID:** 2008-113

Date Analyzed: 04/09/2010 **Date Prepared:** 04/09/2010 **Analyst:** CAA

QC- Sample ID: 368246-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX in Air by EPA 18M	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	631	618	2	35	
Toluene	1960	1960	0	35	
Ethylbenzene	101	108	7	35	
m,p-Xylenes	267	264	1	35	
o-Xylene	65.5	64.5	2	35	

Lab Batch #: 801820

Date Analyzed: 04/09/2010 **Date Prepared:** 04/09/2010 **Analyst:** CAA

QC- Sample ID: 368246-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

GRO in Air by EPA 18M	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	24700	23400	5	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: CURT STANLEY
Company Name: BASIN ENVIRONMENTAL
Company Address: 2800 PLAINS HWY
City/State/Zip: LOVINGTON NM
Telephone No: 575-441-2244 Fax No:
Sampler Signature: e-mail:

Project Name: EK QUEEN 6" FLARE
Project #: 2008-113
Project Loc: LEA CO, NM
PO #: PAA - S. HENRY
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 368359

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 / 8015M 8015B	TOTAL: TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
-001	SVE Discharge			4/7/10	1500		1							X		Air	X							X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	4/7/10	1500			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: ELOT	Date 4/7/10	Time 1730

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: Ambient °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin / Plains

Date/ Time: 4.7.10 17:30

Lab ID # : 368359

Initials: BB / AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	Amb. °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See 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

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: Subbed to Xenco Houston.

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 373487

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce 6"

2008-113

24-MAY-10

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)

24-MAY-10

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

Reference: XENCO Report No: **373487**
EK Queen Pearce 6"
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 373487. 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. 373487 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

Sample Cross Reference 373487

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce 6"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-1	A	May-18-10 14:30		373487-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce 6"

Project ID:	*2008-113*	*Report Date:*	*24-MAY-10*
Work Order Number:	*373487*	*Date Received:*	*05/19/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-807625 GRO in Air by EPA 18M
None

Batch: LBA-807626 BTEX in Air by EPA 18M
None

Certificate of Analysis Summary 373487

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce 6"

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed May-19-10 08:25 am
Report Date: 24-MAY-10
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	373487-001						
	Field Id:	SVE Discharge-1						
	Depth:							
	Matrix:	AIR						
	Sampled:	May-18-10 14:30						
BTEX in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	May-20-10 17:51						
	Analyzed:	May-20-10 17:51						
	Units/RL:	ppmv	RL					
Benzene		106	5.00					
Toluene		215	5.00					
Ethylbenzene		42.0	5.00					
m,p-Xylenes		51.0	10.0					
o-Xylene		19.3	5.00					
Total Xylenes		70.3	5.00					
Total BTEX		433	5.00					
GRO in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	May-20-10 17:51						
	Analyzed:	May-20-10 17:51						
	Units/RL:	ppmv	RL					
TPH-GRO		5450	500					

Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 373487, **Project ID:** 2008-113

Lab Batch #: 807626 **Sample:** 563872-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 11:22

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.5	30.0	102	75-125	

Lab Batch #: 807626 **Sample:** 563872-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 12:01

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.4	30.0	105	75-125	

Lab Batch #: 807626 **Sample:** 373489-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 15:55

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.0	30.0	100	75-125	

Lab Batch #: 807626 **Sample:** 373487-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 17:51

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.9	30.0	100	75-125	

Lab Batch #: 807625 **Sample:** 563877-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 10:44

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.7	30.0	96	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce 6"

Work Orders : 373487,

Project ID: 2008-113

Lab Batch #: 807625 **Sample:** 563877-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 11:22

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.5	30.0	102	75-125	

Lab Batch #: 807625 **Sample:** 373489-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 15:55

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.0	30.0	100	75-125	

Lab Batch #: 807625 **Sample:** 373487-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/20/10 17:51

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.9	30.0	100	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce 6"

Work Order #: 373487 **Project ID:** 2008-113

Lab Batch #: 807626 **Sample:** 563872-1-BKS **Matrix:** Air

Date Analyzed: 05/20/2010 **Date Prepared:** 05/20/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	10.0	9.79	98	75-125	
Toluene	ND	10.0	11.0	110	70-125	
Ethylbenzene	ND	10.0	9.23	92	71-129	
m,p-Xylenes	ND	20.0	20.3	102	70-131	
o-Xylene	ND	10.0	11.2	112	71-133	

Lab Batch #: 807625 **Sample:** 563877-1-BKS **Matrix:** Air

Date Analyzed: 05/20/2010 **Date Prepared:** 05/20/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

GRO in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	ND	500	461	92	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce 6"

Work Order #: 373487

Lab Batch #: 807626 **Project ID:** 2008-113

Date Analyzed: 05/20/2010 **Date Prepared:** 05/20/2010 **Analyst:** JUJ

QC- Sample ID: 373489-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX in Air by EPA 18M	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	73.8	86.4	16	35	
Toluene	174	205	16	35	
Ethylbenzene	45.4	52.5	15	35	
m,p-Xylenes	44.5	43.3	3	35	
o-Xylene	16.1	16.9	5	35	

Lab Batch #: 807625

Date Analyzed: 05/20/2010 **Date Prepared:** 05/20/2010 **Analyst:** JUJ

QC- Sample ID: 373489-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

GRO in Air by EPA 18M	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	1640	1740	6	30	

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

BRL - Below Reporting Limit

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)605-7210 Fax No: (505) 396-1429

Sampler Signature: Cliff Stanley for Lea County

e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce 6"

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 373487

Field Filtered: Tedlar Bag

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge	GW = Groundwater S = Soil/Soil	NP = Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
																			TCLP:												
																			TOTAL:								X				
01	SVE Discharge - 1			5/18/10	1430		1							X		Air			X								X				X

Special Instructions:

Laboratory Comments:

Sample Containers intact? (Y) N
VOCs Free of Headspace? (Y) N
Labels on container(s) (Y) N
Custody seals on container(s) Y (N)
Custody seals on cooler(s) Y N N/A
Sample Hand Delivered by Sampler/Client Rep.? (Y) N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 21.6 °C

Relinquished by:	Date	Time	Received by:	Date	Time
Cliff Stanley	5/19/10	0825			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jeanne Fitch	05-19-10	0825

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains / Basin

Date/ Time: 05-19-10 @ 0825

Lab ID # : 373487

Initials: JMF

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	21.6 °C	
#2	Shipping container in good condition?	Yes	No	(N/A)	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present (N/A)	
#4	Custody Seals intact on sample bottles/ container?	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?	(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?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	Xenco- Houston
#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

Analytical Report 383010

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

27-JUL-10

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

27-JUL-10

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

Reference: XENCO Report No: **383010**
EK Queen Pearce
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 383010. 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. 383010 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

Sample Cross Reference 383010

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-2	A	Jul-26-10 09:00		383010-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*27-JUL-10*
Work Order Number:	*383010*	*Date Received:*	*07/26/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-816366 BTEX in Air by EPA 18M
None

Batch: LBA-816369 GRO in Air by EPA 18M
None

Certificate of Analysis Summary 383010

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Jul-26-10 11:50 am
Report Date: 27-JUL-10
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	383010-001						
	Field Id:	SVE Discharge-2						
	Depth:							
	Matrix:	AIR						
	Sampled:	Jul-26-10 09:00						
BTEX in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Jul-27-10 14:03						
	Analyzed:	Jul-27-10 14:03						
	Units/RL:	ppmv	RL					
Benzene		19.0	1.00					
Toluene		53.9	1.00					
Ethylbenzene		20.2	1.00					
m,p-Xylenes		17.6	2.00					
o-Xylene		6.01	1.00					
Total Xylenes		23.6	1.00					
Total BTEX		116.7	1.00					
GRO in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Jul-27-10 14:03						
	Analyzed:	Jul-27-10 14:03						
	Units/RL:	ppmv	RL					
TPH-GRO		803	100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 383010, **Project ID:** 2008-113

Lab Batch #: 816366 **Sample:** 569119-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 11:12 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.2	30.0	111	75-125	

Lab Batch #: 816366 **Sample:** 569119-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 11:50 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.8	30.0	109	75-125	

Lab Batch #: 816366 **Sample:** 382991-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 12:48 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	35.0	30.0	117	75-125	

Lab Batch #: 816366 **Sample:** 383010-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 14:03 **SURROGATE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	24.5	30.0	82	75-125	

Lab Batch #: 816369 **Sample:** 569123-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 10:34 **SURROGATE RECOVERY STUDY**

GRO in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	25.1	30.0	84	75-125	

* 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.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 383010,

Project ID: 2008-113

Lab Batch #: 816369 **Sample:** 569123-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 11:12

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.2	30.0	111	75-125	

Lab Batch #: 816369 **Sample:** 382991-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 12:48

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	35.0	30.0	117	75-125	

Lab Batch #: 816369 **Sample:** 383010-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 07/27/10 14:03

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	24.5	30.0	82	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 383010 **Project ID:** 2008-113

Lab Batch #: 816366 **Sample:** 569119-1-BKS **Matrix:** Air

Date Analyzed: 07/27/2010 **Date Prepared:** 07/27/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	10.0	9.82	98	75-125	
Toluene	ND	10.0	10.7	107	70-125	
Ethylbenzene	ND	10.0	11.2	112	71-129	
m,p-Xylenes	ND	20.0	23.6	118	70-131	
o-Xylene	ND	10.0	11.6	116	71-133	

Lab Batch #: 816369 **Sample:** 569123-1-BKS **Matrix:** Air

Date Analyzed: 07/27/2010 **Date Prepared:** 07/27/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

GRO in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	ND	500	437	87	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 383010

Lab Batch #: 816366 **Project ID:** 2008-113

Date Analyzed: 07/27/2010 **Date Prepared:** 07/27/2010 **Analyst:** JUJ

QC- Sample ID: 382991-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX in Air by EPA 18M Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	109	153	34	35	
Toluene	195	196	1	35	
Ethylbenzene	36.7	33.3	10	35	
m,p-Xylenes	77.2	73.7	5	35	
o-Xylene	21.9	21.4	2	35	

Lab Batch #: 816369

Date Analyzed: 07/27/2010 **Date Prepared:** 07/27/2010 **Analyst:** JUJ

QC- Sample ID: 382991-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

GRO in Air by EPA 18M Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	4470	4740	6	30	

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

BRL - Below Reporting Limit

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Company Name: Basin Environmental Consulting, LLC

Company Address: P. O. Box 381

City/State/Zip: Lovington, NM 88260

Telephone No: (575)605-7210 Fax No: (505) 396-1429

Sampler Signature:

e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 383010

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Solid; NP = Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TOTAL: TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-2			26-Jul-10	0900		1	1						X		Air	x								x				X

Special Instructions: ~~Hold TPH on stockpile sample until chloride 300 has been conducted. Call with verbals on stockpile chloride~~

Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date 7-26-10	Time 11:50	Received by ELOT: Andrea Sam	Date 7.26.10	Time 11:50

Laboratory Comments:

Sample Containers Intact? Y N NA

VOCs Free of Headspace? Y N NA

Labels on container(s) Y N

Custody seals on container(s) Y N NA

Custody seals on cooler(s) Y N NA

Sample Hand Delivered by Sampler/Client Rep. ? Y N

by Courier? UPS DHL FedEx Lone Star

Tedlar Bag

Temperature Upon Receipt: Amb. °C

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 7.26.10 11:50
Lab ID # : 383010
Initials: AL

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	Yes	No	(N/A)	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	Amb. °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 387695

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

03-SEP-10

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

03-SEP-10

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

Reference: XENCO Report No: **387695**
EK Queen Pearce
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 387695. 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. 387695 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

Sample Cross Reference 387695

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-3	A	Aug-30-10 09:00		387695-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*03-SEP-10*
Work Order Number:	*387695*	*Date Received:*	*08/30/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-821603 GRO in Air by EPA 18M
None

Batch: LBA-821604 BTEX in Air by EPA 18M
None

Certificate of Analysis Summary 387695

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Aug-30-10 01:00 pm
Report Date: 03-SEP-10
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	387695-001						
	Field Id:	SVE Discharge-3						
	Depth:							
	Matrix:	AIR						
	Sampled:	Aug-30-10 09:00						
BTEX in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Sep-02-10 22:01						
	Analyzed:	Sep-02-10 22:01						
	Units/RL:	ppmv	RL					
Benzene		6.19	1.00					
Toluene		40.7	1.00					
Ethylbenzene		18.4	1.00					
m,p-Xylenes		17.3	2.00					
o-Xylene		5.66	1.00					
Total Xylenes		23.0	1.00					
Total BTEX		88.3	1.00					
GRO in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Sep-02-10 22:01						
	Analyzed:	Sep-02-10 22:01						
	Units/RL:	ppmv	RL					
TPH-GRO		700	100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 387695,

Project ID: 2008-113

Lab Batch #: 821604 **Sample:** 572439-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 14:50

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	25.0	30.0	83	75-125	

Lab Batch #: 821604 **Sample:** 572439-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 16:00

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.3	30.0	88	75-125	

Lab Batch #: 821604 **Sample:** 388116-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 17:25

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.7	30.0	89	75-125	

Lab Batch #: 821604 **Sample:** 387695-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 22:01

BTEX in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.9	30.0	93	75-125	

Lab Batch #: 821603 **Sample:** 572448-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 14:03

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	25.6	30.0	85	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 387695,

Project ID: 2008-113

Lab Batch #: 821603 **Sample:** 572448-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 14:50

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	25.0	30.0	83	75-125	

Lab Batch #: 821603 **Sample:** 388116-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 17:25

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.7	30.0	89	75-125	

Lab Batch #: 821603 **Sample:** 387695-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/02/10 22:01

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.9	30.0	93	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 387695 **Project ID:** 2008-113

Lab Batch #: 821604 **Sample:** 572439-1-BKS **Matrix:** Air

Date Analyzed: 09/02/2010 **Date Prepared:** 09/02/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	10.0	9.00	90	75-125	
Toluene	ND	10.0	11.6	116	70-125	
Ethylbenzene	ND	10.0	12.7	127	71-129	
m,p-Xylenes	ND	20.0	26.0	130	70-131	
o-Xylene	ND	10.0	12.4	124	71-133	

Lab Batch #: 821603 **Sample:** 572448-1-BKS **Matrix:** Air

Date Analyzed: 09/02/2010 **Date Prepared:** 09/02/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

GRO in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	ND	500	416	83	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 387695

Lab Batch #: 821604 **Project ID:** 2008-113

Date Analyzed: 09/02/2010 **Date Prepared:** 09/02/2010 **Analyst:** JUJ

QC- Sample ID: 388116-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX in Air by EPA 18M Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	946	1050	10	35	
Toluene	2350	2550	8	35	
Ethylbenzene	229	220	4	35	
m,p-Xylenes	980	1030	5	35	
o-Xylene	299	295	1	35	

Lab Batch #: 821603

Date Analyzed: 09/02/2010 **Date Prepared:** 09/02/2010 **Analyst:** JUJ

QC- Sample ID: 388116-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

GRO in Air by EPA 18M Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	27000	26000	4	30	

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

BRL - Below Reporting Limit

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant

Company Name: Basin Environmental Consulting, LLC

Company Address: P. O. Box 381

City/State/Zip: Lovington, NM 88260

Telephone No: (575)605-7210 Fax No: (505) 396-1429

Sampler Signature:

e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 387695

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge	GW = Groundwater S = Soil/Soil	NP = Non-Potable Specify Other	Analyze For: TCLP:	TOTAL:	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300					RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-3			30-Aug-10	0900		1	1						X							X								X							

Special Instructions: ~~Hold TPH on stockpile sample until chloride 300 has been conducted. Call with verbals on stockpile chloride~~

Relinquished by:	Date	Time	Received by:	Date	Time
Scott Curry	8/30/10	13:20			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				8/30/10	13:20

Laboratory Comments:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered by Sampler/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: Ambient

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: PLAA

Date/Time: 8/30/10 / 1300

Lab ID # : 387695

Initials: BB

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	Hou
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	Amb °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 391029

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

28-SEP-10

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

28-SEP-10

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

Reference: XENCO Report No: **391029**
EK Queen Pearce
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 391029. 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. 391029 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

Sample Cross Reference 391029

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-4	A	Sep-23-10 09:00		391029-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*28-SEP-10*
Work Order Number:	*391029*	*Date Received:*	*09/23/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-824854 BTEX in Air by EPA 18M
None

Batch: LBA-824855 GRO in Air by EPA 18M
None

Certificate of Analysis Summary 391029

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Sep-23-10 12:00 pm
Report Date: 28-SEP-10
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	391029-001						
	Field Id:	SVE Discharge-4						
	Depth:							
	Matrix:	AIR						
	Sampled:	Sep-23-10 09:00						
BTEX in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Sep-24-10 22:54						
	Analyzed:	Sep-24-10 22:54						
	Units/RL:	ppmv	RL					
Benzene		6.49	1.00					
Toluene		57.7	1.00					
Ethylbenzene		23.4	1.00					
m,p-Xylenes		25.8	2.00					
o-Xylene		11.0	1.00					
Total Xylenes		36.8	1.00					
Total BTEX		124.4	1.00					
GRO in Air by EPA 18M SUB: T104704215-TX	***Extracted:***	Sep-24-10 22:54						
	Analyzed:	Sep-24-10 22:54						
	Units/RL:	ppmv	RL					
TPH-GRO		910	100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 391029,

Project ID: 2008-113

Lab Batch #: 824854 **Sample:** 574410-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 13:36

SURROGATE RECOVERY STUDY

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.1	30.0	104	75-125	

Lab Batch #: 824854 **Sample:** 574410-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 14:23

SURROGATE RECOVERY STUDY

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.3	30.0	108	75-125	

Lab Batch #: 824854 **Sample:** 391075-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 15:09

SURROGATE RECOVERY STUDY

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.1	30.0	104	75-125	

Lab Batch #: 824854 **Sample:** 391029-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 22:54

SURROGATE RECOVERY STUDY

BTEX in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	35.3	30.0	118	75-125	

Lab Batch #: 824855 **Sample:** 574413-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 13:13

SURROGATE RECOVERY STUDY

GRO in Air by EPA 18M Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.6	30.0	109	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 391029,

Project ID: 2008-113

Lab Batch #: 824855 **Sample:** 574413-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 14:23

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.3	30.0	108	75-125	

Lab Batch #: 824855 **Sample:** 391075-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 15:09

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.1	30.0	104	75-125	

Lab Batch #: 824855 **Sample:** 391029-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/24/10 22:54

GRO in Air by EPA 18M Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	35.3	30.0	118	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 391029 **Project ID:** 2008-113

Lab Batch #: 824854 **Sample:** 574410-1-BKS **Matrix:** Air

Date Analyzed: 09/24/2010 **Date Prepared:** 09/24/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	10.0	8.39	84	75-125	
Toluene	ND	10.0	10.6	106	70-125	
Ethylbenzene	ND	10.0	9.79	98	71-129	
m,p-Xylenes	ND	20.0	20.2	101	70-131	
o-Xylene	ND	10.0	10.8	108	71-133	

Lab Batch #: 824855 **Sample:** 574413-1-BKS **Matrix:** Air

Date Analyzed: 09/24/2010 **Date Prepared:** 09/24/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

GRO in Air by EPA 18M Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	ND	500	542	108	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 391029

Lab Batch #: 824854 **Project ID:** 2008-113

Date Analyzed: 09/24/2010 **Date Prepared:** 09/24/2010 **Analyst:** JUJ

QC- Sample ID: 391075-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX in Air by EPA 18M Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	21.0	19.8	6	35	
Toluene	86.0	92.6	7	35	
Ethylbenzene	16.8	13.4	23	35	
m,p-Xylenes	57.4	54.0	6	35	
o-Xylene	27.9	22.5	21	35	

Lab Batch #: 824855

Date Analyzed: 09/24/2010 **Date Prepared:** 09/24/2010 **Analyst:** JUJ

QC- Sample ID: 391075-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

GRO in Air by EPA 18M Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	1990	1940	3	30	

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

BRL - Below Reporting Limit

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Bryant
Company Name: Basin Environmental Consulting, LLC
Company Address: P. O. Box 381
City/State/Zip: Lovington, NM 88260
Telephone No: (575)605-7210 Fax No: (505) 396-1429
Sampler Signature: Scott Cowart e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen Pearce
Project #: 2008-113
Project Loc: Lea County, NM
PO #: PAA-J. Henry
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 391029

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW - Drinking Water SL - Sludge; GW - Groundwater S - Soil/Solid; WP - Non-Potable Specify Other	Analyze For: TPH 418.1	8015M	8015M	TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semivolatiles	TOTAL BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300						RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-4			23-Sep-10	0900		1	1						X		Air	x											x								X

Special Instructions: ~~Hold TPH on stockpile sample until chloride 300 has been conducted. Call with verbals on stockpile chloride~~

Relinquished by:	Date	Time	Received by:	Date	Time
Scott Cowart	9/23	1710			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Cindy Elam	9.23.10	12:00

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y (N)
Labels on container(s) (Y) N
Custody seals on container(s) Y (N)
Custody seals on cooler(s) Y (N)
Sample Hand Delivered (Y) N
by Sampler/Client Rep. ? (Y) N
by Courier? UPS DHL FedEx Lone Star
Tedlar Bag
Temperature Upon Receipt: Amb. °C

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 7.23.10 12 00
Lab ID # : 391029
Initials: AE

Sample Receipt Checklist

1. Samples on ice?					Blue	Water	(No)	
2. Shipping container in good condition?					Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?					Yes	No	(N/A)	
4. Chain of Custody present?					(Yes)	No		
5. Sample instructions complete on chain of custody?					(Yes)	No		
6. Any missing / extra samples?					Yes	(No)		
7. Chain of custody signed when relinquished / received?					(Yes)	No		
8. Chain of custody agrees with sample label(s)?					(Yes)	No		
9. Container labels legible and intact?					(Yes)	No		
10. Sample matrix / properties agree with chain of custody?					(Yes)	No		
11. Samples in proper container / bottle?					(Yes)	No		
12. Samples properly preserved?					(Yes)	No	N/A	
13. Sample container intact?					(Yes)	No		
14. Sufficient sample amount for indicated test(s)?					(Yes)	No		
15. All samples received within sufficient hold time?					(Yes)	No		
16. Subcontract of sample(s)?					(Yes)	No	N/A	
17. VOC sample have zero head space?					Yes	No	(N/A)	
18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	Amb °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 397811

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

23-NOV-10

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

23-NOV-10

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

Reference: XENCO Report No: **397811**
EK Queen Pearce
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 397811. 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. 397811 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

Sample Cross Reference 397811

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-5	A	Nov-18-10 10:00		397811-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*23-NOV-10*
Work Order Number:	*397811*	*Date Received:*	*11/18/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 397811

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Nov-18-10 04:00 pm
Report Date: 23-NOV-10
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	397811-001					
	Field Id:	SVE Discharge-5					
	Depth:						
	Matrix:	AIR					
	Sampled:	Nov-18-10 10:00					
BTEX by EPA 8021 SUB: T104704215-TX	***Extracted:***	Nov-22-10 16:34					
	Analyzed:	Nov-22-10 16:34					
	Units/RL:	ppmv RL					
Benzene		3.1900 1.0000					
Toluene		25.580 1.0000					
Ethylbenzene		13.000 1.0000					
m,p-Xylenes		24.210 2.0000					
o-Xylene		11.350 1.0000					
Total Xylenes		35.560 1.0000					
Total BTEX		77.330 1.0000					
TPH Gasoline Range Organics by SW 8015 SUB: T104704215-TX	***Extracted:***	Nov-22-10 16:34					
	Analyzed:	Nov-22-10 16:34					
	Units/RL:	ppmv RL					
TPH-GRO		588 100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 397811, **Project ID:** 2008-113

Lab Batch #: 833178 **Sample:** 589498-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 12:39 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.370	30.000	91	75-125	

Lab Batch #: 833178 **Sample:** 589498-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 13:26 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.680	30.000	96	75-125	

Lab Batch #: 833178 **Sample:** 397724-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 14:36 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.470	30.000	95	75-125	

Lab Batch #: 833178 **Sample:** 397811-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 16:34 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.610	30.000	105	75-125	

Lab Batch #: 833196 **Sample:** 589514-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 11:52 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.4	30.0	91	75-125	

* 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.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 397811,

Project ID: 2008-113

Lab Batch #: 833196 **Sample:** 589514-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 12:39

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.4	30.0	91	75-125	

Lab Batch #: 833196 **Sample:** 397724-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 14:36

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.5	30.0	95	75-125	

Lab Batch #: 833196 **Sample:** 397811-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/22/10 16:34

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.6	30.0	105	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 397811 **Project ID:** 2008-113

Lab Batch #: 833178 **Sample:** 589498-1-BKS **Matrix:** Air

Date Analyzed: 11/22/2010 **Date Prepared:** 11/22/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	10.000	8.3500	84	75-125	
Toluene	ND	10.000	7.5100	75	70-125	
Ethylbenzene	ND	10.000	7.7000	77	71-129	
m,p-Xylenes	ND	20.000	15.230	76	70-131	
o-Xylene	ND	10.000	8.2000	82	71-133	

Lab Batch #: 833196 **Sample:** 589514-1-BKS **Matrix:** Air

Date Analyzed: 11/22/2010 **Date Prepared:** 11/22/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	ND	500	420	84	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 397811

Lab Batch #: 833178 **Project ID:** 2008-113

Date Analyzed: 11/22/2010 **Date Prepared:** 11/22/2010 **Analyst:** JUJ

QC- Sample ID: 397724-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	ND	ND	NC	35	
Toluene	ND	ND	NC	35	
Ethylbenzene	ND	ND	NC	35	
m,p-Xylenes	ND	ND	NC	35	
o-Xylene	ND	ND	NC	35	

Lab Batch #: 833196

Date Analyzed: 11/22/2010 **Date Prepared:** 11/22/2010 **Analyst:** JUJ

QC- Sample ID: 397724-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	ND	ND	NC	30	

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

BRL - Below Reporting Limit

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben Arguijo

Company Name: Basin Environmental Services Technologies

Company Address: P. O. Box 3011

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (505) 396-1429

Sampler Signature:

e-mail: pm@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 397811

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Soil; NP = Non-Potable Specify Oth	Analyze For: TCLP: TPH: 418.1 / 8015M	TOTAL: TPH: 418.1 / 8015M / 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-5			18-Nov-10	1000		1							X		Air	x									x				X

Special Instructions:

Laboratory Comments:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N NA
Labels on container(s) Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered by Sampler/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star
Tech Air Bag
Temperature Upon Receipt: Amb. °C

	Date	Time		Date	Time
Relinquished by:	11/18/10	1215	Received by:	11/18/10	12:15
Relinquished by:	11/18/10	4:00	Received by:		
Relinquished by:			Received by ELOT: Andrea Elam	11-18-10	16:00

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains

Date/Time: 11.18.10 16 00

Lab ID # : 397811

Initials: AC

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs Amb °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 400068

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

14-DEC-10

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

14-DEC-10

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

Reference: XENCO Report No: **400068**
EK Queen Pearce
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 400068. 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. 400068 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

Sample Cross Reference 400068

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-6	A	Dec-09-10 12:00		400068-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*14-DEC-10*
Work Order Number:	*400068*	*Date Received:*	*12/09/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 400068

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Dec-09-10 04:00 pm
Report Date: 14-DEC-10
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	400068-001					
	Field Id:	SVE Discharge-6					
	Depth:						
	Matrix:	AIR					
	Sampled:	Dec-09-10 12:00					
BTEX by EPA 8021 SUB: T104704215-TX	***Extracted:***	Dec-10-10 13:59					
	Analyzed:	Dec-10-10 13:59					
	Units/RL:	ppmv RL					
Benzene		1.0700 1.0000					
Toluene		17.880 1.0000					
Ethylbenzene		12.370 1.0000					
m,p-Xylenes		12.480 2.0000					
o-Xylene		5.6500 1.0000					
Total Xylenes		18.130 1.0000					
Total BTEX		49.450 1.0000					
TPH Gasoline Range Organics by SW 8015 SUB: T104704215-TX	***Extracted:***	Dec-10-10 13:59					
	Analyzed:	Dec-10-10 13:59					
	Units/RL:	ppmv RL					
TPH-GRO		432 100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 400068, **Project ID:** 2008-113

Lab Batch #: 835596 **Sample:** 591072-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 12:25

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.440	30.000	91	75-125	

Lab Batch #: 835596 **Sample:** 591072-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 13:12

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.680	30.000	92	75-125	

Lab Batch #: 835596 **Sample:** 400068-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 13:59

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.390	30.000	91	75-125	

Lab Batch #: 835596 **Sample:** 400068-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 14:22

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.360	30.000	95	75-125	

Lab Batch #: 835600 **Sample:** 591075-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 11:39

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.5	30.0	88	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 400068,

Project ID: 2008-113

Lab Batch #: 835600 **Sample:** 591075-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 12:25

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.4	30.0	91	75-125	

Lab Batch #: 835600 **Sample:** 400068-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 13:59

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.4	30.0	91	75-125	

Lab Batch #: 835600 **Sample:** 400068-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/10/10 14:22

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.4	30.0	95	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 400068 **Project ID:** 2008-113

Lab Batch #: 835596 **Sample:** 591072-1-BKS **Matrix:** Air

Date Analyzed: 12/10/2010 **Date Prepared:** 12/10/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	10.000	9.8300	98	75-125	
Toluene	ND	10.000	9.5100	95	70-125	
Ethylbenzene	ND	10.000	9.5300	95	71-129	
m,p-Xylenes	ND	20.000	18.330	92	70-131	
o-Xylene	ND	10.000	9.7400	97	71-133	

Lab Batch #: 835600 **Sample:** 591075-1-BKS **Matrix:** Air

Date Analyzed: 12/10/2010 **Date Prepared:** 12/10/2010 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	ND	500	443	89	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 400068

Lab Batch #: 835596 **Project ID:** 2008-113

Date Analyzed: 12/10/2010 14:22 **Date Prepared:** 12/10/2010 **Analyst:** JUJ

QC- Sample ID: 400068-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	1.0700	1.1000	3	35	
Toluene	17.880	19.040	6	35	
Ethylbenzene	12.370	12.630	2	35	
m,p-Xylenes	12.480	13.310	6	35	
o-Xylene	5.6500	6.1100	8	35	

Lab Batch #: 835600

Date Analyzed: 12/10/2010 14:22 **Date Prepared:** 12/10/2010 **Analyst:** JUJ

QC- Sample ID: 400068-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	432	442	2	30	

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

BRL - Below Reporting Limit

Analytical Report 404999

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

02-FEB-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

02-FEB-11

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

Reference: XENCO Report No: **404999**
EK Queen Pearce
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 404999. 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. 404999 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

Sample Cross Reference 404999

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge - 7	A	Jan-27-11 13:30		404999-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*02-FEB-11*
Work Order Number:	*404999*	*Date Received:*	*01/27/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 404999

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Jan-27-11 04:30 pm
Report Date: 02-FEB-11
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	404999-001					
	Field Id:	SVE Discharge - 7					
	Depth:						
	Matrix:	AIR					
	Sampled:	Jan-27-11 13:30					
BTEX by EPA 8021 SUB: T104704215-TX	***Extracted:***	Jan-31-11 15:29					
	Analyzed:	Jan-31-11 15:29					
	Units/RL:	ppmv RL					
Benzene		ND 1.0000					
Toluene		10.200 1.0000					
Ethylbenzene		8.7500 1.0000					
m,p-Xylenes		8.6700 2.0000					
o-Xylene		3.5700 1.0000					
Total Xylenes		12.240 1.0000					
Total BTEX		31.190 1.0000					
TPH Gasoline Range Organics by SW 8015 SUB: T104704215-TX	***Extracted:***	Jan-31-11 15:29					
	Analyzed:	Jan-31-11 15:29					
	Units/RL:	ppmv RL					
TPH-GRO		284 100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 404999, **Project ID:** 2008-113

Lab Batch #: 841933 **Sample:** 594630-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 13:55 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.200	30.000	107	75-125	

Lab Batch #: 841933 **Sample:** 594630-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 14:19 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.070	30.000	110	75-125	

Lab Batch #: 841933 **Sample:** 404999-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 15:29 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.700	30.000	116	75-125	

Lab Batch #: 841933 **Sample:** 404999-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 15:52 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.980	30.000	110	75-125	

Lab Batch #: 841927 **Sample:** 594629-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 13:09 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.1	30.0	107	75-125	

* 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.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 404999,

Project ID: 2008-113

Lab Batch #: 841927 **Sample:** 594629-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 13:55

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.2	30.0	107	75-125	

Lab Batch #: 841927 **Sample:** 404999-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 15:29

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.7	30.0	116	75-125	

Lab Batch #: 841927 **Sample:** 404999-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/31/11 15:52

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.0	30.0	110	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 404999 **Project ID:** 2008-113

Lab Batch #: 841933 **Sample:** 594630-1-BKS **Matrix:** Air

Date Analyzed: 01/31/2011 **Date Prepared:** 01/31/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.0000	10.000	8.8000	88	75-125	
Toluene	<1.0000	10.000	9.3500	94	70-125	
Ethylbenzene	<1.0000	10.000	10.690	107	71-129	
m,p-Xylenes	<2.0000	20.000	21.890	109	70-131	
o-Xylene	<1.0000	10.000	11.320	113	71-133	

Lab Batch #: 841927 **Sample:** 594629-1-BKS **Matrix:** Air

Date Analyzed: 01/31/2011 **Date Prepared:** 01/31/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	429	86	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 404999

Lab Batch #: 841933 **Project ID:** 2008-113

Date Analyzed: 01/31/2011 15:52 **Date Prepared:** 01/31/2011 **Analyst:** JUJ

QC- Sample ID: 404999-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.0000	<1.0000	NC	35	
Toluene	10.200	10.420	2	35	
Ethylbenzene	8.7500	9.0200	3	35	
m,p-Xylenes	8.6700	8.5400	2	35	
o-Xylene	3.5700	3.6900	3	35	

Lab Batch #: 841927

Date Analyzed: 01/31/2011 15:52 **Date Prepared:** 01/31/2011 **Analyst:** JUJ

QC- Sample ID: 404999-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	284	297	4	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 404999

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge GW = Groundwater S = Soil/Sol NP = Non-Potable Specify Oth	Analyze For: TCLP: TPH: 418.1 / 8015M	TOTAL: TPH: 8015B TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-7			1/27/2011	1330		1							X		Air	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	1/27/2011	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	Date 1.27.11	Time 16:30

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N

by Sampler/Client Rep. ? by Courier? UPS DHL FedEx Lone Star

Tedlar Bag

Temperature Upon Receipt: Amb. °C

Final 1.000

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 12.7.11 16:30
Lab ID #: 404999
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	Amb °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 408105

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

04-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

04-MAR-11

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

Reference: XENCO Report No: **408105**
EK Queen Pearce
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 408105. 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. 408105 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

Sample Cross Reference 408105

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-8	A	Feb-28-11 08:30		408105-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*04-MAR-11*
Work Order Number:	*408105*	*Date Received:*	*02/28/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 408105

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Feb-28-11 02:00 pm
Report Date: 04-MAR-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	408105-001						
	Field Id:	SVE Discharge-8						
	Depth:							
	Matrix:	AIR						
	Sampled:	Feb-28-11 08:30						
BTEX by EPA 8021 SUB: T104704215-TX	***Extracted:***	Mar-01-11 21:29						
	Analyzed:	Mar-01-11 21:29						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		4.21	1.00					
Ethylbenzene		3.76	1.00					
m,p-Xylenes		4.49	2.00					
o-Xylene		1.94	1.00					
Total Xylenes		6.43	1.00					
Total BTEX		14.4	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: T104704215-TX	***Extracted:***	Mar-01-11 21:29						
	Analyzed:	Mar-01-11 21:29						
	Units/RL:	ppmv	RL					
TPH-GRO		124	100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 408105, **Project ID:** 2008-113

Lab Batch #: 845877 **Sample:** 596903-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 16:48 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.0	30.0	97	75-125	

Lab Batch #: 845877 **Sample:** 596903-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 17:35 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.5	30.0	108	75-125	

Lab Batch #: 845877 **Sample:** 408048-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 18:45 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.0	30.0	107	75-125	

Lab Batch #: 845877 **Sample:** 408105-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 21:29 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.9	30.0	113	75-125	

Lab Batch #: 845859 **Sample:** 596895-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 15:15 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.5	30.0	95	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 408105,

Project ID: 2008-113

Lab Batch #: 845859 **Sample:** 596895-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 16:48

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.0	30.0	97	75-125	

Lab Batch #: 845859 **Sample:** 408048-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 18:45

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.0	30.0	107	75-125	

Lab Batch #: 845859 **Sample:** 408105-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/01/11 21:29

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.9	30.0	113	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 408105 **Project ID:** 2008-113

Lab Batch #: 845877 **Sample:** 596903-1-BKS **Matrix:** Air

Date Analyzed: 03/01/2011 **Date Prepared:** 03/01/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	8.76	88	75-125	
Toluene	<1.00	10.0	7.88	79	70-125	
Ethylbenzene	<1.00	10.0	8.39	84	71-129	
m,p-Xylenes	<2.00	20.0	17.3	87	70-131	
o-Xylene	<1.00	10.0	8.10	81	71-133	

Lab Batch #: 845859 **Sample:** 596895-1-BKS **Matrix:** Air

Date Analyzed: 03/01/2011 **Date Prepared:** 03/01/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	404	81	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 408105

Lab Batch #: 845877 **Project ID:** 2008-113

Date Analyzed: 03/01/2011 18:45 **Date Prepared:** 03/01/2011 **Analyst:** JUJ

QC- Sample ID: 408048-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	622	689	10	35	
Toluene	1080	1250	15	35	
Ethylbenzene	158	185	16	35	
m,p-Xylenes	451	538	18	35	
o-Xylene	116	142	20	35	

Lab Batch #: 845859

Date Analyzed: 03/01/2011 18:45 **Date Prepared:** 03/01/2011 **Analyst:** JUJ

QC- Sample ID: 408048-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	20400	22100	8	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: DMA e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 408105

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 8015M	TOTAL: TPH: 418.1	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-8			2/28/2011	3:30		1							X		Air	X										X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
DMA	2-28-11	3:00			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Lisa Murdock	2-28-11	2:00

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N/A
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: Tedlar Bag Amb °C

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Environmental

Date/Time: 2-28-11 2:00

Lab ID #: 408105

Initials: KM

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water) AE	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	Amb °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 412907

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

18-APR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

18-APR-11

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

Reference: XENCO Report No: **412907**
EK Queen Pearce
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 412907. 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. 412907 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

Sample Cross Reference 412907

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-9	A	Apr-12-11 08:30		412907-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*18-APR-11*
Work Order Number:	*412907*	*Date Received:*	*04/12/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 412907

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Tue Apr-12-11 12:07 pm
Report Date: 18-APR-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	412907-001						
	Field Id:	SVE Discharge-9						
	Depth:							
	Matrix:	AIR						
	Sampled:	Apr-12-11 08:30						
BTEX by EPA 8021 SUB: T104704215-TX	***Extracted:***	Apr-14-11 12:26						
	Analyzed:	Apr-14-11 12:26						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		7.69	1.00					
Ethylbenzene		6.31	1.00					
m,p-Xylenes		4.91	2.00					
o-Xylene		2.85	1.00					
Total Xylenes		7.76	1.00					
Total BTEX		21.8	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: T104704215-TX	***Extracted:***	Apr-14-11 12:26						
	Analyzed:	Apr-14-11 12:26						
	Units/RL:	ppmv	RL					
TPH-GRO		186	100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 412907, **Project ID:** 2008-113

Lab Batch #: 852232 **Sample:** 600591-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 12:05 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.0	30.0	93	75-125	

Lab Batch #: 852232 **Sample:** 412907-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 12:26 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	25.5	30.0	85	75-125	

Lab Batch #: 852232 **Sample:** 412907-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 12:46 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.0	30.0	100	75-125	

Lab Batch #: 852232 **Sample:** 600591-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 13:29 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.8	30.0	99	75-125	

Lab Batch #: 852230 **Sample:** 600595-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 11:01 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.8	30.0	96	75-125	

* 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.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 412907,

Project ID: 2008-113

Lab Batch #: 852230 **Sample:** 600595-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 12:05

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.0	30.0	93	75-125	

Lab Batch #: 852230 **Sample:** 412907-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 12:26

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	25.5	30.0	85	75-125	

Lab Batch #: 852230 **Sample:** 412907-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/14/11 12:46

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.0	30.0	100	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 412907 **Project ID:** 2008-113

Lab Batch #: 852232 **Sample:** 600591-1-BKS **Matrix:** Air

Date Analyzed: 04/14/2011 **Date Prepared:** 04/14/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	10.2	102	75-125	
Toluene	<1.00	10.0	9.71	97	70-125	
Ethylbenzene	<1.00	10.0	8.28	83	71-129	
m,p-Xylenes	<2.00	20.0	15.5	78	70-131	
o-Xylene	<1.00	10.0	8.15	82	71-133	

Lab Batch #: 852230 **Sample:** 600595-1-BKS **Matrix:** Air

Date Analyzed: 04/14/2011 **Date Prepared:** 04/14/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	562	112	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 412907

Lab Batch #: 852232 **Project ID:** 2008-113

Date Analyzed: 04/14/2011 12:46 **Date Prepared:** 04/14/2011 **Analyst:** JUJ

QC- Sample ID: 412907-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	
Toluene	7.69	8.71	12	35	
Ethylbenzene	6.31	6.68	6	35	
m,p-Xylenes	4.91	5.21	6	35	
o-Xylene	2.85	2.78	2	35	

Lab Batch #: 852230

Date Analyzed: 04/14/2011 12:46 **Date Prepared:** 04/14/2011 **Analyst:** JUJ

QC- Sample ID: 412907-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	186	182	2	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: DJA e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 412907

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015B	TOTAL: TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-9			4/12/2011	0830		1							X		Air	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
DJA	4-12-11	12:07			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	Date 4-12-11	Time 12:07

Laboratory Comments:

Sample Containers Intact? (Y) N

VOCs Free of Headspace? Y (NA)

Labels on container(s) (Y) N

Custody seals on container(s) Y (N)

Custody seals on cooler(s) Y (N)

Sample Hand Delivered (Y) N

by Sampler/Client Rep. ? (Y) N

by Courier? UPS DHL FedEx Lone Star

Tedlar Bag

Temperature Upon Receipt: Amb. °C

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains

Date/Time: 4.12.11 12:07

Lab ID #: 412907

Initials: AE

Sample Receipt Checklist

	Blue	Water		
1. Samples on ice?			(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.	Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs Amb. °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 416385

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

17-MAY-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

17-MAY-11

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

Reference: XENCO Report No: **416385**
EK Queen Pearce
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 416385. 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. 416385 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

Sample Cross Reference 416385

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-10	A	May-12-11 00:00		416385-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*17-MAY-11*
Work Order Number:	*416385*	*Date Received:*	*05/12/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 416385

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu May-12-11 02:10 pm
Report Date: 17-MAY-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	416385-001						
	Field Id:	SVE Discharge-10						
	Depth:							
	Matrix:	AIR						
	Sampled:	May-12-11 00:00						
BTEX by EPA 8021	***Extracted:***	May-16-11 16:42						
	Analyzed:	May-16-11 16:42						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		3.45	1.00					
Ethylbenzene		2.24	1.00					
m,p-Xylenes		ND	2.00					
o-Xylene		ND	1.00					
Total Xylenes		ND	1.00					
Total BTEX		5.69	1.00					
TPH Gasoline Range Organics by SW 8015	***Extracted:***	May-16-11 16:42						
	Analyzed:	May-16-11 16:42						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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

MDL Method Detection Limit

PQL Practical Quantitation Limit

LOD Limit of Detection

LOQ Limit of Quantitation

DL Method Detection Limit

*** Outside XENCO's scope of NELAC Accreditation.**

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 416385, **Project ID:** 2008-113

Lab Batch #: 856281 **Sample:** 602915-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 14:20 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.7	30.0	106	75-125	

Lab Batch #: 856281 **Sample:** 602915-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 15:14 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.7	30.0	99	75-125	

Lab Batch #: 856281 **Sample:** 416081-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 15:58 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.3	30.0	101	75-125	

Lab Batch #: 856281 **Sample:** 416385-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 16:42 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.3	30.0	101	75-125	

Lab Batch #: 856326 **Sample:** 602948-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 13:31 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.1	30.0	100	75-125	

* 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.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 416385,

Project ID: 2008-113

Lab Batch #: 856326 **Sample:** 602948-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 15:14

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.7	30.0	99	75-125	

Lab Batch #: 856326 **Sample:** 416081-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 15:58

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.3	30.0	101	75-125	

Lab Batch #: 856326 **Sample:** 416385-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/16/11 16:42

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.3	30.0	101	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 416385 **Project ID:** 2008-113

Lab Batch #: 856281 **Sample:** 602915-1-BKS **Matrix:** Air

Date Analyzed: 05/16/2011 **Date Prepared:** 05/16/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	9.92	99	75-125	
Toluene	<1.00	10.0	9.82	98	70-125	
Ethylbenzene	<1.00	10.0	8.22	82	71-129	
m,p-Xylenes	<2.00	20.0	14.4	72	70-131	
o-Xylene	<1.00	10.0	8.48	85	71-133	

Lab Batch #: 856326 **Sample:** 602948-1-BKS **Matrix:** Air

Date Analyzed: 05/16/2011 **Date Prepared:** 05/16/2011 **Analyst:** JUJ

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	489	98	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 416385

Lab Batch #: 856281 **Project ID:** 2008-113

Date Analyzed: 05/16/2011 15:58 **Date Prepared:** 05/16/2011 **Analyst:** JUJ

QC- Sample ID: 416081-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	
Toluene	<1.00	<1.00	0	35	
Ethylbenzene	<1.00	<1.00	0	35	
m,p-Xylenes	<2.00	<2.00	0	35	
o-Xylene	<1.00	<1.00	0	35	
Total Xylenes	<2.00	<2.00	0	35	
Total BTEX	<2.00	<2.00	0	35	

Lab Batch #: 856326

Date Analyzed: 05/16/2011 15:58 **Date Prepared:** 05/16/2011 **Analyst:** JUJ

QC- Sample ID: 416081-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<100	<100	0	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Pakotah Ward e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 416385

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TOTAL: TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 X	RCI	Chlonde 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-10			5/12/2011			1							X		Air	X								X				X

Special Instructions: 1410

Relinquished by:	Date	Time	Received by:	Date	Time
Pakotah Ward	5/13/11	1150			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	5-12-11	14:10

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N

by Sampler/Client Rep. ? by Courier? UPS DHL FedEx Lone Star

Tedlar Bag

Temperature Upon Receipt: Amb. °C

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 5.12.11 14:10
Lab ID # : 416385
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs Amb °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 421327

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

01-JUL-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

01-JUL-11

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

Reference: XENCO Report No: **421327**
EK Queen Pearce
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 421327. 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. 421327 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

Sample Cross Reference 421327

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-11	A	Jun-28-11 09:45		421327-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*01-JUL-11*
Work Order Number:	*421327*	*Date Received:*	*06/28/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 421327

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Tue Jun-28-11 02:34 pm
Report Date: 01-JUL-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	421327-001						
	Field Id:	SVE Discharge-11						
	Depth:							
	Matrix:	AIR						
	Sampled:	Jun-28-11 09:45						
BTEX by EPA 8021 SUB: AZ0765	***Extracted:***	Jun-29-11 18:12						
	Analyzed:	Jun-29-11 18:12						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		1.97	1.00					
Ethylbenzene		2.62	1.00					
m,p-Xylenes		2.93	2.00					
o-Xylene		1.31	1.00					
Total Xylenes		4.24	1.00					
Total BTEX		8.83	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: AZ0765	***Extracted:***	Jun-29-11 18:12						
	Analyzed:	Jun-29-11 18:12						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	100					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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

MDL Method Detection Limit

PQL Practical Quantitation Limit

LOD Limit of Detection

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 421327,

Project ID: 2008-113

Lab Batch #: 862197 **Sample:** 606898-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 13:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.8	30.0	93	75-125	

Lab Batch #: 862197 **Sample:** 606898-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 14:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.5	30.0	102	75-125	

Lab Batch #: 862197 **Sample:** 421190-004 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 17:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.0	30.0	90	75-125	

Lab Batch #: 862197 **Sample:** 421327-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 18:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.8	30.0	103	75-125	

Lab Batch #: 862184 **Sample:** 606892-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 12:38

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.1	30.0	90	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 421327,

Project ID: 2008-113

Lab Batch #: 862184 **Sample:** 606892-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 14:09

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.5	30.0	102	75-125	

Lab Batch #: 862184 **Sample:** 421189-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 15:15

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.9	30.0	90	75-125	

Lab Batch #: 862184 **Sample:** 421327-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/29/11 18:12

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.8	30.0	103	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 421327 **Project ID:** 2008-113

Lab Batch #: 862197 **Sample:** 606898-1-BKS **Matrix:** Air

Date Analyzed: 06/29/2011 **Date Prepared:** 06/29/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	8.22	82	75-125	
Toluene	<1.00	10.0	7.65	77	70-125	
Ethylbenzene	<1.00	10.0	7.77	78	71-129	
m,p-Xylenes	<2.00	20.0	15.2	76	70-131	
o-Xylene	<1.00	10.0	7.15	72	71-133	

Lab Batch #: 862184 **Sample:** 606892-1-BKS **Matrix:** Air

Date Analyzed: 06/29/2011 **Date Prepared:** 06/29/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	392	78	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 421327

Lab Batch #: 862197 **Project ID:** 2008-113

Date Analyzed: 06/29/2011 17:28 **Date Prepared:** 06/29/2011 **Analyst:** BEC

QC- Sample ID: 421190-004 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	
Toluene	1.73	1.72	1	35	
Ethylbenzene	1.17	1.17	0	35	
m,p-Xylenes	3.04	2.64	14	35	
o-Xylene	1.16	1.07	8	35	

Lab Batch #: 862184

Date Analyzed: 06/29/2011 15:15 **Date Prepared:** 06/29/2011 **Analyst:** BEC

QC- Sample ID: 421189-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	1850	2000	8	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Dalcotah Wald e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 421327

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TOTAL: TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-11			6/28/2011	0945		1							X		Air	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by: Dalcotah Wald	Date 6/28	Time 7:34	Received by/ELOT:	Date 6/28	Time 2:34

AH 6/28/11

Laboratory Comments:

Sample Containers Intact? (Y) N
VOCs Free of Headspace? N/A Y N
Labels on container(s) (Y) N
Custody seals on container(s) N/A Y N
Custody seals on cooler(s) N/A Y N
Sample Hand Delivered (Y) N
by Sampler/Client Rep. ? (Y) N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 4°C

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 4/28/11 2:34

Lab ID #: 421327

Initials: HH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	amb °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: send to Xenco-Houston

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 425094

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

15-AUG-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

15-AUG-11

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

Reference: XENCO Report No: **425094**
EK Queen Pearce
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 425094. 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. 425094 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

Sample Cross Reference 425094

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-12	A	08-04-11 09:50		425094-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*15-AUG-11*
Work Order Number:	*425094*	*Date Received:*	*08/04/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 425094

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Aug-04-11 01:39 pm
Report Date: 15-AUG-11
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	425094-001						
	Field Id:	SVE Discharge-12						
	Depth:							
	Matrix:	AIR						
	Sampled:	Aug-04-11 09:50						
BTEX by EPA 8021	***Extracted:***	Aug-05-11 22:02						
	Analyzed:	Aug-05-11 22:02						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		1.01	1.00					
Ethylbenzene		1.35	1.00					
m,p-Xylenes		2.05	2.00					
o-Xylene		ND	1.00					
Total Xylenes		2.05	1.00					
Total BTEX		4.41	1.00					
BTEX by EPA 8021	***Extracted:***	Aug-08-11 14:21						
	Analyzed:	Aug-08-11 14:21						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		1.27	1.00					
Ethylbenzene		1.52	1.00					
m,p-Xylenes		ND	2.00					
o-Xylene		ND	1.00					
Total Xylenes		ND	1.00					
Total BTEX		2.79	1.00					
TPH Gasoline Range Organics by SW 8015	***Extracted:***	Aug-11-11 17:28						
	Analyzed:	Aug-11-11 20:29						
	Units/RL:	ppmv	RL					
TPH-GRO		101	100					

Brent Barron II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 425094, **Project ID:** 2008-113

Lab Batch #: 866697 **Sample:** 425094-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/05/11 22:02

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.0	30.0	97	75-125	

Lab Batch #: 866844 **Sample:** 425094-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/08/11 14:21

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.0	30.0	97	75-125	

Lab Batch #: 867078 **Sample:** 425094-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/11/11 20:29

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.5	30.0	115	75-125	

Lab Batch #: 866697 **Sample:** 609485-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/05/11 17:17

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.0	30.0	97	75-125	

Lab Batch #: 866844 **Sample:** 609619-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/08/11 12:58

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.2	30.0	94	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 425094,

Project ID: 2008-113

Lab Batch #: 867078 **Sample:** 609754-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/11/11 18:18

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.1	30.0	114	75-125	

Lab Batch #: 866697 **Sample:** 609485-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/05/11 16:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.1	30.0	104	75-125	

Lab Batch #: 866844 **Sample:** 609619-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/08/11 12:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.7	30.0	96	75-125	

Lab Batch #: 867078 **Sample:** 609754-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/11/11 17:12

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	35.0	30.0	117	75-125	

Lab Batch #: 866844 **Sample:** 425094-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/08/11 14:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.4	30.0	98	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 425094, **Project ID:** 2008-113

Lab Batch #: 867078 **Sample:** 424771-003 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 08/11/11 20:08

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.8	30.0	103	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 425094 **Project ID:** 2008-113

Lab Batch #: 866697 **Sample:** 609485-1-BKS **Matrix:** Air
Date Analyzed: 08/05/2011 **Date Prepared:** 08/05/2011 **Analyst:** BEC
Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	9.86	99	75-125	
Toluene	<1.00	10.0	10.1	101	70-125	
Ethylbenzene	<1.00	10.0	11.5	115	71-129	
m,p-Xylenes	<2.00	20.0	23.2	116	70-131	
o-Xylene	<1.00	10.0	11.0	110	71-133	

Lab Batch #: 866844 **Sample:** 609619-1-BKS **Matrix:** Air
Date Analyzed: 08/08/2011 **Date Prepared:** 08/08/2011 **Analyst:** BEC
Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	10.6	106	75-125	
Toluene	<1.00	10.0	10.4	104	70-125	
Ethylbenzene	<1.00	10.0	11.6	116	71-129	
m,p-Xylenes	<2.00	20.0	22.2	111	70-131	
o-Xylene	<1.00	10.0	11.0	110	71-133	

Lab Batch #: 867078 **Sample:** 609754-1-BKS **Matrix:** Air
Date Analyzed: 08/11/2011 **Date Prepared:** 08/11/2011 **Analyst:** ROL
Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	512	102	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 425094

Lab Batch #: 866844 **Project ID:** 2008-113

Date Analyzed: 08/08/2011 14:44 **Date Prepared:** 08/08/2011 **Analyst:** BEC

QC- Sample ID: 425094-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	
Toluene	1.27	1.32	4	35	
Ethylbenzene	1.52	1.75	14	35	
m,p-Xylenes	<2.00	<2.00	0	35	
o-Xylene	<1.00	<1.00	0	35	

Lab Batch #: 867078

Date Analyzed: 08/11/2011 20:08 **Date Prepared:** 08/11/2011 **Analyst:** ROL

QC- Sample ID: 424771-003 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	44800	46800	4	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Dalcenah Wall e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 425094

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-12			8/4/2011	0950		1							X		Air	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by: Dalcenah Wall	Date 8/4/11	Time 1:39	Received by ELOT: A. Hernandez	Date 8/4/11	Time 1:39

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace? N/A	Y	N
Labels on container(s)	(Y)	N
Custody seals on container(s)	Y	(N)
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: Amb °C

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 8/4/11 1:39

Lab ID # : 425094

Initials: TH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	Amb °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: #16) Sub to Xenco Houston

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 427278

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

15-SEP-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

15-SEP-11

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

Reference: XENCO Report No: **427278**
EK Queen Pearce
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 427278. 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. 427278 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

Sample Cross Reference 427278

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge - 13	A	09-08-11 09:25		427278-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*15-SEP-11*
Work Order Number:	*427278*	*Date Received:*	*09/08/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 427278

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Sep-08-11 01:30 pm
Report Date: 15-SEP-11
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	427278-001						
	Field Id:	SVE Discharge - 13						
	Depth:							
	Matrix:	AIR						
	Sampled:	Sep-08-11 09:25						
BTEX by EPA 8021 SUB: E871002	***Extracted:***	Sep-12-11 00:13						
	Analyzed:	Sep-12-11 00:13						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		1.75	1.00					
Ethylbenzene		2.00	1.00					
m,p-Xylenes		ND	2.00					
o-Xylene		ND	1.00					
a,a,a-Trifluorotoluene		30.0						
Total Xylenes		ND	1.00					
Total BTEX		3.75	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: E871002	***Extracted:***	Sep-09-11 19:17						
	Analyzed:	Sep-09-11 19:17						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	100					

Brent Barron II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 427278, **Project ID:** 2008-113

Lab Batch #: 869677 **Sample:** 427278-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/09/11 19:17

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.0	30.0	87	75-125	

Lab Batch #: 869673 **Sample:** 427278-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/12/11 00:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.5	30.0	112	75-125	

Lab Batch #: 869677 **Sample:** 611204-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/09/11 12:33

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.0	30.0	87	75-125	

Lab Batch #: 869673 **Sample:** 611203-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/11/11 17:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.2	30.0	107	75-125	

Lab Batch #: 869677 **Sample:** 611204-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/09/11 11:45

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.3	30.0	88	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 427278, **Project ID:** 2008-113

Lab Batch #: 869673 **Sample:** 611203-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/11/11 16:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.7	30.0	116	75-125	

Lab Batch #: 869677 **Sample:** 427052-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/09/11 13:20

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	26.4	30.0	88	75-125	

Lab Batch #: 869673 **Sample:** 427247-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 09/11/11 22:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	33.2	30.0	111	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 427278 **Project ID:** 2008-113

Lab Batch #: 869673 **Sample:** 611203-1-BKS **Matrix:** Air

Date Analyzed: 09/11/2011 **Date Prepared:** 09/11/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	9.23	92	75-125	
Toluene	<1.00	10.0	10.3	103	70-125	
Ethylbenzene	<1.00	10.0	11.8	118	71-129	
m,p-Xylenes	<2.00	20.0	21.3	107	70-131	
o-Xylene	<1.00	10.0	10.7	107	71-133	

Lab Batch #: 869677 **Sample:** 611204-1-BKS **Matrix:** Air

Date Analyzed: 09/09/2011 **Date Prepared:** 09/09/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	439	88	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 427278

Lab Batch #: 869673 **Project ID:** 2008-113

Date Analyzed: 09/11/2011 22:43 **Date Prepared:** 09/11/2011 **Analyst:** BEC

QC- Sample ID: 427247-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	
Toluene	<1.00	<1.00	0	35	
Ethylbenzene	<1.00	<1.00	0	35	
m,p-Xylenes	<2.00	<2.00	0	35	
o-Xylene	<1.00	<1.00	0	35	

Lab Batch #: 869677

Date Analyzed: 09/09/2011 13:20 **Date Prepared:** 09/09/2011 **Analyst:** BEC

QC- Sample ID: 427052-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	8830	8960	1	30	

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Dakotah Ward

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 427278

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Soil	NP=Non-Potable Specify Oth	Analyze For: TCLP: TPH: 418.1 / 8015M	TOTAL: TPH: TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
001	SVE Discharge-13			9/8/2011	0935		1							X		Air			X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Dakotah Ward	9/8/11	1730			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	Date 9.8.11	Time 13:30

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	Y	(N)
Labels on container(s)	Y	(N)
Custody seals on container(s)	Y	(N)
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star (Ted Lar Bag)

Temperature Upon Receipt: Amb. °C

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 9/8/11 13:30

Lab ID # : 427278

Initials: RE

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	(cnd) °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.

☐ Initial and Backup Temperature confirm out of temperature conditions

☐ Client understands and would like to proceed with analysis

Analytical Report 429240

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

14-OCT-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

14-OCT-11

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

Reference: XENCO Report No: **429240**
EK Queen Pearce
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 429240. 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. 429240 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

Sample Cross Reference 429240

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-14	A	10-10-11 10:30		429240-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*14-OCT-11*
Work Order Number:	*429240*	*Date Received:*	*10/10/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 429240

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Oct-10-11 02:40 pm
Report Date: 14-OCT-11
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	429240-001						
	Field Id:	SVE Discharge-14						
	Depth:							
	Matrix:	AIR						
	Sampled:	Oct-10-11 10:30						
BTEX by EPA 8021 SUB: E871002	***Extracted:***	Oct-11-11 15:03						
	Analyzed:	Oct-11-11 15:03						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		1.88	1.00					
Ethylbenzene		2.45	1.00					
m,p-Xylenes		2.82	2.00					
o-Xylene		4.78	1.00					
Total Xylenes		7.60	1.00					
Total BTEX		11.9	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: E871002	***Extracted:***	Oct-11-11 15:03						
	Analyzed:	Oct-11-11 15:03						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	100					

Brent Barron II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 429240, **Project ID:** 2008-113

Lab Batch #: 872278 **Sample:** 429240-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 15:03 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.3	30.0	104	75-125	

Lab Batch #: 872280 **Sample:** 429240-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 15:03 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.3	30.0	104	75-125	

Lab Batch #: 872278 **Sample:** 612656-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 14:41 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.8	30.0	96	75-125	

Lab Batch #: 872280 **Sample:** 612660-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 14:41 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.8	30.0	96	75-125	

Lab Batch #: 872280 **Sample:** 612660-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 12:06 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.3	30.0	98	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 429240, **Project ID:** 2008-113

Lab Batch #: 872278 **Sample:** 612656-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 13:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.6	30.0	99	75-125	

Lab Batch #: 872278 **Sample:** 429145-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 15:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	30.5	30.0	102	75-125	

Lab Batch #: 872280 **Sample:** 429240-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/11/11 17:59

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.9	30.0	100	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 429240 **Project ID:** 2008-113

Lab Batch #: 872278 **Sample:** 612656-1-BKS **Matrix:** Air

Date Analyzed: 10/11/2011 **Date Prepared:** 10/11/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	8.21	82	75-125	
Toluene	<1.00	10.0	7.90	79	70-125	
Ethylbenzene	<1.00	10.0	7.89	79	71-129	
m,p-Xylenes	<2.00	20.0	16.5	83	70-131	
o-Xylene	<1.00	10.0	9.36	94	71-133	

Lab Batch #: 872280 **Sample:** 612660-1-BKS **Matrix:** Air

Date Analyzed: 10/11/2011 **Date Prepared:** 10/11/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	563	113	71-130	

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

BRL - Below Reporting Limit

Final 1.000

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 429240

Lab Batch #: 872278 **Project ID:** 2008-113

Date Analyzed: 10/11/2011 15:46 **Date Prepared:** 10/11/2011 **Analyst:** BEC

QC- Sample ID: 429145-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	U
Toluene	<1.00	<1.00	0	35	U
Ethylbenzene	<1.00	<1.00	0	35	U
m,p-Xylenes	<2.00	<2.00	0	35	U
o-Xylene	<1.00	<1.00	0	35	U

Lab Batch #: 872280

Date Analyzed: 10/11/2011 17:59 **Date Prepared:** 10/11/2011 **Analyst:** BEC

QC- Sample ID: 429240-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<100	<100	0	30	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Dakotah Ward e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 429240

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Soil; NP = Non-Potable Specify Other	Analyze For: TCLP:	TOTAL:	TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300					RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
																		X								X									
001	SVE Discharge-14			10/10/2011	1010		1							X		Air		X								X									X

Special Instructions:

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? N/A Y N
Labels on container(s) (Y) N
Custody seals on container(s) Y (N)
Custody seals on cooler(s) (Y) N
Sample Hand Delivered (Y) N
by Sampler/Client Rep. ? (Y)
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: rm 6 °C

Relinquished by:	Date	Time	Received by:	Date	Time
Dakotah Ward	10/10/11	1440			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			A. Hernandez	10/10/11	14:40

Courier: fedex

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 10/10/11 14:40

Lab ID #: 429240

Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	(Ambient) °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 432430

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

07-DEC-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

07-DEC-11

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

Reference: XENCO Report No: **432430**
EK Queen Pearce
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 432430. 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. 432430 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

Sample Cross Reference 432430

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-15	A	11-30-11 10:10		432430-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*07-DEC-11*
Work Order Number:	*432430*	*Date Received:*	*11/30/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 432430

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Nov-30-11 02:37 pm
Report Date: 07-DEC-11
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	432430-001						
	Field Id:	SVE Discharge-15						
	Depth:							
	Matrix:	AIR						
	Sampled:	Nov-30-11 10:10						
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	Dec-03-11 16:37						
	Analyzed:	Dec-03-11 16:37						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		1.12	1.00					
Ethylbenzene		1.28	1.00					
m,p-Xylenes		ND	2.00					
o-Xylene		ND	1.00					
Total Xylenes		ND	1.00					
Total BTEX		2.40	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	Dec-03-11 16:37						
	Analyzed:	Dec-03-11 16:37						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	100					

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 432430, **Project ID:** 2008-113

Lab Batch #: 876230 **Sample:** 432430-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 16:37 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.3	30.0	108	75-125	

Lab Batch #: 876238 **Sample:** 432430-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 16:37 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	32.3	30.0	108	75-125	

Lab Batch #: 876230 **Sample:** 614943-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 15:49 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.1	30.0	104	75-125	

Lab Batch #: 876238 **Sample:** 614948-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 15:49 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	31.1	30.0	104	75-125	

Lab Batch #: 876238 **Sample:** 614948-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 13:48 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.3	30.0	98	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 432430, **Project ID:** 2008-113

Lab Batch #: 876230 **Sample:** 614943-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 15:01

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.3	30.0	98	75-125	

Lab Batch #: 876230 **Sample:** 432430-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 17:01

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.6	30.0	92	75-125	

Lab Batch #: 876238 **Sample:** 432430-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/03/11 17:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.6	30.0	92	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 432430 **Project ID:** 2008-113

Lab Batch #: 876238 **Sample:** 614948-1-BKS **Matrix:** Air

Date Analyzed: 12/03/2011 **Date Prepared:** 12/03/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	10.1	101	75-125	
Toluene	<1.00	10.0	9.89	99	70-125	
Ethylbenzene	<1.00	10.0	10.4	104	71-129	
m,p-Xylenes	<2.00	20.0	20.1	101	70-131	
o-Xylene	<1.00	10.0	10.1	101	71-133	

Lab Batch #: 876230 **Sample:** 614943-1-BKS **Matrix:** Air

Date Analyzed: 12/03/2011 **Date Prepared:** 12/03/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	415	83	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 432430

Lab Batch #: 876238 **Project ID:** 2008-113

Date Analyzed: 12/03/2011 17:01 **Date Prepared:** 12/03/2011 **Analyst:** BEC

QC- Sample ID: 432430-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	U
Toluene	1.12	<1.00	NC	35	U
Ethylbenzene	1.28	1.24	3	35	
m,p-Xylenes	<2.00	<2.00	0	35	U
o-Xylene	<1.00	<1.00	0	35	U

Lab Batch #: 876230

Date Analyzed: 12/03/2011 17:01 **Date Prepared:** 12/03/2011 **Analyst:** BEC

QC- Sample ID: 432430-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<100	<100	0	30	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Miguel Rivera e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 432430

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
																	TCLP:								TOTAL:				
																	8015B	TX 1006							X				
01	SVE Discharge-15			11/30/2011	10:10		1							X		Air	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Miguel Rivera	11/30/11	14:37			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				11/30/11	14:37

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4°C

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains

Date/Time: 11.30.11 14:37

Lab ID # : 432430

Initials: TB

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	(amb) °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 433351

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

20-DEC-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

20-DEC-11

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

Reference: XENCO Report No: **433351**
EK Queen Pearce
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 433351. 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. 433351 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

Sample Cross Reference 433351

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-16	A	12-14-11 00:00		433351-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*20-DEC-11*
Work Order Number:	*433351*	*Date Received:*	*12/14/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 433351

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Dec-14-11 04:15 pm
Report Date: 20-DEC-11
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	433351-001						
	Field Id:	SVE Discharge-16						
	Depth:							
	Matrix:	AIR						
	Sampled:	Dec-14-11 00:00						
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	Dec-16-11 14:20						
	Analyzed:	Dec-16-11 14:20						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		ND	1.00					
Ethylbenzene		1.00	1.00					
m,p-Xylenes		ND	2.00					
o-Xylene		ND	1.00					
Total Xylenes		ND	1.00					
Total BTEX		1.00	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	Dec-16-11 14:20						
	Analyzed:	Dec-16-11 14:20						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	100					

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 433351, **Project ID:** 2008-113

Lab Batch #: 877300 **Sample:** 433351-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 14:20 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.9	30.0	93	75-125	

Lab Batch #: 877303 **Sample:** 433351-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 14:20 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.9	30.0	93	75-125	

Lab Batch #: 877300 **Sample:** 615567-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 13:53 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.3	30.0	98	75-125	

Lab Batch #: 877303 **Sample:** 615574-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 13:53 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.3	30.0	98	75-125	

Lab Batch #: 877300 **Sample:** 615567-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 11:38 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	27.1	30.0	90	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 433351,

Project ID: 2008-113

Lab Batch #: 877303 **Sample:** 615574-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 12:55

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	29.1	30.0	97	75-125	

Lab Batch #: 877300 **Sample:** 433351-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 14:44

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.0	30.0	93	75-125	

Lab Batch #: 877303 **Sample:** 433351-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 12/16/11 14:44

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	28.0	30.0	93	75-125	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 433351 **Project ID:** 2008-113

Lab Batch #: 877303 **Sample:** 615574-1-BKS **Matrix:** Air

Date Analyzed: 12/16/2011 **Date Prepared:** 12/16/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	8.37	84	75-125	
Toluene	<1.00	10.0	10.4	104	70-125	
Ethylbenzene	<1.00	10.0	12.0	120	71-129	
m,p-Xylenes	<2.00	20.0	25.3	127	70-131	
o-Xylene	<1.00	10.0	13.0	130	71-133	

Lab Batch #: 877300 **Sample:** 615567-1-BKS **Matrix:** Air

Date Analyzed: 12/16/2011 **Date Prepared:** 12/16/2011 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	388	78	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 433351

Lab Batch #: 877303 **Project ID:** 2008-113

Date Analyzed: 12/16/2011 14:44 **Date Prepared:** 12/16/2011 **Analyst:** BEC

QC- Sample ID: 433351-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	U
Toluene	<1.00	<1.00	0	35	U
Ethylbenzene	1.00	1.07	7	35	
m,p-Xylenes	<2.00	<2.00	0	35	U
o-Xylene	<1.00	<1.00	0	35	U

Lab Batch #: 877300

Date Analyzed: 12/16/2011 14:44 **Date Prepared:** 12/16/2011 **Analyst:** BEC

QC- Sample ID: 433351-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<100	<100	0	30	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Meagan Ramos e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 433351

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Sol; NP = Non-Potable Specify Othe	Analyze For: TCLP: TPH: 418.1 8015M	TOTAL: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-16			12/14/2011			1							X		Air	X									X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Meagan Ramos	12-14-11	16:15			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	Date 12-14-11	Time 16:15

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N NA
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N NA
Custody seals on cooler(s)	Y	N NA
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star Tedlar Bag

Temperature Upon Receipt: Amb. °C

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin / Plains
Date/Time: 12.14.11 16:15
Lab ID # : 433351
Initials: AZ

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	(Amb) °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 434544

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

10-JAN-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

10-JAN-12

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

Reference: XENCO Report No: **434544**
EK Queen Pearce
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 434544. 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. 434544 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

Sample Cross Reference 434544

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-17	A	01-05-12 11:40		434544-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*10-JAN-12*
Work Order Number:	*434544*	*Date Received:*	*01/05/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-878639 TPH Gasoline Range Organics by SW 8015
SW8015GRO

Batch 878639, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 434544-001 D.

Batch: LBA-878640 BTEX by EPA 8021B
SW8021BM

Batch 878640, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 434544-001 D.

Certificate of Analysis Summary 434544

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Jan-05-12 03:10 pm
Report Date: 10-JAN-12
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	434544-001						
	Field Id:	SVE Discharge-17						
	Depth:							
	Matrix:	AIR						
	Sampled:	Jan-05-12 11:40						
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	Jan-06-12 13:18						
	Analyzed:	Jan-06-12 15:55						
	Units/RL:	ppmv	RL					
Benzene		ND	1.00					
Toluene		ND	1.00					
Ethylbenzene		1.18	1.00					
m,p-Xylenes		ND	2.00					
o-Xylene		ND	1.00					
Total Xylenes		ND	1.00					
Total BTEX		1.18	1.00					
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	Jan-06-12 15:55						
	Analyzed:	Jan-06-12 15:55						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	100					

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 434544, **Project ID:** 2008-113

Lab Batch #: 878639 **Sample:** 434544-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 15:55 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.4	30.0	115	75-125	

Lab Batch #: 878640 **Sample:** 434544-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 15:55 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.4	30.0	115	75-125	

Lab Batch #: 878639 **Sample:** 616309-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 13:56 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.8	30.0	116	75-125	

Lab Batch #: 878640 **Sample:** 616311-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 13:56 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	34.8	30.0	116	75-125	

Lab Batch #: 878640 **Sample:** 616311-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 12:14 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	36.1	30.0	120	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 434544,

Project ID: 2008-113

Lab Batch #: 878639 **Sample:** 616309-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 13:02

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	36.1	30.0	120	75-125	

Lab Batch #: 878639 **Sample:** 434544-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 16:19

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	38.2	30.0	127	75-125	**

Lab Batch #: 878640 **Sample:** 434544-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 01/06/12 16:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	38.2	30.0	127	75-125	**

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 434544 **Project ID:** 2008-113

Lab Batch #: 878640 **Sample:** 616311-1-BKS **Matrix:** Air

Date Analyzed: 01/06/2012 **Date Prepared:** 01/06/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<1.00	10.0	9.16	92	75-125	
Toluene	<1.00	10.0	10.3	103	70-125	
Ethylbenzene	<1.00	10.0	11.5	115	71-129	
m,p-Xylenes	<2.00	20.0	23.1	116	70-131	
o-Xylene	<1.00	10.0	12.9	129	71-133	

Lab Batch #: 878639 **Sample:** 616309-1-BKS **Matrix:** Air

Date Analyzed: 01/06/2012 **Date Prepared:** 01/06/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<100	500	373	75	71-130	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 434544

Lab Batch #: 878640 **Project ID:** 2008-113

Date Analyzed: 01/06/2012 16:19 **Date Prepared:** 01/06/2012 **Analyst:** BEC

QC- Sample ID: 434544-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<1.00	<1.00	0	35	U
Toluene	<1.00	<1.00	0	35	U
Ethylbenzene	1.18	1.52	25	35	
m,p-Xylenes	<2.00	<2.00	0	35	U
o-Xylene	<1.00	<1.00	0	35	U

Lab Batch #: 878639

Date Analyzed: 01/06/2012 16:19 **Date Prepared:** 01/06/2012 **Analyst:** BEC

QC- Sample ID: 434544-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<100	<100	0	30	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 061517 434544
434 544

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Sol; NP = Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TCLP: TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
-001	SVE Discharge-17			1/5/2011	1140		1							X		Air	X								X							X

Special Instructions:

Laboratory Comments:

Sample Containers Intact? Y N
VOCs Free of Headspace? N/A Y N
Labels on container(s) Y N
Custody seals on container(s) N N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 3 °C

Relinquished by:	Date	Time	Received by:	Date	Time
Dakota Wells	1/11/12	3:10 p.m.			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			E. Hernandez	1/5/12	3:10

AH 1/5/11

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 1/5/12 3:10

Lab ID # :

Initials: TH

Sample Receipt Checklist

AH 1/5/12

1. Samples on ice?	Blue	(Water)	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	(Amb) °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: Send air to Xenco Houston

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 436510

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

14-FEB-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

14-FEB-12

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

Reference: XENCO Report No: **436510**
EK Queen Pearce
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 436510. 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. 436510 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

Sample Cross Reference 436510

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-18	A	02-07-12 08:55		436510-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*14-FEB-12*
Work Order Number:	*436510*	*Date Received:*	*02/07/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 436510

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Tue Feb-07-12 04:05 pm
Report Date: 14-FEB-12
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	436510-001						
	Field Id:	SVE Discharge-18						
	Depth:							
	Matrix:	AIR						
	Sampled:	Feb-07-12 08:55						
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	Feb-10-12 15:18						
	Analyzed:	Feb-10-12 17:22						
	Units/RL:	ppmv	RL					
Benzene		ND	0.314					
Toluene		0.486	0.265					
Ethylbenzene		0.723	0.230					
m,p-Xylenes		0.425	0.230					
o-Xylene		0.445	0.230					
Total Xylenes		0.870	0.230					
Total BTEX		2.08	0.230					
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	Feb-10-12 15:18						
	Analyzed:	Feb-10-12 17:22						
	Units/RL:	ppmv	RL					
TPH-GRO		36.6	24.5					

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 436510, **Project ID:** 2008-113

Lab Batch #: 881214 **Sample:** 436510-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 17:22

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	46.8	50.0	94	60-140	

Lab Batch #: 881217 **Sample:** 436510-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 17:22

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	46.7	50.0	93	60-140	

Lab Batch #: 881214 **Sample:** 617777-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 15:24

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	46.6	50.0	93	60-140	

Lab Batch #: 881217 **Sample:** 617779-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 15:24

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	46.7	50.0	93	60-140	

Lab Batch #: 881217 **Sample:** 617779-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 13:41

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	48.3	50.0	97	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 436510, **Project ID:** 2008-113

Lab Batch #: 881214 **Sample:** 617777-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 14:39

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	49.1	50.0	98	60-140	

Lab Batch #: 881214 **Sample:** 436510-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 17:44

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	48.6	50.0	97	60-140	

Lab Batch #: 881217 **Sample:** 436510-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/10/12 17:44

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	48.7	50.0	97	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 436510 **Project ID:** 2008-113

Lab Batch #: 881214 **Sample:** 617777-1-BKS **Matrix:** Air

Date Analyzed: 02/10/2012 **Date Prepared:** 02/10/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	25.0	80	60-140	
Toluene	<0.265	26.5	21.0	79	60-140	
Ethylbenzene	<0.230	23.0	18.9	82	60-140	
m,p-Xylenes	<0.230	23.0	18.2	79	60-140	
o-Xylene	<0.230	23.0	18.5	80	60-140	

Lab Batch #: 881217 **Sample:** 617779-1-BKS **Matrix:** Air

Date Analyzed: 02/10/2012 **Date Prepared:** 02/10/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	92.5	76	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 436510

Lab Batch #: 881214 **Project ID:** 2008-113

Date Analyzed: 02/10/2012 17:44 **Date Prepared:** 02/10/2012 **Analyst:** BEC

QC- Sample ID: 436510-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	0.486	0.523	7	35	
Ethylbenzene	0.723	0.765	6	35	
m,p-Xylenes	0.425	0.471	10	35	
o-Xylene	0.445	0.454	2	35	

Lab Batch #: 881217

Date Analyzed: 02/10/2012 17:44 **Date Prepared:** 02/10/2012 **Analyst:** BEC

QC- Sample ID: 436510-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	36.6	37.5	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Miguel Rem e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 436510

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludg; GW = Groundwater S = Soil/Sol; NP = Non-Potable Specify Othe	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
																	TCLP:															
																	TOTAL:								X							
001	SVE Discharge-18			2/7/2012	09:55		1							X		Air	X								X						X	X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Miguel Rem	2/7/12	13:40			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				2/7/12	12:40

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by ~~Sampler/Client Rep.~~ ?	Y	N

~~by Courier?~~ UPS DHL FedEx Lone Star

Temperature Upon Receipt: 20.0 °C

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains

Date/Time: 2.7.12 12:40

Lab ID # : 436510

Initials: BB / AE

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	20 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 437980

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

07-MAR-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), 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-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

07-MAR-12

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

Reference: XENCO Report No: **437980**
EK Queen Pearce
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 437980. 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. 437980 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

Sample Cross Reference 437980

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge - 19	A	03-01-12 09:00		437980-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*07-MAR-12*
Work Order Number:	*437980*	*Date Received:*	*03/01/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 437980

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Mar-01-12 01:15 pm
Report Date: 07-MAR-12
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	437980-001						
	Field Id:	SVE Discharge - 19						
	Depth:							
	Matrix:	AIR						
	Sampled:	Mar-01-12 09:00						
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	Mar-02-12 11:00						
	Analyzed:	Mar-02-12 13:03						
	Units/RL:	ppmv	RL					
Benzene		ND	0.314					
Toluene		0.427	0.265					
Ethylbenzene		0.714	0.230					
m,p-Xylenes		0.442	0.230					
o-Xylene		0.417	0.230					
Total Xylenes		0.859	0.230					
Total BTEX		2.00	0.230					
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	Mar-02-12 11:00						
	Analyzed:	Mar-02-12 13:03						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	24.5					

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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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
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 437980, **Project ID:** 2008-113

Lab Batch #: 882803 **Sample:** 437980-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 13:03 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	47.3	50.0	95	60-140	

Lab Batch #: 882817 **Sample:** 437980-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 13:03 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	47.3	50.0	95	60-140	

Lab Batch #: 882803 **Sample:** 618717-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 12:42 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	49.6	50.0	99	60-140	

Lab Batch #: 882817 **Sample:** 618724-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 12:42 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	49.6	50.0	99	60-140	

Lab Batch #: 882817 **Sample:** 618724-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 11:35 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	49.7	50.0	99	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 437980, **Project ID:** 2008-113

Lab Batch #: 882803 **Sample:** 618717-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 11:57 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	55.7	50.0	111	60-140	

Lab Batch #: 882803 **Sample:** 437980-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 13:26 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.9	50.0	102	60-140	

Lab Batch #: 882817 **Sample:** 437980-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 03/02/12 13:26 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.9	50.0	102	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 437980 **Project ID:** 2008-113

Lab Batch #: 882817 **Sample:** 618724-1-BKS **Matrix:** Air

Date Analyzed: 03/02/2012 **Date Prepared:** 03/02/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	33.7	107	60-140	
Toluene	<0.265	26.5	25.1	95	60-140	
Ethylbenzene	<0.230	23.0	20.4	89	60-140	
m,p-Xylenes	<0.230	23.0	19.3	84	60-140	
o-Xylene	<0.230	23.0	19.5	85	60-140	

Lab Batch #: 882803 **Sample:** 618717-1-BKS **Matrix:** Air

Date Analyzed: 03/02/2012 **Date Prepared:** 03/02/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	113	93	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 437980

Lab Batch #: 882817 **Project ID:** 2008-113

Date Analyzed: 03/02/2012 13:26 **Date Prepared:** 03/02/2012 **Analyst:** BEC

QC- Sample ID: 437980-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	0.427	0.422	1	35	
Ethylbenzene	0.714	0.647	10	35	
m,p-Xylenes	0.442	0.399	10	35	
o-Xylene	0.417	0.376	10	35	

Lab Batch #: 882803

Date Analyzed: 03/02/2012 13:26 **Date Prepared:** 03/02/2012 **Analyst:** BEC

QC- Sample ID: 437980-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<24.5	<24.5	0	35	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Dakotah Ward e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 439980

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M	TOTAL: TPH: 8015B TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
001	SVE Discharge-19			3/1/2012	0900		1							X		Air	X								X				X

Special Instructions:

Laboratory Comments:

Sample Containers Intact? (Y) N

VOCs Free of Headspace? NA Y N

Labels on container(s) (Y) N

Custody seals on container(s) Y (N)

Custody seals on cooler(s) (Y) N

Sample Hand Delivered (Y) N

by Sampler/Client Rep. ? (Y)

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: amb °C

Relinquished by:	Date	Time	Received by:	Date	Time
Dakotah Ward	3/1/12	1315			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			A. Hernandez	3/1/12	13:15

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

AH 3/1/12

Prelogin / Nonconformance Report - Sample Log-In

Client: 3t Plains

Date/Time: 3/1/12 13:15

Lab ID #: 437980

Initials: A H

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	amb °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 440592

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

19-APR-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

19-APR-12

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

Reference: XENCO Report No: **440592**
EK Queen Pearce
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 440592. 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. 440592 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

Sample Cross Reference 440592

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-20	A	04-12-12 08:30		440592-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*19-APR-12*
Work Order Number:	*440592*	*Date Received:*	*04/12/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 440592

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Apr-12-12 02:10 pm
Report Date: 19-APR-12
Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	440592-001						
	Field Id:	SVE Discharge-20						
	Depth:							
	Matrix:	AIR						
	Sampled:	Apr-12-12 08:30						
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	Apr-16-12 14:42						
	Analyzed:	Apr-16-12 18:38						
	Units/RL:	ppmv	RL					
Benzene		ND	0.314					
Toluene		0.281	0.265					
Ethylbenzene		0.468	0.230					
m,p-Xylenes		0.280	0.230					
o-Xylene		0.265	0.230					
Total Xylenes		0.545	0.230					
Total BTEX		1.29	0.230					
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	Apr-17-12 14:08						
	Analyzed:	Apr-17-12 17:00						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	24.5					

Brent Barron II
Odessa Laboratory Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 440592, **Project ID:** 2008-113

Lab Batch #: 886077 **Sample:** 440592-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/16/12 18:38

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	45.3	50.0	91	60-140	

Lab Batch #: 886046 **Sample:** 440592-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/12 17:00

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	49.8	50.0	100	60-140	

Lab Batch #: 886077 **Sample:** 620713-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/16/12 17:27

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	43.4	50.0	87	60-140	

Lab Batch #: 886046 **Sample:** 620697-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/12 14:58

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.5	50.0	101	60-140	

Lab Batch #: 886077 **Sample:** 620713-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/16/12 16:15

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	43.2	50.0	86	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 440592, **Project ID:** 2008-113

Lab Batch #: 886046 **Sample:** 620697-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/12 14:10

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.0	50.0	100	60-140	

Lab Batch #: 886077 **Sample:** 440592-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/16/12 19:01

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	43.4	50.0	87	60-140	

Lab Batch #: 886046 **Sample:** 440592-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/12 17:24

TPH Gasoline Range Organics by SW 8015 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.2	50.0	102	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 440592 **Project ID:** 2008-113

Lab Batch #: 886077 **Sample:** 620713-1-BKS **Matrix:** Air

Date Analyzed: 04/16/2012 **Date Prepared:** 04/16/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	25.9	82	60-140	
Toluene	<0.265	26.5	22.2	84	60-140	
Ethylbenzene	<0.230	23.0	18.9	82	60-140	
m,p-Xylenes	<0.230	23.0	18.1	79	60-140	
o-Xylene	<0.230	23.0	19.2	83	60-140	

Lab Batch #: 886046 **Sample:** 620697-1-BKS **Matrix:** Air

Date Analyzed: 04/17/2012 **Date Prepared:** 04/17/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	120	98	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 440592

Lab Batch #: 886077 **Project ID:** 2008-113

Date Analyzed: 04/16/2012 19:01 **Date Prepared:** 04/16/2012 **Analyst:** BEC

QC- Sample ID: 440592-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	0.281	0.326	15	35	
Ethylbenzene	0.468	0.500	7	35	
m,p-Xylenes	0.280	0.310	10	35	
o-Xylene	0.265	0.316	18	35	

Lab Batch #: 886046

Date Analyzed: 04/17/2012 17:24 **Date Prepared:** 04/17/2012 **Analyst:** BEC

QC- Sample ID: 440592-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<24.5	<24.5	0	35	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 440592

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix (DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other)	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-20			4/12/2012	9:30		1							X		Air	X								X				X

Special Instructions:

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	Y	(N)
Labels on container(s)	(Y)	N
Custody seals on container(s)	Y	(N)
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4 °C

Relinquished by:	Date	Time	Received by:	Date	Time
	4.12.12	2:10			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	4-12-12	14:10

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin / Plains

Date/Time: 4.12.12 14.10

Lab ID # : 440592

Initials: AZ

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	°C	lbs	°C	lbs	°C	lbs	°C	lbs	°C
Cust									

Nonconformance Documentation

Contact: _____ **Contacted by:** _____ **Date/Time:** _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:

- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 441688

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

07-MAY-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

07-MAY-12

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

Reference: XENCO Report No: **441688**
EK Queen Pearce
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 441688. 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. 441688 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 441688

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-21	A	05-02-12 08:45		441688-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*07-MAY-12*
Work Order Number:	*441688*	*Date Received:*	*05/02/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 441688

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed May-02-12 02:06 pm
Report Date: 07-MAY-12
Project Manager: Nicholas Straccione

Analysis Requested								
	Lab Id:	441688-001						
	Field Id:	SVE Discharge-21						
	Depth:							
	Matrix:	AIR						
	Sampled:	May-02-12 08:45						
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	May-03-12 11:58						
	Analyzed:	May-03-12 18:58						
	Units/RL:	ppmv	RL					
Benzene		ND	0.314					
Toluene		1.25	0.265					
Ethylbenzene		0.806	0.230					
m,p-Xylenes		0.667	0.230					
o-Xylene		0.606	0.230					
Total Xylenes		1.27	0.230					
Total BTEX		3.33	0.230					
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	May-03-12 11:58						
	Analyzed:	May-03-12 18:58						
	Units/RL:	ppmv	RL					
TPH-GRO		91.7	24.5					

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 441688, **Project ID:** 2008-113

Lab Batch #: 887204 **Sample:** 441688-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 18:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	48.9	50.0	98	60-140	

Lab Batch #: 887211 **Sample:** 441688-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 18:58

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	48.9	50.0	98	60-140	

Lab Batch #: 887204 **Sample:** 621413-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 13:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	47.9	50.0	96	60-140	

Lab Batch #: 887211 **Sample:** 621427-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 13:25

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	47.9	50.0	96	60-140	

Lab Batch #: 887204 **Sample:** 621413-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 11:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	43.3	50.0	87	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 441688, **Project ID:** 2008-113

Lab Batch #: 887211 **Sample:** 621427-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 12:40 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.3	50.0	103	60-140	

Lab Batch #: 887204 **Sample:** 441712-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 15:16 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.6	50.0	101	60-140	

Lab Batch #: 887211 **Sample:** 441601-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 05/03/12 18:13 **SURROGATE RECOVERY STUDY**

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	49.6	50.0	99	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 441688 **Project ID:** 2008-113

Lab Batch #: 887204 **Sample:** 621413-1-BKS **Matrix:** Air

Date Analyzed: 05/03/2012 **Date Prepared:** 05/03/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	24.6	78	60-140	
Toluene	<0.265	26.5	19.6	74	60-140	
Ethylbenzene	<0.230	23.0	15.6	68	60-140	
m,p-Xylenes	<0.230	23.0	14.3	62	60-140	
o-Xylene	<0.230	23.0	13.8	60	60-140	

Lab Batch #: 887211 **Sample:** 621427-1-BKS **Matrix:** Air

Date Analyzed: 05/03/2012 **Date Prepared:** 05/03/2012 **Analyst:** BEC

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	113	93	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 441688

Lab Batch #: 887204 **Project ID:** 2008-113

Date Analyzed: 05/03/2012 15:16 **Date Prepared:** 05/03/2012 **Analyst:** BEC

QC- Sample ID: 441712-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	239	240	0	35	
Toluene	333	342	3	35	
Ethylbenzene	22.9	22.2	3	35	
m,p-Xylenes	32.3	32.0	1	35	
o-Xylene	19.1	18.8	2	35	

Lab Batch #: 887211

Date Analyzed: 05/03/2012 18:13 **Date Prepared:** 05/03/2012 **Analyst:** BEC

QC- Sample ID: 441601-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	3090	3300	7	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 441688

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 80218/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-21			5/2/2012	8:45		1							X		Air	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	5-2-12	1900			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				5/2/12	14:06

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace? N/A	Y	N
Labels on container(s)	(Y)	N
Custody seals on container(s)	Y	(N)
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: amb °C

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 5/2/12 14:00

Lab ID # : 441688

Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	(nub)°C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 444342

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen Pearce

2008-113

28-JUN-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

28-JUN-12

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

Reference: XENCO Report No: **444342**
EK Queen Pearce
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 444342. 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.

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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,

Nicholas Straccione
Project Manager

Sample Cross Reference 444342

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge 22	A	06-20-12 10:00		444342-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*28-JUN-12*
Work Order Number:	*444342*	*Date Received:*	*06/20/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 444342

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Jun-20-12 02:00 pm
Report Date: 28-JUN-12
Project Manager: Nicholas Straccione

Analysis Requested							
	Lab Id:	444342-001					
	Field Id:	SVE Discharge 22					
	Depth:						
	Matrix:	AIR					
	Sampled:	Jun-20-12 10:00					
BTEX by EPA 8021 SUB: TX104704215	***Extracted:***	Jun-24-12 16:46					
	Analyzed:	Jun-24-12 19:55					
	Units/RL:	ppmv	RL				
Benzene		ND	0.314				
Toluene		0.361	0.265				
Ethylbenzene		0.597	0.230				
m,p-Xylenes		0.394	0.230				
o-Xylene		0.415	0.230				
Total Xylenes		0.809	0.230				
Total BTEX		1.77	0.230				
TPH Gasoline Range Organics by SW 8015 SUB: TX104704215	***Extracted:***	Jun-24-12 16:46					
	Analyzed:	Jun-24-12 19:55					
	Units/RL:	ppmv	RL				
TPH-GRO		ND	24.5				

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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.

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F RPD exceeded lab control limits.

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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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = 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
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 444342,

Project ID: 2008-113

Lab Batch #: 891104 **Sample:** 444342-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 19:55

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	45.8	50.0	92	60-140	

Lab Batch #: 891107 **Sample:** 444342-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 19:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	56.5	50.0	113	60-140	

Lab Batch #: 891104 **Sample:** 623842-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 16:43

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	43.0	50.0	86	60-140	

Lab Batch #: 891107 **Sample:** 623844-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 16:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	53.1	50.0	106	60-140	

Lab Batch #: 891107 **Sample:** 623844-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 14:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	54.4	50.0	109	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 444342,

Project ID: 2008-113

Lab Batch #: 891104 **Sample:** 623842-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 14:33

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	42.3	50.0	85	60-140	

Lab Batch #: 891104 **Sample:** 444252-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 17:42

SURROGATE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	41.8	50.0	84	60-140	

Lab Batch #: 891107 **Sample:** 444252-002 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 06/24/12 17:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.5	50.0	103	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 444342 **Project ID:** 2008-113

Lab Batch #: 891107 **Sample:** 623844-1-BKS **Matrix:** Air

Date Analyzed: 06/24/2012 **Date Prepared:** 06/24/2012 **Analyst:** ROL

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	25.0	80	60-140	
Toluene	<0.265	26.5	20.9	79	60-140	
Ethylbenzene	<0.230	23.0	17.1	74	60-140	
m,p-Xylenes	<0.230	23.0	16.5	72	60-140	
o-Xylene	<0.230	23.0	16.9	73	60-140	

Lab Batch #: 891104 **Sample:** 623842-1-BKS **Matrix:** Air

Date Analyzed: 06/24/2012 **Date Prepared:** 06/24/2012 **Analyst:** ROL

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH Gasoline Range Organics by SW 8015 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	130	107	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 444342

Lab Batch #: 891107 **Project ID:** 2008-113

Date Analyzed: 06/24/2012 17:42 **Date Prepared:** 06/24/2012 **Analyst:** ROL

QC- Sample ID: 444252-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	<0.265	<0.265	0	35	U
Ethylbenzene	<0.230	<0.230	0	35	U
m,p-Xylenes	<0.230	<0.230	0	35	U
o-Xylene	<0.230	<0.230	0	35	U

Lab Batch #: 891104

Date Analyzed: 06/24/2012 17:42 **Date Prepared:** 06/24/2012 **Analyst:** ROL

QC- Sample ID: 444252-002 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH Gasoline Range Organics by SW 8015 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<24.5	<24.5	0	35	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 444342

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 (TCLP: / TOTAL: X)	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	SVE Discharge-22			6/20/2012	1000		1							X		Air	X								X				X

Special Instructions:

1400

Relinquished by:	Date	Time	Received by:	Date	Time
	6-20-12	~~1400~~			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by/ ELOT: Andrea Elorm	Date 6.20.12	Time 14:00

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: RMP °C

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin / Plains

Date/Time: 6.20.12 14:00

Lab ID #: 444342

Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	Yes	No	(None)	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	(Yes)	No	N/A	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 0mh. °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Analytical Report 450830

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijjo

EK Queen Pearce

2008-113

19-OCT-12

Collected By: Client

4143 Greenbriar Dr., Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

19-OCT-12

Project Manager: **Ben Arguijjo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **450830**
EK Queen Pearce
Project Address: Lea County,NM

Ben Arguijjo:

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 450830. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 450830 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 450830

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-23	A	10-15-12 10:45		450830-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*19-OCT-12*
Work Order Number:	*450830*	*Date Received:*	*10/16/2012*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 450830

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijjo
Project Location: Lea County,NM

Date Received in Lab: Tue Oct-16-12 09:00 am
Report Date: 19-OCT-12
Project Manager: Nicholas Straccione

Analysis Requested								
	Lab Id:	450830-001						
	Field Id:	SVE Discharge-23						
	Depth:							
	Matrix:	AIR						
	Sampled:	Oct-15-12 10:45						
BTEX-MTBE by EPA 8021 Mod.	***Extracted:***	Oct-17-12 14:10						
	Analyzed:	Oct-17-12 18:26						
	Units/RL:	ppmv	RL					
Benzene +		BRL	0.314					
Toluene +		0.690	0.265					
Ethylbenzene +		0.650	0.230					
m,p-Xylenes +		0.590	0.230					
o-Xylene +		0.548	0.230					
Total Xylenes +		1.14	0.230					
Total BTEX +		2.48	0.230					
TPH GRO by EPA 8015 Mod.	***Extracted:***	Oct-17-12 14:10						
	Analyzed:	Oct-17-12 18:26						
	Units/RL:	ppmv	RL					
TPH-GRO +		30.6	24.5					

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Certified and approved by numerous States and Agencies.

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Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

	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
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 450830, **Project ID:** 2008-113

Lab Batch #: 899051 **Sample:** 450830-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 18:26

SURROGATE RECOVERY STUDY

BTEX-MTBE by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.2	50.0	100	60-140	

Lab Batch #: 899054 **Sample:** 450830-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 18:26

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.2	50.0	104	60-140	

Lab Batch #: 899051 **Sample:** 628757-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 14:25

SURROGATE RECOVERY STUDY

BTEX-MTBE by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.1	50.0	102	60-140	

Lab Batch #: 899054 **Sample:** 628759-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 14:25

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	53.1	50.0	106	60-140	

Lab Batch #: 899054 **Sample:** 628759-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 11:33

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	54.8	50.0	110	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 450830,

Project ID: 2008-113

Lab Batch #: 899051 **Sample:** 628757-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 12:30

SURROGATE RECOVERY STUDY

BTEX-MTBE by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.0	50.0	102	60-140	

Lab Batch #: 899051 **Sample:** 450830-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 18:49

SURROGATE RECOVERY STUDY

BTEX-MTBE by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.6	50.0	105	60-140	

Lab Batch #: 899054 **Sample:** 450830-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 10/17/12 18:49

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	54.6	50.0	109	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 450830 **Project ID:** 2008-113

Lab Batch #: 899051 **Sample:** 628757-1-BKS **Matrix:** Air

Date Analyzed: 10/17/2012 **Date Prepared:** 10/17/2012 **Analyst:** MCH

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX-MTBE by EPA 8021 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	28.2	90	60-140	
Toluene	<0.265	26.5	20.3	77	60-140	
Ethylbenzene	<0.230	23.0	15.9	69	60-140	
m,p-Xylenes	<0.230	23.0	14.7	64	60-140	
o-Xylene	<0.230	23.0	14.8	64	60-140	

Lab Batch #: 899054 **Sample:** 628759-1-BKS **Matrix:** Air

Date Analyzed: 10/17/2012 **Date Prepared:** 10/17/2012 **Analyst:** MCH

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	122	100	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 450830

Lab Batch #: 899051 **Project ID:** 2008-113

Date Analyzed: 10/17/2012 18:49 **Date Prepared:** 10/17/2012 **Analyst:** MCH

QC- Sample ID: 450830-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX-MTBE by EPA 8021 Mod.	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	0.690	0.337	69	35	F
Ethylbenzene	0.650	0.599	8	35	
m,p-Xylenes	0.590	0.567	4	35	
o-Xylene	0.548	0.509	7	35	

Lab Batch #: 899054

Date Analyzed: 10/17/2012 18:49 **Date Prepared:** 10/17/2012 **Analyst:** MCH

QC- Sample ID: 450830-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH GRO by EPA 8015 Mod.	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	30.6	27.2	12	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

450830-H

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Soil NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 (TCLP: / TOTAL: X)	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	SVE Discharge-23			10.15.12	10:45		1							X		Air	X								X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	10.15.12	12:00		10/15/12	12:05
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				10-16-12	9:00

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: NO ICE °C Air

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Basin Enivronmental Service Technologi

Date/ Time Received: 10/16/2012 09:00:00 AM

Work Order #: 450830

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : r-31

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	20
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**N/A**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**No**
#6 *Custody Seals Signed and dated?	**No**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**N/A**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**N/A**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**N/A**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: tt	PH Device/Lot#:

Checklist completed by: Tanya Torres Date: 10/16/2012

Checklist reviewed by: Date: 10/16/2012

Analytical Report 451989

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

2008-113

13-NOV-12

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

13-NOV-12

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **451989**
EK Queen Pearce
Project Address: Lea County, NM

Ben Arguijo:

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 451989. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 451989 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 451989

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge-24	A	11-05-12 10:00		451989-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen Pearce

Project ID:	*2008-113*	*Report Date:*	*13-NOV-12*
Work Order Number:	*451989*	*Date Received:*	*11/06/2012*

Sample receipt non conformances and comments:

hold for BTEX

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 451989

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Tue Nov-06-12 12:33 pm
Report Date: 13-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested								
	Lab Id:	451989-001						
	Field Id:	SVE Discharge-24						
	Depth:							
	Matrix:	AIR						
	Sampled:	Nov-05-12 10:00						
BTEX by EPA 8021B Mod. SUB: TX104704215	***Extracted:***	Nov-08-12 15:15						
	Analyzed:	Nov-08-12 15:30						
	Units/RL:	ppmv	RL					
Benzene		ND	0.314					
Toluene		ND	0.531					
Ethylbenzene		0.449	0.230					
m,p-Xylenes		0.276	0.230					
o-Xylene		0.283	0.230					
Total Xylenes		0.559	0.230					
Total BTEX		1.01	0.230					
TPH GRO by EPA 8015 Mod. SUB: TX104704215	***Extracted:***	Nov-08-12 15:15						
	Analyzed:	Nov-08-12 15:30						
	Units/RL:	ppmv	RL					
TPH-GRO		ND	24.5					

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 451989, **Project ID:** 2008-113

Lab Batch #: 900626 **Sample:** 451989-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 15:30

BTEX by EPA 8021B Mod.	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.8	50.0	104	75-125	

Lab Batch #: 900627 **Sample:** 451989-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 15:30

TPH GRO by EPA 8015 Mod.	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	53.8	50.0	108	60-140	

Lab Batch #: 900626 **Sample:** 629789-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 14:51

BTEX by EPA 8021B Mod.	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.3	50.0	101	75-125	

Lab Batch #: 900627 **Sample:** 629790-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 14:51

TPH GRO by EPA 8015 Mod.	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.4	50.0	105	60-140	

Lab Batch #: 900626 **Sample:** 629789-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 13:44

BTEX by EPA 8021B Mod.	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.2	50.0	100	75-125	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 451989, **Project ID:** 2008-113

Lab Batch #: 900627 **Sample:** 629790-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 14:06

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.2	50.0	100	60-140	

Lab Batch #: 900626 **Sample:** 451989-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 15:52

BTEX by EPA 8021B Mod. Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.2	50.0	104	75-125	

Lab Batch #: 900627 **Sample:** 451989-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 11/08/12 15:52

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	54.3	50.0	109	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 451989 **Project ID:** 2008-113

Lab Batch #: 900626 **Sample:** 629789-1-BKS **Matrix:** Air

Date Analyzed: 11/08/2012 **Date Prepared:** 11/08/2012 **Analyst:** ZHO

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX by EPA 8021B Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	31.9	102	75-125	
Toluene	<0.531	26.5	30.4	115	70-125	
Ethylbenzene	<0.230	23.0	28.1	122	71-129	
m,p-Xylenes	<0.230	23.0	29.3	127	70-131	
o-Xylene	<0.230	23.0	29.1	127	71-133	

Lab Batch #: 900627 **Sample:** 629790-1-BKS **Matrix:** Air

Date Analyzed: 11/08/2012 **Date Prepared:** 11/08/2012 **Analyst:** ZHO

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TPH GRO by EPA 8015 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	117	96	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 451989

Lab Batch #: 900626 **Project ID:** 2008-113

Date Analyzed: 11/08/2012 15:52 **Date Prepared:** 11/08/2012 **Analyst:** ZHO

QC- Sample ID: 451989-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021B Mod.	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	<0.531	<0.531	0	35	U
Ethylbenzene	0.449	0.408	10	35	
m,p-Xylenes	0.276	0.230	18	35	
o-Xylene	0.283	0.230	21	35	

Lab Batch #: 900627

Date Analyzed: 11/08/2012 15:52 **Date Prepared:** 11/08/2012 **Analyst:** ZHO

QC- Sample ID: 451989-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH GRO by EPA 8015 Mod.	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<24.5	<24.5	0	35	U

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

BRL - Below Reporting Limit

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature:

e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 451989

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge; GW = Groundwater S=Soil/Solid; NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	SVE Discharge-24			11/5/12	10:00		1							X		Air	X								X				X

Special Instructions:

Laboratory Comments:

	Y	N
Sample Containers Intact?		
VOCs Free of Headspace?		
Labels on container(s)		
Custody seals on container(s)		
Custody seals on cooler(s)		
Sample Hand Delivered		
by Sampler/Client Rep. ?		

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: °C

	Date	Time		Date	Time
Relinquished by:	11/5/12	10:45	Received by:	11/5/12	10:50
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	11/6/12	12:33

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/06/2012 12:33:00 PM

Work Order #: 451989

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: _____ Date: _____

Checklist reviewed by: _____ Date: _____

Analytical Report 456696

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Ek Queen Pearce

2008-113

07-FEB-13

Collected By: Client

4143 Greenbriar Dr., Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

07-FEB-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **456696**
Ek Queen Pearce
Project Address: Lea County, NM

Ben Arguijo:

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(s) 456696. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 456696 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 456696

PLAINS ALL AMERICAN EH&S, Midland, TX

Ek Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE-Discharge 25	A	01-29-13 09:00		456696-001

Project ID:	*2008-113*	Report Date:	*07-FEB-13*
Work Order Number(s):	*456696*	Date Received:	*01/30/2013*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 456696

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Ek Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Wed Jan-30-13 10:15 am
Report Date: 07-FEB-13
Project Manager: Nicholas Straccione

Analysis Requested								
	Lab Id:	456696-001						
	Field Id:	SVE-Discharge 25						
	Depth:							
	Matrix:	AIR						
	Sampled:	Jan-29-13 09:00						
BTEX by EPA 8021 Mod.	***Extracted:***	Feb-01-13 19:44						
	Analyzed:	Feb-02-13 01:48						
	Units/RL:	ppmv	RL					
Benzene +		BRL	0.314					
Toluene +		BRL	0.265					
Ethylbenzene +		0.449	0.230					
m,p-Xylenes +		0.321	0.230					
o-Xylene +		0.290	0.230					
Total Xylenes +		0.611	0.230					
Total BTEX +		1.06	0.230					
TPH GRO by EPA 8015 Mod.	***Extracted:***	Feb-01-13 19:44						
	Analyzed:	Feb-02-13 01:48						
	Units/RL:	ppmv	RL					
TPH-GRO +		BRL	24.5					

Nicholas Straccione
Project Manager

Flagging Criteria

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 affect the recovery of the spike concentration. This condition could also affect 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 quantiation limit and above the detection limit.

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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = 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
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Ek Queen Pearce

Work Orders : 456696, **Project ID:** 2008-113

Lab Batch #: 906408 **Sample:** 456696-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/02/13 01:48 **SURROGATE RECOVERY STUDY**

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.8	50.0	102	60-140	

Lab Batch #: 906413 **Sample:** 456696-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/02/13 01:48 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.8	50.0	102	60-140	

Lab Batch #: 906408 **Sample:** 633467-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/02/13 01:26 **SURROGATE RECOVERY STUDY**

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.4	50.0	105	60-140	

Lab Batch #: 906413 **Sample:** 633471-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/02/13 01:26 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.4	50.0	105	60-140	

Lab Batch #: 906413 **Sample:** 633471-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/01/13 23:49 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.2	50.0	104	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: Ek Queen Pearce

Work Orders : 456696, **Project ID:** 2008-113

Lab Batch #: 906408 **Sample:** 633467-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/02/13 00:17

TPH GRO by EPA 8015 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	50.7	50.0	101	60-140	

Lab Batch #: 906408 **Sample:** 456696-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/02/13 02:11

TPH GRO by EPA 8015 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	50.6	50.0	101	60-140	

Lab Batch #: 906413 **Sample:** 456696-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/02/13 02:11

BTEX by EPA 8021 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	50.6	50.0	101	60-140	

* 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.

Blank Spike Recovery

Project Name: Ek Queen Pearce

Work Order #: 456696 **Project ID:** 2008-113

Lab Batch #: 906413 **Sample:** 633471-1-BKS **Matrix:** Air

Date Analyzed: 02/02/2013 **Date Prepared:** 02/01/2013 **Analyst:** ZHO

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX by EPA 8021 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	23.7	75	60-140	
Toluene	<0.265	26.5	19.4	73	60-140	
Ethylbenzene	<0.230	23.0	17.1	74	60-140	
m,p-Xylenes	<0.230	23.0	17.8	77	60-140	
o-Xylene	<0.230	23.0	16.3	71	60-140	

Lab Batch #: 906408 **Sample:** 633467-1-BKS **Matrix:** Air

Date Analyzed: 02/02/2013 **Date Prepared:** 02/01/2013 **Analyst:** ZHO

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TPH GRO by EPA 8015 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	95.1	78	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Ek Queen Pearce

Work Order #: 456696

Lab Batch #: 906413 **Project ID:** 2008-113

Date Analyzed: 02/02/2013 02:11 **Date Prepared:** 02/01/2013 **Analyst:** ZHO

QC- Sample ID: 456696-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Mod. Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	<0.265	<0.265	0	35	U
Ethylbenzene	0.449	0.442	2	35	
m,p-Xylenes	0.321	0.321	0	35	
o-Xylene	0.290	0.341	16	35	

Lab Batch #: 906408

Date Analyzed: 02/02/2013 02:11 **Date Prepared:** 02/01/2013 **Analyst:** ZHO

QC- Sample ID: 456696-001 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH GRO by EPA 8015 Mod. Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<24.5	<24.5	0	35	U

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

BRL - Below Reporting Limit

Xenco Laboratories

4506696-H

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P.O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Sampler Signature: Miguel Rivera e-mail: pm@basinenv.com

Project Name: EK Queen Pearce

Project #: 2008-113

Project Loc: Lea County, NM

PO #: PAA-J. Henry

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Soil	NP=Non-Potable Specify Othe	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	CHLORIDES	Total Dissolved Solids		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	SVE-Discharge 25			1.29.13	09:00		1							X												X							X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Miguel Rivera	1.29.13	09:00	Linda Burton	1/29/13	11:15AM
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				1/30/13	10 15

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL (FedEx) Lone Star

Temperature Upon Receipt: ambient °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 01/30/2013 10:15:00 AM

Work Order #: 456696

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : r-31

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	20
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**No**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**No**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**N/A**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**N/A**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**N/A**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: tt	PH Device/Lot#:

Checklist completed by: Tanya Torres Date: 01/30/2013

Checklist reviewed by: Date: 01/30/2013

Analytical Report 458430

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

EK Queen Pearce

2008-113

06-MAR-13

Collected By: Client

4143 Greenbriar Dr., Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

06-MAR-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **458430**
EK Queen Pearce
Project Address: Lea County, NM

Ben Arguijo:

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(s) 458430. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 458430 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 458430

PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen Pearce

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE Discharge - 26	A	02-27-13 09:15		458430-001

Project ID:	*2008-113*	Report Date:	*06-MAR-13*
Work Order Number(s):	*458430*	Date Received:	*02/28/2013*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 458430

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen Pearce

Project Id: 2008-113
Contact: Ben Arguijo
Project Location: Lea County, NM

Date Received in Lab: Thu Feb-28-13 09:40 am
Report Date: 06-MAR-13
Project Manager: Nicholas Straccione

Analysis Requested								
	Lab Id:	458430-001						
	Field Id:	SVE Discharge - 26						
	Depth:							
	Matrix:	AIR						
	Sampled:	Feb-27-13 09:15						
BTEX by EPA 8021 Mod.	***Extracted:***	Feb-28-13 20:53						
	Analyzed:	Feb-28-13 23:40						
	Units/RL:	ppmv	RL					
Benzene +		BRL	0.314					
Toluene +		BRL	0.265					
Ethylbenzene +		0.251	0.230					
m,p-Xylenes +		BRL	0.230					
o-Xylene +		BRL	0.230					
Total Xylenes +		BRL	0.230					
Total BTEX +		0.251	0.230					
TPH GRO by EPA 8015 Mod.	***Extracted:***	Feb-28-13 20:53						
	Analyzed:	Feb-28-13 23:40						
	Units/RL:	ppmv	RL					
TPH-GRO +		27.3	24.5					

Nicholas Straccione
Project Manager

Flagging Criteria

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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 quantiation limit and above the detection limit.

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.

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PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = 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
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6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 458430, 458430 **Project ID:** 2008-113

Lab Batch #: 908324 **Sample:** 458430-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 23:40

BTEX by EPA 8021 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	51.2	50.0	102	60-140	

Lab Batch #: 908325 **Sample:** 458430-001 / SMP **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 23:40

TPH GRO by EPA 8015 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	53.4	50.0	107	60-140	

Lab Batch #: 908324 **Sample:** 634683-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 18:16

BTEX by EPA 8021 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	52.8	50.0	106	60-140	

Lab Batch #: 908325 **Sample:** 634684-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 18:16

TPH GRO by EPA 8015 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	55.1	50.0	110	60-140	

Lab Batch #: 908324 **Sample:** 634683-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 16:44

BTEX by EPA 8021 Mod.	SURROGATE RECOVERY STUDY				
Analytes	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	53.3	50.0	107	60-140	

* 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.

Form 2 - Surrogate Recoveries

Project Name: EK Queen Pearce

Work Orders : 458430, 458430 **Project ID:** 2008-113

Lab Batch #: 908325 **Sample:** 634684-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 17:07

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	55.5	50.0	111	60-140	

Lab Batch #: 908324 **Sample:** 458384-003 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 19:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	53.0	50.0	106	60-140	

Lab Batch #: 908325 **Sample:** 458384-003 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 02/28/13 19:24

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	55.3	50.0	111	60-140	

* 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.

Blank Spike Recovery

Project Name: EK Queen Pearce

Work Order #: 458430 **Project ID:** 2008-113

Lab Batch #: 908324 **Sample:** 634683-1-BKS **Matrix:** Air

Date Analyzed: 02/28/2013 **Date Prepared:** 02/28/2013 **Analyst:** ZHO

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.314	31.4	23.6	75	60-140	
Toluene	<0.265	26.5	20.3	77	60-140	
Ethylbenzene	<0.230	23.0	18.3	80	60-140	
m,p-Xylenes	<0.230	23.0	18.2	79	60-140	
o-Xylene	<0.230	23.0	17.8	77	60-140	

Lab Batch #: 908325 **Sample:** 634684-1-BKS **Matrix:** Air

Date Analyzed: 02/28/2013 **Date Prepared:** 02/28/2013 **Analyst:** ZHO

Reporting Units: ppmv **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<24.5	122	117	96	60-140	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: EK Queen Pearce

Work Order #: 458430

Lab Batch #: 908324 **Project ID:** 2008-113

Date Analyzed: 02/28/2013 19:24 **Date Prepared:** 02/28/2013 **Analyst:** ZHO

QC- Sample ID: 458384-003 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

BTEX by EPA 8021 Mod. Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	<0.314	<0.314	0	35	U
Toluene	<0.265	<0.265	0	35	U
Ethylbenzene	<0.230	<0.230	0	35	U
m,p-Xylenes	<0.230	<0.230	0	35	U
o-Xylene	<0.230	<0.230	0	35	U

Lab Batch #: 908325

Date Analyzed: 02/28/2013 19:24 **Date Prepared:** 02/28/2013 **Analyst:** ZHO

QC- Sample ID: 458384-003 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppmv

TPH GRO by EPA 8015 Mod. Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TPH-GRO	<24.5	<24.5	0	35	U

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

BRL - Below Reporting Limit

Xenco Laboratories

458430-H

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo
Company Name: Basin Environmental Service Technologies, LLC
Company Address: P. O. Box 301
City/State/Zip: Lovington, NM 88260
Telephone No: (575)396-2378 Fax No: (575) 396-1429
Sampler Signature:
e-mail: bjarguijo@basinenv.com

Project Name: EK Queen Pearce
Project #: 2008-113
Project Loc: Lea County, NM
PO #: PAA-J. Henry
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge; GW = Groundwater S = Soil/Soil; NP = Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TOTAL: TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	Chloride 300				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
	SVE Discharge - 26			2.27.13	09:15		1							X		Air	X								X							X

Special Instructions:

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: Ambient (Airs) °C

	Date	Time		Date	Time
Relinquished by:	2.27.13	~~10:18~~	Received by:	2/27/13	10:20
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	2/28/13	9:40

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/28/2013 09:40:00 AM

Work Order #: 458430

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	20
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**N/A**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**No**
#6 *Custody Seals Signed and dated?	**No**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**N/A**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**N/A**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: fov	PH Device/Lot#:

Checklist completed by: Tanya Torres Date: 02/28/2013

Checklist reviewed by: Date: 02/28/2013

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

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

x Initial Report ☐ Final Report

Name of Company Plains Pipeline	Contact Camille Bryant
Address 3112 W. US Hwy 82, Lovington, NM 88260	Telephone No. 505-441-0965
Facility Name E.K. Queen Pearce 6 Inch	Facility Type 6"Steel Pipeline

Surface Owner SLO	Mineral Owner	Lease No. 30-025-35783

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	16	18S	34E					Lea

Latitude 32° 44' 31.2" **Longitude** 103° 33' 46.6"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 10 barrels	Volume Recovered 0 barrels
Source of Release 6" Steel Pipeline	Date and Hour of Occurrence 05/06/2008 @ 11:00	Date and Hour of Discovery 05/06/2008 @ 11:40
Was Immediate Notice Given? X Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson	
By Whom? Camille Bryant	Date and Hour 05/06/2008 @ 16:[illegible]	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
MAY 6, 2008
HOBBS OCD

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken Internal corrosion of the 6 inch steel pipeline resulted in release of sweet crude oil. The line is a 6-inch steel gathering line that produces approximately 600 barrels of oil per day. The pressure on the line is approximately 90 psi and the gravity of the sweet crude oil is 40. The sweet crude has an H_2S content of <10 ppm. The line is approximately 1 foot bgs at the release point.

Describe Area Affected and Cleanup Action Taken.* The impacted soil was excavated and stockpiled on plastic.

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

Signature: Camille Bryant	OIL CONSERVATION DIVISION
Printed Name: Camille Bryant	Approved by District Supervisor: L Johnson ENVIRONMENTAL ENGINEER
Title: Remediation Coordinator	Approval Date: 5.8.08 Expiration Date: 7.8.08
E-mail Address: cjbryant@paalp.com	Conditions of Approval: Attached ☐ 1RP-1853
Date: 05/08/2008 Phone:505-441-0965	

* Attach Additional Sheets If Necessary

fCOH0812939424