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REMEDIATION SUMMARY AND PROPOSED SOIL CLOSURE STRATEGY

PLAINS PIPELINE, L.P. (231735)
E.K. Queen Pearce 6-Inch
Lea County, New Mexico
Plains SRS # 2008-113
UNIT LTR "O" (SW ¼ /SE ¼), Section 16, Township 18 South, Range 34 East
Latitude 32° 44' 31.2" North, Longitude 103° 33' 46.6" West
NMOCD Reference # 1RP-1853

Prepared For:

Plains Pipeline, L.P.
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May 2009

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TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

INTRODUCTION AND BACKGROUND INFORMATION

Basin Environmental Consulting, LLC (Basin), on behalf of Plains Pipeline, L.P. (Plains), has prepared this Remediation Summary and Proposed Soil Closure Strategy for the release site known as E.K. Queen Pearce 6-Inch (SRS # 2008-113). The legal description of the release site is Unit Letter "O" (SW ¼ SE ¼), 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 State Land Office (ROE-1706). The release site GPS coordinates are 32° 44' 31.2" North and 103° 33' 46.6" West. Please reference Figure 1 for a Site Location Map and Figure 2 for a Site and Sample Location Map. The Release Notification and Corrective Action (Form C-141) is provided as Appendix E.

On May 6, 2008, Plains discovered a crude oil release from a six (6)-inch steel gathering pipeline. The cause of the release was attributed to internal corrosion of the pipeline and was reported to the New Mexico Oil Conservation Division (NMOCD) on May 6, 2008. During initial response activities, Plains installed a temporary pipeline clamp on the pipeline to mitigate the release. Approximately ten (10) barrels of crude oil was released from the pipeline, with no recovery. General photographs of the site are provided as Appendix C.

NMOCD SITE CLASSIFICATION

According to data obtained from the New Mexico Office of the State Engineer (NMOSE), depth to groundwater is estimated to be 110 feet below ground surface (bgs). The depth to groundwater in this area results in a score of zero (0) being assigned to the site based on the NMOCD depth to groundwater criteria.

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

There is a dry playa located less than 200 feet to the south of the release. Based on the NMOCD ranking system twenty (20) points will be assigned to the site as a result of the criteria.

The NMOCD guidelines indicate the E.K. Queen Pearce 6-Inch release site has an initial ranking score of twenty (20). Based on this score, the soil remediation levels for a site with a ranking score of twenty (20) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)
- TPH – 100 mg/Kg (ppm)

On February 25, 2009, the NMOCD Hobbs District Office approved a modified remediation standard of:

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

SUMMARY OF SOIL REMEDIATION ACTIVITIES

On May 15, 2008, following initial response activities, excavation of the hydrocarbon impacted soil began at the site. 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 (17) feet bgs. The analytical results indicated the total petroleum hydrocarbon (TPH) concentration was 24,840 mg/Kg.

On July 25, 2008, four (4) soil borings (SB-1, SB-2, SB-3 and SB-4) were advanced at the release site to vertically investigate the extent of soil impact. Soil boring logs are provided as Appendix A. Soil samples were collected at five (5) foot drilling intervals and field screened using a Photo-Ionization Detector (PID). Selected soil samples were submitted to the laboratory for determination of concentrations of benzene, toluene, ethyl-benzene and xylene (BTEX) and total petroleum hydrocarbon (TPH) using EPA SW-846 8021b and SW-846 8015M, respectively.

Soil boring SB-1 was located southeast of the excavation and was advanced to a total depth of approximately forty (40) feet bgs. The laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory method detection limit (MDL) in the soil sample collected at ten (10), twenty (20), thirty (30) and forty (40) feet bgs, with the exception of the soil sample collected at thirty (30) bgs, which exhibited a TPH concentration of 20 mg/Kg. Table 1 summarizes the Concentrations of Benzene, BTEX and TPH in Soil. Analytical reports are provided as Appendix B.

Soil boring SB-2 was located northwest of the excavation and was advanced to a total depth of approximately thirty (30) feet bgs. The laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL in the soil samples collected at ten (10), twenty (20) and thirty (30) feet bgs.

Soil boring SB-4 was located south of the release point, on the excavation floor at approximately seventeen (17) feet bgs. The soil boring was advanced to a total depth of approximately one hundred (100) feet. Soil samples collected at ten (10), twenty (20), thirty (30), forty (40), fifty (50), sixty (60), seventy (70), eighty (80), ninety (90) and one hundred (100) feet were submitted to the laboratory. The laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL of 0.0011 mg/Kg in the soil samples collected at ninety (90) and one hundred (100) feet to 19.62 mg/Kg in the soil sample collected at ten (10) feet. The laboratory analytical results indicated BTEX constituent concentrations ranged from 0.0071 mg/Kg in the soil sample collected at ninety (90) feet to 701.08 mg/Kg in the soil sample collected at ten (10) feet. The laboratory analytical results indicated TPH concentrations ranged from 76 mg/Kg in the soil sample collected at fifty (50) feet to 85,350 mg/Kg in the soil sample collected at ten (10) feet.

Soil boring SB-4 was advanced from the excavation floor at approximately seventeen (17) feet 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 (117) feet bgs. During the

advancement of the soil boring, groundwater was encountered at approximately ninety three (93) feet drilling depth or approximately one hundred ten (110) feet bgs. A temporary casing was installed in the soil boring to allow a "preliminary" groundwater sample to be collected for analysis. Following the collection of the groundwater sample, the soil boring was plugged with two (2) bags of cement and twenty (20) bags of bentonite, as required by the NMOSE. A description of the analytical results of the collected groundwater sample (Prelim GW) is included in the Summary of Groundwater Remediation Activities below.

On October 23, 2008, eight (8) excavation sidewall soil samples (N-1 S/W, E-1 S/W, W-1 S/W, E-2 S/W, S-1 S/W, N-2 S/W, S-2 S/W and W-2 S/W) were collected and submitted to the laboratory for analysis. The analytical results indicated benzene and BTEX concentrations were less than the appropriate laboratory MDL in soil samples N-1 S/W, E-2 S/W, S-1 S/W, N-2 S/W, S-2 S/W and W-2 S/W. The analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil samples N-1 S/W, S-1 S/W, N-2 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 impacted material was added to the existing stockpile. A total of approximately 8,500 cubic yards of soil was stockpiled on-site pending final disposition.

On January 6 through January 8, 2009, three (3) groundwater monitor wells (MW-1 through MW-3) were installed at the E.K. Queen 6-Inch Pearce release site. The monitor wells were installed to evaluate the status of the underlying groundwater.

Monitor well MW-1 was installed northwest of the release point, to a total depth of approximately one hundred thirty nine (139) feet bgs. Soil samples were collected at five (5) foot drilling intervals and field screened with a PID. Soil samples were submitted to the laboratory from the ten (10), thirty (30), fifty (50), seventy (70), ninety (90), one hundred ten (110) and one hundred twenty seven (127) foot drilling intervals. The analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples, with the exception of the soil samples from one hundred ten (110) and one hundred twenty seven (127) feet bgs, which exhibited TPH concentrations of 36 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 (135) feet bgs. Soil samples were collected at five (5) foot drilling intervals and field screened with a PID. Soil samples were submitted to the laboratory from the ten (10), thirty (30), fifty (50), seventy (70), ninety five (95), one hundred ten (110) and one hundred twenty (120) foot drilling intervals. The analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples.

Monitor well MW-3 was installed east of the release point, to a total depth of approximately one hundred twenty six (126) feet bgs. Soil samples were collected at five (5) foot drilling intervals and field screened with a PID. Soil samples were submitted to the laboratory from the ten (10), thirty-five (35), fifty (50), seventy (70), ninety (90), one hundred ten (110) and one hundred thirteen (113) foot drilling intervals. The analytical results indicated benzene, BTEX and TPH

concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples.

On January 9, 2009, one (1) additional soil boring (SB-5) was advanced on the east end of the excavation floor to further vertically investigate the extent of soil impact. The soil boring was advanced to a total depth of approximately sixty (60) feet bgs. Soil samples were collected at five (5) foot drilling intervals and field screened using a PID. Soil samples were submitted to the laboratory from the ten (10), twenty (20), thirty (30), forty (40), fifty (50) and six (60) foot drilling intervals. The analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples.

On February 25, 2009, the NMOCD Hobbs District Office verbally approved a modified remediation standard of:

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

SUMMARY OF GROUNDWATER REMEDIATION ACTIVITIES

On July 25, 2008, a groundwater sample was collected from the temporary casing installed in soil boring SB-4. The analytical results indicated a benzene concentration of 0.0016 mg/Kg, a toluene concentration of 0.008 mg/Kg, an ethyl-benzene concentration of 0.0074 mg/Kg and a total xylene concentration of 0.014 mg/Kg. Table 2 summarizes the Concentrations of Benzene, BTEX, TPH, Chlorides and Total Dissolved Solids in Groundwater.

Based on the analytical results, the NMOCD-Hobbs District Office requested and Plains concurred with the request, to install three (3) groundwater monitor wells (MW-1 through MW-3) at the release site. A description of the installation of the monitor wells and analytical results of the submitted soil samples is included in the Summary of Soil Remediation Activities above.

No PSH was detected in any of the site monitor wells during the 1st quarter 2009 reporting period.

On January 20, 2009, the site monitor wells (MW-1 through MW-3) were gauged and purged of a minimum of three (3) well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos Pump. Groundwater was allowed to recharge and samples were obtained using disposable Teflon bailers. Water samples were stored in clean, 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 approved disposal in Monument, New Mexico.

Locations of the groundwater monitor wells and the inferred groundwater elevations, which were constructed from the measurements collected during the 1st quarterly sampling event, are depicted on Figures 3, Inferred Groundwater Gradient Map.

The Groundwater Gradient Map indicates a general gradient of approximately 0.0004 feet/foot to the east as measured between groundwater monitor wells MW-1 and MW-3. The corrected

groundwater elevations ranged from 3,907.49 to 3,908.24 feet above mean sea level, in monitor well MW-1 and monitor well MW-3, respectively. Table 3 summarizes Groundwater Elevation Data.

The analytical results of the 1st quarter 2009 groundwater sampling event indicate all BTEX constituent concentrations were less than the laboratory MDL in all three (3) monitor wells. The analytical results indicate chloride concentrations ranged from 126 mg/L in monitor well MW-3 to 206 mg/L in monitor well MW-2. The results further indicate total dissolved solids (TDS) concentrations ranged from 378 mg/L in monitor well MW-3 to 528 mg/L in monitor well MW-1.

Plains will continue groundwater monitoring and sampling through the 4th quarter 2009. Following receipt of the 4th quarter 2009 groundwater sampling results, Plains may request NMOCD approval to plug and abandon the monitor wells (MW-1 through MW-3), if the analytical results indicate groundwater has not been impacted above the NMOCD regulatory standards.

PROPOSED SOIL CLOSURE STRATEGY

Plains proposes the following soil remediation activities designed to progress the E.K. Queen 6-Inch release site toward an NMOCD approved soil closure:

- Plains will mechanically screen the on-site stockpiles to segregate large blocks of caliche from the soil. The large blocks of caliche will be placed in the existing excavation during backfilling activities. Plains proposes to collect a stockpile soil sample for each 500 cubic yards of segregated soil. The soil samples will be submitted to the laboratory and analyzed for concentrations of BTEX using EPA method 8021b and TPH using SW-846 8015M. Provided the analytical results indicate the TPH concentration of the soil sample is less than 5,000 mg/Kg as approved by the NMOCD, the soil will be stockpiled and used as backfill. Should the analytical results indicate the TPH concentration of any of the stockpile soil samples exceed 5,000 mg/Kg, the affected soil will be blended and re-sampled until TPH concentrations are less than 5,000 mg/Kg TPH.

- Plains proposes to install a twenty (20) mil polyurethane liner in the western portion of the excavation. The liner will be cushioned by a six (6) inch layer of sand above and below the liner to protect the liner from damage during excavation backfilling activities. The excavation will be backfilled and compacted in twelve (12) inch lifts. Following backfill activities the surface will be contoured to fit the surrounding topography. Reseeding of the site with vegetation acceptable to the New Mexico State Land Office will take place at the conclusion of the proposed remediation activities.

- On July 25, 2008, Soil boring SB-4 was advanced and the analytical results of collected soil samples indicated an area of impact located between approximately twenty (20) to forty-five (45) feet bgs. Following excavation backfill activities, Plains proposes to install a minimum of seven (7) two (2) inch soil vapor extraction (SVE) wells on ten (10) to twenty-five (25) foot spacing. The initial SVE wells will be located adjacent to and north, south, east and west of soil boring SB-4. Please reference Figure 4, Proposed SVE Well

Location Map. The SVE system utilizes 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 allows volatile organic compounds (VOCs) in the screened intervals to be removed from the affected soil and vented. Plains anticipates the SVE system will operate continuously, ceasing operation for short internals for required maintenance. Technical information, efficiency curves and photographs of the SVE system are provided in Appendix D. The SVE system will be monitored and adjusted as conditions warrant. Emission air samples will be collected and submitted to the laboratory as required by the New Mexico Environmental Department, Air Quality Bureau. When remediation goals have been achieved, Plains proposes to advance soil borings and collect and submit soil samples to the laboratory to confirm the successful remediation of the targeted area of concern. On NMOCD approval, the operation of the SVE system will cease and the SVE wells will be plugged and abandoned.

REPORTING

On completion of the proposed soil closure strategy activities, Plains will submit a Remediation Summary and Soil Closure Request for NMOCD approval. Groundwater monitoring and quarterly sampling will continue until the 4th quarter 2009. If the groundwater analytical results indicate BTEX constituent concentrations are less than the NMOCD regulatory standard, Plains will request NMOCD approval to cease groundwater monitoring and sampling activities. On NMOCD approval, Plains will submit a Site Closure Request and request permission to plug and abandon the on-site monitor wells.

LIMITATIONS

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

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

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

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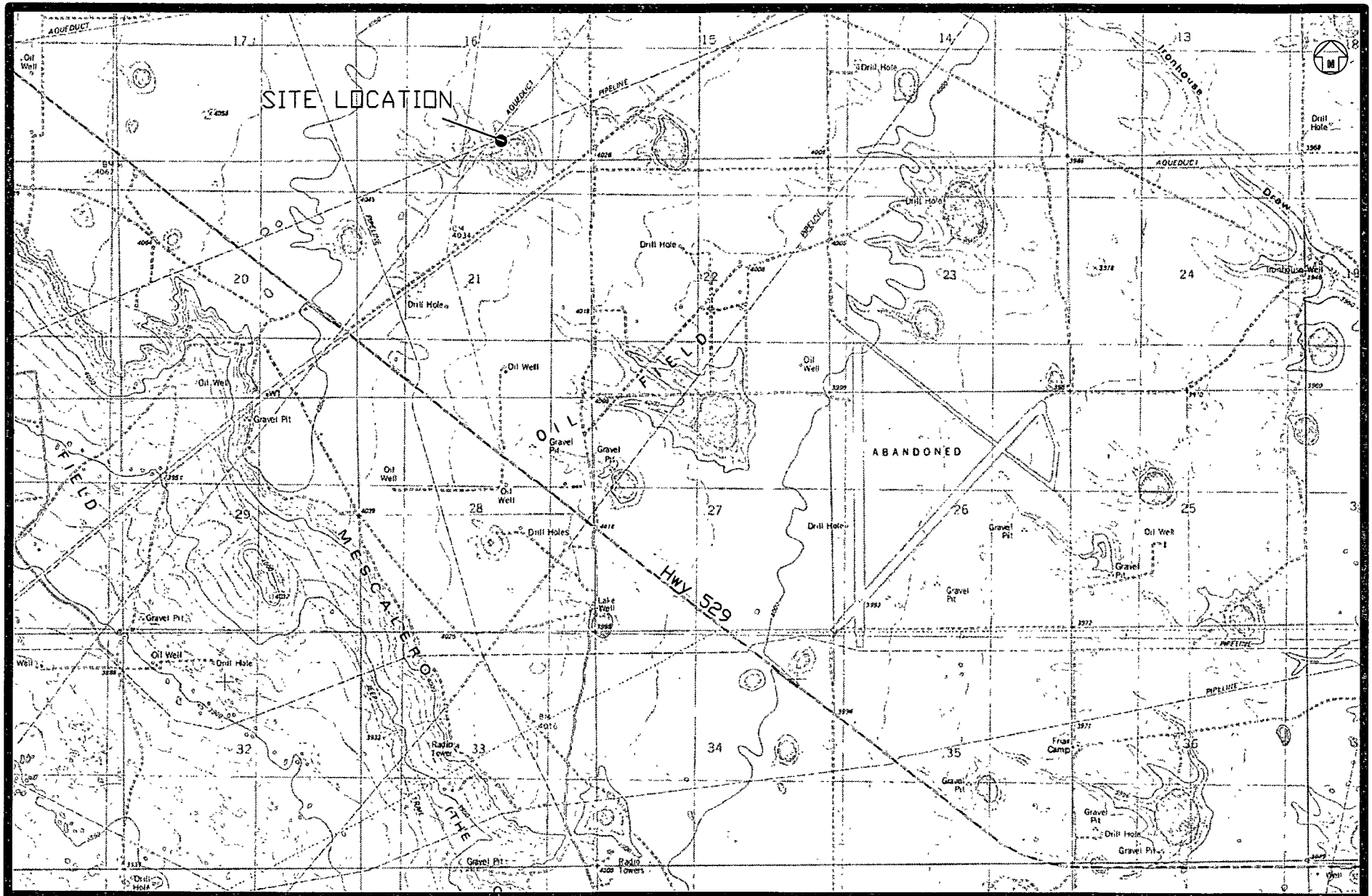
Figures



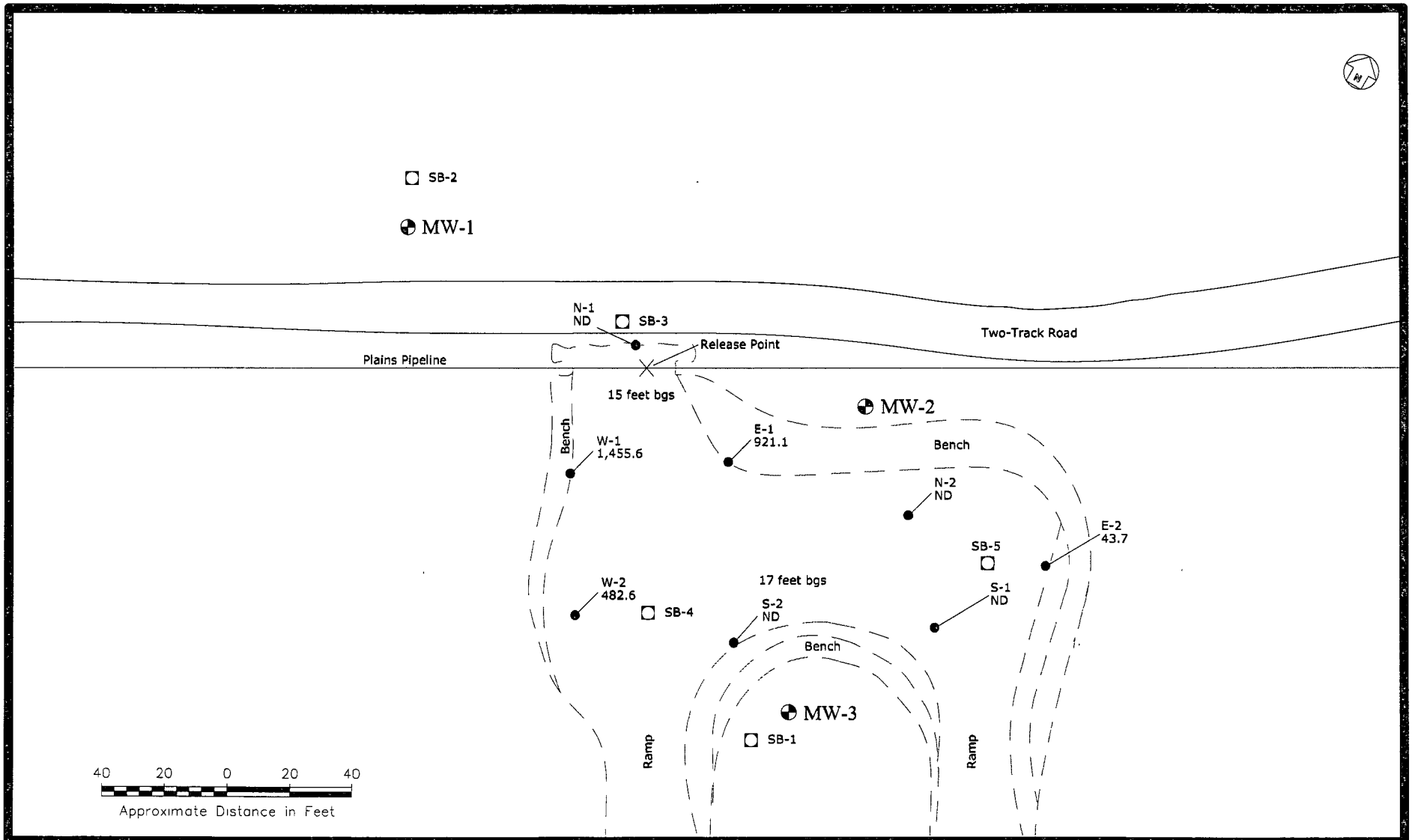
3000 1500 0 1500 3000

Distance in Feet

Figure 1
Site Location Map
Plains Marketing, L.P.
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
SRS 2008-113
NMOCD Ref 1RP-1853

Basin Environmental Services

Prep By: CDS	Checked By: CDS
May 4, 2009	Scale 1"=3000'



Legend:

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

Figure 2
Site and Sample Location Map

Plains Pipeline L.P.
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
SRS # 2008-00113
NMOCD Ref # 1RP-1853

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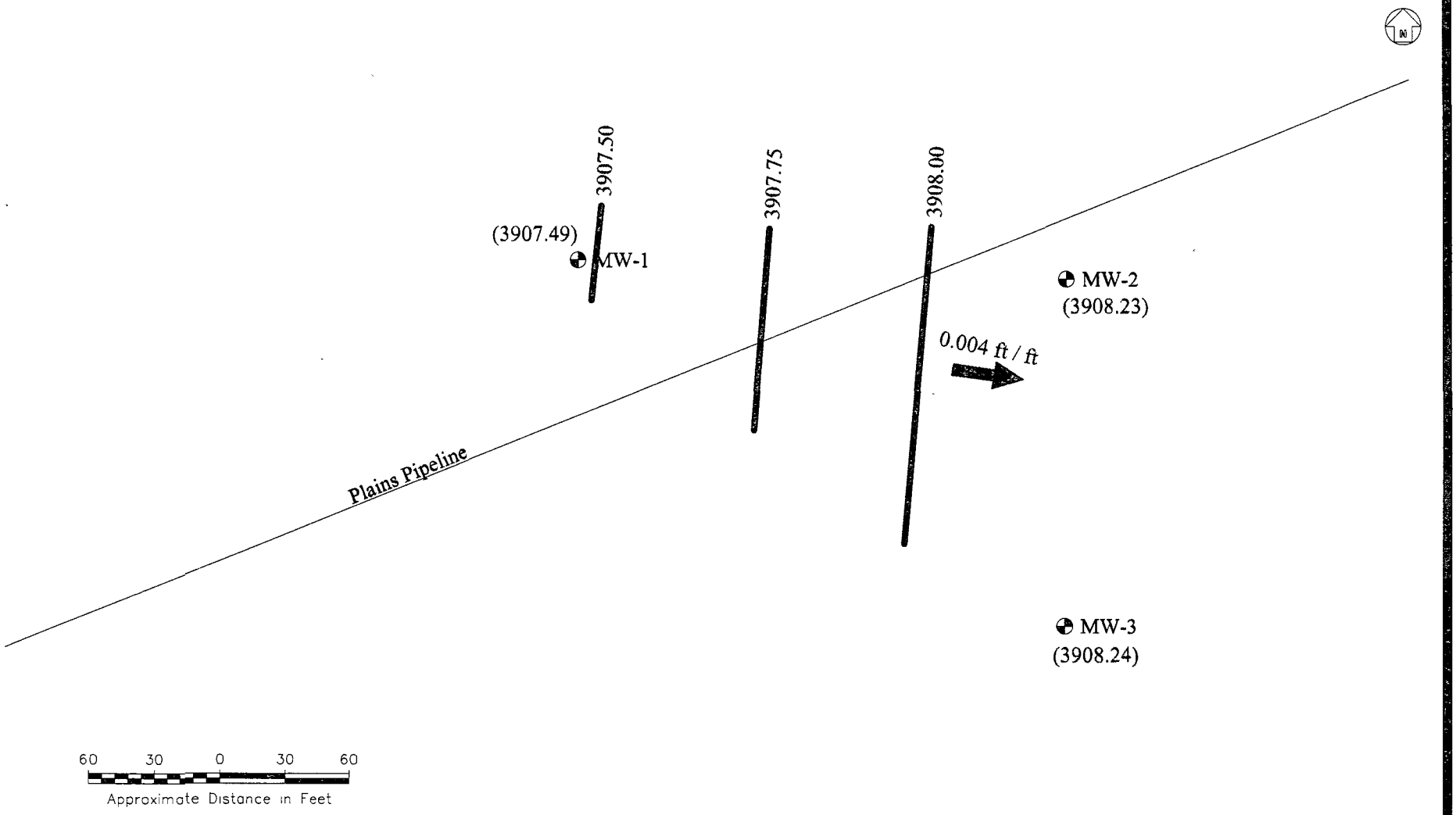
Prep By: CDS	Checked By: CJB
April 17, 2009	Scale: 1" = 40'



Legend:

- MW-1 — Monitor Well Location
- Pipeline
- Groundwater Gradient Contour Line
- (3901.46) — Groundwater Elevation (feet)
- 0.004 ft / ft — Groundwater Gradient Direction and Magnitude

Figure 3
Inferred
Groundwater Gardient Map

Plains Pipeline L.P.
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
SRS # 2008-00113
NMOCD Ref # 1RP-1853

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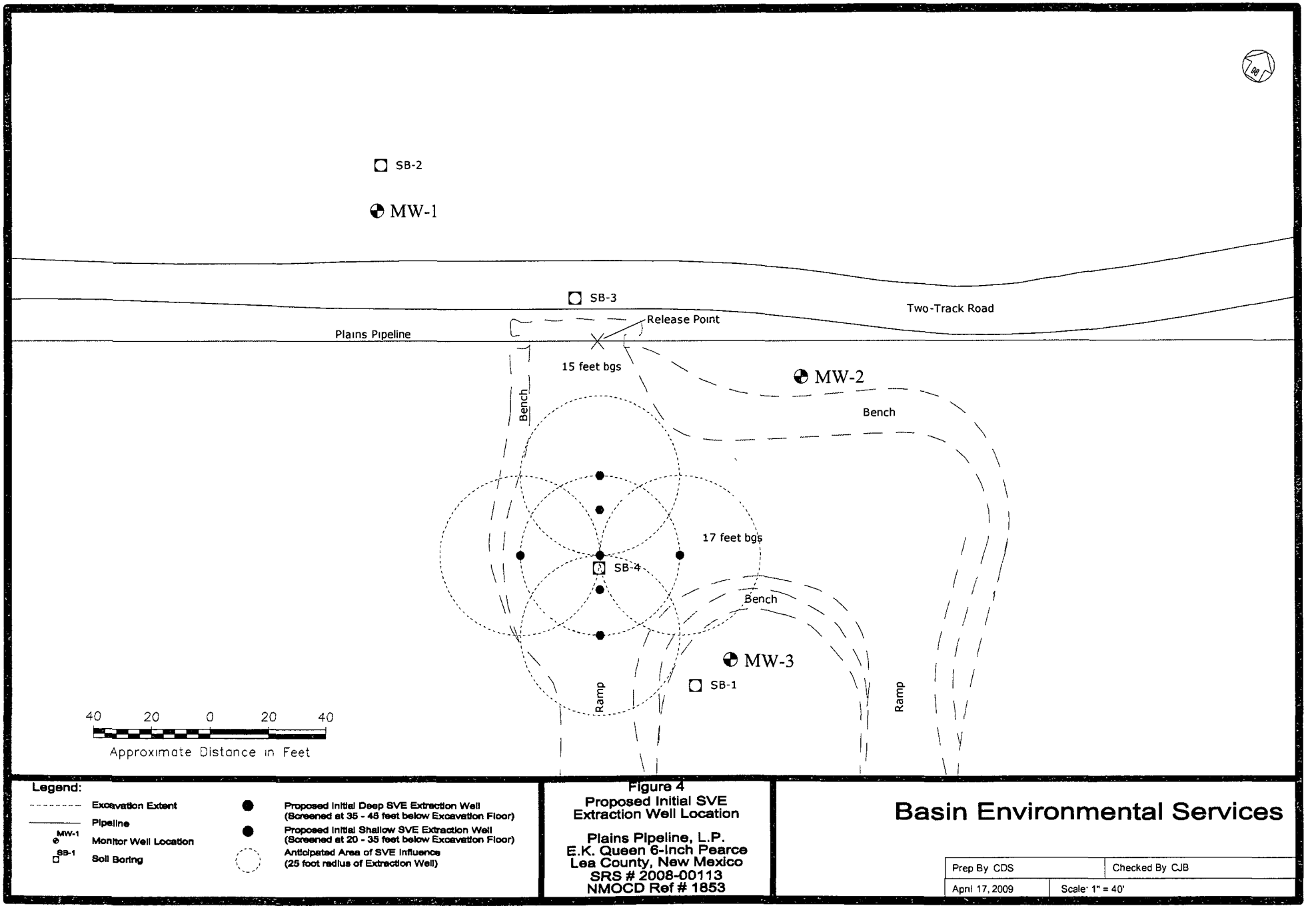
Prep By: CDS	Checked By: CJB
May 4, 2009	Scale: 1" = 60"



Legend:

- Excavation Extent
- Pipeline
- MW-1 Monitor Well Location
- SB-1 Soil Boring
- Proposed Initial Deep SVE Extraction Well (Screened at 35 - 45 feet below Excavation Floor)
- Proposed Initial Shallow SVE Extraction Well (Screened at 20 - 35 feet below Excavation Floor)
- Anticipated Area of SVE Influence (25 foot radius of Extraction Well)

Figure 4
Proposed Initial SVE Extraction Well Location

Plains Pipeline, L.P.
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
SRS # 2008-00113
NMOCD Ref # 1853

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Prep By CDS	Checked By CJB
April 17, 2009	Scale: 1" = 40'

Tables

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX AND TPH IN SOIL

PLAINS PIPELINE, L.P.
E.K. QUEEN 6 INCH PEARCE
LEA COUNTY, NEW MEXICO
SRS: 2008-113
NMOCD REFERENCE NO: 1RP-1853

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	DATE ANALYZED	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M			TOTAL TPH C_6-C_{35} (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)	
Floor @ 17'	17 feet	06/10/08	06/10/08	In-Situ	-	-	-	-	-	-	4,470	17,600	2,770	**24,840**
SB-1 @ 10'	10 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.4	19.7	<16.4	20
SB-1 @ 30'	30 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	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 feet	07/25/08	07/30/08	In-Situ	**19.62**	240.2	168.7	197.5	75.06	**701.08**	24,900	53,000	8,450	**86,350**
SB-4 @ 20'	37 feet	07/25/08	07/30/08	In-Situ	2.721	110.3	130	171.5	83.38	**497.901**	23,400	53,900	7,870	**85,170**
SB-4 @ 30'	47 feet	07/25/08	07/30/08	In-Situ	0 0609	0.4793	0.3975	0.4977	0.2369	1.6723	67.2	876	127	**1,070**
SB-4 @ 40'	57 feet	07/25/08	07/30/08	In-Situ	0.0104	0.0381	0.024	0.0349	0.0208	0.1282	27.8	492	82	**602**
SB-4 @ 50'	67 feet	07/25/08	07/30/08	In-Situ	0.0066	0.0191	0.0069	0.0078	0.0036	0 044	<15.0	59.8	15.9	76
SB-4 @ 60'	77 feet	07/25/08	07/30/08	In-Situ	0.0034	0.0116	0.0053	0.0071	0.0039	0.0313	<15.0	224	37	**261**
SB-4 @ 70'	87 feet	07/25/08	07/30/08	In-Situ	0.005	0.0755	0.0941	0.1263	0.0703	0.3712	43.3	801	133	**977**
SB-4 @ 80'	97 feet	07/25/08	07/30/08	In-Situ	0.0018	0.0079	0.0145	0.0254	0.0149	0.0645	27.9	669	119	**816**
SB-4 @ 90'	107 feet	07/25/08	07/30/08	In-Situ	<0.0011	0.0031	0.0016	0.0024	<0.0011	0.0071	<15.0	253	54.7	**308**
SB-4 @ 100'	117 feet	07/25/08	07/30/08	In-Situ	<0.0011	0.0038	0.0071	0.011	0.0068	0.0287	17.1	430	78	**525**
N-1 S/W	15 feet	10/23/08	10/30/08	In-Situ	<0.0051	<0.0102	<0.0051	<0.0102	<0.0051	<0.0102	<15.2	<15.2	<15.2	<15.2
E-1 S/W	8 feet	10/23/08	10/30/08	In-Situ	-	-	-	-	-	-	33.1	771	117	**921**
W-1 S/W	8 feet	10/23/08	10/30/08	In-Situ	-	-	-	-	-	-	16.6	1,160	279	**1,456**
E-2 S/W	17 feet	10/23/08	10/30/08	In-Situ	<0.0052	<0.0104	<0.0052	<0.0104	<0.0052	<0.0104	<15.6	21.8	21.9	43.7
S-1 S/W	17 feet	10/23/08	10/30/08	In-Situ	<0.0052	<0.0104	<0.0052	<0.0104	<0.0052	<0.0104	<15.6	<15.6	<15.6	<15.6
N-2 S/W	17 feet	10/23/08	10/30/08	In-Situ	<0.0051	<0.0101	<0.0051	<0.0101	<0.0051	<0.0101	<15.2	<15.2	<15.2	<15.2
S-2 S/W	17 feet	10/23/08	10/30/08	In-Situ	<0.0053	<0.0106	<0.0053	<0.0106	<0.0053	<0.0106	<15.9	<15.9	<15.9	<15.9
W-2 S/W	17 feet	10/23/08	10/30/08	In-Situ	-	-	-	-	-	-	<15.3	396	86.6	**482.6**
MW-1 @ 10'	10' bgs	01/06/09	01/14/09	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' bgs	01/06/09	01/14/09	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' bgs	01/06/09	01/14/09	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX AND TPH IN SOIL

PLAINS PIPELINE, L.P.
E.K. QUEEN 6 INCH PEARCE
LEA COUNTY, NEW MEXICO
SRS: 2008-113
NMOCD REFERENCE NO: 1RP-1853

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	DATE ANALYZED	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M			TOTAL TPH C_6-C_{35} (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)	
MW-1 @ 70'	70' bgs	01/06/09	01/14/09	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' bgs	01/06/09	01/14/09	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' bgs	01/06/09	01/14/09	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<16.1	36	<16.1	36
MW-1 @ 127'	127' bgs	01/06/09	01/14/09	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	17.7	<16.2	17.7
MW-2 @10'	10' bgs	01/07/09	01/14/09	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' bgs	01/07/09	01/14/09	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' bgs	01/07/09	01/14/09	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' bgs	01/07/09	01/14/09	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' bgs	01/07/09	01/14/09	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' bgs	01/07/09	01/14/09	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' bgs	01/07/09	01/14/09	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' bgs	01/08/09	01/14/09	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' bgs	01/08/09	01/14/09	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' bgs	01/08/09	01/14/09	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' bgs	01/08/09	01/14/09	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' bgs	01/08/09	01/14/09	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' bgs	01/08/09	01/14/09	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' bgs	01/08/09	01/13/09	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' bgs	01/09/09	01/13/09	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' bgs	01/09/09	01/13/09	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' bgs	01/09/09	01/13/09	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' bgs	01/09/09	01/13/09	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' bgs	01/09/09	01/13/09	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' bgs	01/09/09	01/14/09	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.4	<16.4	<16.4	<16.4
NMOCD Criteria					**10**					**50**				**5,000**

TABLE 2

CONCENTRATIONS OF BENZENE, BTEX, CHLORIDES AND TOTAL DISSOLVED SOLIDS IN GROUNDWATER

PLAINS PIPELINE, L.P.
EK QUEEN 6-INCH PEARCE
LEA COUNTY, NEW MEXICO
PLAINS SRS NO. 2008-113
NMOCD REFERENCE NO: 1R-1853

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021B, 5030					CHLORIDES (mg/L)	TDS (mg/L)
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P-XYLENES (mg/L)	O-XYLENES (mg/L)		
Prelim GW (SB-4)	07/25/08	0.0016	0.008	0.0074	0.0091	0.0049	-	-
MW-1	01/20/09	<0.001	<0.002	<0.001	<0.002	<0.001	200	528
MW-2	01/20/09	<0.001	<0.002	<0.001	<0.002	<0.001	206	572
MW-3	01/20/09	<0.001	<0.002	<0.001	<0.002	<0.001	126	378
NMOCD CRITERIA		**0.01**	**0.75**	**0.75**	**TOTAL XYLENES 0.62**		**250**	**10,000**

TABLE 3

GROUNDWATER ELEVATION DATA

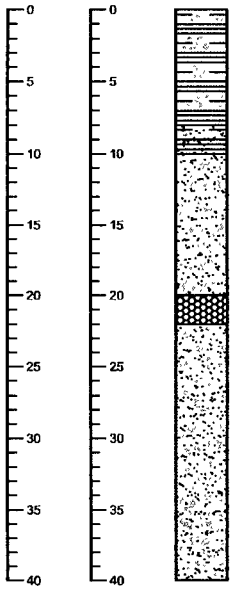
PLAINS PIPELINE, L.P.
E.K. QUEEN 6-INCH PEARCE
LEA COUNTY, NEW MEXICO
PLAINS SRS NO: 2008-113
NMOCD REFERENCE NO: 1RP-1853

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	01/20/09	4,028.12	-	120.63	0.00	3,907.49
MW-2	01/20/09	4,024.41	-	116.18	0.00	3,908.23
MW-3	01/20/09	4,015.28	-	107.04	0.00	3,908.24

Appendices

Appendix A
Soil Boring and Monitor Well Logs

Soil Boring SB-1

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

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 _____
(○) 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			None	None	
5	5		0	None	None	0 - 13' - Caliche, white, dry, soft
10	10		(0)	None	None	13 - 15' - Sand, brown, very fine grained
15	15		0	None	None	15 - 16' - Caliche, white
20	20		(0)	None	None	16 - 17' - Sand, brown, very fine grained
25	25		0	None	None	17 - 18' - Caliche, white
30	30		(0)	None	None	18 - 20' - Sand, brown, very fine grained
				None	None	20 - 28' - Sand, brown, very fine grained with some caliche nodules
				None	None	28 - 29' - Chert, white, hard
				None	None	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 _____
(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.

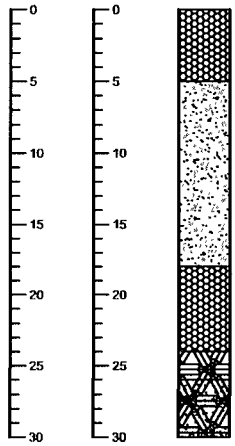
Boring Log Details
Soil Boring SB-2
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

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	Soil Description
				None	None	0 - 5' - Caliche, sandy, white to brown
			0	None	None	
			(0.1)	None	None	5 - 17' - Sand, brown, very fine grained
			0.1	None	None	
			(0.1)	None	None	17 - 24' - Caliche, sandy, white to brown
			0	None	None	24 - 26' - Chert, white, hard 26 - 30' - Sand, brown, very fine grained, with chert laminations
			(0)			



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

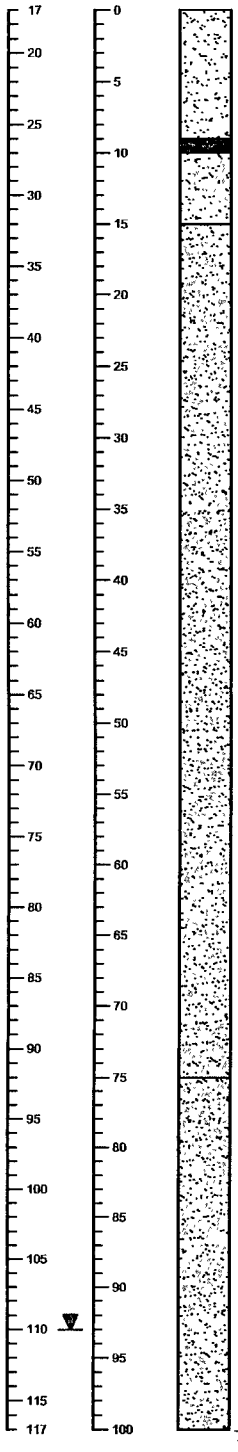
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

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	15 - 75' bgs - Sand, brown, very fine grained
132	Slight	None	
(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) TD			

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.

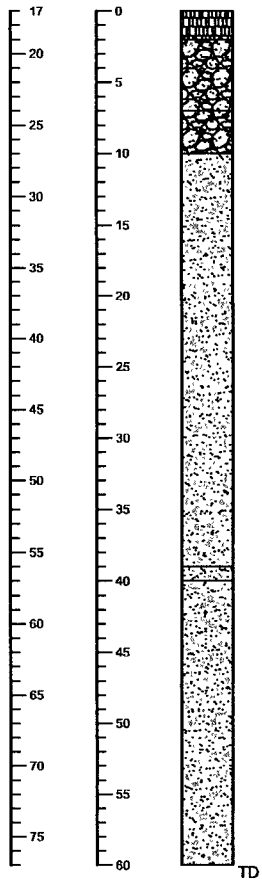
2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

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



PID Reading	Petroleum Odor	Petroleum Stain
	None	None
17.5	None	None
50.2	None	None
16.2	None	None
16.3	None	None
11.8	None	None
10.6	None	None
9.8	None	None
9.8	None	None
6.8	None	None
12.2	None	None
11.3	None	None
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.

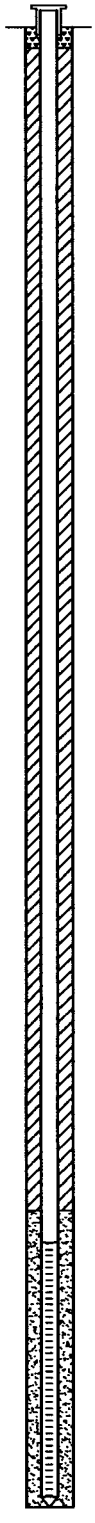
Boring Log Details
Soil Boring SB-5
E.K. Queen 6-Inch Pearce
Lea County, New Mexico
Plains Marketing, L.P.

Basin Environmental Services

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

Monitor Well MW-1

Drilling Depth	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
			None	None	
5		1.3			0 - 10' bgs - Caliche, white, dry
			None	None	
10		(1.2)			10 - 12' bgs - Caliche, white, dry
			None	None	
15		1.3			
			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					
135					127 - 139 bgs - Clay, brown, sandy
139	TD				



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.

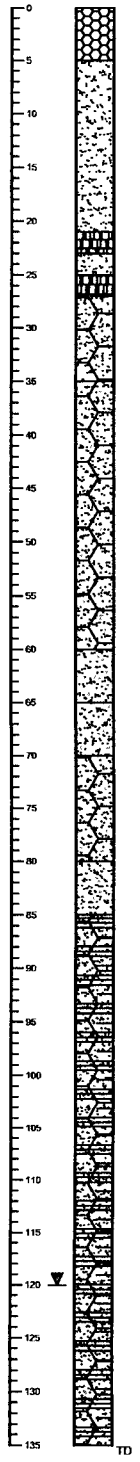
Monitor Well Details
MW-1

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

Basin Environmental Services

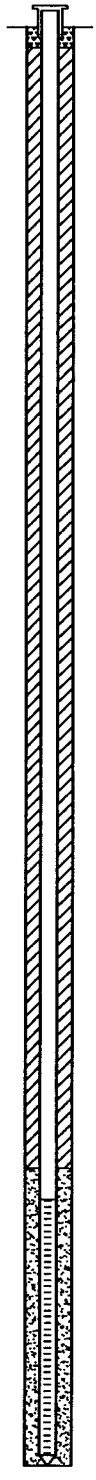
Prep By: CDS	Checked By: CDS
November 17, 2008	

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	

TD



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

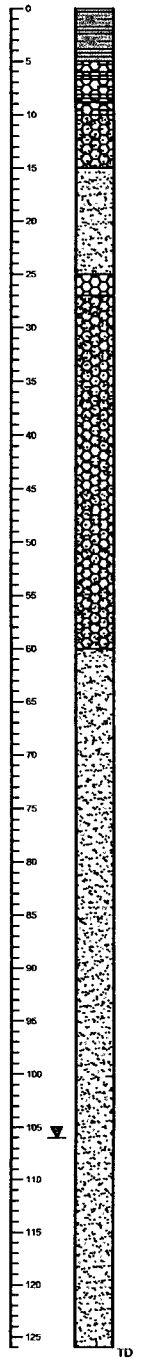
Monitor Well Details
MW-2

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

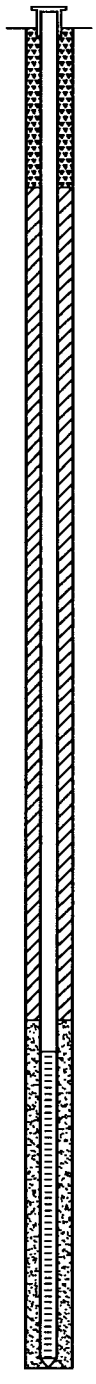
Basin Environmental Services

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

Monitor Well MW-3



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

Appendix B
Analytical Reports

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

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

Sample Cross Reference 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					

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

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

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 #: 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

Analyst: ASA

Date Prepared: 06/11/2008

Project ID: 2008-113

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

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: Curt Stanley for Billy Birchwood 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 #: 305463

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
																TCLP:																
																TOTAL:									X							
01	Floor @ 17'			6/6/2008	1400		1	X								SOIL	X															X

Special Instructions:

Relinquished by	Date	Time	Received by	Date	Time
[signature]	6/10/08	902			
			Received by ELOT: [signature]	6-10-08	9:02

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	4.5	°C

4023455

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Brain Env / Plains

Date/ Time: 6 10 08 1102

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

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

Sample Cross Reference 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	

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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:	308807-007		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	

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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:	308807-019		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				

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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	SURROGATE RECOVERY STUDY				
Analytes	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	SURROGATE RECOVERY STUDY				
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	0.0329	0.0300	110	80-120	

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

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
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	0.0329	0.0300	110	80-120	

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

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	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	SURROGATE RECOVERY STUDY				
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	0.0308	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	SURROGATE RECOVERY STUDY				
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	0.0314	0.0300	105	80-120	

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

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
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	0.0307	0.0300	102	80-120	

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

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	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	SURROGATE RECOVERY STUDY				
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	0.0313	0.0300	104	80-120	

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

Units: mg/kg

TPH by SW8015 Mod	SURROGATE RECOVERY STUDY				
Analytes	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

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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

TPH by SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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
Analyst: ASA
Lab Batch ID: 729462
Sample: 512991-1-BKS
Batch #: 1
Units: mg/kg

Date Prepared: 07/29/2008
Project ID: 2008-113
Date Analyzed: 07/29/2008
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	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

Project ID: 2008-113

Date Analyzed: 07/30/2008

Date Prepared: 07/29/2008

Analyst: ASA

QC- Sample ID: 308807-006 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

TPH by SW8015 Mod Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	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	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	0.1299	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	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 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

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
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**
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: GW = Groundwater S = Soil/Sed DW = Drinking Water SL = Sludge 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	NORM				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	1230			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date 7/29/08	Time 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 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	HNO3	HCl	H2SO4	NaOH	Na2S2O3	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)	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
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

	Date	Time		Date	Time
Relinquished by	7/25/08	830	Received by:		
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	N

by Sampler/Client Rep ? (V)
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt 4.0 / 5.0 °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 308796

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

E K Queen 6" Pearce

2008-113

31-JUL-08

ENVIRONMENTAL LAB OF

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

ENVIRONMENTAL LAB OF

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

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

Sample Cross Reference 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					

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The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

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

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 #: 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.

ENVIRONMENTAL LAB OF

BS / BSD Recoveries

Project Name: E K Queen 6" Pearce

Work Order #: 308796
Analyst: BRB
Lab Batch ID: 729592
Sample: 513044-1-BKS
Units: mg/L

Date Prepared: 07/30/2008
Batch #: 1

Project ID: 2008-113
Date Analyzed: 07/31/2008
Matrix: Water

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

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	0.0500	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 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 # 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: 8015M	TCLP: TPH 418.1	TCLP: TPH TX 1005	TCLP: TX 1006	TCLP: Cations (Ca Mg Na K)	TCLP: Anions (Cl SO4 Alkalinity)	TCLP: SAR / ESP / CLC	TCLP: Metals As Ag Ba Cd Cr Pb Hg Se	TCLP: Volatiles	TCLP: Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	TOTAL: RCI	TOTAL: NORM	RUSH TAT (Pre Schedule) 24, 48, 72 hrs	Standard TAT
	PRELIM GW			7/25/2008	1645		3	X		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 Items Delivered by: Sampler/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: VOA 05 °C

Relinquished by	Date	Time	Received by:	Date	Time
	7/28/08	830			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time
				7/29/08	8 30

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Environmental

Date/ Time: 7/29/08 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 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.

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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	

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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				

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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

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	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: Camilla 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

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

Analyze For: TCLP / TOTAL — X (BTEX)

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: Rhino | Basin Env

Date/ Time: 10 24 08 1727

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

Gracie Avalos

From: Camille J Bryant [cjbryant@basin-consulting com]
Sent: Wednesday, October 29, 2008 1.07 PM
To: Gracie Avalos
Subject: Re WO 315760 / EK Queen Pearce 6"

Gracie,

Please run samples 1, 4, 5, 6 and 7 for concentrations of BTEX 8021B.

Thank you,
Camille Bryant

Project Manager
Basin Consulting

---- Original Message ----
From: Gracie Avalos
To: cjbryant@basin-consulting com
Sent: Wednesday, October 29, 2008 11:40 AM
Subject: WO 315760 / EK Queen Pearce 6"

Ms. Bryant,

Per your Chain of Custody (which has also been attached), you've requested for our lab to run BTEX 8021B on all samples below 100ppm TPH I've attached the TPH results for directive on which samples you would like for us to go ahead with.

Many thanks,
Gracie Avalos
Project Assistant
Xenco Labs - Odessa
432-563-1800 Office
432-4563-1713 Fax
gracie.avalos@xenco.com

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Please consider the environment before printing this email

10/31/2008

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

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

Sample Cross Reference 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

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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

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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

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

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

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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

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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				

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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	SURROGATE RECOVERY STUDY				
Analytes	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	SURROGATE RECOVERY STUDY				
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	0.0325	0.0300	108	80-120	

Lab Batch #: 746367 **Sample:** 322297-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	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	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 746367 **Sample:** 522852-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
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	0.0293	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	SURROGATE RECOVERY STUDY				
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	0.0316	0.0300	105	80-120	

Lab Batch #: 746371 **Sample:** 322297-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	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	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 746371 **Sample:** 322297-015 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
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	0.0321	0.0300	107	80-120	

Lab Batch #: 746371 **Sample:** 322297-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

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

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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
Analyst: BHW
Lab Batch ID: 746564
Sample: 522946-1-BKS
Units: mg/kg

Date Prepared: 01/14/2009
Batch #: 1

Project ID: 2008-113
Date Analyzed: 01/15/2009
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	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: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	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: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	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

1 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	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: GW - Drinking Water SL - Sludge; GW - Groundwater S - Soil/Solid; NS - 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
			Cindia Sam	1-13-09	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 by Sampler/Client Rep ? N
by Courier? UPS DHL FedEx Lone Star
407 71455
Temperature Upon Receipt -7.0 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

2 of 3

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	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	M 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	715	Received by:	1/13/09	7:15
Relinquished by:	1/13/09	10:36	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Lann	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
4622 1955
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	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	GRO	DRO	TCLP	TOTAL	RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT 4 DAY
21	MW-3 113'			9-Jan-09	1150		1	X								SOIL	X								X					X		X
22	SB-5 10'			9-Jan-09	1020		1	X								SOIL	X								X					X		X
23	SB-5 20'			9-Jan-09	1025		1	X								SOIL	X								X					X		X
24	SB-5 30'			9-Jan-09	1035		1	X								SOIL	X								X					X		X
25	SB-5 40'			9-Jan-09	1045		1	X								SOIL	X								X					X		X
26	SB-5 50'			9-Jan-09	1100		1	X								SOIL	X								X					X		X
27	SB-5 60'			9-Jan-09	1120		1	X								SOIL	X								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? 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 91455
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 #: 32667

Initials: QL

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 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

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

Sample Cross Reference 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				

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

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
Analyst: ASA
Lab Batch ID: 747222
Sample: 523400-1-BKS
Units: mg/L

Date Prepared: 01/21/2009
Batch #: 1

Project ID: 2008-113
Date Analyzed: 01/21/2009
Matrix: Water

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

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
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

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	0.0826	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 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	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 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	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 Stanley for Chris Reynolds e-mail: cstanley@basinenv.com

(lab use only)
ORDER #: 322927

Analyze For: TCLP / TOTAL (X marked under TOTAL for 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)	DW - Drinking Water SL - Sludge	GW - Groundwater S - Soil/Soil	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.	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		4	X									GW										X				X	X		X
03	MW-3			1/20/2009	1330		3	X									GW										X				X	X		X

Special Instructions: 1 VOA FOR MW-2

Relinquished by	Date	Time	Received by	Date	Time
[signature]	1/21/09	0832			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT: [signature]	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) No cooler	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: 12 01 ~~3224PM~~ @ 32

Lab ID #: 326927

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: _____

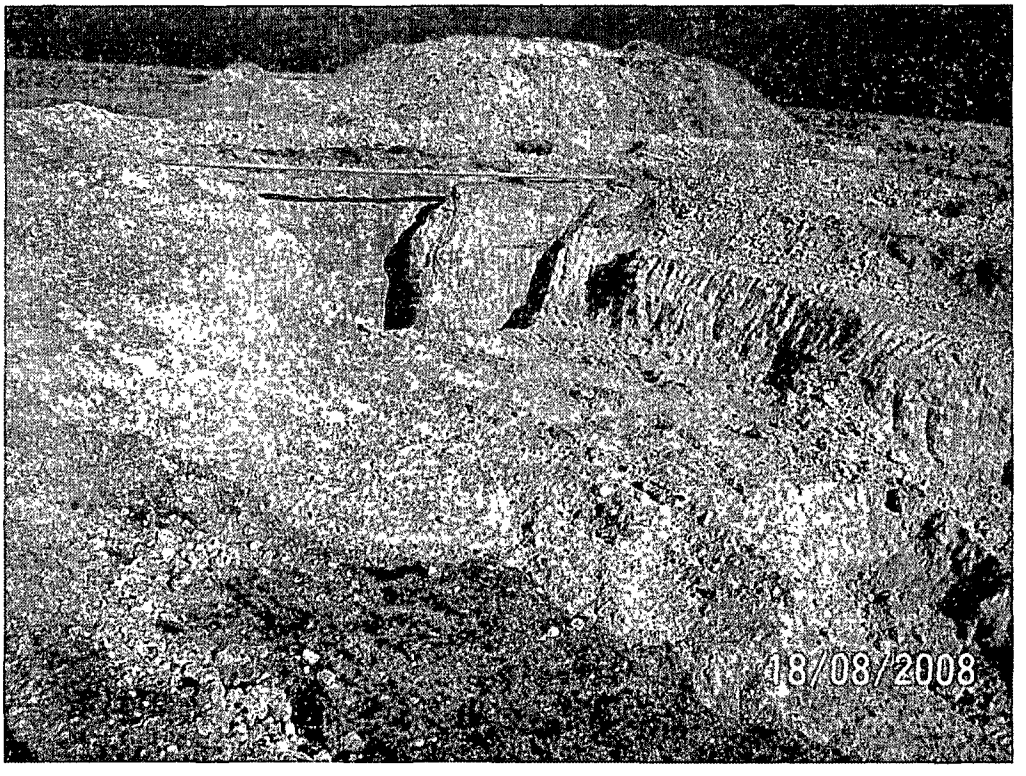
Corrective Action Taken: _____

Check all that Apply

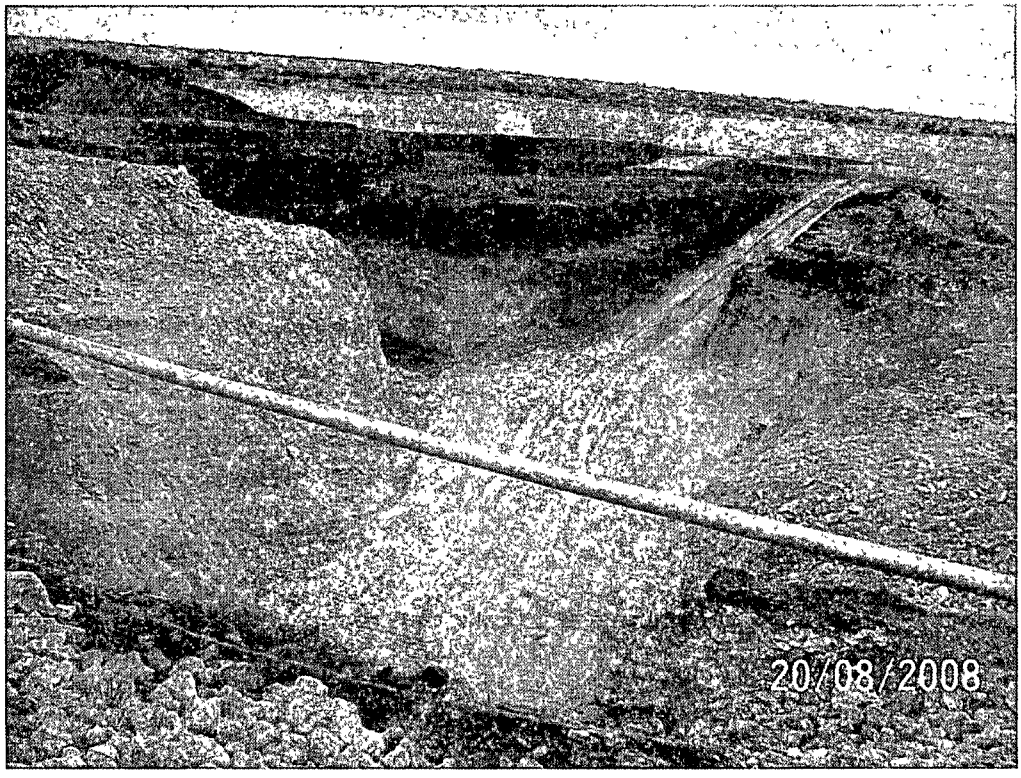
- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Appendix C
Photographs

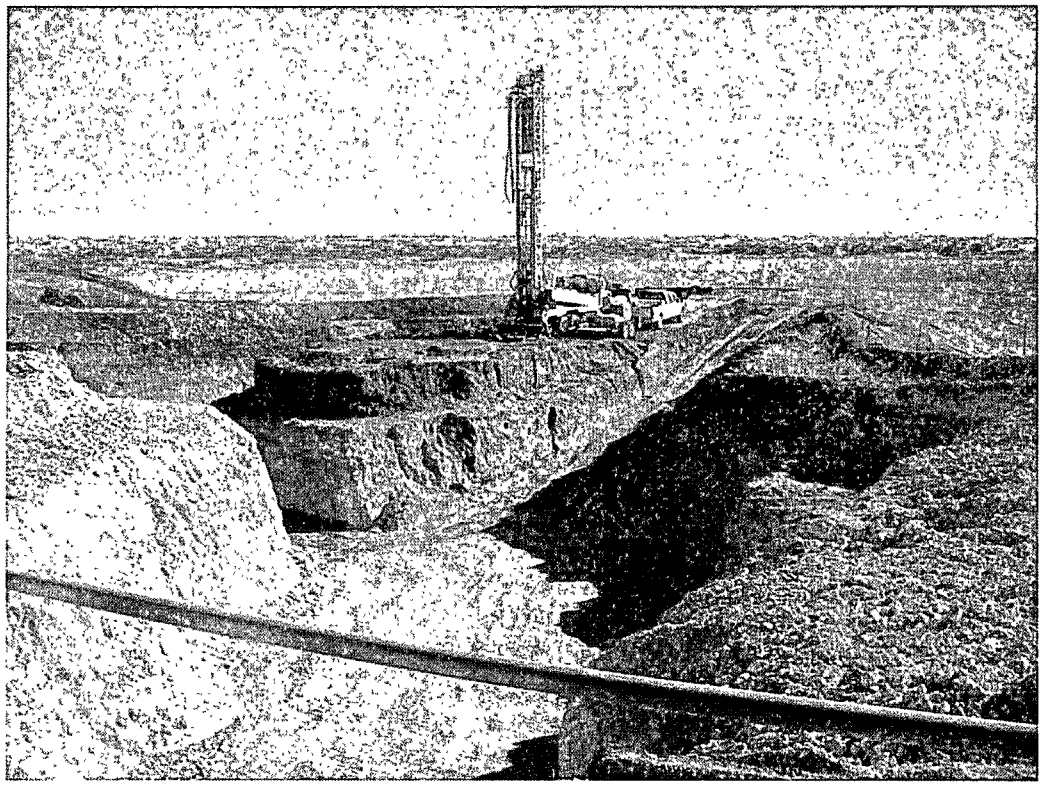
EK Queen Pearce 6-Inch Release Site, facing east



EK Queen Pearce 6-Inch Release Site, facing north



EK Queen Pearce 6-Inch Release Site, facing south



EK Queen Pearce 6-Inch Release Site, installing monitor well MW-3

Appendix D
SVE Technical Information, Efficiency Curves and SVE Photographs

Process Technology Support, LLC

Serving The Environmental Remediation Industry

Turnkey Soil Vapor Extraction Rental System

Mailing Address:
P.O. Box 208
Mead, CO 80542

Ph: 970-535-0913
Fax: 970-535-9583

Fabrication Facility:
14274 Mead Street
Longmont, CO 80504

TABLE OF CONTENTS

1 SYSTEM DESCRIPTION

1.1 SVE System

The SVE system consists of a Roots Model 36 URAI positive displacement, rotary lobe vacuum blower. The SVE Blower is powered by an electric motor via a direct drive flexible coupling assembly. The motor for the SVE Blower consists of a 5 HP, three phase, TEFC, 3550 rpm, 230/460 vac motor.

A 5 Hp variable frequency drive (VFD) motor controller was provided for the SVE Blower motor as part of the system control panel to convert the incoming single-phase power to three-phase and allow the speed for this blower to be easily be changed in the field. The VFD was programmed to allow an operator to manually adjust the motor to operate at a frequency range between 20.0 and 45.0 Hz corresponding to an approximate blower RPM range of 1150
to 2588 RPM.

The blower and motor were selected to meet the specified design criteria of 120 scfm at 5.0" Hg at an altitude of 5200 ft. above MSL. Blower performance calculations for the specified design conditions along with performance curves for a blower operating at variable speeds (RPMs) and variable inlet vacuums are provided in the Appendix under the SVE System Tab. Variations in actual blower performance from the values predicted on the curves can be expected based on actual atmospheric pressure, inlet temperature, relative humidity, and other factors.

A summary of major equipment and instrumentation associated with the SVE system is provided below.

- (1) Roots Dresser Model URAI 36 positive displacement, rotary lobe blower.
- (1) Baldor 5 Hp, 230/460vac, 60hz, 3450 rpm, TEFC, premium efficiency motor.
- (1) 55 gallon fluid moisture separator (KO Tank) with 30 gallon liquid storage capacity, XP hi level switch, sight glass and ¾" drain valve.
- (3) Inlet vacuum gauges (0-200" w.c.) mounted before and after KO tank and at blower inlet.
- (1) In-line air filter rated for 180 cfm of air flow.
- (1) 1 ½" gate bleed air valve with inlet filter/silencer.
- (1) 2" venturi flow sensor with 0-200 scfm magnahelic flow indicator installed on blower inlet, before bleed air.
- (1) 2" vacuum relief valve set to open @ 9" Hg
- (1) Premium grade discharge silencer.

- (1) 2 ½" diameter steel exhaust stack.
- (1) XP discharge high temperature switch.
- (1) Exhaust stack discharge temperature gauge (50-400 deg F).
- (1) ¼" discharge sample port.
- (4) Vacuum gauge (0-200" w.c.) for measuring vacuum at SVE lines 1-4.
- (1) 3" schedule 40 PVC, vapor extraction common header pipe.
- (4) individual SVE extraction manifold lines connected to 3" common header pipe
- Each individual SVE manifold line supplied with;
    - 1-½" gate valve for flow control,
    - 1-½" venturi flow sensor and magnehelic flow indicator (0-50 scfm for all l4 lines)
    - ¼" sample port, and
    - flexible, vacuum rated clear PVC hose with rubber hose couplers for transition to 2" pipe stub-ups.

Note: All SVE flow indicator gauges were calibrated to display flow in scfm at standard conditions of 14.73 psia and 70 deg Fahrenheit. If actual operating conditions at the flow meters vary from the specified calibration conditions, flow readings recorded at the gauge indicators should be corrected based on actual operating pressure/vacuums and temperatures to obtain a corrected SCFM flow reading. Correction charts/equations for the flow sensors are provided in the Appendix under the Process Inst. Tab.

1.2 Equipment Enclosure And Electrical Power System

The remediation system equipment was supplied inside a 6 ft wide x 6 ft long pre-engineered wood frame enclosure with 7 ft-4 inch high sidewalls. A summary of building construction details and associated electrical equipment is provided below.

- Wood frame construction with 2" x 4" studs on 24" centers for walls, 16" centers on ceiling, and 12" centers on floor.
- ½-inch Duratemp™ exterior siding and trim with latex paint.
- ½-inch plywood roof decking covered with 15 # roofing paper and 25 year asphalt shingles.
- 3 ft wide x 6 ft-10 inch high, insulated, wood door with keyed lock.
- R-13 fiberglass batt insulation installed between wall and ceiling framing.
- Interior layer of 5/8" Type X drywall on walls and ceiling.
- (1) 120 vac, ¼ Hp, XP, 12" diameter exhaust fan w/OSHA guard, exterior shutter, exterior vent cover, and line voltage thermostat (thermostat mounted inside control panel).
- (1) 18 inch tall x 24 inch louvered wall vents with filter
- (1) Class 1, Div 2, 120 vac, 300 watt, overhead light fixture and XP light switch.
- (1) XP, 1500 watt, 240 vac, single phase heater with line voltage thermostat (thermostat mounted inside control panel).

Remediation equipment located inside the enclosure was pre-wired to an exterior control panel. A 60 amp, service rated, fused disconnect was supplied on the exterior of the

enclosure to connect site power to the system. The 240 vac, 3Ø power from the main disconnect feeds into a power distribution terminal block at the main control panel for distribution to the individual electrical loads. The main control panel contains individual circuit breakers to provide short circuit protection for motor, lighting, ventilation fan, heating and control panel electrical loads. All electrical work inside the equipment enclosure was completed in accordance with NEC requirements for a Class 1, Division 2, Group D, hazardous environment.

1.3 System Controls

The system controls are housed within a 24-inch wide x 30-inch tall x 12-inch deep NEMA 4/12 electrical enclosure mounted to the outside of the building. Major control components housed within the enclosure include the following:

- Leeson 5 HP variable frequency drive (VFD) motor controller for SVE Blower motor control (three phase input and output).
- Circuit breakers for motor loads, heating, lighting, outlet, and control power for 115 vac outlet.
- Power phase/voltage monitor relay.
- 120 vac and 12 vdc control relays.
- On/Off control power switch with Green LED.
- Hand-Off-Auto (H-O-A) control switch for SVE blower.
- Elapsed time hour meter and green LED run indicator light for SVE blower.
- Alarm RESET pushbutton.
- Red LED alarm indicators.
- Interior swing out panel mounted behind the exterior door of the control panel door.

1.3.1 SVE Blower and VFD Operation

When the three position (H-O-A) switch for the SVE blower is placed in the HAND position all control logic for the blower will be overridden with the exception of a fault at the VFD controller.

When the (H-O-A) switch is placed in the AUTO position, the SVE blower will normally be activated unless an operational or alarm condition as listed below occurs. The alarm situations listed below will deactivate the SVE blower and latch on a red alarm light after the specified time delay has expired with a continuous input signal.

- Power Monitor Alarm (2 sec fixed delay)
- KO Tank HI LEVEL Alarm activated. (0-6 sec adjustable delay)
- SVE Discharge High Temp. activated. (no delay)
- SVE VFD Fault. (no delay)
- SVE Low Vacuum (0-30 sec adjustable delay)

During normal operation when the VFD is powered up (powered up implies 3Ø, 208 vac power is applied to input terminals) but no run request is being received (i.e. H-O-A switch on OFF position) the LCD located on the front of the VFD will display 3 horizontal dashes. When the VFD receives a request to run by placing the H-O-A switch to AUTO or HAND, the blower will activate and the LCD will display the RPMs at which the SVE motor is operating. The VFD was configured to allow an approximate minimum blower speed setting of 1150 RPM and a maximum setting of 2588 RPM. The SVE blower speed can be adjusted anywhere between these minimum and maximum values while the blower is operating by pressing the UP/DOWN arrows located on the front of the VFD.

In the event a FAULT condition occurs at the VFD (i.e. motor thermal overload), the LED on the front of the VFD will display a fault code signal (i.e., PF for a current overload fault). A description of FAULT codes is supplied on page 44 of the drive manual supplied in the Appendix under the Control System Documentation tab.

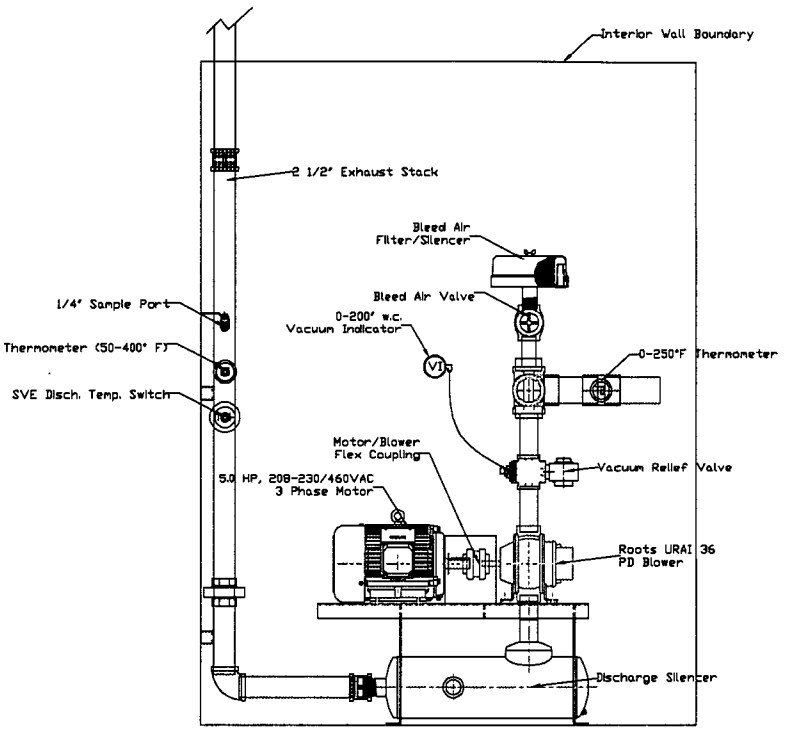
1.3.2 Power Monitor Function

A power phase/voltage monitor located inside the main control panel disconnects the control power to the VFD motor controller in the event of low voltage, phase loss or phase reversal. The blower will restart automatically once the power supply to the system returns to normal.

1.3.3 Alarm Light and Reset Button Functions

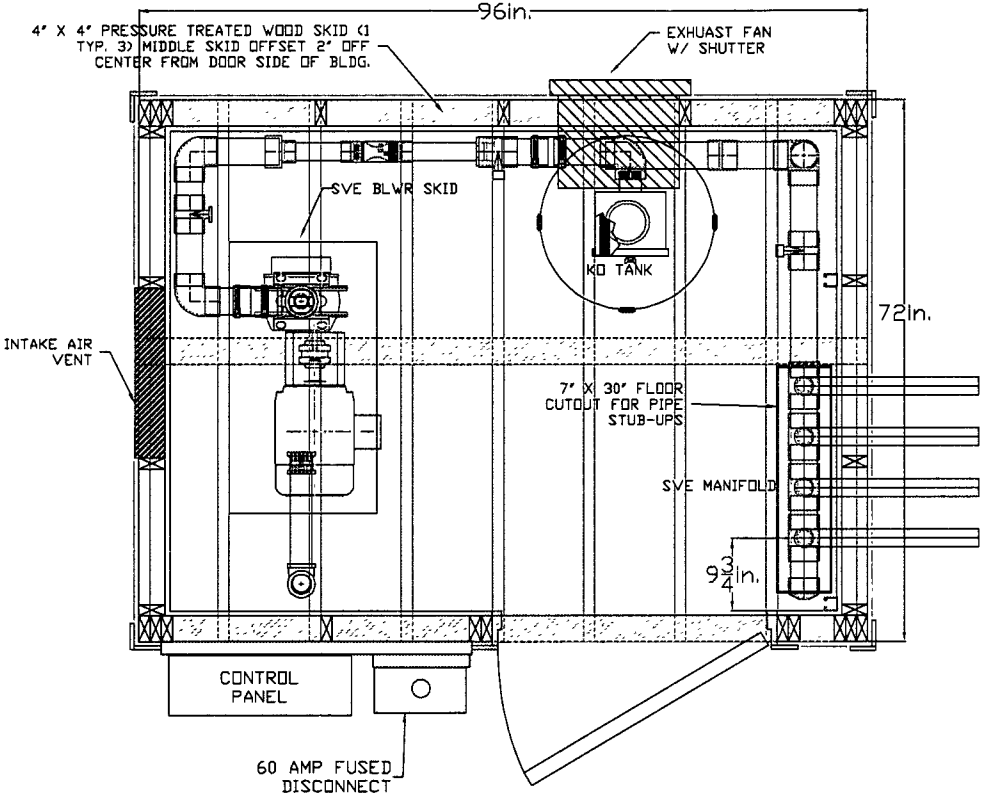
In the event any system alarm as listed in section 2.3.1 is activated continuously for the specified period of time, the SVE blower will be latched OFF and the alarm pilot light will be latched ON until the alarm condition is removed and either the RESET button located on the panel door is manually activated or a power cycle is initiated, with the exception of a power fault alarm.

Note: In the event of an SVE blower motor fault event, the fault code PF will be displayed on the LED located on the SVE variable frequency drive. Before restarting the system, determine and correct the cause of the fault. Leave the H-O-A switch in the AUTO position and press the control panel reset button to clear the fault from VFD and restart the Blower. **SEE CAUTIONS REGARDING MOTOR OVERLOADS IN SECTION 3.1**



BLOWER SKID ELEVATION

SCALE: 3/4"=1'-0"



SYSTEM FLOORPLAN

SCALE: 3/4"=1'-0"

Process Technology Support, LLC

"INFORMATION PRESENTED ON THESE DRAWINGS IS CONSIDERED PROPRIETORY INFORMATION OF PROCESS TECHNOLOGY SUPPORT, LLC. (PTS) AND IS INTENDED SOLEY FOR USE BY PTS's CLIENT FOR PROJECT INDICATED IN TITLE BLOCK. DUPLICATION OF THESE DRAWINGS FOR ANY OTHER USES WITHOUT WRITTEN AUTHORIZATION FROM PTS IS PROHIBITED.

DRAWN BY:	DATE:	DESCRIP:
MVW	10/29/03	SUBMITTALS
MVW	12/24/03	AS-BUILTS

TURNKEY SVE REMEDIATION SYSTEM

SVE SYSTEM

EQUIPMENT MECHANICAL DETAILS

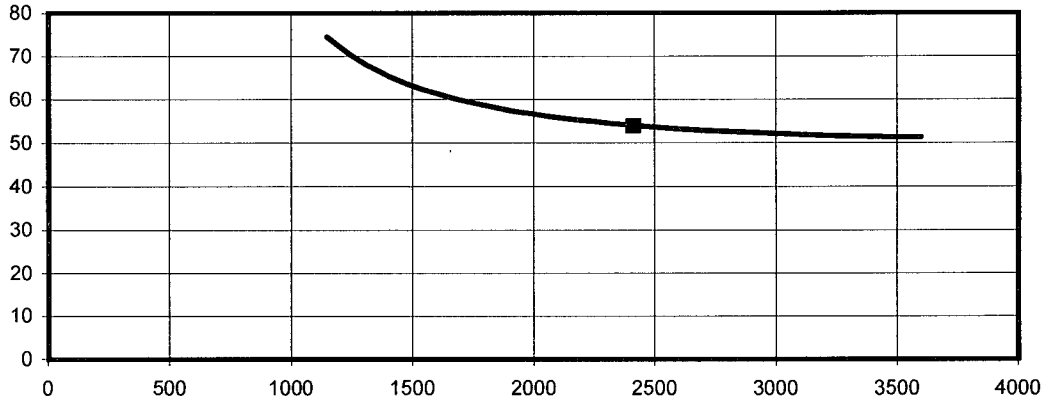
ACAD file: SYSLO.dwg

DWG. NO.: M1

36 URAI: Variable Speed Performance

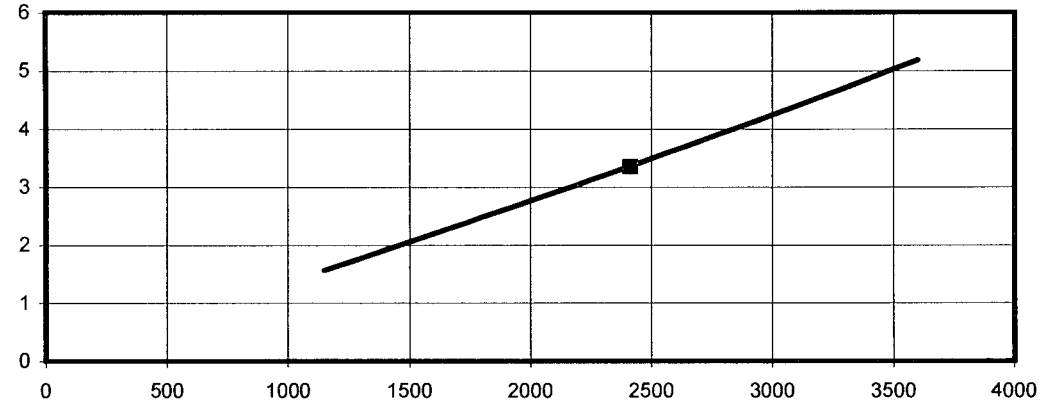
Dresser ROOTS

T RISE F



BLOWER SPEED (RPM)

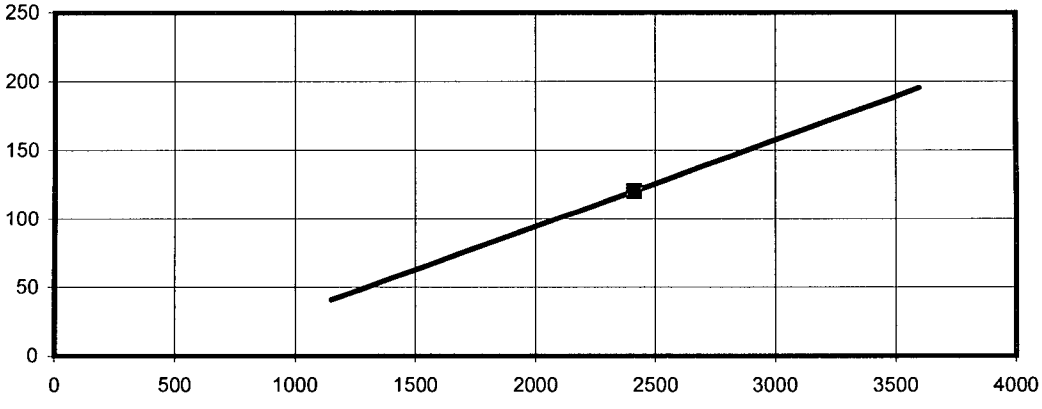
BHP



DRIVE: Coupling

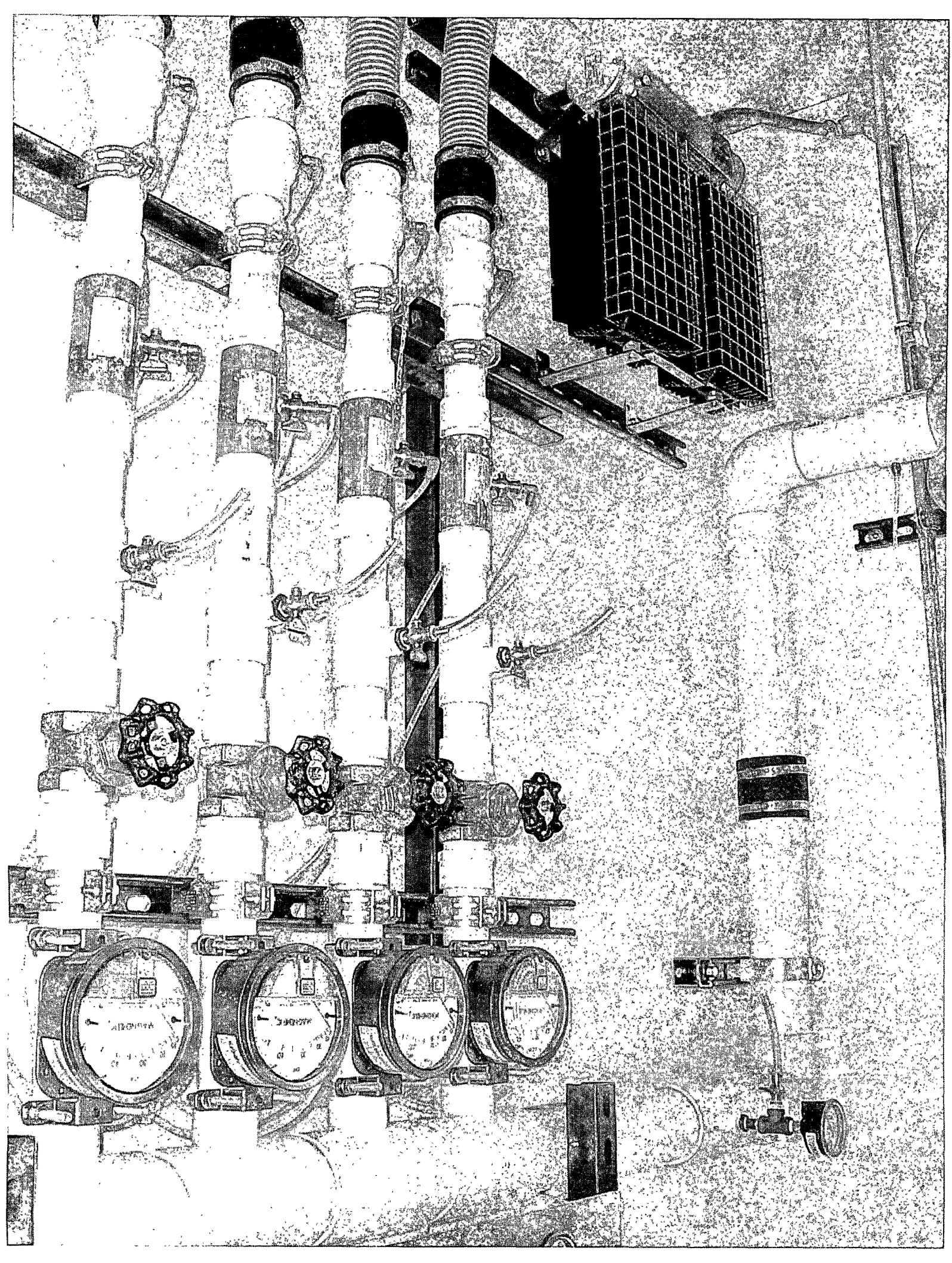
BLOWER SPEED (RPM)

SCFM

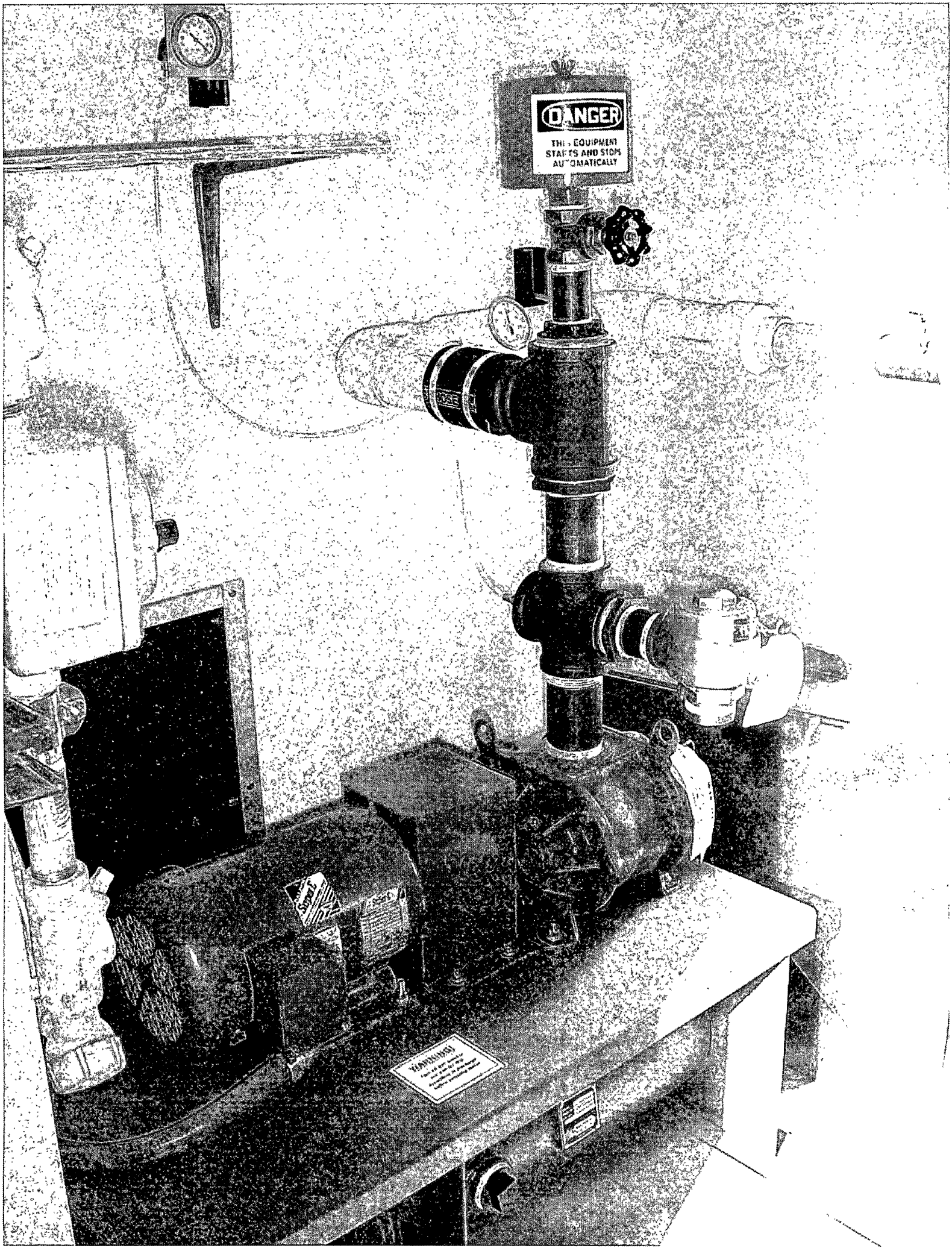


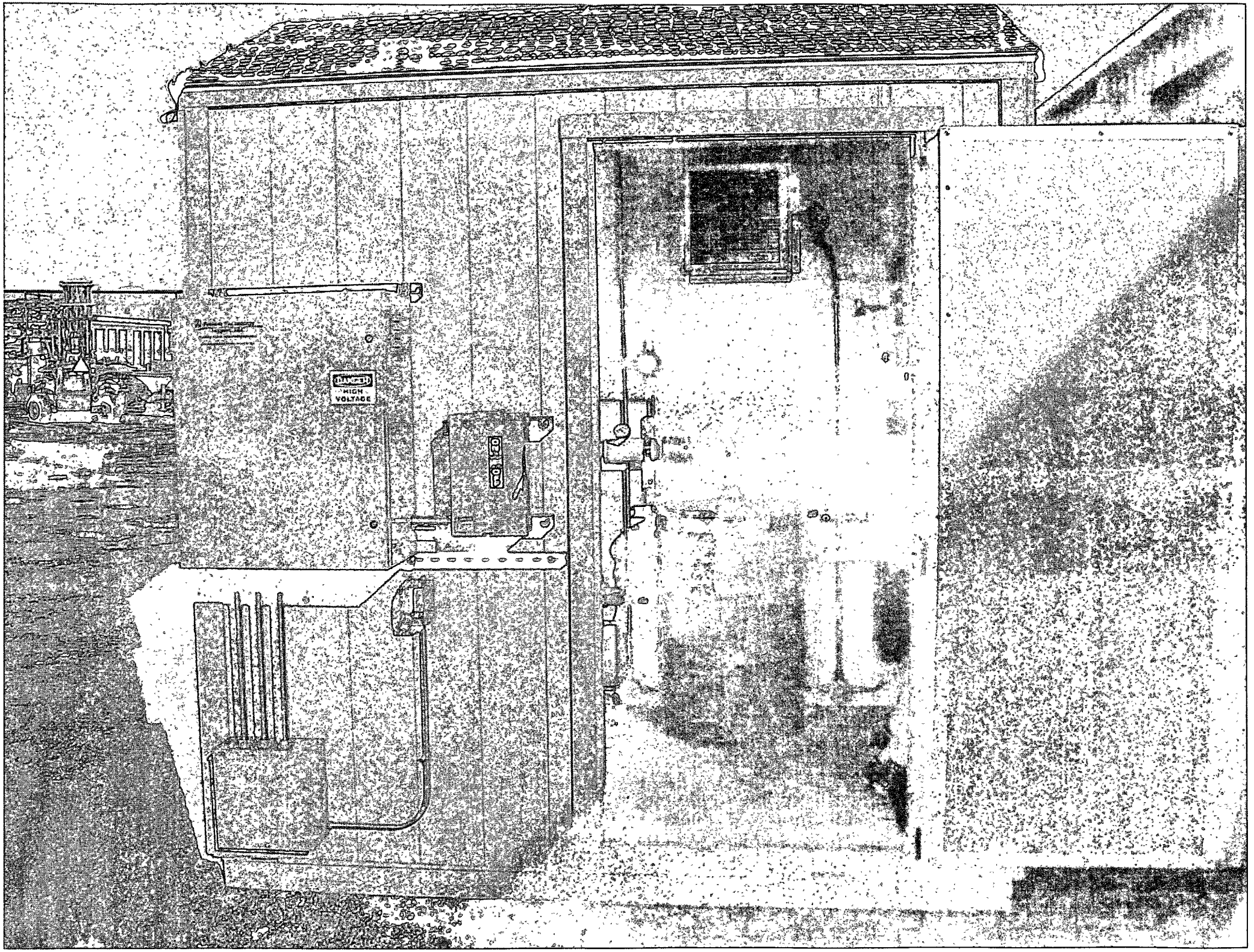
BLOWER SPEED (RPM)

CUSTOMER: Meteor Marketing
COND'S: AIR
RH = 100.00% MW = 28.573 k = 1.392 Tin = 68 deg F
DESIGN: Speed = 2413 RPM
System Inlet P = 5 in Hg Vac (Inlet P Loss = 0.4 PSI)
STD: RH = 36% T = 68 deg F P = 14.7 PSIA




KO TANK
HI LEVEL
SVE DISCHARGE
HI TEMP
SVE LOW VACUUM
SVE VFD FAULT
POWER MONITOR
ALARM
RESET
OFF
ON
CONTROL POWER
(OFF-ON)
HAND OFF AUTO
SVE BLOWER
(H-O-A)
WARNING!
Wait 3 minutes before
re-starting SVE blower
after shut-down.


DANGER
THIS EQUIPMENT
STARTS AND STOPS
AUTOMATICALLY


HIGH
VOLTAGE

Appendix E
Release Notification and 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.

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 @ 16:0	
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

Printed Name: Camille Bryant

Title: Remediation Coordinator

E-mail Address: cjbryant@paalp.com

Date: 05/08/2008 Phone:505-441-0965

OIL CONSERVATION DIVISION

Approved by District Supervisor: L Johnson ENVIRONMENTAL ENGINEER

Approval Date: 5.8.08 Expiration Date: 7.8.08

Conditions of Approval:

Attached ☐

IRP-1853

Attach Additional Sheets If Necessary