

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 IRP-2738

OPERATOR Initial Report Final Report

Name of Company	Plains Pipeline, LP	Contact	Jason Henry
Address	2530 State Hwy. 214, Denver City, TX 79323	Telephone No.	(575) 441-1099
Facility Name	EK Queen 6-inch Discharge	Facility Type	Pipeline

Surface Owner	Kenny Smith	Mineral Owner		Lease No.	
---------------	-------------	---------------	--	-----------	--

LOCATION OF RELEASE API # 30,025,12803

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	20	18S	34E					Lea

Latitude N 33.73361° Longitude W 103.58750°

NATURE OF RELEASE

Type of Release	Crude Oil	Volume of Release	10 bbls	Volume Recovered	0 bbls
Source of Release	Pipeline Release	Date and Hour of Occurrence	08/30/2011	Date and Hour of Discovery	08/30/2011 @ 08:00
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Verbal notification to Geoff Leking (Voice mail)		
By Whom?	Jason Henry	Date and Hour	08/30/2011 @ 15:45		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.* **HOBBS OCD**
MAR 22 2012 GW=95'

Describe Cause of Problem and Remedial Action Taken.* **RECEIVED**
Internal corrosion of the EK Queen 6-inch Pipeline caused a release of crude oil!

Describe Area Affected and Cleanup Action Taken.*
Please see the attached Basin Environmental Remediation Summary and Site Closure Request for details regarding the remedial activities conducted at the site.

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

Signature:	<i>Jason Henry</i>	OIL CONSERVATION DIVISION	
Printed Name:	Jason Henry	Approved by	ENV SPECIALIST District Supervisor: <i>Geoff Leking</i>
Title:	Remediation Coordinator	Approval Date:	3-22-12 Expiration Date: —
E-mail Address:	jhenry@paalp.com	Conditions of Approval:	— Attached <input type="checkbox"/>
Date:	03/22/2012 Phone: (575) 441-1099	IRP-9-11-2738	

* Attach Additional Sheets If Necessary

MAR 23 2012

Basin Environmental Service Technologies, LLC

3100 Plains Highway
P. O. Box 301
Lovington, New Mexico 88260
bjarguijo@basincnv.com
Office: (575) 396-2378 Fax: (575) 396-1429



REMEDIATION SUMMARY & SITE CLOSURE REQUEST

HOBBS OCD

MAR 22 2012

RECEIVED

**PLAINS MARKETING, LP
EK QUEEN 6-INCH DISCHARGE
Plains SRS #2011-143
Lea County, New Mexico
Unit Letter "E" (SW/NW), Section 20, Township 18 South, Range 34 East
Latitude 33.73361° North, Longitude 103.58750° West
NMOCD Reference #1RP-9-11-2738**

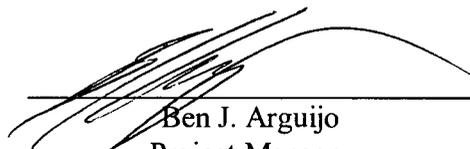
Prepared For:

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

Prepared By:

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

December 2011


Ben J. Arguijo
Project Manager

*approved
Jeff Blum
Env. Specialist
NMOCD-HOBBS
312212*

TABLE OF CONTENTS

1.0 INTRODUCTION & BACKGROUND INFORMATION.....	1
2.0 NMOCD SITE CLASSIFICATION.....	1
3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES.....	2
4.0 QA/QC PROCEDURES.....	3
4.1 Soil Sampling.....	3
4.2 Decontamination of Equipment.....	3
4.3 Laboratory Protocol.....	3
5.0 SITE CLOSURE REQUEST.....	3
6.0 LIMITATIONS.....	4
7.0 DISTRIBUTION.....	5

FIGURES

Figure 1 – Site Location Map

Figure 2 – Site & Sample Location Map

TABLES

Table 1 – Concentrations of Benzene, BTEX, TPH & Chlorides in Soil

APPENDICES

Appendix A – Release Notification and Corrective Action (Form C-141)

Appendix B – Photographs

Appendix C – Laboratory Analytical Reports

1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Plains Pipeline, LP (Plains), has prepared this *Remediation Summary & Site Closure Request* for the release site known as EK Queen 6-Inch Discharge. The legal description of the release site is Unit Letter "E" (SW/NW), Section 18, Township 18 South, Range 34 East, in Lea County, New Mexico. The geographic coordinates of the release site are 33.73361° North latitude and 103.58750° West longitude. The property affected by the release is owned by Mr. Kenny Smith. A "Site Location Map" is provided as Figure 1.

On August 30, 2011, Plains discovered a release had occurred on the EK Queen 6-inch Pipeline. Failure of a section of the pipeline resulted in a release of crude oil. The release was attributed to internal corrosion of the pipeline. The release was reported to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office. The "Release Notification and Corrective Action" (Form C-141) indicated approximately ten barrels (10 bbls) of crude oil was released, with no recovery. The Form C-141 is provided as Appendix A. General photographs of the release site are provided as Appendix B.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 20, Township 18 South, Range 34 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately ninety-five feet (95'). Based on the NMOCD ranking system, ten (10) points will be assigned to the site as a result of this criterion.

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

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

NMOCD guidelines indicate the EK Queen 6-Inch Discharge release site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)
- TPH – 1,000 mg/Kg (ppm)

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

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On September 23, 2011, following initial response activities, excavation of impacted soil commenced at the site. From September 23 through September 27, 2011, impacted soil was excavated, mechanically screened to separate large rock from the soil, and stockpiled on-site, pending final disposition.

On September 29, 2011, thirteen (13) soils samples (samples #1 through #13) were collected from the floor and sidewalls of the excavation. The soil samples were submitted to Xenco Laboratories, Inc., in Odessa, Texas, for analysis of benzene, ethylbenzene, toluene, and xylene (BTEX) and/or total petroleum hydrocarbon (TPH) concentrations using EPA Methods SW 846-8021b and SW 846-8015M, respectively. Soil sample #4 was also analyzed for chloride concentrations using EPA Method 300.1. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chlorides in Soil". Soil sample locations are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical reports are provided as Appendix C.

Laboratory analytical results indicated benzene concentrations were less than the laboratory method detection limit (MDL) in all soil samples submitted. BTEX concentrations ranged from less than the laboratory MDL in soil sample #12 to 0.0185 mg/Kg in soil sample #1. TPH concentrations ranged from less than the laboratory MDL in soil samples #2, #4, and #13 to 289 mg/Kg in soil sample #9. The chloride concentration in soil sample #4 was 139 mg/Kg. Review of laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory standards for all submitted soil samples.

On September 29 and September 30, 2011, approximately two hundred and forty cubic yards (240 yd³) of the stockpiled material was transported to the Lazy Ace Landfarm (NMOCD Permit #NM 01-0041) for disposal.

On October 13, 2011, a Plains representative met with a representative of the NMOCD Hobbs District Office to request permission to backfill the excavation. The request was approved by the NMOCD representative.

Based on laboratory analytical results, and with NMOCD approval, on October 17 and 18, 2011, the excavation was backfilled in eighteen-inch (18") lifts, compacted, and contoured to fit the surrounding topography. Prior to backfilling, the separated rock was placed in the floor of the excavation and leveled. Final dimensions of the excavation were approximately one hundred and seventy five feet (175') in length, ranging in width from approximately four feet (4') to approximately fifteen feet (15'), and ranging in depth from approximately three feet (3') to approximately nine feet (9').

On October 19, 2011, the EK Queen 6-Inch Discharge release site was seeded with an NMOCD-approved seed mixture (BLM #3). Pictures of the seeding event are included in Appendix B.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

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

The soil samples were analyzed as follows:

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

4.2 Decontamination of Equipment

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

4.3 Laboratory Protocol

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

5.0 SITE CLOSURE REQUEST

Soil samples collected from the floors and sidewalls of the EK Queen 6-Inch Discharge excavations were analyzed by an NMOCD-approved laboratory, and concentrations of Benzene, BTEX, TPH, and chlorides were below the remediation action levels established for the site. Based on these laboratory analytical results, Basin recommends Plains provide the NMOCD Hobbs District Office a copy of this *Remediation Summary & Site Closure Request* and request the NMOCD grant site closure to the EK Queen 6-Inch Discharge release site.

6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin has not conducted an independent examination of the facts contained in referenced materials and statements. Basin has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin 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 Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

7.0 DISTRIBUTION:

Copy 1: Geoffrey Leking
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 1)
1625 French Drive
Hobbs, NM 88240
GeoffreyR.Leking@state.nm.us

Copy 2: Jeff Dann
Plains Pipeline, LP
333 Clay Street, Suite 1600
Houston, Texas 77002
jpdann@paalp.com

Copy 3: Jason Henry
Plains Pipeline, LP
2530 State Highway 214
Denver City, Texas 79323
jhenry@paalp.com

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

Figures

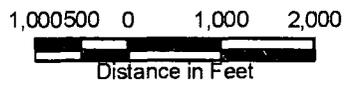
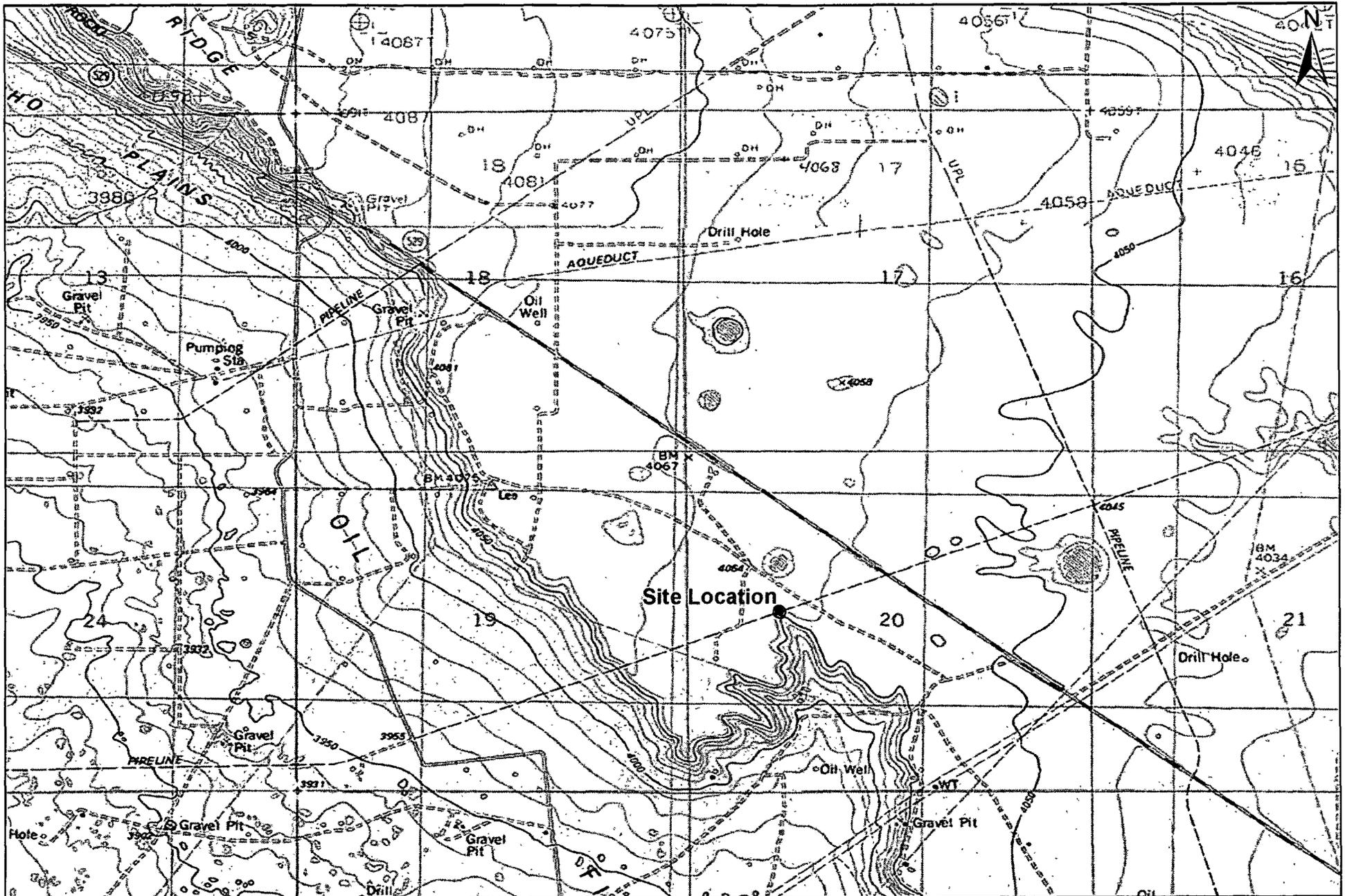
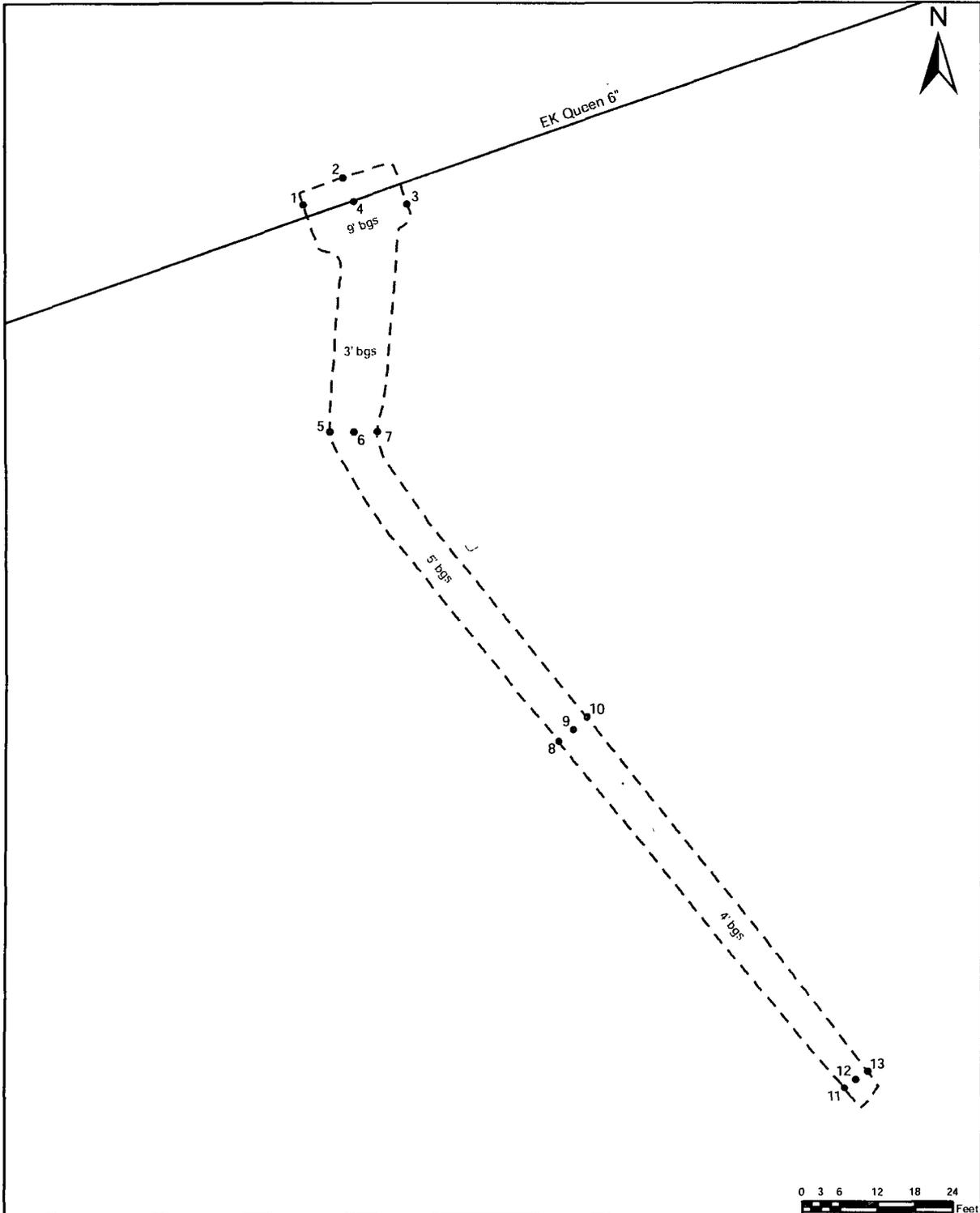


Figure 1
 Site Location Map
 Plains Pipeline, LP
 EK Queen 6-Inch Discharge
 Lea County, New Mexico
 SRS #: 2011-143
 NMOC Ref. #: 1RP-9-11-2738



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

Drawn By: BJA	Checked By: BRB
October 5, 2011	Scale: 1" = 2000'



Legend:

- - - Excavation Extent
- Pipeline
- Sample Location

Figure 2
 Site & Sample Location Map
 Plains Marketing, LP
 EK Queen 6-Inch Discharge
 Lea County, New Mexico
 SRS # 2011-143
 NMOCD Ref. #: 1RP-9-11-2738



Basin Environmental Service Technologies
 3100 Plains Hwy
 Lovington, NM 88260

Drawn By BJA	Checked By. BRB
October 5, 2011	Scale: 1" = 24'

Tables

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDES IN SOIL

PLAINS PIPELINE, L.P.
 EK QUEEN 6-INCH DISCHARGE
 LEA COUNTY, NEW MEXICO
 SRS #: 2011-143
 NMOCD Ref. #: 1RP-9-11-2738

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030							METHOD: 8015M			TOTAL TPH C ₆ -C ₃₅ (mg/Kg)	E 300 CHLORID E (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)		
#1	9'	9/29/2011	In-Situ	<0.0010	0.0026	0.00217	0.00944	0.0043	0.0137	0.0185	<15.6	25.1	<15.6	25.1	-
#2	9'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.4	<15.4	<15.4	<15.4	-
#3	9'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.2	22.8	<15.2	22.8	-
#4	9'	9/29/2011	In-Situ	<0.0010	<0.0020	<0.0010	0.00524	0.00225	0.00749	0.00749	<15.2	<15.2	<15.2	<15.2	139
#5	3'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.2	20.8	<15.2	20.8	-
#6	3'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.0	22.7	<15.0	22.7	-
#7	3'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.3	22.7	<15.3	22.7	-
#8	5'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.5	17.6	<15.5	17.6	-
#9	5'	9/29/2011	In-Situ	<0.0010	0.00476	0.00338	0.0059	0.00284	0.00874	0.0169	34.4	223	31.2	289	-
#10	5'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.1	18.7	<15.1	18.7	-
#11	4'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<16.0	23.3	<16.0	23.3	-
#12	4'	9/29/2011	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	30.0	194	33.8	258	-
#13	4'	9/29/2011	In-Situ	-	-	-	-	-	-	-	<15.7	<15.7	<15.7	<15.7	-
NMOCD Standard				10	-	-	-	-	-	50	-	-	-	1,000	500

Appendices

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

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company	Plains Pipeline, LP	Contact	Jason Henry
Address	2530 State Hwy. 214, Denver City, TX 79323	Telephone No.	(575) 441-1099
Facility Name	EK Queen 6-inch Discharge	Facility Type	Pipeline

Surface Owner	Kenny Smith	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
E	20	18S	34E					Lea

Latitude N 33.73361° Longitude W 103.58750°

NATURE OF RELEASE

Type of Release	Crude Oil	Volume of Release	10 bbls	Volume Recovered	0 bbls
Source of Release	Pipeline Release	Date and Hour of Occurrence	08/30/2011	Date and Hour of Discovery	08/30/2011 @ 08:00
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required				
By Whom?	Jason Henry	If YES, To Whom?	Verbal notification to Geoff Leking (Voice mail)		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Date and Hour	08/30/2011 @ 15:45				
If a Watercourse was Impacted, Describe Fully.*	If YES, Volume Impacting the Watercourse.				

HOBBS OCD
GW@95' SEP 13 2011

Describe Cause of Problem and Remedial Action Taken.*

Internal corrosion of the EK Queen 6-inch Pipeline caused a release of crude oil.

RECEIVED

Describe Area Affected and Cleanup Action Taken.*

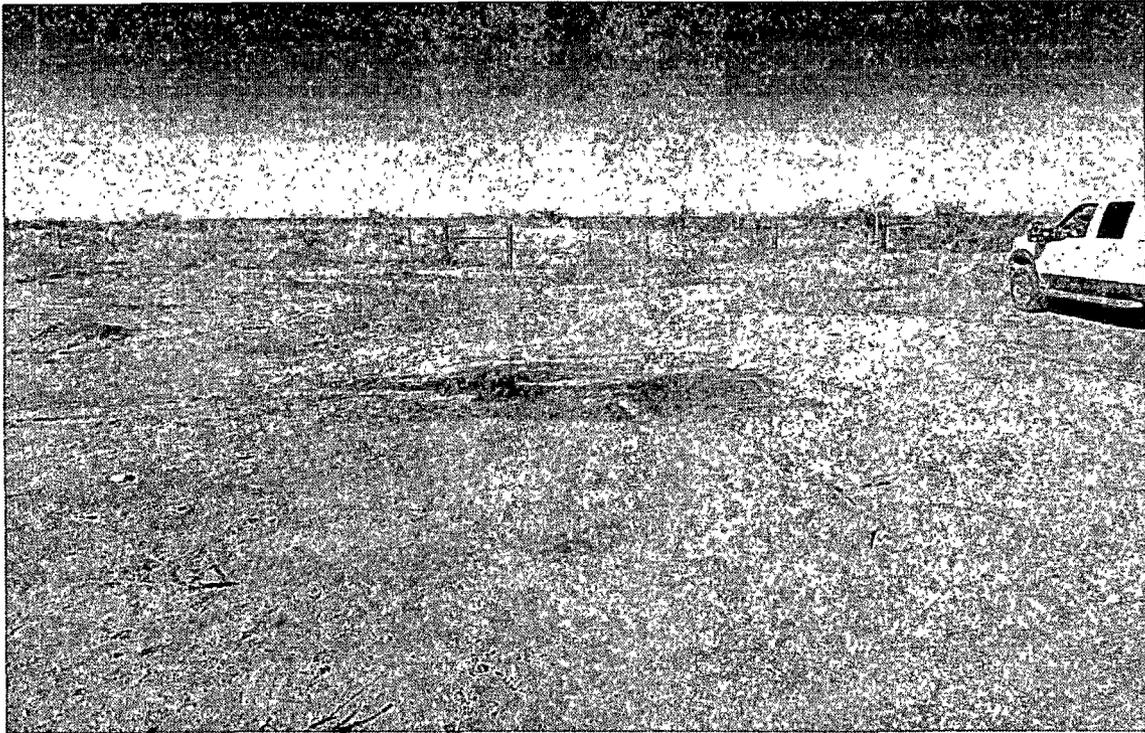
The impacted soil and caliche will be excavated, stockpiled, and remediated per applicable guidelines.

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

Signature:	<i>Jason Henry</i>	OIL CONSERVATION DIVISION			
Printed Name:	Jason Henry	ENR ENGINEER:	Approved by District Supervisor: <i>Geoff Leking</i>		
Title:	Remediation Coordinator	Approval Date:	9/13/11	Expiration Date:	11/14/11
E-mail Address:	jhenry@paalp.com	Conditions of Approval:	SUBMIT FINAL C-141 BY 11/14/11		
Date:	09/13/2011	Phone:	(575) 441-1099		
			Attached	<input type="checkbox"/>	
			IRP-9-11-2739		

* Attach Additional Sheets If Necessary

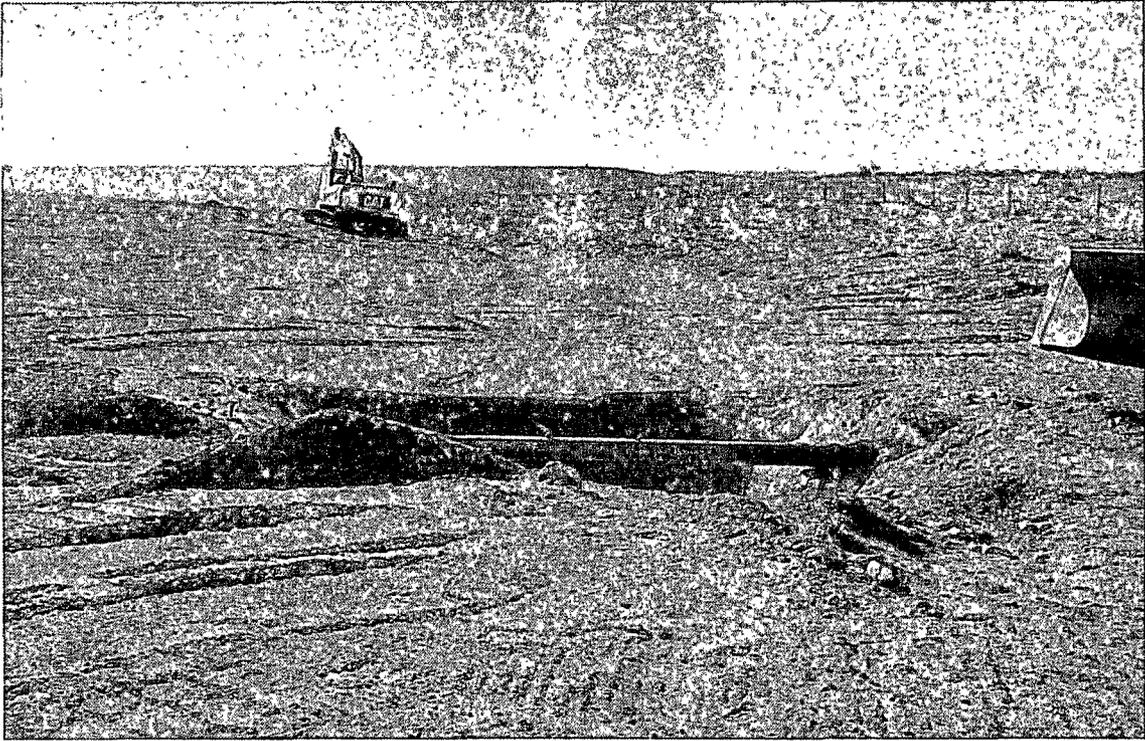
Appendix B
Photographs



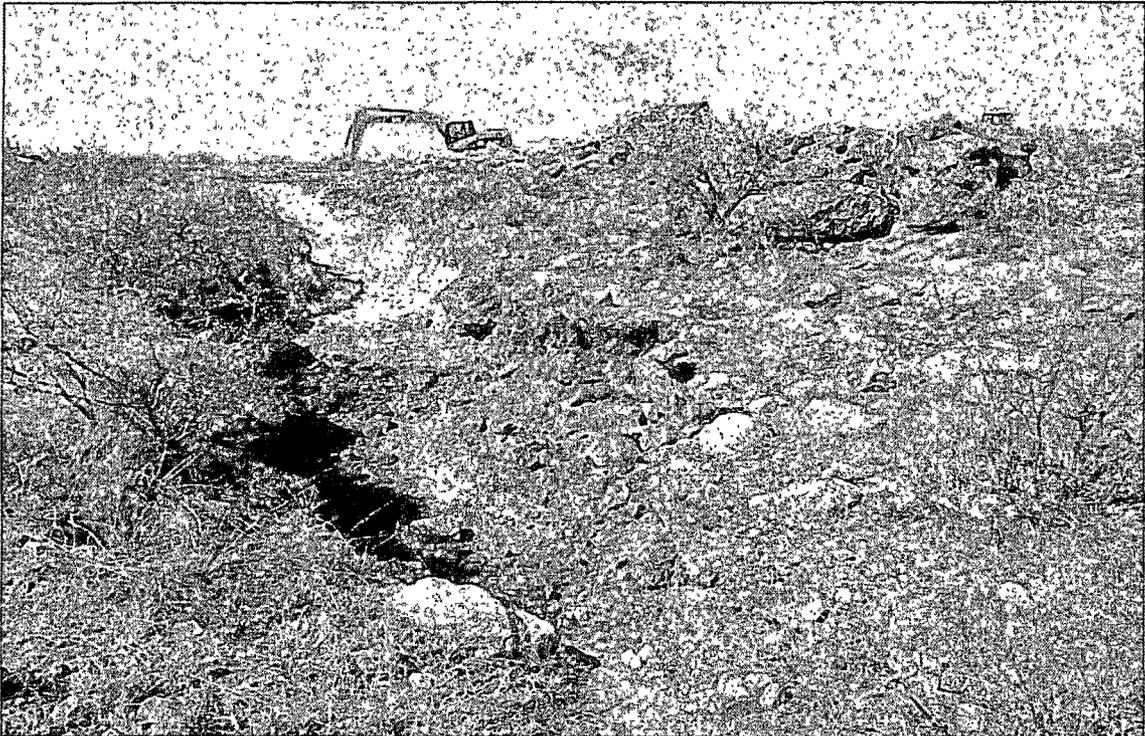
EK Queen 6-Inch Discharge - Release Point



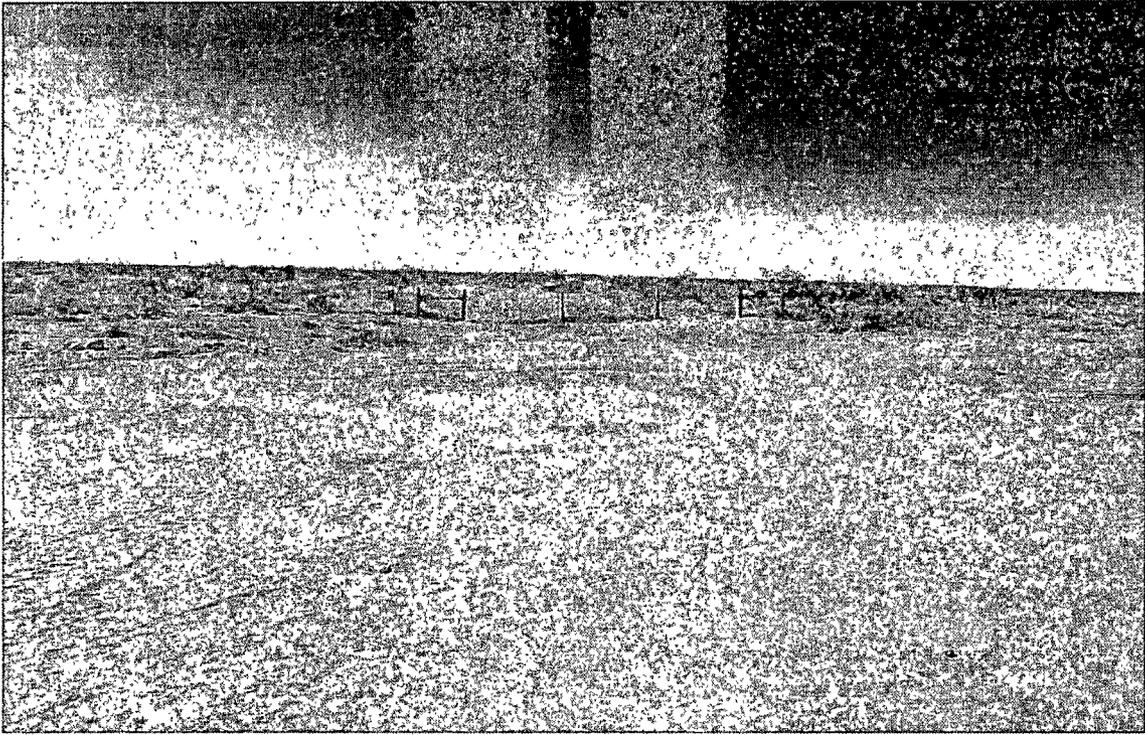
EK Queen 6-Inch Discharge - Release Site (Flow Path)



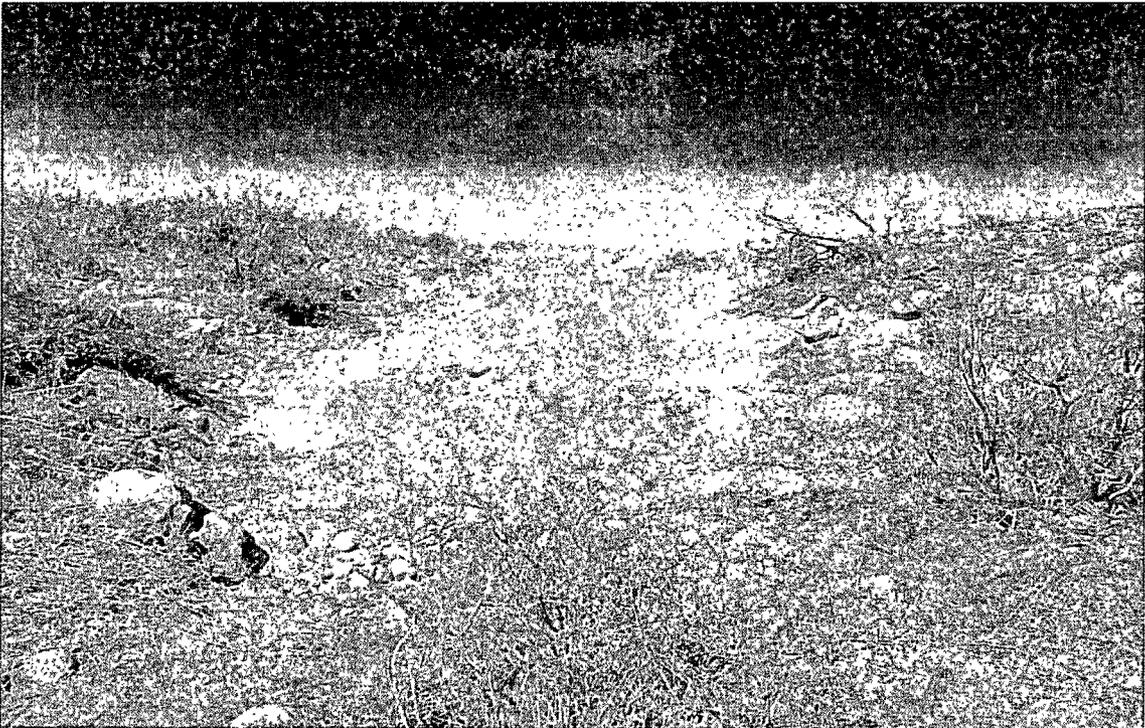
EK Queen 6-Inch Discharge - Excavation



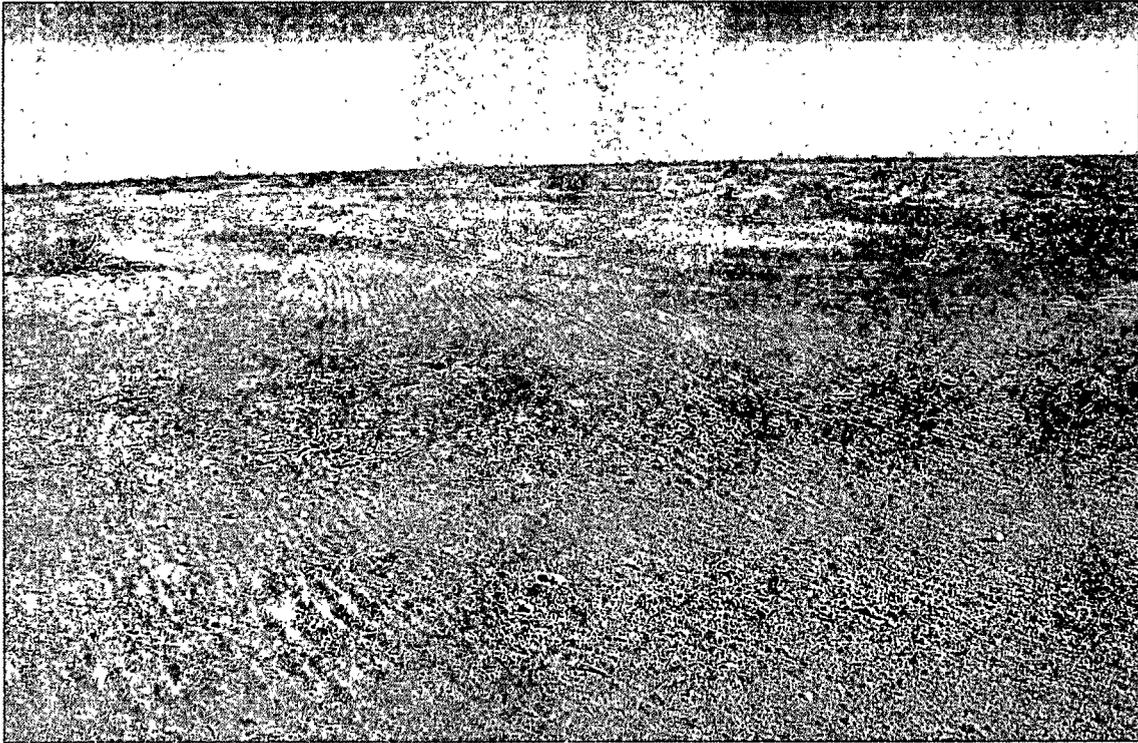
EK Queen 6-Inch Discharge - Excavation



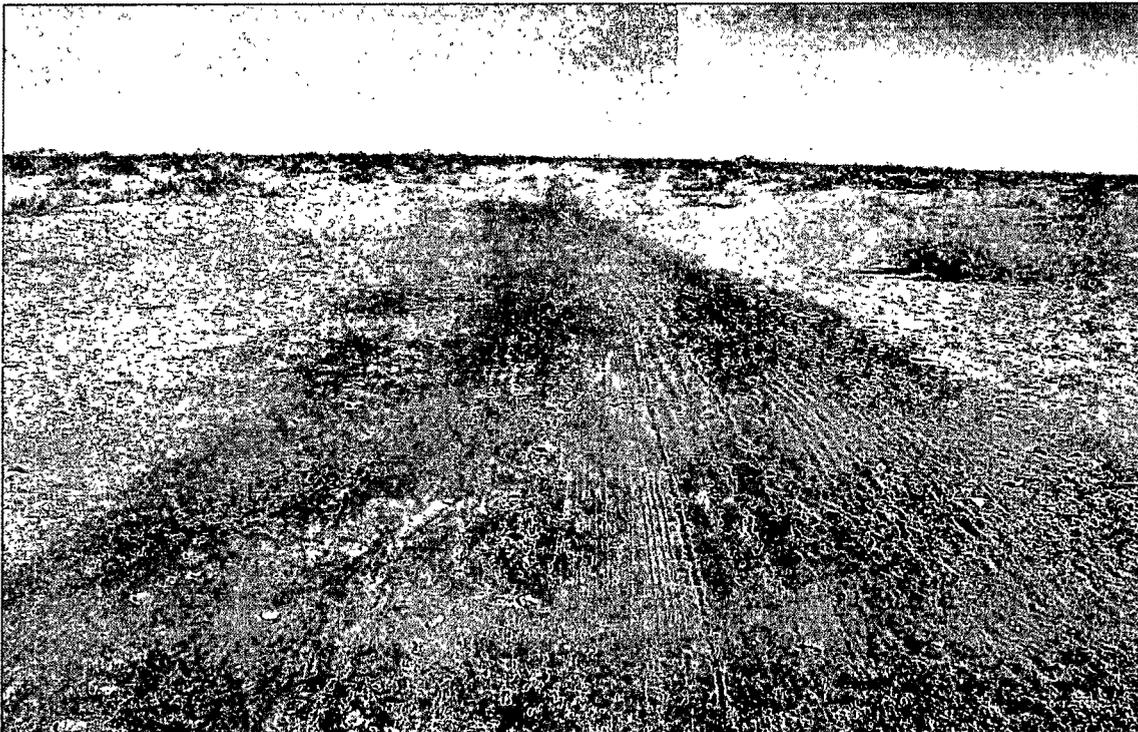
EK Queen 6-Inch Discharge - Excavation (Following Backfill)



EK Queen 6-Inch Discharge - Excavation (Following Backfill)



EK Queen 6-Inch Discharge - Excavation (Following Seeding)



EK Queen 6-Inch Discharge - Excavation (Following Seeding)

Appendix C
Laboratory Analytical Reports

Analytical Report 428720
for
PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen 6-Inch Discharge

2011-143

07-OCT-11

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

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

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

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

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

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



07-OCT-11

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

Reference: XENCO Report No: **428720**
EK Queen 6-Inch Discharge
Project Address: Lea County, NM

Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 428720. 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. 428720 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 428720



PLAINS ALL AMERICAN EH&S, Midland, TX
EK Queen 6-Inch Discharge

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
# 1	S	09-29-11 10:15		428720-001
# 2	S	09-29-11 10:20		428720-002
# 3	S	09-29-11 10:25		428720-003
# 4	S	09-29-11 10:30		428720-004
# 5	S	09-29-11 10:35		428720-005
# 6	S	09-29-11 10:40		428720-006
# 7	S	09-29-11 10:45		428720-007
# 8	S	09-29-11 10:50		428720-008
# 9	S	09-29-11 10:55		428720-009
# 10	S	09-29-11 11:00		428720-010
# 11	S	09-29-11 11:05		428720-011
# 12	S	09-29-11 11:10		428720-012
# 13	S	09-29-11 11:15		428720-013



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen 6-Inch Discharge



Project ID: 2011-143
Work Order Number: 428720

Report Date: 07-OCT-11
Date Received: 09/30/2011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-871527 TPH by SW8015 Mod
SW8015MOD_NM

Batch 871527, o-Terphenyl recovered above QC limits Data confirmed by re-analysis. Samples affected are: 612208-1-BKS,428720-013 SD,428720-003,428720-009,428720-011,428720-012,428720-013,428720-002,428720-001,428720-007.



Certificate of Analysis Summary 428720

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2011-143

Contact: Jason Henry

Project Location: Lea County, NM

Project Name: EK Queen 6-Inch Discharge

Date Received in Lab: Fri Sep-30-11 10:45 am

Report Date: 07-OCT-11

Project Manager: Brent Barron II

Analysis Requested	Lab Id:	428720-001	428720-002	428720-003	428720-004	428720-005	428720-006
	Field Id:	# 1	# 2	# 3	# 4	# 5	# 6
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Sep-29-11 10:15	Sep-29-11 10:20	Sep-29-11 10:25	Sep-29-11 10:30	Sep-29-11 10:35	Sep-29-11 10:40
BTEX by EPA 8021	Extracted:	Oct-06-11 12:19			Oct-06-11 12:19		
	Analyzed:	Oct-06-11 14:55			Oct-06-11 15:18		
	Units/RL:	mg/kg RL			mg/kg RL		
Benzene		ND 0.00103			ND 0.00102		
Toluene		0.00260 0.00206			ND 0.00203		
Ethylbenzene		0.00217 0.00103			ND 0.00102		
m_p-Xylenes		0.00944 0.00206			0.00524 0.00203		
o-Xylene		0.00430 0.00103			0.00225 0.00102		
Xylenes, Total		0.0137 0.00103			0.00749 0.00102		
Total BTEX		0.0185 0.00103			0.00749 0.00102		
Inorganic Anions In Soil by E300	Extracted:				Oct-03-11 22:52		
	Analyzed:						
	Units/RL:				mg/kg RL		
Chloride					139 10.1		
Percent Moisture	Extracted:						
	Analyzed:	Sep-30-11 12:30					
	Units/RL:	% RL					
Percent Moisture		3.48 1.00	1.86 1.00	1.91 1.00	1.47 1.00	1.06 1.00	ND 1.00
TPH by SW8015 Mod	Extracted:	Sep-30-11 13:55					
	Analyzed:	Oct-03-11 20:41	Oct-03-11 21:06	Oct-03-11 21:31	Oct-03-11 21:55	Oct-03-11 23:11	Oct-03-11 23:38
	Units/RL:	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		ND 15.6	ND 15.4	ND 15.2	ND 15.2	ND 15.2	ND 15.0
C12-C28 Diesel Range Hydrocarbons		25.1 15.6	ND 15.4	22.8 15.2	ND 15.2	20.8 15.2	22.7 15.0
C28-C35 Oil Range Hydrocarbons		ND 15.6	ND 15.4	ND 15.2	ND 15.2	ND 15.2	ND 15.0
Total TPH		25.1 15.6	ND 15.4	22.8 15.2	ND 15.2	20.8 15.2	22.7 15.0

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Brent Barron II
Odessa Laboratory Manager



Certificate of Analysis Summary 428720

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: EK Queen 6-Inch Discharge

Project Id: 2011-143

Contact: Jason Henry

Date Received in Lab: Fri Sep-30-11 10:45 am

Report Date: 07-OCT-11

Project Location: Lea County, NM

Project Manager: Brent Barron II

<i>Analysis Requested</i>	<i>Lab Id:</i>	428720-007	428720-008	428720-009	428720-010	428720-011	428720-012
	<i>Field Id:</i>	# 7	# 8	# 9	# 10	# 11	# 12
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-29-11 10:45	Sep-29-11 10:50	Sep-29-11 10:55	Sep-29-11 11:00	Sep-29-11 11:05	Sep-29-11 11:10
BTEX by EPA 8021	<i>Extracted:</i>			Oct-06-11 12:19			Oct-06-11 12:19
	<i>Analyzed:</i>			Oct-06-11 15:41			Oct-06-11 16:04
	<i>Units/RL:</i>			mg/kg RL			mg/kg RL
Benzene				ND 0.00101			ND 0.00104
Toluene				0.00476 0.00202			ND 0.00207
Ethylbenzene				0.00338 0.00101			ND 0.00104
m_p-Xylenes				0.00590 0.00202			ND 0.00207
o-Xylene				0.00284 0.00101			ND 0.00104
Xylenes, Total				0.00874 0.00101			ND 0.00104
Total BTEX				0.0169 0.00101			ND 0.00104
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Sep-30-11 12:30					
	<i>Units/RL:</i>	% RL					
Percent Moisture		1.80 1.00	3.04 1.00	ND 1.00	ND 1.00	6.55 1.00	3.74 1.00
TPH by SW8015 Mod	<i>Extracted:</i>	Sep-30-11 13:55					
	<i>Analyzed:</i>	Oct-04-11 00:05	Oct-04-11 00:32	Oct-04-11 00:59	Oct-04-11 01:26	Oct-04-11 01:54	Oct-04-11 02:21
	<i>Units/RL:</i>	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		ND 15.3	ND 15.5	34.4 15.2	ND 15.1	ND 16.0	30.0 15.5
C12-C28 Diesel Range Hydrocarbons		22.7 15.3	17.6 15.5	223 15.2	18.7 15.1	23.3 16.0	194 15.5
C28-C35 Oil Range Hydrocarbons		ND 15.3	ND 15.5	31.2 15.2	ND 15.1	ND 16.0	33.8 15.5
Total TPH		22.7 15.3	17.6 15.5	289 15.2	18.7 15.1	23.3 16.0	258 15.5

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Brent Barron II
Odessa Laboratory Manager



Certificate of Analysis Summary 428720

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: EK Queen 6-Inch Discharge

Project Id: 2011-143

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Sep-30-11 10:45 am

Report Date: 07-OCT-11

Project Manager: Brent Barron II

Analysis Requested	<i>Lab Id:</i>	428720-013					
	<i>Field Id:</i>	# 13					
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL					
	<i>Sampled:</i>	Sep-29-11 11:15					
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Sep-30-11 12:30					
	<i>Units/RL:</i>	% RL					
Percent Moisture		4.28 1.00					
TPH by SW8015 Mod	<i>Extracted:</i>	Sep-30-11 13:55					
	<i>Analyzed:</i>	Oct-04-11 02:48					
	<i>Units/RL:</i>	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		ND 15.7					
C12-C28 Diesel Range Hydrocarbons		ND 15.7					
C28-C35 Oil Range Hydrocarbons		ND 15.7					
Total TPH		ND 15.7					

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Brent Barron II
Odessa Laboratory Manager



Flagging Criteria

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

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 5757 NW 158th St, Miami Lakes, FL 33014
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 6017 Fmancial Drive, Norcross, GA 30071
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(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Discharge

Work Orders : 428720,

Project ID: 2011-143

Lab Batch #: 871527

Sample: 428720-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/03/11 20:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	112	100	112	70-135	
o-Terphenyl	74.8	50.1	149	70-135	*

Lab Batch #: 871527

Sample: 428720-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/03/11 21:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	113	101	112	70-135	
o-Terphenyl	76.6	50.3	152	70-135	*

Lab Batch #: 871527

Sample: 428720-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/03/11 21:31

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	117	99.6	117	70-135	
o-Terphenyl	75.1	49.8	151	70-135	*

Lab Batch #: 871527

Sample: 428720-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/03/11 21:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	98.4	99.7	99	70-135	
o-Terphenyl	63.5	49.9	127	70-135	

Lab Batch #: 871527

Sample: 428720-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/03/11 23:11

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	103	100	103	70-135	
o-Terphenyl	66.1	50.0	132	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Discharge

Work Orders : 428720,

Project ID: 2011-143

Lab Batch #: 871527

Sample: 428720-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/03/11 23:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.3	99.5	98	70-135	
o-Terphenyl	62.9	49.8	126	70-135	

Lab Batch #: 871527

Sample: 428720-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 00:05

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.9	122	70-135	
o-Terphenyl	82.3	50.0	165	70-135	*

Lab Batch #: 871527

Sample: 428720-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 00:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	62.1	50.1	124	70-135	

Lab Batch #: 871527

Sample: 428720-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 00:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	69.6	50.2	139	70-135	*

Lab Batch #: 871527

Sample: 428720-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 01:26

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.7	99.7	87	70-135	
o-Terphenyl	54.9	49.9	110	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Discharge

Work Orders : 428720,

Project ID: 2011-143

Lab Batch #: 871527

Sample: 428720-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 01:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.5	111	70-135	
o-Terphenyl	79.5	49.8	160	70-135	*

Lab Batch #: 871527

Sample: 428720-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 02:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	70.2	49.9	141	70-135	*

Lab Batch #: 871527

Sample: 428720-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 02:48

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	72.3	50.1	144	70-135	*

Lab Batch #: 871764

Sample: 428720-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/06/11 14:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 871764

Sample: 428720-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/06/11 15:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0249	0.0300	83	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Discharge

Work Orders : 428720,

Project ID: 2011-143

Lab Batch #: 871764

Sample: 428720-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/06/11 15:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 871764

Sample: 428720-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/06/11 16:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 871527

Sample: 612208-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/03/11 17:45

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.6	100	93	70-135	
o-Terphenyl	63.2	50.2	126	70-135	

Lab Batch #: 871764

Sample: 612348-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/06/11 14:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 871527

Sample: 612208-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/03/11 16:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.6	123	70-135	
o-Terphenyl	73.9	49.8	148	70-135	*

* Surrogate outside of Laboratory QC limits
 ** Surrogates outside limits; data and surrogates confirmed by reanalysis
 *** Poor recoveries due to dilution
 Surrogate Recovery [D] = 100 * A / B
 All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Discharge

Work Orders : 428720,

Project ID: 2011-143

Lab Batch #: 871764

Sample: 612348-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/06/11 12:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 871527

Sample: 612208-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/03/11 17:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	64.1	50.2	128	70-135	

Lab Batch #: 871764

Sample: 612348-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/06/11 13:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 871527

Sample: 428720-013 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 03:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.6	113	70-135	
o-Terphenyl	64.7	49.8	130	70-135	

Lab Batch #: 871764

Sample: 428720-012 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/06/11 16:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6-Inch Discharge

Work Orders : 428720,

Project ID: 2011-143

Lab Batch #: 871527

Sample: 428720-013 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/04/11 03:42

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.8	117	70-135	
o-Terphenyl	70.8	49.9	142	70-135	*

Lab Batch #: 871764

Sample: 428720-012 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/06/11 16:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: EK Queen 6-Inch Discharge

Work Order #: 428720

Project ID: 2011-143

Analyst: ASA

Date Prepared: 10/06/2011

Date Analyzed: 10/06/2011

Lab Batch ID: 871764

Sample: 612348-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	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
Analytes											
Benzene	<0.00100	0.100	0.0976	98	0.100	0.0991	99	2	70-130	35	
Toluene	<0.00200	0.100	0.100	100	0.100	0.101	101	1	70-130	35	
Ethylbenzene	<0.00100	0.100	0.106	106	0.100	0.107	107	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.214	107	0.200	0.217	109	1	70-135	35	
o-Xylene	<0.00100	0.100	0.106	106	0.100	0.106	106	0	71-133	35	

Analyst: BRB

Date Prepared: 10/03/2011

Date Analyzed: 10/03/2011

Lab Batch ID: 871517

Sample: 871517-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions In Soil by E300	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
Analytes											
Chloride	<1.00	20.0	21.6	108	20.0	21.5	108	0	75-125	20	

Relative Percent Difference RPD = $200 \cdot |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 \cdot (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 \cdot (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: EK Queen 6-Inch Discharge

Work Order #: 428720

Analyst: BBH

Date Prepared: 09/30/2011

Project ID: 2011-143

Date Analyzed: 10/03/2011

Lab Batch ID: 871527

Sample: 612208-1-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	<14.9	996	863	87	1000	771	77	11	70-135	35
C12-C28 Diesel Range Hydrocarbons	<14.9	996	1090	109	1000	937	94	15	70-135	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: EK Queen 6-Inch Discharge

Work Order #: 428720

Lab Batch #: 871517

Date Analyzed: 10/03/2011

QC- Sample ID: 428617-007 S

Reporting Units: mg/kg

Project ID: 2011-143

Analyst: BRB

Date Prepared: 10/03/2011

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	118	232	358	103	75-125	

Lab Batch #: 871517

Date Analyzed: 10/03/2011

QC- Sample ID: 428720-004 S

Reporting Units: mg/kg

Date Prepared: 10/03/2011

Analyst: BRB

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	139	203	345	101	75-125	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: EK Queen 6-Inch Discharge

Work Order #: 428720

Project ID: 2011-143

Lab Batch ID: 871764

QC- Sample ID: 428720-012 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/06/2011

Date Prepared: 10/06/2011

Analyst: ASA

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00103	0.103	0.0794	77	0.103	0.0871	85	9	70-130	35
Toluene	<0.00207	0.103	0.0793	77	0.103	0.0875	85	10	70-130	35	
Ethylbenzene	<0.00103	0.103	0.0819	80	0.103	0.0881	86	7	71-129	35	
m_p-Xylenes	<0.00207	0.207	0.162	78	0.206	0.174	84	7	70-135	35	
o-Xylene	<0.00103	0.103	0.0780	76	0.103	0.0847	82	8	71-133	35	

Lab Batch ID: 871527

QC- Sample ID: 428720-013 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/04/2011

Date Prepared: 09/30/2011

Analyst: BBH

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	<15.6	1040	840	81	1040	841	81	0	70-135	35
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1030	99	1040	1100	106	7	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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: EK Queen 6-Inch Discharge

Work Order #: 428720

Lab Batch #: 871517

Project ID: 2011-143

Date Analyzed: 10/03/2011 22:52

Date Prepared: 10/03/2011

Analyst: BRB

QC- Sample ID: 428720-004 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	139	137	1	20	

Lab Batch #: 871420

Date Analyzed: 09/30/2011 12:30

Date Prepared: 09/30/2011

Analyst: BRB

QC- Sample ID: 428717-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.40	5.27	2	20	

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



XENCO Laboratories
 Atlanta, Boca Raton, Corpus Christi, Dallas
 Houston, Miami, Odessa, Philadelphia
 Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
 Document No.: SYS-SRC
 Revision/Date: No. 01, 5/27/2010
 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
 Date/Time: 9:30-11:55
 Lab ID #: 428720
 Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 4.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - Initial and Backup Temperature confirm out of temperature conditions
 - Client understands and would like to proceed with analysis