AP- 63

ANNUAL MONITORING REPORT

YEAR(S): 20//



2011 ANNUAL MONITORING REPORT

34 JUNCTION SOUTH STATION

LEA COUNTY, NEW MEXICO
NW ¼ SW ¼ SECTION 2, TOWNSHIP 17 SOUTH, RANGE 36 EAST
PLAINS SRS NUMBER: 2005-00138
NMOCD Reference AP-063

PREPARED FOR:

PLAINS MARKETING, L.P. 333 Clay Street, Suite 1600 Houston, Texas 77002



PREPARED BY:

NOVA Safety and Environmental 2057 Commerce Street Midland, Texas 79703

March 2012

Ronald K. Rounsaville Senior Project Manager Brittan K. Byerly, P.G

President



March 22, 2012

Mr. Edward Hansen New Mexico Oil Conservation Division Environmental Bureau 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re:

Plains All American - 2011 Annual Monitoring Reports

15 Sites in Lea County, New Mexico

MAR 26 2011

Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, NM 87505

Dear Mr. Hansen:

Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation Division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring reports for the following sites:

	/	
34 Junc. to Lea Sta.	1R-0386	Section 21, Township 20 South, Range 37 East, Lea County
34 Junction South	1R-0456 AP-6	Section 02, Township 17 South, Range 36 East, Lea County
Bob Durham	AP-0016 ′	Section 32, Township 19 South, Range 37 East, Lea County
HDO-90-23	AP-009	Section 06, Township 20 South, Range 37 East, Lea County
LF-59	1R-0103	Section 32, Township 19 South, Range 37 East, Lea County
Monument 2	1R-0110	Section 06, Township 20 South, Range 37 East, Lea County
		Section 07, Township 20 South, Range 37 East, Lea. County
Monument 10	1R-0119 ⁻	Section 30, Township 19 South, Range 37 East, Lea County
Monument 17	1R-123	Section 29, Township 19 South, Range 37 East, Lea County
Monument 18	1R-0124	Section 07, Township 20 South, Range 37 East, Lea County
SPS-11	GW-0140	Section 18, Township 18 South, Range 36 East, Lea County
Texaco Skelly F	1R-0420	Section 11, Township 21 South, Range 37 East, Lea County
TNM 97-04	GW-0294 -	Section 11, Township 16 South, Range 35 East, Lea County
TNM 97-17	AP-017 -	Section 21, Township 20 South, Range 37 East, Lea County
TNM 97-18	AP-0013~	Section 28, Township 20 South, Range 37 East, Lea County
TNM 98-05A	AP-12	Section 26, Township 21 South, Range 37 East, Lea County

Nova Safety and Environmental (Nova) prepared these documents and has vouched for their accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the documents and interviewed Nova personnel in order to verify the accuracy and completeness of these documents. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Reports for the above facilities.



If you have any questions or require further information, please contact me at (575) 441-1099.

Sincerely,

Jason Henry

Remediation Coordinator

Plains All American

CC:

Geoff Leking, NMOCD, Hobbs, NM

Enclosures

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ENCLOSED ON DATA DISK

2011 Annual Monitoring Report

2011 Tables 1, 2 and 3 – Groundwater Elevation, BTEX and PAH Concentration Data

2011 Figures 1, 2A-2D, and 3A-3D

Electronic Copies of Laboratory Reports

Historic Table 1, 2 and 3 – Groundwater Elevation, BTEX and PAH Concentration Tables

INTRODUCTION

On behalf of Plains Marketing, L.P. (Plains), NOVA Safety and Environmental (NOVA) is pleased to submit this Annual Monitoring Report in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1 of each year. Beginning on or about August 8, 2006, project management responsibilities were assumed by NOVA, having previously been managed by Basin Environmental Service Technologies, LLC, (Basin). This report is intended to be viewed as a complete document with text, figures, tables and appendices. The report presents the results of the quarterly groundwater monitoring events conducted in calendar year 2011 only. However, historic data tables as well as 2011 laboratory analytical reports are provided on the enclosed data disk. A site location map is provided as Figure 1.

Groundwater monitoring was conducted during each quarter of 2011 to assess the levels and extent of dissolved phase constituents and Phase Separated Hydrocarbon (PSH). Each groundwater monitoring event consisted of measuring static water levels in monitor wells, checking for the presence of PSH on the water column and purging and sampling of each well exhibiting sufficient recharge. Monitor wells containing a thickness of PSH greater than 0.01 foot were not sampled.

SITE DESCRIPTION AND BACKGROUND INFORMATION

The legal description of the site is NW¼, SW¼, Section 2, Township 17 South, Range 36 East. The site is located on property owned by the State of New Mexico. The site latitude is 32° 51 42.4" North and the site longitude is 103° 19' 54.4" West. Please reference Figure 1 for a Site Location Map. On June 10, 2005, Basin responded to a pipeline release on behalf of Plains. The release occurred as a result of the mechanical malfunction of an air eliminator check valve at an operational secondary metering station. Emergency response activities included the repair of the affected check valve and excavation of the hydrocarbon impacted soil. Approximately 15 barrels of crude oil were released from the pipeline and 0.5 barrels were recovered, resulting in a net loss of 14.5 barrels. The visibly stained surface area covers an area approximately 20 feet long by 20 feet wide. Excavation activities during the initial response activities covered an area within the fenced station approximately 20 feet long by 20 feet wide and one to four feet below ground surface (bgs). Approximately 100 cubic yards (cy) of excavated soil was placed on a polyethylene liner for future remedial activities. Please reference Appendix B for The Release Notification and Corrective Action (Form C-141).

Currently, there are 17 monitor wells and one recovery well (RW-1) on site. An automated PSH recovery system is present and consists of pneumatic total fluids pumps installed in monitor wells MW-3, MW-4, MW-8 through MW-11 and recovery well RW-1. In late April 2011, a grass fire destroyed elements of the automated treatment system including the upper casing of monitor well MW-3. Manual PSH recovery continued until the system was rebuilt in November 2011. Recovered PSH is temporarily stored in a frac tank and periodically re-injected into the Plains Pipeline transportation system.

A Stage 1 and Stage 2 Abatement Plan was submitted to the NMOCD in October 2006. The NMOCD has accepted the Abatement Plan as administratively complete and approved the public notice on October 25, 2011.

FIELD ACTIVITIES

Product Recovery Efforts

A measurable thickness of PSH was detected in seven monitor wells (MW-3, MW-4, MW-5, MW-8 through MW-11) and in recovery well RW-1 during the 2011 reporting period. An automated PSH recovery system, consisting of pneumatic total fluids pumps installed in monitor wells MW-3, MW-4, MW-8 through MW-11 and recovery well RW-1, was operational only during the 1st and 4th quarters of the reporting period. A grass fire in late April destroyed elements of the recovery system and was rebuilt by November 2011. The average thickness of PSH in monitor and recovery wells containing PSH during 2011 was 2.78 feet, with a maximum thickness of 8.96 feet occurring in monitor well MW-4 on May 3, 2011. Approximately 180 gallons (approximately 4.3 barrels) of PSH was recovered from the site during the 2011 reporting period. Approximately 2,974 gallons (approximately 70.8 barrels) of PSH have been recovered since the project inception. Measurable thicknesses of PSH are recorded in Table 1 and Figures 3A through 3D.

Groundwater Monitoring

Quarterly monitoring events for the reporting period were performed according to the following sampling schedule.

	NMO	CD APPROVED S	SAMPLING SCHE	DULE	
Location	Schedule	Location	Schedule	Location	Schedule
MW-1	Quarterly	MW-7	Quarterly	MW-13	Quarterly
MW-2	Quarterly	MW-8	Quarterly	MW-14	Quarterly
MW-3	Quarterly	MW-9	Quarterly	MW-15	Quarterly
MW-4	Quarterly	MW-10	Quarterly	MW-16	Quarterly
MW-5	Quarterly	MW-11	Quarterly	MW-17	Quarterly
MW-6	Quarterly	MW-12	Quarterly	RW-1	Quarterly

The site monitor wells were gauged and sampled on March 1, May 3, August 16, and November 28, 2011. During each sampling event, sampled monitor wells were purged of approximately three 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 collected using disposable Teflon samplers. Water samples were placed in clean glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a polystyrene tank and disposed of at a licensed disposal facility.

Locations of the monitor wells and the inferred groundwater gradient, which were constructed from measurements collected during the four quarterly monitoring events, are depicted on Figures 2A through 2D, the Inferred Groundwater Gradient Map(s). Groundwater elevation data for 2011 is provided as Table 1. Historic groundwater elevation data beginning at project inception is provided on the enclosed data disk.

The most recent Groundwater Gradient Map, Figure 2D, indicates a general gradient of approximately 0.0135 feet/foot to the east as measured between monitor wells MW-2 and MW-4. This is consistent with data presented from earlier in the year. The corrected groundwater elevation has ranged between 3,786.94 and 3,789.69 feet above mean sea level, in monitor wells MW-4 on November 28, 2011 and MW-7 on March 1, 2011, respectively.

LABORATORY RESULTS

Monitor wells MW-3, MW-4, MW-5, MW-8, MW-9, MW-10 and MW-11 and recovery well RW-1 contained PSH during all four quarters of the reporting period and were not sampled in 2011.

Groundwater samples obtained during the quarterly sampling events of 2011 were delivered to Trace Analysis, Inc. in Midland, Texas for determination of Benzene, Toluene, Ethylbenzene and Xylene (BTEX) constituent concentrations by EPA Method 8021B. Polynuclear Aromatic Hydrocarbons (PAH) analysis was conducted during the 2011 calendar year on monitor wells MW-13, MW-15, MW-16 and MW-17. Based upon historic PAH analytical data, only those wells exhibiting elevated constituent concentrations above WQCC standards were sampled, with the exclusion of those wells containing measurable PSH thicknesses. A listing of BTEX constituent concentrations for 2011 are summarized in Table 2 and the historic PAH constituent concentrations are summarized in Table 3. Copies of the laboratory reports generated for 2011 are provided on the enclosed data disk. The quarterly groundwater sample results for BTEX constituent concentrations are depicted on Figures 3A through 3D.

Monitor well MW-1 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last 22 consecutive quarters. PAH analysis was not required during the 4th quarter sampling event.

Monitor well MW-2 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last 22 consecutive quarters. PAH analysis was not required during the 4th quarter sampling event.

Monitor well MW-3 is monitored on a quarterly schedule. Monitor well MW-3 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. PSH thicknesses of 0.12 feet, 0.86 feet and 7.29 feet were reported during the 1st, 3rd and 4th quarters of 2011, respectively. Monitor well MW-3 was not gauged during the 2nd quarter due to a grass fire that destroyed the upper well casing. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Monitor well MW-4 is monitored on a quarterly schedule. Monitor well MW-4 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. PSH thicknesses of 0.56 feet, 8.96 feet, 6.90 feet and 0.70 feet were reported during the 1st, 2nd, 3rd and 4th quarters of 2011, respectively. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Monitor well MW-5 is sampled on a quarterly schedule. Monitor well MW-5 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. PSH thicknesses of 1.16 feet, 3.27 feet, 1.04 feet and 1.69 feet were reported during the 1st, 2nd, 3rd and 4th quarters of 2011, respectively. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Monitor well MW-6 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last 22 consecutive quarters. PAH analysis was not required during the 4th quarter sampling event.

Monitor well MW-7 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last 22 consecutive quarters. PAH analysis was not required during the 4th quarter sampling event.

Monitor well MW-8 is monitored on a quarterly schedule. Monitor well MW-8 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. PSH thicknesses of 0.74 feet, 3.53 feet, 6.78 feet and 0.84 feet were reported during the 1st, 2nd, 3rd and 4th quarters of 2011, respectively. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Monitor well MW-9 is monitored on a quarterly schedule. Monitor well MW-9 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. PSH thicknesses of 1.97 feet, 5.08 feet, 6.51 feet and 2.36 feet were reported during the 1st, 2nd, 3rd and 4th quarters of 2011, respectively. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Monitor well MW-10 is monitored on a quarterly schedule. Monitor well MW-10 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. Monitor well MW-10 was not gauged during the 1st quarter of 2011 due to difficulties in removing the total fluid pump from the well. PSH thicknesses of 5.16 feet, 6.23 feet and 5.00 feet were reported during the 2nd, 3rd and 4th quarters of 2011, respectively. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Monitor well MW-11 is sampled on a quarterly schedule. Monitor well MW-11 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. PSH thicknesses of 0.58 feet, 0.38 feet, 6.13 feet and 0.32 feet were reported during the 1st, 2nd, 3rd and 4th quarters of 2011, respectively. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Monitor well MW-12 is sampled on a quarterly schedule. Analytical results indicate benzene concentrations ranged from 0.217 mg/L during the 4th quarter to 2.390 mg/L during the 2nd quarter of 2011. Benzene concentrations were above NMOCD regulatory standards during all four quarters of the reporting period. Toluene and ethyl-benzene concentrations were below the MDL and the NMOCD regulatory standards during all four quarters of the reporting period. Xylene concentrations ranged from <0.010 mg/L during the 1st, 3rd and 4th quarters to 0.0695 mg/L during the 2nd quarter of 2011. Xylene concentrations were below NMOCD regulatory standards during all four quarters of the reporting period. PAH analysis was not required during the 4th quarter sampling event.

Monitor well MW-13 is sampled on a quarterly schedule. Analytical results indicate benzene concentrations ranged from 3.520 mg/L during the 4th quarter to 9.230 mg/L during the 2nd quarter of 2011. Benzene concentrations were above NMOCD regulatory standards during all four quarters of the reporting period. Toluene concentrations ranged from <0.050 mg/L during the 2nd, 3rd and 4th quarters to 0.3430 mg/L during the 1st quarter of 2011. Toluene concentrations were below NMOCD regulatory standards during all four quarters of the reporting period. Ethyl-benzene concentrations ranged from <0.050 mg/L during the 2nd, 3rd and 4th quarters to 0.4340 mg/L during the 1st quarter of 2011. Ethyl-benzene concentrations were below NMOCD regulatory standards during all four quarters of the reporting period. Xylene concentrations ranged from <0.050 mg/L during the 2nd, 3rd and 4th quarters to 1.140 mg/L during the 1st quarter of 2011. Xylene concentrations were above NMOCD regulatory standards during the 1st quarter of the reporting period. PAH analysis during the 4th quarter sampling event indicated elevated concentrations above MDLs for naphthalene (0.000439 mg/L), 1-methylnaphthalene (0.000314 mg/L), fluorine (0.000362 mg/L), phenanthrene (0.000397 mg/L) and dibenzofuran (0.000314 mg/L), which are below WQCC standards.

Monitor well MW-14 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last 14 consecutive quarters. PAH analysis was not required during the 4th quarter sampling event.

Monitor well MW-15 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last six consecutive quarters. PAH analysis during the 4th quarter sampling event indicated elevated concentration above MDL for naphthalene (0.000354 mg/L), which is below WQCC standards.

Monitor well MW-16 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last six consecutive quarters. PAH analysis during the 4th quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

Monitor well MW-17 is sampled on a quarterly schedule and analytical results indicate BTEX constituent concentrations were below MDL and the NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below regulatory standards for the last six consecutive quarters. PAH analysis during the 4th quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

Recovery well RW-1 is monitored on a quarterly schedule. Recovery well RW-1 was not sampled during the 1st, 2nd, 3rd and 4th quarters of the reporting period, due to the presence of PSH. PSH thicknesses of 1.64 feet, 4.35 feet, 7.43 feet and 1.47 feet were reported during the 1st, 2nd, 3rd and 4th quarters of 2011, respectively. PAH analysis was not conducted during the 4th quarter sampling event due to the presence of PSH.

Laboratory analytical results were compared to NMOCD regulatory limits based on the New Mexico groundwater standards found in section 20.6.2.3103 of the New Mexico Administrative Code.

SUMMARY

This report presents the results of monitoring activities for the 2011 annual monitoring period. Currently, there are 17 monitor wells and one recovery well (RW-1) on site. An automated recovery system was operational only during the 1st and 4th quarters of the 2011 due to a grass fire which destroyed elements of the system and one monitor well. The most recent Groundwater Gradient Map, Figure 2D, indicates a general gradient of 0.0135 feet/foot to the east.

Seven monitor wells and one recovery well (MW-3 through MW-5, MW-8 through MW-11 and RW-1) contained measurable thicknesses of PSH during the reporting period. The average thickness of PSH in monitor and recovery wells exhibiting PSH during 2011 was 2.78 feet. Approximately 180 gallons (approximately 4.3 barrels) of PSH was recovered from the site during the 2011 reporting period. Approximately 2,974 gallons (approximately 70.8 barrels) of PSH have been recovered since the project inception.

Review of laboratory analytical results of the groundwater samples obtained during the 2011 monitoring period indicates the BTEX constituent concentrations are below applicable NMOCD standards in eight of the seventeen monitor wells. Monitor wells MW-3 through MW-5, MW-8 through MW-11 and recovery well RW-1 consistently exhibited measurable thicknesses of PSH during gauging events. Dissolved phase and phase separated hydrocarbon impact appears to be limited to monitor wells MW-12 and MW-13. Review of PAH analysis indicates a decreasing trend in constituent concentrations in monitor wells MW-13, MW-15, MW-16 and MW-17.

A Stage 1 and Stage 2 Abatement Plan was submitted to the NMOCD in October 2006. The NMOCD has accepted the Abatement Plan as administratively complete and approved the public notice on October 25, 2011.

ANTICIPATED ACTIONS

Quarterly monitoring and groundwater sampling will continue in 2012. Plains respectfully requests NMOCD approval to modify the sampling schedule for the following monitor wells:

- Monitor well MW-1 is currently sampled on a quarterly schedule. Plains proposes to modify the schedule to an annual schedule. This up-gradient monitor well was installed during the 4th quarter 2005 and the analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last 22 consecutive quarters.
- Monitor well MW-2 is currently sampled on a quarterly schedule. Plains proposes to modify the schedule to an annual schedule. This up-gradient monitor well was installed during the 4th quarter 2005 and the analytical results indicate BTEX constituent

concentrations have been below NMOCD regulatory standards for the last 22 consecutive quarters.

- Monitor well MW-6 is currently sampled on a quarterly schedule. Plains proposes to
 modify the schedule to an annual schedule. This cross-gradient monitor well was
 installed during the 3rd quarter 2006 and the analytical results indicate BTEX constituent
 concentrations have been below NMOCD regulatory standards for the last 22 consecutive
 quarters.
- Monitor well MW-7 is currently sampled on a quarterly schedule. Plains proposes to modify the schedule to a semi-annual schedule. This cross-gradient monitor well was installed during the 3rd quarter 2006 and the analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last 22 consecutive quarters.
- Monitor well MW-17 is currently sampled on a quarterly schedule. Plains proposes to
 modify the schedule to an annual schedule. This down-gradient monitor well was
 installed during the 2nd quarter 2010 and the analytical results indicate BTEX constituent
 concentrations have been below NMOCD regulatory standards for the last 6 consecutive
 quarters.

Groundwater monitoring and groundwater sampling will continue in 2012. The onsite automated recovery system will continue to operate and may be modified, as conditions require. An Annual Monitoring Report will be submitted to the NMOCD before April 1, 2013.

Based on the results of the PAH analysis over the past several years, further PAH analysis will be conducted on the monitor/recovery wells which currently exhibit PSH thicknesses, as the PSH plume decreases, these wells will be sampled as necessary.

LIMITATIONS

NOVA has prepared this Annual Monitoring Report to the best of its ability. No other warranty, expressed or implied, is made or intended.

NOVA has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. NOVA 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. NOVA has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. NOVA 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. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of NOVA and/or Plains.

DISTRIBUTION

Copy 1 Ed Hansen

New Mexico Energy, Minerals and Natural Resources Department

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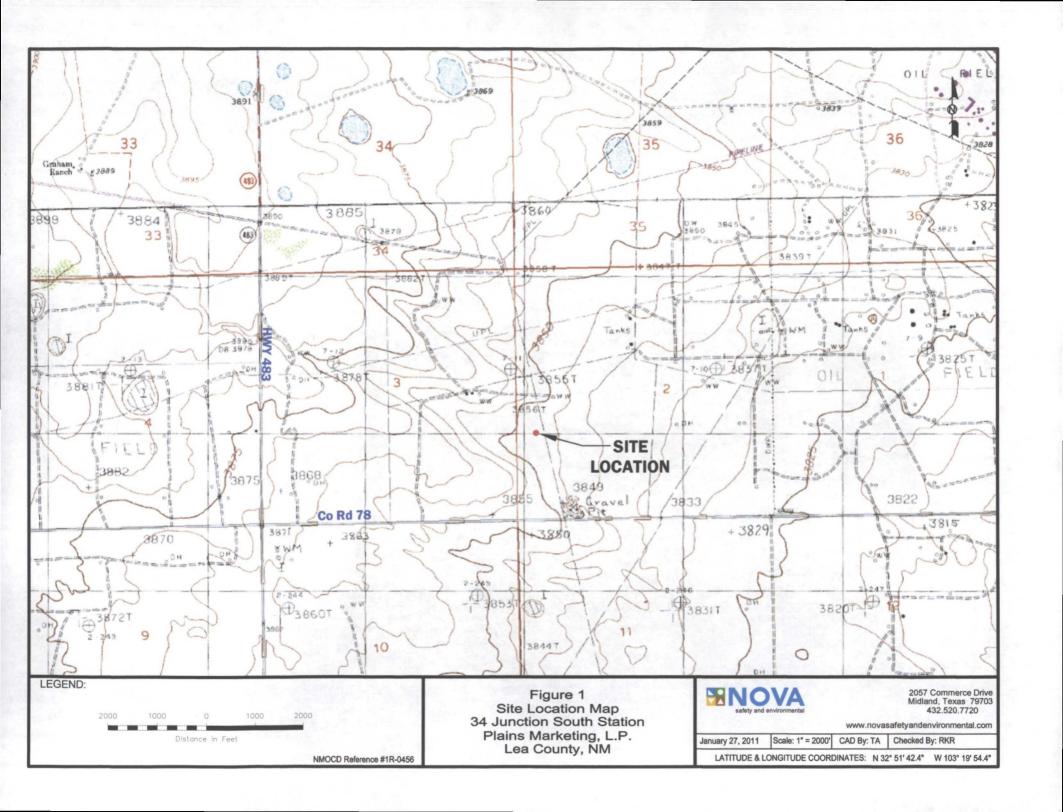
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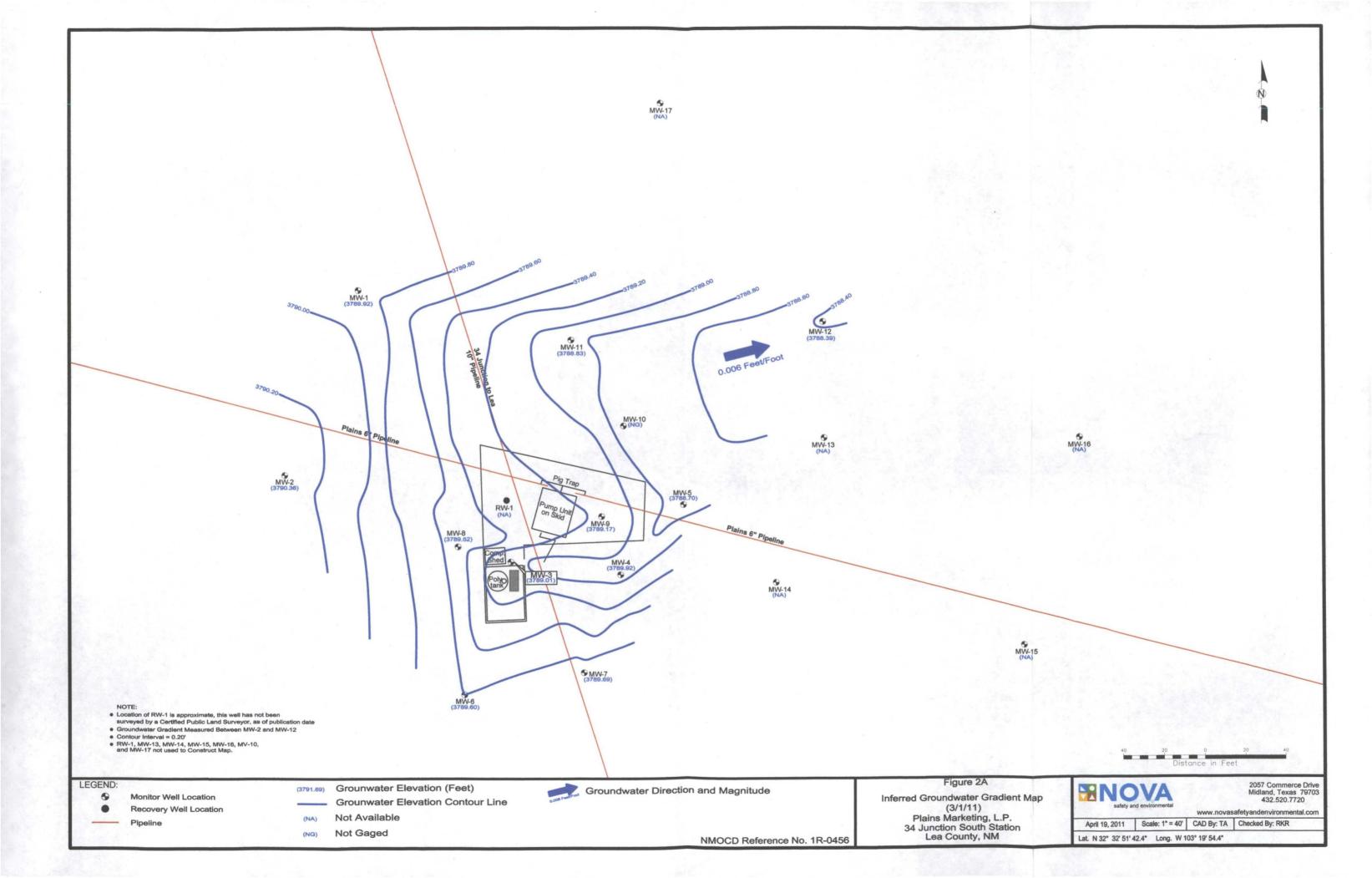
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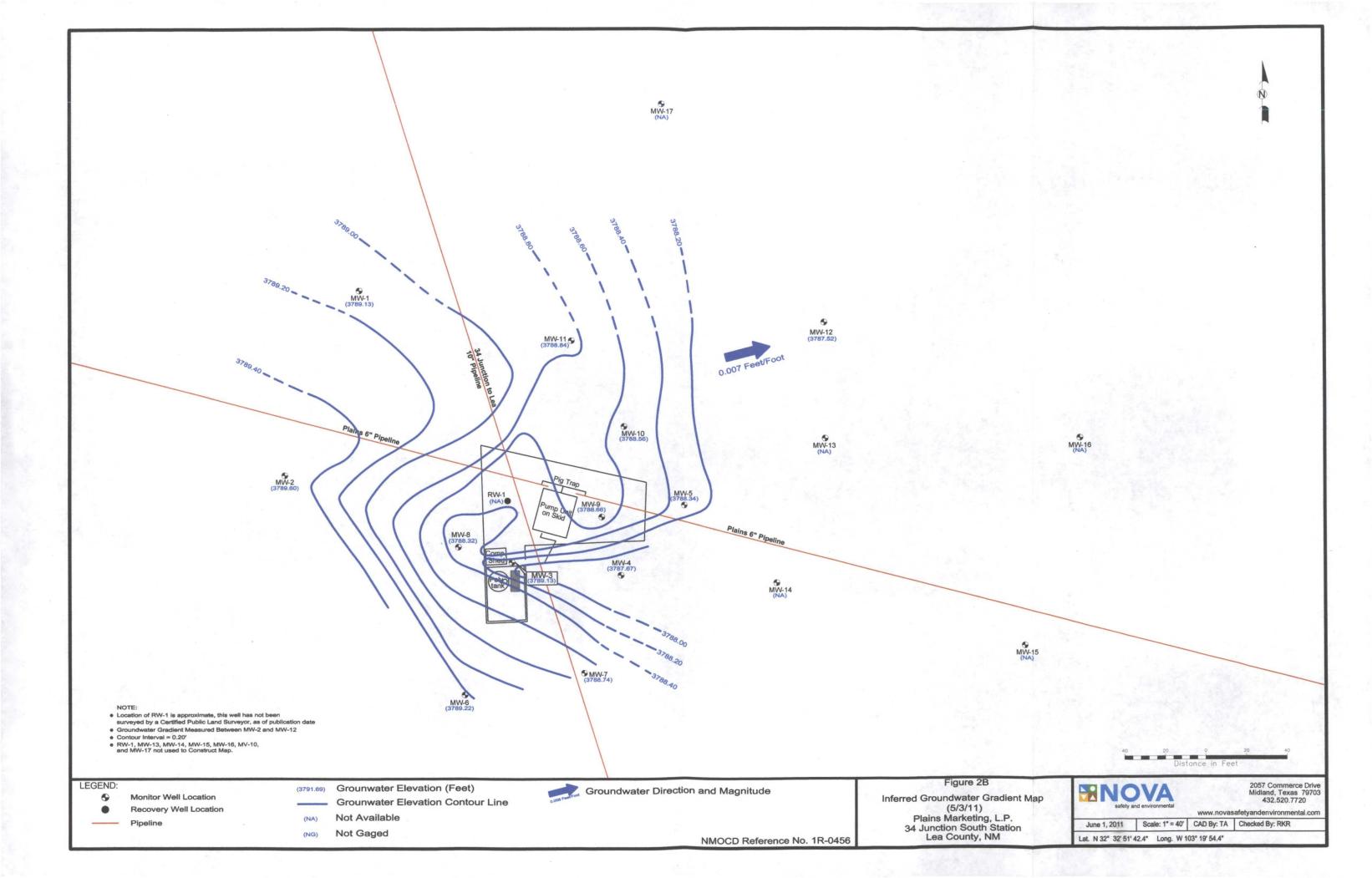
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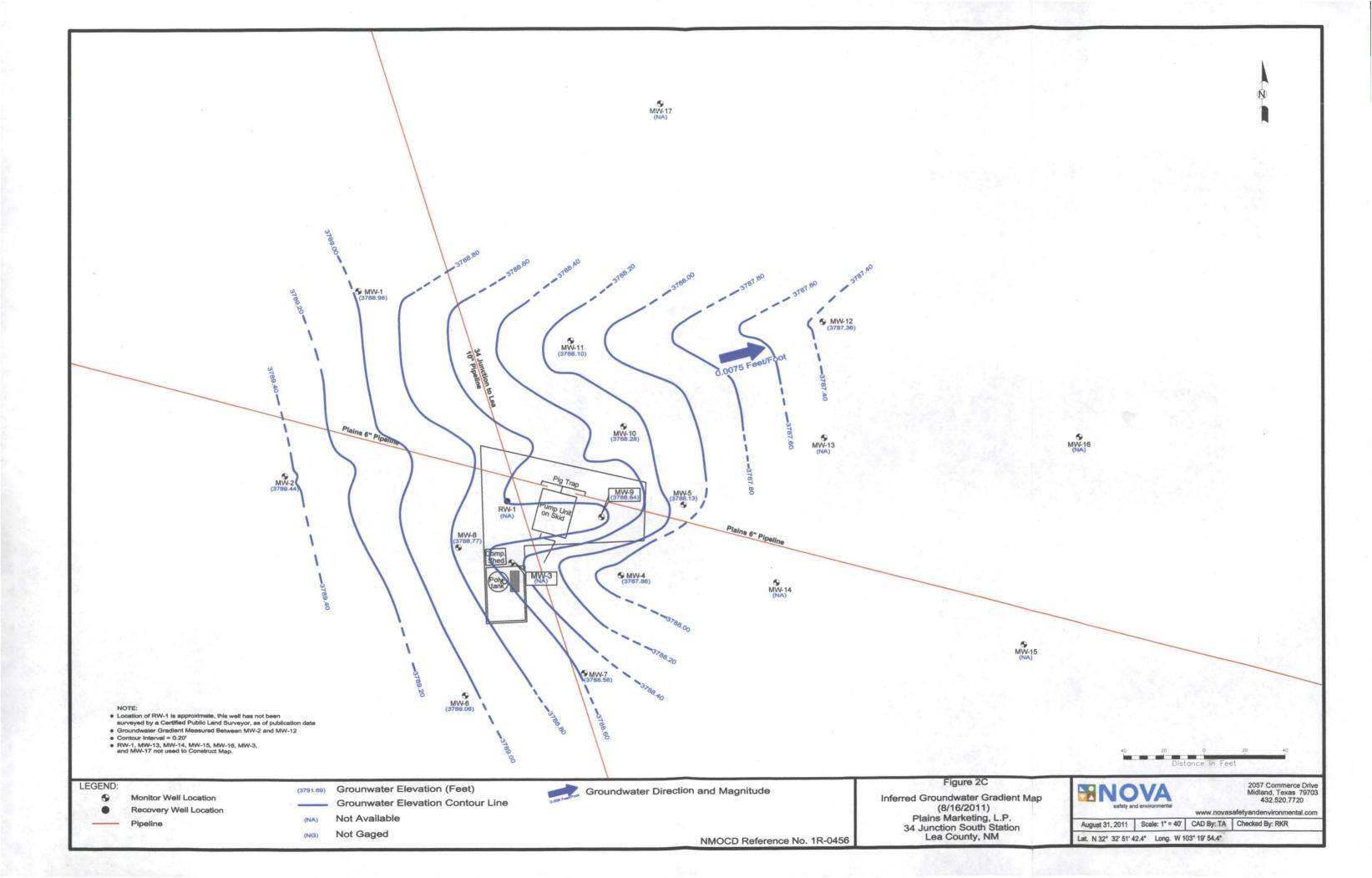
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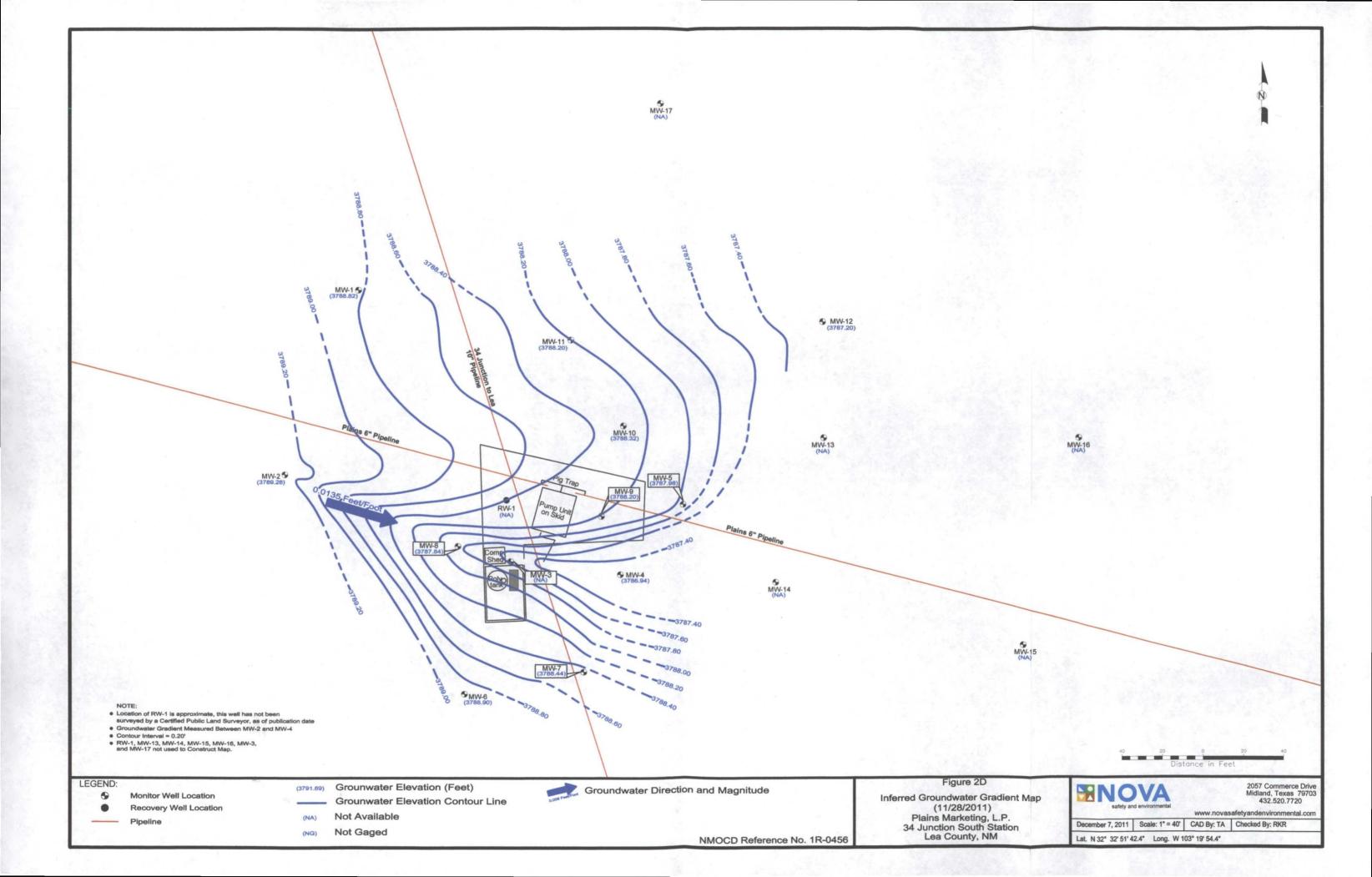
Figures

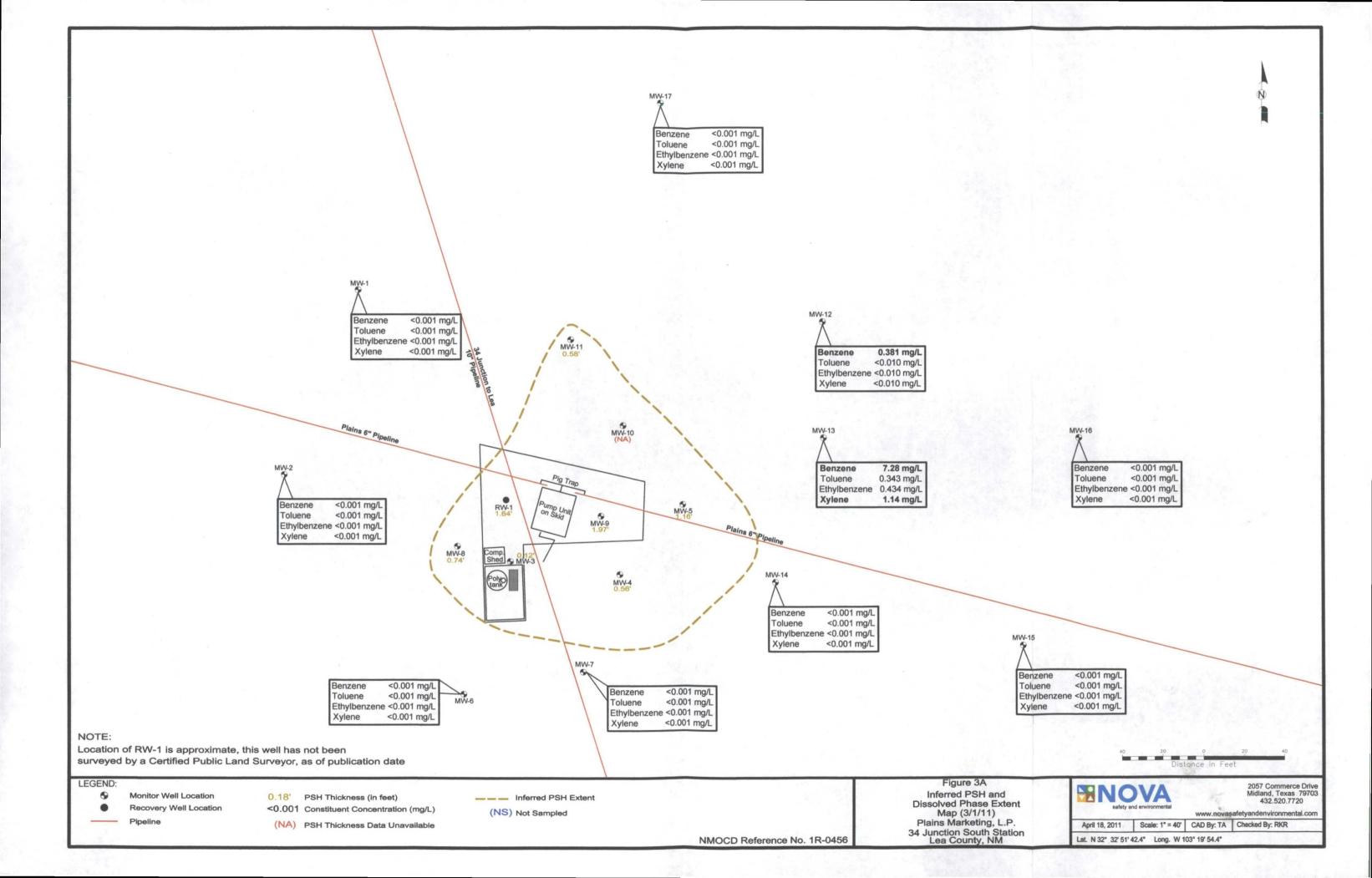


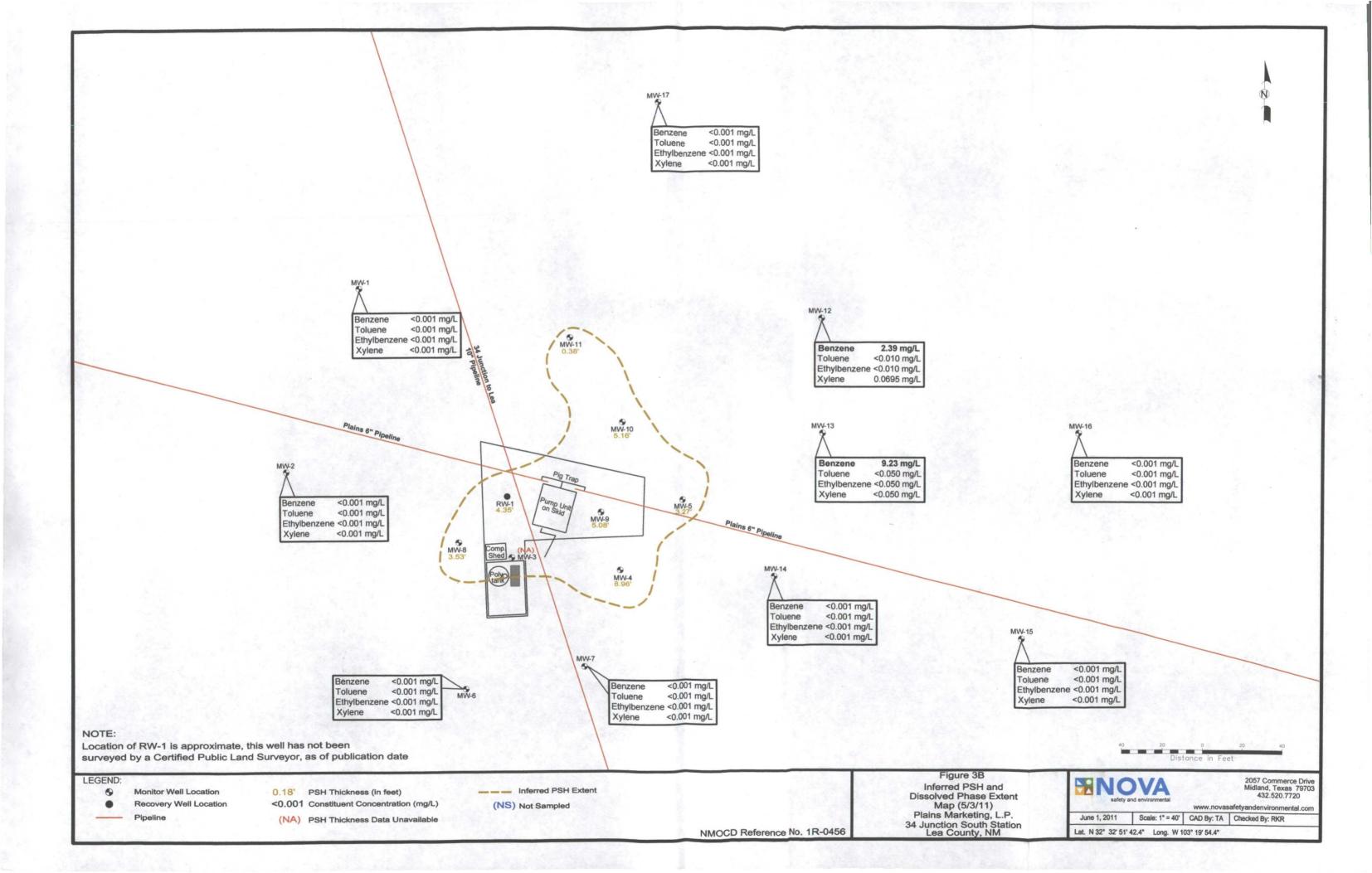


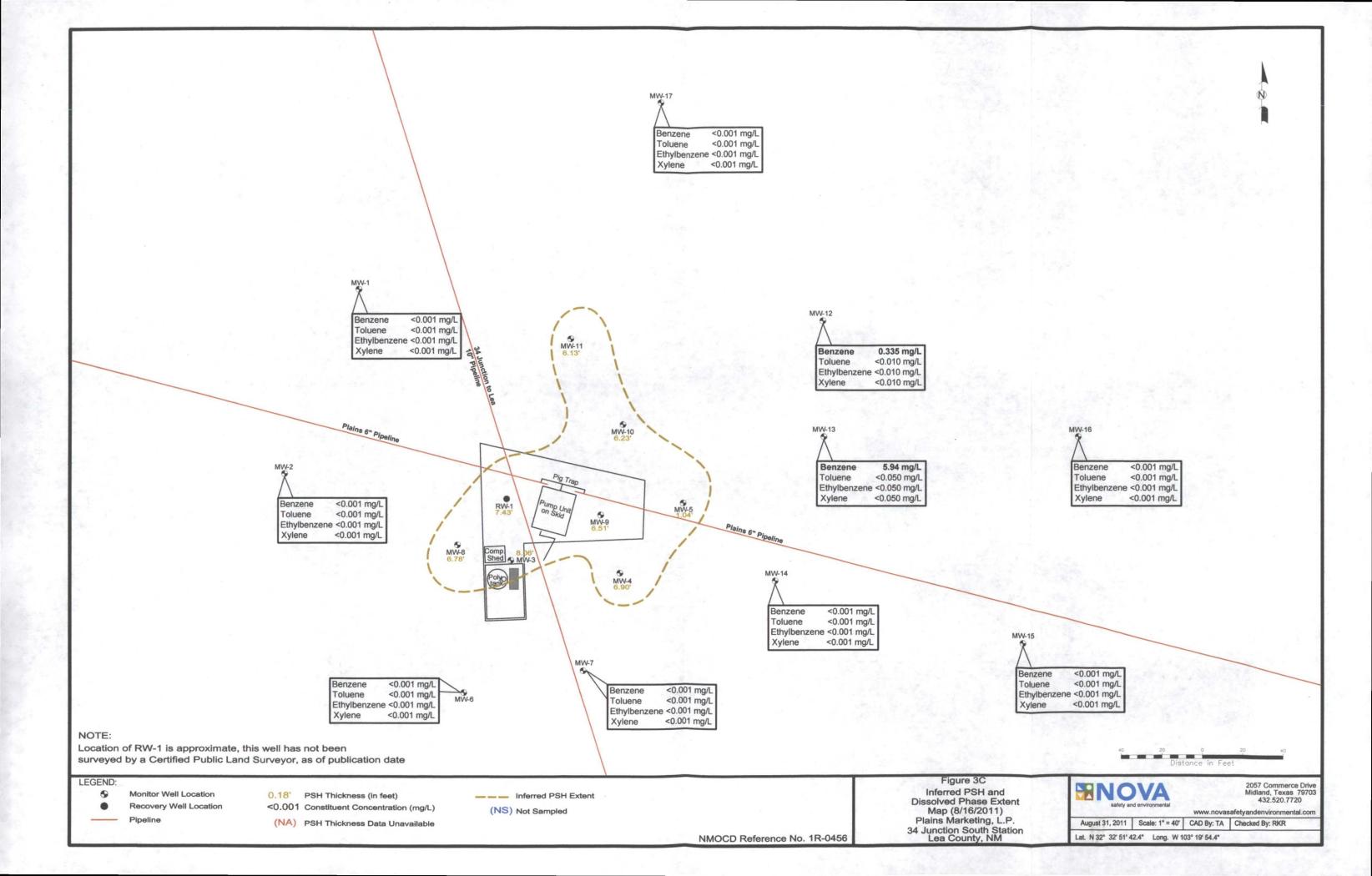


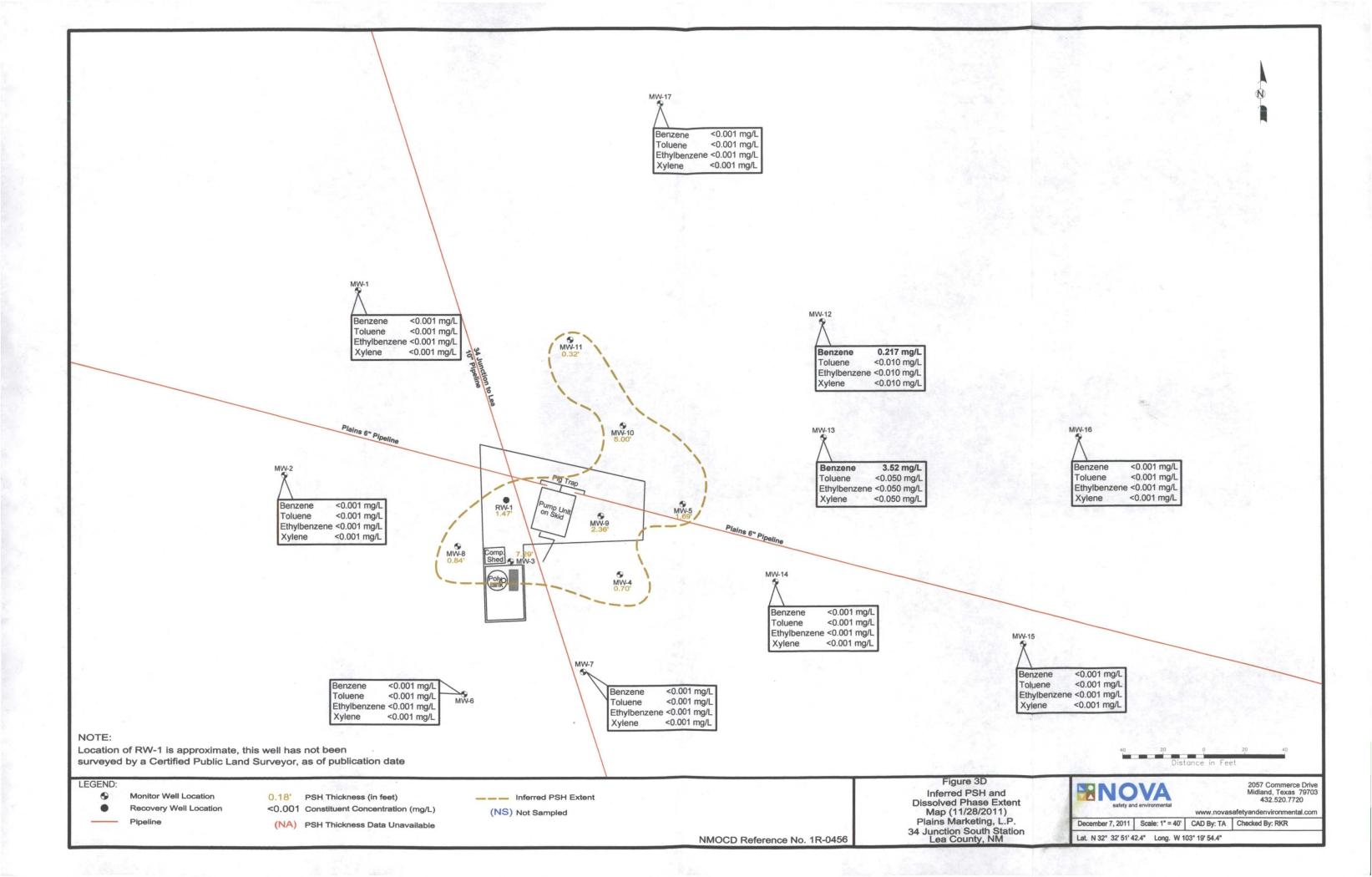












Tables

GROUNDWATER ELEVATION DATA - 2011

WELL		CASING WELL	рертн то	DEPTH TO	PSH	CORRECTED GROUNDWATER
NUMBER	DATE MEASURED	ELEVATION	PRODUCT	WATER	THICKNESS	ELEVATION
MW - 1	03/01/11	3,850.68	-	60.76	0.00	3,789.92
MW - 1	05/03/11	3,850.68	-	61.55	0.00	3,789.13
MW - 1	08/16/11	3,850.68	-	61.70	0.00	3,788.98
MW - 1	11/28/11	3,850.68	-	61.86	0.00	3,788.82
27.6		14	1 1 2			7.
MW - 2	03/01/11	3,850.67	<u> </u>	60.31	0.00	3,790.36
MW - 2	05/03/11	3,850.67	-	61.07	0.00	3,789.60
MW - 2	08/16/11	3,850.67	-	61.23	0.00	3,789.44
MW - 2	11/28/11	3,850.67	-	61.39	0.00	3,789.28
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				***	
MW - 3	03/01/11	3,850.43	61.40	61.52	0.12	3,789.01
MW - 3	05/03/11	3,850.43	Well Casin	~~~~	, <u> </u>	
MW - 3	08/16/11		60.34	68.40	8.06	
MW - 3	09/06/11		61.01	68.50	7.49	
MW - 3	09/08/11		61.58	65.75	4.17	
MW - 3	09/13/11		61.66	65.08	3.42	
MW - 3	10/11/11		61.05	68.05	7.00	
MW - 3	10/21/11		61.34	67.10	5.76	
MW - 3	11/28/11		61.12	68.41	7.29	
	. 2,43436.	1.4	The second second	7-24 - 485		
MW - 4	03/01/11	3,850.26	61.26	61.82	0.56	3,788.92
MW - 4	05/03/11	3,850.26	61.25	70.21	8.96	3,787.67
MW - 4	08/16/11	3,850.26	61.37	68.27	6.90	3,787.86
MW - 4	10/21/11	3,850.26	61.54	68.87	7.33	3,787.62
MW - 4	11/28/11	3,850.26	63.22	63.92	0.70	3,786.94
in sections		and design a		leur 3a		
MW - 5	01/13/11	3,849.77	61.17	62.11	0.94	3,788.46
MW - 5	01/25/11	3,849.77	61.07	62.96	1.89	3,788.42
MW - 5	03/01/11	3,849.77	60.90	62.06	1.16	3,788.70
MW - 5	05/03/11	3,849.77	60.94	64.21	3.27	3,788.34
MW - 5	05/18/11	3,849.77	60.85	61.45	0.60	3,788.83
MW - 5	05/25/11	3,849.77	61.31	62.62	1.31	3,788.26
MW - 5	05/31/11	3,849.77	61.05	62.15	1.10	3,788.56
MW - 5	06/08/11	3,849.77	61.25	62.30	1.05	3,788.36
MW - 5	06/16/11	3,849.77	61.32	62.35	1.03	3,788.30
MW - 5	06/22/11	3,849.77	61.30	62.34	1.04	3,788.31
MW - 5	06/30/11	3,849.77	61.40	62.48	1.08	3,788.21
MW - 5	07/06/11	3,849.77	61.46	62.59	1.13	3,788.14
MW - 5 MW - 5	07/13/11 07/15/11	3,849.77	61.38	62.63	1.25	3,788.20 3,788.16
	07/15/11	3,849.77	61.52	62.11	0.59	
MW - 5	07/21/11	3,849.77	61.55	61.98	0.43	3,788.16
MW - 5		3,849.77	61.60	61.89	0.29	3,788.13
MW - 5	07/26/11	3,849.77	61.58	61.75	0.17	3,788.16
MW - 5 MW - 5	07/28/11	3,849.77	61.55	62.03	0.48	3,788.15
	08/02/11	3,849.77	61.57	61.98	0.41	3,788.14
MW - 5 MW - 5	08/12/11	3,849.77	61.91 61.48	61.97	0.06	3,787.85
	08/16/11	3,849.77		62.52	1.04	3,788.13
MW - 5	08/19/11	3,849.77	61.45	62.02	0.57	3,788.23
MW - 5	08/23/11	3,849.77	61.43	67.90	6.47	3,787.37
MW - 5	08/30/11	3,849.77	61.50	62.45	0.95	3,788.13
MW - 5	09/01/11	3,849.77	61.61	62.12	0.51	3,788.08
MW - 5	09/06/11	3,849.77	61.63	62.11	0.48	3,788.07

GROUNDWATER ELEVATION DATA - 2011

WELL		CASING WELL	DEPTH TO	ДЕРТН ТО	PSH	CORRECTED GROUNDWATER
	DATE MEASURED	ELEVATION	PRODUCT	WATER	THICKNESS	ELEVATION
MW - 5	09/08/11	3,849.77	61.64	62.00	0.36	3,788.08
MW - 5	09/13/11	3,849.77	61.63	62.06	0.43	3,788.08
MW - 5	09/22/11	3,849.77	61.61	62.22	0.61	3,788.07
MW - 5	10/11/11	3,849.77	61.61	62.38	0.77	3,788.04
MW - 5	10/21/11	3,849.77	61.65	62.38	0.73	3,788.01
MW - 5	11/28/11	3,849.77	61.54	63.23	1.69	3,787.98
5			23	, ,		
MW - 6	03/01/11	3,851.10	-	61.50	0.00	3,789.60
MW - 6	05/03/11	3,851.10	-	61.88	0.00	3,789.22
MW - 6	08/16/11	3,851.10	<u>.</u>	62.04	0.00	3,789.06
MW - 6	11/28/11	3,851.10		62.20	0.00	3,788.90
		and the second		· 123	i ila	
MW - 7	03/01/11	3,847.03	-	57.34	0.00	3,789.69
MW - 7	05/03/11	3,847.03	-	58.29	0.00	3,788.74
MW - 7	08/16/11	3,847.03	-	58.45	0.00	3,788.58
MW - 7	11/28/11	3,847.03	-	58.59	0.00	3,788.44
the way to have	y		12. 194	T : Ai	air thi	
MW - 8	03/01/11	3,851.00	61.37	62.11	0.74	3,789.52
MW - 8	05/03/11	3,851.00	62.15	65.68	3.53	3,788.32
MW - 8	08/16/11	3,851.00	61.21	67.99	6.78	3,788.77
MW - 8	10/21/11	3,851.00	61.18	66.71	5.53	3,788.99
MW - 8	11/28/11	3,851.00	63.03	63.87	0.84	3,787.84
(high)	· 参 · · ·	1 1 1		***		
MW - 9	03/01/11	3,851.04	61.57	63.54	1.97	3,789.17
MW - 9	05/03/11	3,851.04	61.62	66.70	5.08	3,788.66
MW - 9	08/16/11	3,851.04	61.42	67.93	6.51	3,788.64
MW - 9	10/21/11	3,851.04	61.47	68.01	6.54	3,788.59
MW - 9	11/28/11	3,851.04	62.49	64.85	2.36	3,788.20
100			2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	V. 1	1.	
MW - 10	03/01/11	3,851.07	NA	NA		
MW - 10	05/03/11	3,851.07	61.74	66.90	5.16	3,788.56
MW - 10	08/16/11	3,851.07	61.86	68.09	6.23	3,788.28
MW - 10	10/21/11	3,851.07	61.70	65.41	3.71	3,788.81
MW - 10	11/28/11	3,851.07	62.00	67.00	5.00	3,788.32
A		programme and the second				And a second of the con-
MW - 11	03/01/11	3,850.96	62.04	62.62	0.58	3,788.83
MW - 11	05/03/11	3,850.96	62.06	62.44	0.38	3,788.84
MW - 11	08/16/11	3,850.96	61.94	68.07	6.13	3,788.10
MW - 11	10/21/11	3,850.96	61.80	66.95	5.15	3,788.39
MW - 11	11/28/11	3,850.96	62.71	63.03	0.32	3,788.20
			al.		1	
MW - 12	01/25/11	3,850.45	-	62.83	0.00	3,787.62
MW - 12	03/01/11	3,850.45	-	62.06	0.00	3,788.39
MW - 12	05/03/11	3,850.45	-	62.93	0.00	3,787.52
MW - 12	05/18/11	3,850.45	·	62.95	0.00	3,787.50
MW - 12	05/25/11	3,850.45	-	62.98	0.00	3,787.47
MW - 12	05/31/11	3,850.45	-	62.96	0.00	3,787.49
MW - 12	06/08/11	3,850.45	-	62.99	0.00	3,787.46
MW - 12	06/16/11	3,850.45	-	62.94	0.00	3,787.51
MW - 12	06/22/11	3,850.45	-	62.88	. 0.00	3,787.57
MW - 12	06/30/11	3,850.45	-	62.94	0.00	3,787.51
MW - 12	07/06/11	3,850.45	-	62.96	0.00	3,787.49

GROUNDWATER ELEVATION DATA - 2011

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 12	07/13/11	3,850.45	-	62.97	0.00	3,787.48
MW - 12	07/15/11	3,850.45	-	63.05	0.00	3,787.40
MW - 12	07/19/11	3,850.45	-	63.04	0.00	3,787.41
MW - 12	07/21/11	3,850.45	-	63.06	0.00	3,787.39
MW - 12	07/26/11	3,850.45	_	63.03	0.00	3,787.42
MW - 12	07/28/11	3,850.45	-	62.98	0.00	3,787.47
MW - 12	08/02/11	3,850.45		63.04	0.00	3,787.41
MW - 12	08/12/11	3,850.45	•	63.00	0.00	3,787.45
MW - 12	08/16/11	3,850.45	-	63.09	0.00	3,787.36
MW - 12	08/19/11	3,850.45	•	63.11	0.00	3,787.34
MW - 12	08/23/11	3,850.45	-	63.14	0.00	3,787.31
MW - 12	08/30/11	3,850.45	-	63.05	0.00	3,787.40
MW - 12	09/01/11	3,850.45	•	63.16	0.00	3,787.29
MW - 12	09/06/11	3,850.45	-	63.14	0.00	3,787.31
MW - 12	09/08/11	3,850.45	-	63.13	0.00	3,787.32
MW - 12	09/13/11	3,850.45	_	63.15	0.00	3,787.30
MW - 12	09/22/11	3,850.45		63.15	0.00	3,787.30
MW - 12	10/11/11	3,850.45	_	63.18	0.00	3,787.27
MW - 12	10/21/11	3,850.45	-	63.19	0.00	3,787.26
MW - 12	11/28/11	3,850.45	-	63.25	0.00	3,787.20
	2				4.	
MW - 13	01/25/11		-	62.82		
MW - 13	03/01/11		1	62.11		
MW - 13	05/03/11		•	62.90		
MW - 13	. 05/18/11	-	-	62.98		
MW - 13	05/25/11		-	62.93		
MW - 13	05/31/11		-	62.95		
MW - 13	06/08/11		-	62.97		
MW - 13	06/16/11		-	62.99		
MW - 13	06/22/11		-	62.98		
MW - 13	06/30/11		-	62.98		
MW - 13	07/06/11		-	62.98		
MW - 13	07/13/11			63.02		
MW - 13	07/15/11		-	63.04		
MW - 13	07/19/11		-	62.99		
MW - 13	07/21/11		-	63.06	1	
MW - 13	07/26/11		-	63.05		
MW - 13 MW - 13	07/28/11 08/02/11		-	63.00	ļ	
MW - 13	08/12/11		-	63.03		
MW - 13	08/16/11			63.07		
MW - 13	08/19/11		-	63.10		
MW - 13	08/23/11		-	63.14		
MW - 13	08/30/11		-	63.08		
MW - 13	09/01/11		-	63.13		
MW - 13	09/06/11		-	63.13	· · · · · · · · · · · · · · · · · · ·	
MW - 13	09/08/11		-	63.10		
MW - 13	09/13/11		-	63.14		
MW - 13	09/22/11		_	63.13		
MW - 13	10/11/11		-	63.14		
MW - 13	10/21/11	· · · · · · · · · · · · · · · · · · ·	-	63.19		
MW - 13	11/28/11		_	63.25		

GROUNDWATER ELEVATION DATA - 2011

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 14	03/01/11		-	61.92		
MW - 14	05/03/11		-	62.76		
MW - 14	08/16/11		•	62.91		
MW - 14	11/28/11		-	63.07		
	18834				1.3	
MW - 15	01/25/11		-	62.96		
MW - 15	03/01/11		-	62.85		
MW - 15	05/03/11		-	63.29		
MW - 15	08/16/11		-	63.43		
MW - 15	11/28/11		-	63.62		
		CONTRACTOR OF THE STATE OF THE				and Commercial Control
MW - 16	03/01/11		-	62.53		
MW - 16	05/03/11		-	62.92		
MW - 16	08/16/11	. 500.00	-	63.08		
MW - 16	11/28/11		-	63.26		
				A SAME TO BE SEEN OF THE SEEN		
MW - 17	03/01/11		-	62.44		
MW - 17	05/03/11		-	62.77		
MW - 17	08/16/11		-	62.91		
MW - 17	11/28/11		-	63.06		
RW - 1	03/01/11	_	60.70	62.34	1.64	
RW - 1	05/03/11	_	61.01	65.36	4.35	
RW - 1	08/16/11	-	60.79	68.22	7.43	
RW - 1	10/21/11	-	60.58	63.61	3.03	
RW - 1	11/28/11	-	62.23	63.70	1.47	

^{*} Complete Historical Tables are provided on the attached CD.

CONCENTRATIONS OF BENZENE IN GROUNDWATER - 2011

			Methods	8021, 5030						
SAMPLE LOCATION	SAMPLE DATE	BENZENE	TOLUENE	ETHYL- BENZENE	m, p - XYLENES	o - XYLENE				
NMOCD REC		0.01	0.75	0.75	0.62					
MW - 1	03/01/11	< 0.001	< 0.001	< 0.001		001				
MW - 1	05/03/11	< 0.001	<0.001	< 0.001		001				
MW - 1	08/16/11	< 0.001	< 0.001	<0.001		001				
MW - 1	11/28/11	< 0.001	< 0.001	< 0.001		001				
	02/01/11	*0.001	40.001	*0.001	4.0					
MW - 2	03/01/11 05/03/11	<0.001 <0.001	<0.001	<0.001 <0.001		001				
MW - 2 MW - 2	08/16/11	<0.001	<0.001 <0.001	<0.001		001				
MW - 2	11/28/11	<0.001	<0.001	<0.001		.001				
MW - 2	11/20/11	<0.001	<0.001	<0.001	2, 3, 7	.001				
MW - 3	03/01/11	Not campled	Due to PSH is	n Well		ε				
MW - 3	05/03/11		Due to PSH is							
MW - 3	08/16/11		Due to PSH is							
MW - 3	11/28/11		Due to PSH i							
MW - 3	11/20/11	Not sampled	Due to FSH I	ii wen		* 7.7.12 38 52 F				
MW - 4	03/01/11		Due to PSH i			7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7				
MW - 4 MW - 4	05/03/11		Due to PSH is							
	08/16/11		Due to PSH is							
MW - 4 MW - 4	11/28/11		Due to PSH i			-				
MW - 4	11/28/11	Not sampled	Due to PSH I	li well						
	03/01/11	Not sampled	Due to PSH i	n Wall	W F EU.					
MW - 5	05/01/11		Due to PSH i							
MW - 5			Due to PSH i							
MW - 5	08/16/11 11/28/11		Due to PSH i							
MW - 5	11/28/11	Not sampled	Due to PSH I	n wen		- 375°				
		<0.001	<0.001	<0.001		3 2"				
MW - 6	03/01/11	<0.001	<0.001	<0.001		.001				
MW - 6	05/03/11	<0.001	<0.001	<0.001		.001				
MW - 6	08/16/11	<0.001	<0.001	<0.001		.001				
MW - 6	11/28/11	<0.001	<0.001	<0.001	<0	.001				
NASY 7	02/01/11									
MW - 7 MW - 7	03/01/11 05/03/11	<0.001 <0.001	<0.001	<0.001		.001				
		<0.001	<0.001	<0.001						
MW - 7	08/16/11		<0.001	<0.001		.001				
MW - 7	11/28/11	<0.001	<0.001	<0.001		.001				
		Not compled	Dua ta DCLL	n Wall		, * (\$\displays)				
MW - 8 MW - 8	03/01/11 05/03/11		Due to PSH i		 					
MW - 8	08/16/11		Due to PSH i							
MW - 8	11/28/11		Due to PSH i							
1VI W - 0	11/20/11	THOI Sampled	Due to PSH I							
MW - 9	03/01/11	Not sampled	Due to PSH i		1000 m 12 12	1322.0				
MW - 9	05/03/11		Due to PSH i		 					
MW - 9	08/16/11		Due to PSH i							
MW - 9	11/28/11		Due to PSH i		 					
101 W - 9	11/20/11		Ductorsin		it s					
MW - 10	03/01/11		Due to PSH i		. mufak 42-75					
MW - 10	05/03/11		Due to PSH i							
MW - 10	08/16/11		Due to PSH i		 					
MW - 10	11/28/11		Due to PSH i		—					
101W - 10	11/20/11	i tot sampicu	- Duc 10 1 311 1	1 0	E = +7> + +					
MW - 11	03/01/11	Not sampled	Due to PSH i	n Well	1. in 18 .	8. M. + . + 2.				
MW - 11	05/03/11		Due to PSH i		 					
MW - 11			Due to PSH i							
MW - 11	08/16/11 11/28/11		Due to PSH i		+					
IVIW - II	11/28/11		Due to PSH I	n well	Participation of the second of	The is a selection of the selection				
The state of the s	Supplied posteriors	Brown of Bar	Market Committee	and the second second	Springly and can	a war to the be to the specime Sough,				

CONCENTRATIONS OF BENZENE IN GROUNDWATER - 2011

DATE BENZENE TOLUENE BENZENE XYLENES XYL NMOCD REGULATORY LIMIT 0.01 0.75 0.75 0.62 MW - 12 03/01/11 0.3810 <0.010 <0.010 <0.010 MW - 12 05/03/11 2.3900 <0.010 <0.010 0.0695	ENE
LIMIT 0.01 0.75 0.75 0.62 MW - 12 03/01/11 0.3810 <0.010 <0.010 <0.010 MW - 12 05/03/11 2.3900 <0.010 <0.010 0.0695	
MW - 12 05/03/11 2.3900 <0.010 <0.010 0.0695	
MW - 12 08/16/11 0.3350 <0.010 <0.010 <0.010	
MW - 12 11/28/11 0.2170 <0.010 <0.010 <0.010	
MW - 13 03/01/11 7.280 0.3430 0.4340 1.140	
MW - 13 05/03/11 9.230 <0.050 <0.050 <0.050	
MW - 13 08/16/11 5.940 <0.050 <0.050 <0.050	
MW - 13 11/28/11 3.520 <0.050 <0.050 <0.050	
MW - 14 03/01/11 <0.001 <0.001 <0.001 <0.001	
MW - 14	
MW - 14 08/16/11 <0.001 <0.001 <0.001 <0.001	
MW - 14 11/28/11 <0.001 <0.001 <0.001 <0.001	
MW - 15 03/01/11 <0.001 <0.001 <0.001 <0.001	
MW - 15 05/03/11 < 0.001 < 0.001 < 0.001 < 0.001	
MW - 15 08/16/11 <0.001 <0.001 <0.001 <0.001	
MW - 15 11/28/11 <0.001 <0.001 <0.001 <0.001	
在《 是 在在一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一	
MW - 16 03/01/11 <0.001 <0.001 <0.001 <0.001	
MW - 16	
MW - 16 08/16/11 <0.001 <0.001 <0.001 <0.001	
MW - 16 11/28/11 <0.001 <0.001 <0.001 <0.001	
	A. Car
MW - 17 03/01/11 <0.001 <0.001 <0.001 <0.001	
MW - 17 05/03/11 <0.001 <0.001 <0.001 <0.001	
MW - 17 08/16/11 <0.001 <0.001 <0.001 <0.001	
MW - 17 11/28/11 <0.001 <0.001 <0.001 <0.001	
RW - 1 03/01/11 Not sampled Due to PSH in Well	
RW - 1 05/03/11 Not sampled Due to PSH in Well	
RW - 1 08/16/11 Not sampled Due to PSH in Well	
RW - 1 11/28/11 Not sampled Due to PSH in Well	

^{*} Complete Historical Tables are provided on the attached CD.

POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

PLAINS MARKETING, L.P. 34 JUNCTION SOUTH STATION LEA COUNTY, NEW MEXICO NMOCD REFERENCE NUMBER 1R-0456

All water concentrations are reported in mg/L

		All water concentrations are reported in mg/L EPA SW846-8270C, 3510														· —				
	1								,	EPA S	W846-82700	2, 3510	т	T		_				
SAMPLE LOCATION	SAMPLE DATE	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i] perylene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd)pyrene	Phenanthrene	Pyrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Dibenzofuran
Maximum Co Levels from N WQCC Drinl standards Sec 101.UU and 3	NM king water ctions 1-	1	ı	0.001 mg/L	0.0001 mg/L	0.0007 mg/L	0.001 mg/L	ı	0.001 mg/L	0.0002 mg/L	0.0003 mg/L	0.001 mg/L	0.001 mg/L	0.0004 mg/L	0.001 mg/L	0.001 mg/L		0.03 mg/L		ı
MW - 1	11/11/08	< 0.000183	< 0.000183	<0.000183	<0.000183	< 0.000183	< 0.000183	<0.000183	< 0.000183	<0.000183	< 0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	< 0.000183	<0.000183	< 0.000183
	11/24/09	<0.000183	< 0.000183	<0.000183	<0.000183	< 0.000183	< 0.000183	<0.000183	<0.000183	<0.000183	< 0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	< 0.000183	<0.000183	<0.000183
	11/19/10						of Quarterly													
	12/16/11				Not Sam	pled as part	of Quarterly	y Monitoring	g Event.											
	ALE S	1 25	潘 之。		, j. 7		AGE (III)		1000		1			1.						10 Car.
MW - 2	11/11/08		<0.000184																	< 0.000184
	11/24/09	< 0.000183	<0.000183	<0.000183						<0.000183	< 0.000183	< 0.000183	<0.000183	<0.000183	<0.000183	< 0.000183	<0.000183	< 0.000183	< 0.000183	<0.000183
	11/19/10						of Quarterly													
	12/16/11				Not Sam	pled as part	of Quarterly	/ Monitoring	Event.											
, , ,	1 1 X		». ,		3.7				*					· · · · · · · · · · · · · · · · · · ·		**		2. 25.4		19 may 6
MW - 3	11/11/08	Not sampled											ļ					_		
	11/24/09	<0.000926	<0.000926	<0.000926						<0.000926	<0.000926	<0.000926	0.149	<0.000926	0.163	<0.000926	0.613	1.36	1.82	0.0446
	11/19/10					<u> </u>	of Quarterly													
4 44 38	12/16/11	9 9 1 1 1 1 1 Kab	Control of the Control				ue to the pre	sence of PS		E 87 8 86	control of the second	dr. You . Ma	1,346,6600	and a view	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Landing Comme		Summers, Caran.		w Neth . vebler v
116	福约4 11				数学学生	N			J. Salahar		74	0.000101		\$66 - L	1.54		\.\.	od Williams		
MW - 4	11/11/08	<0.000184											0.0136	< 0.000184	0.0149	<0.000184	0.0853	0.177	0.222	<0.000184
ļ	11/24/09	<0.000184	<0.000184	<0.000184						<0.000184	<0.000184	<0.000184	0.0111	<0.000184	0.0108	<0.000184	0.0497	0.0881	0.112	0.00327
<u> </u>	11/19/10						of Quarterly ue to the pre								<u> </u>					
Xi & ,	12/16/11	ļ	Ic.		INO	i Sampleu u	ue to the pre	sence of PS	n.	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			5. 4	ļ	 	 	. 4 * : -		
MW - 5	11/11/08	<0.000193	<0.000183	<0.000193	<0.000193	<0.000193	<0.000193	<0.000192	<0.000193	<0.000183	<0.000183	<0.000193	0.000526	< 0.000183	0.00042	< 0.000183	0.00143	0.00401	0.0032	0.000337
1V1 W - 3	11/24/09		<0.000188																<0.0032	<0.000337
<u> </u>	11/19/10	<0.000188	_V.000188	<0.000188			of Quarterly			~0.000186	1 <0.000100	<0.000100	<0.000188	<0.000100	<0.000186	<0.000188	V.000188	<0.000188	<0.000188	<u> </u>
	12/16/11	 				<u> </u>	ue to the pre			-			<u> </u>			 				
as Jin	7.3.		7 m 1	¥.,;	हेर्य कर्जन	t Sampioa a	60.2				- 14 × 109		30		45	i i	. 4	TTO THE	1. 1	407 17 27 11
MW - 6	11/11/08	<0.000184	< 0.000184	< 0.000184	<0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	<0.000184	1 200,000,000,000
<u> </u>	11/24/09		< 0.000183												< 0.000183			< 0.000183	< 0.000184	
	11/19/10						of Quarterly						7.222.00		7	0.000700	1	2.000.05	3,000103	3,000,00
	12/16/11	<u> </u>					of Quarterly						 							
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MW - 7	11/11/08	<0.000184	151, 500	< 0.000184		< 0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184		< 0.000184	< 0.000184	< 0.000184	< 0.000184	<0.000184	< 0.000184	< 0.000184	< 0.000184	<0.000184
	11/24/09																	< 0.000184	< 0.000184	< 0.000184
	11/19/10																			
	12/16/11	l					of Quarterly													
14,		1.4-3	- Y		2			***************************************					4	<i>i</i> .	ν ₁ , ή	N. 2	40	14.5		- a(h

POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

PLAINS MARKETING, L.P. 34 JUNCTION SOUTH STATION LEA COUNTY, NEW MEXICO NMOCD REFERENCE NUMBER 1R-0456

All water concentrations are reported in mg/L

F	ī ———							All	water concenti		W846-8270	C, 3510					_	 -		
SAMPLE LOCATION	SAMPLE DATE	Acenaphthene	Acenaphthylene	Anthracene	Benzolalanthracene	Benzolalpyrene	Benzo[b]fluoranthene	Benzolg,h,ilperylene	Benzo k fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd)pyrene	Phenanthrene	Pyrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Dibenzofuran
Maximum Co Levels from N WQCC Drinl standards Sec 101.UU and 3	NM king water ctions 1-	I	1	0.001 mg/L	0.0001 mg/L	0.0007 mg/L	0.001 mg/L	ı	0.001 mg/L	0.0002 mg/L	0.0003 mg/L	0.001 mg/L	0.001 mg/L	0.0004 mg/L	0.001 mg/L	0.001 mg/L		0.03 mg/L		1
MW - 8	11/11/08	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	0.0332	<0.000922	0.0301	<0.000922	0.124	0.270	0.334	<0.000922
	11/24/09	< 0.000917	< 0.000917	<0.000917	< 0.000917					<0.000917	< 0.000917	<0.000917	0.0706	<0.000917	0.0768	<0.000917	0.273	0.637	0.824	< 0.000917
	11/19/10							Monitoring Monitoring				_								
	12/16/11			,	No	t Sampled d	ue to the pre	sence of PSI	Н.		,					<u> </u>	ļ			,
	1331				- 7X.1		- 11			Type 4				\$1,6 to		1 (4.15)	<u> </u>	**************************************		**
MW - 9	11/11/08	.0.00104	0.00101					nt Water Vo <0.00184		0.0505	<0.00184	<0.00184	0.515	-0.00104	0.746	10.001.01		1.50		
	11/24/09 11/19/10	<0.00184	<0.00184	<0.00184				/ Monitoring		0.0785	<0.00184	<0.00184	0.515	<0.00184	0.546	<0.00184	2,02	4.59	6.18	0.141
	12/16/11							sence of PSI												
	12/16/11	Marine	Calledia	Line of process	I STEEL	t Sampled d	ic to the pre	sence of 1 5	r j	碰	**'	OWNER OF	1		I.s.,	CONTRACT	27 "	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sac.	1 %
MW - 10	11/11/08	< 0.000962	< 0.000962	<0.000962	A A A A A A A A A A A A A A A A A A A	<0.000962	< 0.000962	<0.000962	· v 3 + · · · · · · · · · · · · · · · · · ·	<0.000962	<0.000962	200 C C C C C C C C C C C C C C C C C C	0.0618	< 0.000962	0.0709	< 0.000962	0.308	0.773	0.987	0.0194
1111111111	11/24/09	< 0.000962								0.0294	< 0.000962			< 0.000962	0.200	< 0.000962		1.91	2.51	0.0562
	11/19/10							Monitoring			<u> </u>									
	12/16/11							sence of PSI												
	Application of the second									3		2.1		* 1, M		11,3		, ,,	4	3.1
MW - 11	11/11/08	<0.000192	<0.000192								<0.000192			<0.000192	<0.000192	< 0.000192	<0.000192	<0.000192	<0.000192	<0.000192
	11/24/09	<0.000917	<0.000917	<0.000917	<0.000917					< 0.000917	<0.000917	<0.000917	0.102	<0.000917	0.107	<0.000917	0,303	0.797	1.04	0.0276
ļ	11/19/10							/ Monitoring												ļ
- 5	12/16/11	· · · · · · · · · · · · · · · · · · ·	\$40 C.0802.08 V.1	· · · · · · · · · · · · · · · · · · ·	No	t Sampled di		sence of PSI	i.	SPARTS	, F 4/4	AND SECTION OF		- 4°85° - 12°8°	PR	Men II. g	1 A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	**************************************	and the second	1.5 × 1.76% a.7.1.2888
MW - 12	11/11/08	<0.000184	<0.000184	<0.000194		<0.000194	a dime.	2+ 4	<0.000194	<0.000184	<0.000184		<0.000184	<0.000184	<0.000184		<0.000184	<0.000184	<0.000184	<0.000184
1VI W - 12	11/11/08				< 0.000184								<0.000184		< 0.000184		<0.000184	<0.000184	< 0.000184	< 0.000184
 	11/19/10	~0.000103	-0.000103	1 -0.000103				Monitoring		-0.000103	-0.000103	0.000165	-0.000103	-0.000183	~0.000103	-0.000163	~0.000103	-0.000103	~0.000183	-0.000103
	12/16/11							/ Monitoring					 					-		
1 (1) 1		4			7.2		- 1		- 1	1 + A M - 22		34.		* .5;-		7.34				
MW - 13	11/11/08	<0.000184	<0.000184	<0.000184		<0.000184	< 0.000184	<0.000184	< 0.000184	< 0.000184	< 0.000184	< 0.000184	<0.000184	<0.000184	< 0.000184	< 0.000184	<0.000184	< 0.000184	<0.000184	< 0.000184
	11/24/09	< 0.000184	< 0.000184	< 0.000184	< 0.000184	<0.000184	< 0.000184	< 0.000184	< 0.000184		<0.000184		<0.000184	< 0.000184	0.000713	<0.000184	0.0232	0.0163	0.0180	< 0.000184
	11/19/10	<0.000184	<0.000184	< 0.000184	< 0.000184	<0.000184	<0.000184	< 0.000184	< 0.000184	<0.000184	<0.000184	<0.000184	0.000569	< 0.000184	0.000609	< 0.000184	0.00669	0.00638	< 0.000184	0.000356
	12/16/11	<0.000184	<0.000184	< 0.000184		< 0.000184	< 0.000184	< 0.000184	<0.000184	< 0.000184	<0.000184	< 0.000184	0.000362	< 0.000184	0.000397	<0.000184	0.000439	0.00197	<0.000184	0.000314
	dana dana dana dana dana dana dana dana		1. 2. 1		(*# 1.5 °			•:	14 165	.,5,1		#1 · /.					*	· 75.00	\$1. -	. :3%

POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

PLAINS MARKETING, L.P. 34 JUNCTION SOUTH STATION LEA COUNTY, NEW MEXICO NMOCD REFERENCE NUMBER 1R-0456

All water concentrations are reported in mg/L

		All water concentrations are reported in mg/L EPA SW846-8270C, 3510																		
[F "	EPA S	W 040-82 /U	C, 3310		r			T			1
SAMPLE LOCATION	SAMPLE DATE	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzolalpyrene	Benzo[b]Auoranthene	Benzo[g,h,i]perylene	Benzo k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd)pyrene	Phenanthrene	Pyrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Dibenzofuran
Maximum Co Levels from N WQCC Drink standards Sec 101.UU and 3	NM king water ctions 1-	l	ı	0.001 mg/L	0.0001 mg/L	0.0007 mg/L	0.001 mg/L	ı	0.001 mg/L	0.0002 mg/L	0.0003 mg/L	0.001 mg/L	0.001 mg/L	0.0004 mg/L	0.001 mg/L	0.001 mg/L		0.03 mg/L		l
MW - 14	11/11/08	< 0.000183	< 0.000183	< 0.000183	< 0.000183	< 0.000183	< 0.000183	< 0.000183	< 0.000183	<0.000183	<0.000183	< 0.000183	<0.000183	< 0.000183	< 0.000183	< 0.000183	<0.000183	< 0.000183	< 0.000183	<0.000183
	11/24/09	<0.000183	< 0.000183	< 0.000183	< 0.000183	<0.000183	< 0.000183	< 0.000183	<0.000183	< 0.000183	< 0.000183	< 0.000183	<0.000183	< 0.000183	< 0.000183	< 0.000183	< 0.000183	< 0.000183	< 0.000183	<0.000183
	11/19/10				Not Sam	pled as part	of Quarterly	/ Monitoring	Event.											
	12/16/11				Not Sam	pled as part	of Quarterly	/ Monitoring	Event.											
F	25年的政策	132 2 21		340 m	7 t. nc	为能力 为。				4.70	NAME:					LENS.			\$50.00 M	1 1 1
MW - 15	05/21/10	<0.000186	<0.000186	< 0.000186	< 0.000186	< 0.000186	<0.000186	< 0.000186	< 0.000186	< 0.000186	<0.000186	<0.000186	< 0.000186	< 0.000186	< 0.000186	< 0.000186	0.000354	< 0.000186	< 0.000186	<0.000186
	11/19/10				Not Sam	pled as part	of Quarterly	Monitoring	Event.											
	12/16/11	<0.000186	< 0.000186	<0.000186	< 0.000186	< 0.000186	< 0.000186	< 0.000186	< 0.000186	<0.000186	<0.000186	<0.000186	< 0.000186	< 0.000186	<0.000186	< 0.000186	< 0.000186	< 0.000186	<0.000186	<0.000186
			4.187			46		, t k.a.			11 July 1		17.148			H . T		· "Y"	· %	
MW-16	05/21/10	< 0.000184	< 0.000184	<0.000184	< 0.000184	<0.000184	< 0.000184	< 0.000184	<0.000184	< 0.000184	< 0.000184	< 0.000184	<0.000184	<0.000184	< 0.000184	< 0.000184	0.000236	<0.000184	< 0.000184	< 0.000184
	11/19/10			-	Not Sam	pled as part	of Quarterly	Monitoring	Event.											
	12/16/11	<0.000184	< 0.000184	< 0.000184	< 0.000184	<0.000184	< 0.000184	<0.000184	< 0.000184	< 0.000184		<0.000184	<0.000184	< 0.000184	<0.000184	<0.000184	<0.000184	< 0.000184	<0.000184	<0.000184
			2517		4 - 1 - 3	724	· ×	3.7		. 1174			1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m		- 1	1.5		:- 1	ŧ .	
MW-17	05/21/10	< 0.000185	< 0.000185	< 0.000185	<0.000185	<0.000185	< 0.000185	< 0.000185	< 0.000185	< 0.000185	< 0.000185	< 0.000185	< 0.000185	< 0.000185	<0.000185	<0.000185	0.000192	< 0.000185	<0.000185	< 0.000185
	11/19/10				Not Sam	pled as part	of Quarterly	Monitoring	Event.								<u> </u>	I		
	12/16/11	<0.000194	< 0.000194	< 0.000194	< 0.000194	<0.000194	<0.000194	< 0.000194	< 0.000194	< 0.000194	< 0.000194	<0.000194	< 0.000194	< 0.000194	<0.000194	<0.000194	<0.000194	< 0.000194	<0.000194	< 0.000194
		2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			SPA .	•	1.7	F .		(AS)		· 经产品的	fire a		Sara Ta		14	The same	2287.03
RW - 1	11/11/08	Not sampled	Due to Insu	fficient Wate	er Volume															
	11/24/09	<0.000922	< 0.000922	< 0.000922	<0.000922					0,0270	<0.000922	<0.000922	0.171	<0.000922	0.176	<0.000922	0.678	1.53	2.02	0.0485
	11/19/10							/ Monitoring												
1	12/16/11	Not Sampled due to the presence of PSH.																		

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

Appendices

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

Submit 2 Copies to appropriate District Office in accordance

with Rule 116 on back side of form

Revised October 10, 2003

Form C-141

Release Notification and Corrective Action OPERATOR x Initial Report Final Report **Contact Camille Reynolds** Name of Company Plains Marketing, LP Telephone No. 505-441-0965 Address 5805 East Hwy. 80, Midland, TX 79706. Facility Name 34 Junction South Station Facility Type Meter Facility Surface Owner State Land Office Mineral Owner Lease No. LOCATION OF RELEASE Unit Letter Feet from the North/South Line East/West Line Section Township Range Feet from the County M 2 178 36E Lea Latitude 32° 51'42.4" Longitude 103° 19'54.4" NATURE OF RELEASE Type of Release Crude Oil Volume of Release 15 barrels Volume Recovered .5 barrels Source of Release Malfunction of check valve on air eliminator Date and Hour of Occurrence Date and Hour of Discovery 6-10-05 @ 07:00 6-10-05 @ 07:45 Was Immediate Notice Given? If YES, To Whom? ☑ Yes ☐ No ☐ Not Required Paul Sheely By Whom? Camille Reynolds Date and Hour 6-10-05 @ 13:31 Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. ☐ Yes ☒ No If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action Taken.* Mechanical malfunction of check valve on air eliminator resulted in release. Isolated air eliminator off of metering system. The station produces approximately 100 barrels of sweet crude oil per day. The pressure on the line is <10 psi and the gravity on the sweet crude is 42.5, the H2S content is <10 ppm. Describe Area Affected and Cleanup Action Taken.* The impacted soil was excavated and stockpiled on plastic. Aerial extent of surface impact was 1.620 square feet. 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. Signatur

Approved by District Supervisor:

Expiration Date:

Attached

Approval Date:

Phone:505-441-0965

Conditions of Approval:

E-mail Address: cjreynolds@paalp.com

Printed Name: Camille Reynolds

Title: Remediation Coordinator

Date: 6-13-05

Attach Additional Sheets If Necessary

Laboratory Analytical Reports



6701 Aberdeen Avenue: Suite 9 200 East Sunset Road: Suite E 5002 Basin Street, Suite A1

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

800 • 378 • 1296 888 • 588 • 3443

806 • 794 • 1296 FAX 806 • 794 • 1298 915 • 585 • 3443 FAX 915 • 585 • 4944

5015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

432 • 689 • 6301 817 • 201 • 5260 FAX 432 • 689 • 6313

E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

1752439743100-86536 HUB:

DBE: VN 20657

Report Date: March 14, 2011

11030211

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX

LELAP-02003 Kansas E-10317

T104704221-08-TX El Paso:

LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Nova Safety & Environmental

2057 Commerce St. Midland, TX, 79703

Work Order:

Project Location: New Mexico Project Name:

34 Junction South

Project Number: SRS #:

2005-00138 2005-00138

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
259240	MW-15	water	2011-03-01	10:45	2011-03-02
259241	MW-16	water	2011-03-01	11:30	2011-03-02
259242	MW-17	water	2011-03-01	12:15	2011-03-02
259243	MW-7	water	2011-03-01	13:00	2011-03-02
259244	MW-14	water	2011-03-01	13:45	2011-03-02
259245	MW-1	water	2011-03-01	14:30	2011-03-02
259246	MW-6	water	2011-03-01	15:15	2011-03-02
259247	MW-2	water	2011-03-01	16:00	2011-03-02
259248	MW-12	water	2011-03-01	16:45	2011-03-02
259249	MW-13	water	2011-03-01	17:30	2011-03-02

tiatori .

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 10 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael April

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Standard Flags

 $\,B\,$ - $\,$ The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project 34 Junction South were received by TraceAnalysis, Inc. on 2011-03-02 and assigned to work order 11030211. Samples for work order 11030211 were received intact without headspace and at a temperature of 2.2 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
$\overline{\mathrm{BTEX}}$	S 8021B	67105	2011-03-07 at 08:25	79086	2011-03-07 at 08:25

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11030211 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

2005-00138

Work Order: 11030211 34 Junction South

Page Number: 4 of 10 New Mexico

Analytical Report

Sample: 259240 - MW-15

Laboratory:

Midland **BTEX**

Analysis: QC Batch: Prep Batch: 67105

79086

Analytical Method: Date Analyzed:

S 8021B

2011-03-07 Sample Preparation: 2011-03-07 Prep Method: S 5030B

Analyzed By: MEPrepared By: ME

RL

		101			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	m mg/L	1	0.00100
Ethylbenzene		< 0.00100	m mg/L	1	0.00100
Xylene		< 0.00100	m mg/L	1	0.00100

•					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.102	mg/L	1	0.100	102	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0856	${ m mg/L}$	1	0.100	86	51.1 - 128

Sample: 259241 - MW-16

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 79086 Prep Batch: 67105

Analytical Method: Date Analyzed:

RL

S 8021B 2011-03-07 Sample Preparation: 2011-03-07 Prep Method: Analyzed By: Prepared By:

S 5030B MEME

ameter	Flag	R.e

Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene		< 0.00100	$\mathrm{mg/L}$	1	0.00100
Xylene		< 0.00100	m mg/L	1	0.00100

					$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.104	mg/L	1	0.100	104	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0889	mg/L	1	0.100	89	51.1 - 128

Sample: 259242 - MW-17

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 79086 Prep Batch: 67105

Analytical Method: Date Analyzed:

S 8021B 2011-03-07 Sample Preparation: 2011-03-07

2005-00138

Work Order: 11030211 34 Junction South

Page Number: 5 of 10 New Mexico

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	m mg/L	1	0.00100
Ethylbenzene		< 0.00100	${ m mg/L}$	1	0.00100
Xylene		< 0.00100	${ m mg/L}$	1	0.00100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.100	mg/L	1	0.100	100	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0866	${ m mg/L}$	1	0.100	87	51.1 - 128

Sample: 259243 - MW-7

Laboratory:

Midland

Analysis: BTEX 79086 QC Batch: Prep Batch: 67105

Analytical Method: S 8021B Date Analyzed:

2011-03-07 Sample Preparation: 2011-03-07 Prep Method: S 5030B Analyzed By: ME

ME

Prepared By:

RLResult Units Dilution RLParameter Flag 0.00100 Benzene < 0.00100 mg/L mg/L 0.00100< 0.00100 1 Toluene 1 0.00100Ethylbenzene < 0.00100 mg/L < 0.00100 mg/L 1 0.00100 Xylene

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.100	mg/L	1	0.100	100	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0873	mg/L	1	0.100	87	51.1 - 128

Sample: 259244 - MW-14

Laboratory:

Midland

Analysis: BTEX QC Batch: 79086 Prep Batch: 67105

Analytical Method: Date Analyzed: Sample Preparation: 2011-03-07

S 8021B 2011-03-07

RL

Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	$\mathrm{mg/L}$	1	0.00100
Ethylbenzene		< 0.00100	${ m mg/L}$	1	0.00100
Xylene		< 0.00100	m mg/L	1	0.00100

2005-00138

Work Order: 11030211 34 Junction South

Page Number: 6 of 10 New Mexico

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.101	mg/L	1	0.100	101	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0871	$\mathrm{mg/L}$	1	0.100	87	51.1 - 128

Sample: 259245 - MW-1

Laboratory: Midland

Analysis: BTEXQC Batch: 79086 Prep Batch: 67105

Analytical Method: Date Analyzed:

S 8021B 2011-03-07 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	$_{ m mg/L}$	1	0.00100
Toluene		< 0.00100	$\mathrm{mg/L}$	1	0.00100
Ethylbenzene		< 0.00100	$_{ m mg/L}$	1	0.00100
Xylene		< 0.00100	$_{ m mg/L}$	1	0.00100

Sample Preparation: 2011-03-07

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.103	mg/L	1	0.100	103	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0894	$_{ m mg/L}$	1	0.100	89	51.1 - 128

Sample: 259246 - MW-6.

Laboratory: Midland

BTEXAnalysis: QC Batch: 79086 Prep Batch: 67105

Analytical Method: Date Analyzed:

S 8021B2011-03-07 Sample Preparation: 2011-03-07

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	m mg/L	1	0.00100
Toluene		< 0.00100	m mg/L	1	0.00100
Ethylbenzene		< 0.00100	m mg/L	1	0.00100
Xylene		< 0.00100	m mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.104	mg/L	1	0.100	104	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0891	mg/L	1	0.100	89	51.1 - 128

2005-00138

Work Order: 11030211 34 Junction South

Page Number: 7 of 10

New Mexico

Sample: 259247 - MW-2

Laboratory:

Midland

Analysis: QC Batch:

BTEX 79086 Prep Batch: 67105

Analytical Method: Date Analyzed:

S 8021B

Prep Method: S 5030B Analyzed By: 2011-03-07 Sample Preparation: 2011-03-07

MEPrepared By: ME

RL

Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	m mg/L	1	0.00100
Toluene		< 0.00100	m mg/L	1	0.00100
Ethylbenzene		< 0.00100	m mg/L	1	0.00100
Xylene		< 0.00100	${ m mg/L}$	1	0.00100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.101	mg/L	1	0.100	101	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0865	mg/L	1	0.100	86	51.1 - 128

Sample: 259248 - MW-12

Laboratory:

Midland

Analysis: BTEX QC Batch: 79086 Prep Batch: 67105

Analytical Method: Date Analyzed:

S 8021B 2011-03-07 Sample Preparation: 2011-03-07 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RL

		*			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		0.381	mg/L	10	0.00100
Toluene		< 0.0100	${ m mg/L}$	10	0.00100
Ethylbenzene		< 0.0100	$\mathrm{mg/L}$	10	0.00100
Xylene		< 0.0100	$\mathrm{mg/L}$	10	0.00100

					Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.963	mg/L	10	1.00	96	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.899	mg/L	10	1.00	90	51.1 - 128

Sample: 259249 - MW-13

Laboratory: Midland

Analysis: BTEX QC Batch: 79086Prep Batch: 67105

Analytical Method: Date Analyzed:

S 8021B 2011-03-07 Sample Preparation: 2011-03-07

2005-00138

Work Order: 11030211

34 Junction South

Page Number: 8 of 10

New Mexico

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		7.28	mg/L	50	0.00100
Toluene		0.343	mg/L	50	0.00100
Ethylbenzene		0.434	mg/L	50	0.00100
Xylene		1.14	mg/L	50	0.00100

					Spike	$\operatorname{Percent}$	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery_	Limits
Trifluorotoluene (TFT)		4.39	mg/L	50	5.00	88	67.8 - 126
4-Bromofluorobenzene (4-BFB)		3.97	mg/L	50	5.00	79	51.1 - 128

Method Blank (1)

QC Batch: 79086

QC Batch:

79086 Prep Batch: 67105 Date Analyzed:

2011-03-07 QC Preparation: 2011-03-07 Analyzed By: ME

Prepared By: ME

		MDL		
Parameter	Flag	Result	Units	RL
Benzene		< 0.000400	mg/L	0.001
Toluene		< 0.000300	m mg/L	0.001
Ethylbenzene		< 0.000300	mg/L	0.001
Xylene		< 0.000333	$_{ m mg/L}$	0.001

C	I21	Danult	TT:4-	Dilation	Spike	Percent	Recovery
Surrogate	Flag	Result	${ m Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0825	mg/L	1	0.100	82	70.2 - 118
4-Bromofluorobenzene (4-BFB)		0.0826	$_{ m mg/L}$	1	0.100	83	47.3 - 116

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 67105

79086

Date Analyzed:

2011-03-07

QC Preparation: 2011-03-07

Analyzed By: ME

Prepared By: ME

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\mathbf{A}\mathbf{mount}$	Result	Rec.	Limit
Benzene	0.0964	mg/L	1	0.100	< 0.000400	96	82.9 - 108
Toluene	0.0962	$\mathrm{mg/L}$	1	0.100	< 0.000300	96	82.7 - 107
Ethylbenzene	0.0936	mg/L	1	0.100	< 0.000300	94	78.8 - 106
Xylene	0.282	mg/L	1	0.300	< 0.000333	94	79.3 - 106

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

2005-00138

Work Order: 11030211 34 Junction South

LCSD Spike Matrix Rec. RPD Result Dil. Result Limit RPD Param Units Amount Rec. Limit Benzene 0.100 < 0.000400 82.9 - 108 0.0984 mg/L 1 98 2 20 mg/LToluene 0.09721 0.100 < 0.000300 97 82.7 - 107 1 20 Ethylbenzene 0.100 < 0.000300 2 0.0952mg/L 1 95 78.8 - 106 20 Xylene 0.287mg/L 1 0.300 < 0.000333 96 79.3 - 106 2 20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0948	0.0812	mg/L	1	0.100	95	81	67.3 - 113
4-Bromofluorobenzene (4-BFB)	0.0979	0.0857	${ m mg/L}$	1	0.100	98	86	68.2 - 124

Matrix Spike (MS-1) Spiked Sample: 259361

QC Batch: 79086 Prep Batch: 67105

Date Analyzed: 2011-03-07 QC Preparation:

2011-03-07

Analyzed By: ME Prepared By: ME

Analyzed By: ME

Page Number: 9 of 10

New Mexico

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.0819	mg/L	1	0.100	< 0.000400	82	77.9 - 114
Toluene	0.0827	$\mathrm{mg/L}$	1	0.100	< 0.000300	83	78.3 - 111
Ethylbenzene	0.0832	mg/L	1	0.100	< 0.000300	83	75.3 - 110
Xylene	0.250	mg/L	1	0.300	< 0.000333	83	75.7 - 109

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Benzene	0.0841	mg/L	1	0.100	< 0.000400	84	77.9 - 114	3	20
Toluene	0.0847	${ m mg/L}$	1	0.100	< 0.000300	85	78.3 - 111	2	20
Ethylbenzene	0.0849	${ m mg/L}$	1	0.100	< 0.000300	85	75.3 - 110	2	20
Xylene	0.253	${ m mg/L}$	1	0.300	< 0.000333	84	75.7 - 109	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	$_{ m Units}$	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0909	0.0934	${ m mg/L}$	1	0.1	91	93	68.3 - 107
4-Bromofluorobenzene (4-BFB)	0.0862	0.0904	${ m mg/L}$	1	0.1	86	90	60.1 - 135

Standard (CCV-1)

QC Batch: 79086

Date Analyzed: 2011-03-07

2005-00138

Work Order: 11030211 34 Junction South Page Number: 10 of 10 New Mexico

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0934	93	80 - 120	2011-03-07
Toluene		${ m mg/L}$	0.100	0.0928	93	80 - 120	2011-03-07
Ethylbenzene		m mg/L	0.100	0.0882	88	80 - 120	2011-03-07
Xylene		$_{ m mg/L}$	0.300	0.273	91	80 - 120	2011-03-07

Standard (CCV-2)

QC Batch: 79086

Date Analyzed: 2011-03-07

Analyzed By: ME

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		m mg/L	0.100	0.0935	94	80 - 120	2011-03-07
Toluene		$_{ m mg/L}$	0.100	0.0921	92	80 - 120	2011-03-07
Ethylbenzene		$_{ m mg/L}$	0.100	0.0911	91	80 - 120	2011-03-07
Xylene		${ m mg/L}$	0.300	0.269	90	80 - 120	2011-03-07

Standard (CCV-3)

QC Batch: 79086

Date Analyzed: 2011-03-07

Analyzed By: ME

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0978	98	80 - 120	2011-03-07
Toluene		${ m mg/L}$	0.100	0.0965	96	80 - 120	2011-03-07
Ethylbenzene		${ m mg/L}$	0.100	0.0938	94	80 - 120	2011-03-07
Xylene		${ m mg/L}$	0.300	0.281	94	80 - 120	2011-03-07

Standard (CCV-4)

QC Batch: 79086

Date Analyzed: 2011-03-07

Analyzed By: ME

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0931	93	80 - 120	2011-03-07
Toluene		${ m mg/L}$	0.100	0.0917	92	80 - 120	2011-03-07
Ethylbenzene		${ m mg/L}$	0.100	0.0897	90	80 - 120	2011-03-07
Xylene		${ m mg/L}$	0.300	0.267	89	80 - 120	2011-03-07



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Certifications

NELAP DoD LELAP HUB NCTRCA DBE Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St.

Report Date: May 6, 2011

Midland, TX, 79703

Work Order: 11050406

SW of Lovington, NM Project Location: 34 Junction South Project Name: Project Number: 34 Junction South

SRS #:

2005-00138

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	$_{ m Date}$
Sample	Description	Matrix	Taken	Taken	Received
265428	MW 15	water	2011-05-03	12:28	2011-05-04
265429	MW 16	water	2011-05-03	12:38	2011-05-04
265430	MW 17	water	2011-05-03	12:47	2011-05-04
265431	MW 7	water	2011-05-03	13:03	2011-05-04
265432	MW 14	water	2011-05-03	13:10	2011-05-04
265433	MW 1	water	2011-05-03	13:25	2011-05-04
265434	MW 6	water	2011-05-03	13:30	2011-05-04
265435	MW 2	water	2011-05-03	13:37	2011-05-04
265436	MW 12	water	2011-05-03	13:49	2011-05-04
265437	MW 13	water	2011-05-03	13:58	2011-05-04

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

6,43,14

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Case Narrative

Samples for project 34 Junction South were received by TraceAnalysis, Inc. on 2011-05-04 and assigned to work order 11050406. Samples for work order 11050406 were received intact at a temperature of 7.9 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	68754	2011-05-05 at 08:42	81000	2011-05-05 at 08:42

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11050406 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

Sample was received on ice.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: May 6, 2011 34 Junction South

Work Order: 11050406 34 Junction South

Page Number: 5 of 14 SW of Lovington, NM

Analytical Report

Sample: 265428 - MW 15

Laboratory:

Midland

Analysis: QC Batch: BTEX 81000

Analytical Method: Date Analyzed:

S 8021B 2011-05-05 Prep Method: S 5030B Analyzed By:

Dilution

Prep Batch:

68754

Sample Preparation:

2011-05-05

Units

MEPrepared By: ME

RL

			L'T
Parameter	Flag	Cert	Result
D			<0.00100

Benzene 0.00100 mg/L 1 < 0.00100 Toluene < 0.00100 mg/L 1 0.00100 Ethylbenzene < 0.00100 mg/L 1 0.00100< 0.00100 mg/L 1 0.00100Xylene

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1146	1	0.102	mg/L	1	0.100	102	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.100	mg/L	1	0.100	100	51.1 - 128

Sample: 265429 - MW 16

Laboratory:

Midland

BTEX Analysis: QC Batch: 81000 Prep Batch: 68754

Analytical Method: Date Analyzed: Sample Preparation:

S 8021B 2011-05-05 2011-05-05 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

			RL
rameter	Flag	Cert	Result

Par Units Dilution RLult Benzene < 0.00100 0.00100 mg/L Toluene < 0.00100 mg/L 1 0.00100Ethylbenzene < 0.00100 mg/L 1 0.00100Xylene < 0.00100 mg/L 0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0982	mg/L	1	0.100	98	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0947	${ m mg/L}$	1	0.100	95	51.1 - 128

Report Date: May 6, 2011

34 Junction South

Work Order: 11050406 34 Junction South

Page Number: 6 of 14 SW of Lovington, NM

Sample: 265430 - MW 17

Laboratory: Analysis: QC Batch:

Prep Batch:

Midland **BTEX**

81000 68754

Analytical Method: Date Analyzed:

S 8021B Sample Preparation:

2011-05-05 2011-05-05 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RLParameter Flag Cert Result Dilution Units RLBenzene < 0.00100 0.00100 mg/L Toluene < 0.00100 mg/L1 0.00100 Ethylbenzene < 0.00100 mg/L1 0.00100 Xylene < 0.00100 mg/L1 0.00100

						Spike	$\operatorname{Percent}$	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0883	mg/L	1	0.100	88	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0860	mg/L	1	0.100	86	51.1 - 128

Sample: 265431 - MW 7

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 81000 Prep Batch: 68754

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-05-05 2011-05-05 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RLFlag Parameter Cert Result Dilution RLUnits Benzene < 0.00100 mg/L0.00100 1 Toluene 0.00100 < 0.00100 mg/L1 1 Ethylbenzene 0.00100 < 0.00100 $\rm mg/L$ 1 Xylene < 0.00100 mg/L1 0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0906	mg/L	1	0.100	91	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0893	${ m mg/L}$	1	0.100	89	51.1 - 128

Report Date: May 6, 2011 34 Junction South

Work Order: 11050406 34 Junction South

Page Number: 7 of 14 SW of Lovington, NM

Sample: 265432 - MW 14

Laboratory: Midland

Analysis: QC Batch: BTEX 81000

Analytical Method: Date Analyzed:

S 8021B 2011-05-05 Prep Method: S 5030B Analyzed By: ME

Prep Batch: 68754

Sample Preparation: 2011-05-05

Prepared By: ME

		m RL								
Parameter	Flag	Cert	Result	Units	Dilution	RL				
Benzene		1	< 0.00100	${ m mg/L}$	1	0.00100				
Toluene		1	< 0.00100	m mg/L	1	0.00100				
Ethylbenzene		1	< 0.00100	${ m mg/L}$	1	0.00100				
Xylene		1	< 0.00100	${ m mg/L}$	1	0.00100				

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	\mathbf{A} mount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.101	mg/L	1	0.100	101	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0963	${ m mg/L}$	1	0.100	96	51.1 - 128

Sample: 265433 - MW 1

Laboratory: Midland

BTEX Analysis: QC Batch: 81000 Prep Batch: 68754

Analytical Method: Date Analyzed:

S 8021B 2011-05-05 Sample Preparation: 2011-05-05

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	< 0.00100	mg/L	1	0.00100
Toluene		1	< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene		1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene		1	< 0.00100	mg/L	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0984	mg/L	1	0.100	98	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0935	$\mathrm{mg/L}$	1	0.100	94	51.1 - 128

Report Date: May 6, 2011

34 Junction South

Prep Batch: 68754

Work Order: 11050406 34 Junction South

Page Number: 8 of 14 SW of Lovington, NM

Sample: 265434 - MW 6

Laboratory: Analysis: QC Batch:

Midland **BTEX** 81000

Analytical Method: Date Analyzed:

S 8021B

2011-05-05 Sample Preparation: 2011-05-05

S 5030B Prep Method: Analyzed By: ME

Prepared By:

ME

Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	< 0.00100	mg/L	1	0.00100
Toluene		1	< 0.00100	m mg/L	1	0.00100
Ethylbenzene		1	< 0.00100	m mg/L	1	0.00100
Xylene		1	< 0.00100	m mg/L	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0985	mg/L	1	0.100	98	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0950	$\mathrm{mg/L}$	1	0.100	95	51.1 - 128

Sample: 265435 - MW 2

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 81000 Prep Batch: 68754

Analytical Method: Date Analyzed:

S 8021B 2011-05-05 Sample Preparation: 2011-05-05 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RLDilution Parameter Flag Cert Result Units RLBenzene < 0.00100 mg/L 0.00100 1 1 Toluene < 0.00100 1 0.00100mg/L 1 Ethylbenzene < 0.00100 0.001001 mg/L1 Xylene 0.00100< 0.00100 mg/L

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0876	mg/L	1	0.100	88	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0839	${ m mg/L}$	1	0.100	84	51.1 - 128

Report Date: May 6, 2011 34 Junction South

Work Order: 11050406 34 Junction South

Page Number: 9 of 14 SW of Lovington, NM

Sample: 265436 - MW 12

Laboratory:

Midland

Analysis: QC Batch:

BTEX81000 Prep Batch: 68754

Analytical Method: Date Analyzed:

S 8021B

2011-05-05 Sample Preparation: 2011-05-05

S 5030B Prep Method:

Analyzed By: MEPrepared By: ME

			RL
arameter	Flag	Cert	Result

Units Dilution RLBenzene 0.00100 2.39 mg/L 10 0.00100 Toluene < 0.0100 mg/L 10 Ethylbenzene < 0.0100 mg/L10 0.00100 0.0695mg/L 10 0.00100Xylene

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.926	mg/L	10	1.00	93	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.905	${ m mg/L}$	10	1.00	90	51.1 - 128

Sample: 265437 - MW 13

Laboratory: Midland

Analysis: BTEX QC Batch: 81000 Prep Batch: 68754

Analytical Method: Date Analyzed:

S 8021B 2011-05-05 Sample Preparation: 2011-05-05

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	9.23	mg/L	50	0.00100
Toluene		1	< 0.0500	m mg/L	50	0.00100
Ethylbenzene		1	< 0.0500	${ m mg/L}$	50	0.00100
Xylene		1	< 0.0500	mg/L	50	0.00100

						$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	4.20	mg/L	50	5.00	84	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	3.99	${ m mg/L}$	50	5.00	80	51.1 - 128

Report Date: May 6, 2011

34 Junction South

Work Order: 11050406 34 Junction South

Page Number: 10 of 14 SW of Lovington, NM

Method Blanks

Method Blank (1)

QC Batch: 81000

QC Batch:

81000 Prep Batch: 68754 Date Analyzed: QC Preparation: 2011-05-05 2011-05-05 Analyzed By: ME

Prepared By: ME

RL

MDL Parameter Units Flag Cert Result Benzene mg/L < 0.000400

0.001 Toluene mg/L 0.001 < 0.000300 Ethylbenzene < 0.000300 mg/L0.001 Xylene < 0.000333 mg/L0.001

Spike Percent Recovery Surrogate Flag Dilution Limits Cert Amount Recovery Result Units Trifluorotoluene (TFT) 70.2 - 118 mg/L 0.100 100 0.100 1 1 4-Bromofluorobenzene (4-BFB) 47.3 - 116 0.0962mg/L1 0.10096

Report Date: May 6, 2011 34 Junction South

Work Order: 11050406 34 Junction South

Page Number: 11 of 14 SW of Lovington, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-05-05

Analyzed By: ME

Prep Batch: 68754

QC Preparation: 2011-05-05

Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
Benzene		1	0.0823	mg/L	1	0.100	< 0.000400	82	76.8 - 110
Toluene		1	0.0952	${ m mg/L}$	1	0.100	< 0.000300	95	81 - 108
Ethylbenzene		1	0.102	$\mathrm{mg/L}$	1	0.100	< 0.000300	102	78.8 - 118
Xylene		1	0.306	mg/L	1	0.300	< 0.000333	102	80.3 - 119

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Benzene		1	0.0816	mg/L	1	0.100	< 0.000400	82	76.8 - 110	1	20
Toluene		1	0.0949	$\mathrm{mg/L}$	1	0.100	< 0.000300	95	81 - 108	0	20
Ethylbenzene		1	0.101	${ m mg/L}$	1	0.100	< 0.000300	101	78.8 - 118	1	20
Xylene		1	0.304	mg/L	1	0.300	< 0.000333	101	80.3 - 119	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	0.0944	0.0917	mg/L	1	0.100	94	92	66.6 - 114
4-Bromofluorobenzene (4-BFB)	1	0.0967	0.0936	$\mathrm{mg/L}$	1	0.100	97	94	68.2 - 124

Matrix Spike (MS-1)

Spiked Sample: 265560

QC Batch: Prep Batch: 68754 Date Analyzed: 2011-05-05 QC Preparation: 2011-05-05 Analyzed By: ME Prepared By: ME

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	4.71	mg/L	50	5.00	0.8329	78	77.9 - 114
Toluene		1	4.37	${ m mg/L}$	50	5.00	< 0.0150	87	78.3 - 111
Ethylbenzene		1	5.61	mg/L	50	5.00	0.9705	93	75.3 - 110
Xylene		1	14.2	${ m mg/L}$	50	15.0	0.4066	92	75.7 - 109

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: May 6, 2011 34 Junction South

Work Order: 11050406 34 Junction South

Page Number: 12 of 14 SW of Lovington, NM

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	\mathbf{A} mount	Result	Rec .	Limit	RPD	$_{ m Limit}$
Benzene		1	4.89	mg/L	50	5.00	0.8329	81	77.9 - 114	4	20
Toluene		1	4.58	mg/L	50	5.00	< 0.0150	92	78.3 - 111	5	20
Ethylbenzene		1	5.84	mg/L	50	5.00	0.9705	97	75.3 - 110	4	20
Xylene		1	15.0	mg/L	50	15.0	0.4066	97	75.7 - 109	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	4.52	4.52	mg/L	50	5	90	90	68.3 - 107
4-Bromofluorobenzene (4-BFB)	1	4.50	4.47	mg/L	50	5	90	89	60.1 - 135

Report Date: May 6, 2011 Work Order: 11050406 34 Junction South 34 Junction South

Calibration Standards

Standard (CCV-1)

QC Batch: 81000

Date Analyzed: 2011-05-05

Analyzed By: ME

Page Number: 13 of 14

SW of Lovington, NM

_				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	$_{ m Units}$	Conc.	Conc.	R.ecovery	Limits	Analyzed
Benzene	•	1	mg/L	0.100	0.0843	84	80 - 120	2011-05-05
Toluene		1	${ m mg/L}$	0.100	0.100	100	80 - 120	2011-05-05
Ethylbenzene		. 1	${ m mg/L}$	0.100	0.104	104	80 - 120	2011-05-05
Xylene		1	$\mathrm{mg/L}$	0.300	0.312	104	80 - 120	2011-05-05

Standard (CCV-2)

QC Batch: 81000

Date Analyzed: 2011-05-05

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0811	81	80 - 120	2011-05-05
Toluene		1	mg/L	0.100	0.0931	93	80 - 120	2011-05-05
Ethylbenzene		1	${ m mg/L}$	0.100	0.0979	98	80 - 120	2011-05-05
Xylene		1	$_{ m mg/L}$	0.300	0.292	97	80 - 120	2011-05-05

Standard (CCV-3)

QC Batch: 81000

Date Analyzed: 2011-05-05

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0809	81	80 - 120	2011-05-05
Toluene		1	${ m mg/L}$	0.100	0.0929	93	80 - 120	2011-05-05
Ethylbenzene		1	${ m mg/L}$	0.100	0.0971	97	80 - 120	2011-05-05
Xylene		1	mg/L	0.300	0.291	97	80 - 120	2011-05-05

Work Order: 11050406 34 Junction South Page Number: 14 of 14 SW of Lovington, NM

Appendix

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
 - U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

LAB Order ID # 110504016

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5002 Basin Street, Suite A1 . 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

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Certifications

E-Mail: lab@naceanalysis.com

WBE NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St. Midland, TX, 79703

Report Date: August 19, 2011

Work Order:

11081718

Project Location: SW of Lovington, NM Project Name: 34 Junction South Project Number: 34 Junction South

SRS #:

2005-00138

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
274750	MW-15	water	2011-08-16	11:00	2011-08-17
274751	MW-16	water	2011-08-16	11:45	2011-08-17
274752	MW-17	water	2011-08-16	12:30	2011-08-17
274753	MW-7	water	2011-08-16	13:15	2011-08-17
274754	MW-1	water	2011-08-16	14:00	2011-08-17
274755	MW-6	water	2011-08-16	14:45	2011-08-17
274756	MW-2	water	2011-08-16	15:30	2011-08-17
274757	MW-14	water	2011-08-16	16:15	2011-08-17
274758	MW-12	water	2011-08-16	17:00	2011-08-17
274759	MW-13	water	2011-08-16	17:45	2011-08-17

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Report Contents

Analytical Report 5 Sample 274750 (MW-15) 5 Sample 274751 (MW-16) 5 Sample 274752 (MW-17) 5 Sample 274753 (MW-7) 6 Sample 274754 (MW-1) 6 Sample 274755 (MW-6) 7 Sample 274756 (MW-2) 7 Sample 274757 (MW-14) 8 Sample 274758 (MW-12) 8 Sample 274759 (MW-13) 5 Method Blanks 10 QC Batch 84063 - Method Blank (1) 10 Laboratory Control Spikes 13 QC Batch 84063 - LCS (1) 11 QC Batch 84063 - MS (1) 11
Sample 274751 (MW-16) 5 Sample 274752 (MW-17) 5 Sample 274753 (MW-7) 6 Sample 274754 (MW-1) 6 Sample 274755 (MW-6) 7 Sample 274756 (MW-2) 5 Sample 274757 (MW-14) 8 Sample 274758 (MW-12) 8 Sample 274759 (MW-13) 9 Method Blanks 10 QC Batch 84063 - Method Blank (1) 10 Laboratory Control Spikes 11 QC Batch 84063 - LCS (1) 12
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Sample 274759 (MW-13) 9 Method Blanks 10 QC Batch 84063 - Method Blank (1) 10 Laboratory Control Spikes 11 QC Batch 84063 - LCS (1) 11
QC Batch 84063 - Method Blank (1) 10 Laboratory Control Spikes 11 QC Batch 84063 - LCS (1) 11
QC Batch 84063 - Method Blank (1) 10 Laboratory Control Spikes 11 QC Batch 84063 - LCS (1) 11
QC Batch 84063 - LCS (1)
QC Batch 84063 - LCS (1)
€ Date 1 0 1000 - 1010 (1)
Calibration Standards 13
QC Batch 84063 - CCV (1)
QC Batch 84063 - CCV (2)
QC Batch 84063 - CCV (3)
Appendix 14
Laboratory Certifications
Standard Flags
Attachments

Case Narrative

Samples for project 34 Junction South were received by TraceAnalysis, Inc. on 2011-08-17 and assigned to work order 11081718. Samples for work order 11081718 were received intact without headspace and at a temperature of 3.3 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
$\overline{\text{BTEX}}$	S 8021B	71373	2011-08-18 at 11:38	84063	2011-08-18 at 11:38

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11081718 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: August 19, 2011

34 Junction South

Work Order: 11081718 34 Junction South

Page Number: 5 of 14 SW of Lovington, NM

Analytical Report

Sample: 274750 - MW-15

Laboratory: Midland

Analysis: QC Batch:

Parameter

Ethylbenzene

Benzene

Toluene

Xylene

BTEX 84063

Analytical Method:

Cert

Flag

U

U

S 8021B 2011-08-18

RL

Result

< 0.00100

< 0.00100

< 0.00100

< 0.00100

2011-08-18

Prep Method: S 5030B Analyzed By: MEPrepared By: ME

Prep Batch:

71373

Date Analyzed: Sample Preparation:

Units

mg/L

mg/L

mg/L

mg/L

Dilution RL0.00100 0.00100 1 0.00100 1

1

0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0912	mg/L	1	0.100	91	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0927	mg/L	1	0.100	93	67.5 - 140.8

Sample: 274751 - MW-16

Laboratory: Midland

Analysis: QC Batch: Prep Batch: BTEX 84063 71373

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-08-18 2011-08-18 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RLParameter Flag Cert Result Units Dilution RLBenzene < 0.00100 mg/L 0.00100 U 1 Toluene U < 0.00100 mg/L 1 0.00100 Ethylbenzene < 0.00100 1 0.00100 υ mg/L Xylene < 0.00100 1 0.00100mg/LU

Cumarata	T21	Clt	D 14	TT!4	D:1 4:	Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0979	mg/L	1	0.100	98	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0981	${ m mg/L}$	1	0.100	98	67.5 - 140.8

Report Date: August 19, 2011 34 Junction South

11 Work Order: 11081718 34 Junction South Page Number: 6 of 14 SW of Lovington, NM

Sample: 274752 - MW-17

Laboratory: Midland Analysis: BTEX

QC Batch: 84063 Prep Batch: 71373 Analytical Method: S 8021B Date Analyzed: 2011-08-18 Sample Preparation: 2011-08-18 Prep Method: S 5030B Analyzed By: ME Prepared By: ME

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	U	1	< 0.00100	mg/L	1	0.00100
Toluene	U	1	< 0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	U	1	< 0.00100	mg/L	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	R.ecovery	Limits
Trifluorotoluene (TFT)			0.0911	mg/L	1	0.100	91	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0913	${ m mg/L}$	1	0.100	91	67.5 - 140.8

Sample: 274753 - MW-7

Laboratory: Midland Analysis: BTEX

QC Batch: 84063 Prep Batch: 71373 Analytical Method: S 8021B Date Analyzed: 2011-08-18 Sample Preparation: 2011-08-18

			RL			
Parameter	Flag	Cert	Result	$_{ m Units}$	Dilution	RL
Benzene	U	1	< 0.00100	m mg/L	1	0.00100
Toluene	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	ŭ	1	< 0.00100	${ m mg/L}$	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0919	mg/L	1	0.100	92	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0913	${ m mg/L}$	1	0.100	91	67.5 - 140.8

Report Date: August 19, 2011

34 Junction South

Work Order: 11081718 34 Junction South

Page Number: 7 of 14 SW of Lovington, NM

Sample: 274754 - MW-1

Laboratory: Midland Analysis:

BTEX 84063

Analytical Method:

S 8021B

Prep Method: S 5030B Analyzed By: ME

QC Batch: Prep Batch: 71373

Date Analyzed: Sample Preparation: 2011-08-18

2011-08-18

Prepared By: ME

		m RL								
Parameter	Flag	Cert	Result	Units	Dilution	RL				
Benzene	Ŭ	1	< 0.00100	mg/L	1	0.00100				
Toluene	U	1	< 0.00100	m mg/L	1	0.00100				
Ethylbenzene	U	1	< 0.00100	m mg/L	1	0.00100				
Xvlene	U	1	< 0.00100	mg/L	1	0.00100				

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0960	mg/L	1	0.100	96	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0963	mg/L	1	0.100	96	67.5 - 140.8

Sample: 274755 - MW-6

Laboratory: Midland

Analysis: **BTEX** QC Batch: 84063 Prep Batch: 71373

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-08-18 2011-08-18 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RLParameter Flag Cert Result Units Dilution RLBenzene mg/L 0.00100 U 1 < 0.00100 1 Toluene U < 0.00100 mg/L 1 0.00100 1 Ethylbenzene 0.00100 υ 1 < 0.00100 mg/L1 Xylene < 0.00100 mg/L1 0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	$\mathbf{A}\mathbf{mount}$	Recovery	Limits
Trifluorotoluene (TFT)			0.0933	mg/L	1	0.100	93	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0924	mg/L	1	0.100	92	67.5 - 140.8

Report Date: August 19, 2011 Work Order: 11081718 Page Number: 8 of 14 SW of Lovington, NM 34 Junction South 34 Junction South

Sample: 274756 - MW-2

Laboratory: Midland Prep Method: S 5030B Analysis: BTEX Analytical Method: S 8021B QC Batch: 84063 Date Analyzed: 2011-08-18 Analyzed By: $M\dot{E}$ Prep Batch: 71373 Sample Preparation: 2011-08-18 Prepared By: ME

		m RL								
Parameter	Flag	Cert	Result	Units	Dilution	RL				
Benzene	Ŭ	1	< 0.00100	mg/L	1	0.00100				
Toluene	U	1	< 0.00100	${ m mg/L}$	1	0.00100				
Ethylbenzene	U	1	< 0.00100	${ m mg/L}$	1	0.00100				
Xylene	U	1	< 0.00100	mg/L	: 1	0.00100				

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0935	mg/L	1	0.100	94	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0928	${ m mg/L}$	1	0.100	93	67.5 - 140.8

Sample: 274757 - MW-14

Laboratory: Midland Analysis: BTEX

Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 84063 Date Analyzed: 2011-08-18 Analyzed By: MEPrep Batch: 71373 Sample Preparation: 2011-08-18 Prepared By: ME

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	Ū	1	< 0.00100	m mg/L	1	0.00100
Toluene	υ	1	< 0.00100	$\mathrm{mg/L}$	1	0.00100
Ethylbenzene	Ŭ	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	U	1	< 0.00100	$_{ m mg/L}$	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	$\mathbf{A}\mathbf{mount}$	Recovery	Limits
Trifluorotoluene (TFT)			0.0934	mg/L	1	0.100	93	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0926	${ m mg/L}$	1	0.100	93	67.5 - 140.8

Report Date: August 19, 2011

34 Junction South

Work Order: 11081718 34 Junction South

Page Number: 9 of 14 SW of Lovington, NM

Sample: 274758 - MW-12

Laboratory: Analysis:

Midland BTEX

Analytical Method:

S 8021B

Prep Method: S 5030B ME

QC Batch: Prep Batch: 71373

84063

Date Analyzed: 2011-08-18 Sample Preparation: 2011-08-18

Analyzed By: Prepared By: ME

RL

Cert Result Units Dilution	$_{ m Units}$	Result	Cert	eter Flag	Parameter
1 0.335 mg/L 10	m mg/L	0.335	1	ne	Benzene
$_{1}$ <0.0100 mg/L 10	$_{ m mg/L}$	< 0.0100	1	e u	Toluene
$_{1}$ <0.0100 mg/L	$_{ m mg/L}$	< 0.0100	1	enzene u	Ethylbenzene
1 <0.0100 mg/L 10	mg/L	< 0.0100	1	· · · · · · · · · · · · · · · · · · ·	Xylene
1 0.335 mg/L 10 1 <0.0100 mg/L 10 1 <0.0100 mg/L 10	mg/L mg/L mg/L	0.335 <0.0100 <0.0100	1 1 1 1 1	e u enzene u	Benzene Toluene Ethylbenzene

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.852	mg/L	10	1.00	85	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.875	mg/L	10	1.00	88	67.5 - 140.8

Sample: 274759 - MW-13

Laboratory:

Midland

Analysis: BTEX QC Batch: 84063 Prep Batch: 71373

Analytical Method: Date Analyzed:

S 8021B 2011-08-18 Sample Preparation: 2011-08-18

		m RL								
Parameter	Flag	Cert	Result	Units	Dilution	RL				
Benzene		1	5.94	mg/L	50	0.00100				
Toluene	ប	1	< 0.0500	$_{ m mg/L}$	50	0.00100				
Ethylbenzene	U	1	< 0.0500	$_{ m mg/L}$	50	0.00100				
Xylene	U	1	< 0.0500	mg/L	50	0.00100				

						$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	Qнг		3.96	mg/L	50	5.00	79	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			4.01	mg/L	50	5.00	80	67.5 - 140.8

Report Date: August 19, 2011 Work Order: 11081718 Page Number: 10 of 14 34 Junction South SW of Lovington, NM

Method Blanks

Method Blank (1)

QC Batch: 84063

QC Batch: 84063

Date Analyzed: 2011-08-18

Analyzed By: ME Prepared By: ME

Prep Batch: 71373

QC Preparation: 2011-08-18

Parameter		MDL							
	Flag	Cert	Result	$\mathbf{U}_{\mathbf{nits}}$	RL				
Benzene		1	< 0.000400	mg/L	0.001				
Toluene		1	< 0.000300	${ m mg/L}$	0.001				
Ethylbenzene		1	< 0.000300	${ m mg/L}$	0.001				
Xylene		1	< 0.000333	${ m mg/L}$	0.001				

						Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0899	mg/L	1	0.100	90	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)		,	0.0899	${ m mg/L}$	1	0.100	90	45.9 - 126.4

Report Date: August 19, 2011

34 Junction South

Work Order: 11081718 34 Junction South

Page Number: 11 of 14 SW of Lovington, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

84063

Date Analyzed:

2011-08-18

Analyzed By: ME

Prep Batch: 71373

QC Preparation: 2011-08-18

Prepared By: ME

•			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
Benzene		1	0.0901	mg/L	1	0.100	< 0.000400	90	76.8 - 110.3
Toluene		1	0.108	mg/L	1	0.100	< 0.000300	108	90.9 - 122.2
Ethylbenzene		1	0.117	mg/L	1	0.100	< 0.000300	117	72.7 - 120.2
Xylene		1	0.355	$\mathrm{mg/L}$	1	0.300	< 0.000333	118	72.1 - 121.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	0.0885	mg/L	1	0.100	< 0.000400	88	76.8 - 110.3	2	20
Toluene		1	0.106	mg/L	1	0.100	< 0.000300	106	90.9 - 122.2	2	20
Ethylbenzene		1	0.115	mg/L	1	0.100	< 0.000300	115	72.7 - 120.2	2	20
Xylene		1	0.348	mg/L	1	0.300	< 0.000333	116	72.1 - 121.5	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0998	0.102	mg/L	1	0.100	100	102	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.109	0.113	mg/L	1	0.100	109	113	56.4 - 127.9

Matrix Spike (MS-1)

Spiked Sample: 274759

QC Batch: Prep Batch: 71373

84063

Date Analyzed: QC Preparation: 2011-08-18

2011-08-18

Analyzed By: ME Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		, 1	9.66	mg/L	50	5.00	5.9444	74	66.9 - 128.2
Toluene		1	4.54	mg/L	50	5.00	< 0.0150	91	81.6 - 122.9
Ethylbenzene		1	4.92	mg/L	50	5.00	< 0.0150	98	62.7 - 117.9
Xylene		1	14.7	m mg/L	50	15.0	< 0.0166	98	62.9 - 118.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: August 19, 2011

34 Junction South

Work Order: 11081718 34 Junction South Page Number: 12 of 14 SW of Lovington, NM

Param	F	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	10.1	mg/L	50	5.00	5.9444	83	66.9 - 128.2	4	20
Toluene		1	4.81	mg/L	50	5.00	< 0.0150	96	81.6 - 122.9	6	20
Ethylbenzene		1	5.21	mg/L	50	5.00	< 0.0150	104	62.7 - 117.9	6	20
Xylene		1	15.7	mg/L	50	15.0	< 0.0166	105	62.9 - 118.2	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	4.52	4.58	mg/L	50	5	90	92	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	4.97	5.19	${ m mg/L}$	50	5	99	104	52.2 - 135.8

Report Date: August 19, 2011

Work Order: 11081718 34 Junction South

Page Number: 13 of 14 SW of Lovington, NM

Calibration Standards

Standard (CCV-1)

34 Junction South

QC Batch: 84063

Date Analyzed: 2011-08-18

Analyzed By: ME

				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	1 rag		mg/L		0.0888	89	80 - 120	2011-08-18
		1	٥,	0.100				
Toluene		1	${ m mg/L}$	0.100	0.107	107	80 - 120	2011-08-18
Ethylbenzene		1	${ m mg/L}$	0.100	0.117	117	80 - 120	2011-08-18
Xylene		1	$_{ m mg/L}$	0.300	0.354	118	80 - 120	2011-08-18

Standard (CCV-2)

QC Batch: 84063

Date Analyzed: 2011-08-18

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0921	92	80 - 120	2011-08-18
Toluene		1	$_{ m mg/L}$	0.100	0.110	110	80 - 120	2011-08-18
Ethylbenzene		1	mg/L	0.100	0.119	119	80 - 120	2011-08-18
Xylene		1	m mg/L	0.300	0.357	119	80 - 120	2011-08-18

Standard (CCV-3)

QC Batch: 84063

Date Analyzed: 2011-08-18

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	$_{ m mg/L}$	0.100	0.0845	84	80 - 120	2011-08-18
Toluene		1	${ m mg/L}$	0.100	0.101	101	80 - 120	2011-08-18
Ethylbenzene		1	${ m mg/L}$	0.100	0.108	108	80 - 120	2011-08-18
Xylene		1	m mg/L	0.300	0.326	109	80 - 120	2011-08-18

Report Date: August 19, 2011 Work Order: 11081718
34 Junction South 34 Junction South

Page Number: 14 of 14

SW of Lovington, NM

Appendix

Laboratory Certifications

	Certifying	Certification	Laboratory
$^{\rm C}$	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

F Description

- B Analyte detected in the corresponding method blank above the method detection limit.
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

(LAB USE) Project #; 2052 Contact Person: Company Name: Project Location (including state): invoice to: Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C. Relinquished by: Relinquished by: (If different from above) Address: CENT. LAB#* KSE 751 mw-16 ない 756 mw-2 101-mac+ mw-7 mw-17 mwm6-13 mw-13 mw-l mw-15 005-00138 more (Street, City, Zip)

MORE Midlland 14 79705 Dow R raceAnalysis, Inc. Company: Company: FIELD CODE email: lab@traceanalysis.com Date: Date: # CONTAINERS Time: ORIGINAL COPY 薦 Volume / Amount Received by: WATER Received by Received SOIL MATRIX AIR Š SLUDGE Sampler Signature: Project Name E-mail: Fax #: HCI Company: Company: Company: 6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 HNO₃ 433-500-7761 PRESERVATIVE 432-520-7720 H₂SO₄ METHOD NaOH ICE Date: NONE Time: DATE SAMPLING Ime: 一大 cor 5002 Basin Street, Suite A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 08:59 14:45 g:36 16:15 14:00 11.65 INST INST TIME ISK OBS COR CS80 **MTBE** 8021 / 602 / 8260 / 624 Carrier # RTEX 802D/602/8260/624 TPH 418.1 / TX1005 / TX1005 Ext(C35) Intact (C) TPH 8015 GRO / DRO / TVHC LAB USE ONLY PAH 8270 / 625 Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 Circle or Specify Method 200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 885-3443 Fax (915) 585-4944 1 (888) 588-3443 TCLP Metals Ag As Ba Cd Cr Pb Se Hg **TCLP Volatiles** TCLP Semi Volatiles **ANALYSIS REQUEST** Dry Weight Basis Required TCLP Pesticides REMARKS Check If Special Reporting Limits Are Needed TRRP Report Required RCI GC/MS Vol. 8260 / 624 GC/MS Semi. Vol. 8270 / 625 PCB's 8082 / 608 tests Midland Pesticides 8081 / 608 BOD, TSS, pH Moisture Content BioAquatic Testing 2501 Mayes Rd., Ste 100 Carrollton, Texas 75006 Tei (972) 242-7750 CI, FI, S04, NO3, NO2, Alkalinity Na, Ca, Mg, K, TDS, EC Turn Around Time if different from standard

Hold

LAB Order ID #

으



6701 Aberdeen Avenue; Suite 9 200 East Sunset Road, Suite E

5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft. Worth, Texas-76132

Lubbock, Texas: 79424 El Paso: Texas 79922

888 • 588 • 3443 Midland, Texas 79703

432 • 689 • 6301 817 = 201 = 5260 E-Mail: lab@traceanalysis.com

.915 • 585 • 3443 FÁX 915 • 585 • 4944. FAX 432 • 589 • 6313

Report Date: December 1, 2011

11112903

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St.

Work Order:

Project Location: SW of Lovington, NM Project Name:

Midland, TX, 79703

34 Junction South 34 Junction South

Project Number: SRS #:

2005-00138

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
283262	MW 15	water	2011-11-28	13:50	2011-11-29
283263	MW 16	water	2011-11-28	14:00	2011-11-29
283264	MW 17	water	2011-11-28	14:10	2011-11-29
283265	MW 7	water	2011-11-28	14:25	2011-11-29
283266	MW 1	water	2011-11-28	14:40	2011-11-29
283267	MW 6	water	2011-11-28	14:55	2011-11-29
283268	MW 2	water	2011-11-28	15:10	2011-11-29
283269	MW 14	water	2011-11-28	15:20	2011-11-29
283270	MW 12	water	2011-11-28	15:35	2011-11-29
283271	MW 13	water	2011-11-28	15:40	2011-11-29

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Case Narrative

Samples for project 34 Junction South were received by TraceAnalysis, Inc. on 2011-11-29 and assigned to work order 11112903. Samples for work order 11112903 were received intact without headspace and at a temperature of 12.1 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	73727	2011-11-30 at 08:30	86824	2011-11-30 at 09:23

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11112903 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

Samples were received with no ice.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: December 1, 2011 34 Junction South

Work Order: 11112903 34 Junction South

Page Number: 5 of 14 SW of Lovington, NM

Analytical Report

Sample: 283262 - MW 15

Laboratory: Midland

Analysis: BTEX QC Batch: 86824

Analytical Method: Date Analyzed:

S 8021B 2011-11-30 Prep Method: S 5030B Analyzed By:

AG Prepared By:

Prep Batch: 73727 Sample Preparation: 2011-11-30

				UT			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Benzene	U	U	1	< 0.00100	mg/L	1	0.00100
Toluene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.112	mg/L	1	0.100	112	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0966	$\mathrm{mg/L}$	1	0.100	97	67.5 - 140.8

Sample: 283263 - MW 16

Laboratory:

Midland

Analysis: BTEX QC Batch: 86824 Prep Batch: 73727

Analytical Method: Date Analyzed:

S 8021B 2011-11-30 Sample Preparation: 2011-11-30 Prep Method: S 5030B Analyzed By:

AGPrepared By: AG

				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Benzene	U	U	1	< 0.00100	mg/L	1	0.00100
Toluene	υ	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene	υ	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	U	U	1	< 0.00100	mg/L	1	0.00100

						Spike	$\operatorname{Percent}$	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	${f Amount}$	Recovery	Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0911	${ m mg/L}$	1	0.100	91	67.5 - 140.8

34 Junction South

Work Order: 11112903 34 Junction South

Page Number: 6 of 14 SW of Lovington, NM

Sample: 283264 - MW 17

Laboratory: Analysis: QC Batch:

Midland BTEX 86824 Prep Batch: 73727

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B

2011-11-30 2011-11-30 Prep Method: S 5030B

Analyzed By: Prepared By:

AG AG

RLParameter Flag Cert Result Dilution RLUnits Benzene U < 0.00100 0.00100 mg/L 1 Toluene U < 0.00100 mg/L 1 0.00100 U U Ethylbenzene < 0.00100 mg/L 1 0.00100 Xylene U 0.00100 < 0.00100 mg/L 1

						Spike	$\operatorname{Percent}$	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0881	mg/L	1	0.100	88	67.5 - 140.8

Sample: 283265 - MW 7

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 86824 Prep Batch: 73727

Analytical Method: Date Analyzed:

S 8021B 2011-11-30 Sample Preparation: 2011-11-30 Prep Method: S 5030B Analyzed By:

AGPrepared By:

				RL			
Parameter		Flag	Cert	Result	$_{ m Units}$	Dilution	RL
Benzene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Toluene	U	\mathbf{U}^{-}	1	< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0897	mg/L	1	0.100	90	67.5 - 140.8

Report Date: December 1, 2011 34 Junction South

Work Order: 11112903 34 Junction South

Page Number: 7 of 14

Prep Batch: 73727

SW of Lovington, NM

Sample: 283266 - MW 1

Laboratory:

Midland

Analysis: QC Batch: BTEX 86824

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B

2011-11-30 2011-11-30 Prep Method: S 5030B

Analyzed By: AG

ВŢ

Prepared By: AG

				$\kappa_{ m L}$			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Benzene	U	U	1	< 0.00100	mg/L	1	0.00100
Toluene	υ	\mathbf{U}	1	< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0866	mg/L	1	0.100	87	67.5 - 140.8

Sample: 283267 - MW 6

Laboratory: Midland

Analysis: BTEX

QC Batch: 86824 Prep Batch: 73727

Analytical Method: Date Analyzed:

S 8021B 2011-11-30 Sample Preparation: 2011-11-30 Prep Method: S 5030B Analyzed By: Prepared By:

AG AG

				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Benzene	υ	U	1	< 0.00100	mg/L	1	0.00100
Toluene	υ	U	1	< 0.00100	${ m mg/L}$	1	0.00100
Ethylbenzene	U	\mathbf{U}	1	< 0.00100	${ m mg/L}$	1	0.00100
Xylene	U	U	1	< 0.00100	${ m mg/L}$	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	$\mathbf{A}\mathbf{mount}$	Recovery	Limits
Trifluorotoluene (TFT)			0.106	mg/L	1	0.100	106	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0877	${ m mg/L}$	1	0.100	88	67.5 - 140.8

Report Date: December 1, 2011 34 Junction South Work Order: 11112903 34 Junction South Page Number: 8 of 14 SW of Lovington, NM

Sample: 283268 - MW 2

Laboratory: Midland Analysis: BTEX

QC Batch: 86824 Prep Batch: 73727 Analytical Method: S 8021B
Date Analyzed: 2011-11-30
Sample Preparation: 2011-11-30

Prep Method: S 5030B Analyzed By: AG Prepared By: AG

RLFlag Parameter Cert Result Dilution Units RLBenzene Ū < 0.00100 mg/L 0.00100 1 1 Toluene U < 0.00100 0.00100 mg/L1 U Ethylbenzene U < 0.00100 mg/L1 0.00100 U Xylene U < 0.00100 1 0.00100mg/L U

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.100	mg/L	1	0.100	100	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0835	mg/L	1	0.100	84	67.5 - 140.8

Sample: 283269 - MW 14

Laboratory: Midland

Analysis: BTEX QC Batch: 86824 Prep Batch: 73727 Analytical Method: S 8021B Date Analyzed: 2011-11-30 Sample Preparation: 2011-11-30 Prep Method: S 5030B Analyzed By: AG Prepared By: AG

RLParameter Flag Cert Result Units Dilution RLBenzene Ū < 0.00100 mg/L 0.00100 1 U Toluene U < 0.00100 mg/L 1 0.00100 U 1 Ethylbenzene U < 0.00100 1 0.00100 mg/LU 1 Xylene U < 0.00100 0.00100mg/L1

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0861	mg/L	1	0.100	86	67.5 - 140.8

34 Junction South

Work Order: 11112903 34 Junction South

Page Number: 9 of 14 SW of Lovington, NM

Sample: 283270 - MW 12

Laboratory:

Midland

Analysis: QC Batch:

BTEX 86824 Prep Batch: 73727

Analytical Method: Date Analyzed:

S 8021B 2011-11-30 Sample Preparation: 2011-11-30 Prep Method: S 5030B

Analyzed By: AGPrepared By: AG

				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Benzene			1	0.217	mg/L	10	0.00100
Toluene	U	U	1	< 0.0100	${ m mg/L}$	10	0.00100
Ethylbenzene	U	U	1	< 0.0100	${ m mg/L}$	10	0.00100
Xylene	U	U	1	< 0.0100	${ m mg/L}$	10	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.959	mg/L	10	1.00	96	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.837	mg/L	10	1.00	84	67.5 - 140.8

Sample: 283271 - MW 13

Laboratory:

Midland **BTEX**

Analysis: QC Batch: 86824 Prep Batch: 73727

Analytical Method: Date Analyzed:

S 8021B 2011-11-30 Sample Preparation: 2011-11-30 Prep Method: S 5030B AG

Analyzed By: Prepared By: AG

				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Benzene			1	3.52	mg/L	50	0.00100
Toluene	U	U	1	< 0.0500	${ m mg/L}$	50	0.00100
Ethylbenzene	U	U	1	< 0.0500	${ m mg/L}$	50	0.00100
Xylene	U	U	1	< 0.0500	$\mathrm{mg/L}$	50	0.00100

						$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			4.91	mg/L	50	5.00	98	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			4.33	${ m mg/L}$	50	5.00	87	67.5 - 140.8

Work Order: 11112903 34 Junction South 34 Junction South

Flag

Page Number: 10 of 14 SW of Lovington, NM

Method Blanks

Method Blank (1)

QC Batch: 86824

QC Batch:

Parameter

Ethylbenzene

Benzene

Toluene

86824

Date Analyzed:

2011-11-30

MDL

Result

< 0.000400

< 0.000300

< 0.000300

Analyzed By: AG

Prepared By: AG

0.001

Prep Batch: 73727

QC Preparation: 2011-11-30

Cert

: 1:

Units RL0.001 mg/L mg/L 0.001

mg/L

Xylene mg/L0.001< 0.000333 Spike Percent Recovery Surrogate Flag Cert Units Dilution Amount Recovery Limits Result

Trifluorotoluene (TFT) 0.102 mg/L 1 0.100 102 61.1 - 118.4 4-Bromofluorobenzene (4-BFB) 0.0855mg/L 1 0.100 86 45.9 - 126.4

34 Junction South

Work Order: 11112903 34 Junction South

Page Number: 11 of 14 SW of Lovington, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-11-30

Analyzed By: AG

Prep Batch: 73727

QC Preparation: 2011-11-30

Prepared By: AG

		LCS			Spike	Matrix		Rec.
Param	F . C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	1	0.0987	mg/L	1	0.100	< 0.000400	99	76.8 - 120.3
Toluene	1	0.0947	mg/L	1	0.100	< 0.000300	95	80.9 - 122.2
Ethylbenzene	1	0.0910	mg/L	1	0.100	< 0.000300	91	72.7 - 120.2
Xylene	1	0.272	mg/L	1	0.300	< 0.000333	91	72.1 - 121.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\rm C}$	Result	U_{nits}	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	0.105	mg/L	1	0.100	< 0.000400	105	76.8 - 120.3	6	20
Toluene		1	0.101	mg/L	1	0.100	< 0.000300	101	80.9 - 122.2	6	20
Ethylbenzene		1	0.0976	mg/L	1	0.100	< 0.000300	98	72.7 - 120.2	7	20
Xylene		1	0.293	mg/L	1	0.300	< 0.000333	98	72.1 - 121.5	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

•	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	${f Limit}$
Trifluorotoluene (TFT)	0.0976	0.0991	mg/L	1	0.100	98	99	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0954	0.0968	$\mathrm{mg/L}$	1	0.100	95	97	56.4 - 127.9

Matrix Spike (MS-1) Spiked Sample: 283271

QC Batch: Prep Batch: 73727 Date Analyzed: QC Preparation:

2011-11-30 2011-11-30

Analyzed By: AG Prepared By: AG

MS Spike Matrix Rec. \mathbf{F} \mathbf{C} Dil. Param Result Units Amount Result Rec. Limit Benzene 9.12 mg/L 50 5.003.5206 112 66.9 - 128.2 Toluene 5.05 mg/L 50 5.00 < 0.0150 101 81.6 - 122.9 Ethylbenzene 4.75 mg/L 50 5.00 < 0.0150 95 62.7 - 117.9 Xylene 14.2 mg/L 50 15.0< 0.0166 95 62.9 - 118.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

34 Junction South

Work Order: 11112903 34 Junction South Page Number: 12 of 14 SW of Lovington, NM

Param	\mathbf{F}	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	9.08	mg/L	50	5.00	3.5206	111	66.9 - 128.2	0	20
Toluene		1	5.08	mg/L	50	5.00	< 0.0150	102	81.6 - 122.9	1	20
Ethylbenzene		1	4.92	mg/L	50	5.00	< 0.0150	98	62.7 - 117.9	4	20
Xylene		1	14.5	mg/L	50	15.0	< 0.0166	97	62.9 - 118.2	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	4.66	4.81	mg/L	50	5	93	96	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	4.57	4.66	mg/L	50	5	91	93	52.2 - 135.8

Report Date: December 1, 2011 34 Junction South

Work Order: 11112903 34 Junction South Page Number: 13 of 14 SW of Lovington, NM

Calibration Standards

Standard (CCV-1)

QC Batch: 86824

Date Analyzed: 2011-11-30

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2011-11-30
Toluene		1	$_{ m mg/L}$	0.100	0.0943	94	80 - 120	2011-11-30
Ethylbenzene		1	$_{ m mg/L}$	0.100	0.0877	88	80 - 120	2011-11-30
Xylene		1	$_{ m mg/L}$	0.300	0.263	88	80 - 120	2011-11-30

Standard (CCV-2)

QC Batch: 86824

Date Analyzed: 2011-11-30

Analyzed By: AG

				CCVs	CCVs	CCVs	Percent	
		•		True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.108	108	80 - 120	2011-11-30
Toluene		1	mg/L	0.100	0.104	104	80 - 120	2011-11-30
Ethylbenzene		1	$_{ m mg/L}$	0.100	0.0986	99	80 - 120	2011-11-30
Xylene		1	$_{ m mg/L}$	0.300	0.296	99	80 - 120	2011-11-30

Work Order: 11112903 34 Junction South Page Number: 14 of 14 SW of Lovington, NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

LAB Order ID#	11112903	

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Page	of	1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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5002 Basin Street, Suite A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313

200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443

BioAquatic Testing 2501 Mayes Rd., Ste 100 Carrollton, Texas 75006 Tel (972) 242-7750

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LAB USE)	FIELD CODE		# CONTAINERS	Volume / Amount	WATER	AIR	SLUDGE	HCI	HNO ₃	H₂SO₄ NaOH	ICE	NONE		DATE	TIME	MTBE 8021	TPH 418.1 / 1		PAH 8270 / 625 Total Metals Ag As	TCLP Metals Ag As	TCLP Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol.	Pesticides 80	BOD, TSS, pH	Moisture Content	CI, FI, S04, N	gu, ag			Turn Around Time if different from standard	Hold
283262	n.w	15	<u> </u>	υοA	X	+		X			χ		\dashv	11-28-11		X		•				-					-		7 -					귀
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364	m N	17									\parallel		T		1410													П						\neg
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Certifications WBE HUB NCTRCA DBE NELAP DoD LELAP Oklahoma ISO 17025 Kansas

Analytical and Quality Control Report

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St. Midland, TX, 79703

Report Date: January 5, 2012

Work Order:

11122007

Project Location: SW of Lovington, NM Project Name: 34 Junction South Project Number: 34 Junction South

SRS #:

2005-00138

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
284919	MW-13	water	2011-12-16	13:40	2011-12-19
284920	MW-15	water	2011-12-16	13:05	2011-12-19
284921	MW-16	water	2011-12-16	13:25	2011-12-19
284922	MW-17	water	2011-12-16	14:40	2011-12-19

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Case Narrative

Samples for project 34 Junction South were received by TraceAnalysis, Inc. on 2011-12-19 and assigned to work order 11122007. Samples for work order 11122007 were received intact at a temperature of 10.8 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
PAH	S 8270D	74399	2012-12-22 at 15:00	87624	2012-01-05 at 11:26

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11122007 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: January 5, 2012 34 Junction South

Work Order: 11122007

SW of Lovington, NM 34 Junction South

Analytical Report

Sample: 284919 - MW-13

Laboratory: Lubbock

PAH

Analysis: QC Batch: 87624 Prep Batch: 74399 Analytical Method:

Date Analyzed:

S 8270D2012-01-05

 $Sample\ Preparation:\ \ 2012\text{-}12\text{-}22$

Prep Method: S 3510C Analyzed By: MNPrepared By: MN

Page Number: 5 of 15

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Naphthalene		1	0.000439	mg/L	0.922	0.000200
2-Methylnaphthalene	υ	1	< 0.000184	${ m mg/L}$	0.922	0.000200
1-Methylnaphthalene			0.00197	$_{ m mg/L}$	0.922	0.000200
Acenaphthylene	U	1	< 0.000184	$\mathrm{mg/L}$	0.922	0.000200
Acenaphthene	U	1	< 0.000184	$_{ m mg/L}$	0.922	0.000200
Dibenzofuran		1	0.000314	mg/L	0.922	0.000200
Fluorene		1	0.000362	${ m mg/L}$	0.922	0.000200
Anthracene	U	1	< 0.000184	${ m mg/L}$	0.922	0.000200
Phenanthrene			0.000397	${ m mg/L}$	0.922	0.000200
Fluoranthene	υ		< 0.000184	${ m mg/L}$	0.922	0.000200
Pyrene	υ	1	< 0.000184	$_{ m mg/L}$	0.922	0.000200
Benzo(a)anthracene	U		< 0.000184	${ m mg/L}$	0.922	0.000200
Chrysene	υ	1	< 0.000184	$\mathrm{mg/L}$	0.922	0.000200
Benzo(b)fluoranthene	υ		< 0.000184	${ m mg/L}$	0.922	0.000200
Benzo(k)fluoranthene	Qr,U	1	< 0.000184	mg/L	0.922	0.000200
Benzo(a)pyrene	υ	1	< 0.000184	$_{ m mg/L}$	0.922	0.000200
Indeno(1,2,3-cd)pyrene	U	1	< 0.000184	mg/L	0.922	0.000200
Dibenzo(a,h)anthracene	υ	1	< 0.000184	$_{ m mg/L}$	0.922	0.000200
Benzo(g,h,i)perylene	U		< 0.000184	mg/L	0.922	0.000200

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	$_{ m Units}$	Dilution	Amount	Recovery	$_{ m Limits}$
Nitrobenzene-d5	Qsr	Qsr		0.00370	mg/L	0.922	0.0800	5	10 - 117
2-Fluorobiphenyl				0.0259	${ m mg/L}$	0.922	0.0800	32	10 - 99
Terphenyl-d14				0.0471	mg/L	0.922	0.0800	59	22.6 - 115

Sample	284920 .	- MW-15
Dambie.	40404U .	. 141 44 - 10

Laboratory:	Lubbock
Analysis:	PAH
QC Batch:	87624

Prep Batch: 74399

34 Junction South

Analytical Method: S 8270D
Date Analyzed: 2012-01-05
Sample Preparation: 2012-12-22

Prep Method: S 3510C Analyzed By: MN Prepared By: MN

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Naphthalene	U	1	< 0.000186	mg/L	0.93	0.000200
2-Methylnaphthalene	U	1	< 0.000186	mg/L	0.93	0.000200
1-Methylnaphthalene	U		< 0.000186	${ m mg/L}$	0.93	0.000200
Acenaphthylene	U	1	< 0.000186	mg/L	0.93	0.000200
Acenaphthene	U	1	< 0.000186	mg/L	0.93	0.000200
Dibenzofuran	U	1	< 0.000186	${ m mg/L}$	0.93	0.000200
Fluorene	Ū	1	< 0.000186	$\mathrm{mg/L}$	0.93	0.000200
Anthracene	U	1	< 0.000186	$\mathrm{mg/L}$	0.93	0.000200
Phenanthrene	v		< 0.000186	mg/L	0.93	0.000200
Fluoranthene	U		< 0.000186	mg/L	0.93	0.000200
Pyrene	υ	1	< 0.000186	$\mathrm{mg/L}$	0.93	0.000200
Benzo(a)anthracene	U		< 0.000186	${ m mg/L}$	0.93	0.000200
Chrysene	U	1	< 0.000186	${ m mg/L}$	0.93	0.000200
Benzo(b)fluoranthene	U		< 0.000186	$_{ m mg/L}$	0.93	0.000200
Benzo(k)fluoranthene	Qr,U	1	< 0.000186	mg/L	0.93	0.000200
Benzo(a)pyrene	U	1	< 0.000186	${ m mg/L}$	0.93	0.000200
Indeno $(1,2,3-cd)$ pyrene	U	1	< 0.000186	${ m mg/L}$	0.93	0.000200
Dibenzo(a,h)anthracene	U	1	< 0.000186	${ m mg/L}$	0.93	0.000200
Benzo(g,h,i)perylene	U	•	< 0.000186	$\mathrm{mg/L}$	0.93	0.000200

						$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Nitrobenzene-d5			0.0239	mg/L	0.93	0.0800	30	10 - 117
2-Fluorobiphenyl			0.0245	${ m mg/L}$	0.93	0.0800	31	10 - 99
Terphenyl-d14			0.0333	mg/L	0.93	0.0800	42	22.6 - 115

Sample: 284921 - MW-16

Laboratory:	Lubbock
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Analysis: PAH QC Batch: 87624 Prep Batch: 74399 Analytical Method: S 8270D Date Analyzed: 2012-01-05 Sample Preparation: 2012-12-22 Prep Method: S 3510C Analyzed By: MN Prepared By: MN

2				RL			
2	Parameter	Flag	Cert	Result	Omis	Dilution	R.L
	Naphthalene	Ŭ	1	<0.000104	${ m mg/L}$	0.922	0.000200

 $continued \dots$

Report Date: January 5, 2012

34 Junction South

Work Order: 11122007 34 Junction South Page Number: 7 of 15 SW of Lovington, NM

sample 284921 continued ...

Parameter Flag Cert Result Units Dilution 2-Methylnaphthalene U 1 <0.000184 mg/L 0.922 1-Methylnaphthalene U 1 <0.000184 mg/L 0.922 Acenaphthylene U 1 <0.000184 mg/L 0.922 Acenaphthene U 1 <0.000184 mg/L 0.922 Dibenzofuran U 1 <0.000184 mg/L 0.922 Fluorene U 1 <0.000184 mg/L 0.922 Anthracene U 1 <0.000184 mg/L 0.922 Phenanthrene U 1 <0.000184 mg/L 0.922 Fluoranthene U 1 <0.000184 mg/L 0.922 Pyrene U 1 <0.000184 mg/L 0.922 Benzo(a)anthracene U 1 <0.000184 mg/L 0.922 Chrysene U 1 <0.000184 mg/L	RL 0.000200
1-Methylnaphthalene U <0.000184	
Acenaphthylene U 1 <0.000184	0.000000
Acenaphthene U 1 <0.000184	0.000200
Dibenzofuran U 1 <0.000184 mg/L 0.922 Fluorene U 1 <0.000184	0.000200
Fluorene U 1 <0.000184 mg/L 0.922 Anthracene U 1 <0.000184	0.000200
Anthracene U 1 <0.000184 mg/L 0.922 Phenanthrene U <0.000184	0.000200
Phenanthrene U <0.000184 mg/L 0.922 Fluoranthene U <0.000184	0.000200
Fluoranthene	0.000200
Pyrene	0.000200
Benzo(a)anthracene	0.000200
Chrysene u 1 <0.000184 mg/L 0.922	0.000200
,	0.000200
D	0.000200
Benzo(b)fluoranthene v <0.000184 mg/L 0.922	0.000200
Benzo(k)fluoranthene Qr.U 1 <0.000184 mg/L 0.922	0.000200
Benzo(a)pyrene u 1 <0.000184 mg/L 0.922	0.000200
Indeno(1,2,3-cd)pyrene v $_{1}$ <0.000184 $_{\mathrm{mg/L}}$ 0.922	0.000200
Dibenzo(a,h)anthracene v 1 <0.000184 mg/L 0.922	0.000200
$\underline{\text{Benzo}(g,h,i)} \text{perylene} \qquad \qquad \text{$0.000184} \qquad \underline{\text{mg/L}} \qquad 0.922$	0.000200

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Nitrobenzene-d5	Qsr	Qar		0.00300	mg/L	0.922	0.0800	4	10 - 117
2-Fluorobiphenyl				0.0154	$\mathrm{mg/L}$	0.922	0.0800	19	10 - 99
Terphenyl-d14				0.0381	mg/L	0.922	0.0800	48	22.6 - 115

Sample: 284922 - MW-17

Laboratory: Lubbock

Analysis: PAH Analytical Method: S 8270D Prep Method: S 3510C QC Batch: 87624 Date Analyzed: 2012-01-05 Analyzed By: MN Prep Batch: 74399 Sample Preparation: 2012-12-22 Prepared By: MN

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Naphthalene	Ŭ	1	< 0.000194	$_{ m mg/L}$	0.971	0.000200
2-Methylnaphthalene	U	1	< 0.000194	m mg/L	0.971	0.000200
1-Methylnaphthalene	U		< 0.000194	${ m mg/L}$	0.971	0.000200
Acenaphthylene	U	1	< 0.000194	${ m mg/L}$	0.971	0.000200
Acenaphthene	U	1	< 0.000194	$\mathrm{mg/L}$	0.971	0.000200
Dibenzofuran	U	1	< 0.000194	mg/L	0.971	0.000200

 $continued \dots$

Work Order: 11122007 34 Junction South Page Number: 8 of 15 SW of Lovington, NM

sample 284922 continued . . .

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Fluorene	U	1	< 0.000194	m mg/L	0.971	0.000200
Anthracene	U	1	< 0.000194	${ m mg/L}$	0.971	0.000200
Phenanthrene	U		< 0.000194	$\mathrm{mg/L}$	0.971	0.000200
Fluoranthene	U		< 0.000194	${ m mg/L}$	0.971	0.000200
Pyrene	ŭ	1	< 0.000194	${ m mg/L}$	0.971	0.000200
Benzo(a)anthracene	U		< 0.000194	${ m mg/L}$	0.971	0.000200
Chrysene	U	1	< 0.000194	${ m mg/L}$	0.971	0.000200
Benzo(b)fluoranthene	υ.		< 0.000194	${ m mg/L}$	0.971	0.000200
Benzo(k)fluoranthene	Qr,U	1	< 0.000194	${ m mg/L}$	0.971	0.000200
Benzo(a)pyrene	U	1	< 0.000194	$\mathrm{mg/L}$	0.971	0.000200
Indeno $(1,2,3\text{-cd})$ pyrene	Ŭ	1	< 0.000194	${ m mg/L}$	0.971	0.000200
Dibenzo(a,h)anthracene	U	1	< 0.000194	${ m mg/L}$	0.971	0.000200
Benzo(g,h,i)perylene	υ		< 0.000194	m mg/L	0.971	0.000200

					•	Spike	$\operatorname{Percent}$	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	$\mathbf{A}\mathbf{mount}$	Recovery	Limits
Nitrobenzene-d5			0.0496	mg/L	0.971	0.0800	62	10 - 117
2-Fluorobiphenyl			0.0474	mg/L	0.971	0.0800	59	10 - 99
Terphenyl-d14			0.0444	${ m mg/L}$	0.971	0.0800	56	22.6 - 115

Report Date: January 5, 2012 34 Junction South

Work Order: 11122007 34 Junction South Page Number: 9 of 15 SW of Lovington, NM

Method Blanks

Method Blank (1)

QC Batch: 87624

QC Batch: 87624 Prep Batch: 74399

624

Date Analyzed: 2012-01-05 QC Preparation: 2012-12-22 Analyzed By: MN Prepared By: MN

MDLUnits RLParameter Flag Cert Result Naphthalene < 0.0000904 mg/L 0.0002 mg/L2-Methylnaphthalene < 0.000184 0.0002 0.0002 1-Methylnaphthalene < 0.000120 mg/L mg/L 0.0002Acenaphthylene < 0.000101 mg/L 0.0002Acenaphthene < 0.000122 Dibenzofuran mg/L 0.0002< 0.000119 Fluorene < 0.000198 mg/L 0.0002Anthracene mg/L 0.0002 < 0.000190 Phenanthrene mg/L0.0002 < 0.000190 Fluoranthene mg/L 0.0002< 0.000122 Pyrene mg/L 0.0002< 0.000142 0.0002Benzo(a)anthracene < 0.000138 mg/L Chrysene < 0.000155 mg/L 0.0002 Benzo(b)fluoranthene 0.0002 < 0.000179 mg/L Benzo(k)fluoranthene mg/L 0.0002< 0.000185 Benzo(a)pyrene mg/L 0.0002< 0.000169 0.0002Indeno(1,2,3-cd)pyrene mg/L < 0.000139 Dibenzo(a,h)anthracene mg/L 0.0002< 0.000107 Benzo(g,h,i)perylene < 0.000143 mg/L 0.0002

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5			0.0369	mg/L	1	0.0800	46	10 - 117
2-Fluorobiphenyl			0.0323	mg/L	1	0.0800	40	10 - 99
Terphenyl-d14			0.0357	mg/L	1	0.0800	45	22.6 - 115

Work Order: 11122007 34 Junction South

Report Date: January 5, 2012 34 Junction South

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 87624

Date Analyzed:

2012-01-05

Analyzed By: MN Prepared By: MN

Page Number: 10 of 15 SW of Lovington, NM

Prep Batch: 74399 QC Preparation: 2012-12-22

			LCS			Spike	Matrix		Rec.
Param	F	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Naphthalene		1	0.0281	mg/L	1	0.0800	< 0.0000904	35	10 - 89.9
2-Methylnaphthalene		1	0.0325	${ m mg/L}$	1	0.0800	< 0.000184	41	13.8 - 98.4
1-Methylnaphthalene			0.0312	${ m mg/L}$	1	0.0800	< 0.000120	39	13.1 - 103
Acenaphthylene		1	0.0370	${ m mg/L}$	1	0.0800	< 0.000101	46	20 - 104
Acenaphthene		1	0.0357	mg/L	1	0.0800	< 0.000122	45	21.6 - 94.6
Dibenzofuran		1	0.0392	mg/L	1	0.0800	< 0.000119	49	22.9 - 74.9
Fluorene		1	0.0396	$\mathrm{mg/L}$	1	0.0800	< 0.000198	50	30.8 - 109
Anthracene		1	0.0426	${ m mg/L}$	1	0.0800	< 0.000190	53	37.6 - 96.4
Phenanthrene			0.0430	mg/L	1	0.0800	< 0.000190	54	42.4 - 99.8
Fluoranthene			0.0469	$\mathrm{mg/L}$	1	0.0800	< 0.000122	59	48 - 118
Pyrene		1	0.0457	${ m mg/L}$	1	0.0800	< 0.000142	57	45.3 - 109
Benzo(a)anthracene			0.0548	${ m mg/L}$	1	0.0800	< 0.000138	68	48 - 113
Chrysene		1	0.0619	m mg/L	1	0.0800	< 0.000155	77	35.2 - 175
Benzo(b)fluoranthene			0.0384	${ m mg/L}$	1	0.0800	< 0.000179	48	16.6 - 106
Benzo(k)fluoranthene		1	0.0367	${ m mg/L}$	1	0.0800	< 0.000185	46	36.8 - 99.4
Benzo(a)pyrene		1	0.0384	$\mathrm{mg/L}$	1	0.0800	< 0.000169	48	32.3 - 99.7
Indeno(1,2,3-cd)pyrene		1	0.0420	$\mathrm{mg/L}$	1	0.0800	< 0.000139	52	34.1 - 106
Dibenzo(a,h)anthracene		1	0.0559	${ m mg/L}$	1	0.0800	< 0.000107	70	47.1 - 103
Benzo(g,h,i)perylene			0.0407	$\mathrm{mg/L}$	1	0.0800	< 0.000143	51	21.9 - 112

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Naphthalene		1	0.0317	mg/L	1	0.0800	< 0.0000904	40	10 - 89.9	12	20
2-Methylnaphthalene		1	0.0374	mg/L	1	0.0800	< 0.000184	47	13.8 - 98.4	14	20
1-Methylnaphthalene			0.0358	mg/L	1	0.0800	< 0.000120	45	13.1 - 103	14	20
Acenaphthylene		1	0.0410	${ m mg/L}$	1	0.0800	< 0.000101	51	20 - 104	10	20
Acenaphthene		1	0.0398	mg/L	1	0.0800	< 0.000122	50	21.6 - 94.6	11	20
Dibenzofuran		1	0.0434	mg/L	1	0.0800	< 0.000119	54	22.9 - 74.9	10	20
Fluorene		1	0.0426	mg/L	1	0.0800	< 0.000198	53	30.8 - 109	7	20
Anthracene		1	0.0475	mg/L	1	0.0800	< 0.000190	59	37.6 - 96.4	11	20
Phenanthrene			0.0484	mg/L	1	0.0800	< 0.000190	60	42.4 - 99.8	12	20
Fluoranthene			0.0516	mg/L	1	0.0800	< 0.000122	64	48 - 118	10	20
Pyrene		1	0.0488	mg/L	1	0.0800	< 0.000142	61	45.3 - 109	7	20

 $continued \dots$

Report Date: January 5, 2012

34 Junction South

Work Order: 11122007 34 Junction South Page Number: 11 of 15 SW of Lovington, NM

 $control\ spikes\ continued\ \dots$

				LCSD			Spike	Matrix		Rec.		RPD
Param		\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzo(a)anthracene				0.0608	mg/L	1	0.0800	< 0.000138	76	48 - 113	10	20
Chrysene			1	0.0687	$\mathrm{mg/L}$	1	0.0800	< 0.000155	86	35.2 - 175	10	20
Benzo(b)fluoranthene				0.0390	${ m mg/L}$	1	0.0800	< 0.000179	49	16.6 - 106	2	20
Benzo(k)fluoranthene	Qr	Qr	1	0.0458	mg/L	1	0.0800	< 0.000185	57	36.8 - 99.4	22	20
Benzo(a)pyrene			1	0.0434	mg/L	1	0.0800	< 0.000169	54	32.3 - 99.7	12	20
Indeno $(1,2,3\text{-cd})$ pyrene			1	0.0470	${ m mg/L}$	1	0.0800	< 0.000139	59	34.1 - 106	11	20
${ m Dibenzo(a,h)}$ anthracene			1	0.0627	${ m mg/L}$	1	0.0800	< 0.000107	78	47.1 - 103	12	20
Benzo(g,h,i)perylene				0.0454	mg/L	1	0.0800	< 0.000143	57	21.9 - 112	11	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Nitrobenzene-d5	0.0368	0.0403 ·	mg/L	1	0.0800	46	50	10 - 117
2-Fluorobiphenyl	0.0358	0.0402	mg/L	1	0.0800	45	50	10 - 99
Terphenyl-d14	0.0525	0.0562	mg/L	1	0.0800	66	70	22.6 - 115

Report Date: January 5, 2012 34 Junction South

Work Order: 11122007 34 Junction South Page Number: 12 of 15 SW of Lovington, NM

Calibration Standards

Standard (CCV-1)

QC Batch: 87624

Date Analyzed: 2012-01-05

Analyzed By: MN

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Naphthalene		1	${ m mg/L}$	60.0	55.0	92	80 - 120	2012-01-05
2-Methylnaphthalene		1	${ m mg/L}$	60.0	56.5	94	80 - 120	2012-01-05
1-Methylnaphthalene			${ m mg/L}$	60.0	57.0	95	80 - 120	2012-01-05
Acenaphthylene		1	${ m mg/L}$	60.0	54.7	91	80 - 120	2012-01-05
Acenaphthene		1	${ m mg/L}$	60.0	55.9	93	80 - 120	2012-01-05
Dibenzofuran		1	${ m mg/L}$	60.0	54.5	91	80 - 120	2012-01-05
Fluorene		1	${ m mg/L}$	60.0	54.0	90	80 - 120	2012-01-05
Anthracene		1	mg/L	60.0	53.2	89	80 - 120	2012-01-05
Phenanthrene			${ m mg/L}$	60.0	54.0	90	80 - 120	2012-01-05
Fluoranthene			${ m mg/L}$	60.0	57.8	96	80 - 120	2012-01-05
Pyrene		1	mg/L	60.0	52.7	88	80 - 120	2012-01-05
Benzo(a)anthracene			mg/L	60.0	58.6	98	80 - 120	2012-01-05
Chrysene		1	mg/L	60.0	55.6	93	80 - 120	2012-01-05
Benzo(b)fluoranthene	•		mg/L	60.0	49.7	83	80 - 120	2012-01-05
Benzo(k)fluoranthene		1	${ m mg/L}$	60.0	55.0	92	80 - 120	2012-01-05
Benzo(a)pyrene		1	mg/L	60.0	53.4	89	80 - 120	2012-01-05
Indeno(1,2,3-cd)pyrene		1	mg/L	60.0	53.4	89	80 - 120	2012-01-05
Dibenzo(a,h)anthracene		1	mg/L	60.0	53.5	89	80 - 120	2012-01-05
Benzo(g,h,i)perylene			m mg/L	60.0	53.4	89	80 - 120	2012-01-05

						$_{ m Spike}$	$\operatorname{Percent}$	$\operatorname{Recovery}$
Surrogate	Flag	Cert	Result	$_{ m Units}$	Dilution	Amount	Recovery	\mathbf{Limit}
Nitrobenzene-d5			55.3	mg/L	1	60.0	92	-
2-Fluorobiphenyl			55.1	mg/L	1	60.0	92	-
Terphenyl-d14			53.5	mg/L	1	60.0	89	_

Standard (CCV-2)

QC Batch: 87624

Date Analyzed: 2012-01-05

Analyzed By: MN

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Naphthalene		1	mg/L	60.0	55.0	92	80 - 120	2012-01-05

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Report Date: January 5, 2012 34 Junction South Work Order: 11122007 34 Junction South Page Number: 13 of 15 SW of Lovington, NM

$standard\ continued\ \dots$								
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
2-Methylnaphthalene		1	${ m mg/L}$	60.0	55.2	92	80 - 120	2012-01-05
1-Methylnaphthalene			${ m mg/L}$	60.0	56.0	93	80 - 120	2012-01-05
Acenaphthylene		1	${ m mg/L}$	60.0	55.0	92	80 - 120	2012-01-05
Acenaphthene		1	$\mathrm{mg/L}$	60.0	55.4	92	80 - 120	2012-01-05
Dibenzofuran		1	mg/L	60.0	53.6	89	80 - 120	2012-01-05
Fluorene		1	m mg/L	60.0	51.1	85	80 - 120	2012-01-05
Anthracene		1	$\mathrm{mg/L}$	60.0	53.2	89	80 - 120	2012-01-05
Phenanthrene			${ m mg/L}$	60.0	53.7	90	80 - 120	2012-01-05
Fluoranthene			$\mathrm{mg/L}$	60.0	60.8	101	80 - 120	2012-01-05
Pyrene		1	mg/L	60.0	51.8	86	80 - 120	2012-01-05
Benzo(a)anthracene			${ m mg/L}$	60.0	58.8	98	80 - 120	2012-01-05
Chrysene		1	mg/L	60.0	55.0	92	80 - 120	2012-01-05
Benzo(b)fluoranthene			$\mathrm{mg/L}$	60.0	49.6	83	80 - 120	2012-01-05
Benzo(k)fluoranthene		1	${ m mg/L}$	60.0	51.8	86	80 - 120	2012-01-05
Benzo(a)pyrene		1	mg/L	60.0	52.8	88	80 - 120	2012-01-05
Indeno(1,2,3-cd)pyrene		1	$\mathrm{mg/L}$	60.0	52.9	88	80 - 120	2012-01-05
Dibenzo(a,h)anthracene		1	${ m mg/L}$	60.0	53.1	88	80 - 120	2012-01-05
Benzo(g,h,i)perylene			mg/L	60.0	53.0	88	80 - 120	2012-01-05

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limit
Nitrobenzene-d5			55.7	mg/L	1	60.0	93	-
2-Fluorobiphenyl			57.9	m mg/L	1	60.0	96	-
Terphenyl-d14			52.4	mg/L	1	60.0	87	-

Standard (CCV-3)

QC Batch: 87624 Date Analyzed: 2012-01-05

Analyzed By: MN

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Naphthalene		1	mg/L	60.0	55.9	93	80 - 120	2012-01-05
2-Methylnaphthalene		1	${ m mg/L}$	60.0	55.4	92	80 - 120	2012-01-05
1-Methylnaphthalene			mg/L	60.0	55.7	93	80 - 120	2012-01-05
Acenaphthylene		1	$\mathrm{mg/L}$	60.0	55.5	92	80 - 120	2012-01-05
Acenaphthene		1	$\mathrm{mg/L}$	60.0	56.2	94	80 - 120	2012-01-05
Dibenzofuran		1	mg/L	60.0	54.2	90	80 - 120	2012-01-05
Fluorene		1	${ m mg/L}$	60.0	52.7	88	80 - 120	2012-01-05
Anthracene		1	mg/L	60.0	53.3	89	80 - 120	2012-01-05
Phenanthrene			$\mathrm{mg/L}$	60.0	54.0	90	80 - 120	2012-01-05

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Report Date: January 5, 2012 34 Junction South

Work Order: 11122007 34 Junction South

Page Number: 14 of 15 SW of Lovington, NM

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				CCVs	CCVs	$\rm CCVs$	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Fluoranthene			mg/L	60.0	59.4	99	80 - 120	2012-01-05
Pyrene		1	${ m mg/L}$	60.0	55.2	92	80 - 120	2012-01-05
Benzo(a)anthracene			${ m mg/L}$	60.0	58.8	98	80 - 120	2012-01-05
Chrysene		1	${ m mg/L}$	60.0	56.0	93	80 - 120	2012-01-05
Benzo(b)fluoranthene			mg/L	60.0	48.6	81	80 - 120	2012-01-05
Benzo(k)fluoranthene		1	mg/L	60.0	52.6	88	80 - 120	2012-01-05
Benzo(a)pyrene		1	mg/L	60.0	50.7	84	80 - 120	2012-01-05
Indeno(1,2,3-cd)pyrene		1	mg/L	60.0	53.3	89	80 - 120	2012-01-05
Dibenzo(a,h)anthracene		1	mg/L	60.0	53.8	90	80 - 120	2012-01-05
Benzo(g,h,i)perylene			${ m mg/L}$	60.0	52.7	88	80 - 120	2012-01-05

~		~ ·				Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limit
Nitrobenzene-d5			55.8	m mg/L	1	60.0	93	-
2-Fluorobiphenyl			57.5	${ m mg/L}$	1 .	60.0	96	-
Terphenyl-d14			55.7	${ m mg/L}$	1	60.0	93	-

Report Date: January 5, 2012 34 Junction South

Work Order: 11122007 34 Junction South Page Number: 15 of 15 SW of Lovington, NM

Appendix

Report Definitions

Name	Definition
$\overline{\mathrm{MDL}}$	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-11-5	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

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Page	_ of _	<u> </u>

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9 **Lubbock, Texas 79424** Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 5002 Basin Street, Suite A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443 BioAquatic Testing 2501 Mayes Rd., Ste 100 Carroliton, Texas 75006 Tel (972) 242-7750

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