# 1R - 95/

# Annual GW Mon. Report

Year:
2011



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 Report

South Monument Gathering Sour NMOCD Reference # 1R-951 Lea County, New Mexico

Dear Mr. Hansen:

RECEIVED

MAR 26 2012

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

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 report for the following site:

S. Mon. Gath. Sour 1R-951 Section 05, Township 20 South, Range 37 East, Lea County

Please note that the 2011 Annual Monitoring Report for the subject site includes a request for site closure. The NMOCD approved soil closure for this site in July 2011, contingent upon the submittal of documentation of re-seeding activities. At the direction of the landowner, re-seeding at this site was postponed indefinitely until adequate rainfall has been received. If the current drought conditions relent during the 2012 growing season, the site will be re-seeded and documentation will be submitted to the NMOCD.

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

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

Sincerely.

Sason Henry

Remediation Coordinator Plains All American

CC: Geo

Geoff Leking, NMOCD, Hobbs, NM

**Enclosures** 



# 2011 ANNUAL MONITORING REPORT

# **SOUTH MONUMENT GATHERING SOUR**

NW ¼, NE ¼, SECTION 5, TOWNSHIP 20 SOUTH, RANGE 37 EAST LEA COUNTY, NEW MEXICO PLAINS SRS # 2001-11193 NMOCD Reference # 1R-951

# 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

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ENCLOSED ON DATA DISK 2011 Annual Monitoring Report 2011 Tables 1 and 2 – Groundwater Elevation and BTEX 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. The South Monument Gathering Sour Site, which was formally the responsibility of EOTT Energy, is now the responsibility of Plains. 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 of four quarters in calendar year 2011 to assess the levels and extent of dissolved phase constituents and Phase Separated Hydrocarbon (PSH). The groundwater monitoring events consisted of measuring static water levels in the monitor wells, checking for the presence of PSH 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

On November 20, 2001, EOTT Energy, Corp.(EOTT) reported a 1,200 barrel release of sour crude oil from a pipeline located approximately one half mile southwest of Monument, New Mexico. The site is located in the NW ¼ NE ¼, Section 5, Township 20 South, Range 37 East, Lea County, New Mexico. The initial response was conducted by Allstate Environmental Services (AES) in November 2001. According to AES's Summary of Cleanup Activities and Site Delineation (November 27 to December 12, 2001), on November 30, 2001, AES began excavating, stockpiling and transporting impacted soil to the C & C Landfarm. The Release Notification and Corrective Action (Form C-141) is provided as Appendix A. According to documentation prepared by AES, on November 30 and December 1, 2001, approximately 408 cubic yards (cy) of hydrocarbon impacted soil was transported to the landfarm. On December 5, 2001, excavation of the site ceased while EOTT and the landowner (Mr. Jimmy Cooper) entered into negotiations.

On March 3, 2005, NOVA, on behalf of Plains, collected excavation sidewall, floor, stockpile, and flow path soil samples. Stockpile and flow path soil samples were collected as five point composites at the surface as well as depths of three, six, twelve and eighteen inches below ground surface (bgs). Soil samples were collected at intervals of approximately 100 linear feet along the flow path and approximately one sample per three hundred square feet in the existing excavation bottom. Samples were also collected every 500 square feet from the existing soil stockpiles.

On July 25, 2006, four soil borings were advanced adjacent to or within the existing excavation to investigate the vertical and horizontal extent of hydrocarbon impact in the area of the release point.

On September 13, 2006, a backhoe was utilized to excavate five investigation trenches along the crude oil flow path. The result of trenching activities in the flow path indicated hydrocarbon impact was present at depth, but limited to the lateral extent of the flow path.

On November 30 through December 4, 2006, nine additional soil borings were advanced and three groundwater monitoring wells were installed to further delineate the site. The results of drilling activities indicate hydrocarbon impacted soil is limited to areas immediately adjacent to the leak source and the subsequent flow path.

On August 5, 2010, soil excavation activities began to address the soil remediation at the leak source and flowpath areas. An estimated 40,700 cubic yards of soil was brought to surface and combined with an existing 5,000 cubic yard soil stockpile excavated during the 2001 emergency abatement activities and transported off-site to an NMOCD approved landfarm. Following the completion of the soil excavation activities, a *Soil Closure Request*, dated June 2011, was submitted to the NMOCD for approval. Plains is currently awaiting a response from the NMOCD.

On November 8, 2011, the NMOCD provided Plains with approval to suspending PAH analysis for the South Monument Gathering Sour site.

Currently, three monitor wells are located on site.

# FIELD ACTIVITIES

# **Groundwater Monitoring**

During the 2011 reporting period, measurable PSH or hydrocarbon sheen was not observed in any of the site monitor wells. The 2011 gauging data is provided in Table 1.

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

Samplin	g Schedule
MW-1	Quarterly
MW-2	Quarterly
MW-3	Quarterly

The site monitor wells were gauged and sampled on February 25, May 4, August 9, and November 10, 2011. During each sampling event, sampled monitor wells were purged a minimum of 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 utilizing measurements collected during the four quarterly monitoring events, are depicted on

Figures 2A through 2D. 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 0.004 feet/foot to the south-southwest as measured between monitor wells MW-2 and MW-3. The corrected groundwater elevation has ranged between 3,530.45 and 3,531.61 feet above mean sea level, in monitor wells MW-3 on November 10, 2011 and MW-2 on August 9, 2011, respectively.

# LABORATORY RESULTS

No measurable thicknesses of PSH were reported on any of the monitor wells during the reporting period.

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 not conducted during the 2011 calendar year. Based upon historic PAH analytical data, only those wells exhibiting elevated constituent concentrations above WQCC standards will be 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 benzene, toluene, ethyl-benzene and xylene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for at least four consecutive quarters. PAH analysis is no longer required at this site.

Monitor well MW-2 is sampled on a quarterly schedule and analytical results indicate benzene, toluene, ethyl-benzene and xylene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last 17 consecutive quarters.

Monitor well MW-3 is sampled on a quarterly schedule and analytical results indicate benzene, toluene, ethyl-benzene and xylene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last 22 consecutive quarters.

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 annual monitoring period of 2011. Currently, there are three groundwater monitor wells (MW-1 through MW-3) on-site. The most recent Groundwater Gradient Map, Figure 2D indicates a general gradient of approximately 0.004 feet/foot to the south-southwest.

Review of laboratory analytical results generated from analysis of the groundwater samples obtained during the 2011 monitoring period indicates BTEX constituent concentrations were below NMOCD regulatory standard in all three monitor wells during the 2011 reporting period. PAH analysis is no longer required at this site.

From August 2, 2010 through April 4, 2011, soil excavation activities were conducted to address the soil remediation at the leak source and flowpath areas. An estimated 40,700 cubic yards of soil was brought to surface and combined with an existing 5,000 cubic yard soil stockpile excavated during the 2001 emergency abatement activities and transported off-site to an NMOCD approved landfarm. Following the completion of the soil excavation activities, a *Soil Closure Request*, dated June 2011, was submitted to the NMOCD for approval. Plains is awaiting NMOCD approval to close the soil remediation portion at the site.

Review of laboratory analytical results of the groundwater samples obtained from the three site monitoring wells since 2006 indicate that benzene and total BTEX constituent concentrations have been below NMOCD regulatory standards for a minimum of 16 consecutive quarters prior to the 3<sup>rd</sup> quarter of 2010 when remediation excavation activities began. Elevated benzene concentrations slightly above the NMOCD cleanup standards were detected in monitor well MW-1 during the 3<sup>rd</sup> and 4<sup>th</sup> quarters of 2010 and appear to coincide with excavation activity conducted in the vicinity of MW-1. Subsequent groundwater analysis on samples collected from MW-1 following the completion of all excavation activities during the 2<sup>nd</sup> quarter of 2011 and during the remaining two quarters of 2011 exhibited BTEX concentrations below laboratory method detection limits.

# ANTICIPATED ACTIONS

Plains is requesting approval for termination of groundwater monitoring at this site including plugging and abandoning of the three monitor wells and is requesting NMOCD approval for Final Site Closure (soil and groundwater) for the crude oil leak site known as South Monument Gathering Sour.

# **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

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Santa Fe, NM 87505

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333 Clay Street Suite 1600

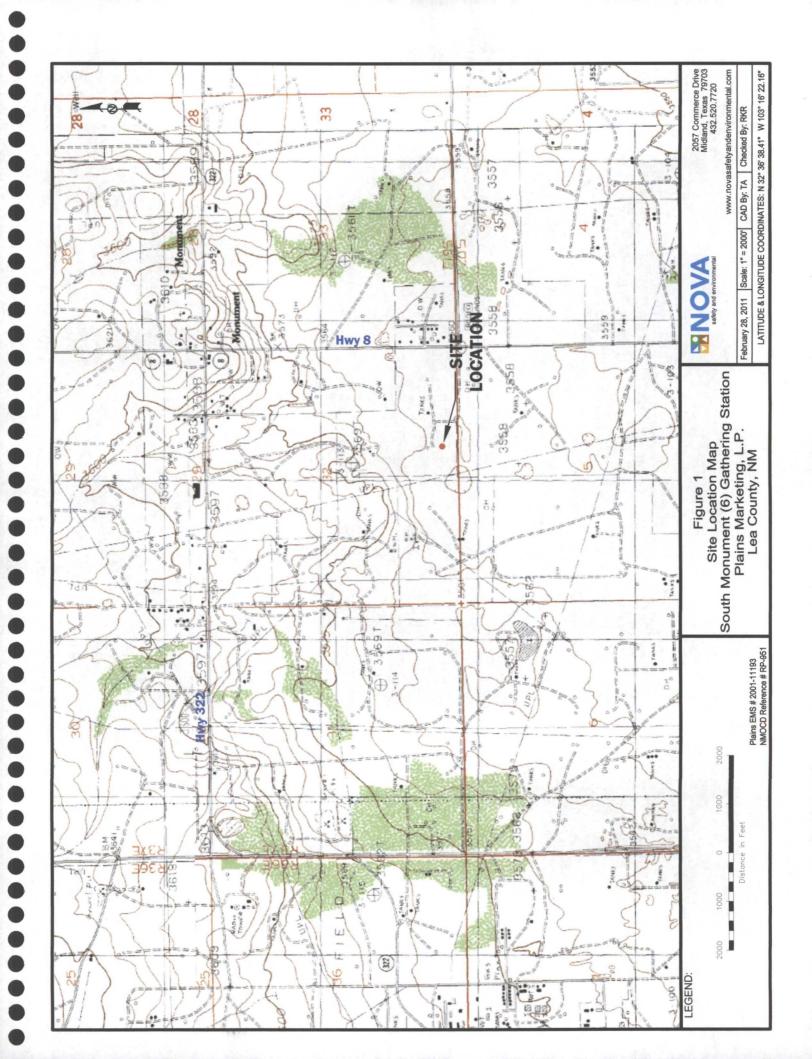
Houston, TX 77002 jpdann@paalp.com

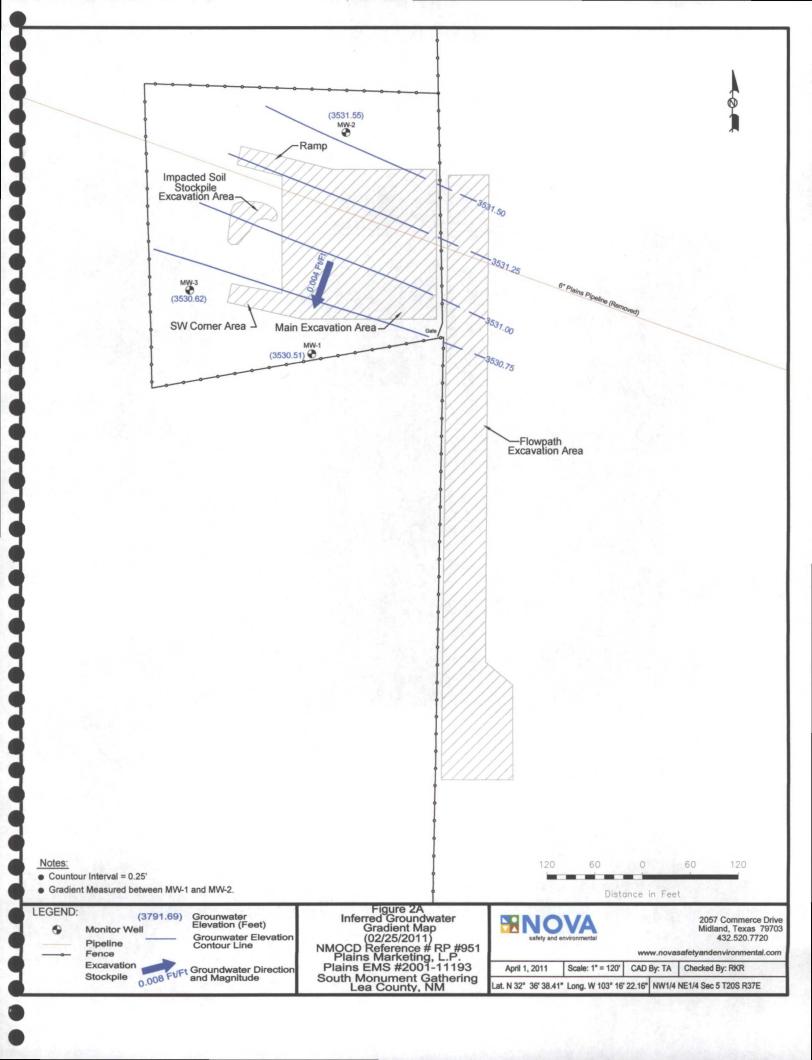
Copy 5: NOVA Safety and Environmental

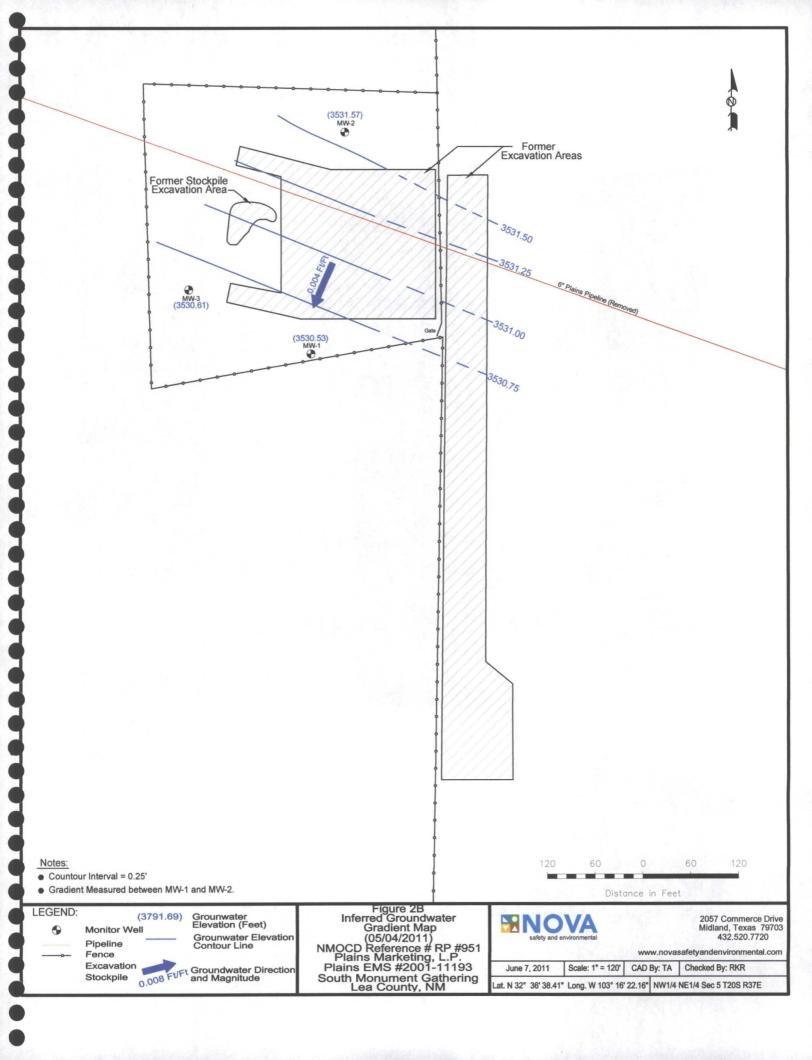
2057 Commerce Street Midland, TX 79703

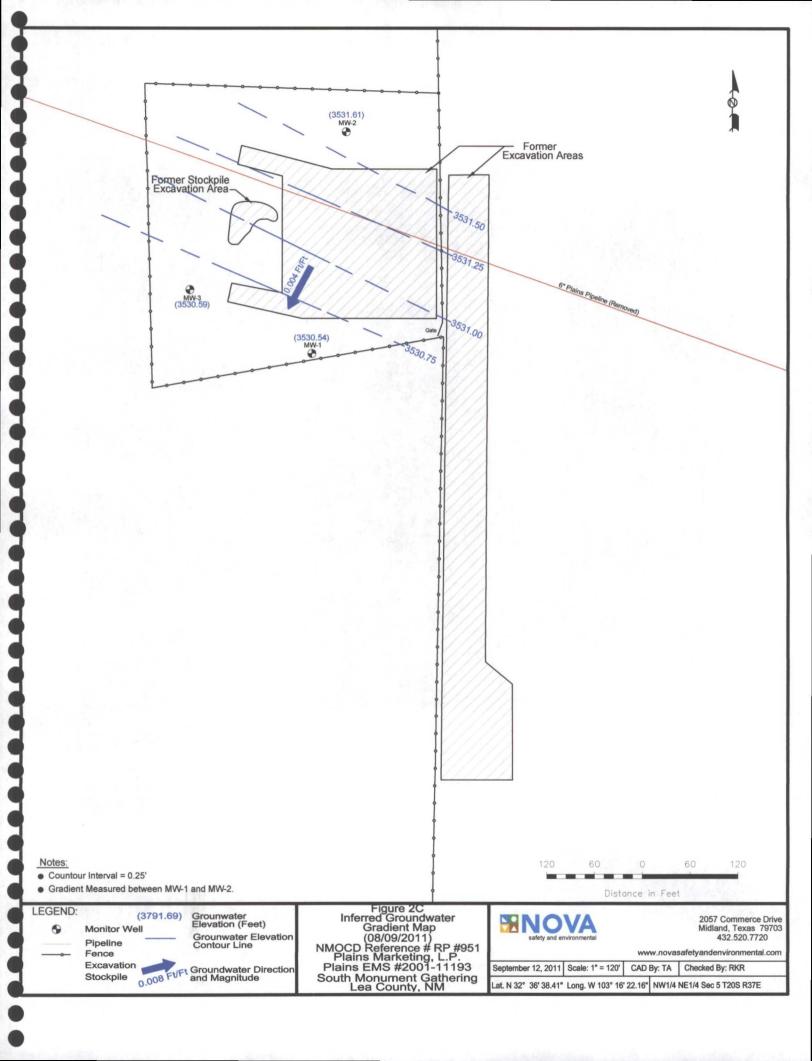
rrounsaville@novatraining.cc

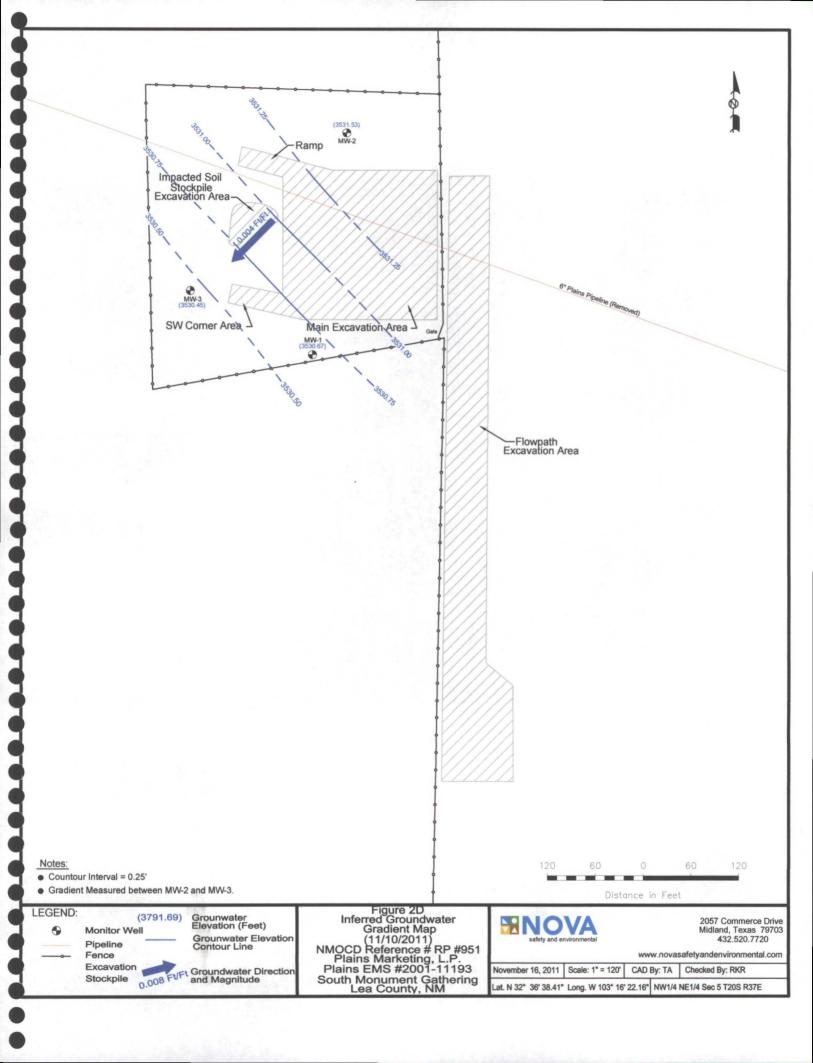
Figures

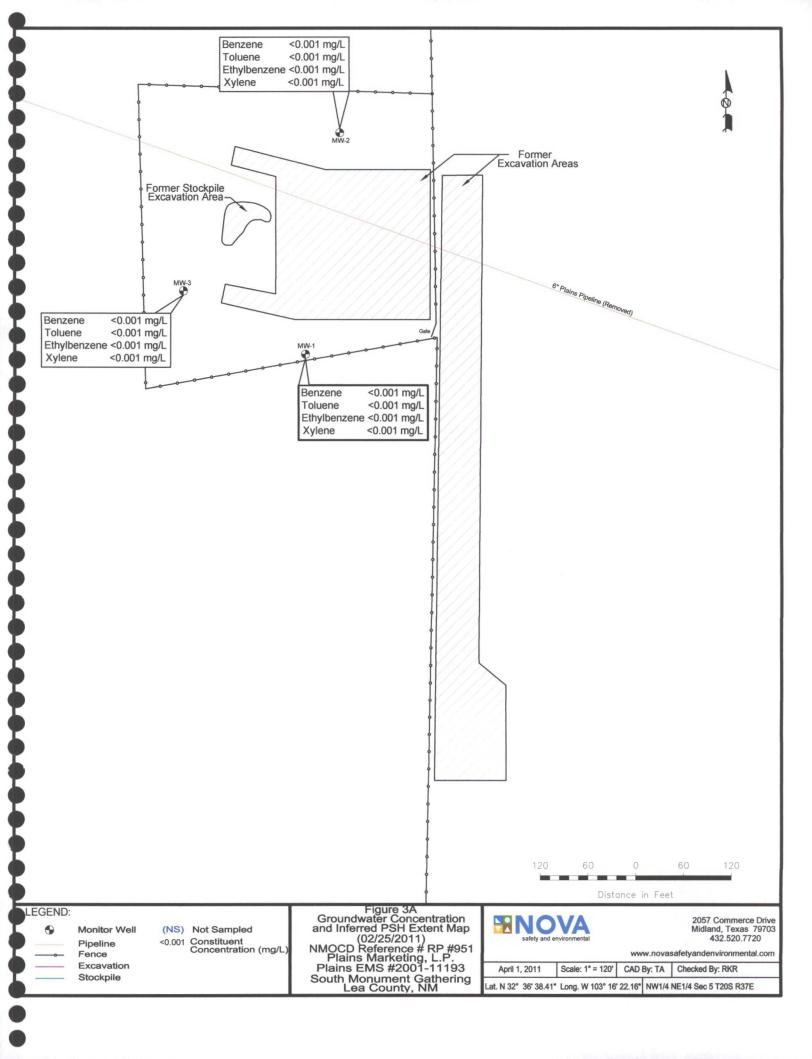


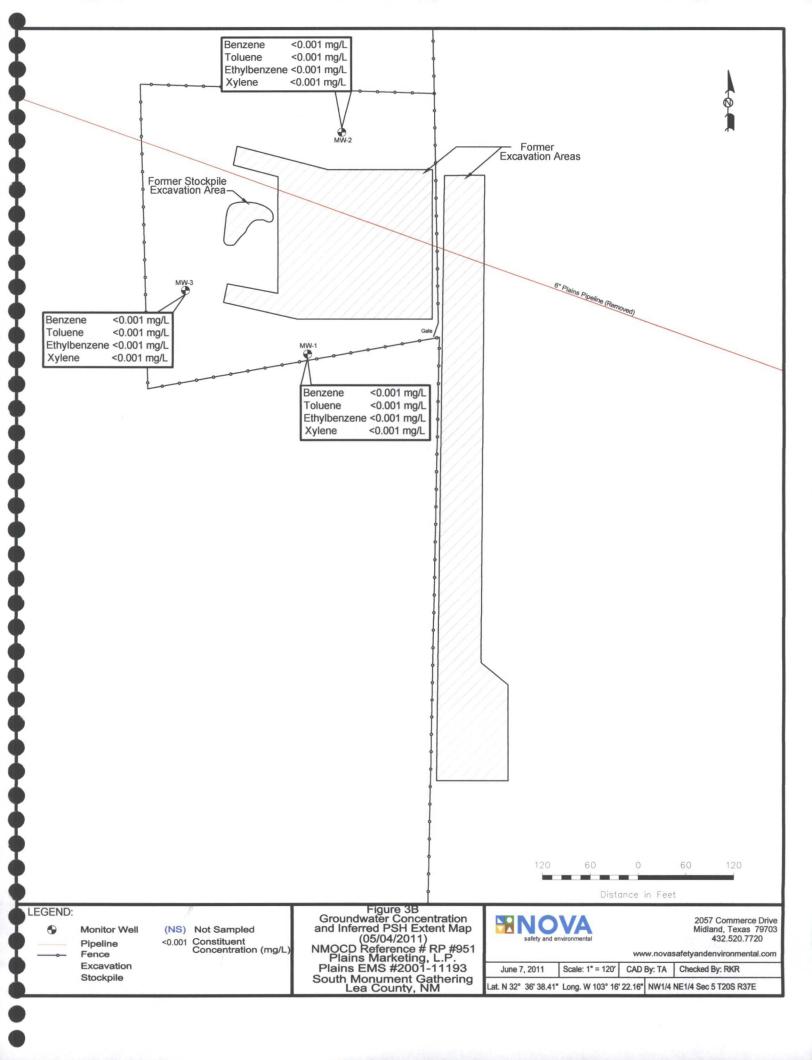


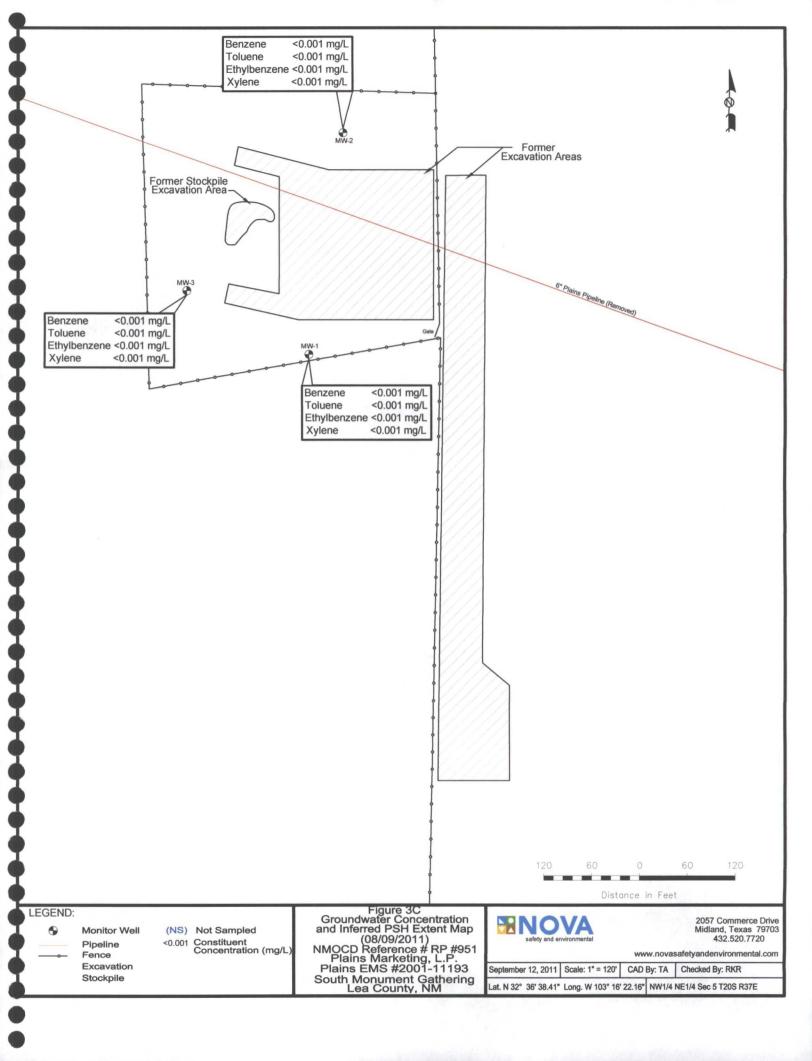


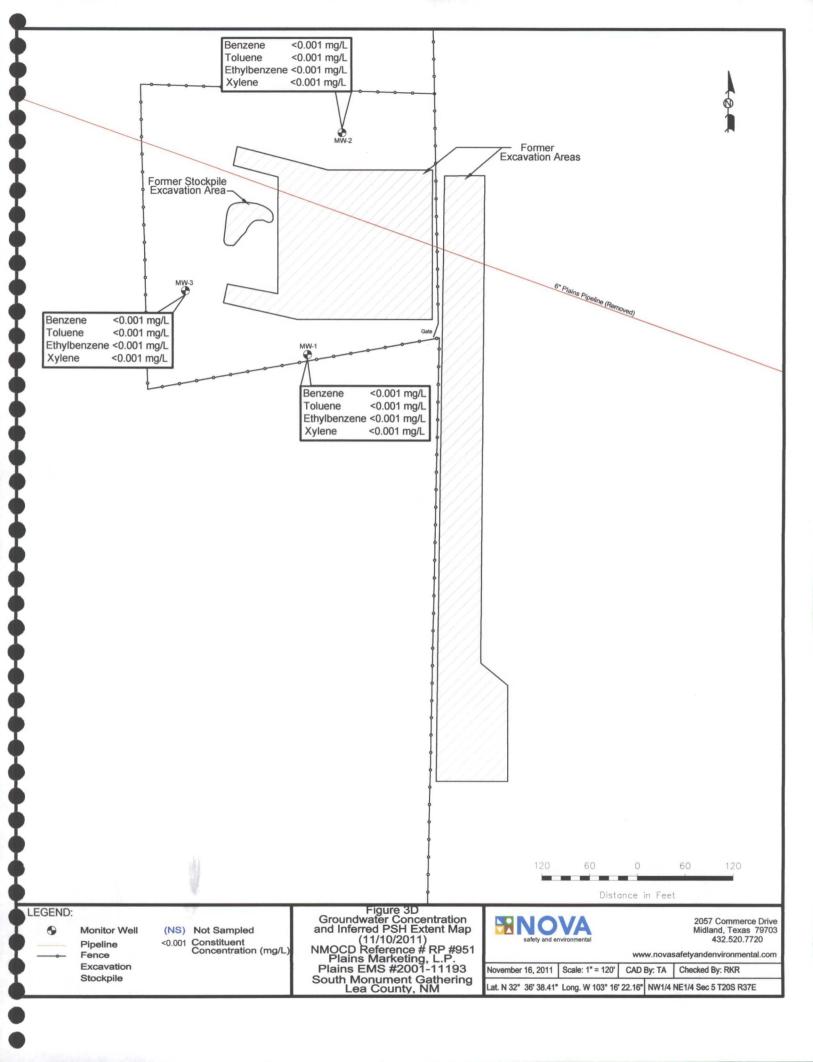












Tables

# TABLE 1

# **GROUNDWATER ELEVATION DATA - 2011**

# PLAINS MARKETING, L.P. SOUTH MONUMENT GATHERING SOUR LEA COUNTY, NEW MEXICO NMOCD Reference # 1R-951

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	02/25/11	3,564.20		33.69	0.00	3,530.51
MW-1	05/04/11	3,564.20	•	33.67	0.00	3,530.53
MW-1	08/01/11	3,564.20	1	33.43	0.00	3,530.77
MW-1	08/08/11	3,564.20	1	33.45	0.00	3,530.75
MW-1	08/09/11	3,564.20		33.66	0.00	3,530.54
MW-1	08/15/11	3,564.20	+	33.62	0.00	3,530.58 .
MW-1	08/22/11	3,564.20	ı	33.07	0.00	3,531.13
MW-1	08/29/11	3,564.20		33.54	0.00	3,530.66
MW-1	11/10/11	3,564.20	1	33.53	0.00	3,530.67
					444	
MW-2	02/25/11	3,563.83	-	32.28	0.00	3,531.55
MW-2	05/04/11	3,563.83		32.26	0.00	3,531.57
MW-2	08/09/11	3,563.83	•	32.22	0.00	3,531.61
MW-2	11/10/11	3,563.83	-	32.30	0.00	3,531.53
						The Total Control of the Control of
MW-3	02/25/11	3,564.42	-	33.80	0.00	3,530.62
MW-3	05/04/11	3,564.42		33.81	0.00	3,530.61
MW-3	08/09/11	3,564.42	-	33.83	0.00	3,530.59
MW-3	11/10/11	3,564.42	-	33.97	0.00	3,530.45

<sup>\*</sup> Complete Historical Tables are provided on the attached CD.

### TABLE 2

# **CONCENTRATIONS OF BTEX IN GROUNDWATER - 2011**

# PLAINS MARKETING, L.P. SOUTH MONUMENT GATHERING SOUR LEA COUNTY, NEW MEXICO NMOCD Reference # 1R-951

All concentrations are in mg/kg

Sample Date	Sample Location	Benzene	Toluene	Ethylbenzene	Xylene	BTEX
NMOCD R	EGULARY LIMIT	0.010	0.750	0.750	0.620	
02/25/11	MW-1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
05/04/11	MW-1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
08/09/11	MW-1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
11/10/11	MW-1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
					Santa in the	
02/25/11	MW-2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
05/04/11	MW-2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
08/09/11	MW-2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
11/10/11	MW-2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
						4
02/25/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
05/04/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
08/09/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
11/10/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

<sup>\*</sup> Complete Historical Tables are provided on the attached CD.

# POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

# PLAINS MARKETING, L.P. SOUTH MONUMENT GATHERING SOUR LEA COUNTY, NEW MEXICO NMOCD REFERENCE NUMBER RP #951

									_								_
		Dipenzofuran		<0.000185	0.000584				<0.000185	<0.000184			- 10 mg	<0.000184	<0.000183		
		2-Methylnaphthalene		0.000875	<0.000184			E	<0.000185	<0.000184				<0.000184	<0.000183		
		i-Methylnaphthalene	J\gm £0.0	0.00357	<0.000184				<0.000185	<0.000184			Part of the state	<0.000184	<0.000183		
		Naphthalene		0.00173	0.00043				<0.000185	<0.000184				<0.000184	<0.000183		
		- Ругепе	J\gm 100.0	<0.000185	<0.000184					<0.000184			1		<0.000183		
		Рћепаптћтепе	J\gm 100.0	0.000758	0.000627			意の	<0.000185 <0.000185	<0.000184				<0.000184 <0.000184	<0.000183		
		ənəvyq(bɔ-٤,٤,t]onəbnl	J\gm \$000.0	<0.000185 0	<0.000184 0			4 4	<0.000185	<0.000184			2.4	<0.000184	<0.000183		
		Fluorene	J\gm 100.0	0.000922	<0.000184				<0.000185	<0.000184 <				<0.000184	<0.000183		
	510	Fluoranthene	J\gm 100.0	<0.000185 0	<0.000184 <			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<0.000185 <0	<0.000184				<0.000184	<0.000183		
in mg/L	6-8270C, 3	oneonardina[d,a]anedid	J\gm £000.0	<0.000185 <0	<0.000184 <0				<0.000185	<0.000184 <0			\$14.5 E	<0.000184	<0.000183		
ns are reported	William Miles	Сргузепе	J\gm 2000.0	<0.000185 <0	<0.000184 <0			海市 "	<0.000185 <0	<0.000184 <0			*	<0.000184 <0	<0.000183		
r concentratio		Вепго[k]Лиогалthепе	J\gm 100.0	<0.000185 <0	<0.000184 <0	ent.	ent.		0>   581000'0>	<0.000184 <0	ent.	ent.		<0.000184 <0	<0.000183 <0	ent.	ent.
All wate		Benzo[g,h,i]perylene	_	0.000185 <0	0.000184 <0	Monitoring Event	Monitoring Event	W	0> 0.000185 <0	:0.000184 <0	Aonitoring Even	Monitoring Event	i Aug	0.000184 <0	<0.000183 <0	Monitoring Event	Monitoring Event
		Benzo[b]fluoranthene	J\gm 100.0	V	<0.000184 <0	_			Ι.	V	~		3 T	$\perp$			
		Benzo[a]pyrene	J\gm 7000.0	<0.000185 < 0.000185 < 0.000185 < 0.000185 < 0.000185	0.000184	Not Sampled as part of Quarterly	Not Sampled as part of Quarterly	5	<0.000185 <0.000185 <0.000185 <0.000185 <0.000185	<0.000184 < 0.000184 < 0.000184	Not Sampled as part of Quarterly	Not Sampled as part of Quarterly		<0.000184 < 0.000184 < 0.000184 < 0.000184	<0.000183 <0.000183 <0.000183	Not Sampled as part of Quarterly	Not Sampled as part of Quarterly
		Benzo[a]anthracene	J\gm 1000.0	0.000185	<0.000184 <0.000184	Not Sampl	Not Sampl		0.000185	0.000184	Not Sampl	Not Sampl	-	0.000184	0.000183	Not Sampl	Not Sampl
		Anthracene	J\gm 100.0	0.000185 <	<0.000184 <				0.000185	<0.000184 <			は常たく	<.0.000184 <	0.000183		
		Acenaphthylene	. —	<0.000185	<0.000184				<0.000185	<0.000184				<0.000184	<0.000183 <0.000183		
		ənədidqanəəA		<0.000185	<0.000184 <				<0.000185	<0.000184			- 2 学學学	<0.000184	<0.000183		
		SAMPLE	taminant  M  ig water ons 1- 03.A.	> 80/50/11	> 60/61/11	11/03/10	11/10/11	38.4	> 80/50/11	> 60/61/11	11/03/10	11/10/11	4	> 80/50/11	> 60/61/11	11/03/10	11/10/11
	SAMPLE SA		1aximum Contaminant evels from NM VQCC Drinking water tandards Sections 1- 01.UU and 3-103.A.	MW-1					MW-2					MW-3			

Appendices

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

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Hobbs, NM 88240

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

\* Attach Additional Sheets If Necessary

# 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  F						Final Report	
Name of Co							nille Reynolds					
Address 580							No. 505-441-09					
Facility Na	ne South M	Ionument G	athering	Sour		Facility Typ	e 6"Steel Pipel	ine				
Surface Ow	ner Jimmie	Cooper		Mineral O	wner				Lease N	No.		•
				LOCA	TIO	N OF RE	FASE					
Unit Letter	Section	Township	Range			South Line	Feet from the	East/\	West Line	County		<del> </del>
В	5	208	37E							Lea		
		Latitud	le_32°36	<u>6'29.0"</u>		Longitude	103° 16' 26.8'	,		_		
	·			NAT	URE	OF REL	EASE					
Type of Rele	ase Crude O	il			<u> </u>		Release 1200 ba	rrels	Volume I	Recovered 9	10 barre	els
Source of Re							Hour of Occurrence	ce		Hour of Dis	covery	
37/		. 0				11-20-01	W/I 0		11-20-01			
Was Immedi	ate Notice G		Yes	No 🗌 Not Requ	uired	If YES, To Paul Sheel						
By Whom? I	rank Hernar	ndez				Date and I	Hour 11-20-01@1	6:15				<del>-</del> -
Was a Water	course Reac					If YES, Vo	olume Impacting	the Wat	ercourse.		•	
		Ш	Yes 🛚	1 No			•			٠		
If a Waterco	urse was Imp	acted, Descr	ibe Fully.	*		· · · · · · · · · · · · · · · · · · ·						
			dial Actio	n Taken.* Internal	l corros	sion of 6 inch	steel pipeline res	ulted in	crude oil re	elease. Clan	ip was	applied to
the line to mi	itigate the re	lease.			•							
Describe Are	a Affected a	nd Cleanup A	Action Tal	ken.* The crude oi	il was v	vacuumed up	and the impacted	soil wa	s excavated	and stockpi	led on	plastic.
				nd stockpiling of ap			o 7,000 cubic yar	rds of so	oil. Future 1	esponse acti	vities v	vill include a
soil and grou	indwater inve	estigation and	l preparati	ion of a remedial ac	ction p	lan.						
NOTE: This	informatio	n was obtair	ed from	historical EOTT f	iles, P	lains acquire	d EOTT/Link E	nergy o	n April 1,	2004 and Pi	ains as	sumes this
information					•	•			•			
I harahu aart	ify that the is	oformation a	van ahava	e is true and comple	ata ta t	ha haat af mu	Impulades and s	um domato	nd that num	want to NM	OCD =	ulas and
				nd/or file certain re								
public health	or the envir	onment. The	acceptane	ce of a C-141 repor	rt by th	e NMOCD m	arked as "Final R	Report" (	does not rel	ieve the ope	rator of	liability
	-			investigate and re			•	_		-	-	
federal, state				ptance of a C-141 r	eport c	loes not reliev	e the operator of	respons	sibility for c	ompliance v	vith any	other
reacrai, state	, or rocar lav	vs and/or reg	nations.		ĺ		OIL CON	SERV	ATION	DIVISIO	)N	
1							OIL COIT	0221	1111011	D1 (101)	<u> </u>	
Signature:		•										
Printed Nam	Printed Name: Camille Reynolds					Approved by District Supervisor:						
Title: Remediation Coordinator						Approval Date: Expiration Date:						
E-mail Addr	ess: cjreynol	ds@paalp.co	m	<u> </u>	$\dashv$	Conditions o	f Approval:	,		Attached		
Date: 12-29-	04			Phone:505-441-09	965							

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

# State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141
Revised October 10, 2003

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

side of form

# Release Notification and Corrective Action

NMOCD Reference # 1R-951

						<b>OPERAT</b>	OR		☐ Initia	l Report	$\boxtimes$	Final Report	
Name of Co	mpany	Plains Pipe	line, LP			Contact	Jason Henr	y	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Address		2530 Hwy 21	4 – Denv	er City, TX 7932	.3	Telephone 1	No. (575) 441-1	1099					
Facility Nar	me	South Mon	ument G	athering Sour		Facility Typ	e Pipeline						
Surface Ow	ner Jimn	iie Cooper		Mineral C	)wner				Lease N	No.			
				LOCA	TIO	N OF RE	FASE						
Unit Letter	Section	Township	Range	Feet from the		/South Line	Feet from the	Fast/	West Line	County	-		
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			L	atitude N 32°3	36' 29'	' Longitude	W 103° 16' 26	.8"					
				NAT	URE	OF REL	EASE						
Type of Rele		ıde Oil				Volume of	Release 1,250 b	bls	Volume I	Recovered	910 b	bls	
Source of Re	lease 6"	Steel Pipelin	e			Date and I- 11/20/2001	lour of Occurrence	æ	Date and 11/20/200	Hour of D	scover	y	
Was Immedia	ate Notice (		,, –	1		If YES, To	Whom?		<del></del>				
D 110 0			Yes L	No Not Re	equirea	Paul Shee							
By Whom?  Was a Water				· · · · · · · · · · · · · · · · · · ·		Date and I	lour 11/20/200 plume Impacting t						
was a water	course Rea		Yes 🛭	No		II 1E5, VC	nume impacting t	ine wai	ercourse.				
If a Watercou	ırse was Im	pacted, Descri	be Fully.										
Describe Cau	ise of Probl	em and Remed	dial Action	n Taken.*				,					
Internal cor	rosion of 6	-inch steel pip	eline resu	ılted in a crude o	oil relea	se. Clamp w	as applied to the	line to	mitigate tl	he release.			
Describe Are	a Affected	and Cleanup A	Action Tak	en.* .									
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9.8	- Feixor		0			Approved by	District Supervise	or.					
Printed Name	e: Jason H	enry	·				District Supervis	···					
Title: Reme	Title: Remediation Coordinator					Approval Date:			Expiration Date:				
E-mail Address: jhenry@paalp.com													
L-man Audre	/ /	<u>шраагр.сош</u>	· · · · · · · · · · · · · · · · · · ·			Conditions of	Approvati			Attache	d 🔲		
Date: 03/	21/201	/2_	Phone:	(575) 441-1099									

Laboratory Analytical Reports



5701 Aberdean 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 Midland, Texas 79703

888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301

FAX 806 \* 794 \* 1298 FAX 915 • 585 • 4944 FAX 432 • 589 • 6313

817 \* 201 \* 5260

E-Mail: lab@traceanalysislcom

# Certifications

**WBENC:** 237019

HUB: NCTRCA

1752439743100-86536 WFWB38444Y0909

**DBE:** VN 20657

# **NELAP Certifications**

Lubbock:

T104704219-08-TX

LELAP-02003

Kansas E-10317

El Paso: T104704221-08-TX

LELAP-02002

Midland: T104704392-08-TX

# Analytical and Quality Control Report

Nova Safety & Environmental

2057 Commerce St. Midland, TX, 79703

Report Date: March 14, 2011

Work Order:

11022808

Project Location: New Mexico

Project Name: South Monument Gathering Sour

Project Number: 2001-11193

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

			Date '	Time	$\operatorname{Date}$
Sample	Description	Matrix	Taken	Taken	Received
258948	MW-3	water	2011-02-25	07:30	2011-02-28
258949	MW-2	water	2011-02-25	08:30	2011-02-28
258950	MW-1	water	2011-02-25	09:30	2011-02-28

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 7 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

 ${f B}$  - The sample contains less than ten times the concentration found in the method blank.

# Case Narrative

Samples for project South Monument Gathering Sour were received by TraceAnalysis, Inc. on 2011-02-28 and assigned to work order 11022808. Samples for work order 11022808 were received damaged without headspace and at a temperature of 2.1 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	67064	2011-03-03 at 09:20	79030	2011-03-03 at 09:20

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 11022808 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 MW-3 had one broken VOA.

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: March 14, 2011 2001-11193

Work Order: 11022808 South Monument Gathering Sour Page Number: 4 of 7 New Mexico

# **Analytical Report**

Sample: 258948 - MW-3

Laboratory:

Midland BTEX

Analysis: QC Batch:

79030 Prep Batch: 67064

Analytical Method: Date Analyzed:

S 8021B

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

Analyzed By: MEPrepared By: ME

ВT

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

					$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0936	${ m mg/L}$	1	0.100	94	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.104	$_{ m mg/L}$	1	0.100	104	51.1 - 128

Sample: 258949 - MW-2

Laboratory: Midland

**BTEX** Analysis: QC Batch: 79030 Prep Batch: 67064

Analytical Method: Date Analyzed:

Sample Preparation:

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

MEPrepared By: ME

		$_{ m RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	. mg/L	1	0.00100
Toluene		< 0.00100	$_{ m mg}/{ m L}$	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)		0.0971	mg/L	1	0.100	97	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.104	${ m mg/L}$	1	0.100	104	51.1 - 128

Sample: 258950 - MW-1

Laboratory:

Midland

**BTEX** Analysis: QC Batch: 79030 Prep Batch: 67064

Analytical Method: Date Analyzed:

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

Report Date: March 14, 2011 2001-11193

Work Order: 11022808 South Monument Gathering Sour Page Number: 5 of 7 New Mexico

Parameter Fla	g	RL Result		Units	. Dil	ution	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		mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0941	mg/L	. 1	0.100	94	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.105	$_{ m mg/L}$	1	0.100	105	51.1 - 128

Method Blank (1)

QC Batch: 79030

QC Batch: Prep Batch: 67064

79030

Date Analyzed: QC Preparation: 2011-03-03

2011-03-03

Analyzed By: ME Prepared By: ME

		$\mathrm{MDL}$	•	
Parameter	Flag	Result	Units	RL
Benzene		< 0.000400	mg/L	0.001
Toluene		< 0.000300	m mg/L	0.001
Ethylbenzene		< 0.000300	m mg/L	0.001
Xvlene		< 0.000333	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0923	mg/L	1	0.100	92	70.2 - 118
4-Bromofluorobenzene (4-BFB)		0.0931	$_{ m mg/L}$	1	0.100	93	47.3 - 116

# Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 67064

79030

Date Analyzed:

2011-03-03 QC Preparation: 2011-03-03

Analyzed By: ME Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0936	mg/L	1	0.100	< 0.000400	94	82.9 - 108
Toluene	0.0937	$\mathrm{mg/L}$	1	0.100	< 0.000300	94	82.7 - 107
Ethylbenzene	0.0901	mg/L	1	0.100	< 0.000300	90	78.8 - 106
Xylene	0.273	${ m mg/L}$	1	0.300	< 0.000333	91	79.3 - 106

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

Report Date: March 14, 2011

2001-11193

Work Order: 11022808 South Monument Gathering Sour Page Number: 6 of 7 New Mexico

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	$\begin{array}{c} \text{RPD} \\ \text{Limit} \end{array}$
Benzene	0.0960	mg/L	1	0.100	< 0.000400	96	82.9 - 108	2	20
Toluene	0.0961	mg/L	1	0.100	< 0.000300	96	82.7 - 107	2	20
Ethylbenzene	0.0929	mg/L	1	0.100	< 0.000300	93	78.8 - 106	3	20
Xylene	0.280	mg/L	1	0.300	< 0.000333	93	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)	0.0946	0.0929	mg/L	1	0.100	95	93	67.3 - 113
4-Bromofluorobenzene (4-BFB)	0.100	0.0977	mg/L	1	0.100	100	98	68.2 - 124

Matrix Spike (MS-1) Spiked Sample: 258719

QC Batch: Prep Batch: 67064

79030

Date Analyzed:

2011-03-03

Analyzed By: ME

QC Preparation: 2011-03-03 Prepared By: ME

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	2.41	m mg/L	20	2.00	0.5671	92	77.9 - 114
Toluene	1.97	${ m mg/L}$	20	2.00	0.1741	90	78.3 - 111
Ethylbenzene	1.91	${ m mg/L}$	20	2.00	< 0.00600	96	75.3 - 110
Xylene	5.75	${ m mg/L}$	20	6.00	0.4576	88	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.	Limit	RPD	Limit
Benzene	2.37	mg/L	20	2.00	0.5671	90	77.9 - 114	2	20
Toluene	1.95	${ m mg/L}$	20	2.00	0.1741	89	78.3 - 111	1	20
Ethylbenzene	1.88	$\mathrm{mg/L}$	20	2.00	< 0.00600	94	75.3 - 110	<b>2</b>	20
Xylene	5.73	mg/L	20	6.00	0.4576	88	75.7 - 109	0	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.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	1.78	1.83	mg/L	20	2	89	92	68.3 - 107
4-Bromofluorobenzene (4-BFB)	2.19	2.24	mg/L	20	2	110	112	60.1 - 135

Standard (CCV-1)

QC Batch: 79030

Date Analyzed: 2011-03-03

Analyzed By: ME

Report Date: March 14, 2011

2001-11193

Work Order: 11022808 South Monument Gathering Sour Page Number: 7 of 7 New Mexico

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0922	92	80 - 120	2011-03-03
Toluene		${ m mg/L}$	0.100	0.0911	91	80 - 120	2011-03-03
Ethylbenzene		mg/L	0.100	0.0377	88	80 - 120	2011-03-03
Xylene		${ m mg/L}$	0.300	0.267	89	80 - 120	2011-03-03

# Standard (CCV-2)

QC Batch: 79030

Date Analyzed: 2011-03-03

Analyzed By: ME

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0917	92	80 - 120	2011-03-03
Toluene		$_{ m mg/L}$	0.100	0.0908	91	80 - 120	2011-03-03
Ethylbenzene		$_{ m mg/L}$	0.100	0.0860	86	80 - 120	2011-03-03
Xvlene		$_{ m mg/L}$	0.300	0.261	87	80 - 120	2011-03-03

1102288

LAB Order ID #\_

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 E Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-494 1 (888) 588-3443

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

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Carrier # Carrier

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

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817 • 201 • 5260

E-Mail: lab@traceanalysis.com

# Certifications

#### NCTRCA DoD LELAP DBENELAP Kansas Oklahoma ISO 17025

### Analytical and Quality Control Report

Ron Rounsaville

Nova Safety & Environmental

2057 Commerce St.

Midland, TX, 79703

Report Date: May 10, 2011

Work Order:

11050504

Project Location: South of Monument, NM

Project Name:

South Monument Gathering Sour

Project Number:

2001-11193

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

	-		Date	Time	$\operatorname{Date}$
Sample	Description	Matrix	Taken	Taken	Received
265597	MW-3	water	2011-05-04	16:00	2011-05-05
265598	MW-2	water	2011-05-04	16:30	2011-05-05
265599	MW-1	water	2011-05-04	17:00	2011-05-05

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.

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

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### Case Narrative

Samples for project South Monument Gathering Sour were received by TraceAnalysis, Inc. on 2011-05-05 and assigned to work order 11050504. Samples for work order 11050504 were received intact without headspace and at a temperature of 2.4 C

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

		$\operatorname{Prep}$	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	68782	2011-05-06 at 14:42	81036	2011-05-07 at 00:18

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 11050504 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: May 10, 2011 2001-11193

Work Order: 11050504 South Monument Gathering Sour

Page Number: 4 of 10 South of Monument, NM

# **Analytical Report**

Sample: 265597 - MW-3

Laboratory:

Midland

Analysis: QC Batch: BTEX

81036

Analytical Method: Date Analyzed:

S 8021B

2011-05-07

Prep Method: Analyzed By:

S 5030B ME ME

Prep Batch:

68782

Sample Preparation:

2011-05-06

Prepared By:

			R.L			
Parameter	$\operatorname{Flag}$	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	$\operatorname{Flag}$	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	67.8 - 129
4-Bromofluorobenzene (4-BFB)			0.0929	mg/L	1	0.100	93	51.1 - 128

Sample: 265598 - MW-2

Laboratory: Midland

Analysis: **BTEX** QC Batch: 81036 Prep Batch: 68782

Analytical Method: Date Analyzed:

Sample Preparation:

 $\le 8021B$ 2011-05-07 2011-05-06 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RLParameter Flag  $\operatorname{Cert}$ Result Units Dilution RLBenzene < 0.00100 mg/L 0.00100 Toluene < 0.00100 mg/L1 0.00100Ethylbenzene < 0.00100 1 0.00100 mg/L Xylene < 0.00100 mg/L0.00100

						Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	67.8 - 129
4-Bromofluorobenzene (4-BFB)			0.0932	${ m mg/L}$	1	0.100	93	51.1 - 128

Report Date: May 10, 2011

2001-11193

Work Order: 11050504 South Monument Gathering Sour

Page Number: 5 of 10 South of Monument, NM

Sample: 265599 - MW-1

Laboratory: Midland

Analysis: QC Batch:

BTEX 81036 Prep Batch: 68782

Analytical Method:

S 8021B Date Analyzed: 2011-05-07 Sample Preparation: 2011-05-06 Prep Method: S 5030B Analyzed By:

MEME

Prepared By:

			R.L			
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	mg/L	1	0.00100
Xvlene		1	< 0.00100	mg/L	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.106	mg/L	1	0.100	106	67.8 - 129
4-Bromofluorobenzene (4-BFB)			0.0950	${ m mg/L}$	1	0.100	95	51.1 - 128

Report Date: May 10, 2011 2001-11193

Work Order: 11050504 South Monument Gathering Sour

Page Number: 6 of 10 South of Monument, NM

# Method Blanks

Method Blank (1)

QC Batch: 81036

QC Batch:

81036

Date Analyzed:

2011-05-07

Analyzed By: ME

Prep Batch: 68782

QC Preparation: 2011-05-06

Prepared By: ME

•			$\mathrm{MDL}$		
Parameter	$\operatorname{Flag}$	Cert	Result	Units	RL
Benzene		1	< 0.000400	m 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	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0982	mg/L	1	0.100	98	70.2 - 118
4-Bromofluorobenzene (4-BFB)			0.0916	mg/L	1	0.100	92	47.3 - 116

Report Date: May 10, 2011 2001-11193

Work Order: 11050504 South Monument Gathering Sour

Page Number: 7 of 10 South of Monument, NM

# Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-05-07

Analyzed By: ME

Prep Batch: 68782

QC Preparation: 2011-05-06

Prepared By: ME

Param	F	С	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0994	mg/L	1	0.100	< 0.000400	99	76.8 - 110
Toluene		1	0.0999	mg/L	1	0.100	< 0.000300	100	81 - 108
Ethylbenzene		1	0.101	m mg/L	1	0.100	< 0.000300	101	78.8 - 118
Xylene	'	1	0.305	m 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	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$	RPD	Limit
Benzene		1	0.103	mg/L	1	0.100	< 0.000400	103	76.8 - 110	4	20
Toluene		1	0.105	${ m mg/L}$	1	0.100	< 0.000300	105	81 - 108	5	20
Ethylbenzene		1	0.106	mg/L	1	0.100	< 0.000300	106	78.8 - 118	5	20
Xylene		1	0.322	mg/L	1	0.300	< 0.000333	107	80.3 - 119	5	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)	0.0999	0.101	mg/L	1	0.100	100	101	66.6 - 114
4-Bromofluorobenzene (4-BFB)	0.102	0.105	${ m mg/L}$	1	0.100	102	105	68.2 - 124

Matrix Spike (MS-1) Spiked Sample: 265703

QC Batch: 81036

Prep Batch: 68782

Date Analyzed: 2011-05-07 QC Preparation: 2011-05-06 Analyzed By: ME Prepared By: ME

		MS			Spike	Matrix		Rec.
Param	r C	Result	Units	$\operatorname{Dil}$ .	Amount	Result	Rec.	Limit
Benzene	1	12.1	mg/L	50	5.00	7.6654	89	77.9 - 114
Toluene	1	5.43	m mg/L	50	5.00	0.5529	98	78.3 - 111
Ethylbenzene	1	5.46	${ m mg/L}$	50	5.00	< 0.0150	109	75.3 - 110
Xylene	1	16.2	mg/L	50	15.0	1.3093	99	75.7 - 109

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

Report Date: May 10, 2011

2001-11193

Work Order: 11050504 South Monument Gathering Sour Page Number: 8 of 10 South of Monument, NM

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	$\operatorname{Limit}$
Benzene		1	12.0	mg/L	50	5.00	7.6654	87	77.9 - 114	1	20
Toluene		1	5.34	mg/L	50	5.00	0.5529	96	78.3 - 111	2	20
Ethylbenzene		1	5.45	mg/L	50	5.00	< 0.0150	109	75.3 - 110	0	20
Xylene		1	16.0	mg/L	50	15.0	1.3093	98	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	Units	Dil.	Amount	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	4.79	4.87	. mg/L	50	5	96	97	68.3 - 107
4-Bromofluorobenzene (4-BFB)	5.02	4.77	$\mathrm{mg/L}$	50	5	100	95	60.1 - 135

Report Date: May 10, 2011 2001-11193

Work Order: 11050504 South Monument Gathering Sour Page Number: 9 of 10 South of Monument, NM

### Calibration Standards

#### Standard (CCV-1)

QC Batch: 81036

Date Analyzed: 2011-05-07

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	0.0972	97	80 - 120	2011-05-07
Toluene		1	$_{ m mg/L}$	0.100	0.100	100	80 - 120	2011-05-07
Ethylbenzene		1	mg/L	0.100	0.102	102	80 - 120	2011-05-07
Xylene		1	mg/L	0.300	0.309	103	80 - 120	2011-05-07

### Standard (CCV-2)

QC Batch: 81036

Date Analyzed: 2011-05-07

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	0.0980	98	80 - 120	2011-05-07
Toluene		1	$_{ m mg/L}$	0.100	0.101	101	80 - 120	2011-05-07
Ethylbenzene		1	mg/L	0.100	0.100	100	80 - 120	2011-05-07
Xylene		1	${ m mg/L}$	0.300	0.302	101	80 - 120	2011-05-07

#### Standard (CCV-3)

QC Batch: 81036

Date Analyzed: 2011-05-07

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	$_{ m Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0970	97	80 - 120	2011-05-07
Toluene		1	$_{ m mg/L}$	0.100	0.100	100	80 - 120	2011-05-07
Ethylbenzene		1	${ m mg/L}$	0.100	0.100	100	80 - 120	2011-05-07
Xylene		1	mg/L	0.300	0.300	100	80 - 120	2011-05-07

Work Order: 11050504
South Monument Gathering Sour

Page Number: 10 of 10 South of Monument, NM

### **Appendix**

### **Laboratory Certifications**

	Certifying	Certification	Laboratory .
$\mathbf{C}$	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
_	HUB	1752439743100-86536	TraceAnalysis
-	$_{ m WBE}$	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 # \\OSOSTO

TraceAnalysis, Inc.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 78424 1et (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1298

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

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Page

BioAquatic Testing 2501 Mayes Rd., Sie 100 Carrollton, Texas 75006 Tel (972) 242-7750 200 East Sunset Rd., Suite E El Paso, Toxas 79922 Tel (915) 585-3443 Fax (915) 585-994 1 (888) 588-3443

Turn Around Time if different from standard 2 Na, Ca, Mg, K, TDS, EC or Specify Method CI' EI' 204' NO3' NO5' YIKalinity **ANALYSIS REQUEST** Pesticides 8081 / 608 GC/MS Semi, Vol. 8270 / 625 GC/W2 A91' 8560 / 654 TCLP Semi Volatiles Circle TCLP Metals Ag As Ba Cd Cr Pb Se Hg Total Metals Ag As Be Cd Cr Pb Se Hg 6010/200.7 TPH 8015 GRO / DRO / TVHC TPH 418.1 / TX1005 / TX1005 Ext(C35) QLEX 8050\ 605\ 8560\ 654 8021 / 602 / 8260 / 624 Phone #: 473-530-7730 432-520-770 Such Mon from hang Fax #: SILLEY XI email: lab@traceanalysis.com Street, City, Zip) (Street, City, Zip) (Commerce Midland

14.30 17.M SAMPLING **HIME DATE** NONE PRESERVATIVE METHOD ICE HOBN OS2H <sup>E</sup>ONH HCI STUDGE MATRIX ЯIA SOIF

**A**3TAW

JunomA \ emuloV

# CONTAINERS

FIELD CODE

**LAB#** 

508 mw-2 59 ma-

CATTIME.

(LAB USE)

Project Location (including state):

(if different from above)

Project #:

Involce to:

BOM P.

2057 Com

Address:

Company Name:

**3**87M

Holq

Moisture Content

PCB's 8082 / 608

TCLP Pesticides

TCLP Volatiles

229 / 0728 HA9

BOD, TSS, pH

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Company Received by: Sate: Date: Date:

Company

Relinquished by

testa-Midland

X008

REMARKS

LAB USE ONL≺

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INST

OBS COR

INST

Date: Company Received by: Time:

Relinquished by:

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O.

Dry Weight Basis Required
TRRP Report Required
Check if Special Reporting
Limits Are Needed 3 Carrier # OBS SOS INST Time:

ORIGINAL COPY



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FAX 432 • 889 • 6313

817 \* 201 \* 5260

#### E-Mail: lab@traceanalysis.com

### Certifications

#### WBE 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:

August 17, 2011

Work Order:

11081025

Project Location: South of Monument, NM

Project Name:

South Monument Gathering Sour

Project Number: 2001 - 11193

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

			Date	$\operatorname{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
274209	MW-3	water	2011-08-09	17:00	2011-08-10
274210	MW-2	water	2011-08-09	17:30	2011-08-10
274211	MW-1	water	2011-08-09	18:15	2011-08-10

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.

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

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QC Batch 83858 - MS (1)	7
Calibration Standards	g
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### Case Narrative

Samples for project South Monument Gathering Sour were received by TraceAnalysis, Inc. on 2011-08-10 and assigned to work order 11081025. Samples for work order 11081025 were received intact without headspace and at a temperature of 3.6 C.

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

		$\operatorname{Prep}$	Prep	QC	Analysis
Test		Batch	Date	Batch	Date
$\overline{ ext{BTEX}}$	S 8021B	71215	2011-08-16 at 09:24	83858	2011-08-16 at 09:24

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 11081025 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 17, 2011 2001-11193

Work Order: 11081025 South Monument Gathering Sour

Page Number: 4 of 10 South of Monument, NM

# **Analytical Report**

Sample: 274209 - MW-3

Laboratory: Midland

Prep Batch: 71215

Analysis: QC Batch: BTEX 83858

Analytical Method: Date Analyzed:

S 8021B 2011-08-16

Sample Preparation: 2011-08-16

Analyzed By:

Prep Method: S 5030B ME

Prepared By:

ME

			$^{'}\mathrm{RL}$			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	Ŭ	1	< 0.00100	mg/L	1	0.00100
Toluene	U	1	< 0.00100	$\mathrm{mg/L}$	1	0.00100
Ethylbenzene	U	1	< 0.00100	mg/L	1	0.00100
Xvlene	U	1	< 0.00100	mg/L	1	0.00100

				•		$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0981	mg/L	1	0.100	98	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0961	$\mathrm{mg/L}$	1	0.100	96	67.5 - 140.8

Sample: 274210 - MW-2

Laboratory: Midland

Analysis: QC Batch:

 $\operatorname{BTEX}$ 83858Prep Batch: 71215

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B2011-08-16 2011-08-16 Prep Method: Analyzed By:

S 5030B MEPrepared By: ME

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

						$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.106	m mg/L	1	0.100	106	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.101	mg/L	1	0.100	101	67.5 - 140.8

Report Date: August 17, 2011

2001-11193

Work Order: 11081025 South Monument Gathering Sour

Page Number: 5 of 10 South of Monument, NM

Sample: 274211 - MW-1

Laboratory: Midland Analysis:

BTEX

Analytical Method:

S 8021B

2011 - 08 - 16

Prep Method: S 5030B

QC Batch: Prep Batch: 71215

83858

Date Analyzed: Sample Preparation: 2011-08-16

Analyzed By: Prepared By:

MEME

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

•						Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.105	mg/L	1	0.100	105	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.100	mg/L	1	0.100	100	67.5 - 140.8

Report Date: August 17, 2011

2001-11193

Work Order: 11081025 South Monument Gathering Sour

Page Number: 6 of 10 South of Monument, NM

### Method Blanks

Method Blank (1)

QC Batch: 83858

QC Batch:

83858

Date Analyzed:

2011-08-16

Analyzed By: ME

Prep Batch: 71215

QC Preparation: 2011-08-16 Prepared By: ME

MDL Flag Cert Units Parameter Result RLBenzene < 0.000400 mg/L 0.001 Toluene < 0.000300 0.001 mg/LEthylbenzene < 0.000300 mg/L0.001 Xylene < 0.000333 mg/L0.001

						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0931	mg/L	1	0.100	93	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0869	mg/L	1	0.100	87	45.9 - 126.4

Report Date: August 17, 2011 2001-11193

Work Order: 11081025 South Monument Gathering Sour

Page Number: 7 of 10 South of Monument, NM

# **Laboratory Control Spikes**

#### Laboratory Control Spike (LCS-1)

QC Batch:

83858

Date Analyzed:

2011-08-16

Analyzed By: ME

Prep Batch: 71215

QC Preparation: 2011-08-16

Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
Benzene		1	0.0984	mg/L	1	0.100	< 0.000400	98	88 - 116.8
Toluene		1	0.103	mg/L	1	0.100	< 0.000300	103	90.9 - 122.2
Ethylbenzene		1	0.105	mg/L	1	0.100	< 0.000300	105	72.7 - 120.2
Xylene		1	0.317	mg/L	1	0.300	< 0.000333	106	72.1 - 121.5

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

Param	F	С	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	$egin{array}{l}  ext{RPD} \  ext{Limit} \end{array}$
Benzene		1	0.0979	mg/L	1	0.100	< 0.000400	98	88 - 116.8	0	20
Toluene		1	0.103	mg/L	1	0.100	< 0.000300	103	90.9 - 122.2	0	20
Ethylbenzene		1	0.105	mg/L	1	0.100	< 0.000300	105	72.7 - 120.2	0	20
Xylene		1	0.317	mg/L	1	0.300	< 0.000333	106	72.1 - 121.5	0	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)	0.0996	0.0987	mg/L	1	0.100	100	99	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0998	0.0988	mg/L	1	0.100	100	99	56.4 - 127.9

Matrix Spike (MS-1)

Spiked Sample: 274394

QC Batch: Prep Batch: 71215

83858

Date Analyzed:

2011-08-16 QC Preparation: 2011-08-16 Analyzed By: ME

Prepared By: ME

			MS			$_{ m Spike}$	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	2.17	mg/L	20	2.00	0.3037	93	66.9 - 128.2
Toluene		1	1.94	${ m mg/L}$	20	2.00	< 0.00600	97	81.6 - 122.9
Ethylbenzene		1	2.03	${ m mg/L}$	20	2.00	< 0.00600	102	62.7 - 117.9
Xylene		1	5.98	m mg/L	20	6.00	< 0.00666	100 .	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 17, 2011

2001-11193

Work Order: 11081025 South Monument Gathering Sour Page Number: 8 of 10 South of Monument, NM

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.06	mg/L	20	2.00	0.3037	88	66.9 - 128.2	5	20
Toluene		1	1.89	mg/L	20	2.00	< 0.00600	94	81.6 - 122.9	3	20
Ethylbenzene		1	1.96	mg/L	20	2.00	< 0.00600	98	62.7 - 117.9	4	20
Xylene		1	5.80	mg/L	20	. 6.00	< 0.00666	97	62.9 - 118.2	3	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)	2.02	1.81	$_{ m mg/L}$	20	2	101	90	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	2.05	1.87	mg/L	20	2	102	94	52.2 - 135.8

Report Date: August 17, 2011 2001-11193 Work Order: 11081025 South Monument Gathering Sour Page Number: 9 of 10 South of Monument, NM

# Calibration Standards

#### Standard (CCV-1)

QC Batch: 83858

Date Analyzed: 2011-08-16

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	0.0968	97	80 - 120	2011-08-16
Toluene		1	m mg/L	0.100	0.0994	99	80 - 120	2011-08-16
Ethylbenzene		1	mg/L	0.100	0.101	101	80 - 120	2011-08-16
Xylene		1	mg/L	0.300	0.308	103	80 - 120	2011-08-16

#### Standard (CCV-2)

QC Batch: 83858

Date Analyzed: 2011-08-16

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	0.101	101	80 - 120	2011-08-16
Toluene		1	$_{ m mg/L}$	0.100	0.105	105	80 - 120	2011-08-16
Ethylbenzene		1	$_{ m mg/L}$	0.100	0.107	107	80 - 120	2011-08-16
Xylene		1	${ m mg/L}$	0.300	0.321	107	80 - 120	2011-08-16

### Standard (CCV-3)

QC Batch: 83858

Date Analyzed: 2011-08-16

Analyzed By: ME

				$\rm CCVs$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L ·	0.100	0.0941	94	80 - 120	2011-08-16
Toluene		1	${ m mg/L}$	0.100	0.0984	98	80 - 120	2011-08-16
Ethylbenzene		1	${ m mg/L}$	0.100	0.100	100	80 - 120	2011-08-16
Xylene		1	${ m mg/L}$	0.300	0.301	100	80 - 120	2011-08-16

Report Date: August 17, 2011 Work Order: 11081025

2001-11193 South Monument Gathering Sour

Page Number: 10 of 10

South of Monument, 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 10# 1081035

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenus, Suite 9 Lubbock, Texas 78424 Tel (806) 794-1296 Fax (808) 794-1298 1 (800) 378-1296

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

200 East Sunset Rd., Suite E E Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 565-4944 1 (888) 586-3443

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

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Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C. ORIGINAL COPY

Carrier #



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E-Mail: lab@traceahalysistcom

# Certifications

#### NCTRCA DBE**NELAP** DoD LELAP WBE Kansas Oklahoma ISO 17025

### Analytical and Quality Control Report

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

Report Date: November 15, 2011

Work Order:

11111409

Project Location: South of Monument, NM

Project Name:

South Monument Gathering Sour

Project Number:

2001-11193

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
282307	MW 3	water	2011-11-10	11:25	2011-11-11
282308	MW 2	water	2011-11-10	11:30	2011-11-11
282309	MW 1	water	2011-11-10	11:35	2011-11-11

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.

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

# Report Contents

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Sample 282308 (MW 2)	4
Sample 282309 (MW 1)	4
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### Case Narrative

Samples for project South Monument Gathering Sour were received by TraceAnalysis, Inc. on 2011-11-11 and assigned to work order 11111409. Samples for work order 11111409 were received intact without headspace and at a temperature of 6.0 C.

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

		Prep	$\operatorname{Prep}$	QC	Analysis
Test	Method	Batch	Date	$\operatorname{Batch}$	Date
BTEX	S 8021B	73378	2011-11-14 at 13:50	86423	2011-11-14 at 14:26

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 11111409 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: November 15, 2011 2001-11193

Work Order: 11111409 South Monument Gathering Sour Page Number: 4 of 10 South of Monument, NM

### **Analytical Report**

Sample: 282307 - MW 3

Laboratory: Midland

Analysis: BTEX QC Batch: 86423 Prep Batch: 73378

Analytical Method: S 8021B
Date Analyzed: 2011-11-14
Sample Preparation: 2011-11-14

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

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

						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0933	mg/L	1	0.100	93	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0795	mg/L	1	0.100	80	67.5 - 140.8

Sample: 282308 - MW 2

Laboratory: Midland

Analysis: BTEX QC Batch: 86423 Prep Batch: 73378 Analytical Method: S 8021B
Date Analyzed: 2011-11-14
Sample Preparation: 2011-11-14

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

RLFlag Dilution RLParameter Cert Result Units 0.00100 Benzene Ū < 0.00100 mg/L 1 Toluene U 0.00100 1 < 0.00100 mg/LEthylbenzene U 0.00100 < 0.00100 mg/L1 U 0.00100Xylene < 0.00100 mg/L 1

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0927	mg/L	1	0.100	93	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0768	${ m mg/L}$	$\cdot 1$	0.100	77	67.5 - 140.8

2001-11193

Work Order: 11111409 South Monument Gathering Sour

Page Number: 5 of 10 South of Monument, NM

Sample: 282309 - MW 1

Laboratory: Midland Analysis:

QC Batch:

Prep Batch: 73378

BTEX

86423

Analytical Method: Date Analyzed:

S 8021B

2011-11-14 Sample Preparation: 2011-11-14 Prep Method: S 5030B

Analyzed By: AGPrepared By: AG

				L'T			
Parameter		Flag	$\operatorname{Cert}$	Result	Units	Dilution	RL
Benzene	U	U	1	< 0.00100	mg/L	1	0.00100
Toluene	U	$\mathbf{U}$	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	$\operatorname{Flag}$	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0937	mg/L	1	0.100	94	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0904	mg/L	1	0.100	90	67.5 - 140.8

2001-11193

Work Order: 11111409 South Monument Gathering Sour Page Number: 6 of 10 South of Monument, NM

# Method Blanks

Method Blank (1)

QC Batch: 86423

QC Batch: 86423 Prep Batch: 73378

Date Analyzed:

Date Analyzed: 2011-11-14 QC Preparation: 2011-11-14 Analyzed By: AG

Prepared By: AG

		$^{\cdot}$ MDL									
Parameter	$\operatorname{Flag}$	$\operatorname{Cert}$	Result	Units	$\operatorname{RL}$						
Benzene		1	< 0.000400	mg/L	0.001						
Toluene		1	< 0.000300	mg/L	0.001						
Ethylbenzene		1	< 0.000300	m mg/L	0.001						
Xylene		1	< 0.000333	${ m mg/L}$	$0.001_{-}$						

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0930	mg/L	1	0.100	93	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0815	$\mathrm{mg/L}$	1	0.100	82	45.9 - 126.4

2001-11193

Work Order: 11111409 South Monument Gathering Sour

Page Number: 7 of 10 South of Monument, NM

# Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch:

86423

Date Analyzed:

2011-11-14

Analyzed By: AG

Prep Batch: 73378

QC Preparation: 2011-11-14

Prepared By: AG

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Benzene		1	0.0953	mg/L	1	0.100	< 0.000400	95	76.8 - 120.3
Toluene		1	0.0912	mg/L	1	0.100	< 0.000300	91	80.9 - 122.2
Ethylbenzene		1	0.0886	mg/L	1	0.100	< 0.000300	89	72.7 - 120.2
Xylene		1	0.266	mg/L	1	0.300	< 0.000333	89	72.1 - 121.5

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

			LCSD			Spike	Mátrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$_{ m Limit}$
Benzene		1	0.0994	mg/L	1	0.100	< 0.000400	99	76.8 - 120.3	4	20
Toluene		1	0.0945	$\mathrm{mg/L}$	1	0.100	< 0.000300	94	80.9 - 122.2	4	20
Ethylbenzene		1	0.0923	mg/L	1	0.100	< 0.000300	92	72.7 - 120.2	4	20
Xylene		1	0.277	mg/L	1	0.300	< 0.000333	92	72.1 - 121.5	4	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.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	0.0921	0.0929	mg/L	1	0.100	92	93	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0935	0.0940	mg/L	1	0.100	94	94	56.4 - 127.9

Matrix Spike (MS-1) Spiked Sample: 282285

QC Batch: Prep Batch: 73378

86423

Date Analyzed:

2011-11-14

QC Preparation: 2011-11-14

Analyzed By: AG

Prepared By: AG

			MS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
Benzene		1	0.135	mg/L	1	0.100	0.0318	103	66.9 - 128.2
Toluene		1	0.0986	mg/L	1	0.100	< 0.000300	99	81.6 - 122.9
Ethylbenzene		1	0.0953	mg/L	1	0.100	< 0.000300	95	62.7 - 117.9
Xylene		1	0.284	mg/L	1	0.300	0.0022	94	62.9 - 118.2

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

2001-11193

Work Order: 11111409 South Monument Gathering Sour Page Number: 8 of 10 South of Monument, NM

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	0.131	mg/L	1	0.100	0.0318	99	66.9 - 128.2	3	20
Toluene		1	0.0989	mg/L	1	0.100	< 0.000300	99	81.6 - 122.9	0	20
Ethylbenzene		1	0.0963	mg/L	1	0.100	< 0.000300	96	62.7 - 117.9	1	20
Xylene		1	0.287	mg/L	1	0.300	0.0022	95	62.9 - 118.2	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	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0973	0.0932	mg/L	1	0.1	97	93	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	0.0907	0.0908	mg/L	1	0.1	91	91	52.2 - 135.8

2001-11193

Work Order: 11111409 South Monument Gathering Sour Page Number: 9 of 10 South of Monument, NM

# Calibration Standards

#### Standard (CCV-1)

QC Batch: 86423

Date Analyzed: 2011-11-14

Analyzed By: AG

_		_		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\operatorname{Flag}$	$\operatorname{Cert}$	$\operatorname{Units}$	Conc.	Conc.	Recovery	$\operatorname{Limits}$	Analyzed
Benzene		1	${ m mg/L}$	0.100	0.0942	94	80 - 120	2011-11-14
Toluene		1	${ m mg/L}$	0.100	0.0874	87	80 - 120	2011-11-14
Ethylbenzene		1	mg/L	0.100	0.0832	83	80 - 120	2011-11-14
Xylene		1	${ m mg/L}$	0.300	0.250	83	80 - 120	2011-11-14

### Standard (CCV-2)

QC Batch: 86423

Date Analyzed: 2011-11-14

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	0.0990	99	80 - 120	2011-11-14
Toluene		1	${ m mg/L}$	0.100	0.0937	94	80 - 120	2011-11-14
Ethylbenzene		1	$\mathrm{mg/L}$	0.100	0.0890	89	80 - 120	2011-11-14
Xylene		1	$_{ m mg/L}$	0.300	0.267	89	80 - 120	2011-11-14

#### Standard (CCV-3)

QC Batch: 86423

Date Analyzed: 2011-11-14

Analyzed By: AG

				CCVs True	CCVs Found	$rac{ ext{CCVs}}{ ext{Percent}}$	Percent Recovery	Date
Param	Flag	$\operatorname{Cert}$	$_{ m Units}$	Conc.	Conc.	Recovery	Ļimits	Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2011-11-14
Toluene		1	${ m mg/L}$	0.100	0.0944	94	80 - 120	2011-11-14
Ethylbenzene		1	${ m mg/L}$	0.100	0.0899	90	80 - 120	2011-11-14
Xylene		1	${ m mg/L}$	0.300	0.269	90	80 - 120	2011-11-14

Report Date: November 15, 2011 2001-11193

Work Order: 11111409 South Monument Gathering Sour Page Number: 10 of 10 South of Monument, NM

# **Appendix**

### Report Definitions

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

### **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.

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Turn Around Time if different from standard BioAquatic Testing 2501 Mayes Rd., Ste 100 Carrollton, Texas 75006 Tel (972) 242-7750 ( o Z Na, Ca, Mg, K, TDS, EC or Specify Method CI, FI, 504, NO3, NO2, Alkalinity Moisture Content **ANALYSIS REQUEST** Dry Weight Basis Required Check If Special Reporting
Limits Are Needed Hq ,22T ,008 TRRP Report Required Pesticides 8081 / 608 200 East Sunset Rd., Suite E El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-3844
1 (868) 588-3443 PCB's 8082 / 608 3C/MS Semi. Vol. 8270 / 625 REMARKS GC/W2 API 8560 / 624 ВCI TCLP Pesticides TCLP Semi Volatiles Coma Circle TCLP Volatiles LAB USE TCLP Metals Ag As Ba Cd Cr Pb Se Hg ONLY Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 5002 Basin Street, Suite A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 PAH 8270 / 625 TPH 8015 GRO / DRO / TVHC TPH 418.1 / TX1005 / TX1005 Ext(C35) Carrier # BLEX 8021 602 / 8260 / 624 OBS 8021 | 602 | 8260 | 624 MTBE COR COR COR INST OBS INST OBS 135 130 INST 12 SAMPLING **TIME** Graffiering 0 8 25 lime: lime: Time: 2 6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 **DATE** 4 -520-Date: PRESERVATIVE NONE Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C. Sample Signature: METHOD ICE × HOBN Company: Company: OS<sup>z</sup>H Project Name Phone #: HCI E-mail: Fax #: SCUDGE Received by: Received by Seived by 20FPF, XT, MATRIX ЯIA TraceAnalysis, Inc. OVA Safety + trovisormanta SOIF Joseph Je **MATER** ン email: lab@traceanalysis.com 8 JnuomA \ emuloV Time: Time: 3 # CONTAINERS Arelone Date: Date: 2 FIELD CODE Company: Company: Company: 2047 Commerce Project Location (including state) Monument 3 (If different from above) Brythe LPP 208 MW 200 WW 3 Relinguished by: Relinquished by: Relinquished by: Company Name Contact Person LAB USE) Invoice to: Project #: LA8#

ORIGINAL COPY

PIOH

Historical Data Tables

### TABLE 1

#### GROUNDWATER ELEVATION DATA

#### PLAINS MARKETING, L.P. South Monument Gathering Sour LEA COUNTY, NEW MEXICO PLAINS SRS# 2001-11193

						CORRECTED
WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	GROUNDWATER
NOMBER		ELEVATION	TRODUCT	WATER	THERRESS	ELEVATION
MW-1	12/13/06	3,564.20	-	32.04	0.00	3,532.16
MW-1	02/19/07	3,564.20	-	- 31.95	0.00	3,532.25
MW-1	03/16/07	3,564.20		31.99	0.00	3,532.21
MW-1	05/14/07	3,564.20	•	32.01	0.00	3,532.19
MW-1	08/28/07	3,564.20	-	32.51	0.00	3,531.69
MW-1	11/05/07	3,564.20	-	32.56	0.00	3,531.64
MW-1	02/07/08	3,564.20		32.55	0.00	3,531.65
MW-1	06/05/08	3,564.20	· •	32.76	0.00	3,531.44
MW-1	08/08/08	3,564.20	-	32.19	0.00	3,532.01
MW-1	11/05/08	3,564.20	-	33.33	0.00	3,530.87
MW-1	02/05/09	3,564.20	-	33.49	0.00	3,530.71
MW-1	05/30/09	3,564.20	-	33.45	0.00	3,530.75
MW-1	08/15/09	3,564.20		33.56	0.00	3,530.64
MW-1	11/19/09	3,564.20	-	33.69	0.00	3,530.51
MW-1	01/13/10	3,564.20	-	33.64	.0.00	3,530.56
MW-1	02/01/10	3,564.20	-	33.25	0.00	3,530.95
MW-1	05/04/10	3,564.20		33.45	0.00	3,530.75
MW-1	08/03/10	3,564.20	-	33.84	0.00	3,530.36
MW-1	11/03/10	3,564.20	-	33.72	0.00	3,530.48
MW-1	02/25/11	3,564.20	-	33.69	0.00	3,530.51
MW-1	05/04/11	3,564.20	-	33.67	0.00	3,530.53
MW-1	08/01/11	3,564.20		33.43	0.00	3,530.77
MW-1	08/08/11	3,564.20	-	33.45	0.00	3,530.75
MW-1	08/09/11	3,564.20	_	33.66	0.00	3,530.54
MW-1	08/15/11	3,564.20	_	33.62	0.00	3,530.58
MW-1	08/22/11	3,564.20	-	33.07	0.00	3,531.13
MW-1	08/29/11	3,564.20	-	33.54	0.00	3,530.66
MW-1	11/10/11	3,564.20	-	33.53	0.00	3,530.67
	7.5	1000		and the second		
MW-2	12/13/06	3,563.83	-	31.64	0.00	3,532.19
MW-2	02/19/07	3,563.83		31.56	0.00	3,532.27
MW-2	03/16/07	3,563.83	_	31.59	0.00	3,532.24
MW-2	05/14/07	3,563.83	-	31.60	0.00	3,532.23
MW-2	08/28/07	3,563.83	-	31.99	0.00	3,531.84
MW-2	11/05/07	3,563.83		31.99	0.00	3,531.84
MW-2	02/07/08	3,563.83	-	32.02	0.00	3,531.81
MW-2	06/05/08	3,563.83		32.12	0.00	3,531.71
MW-2	08/08/08	3,563.83		32.19	0.00	3,531.64
MW-2	11/05/08	3,563.83		32.12	0.00	3,531.71
MW-2	02/05/09	3,563.83	-	32.21	0.00	3,531.62
MW-2	05/30/09	3,563.83		32.24	0.00	3,531.59
MW-2	08/15/09	3,563.83	-	32.25	0.00	3,531.58
MW-2	11/19/09	3,563.83		32.26	0.00	3,531.57
MW-2	01/13/10	3,563.83	-	32.27	0.00	3,531.56
MW-2	02/01/10	3,563.83	-	32.10	0.00	3,531.73
MW-2	05/04/10	3,563.83		32.26	0.00	3,531.57
MW-2	08/03/10	3,563.83		32.27	0.00	3,531.56
MW-2	11/03/10	3,563.83		32.27	0.00	3,531.56
MW-2	02/25/11	3,563.83	_	32.28	0.00	3,531.55

### TABLE 1

### GROUNDWATER ELEVATION DATA

## PLAINS MARKETING, L.P. South Monument Gathering Sour LEA COUNTY, NEW MEXICO PLAINS SRS# 2001-11193

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-2	05/04/11	3,563.83	-	32.26	0.00	3,531.57
MW-2	08/09/11	3,563.83	-	32.22	0.00	3,531.61
MW-2	11/10/11	3,563.83	-	32.30	0.00	3,531.53
	Estato					
MW-3	12/13/06	3,564.42	_	32.12	0.00	3,532.30
MW-3	02/19/07	3,564.42	-	32.13	0.00	3,532.29
MW-3	03/16/07	3,564.42	-	32.18	0.00	3,532.24
MW-3	05/14/07	3,564.42	•	32.19	0.00	3,532.23
MW-3	08/28/07	3,564.42	-	32.69	0.00	3,531.73
MW-3	11/05/07	3,564.42	-	32.74	0.00	3,531.68
MW-3	02/07/08	3,564.42	-	32.73	0.00	3,531.69
MW-3	06/05/08	3,564.42	-	32.91	0.00	3,531.51
MW-3	08/08/08	3,564.42	-	33.31	0.00	3,531.11
MW-3	11/05/08	3,564.42	-	33.52	0.00	3,530.90
MW-3	02/05/09	3,564.42	-	33.37	0.00	3,531.05
MW-3	05/30/09	3,564.42		33.54	0.00	3,530.88
MW-3	08/15/09	3,564.42		33.61	0.00	3,530.81
MW-3	11/19/09	3,564.42		33.84	0.00	3,530.58
MW-3	01/13/10	3,564.42		33.79	0.00	3,530.63
MW-3	02/01/10	3,564.42		33.56	0.00	3,530.86
MW-3	05/04/10	3,564.42		33.37	0.00	3,531.05
MW-3	08/03/10	3,564.42	-	33.68	0.00	3,530.74
MW-3	11/03/10	3,564.42		33.83	0.00	3,530.59
MW-3	02/25/11	3,564.42		33.80	0.00	3,530.62
MW-3	05/04/11	3,564.42		33.81	0.00	3,530.61
MW-3	08/09/11	3,564.42	-	33.83	0.00	3,530.59
MW-3	11/10/11	3,564.42	-	33.97	0.00	3,530.45

### TABLE 2

# PLAINS MARKETING, L.P. SOUTH MONUMENT GATHERING SOUR Lea County, New Mexico Plains SRS# 2001-11193

All concentrations are in mg/kg

Sample Date	Sample Location	Benzene	Toluene	Ethylbenzene	Xylene
NMOCD R	EGULARY LIMIT	0.010	0.750	0.750	0.620
12/13/06	MW-1	0.005	< 0.005	0.0116	0.0165
02/19/07	MW-1	0.0067	< 0.001	0.0049	0.0059
03/16/07	MW-1	0.0082	< 0.001	0.004	0.0036
05/14/07	MW-1	0.0084	< 0.001	< 0.001	0.0028
08/28/07	MW-1	0.0037	< 0.001	< 0.001	< 0.001
11/06/07	MW-1	0.0015	< 0.001	< 0.001	0.0019
02/07/08	MW-1	0.003	< 0.001	< 0.001	0.0380
06/05/08	MW-1	< 0.001	< 0.001	< 0.001	< 0.001
08/08/08	MW-1	< 0.001	< 0.001	< 0.001	< 0.001
11/05/08	MW-1	0.0067	0.0028	0.0019	0.0085
02/05/09	MW-1	< 0.001	<0.001	< 0.001	< 0.001
05/30/09	MW-1	< 0.001	<0.001	< 0.001	<0.001
08/15/09	MW-1	< 0.001	<0.001	<0.001	<0.001
11/19/09	MW-1	<0.001	<0.001	< 0.001	<0.001
02/01/10	MW-1	< 0.001	<0.001	< 0.001	< 0.001
05/04/10	MW-1	<0.001	<0.001	<0.001	<0.001
08/03/10	MW-1	0.14	<0.001	0.0109	0.1100
. 11/03/10	MW-1	0.0141	< 0.001	<0.001	<0.001
02/25/11	MW-1	<0.001	< 0.001	<0.001	< 0.001
05/04/11	MW-1	<0.001	<0.001	< 0.001	<0.001
08/09/11	MW-1	<0.001	< 0.001	<0.001	<0.001
11/10/11	MW-I	<0.001	< 0.001	<0.001	<0.001
7.050		70,001	70.001	0.001	-0,001
12/13/06	MW-2	0.0054	<0.001	< 0.001	<0.001
02/19/07	MW-2	0.0488	< 0.001	0.0115	0.0330
03/16/07	MW-2	0.0362	< 0.001	0.0034	0.0095
05/14/07	MW-2	0.115	< 0.001	0.0152	0.0414
08/28/07	MW-2	0.0665	<0.001	0.0072	0.0165
11/05/07	MW-2	<0.001	<0.001	< 0.001	<0.001
02/07/08	MW-2	0.0016	<0.001	<0.001	<0.001
06/05/08	MW-2	0.0027	<0.001	<0.001	< 0.001
08/08/08	MW-2	0.0019	<0.001	< 0.001	<0.001
11/05/08	MW-2	< 0.001	< 0.001	< 0.001	< 0.001
02/05/09	MW-2	< 0.001	<0.001	< 0.001	<0.001
05/30/09	MW-2	< 0.001	<0.001	<0.001	<0.001
08/15/09	MW-2	< 0.001	<0.001	<0.001	<0.001
11/19/09	MW-2	<0.001	<0.001	<0.001	<0.001
02/01/10	MW-2	< 0.001	<0.001	< 0.001	< 0.001
05/04/10	MW-2	< 0.001	< 0.001	<0.001	<0.001
08/03/10	MW-2	<0.001	<0.001	<0.001	< 0.001
11/03/10	MW-2	0.0047	< 0.001	<0.001	< 0.001
02/25/11	MW-2	<0.001	< 0.001	<0.001	< 0.001
05/04/11	MW-2	<0.001	< 0.001	<0.001	< 0.001
08/09/11	MW-2	<0.001	< 0.001	<0.001	< 0.001
11/10/11	MW-2	<0.001	< 0.001	<0.001	< 0.001
7 17 1 07 1 1	111 T	-0.001	10.001	-0.001	10.001

### TABLE 2

### PLAINS MARKETING, L.P. SOUTH MONUMENT GATHERING SOUR

### Lea County, New Mexico Plains SRS# 2001-11193

All concentrations are in mg/kg

Sample Date	Sample Location	Benzene	Toluene	Ethylbenzene	Xylene	
NMOCD RI	EGULARY LIMIT	0.010	0.750	0.750	0.620	
12/13/06	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
02/19/07	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
03/16/07	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
05/14/07	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
08/28/07	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
11/05/07	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
02/07/08	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
06/05/08	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
08/08/08	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
11/05/08	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
02/05/09	MW-3	< 0.001	< 0.001	< 0.001	0.0036	
05/30/09	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
08/15/09	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
11/19/09	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
02/01/10	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
05/04/10	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
08/03/10	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
11/03/10	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
02/25/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
05/04/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
08/09/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	
11/10/11	MW-3	< 0.001	< 0.001	< 0.001	< 0.001	

# POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER PLAINS MARKETING, L.P. SOUTH MONUMENT GATHERING SOUR LEA COUNTY, NEW MEXICO NMOCD REFERENCE NUMBER RP #951

MOCD NEFENENCE NOMBER IN #33

	2-Methylnaphthalene Dibenzofuran		0.000875 <0.000185	<0.000184 0.000584			<0.000185 <0.000185	<0.000184 <0.000184				<0.000184 <0.000184	<0.000183 <0.00018.	
	I-Methylnaphthalene	.1\ց.ո £0.0	0.00357	<0.000184			<0.000185 < 0.000185 < 0.000185 < 0.000185	< 0.000184				<0.000184	<0.000183	
	analadiidgaV,		85 0.00173	84 0.00043			85 < 0.00018	84 < 0.000184				84 < 0.000184	83 <0.000183	
	Ругепе	J\gm 100.0	58 <0.000185	27 <0.000184				184 <0.000184				184 <0.000184	183 <0.000183	
	Phenanthrene	J\gm 100.0	0185 0.000758	0184 0.000627			0185 <0.000185	0184 < 0.000184				0184 < 0.000184	0183 <0.000183	
	Fluorene	J\2m 100.0 J\2m \0000.0	0.000922 <0.000185	<0.000184 <0.000184			<0.000185 <0.000185	<0.000184 <0.000184				<0.000184 <0.000184	<0.000183 <0.000183	
3510	Pluoranthene	J\gm 100.0	<0.000185 0.00	<0.000184 <0.0				<0.000184 <0.0				<0.000184 <0.0	<0.000183 <0.0	
EPA SW846-8270C,	onsografing[d,a xnsdiQ	J\gm £000.0	<0.000185	<0.000184			<0.000185 < 0.000185 < 0.000185	<0.000184				<0.000184	<0.000183	
EPA S	Chrysene	J\gm 5000.0	35 <0.000185	34 < 0.000184			3 <0.000185	34 < 0.000184	1			34 < 0.000184	33 <0.000183	
	Benzo k Пиоганіћене	J\2m 100.0	85 <0.000185	84 <0.00018	ring Event.	ring Event.	85 < 0.00018	84 < 0.000184	ring Event.	ring Event.		84 < 0.000184	83 <0.000183	
	Benzolg,h,i perylene		0.000185 < 0.000185	0.000184 < 0.000184 < 0.000184	Quarterly Monitoring Event	Quarterly Monitoring Even	0.000185 < 0.000185	0.000184 < 0.000184	Quarterly Monitoring Event	Quarterly Monitoring Event		0.000184 < 0.000184	0.000183 < 0.000183	
	Benzo[a]pyyene Benzo[b]fluoranthene	J\gm 7000.0 J\gm 100.0		l v	J		ľ	v				ľ	V	
	Benzo[a]anthracene	J\gm 1000.0	<0.000185 <0.000185	<0.000184   <0.000184   <0.000184   <0.000184   <0.000184	Not Sampled as part o	Not Sampled as part or	<0.000185   <0.000185   <0.000185   <0.000185	<0.000184 <0.000184 <0.000184 <0.000184	Not Sampled as part or	Not Sampled as part o		<0.000184 <0.000184	<0.000183 < 0.000183 < 0.000183 < 0.000183	
	эпээктийп∆	J\gm 100.0	<0.000185	<0.000184			<0.000185	<0.000184			200	<0.000184 <0.000184 <	<0.000183	
	ənəliyihiqanəəA		5 <0.000185	1 <0.000184			5   <0.000185					₩	3 <0.000183	
	АсепарМіћепе		<0.000185	Н			+-	<0.000184				<0.000184	< 0.000183	
	SAMPLE N DATE	Contaminani N:M Iking water :ctions 1- 3-103.A.	11/05/08	11/19/09	11/03/10	11/10/11	11/05/08	11/19/09	11/03/10	11/10/11		11/05/08	11/19/09	
	SAMPLE LOCATION	Maximum Contaminan Levels from NM WQCC Drinking water standards Sections 1- 101.UU and 3-103.A.	MW-1				MW-2					MW-3		

### Hansen, Edward J., EMNRD

From:

Jason Henry [JHenry@paalp.com] Thursday, March 29, 2012 8:16 AM

Sent:

Hansen, Edward J., EMNRD

To: Cc:

Jeffrey P Dann

Subject:

FW: ARCHIVE: South Monument Gathering Sour (12021001)

Attachments:

South Monument Gathering Sour Report.pdf

Ed,

Attached is the 1Q 2012, South Monument Gathering Sour (1R-951) analytical report that you requested.

Please let me know if you have any questions or need more information.

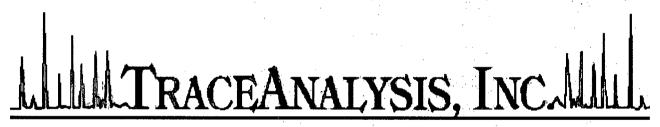
Thank you, Jason Henry 575-441-1099

**From:** emr@traceanalysis.com [mailto:emr@traceanalysis.com]

Sent: Thursday, February 16, 2012 5:28 PM

To: Shawn M Harris; Jason Henry; Margie L Minchew

**Subject:** Fwd: ARCHIVE: South Monument Gathering Sour (12021001)



Carla Terry TraceAnalysis, Inc. (806) 794-1296 6701 Aberdeen Ave., Suite 9 Lubbock, TX 79424

From: rrounsaville@novatraining.cc

To: emr@traceanalysis.com

Sent: Thursday, February 16, 2012 5:28:00 PM

Subject: ARCHIVE: South Monument Gathering Sour (12021001)

TraceAnalysis, Inc.

(attachments enclosed)

Work Order:

12021001

Contact Person: Ron Rounsaville

Project Location: South of Monument, NM

Project Name: South Monument Gathering Sour

Project Number: 2001-11193

\_\_\_\_\_\_

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E-Mail: lab@traceanalysis.com

### Certifications

### NCTRCA DBE **NELAP** DoDLELAP Oklahoma ISO 17025 Kansas

### Analytical and Quality Control Report

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

Report Date: February 16, 2012

Work Order:

12021001

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Project Location:

South of Monument, NM

Project Name:

South Monument Gathering Sour

Project Number: 2001-11193

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

			Date	$\operatorname{Time}$	Date		
Sample	Description	Matrix	Taken	Taken	Received		
288691	MW 3	water	2012-02-09	15:15	2012-02-10		
288692	MW 2	water	2012-02-09	15:15	2012-02-10		
288693	MW 1	water	2012-02-09	15:30	2012-02-10		

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.

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

### Report Contents

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### Case Narrative

Samples for project South Monument Gathering Sour were received by TraceAnalysis, Inc. on 2012-02-10 and assigned to work order 12021001. Samples for work order 12021001 were received intact without headspace and at a temperature of 7.3 C. Samples were received on ice.

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

		Prep	Prep	QC	Analysis	
Test	Method	Batch	Date	Batch	Date	
BTEX	S 8021B	75244	2012-02-15 at 09:50	88644	2012-02-15 at 10:08	

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 12021001 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.

Work Order: 12021001 South Monument Gathering Sour

Page Number: 4 of 10 South of Monument, NM

### **Analytical Report**

Sample: 288691 - MW 3

Laboratory: Midland

Analysis: BTEX QC Batch: 88644 Prep Batch: 75244

Analytical Method: S 8021B Date Analyzed:

2012-02-15 Sample Preparation: 2012-02-15

Prep Method: S 5030B Analyzed By: tc

Prepared By:

			$\operatorname{RL}$			
Parameter	Flag	$\operatorname{Cert}$	Result	Units	Dilution	RL
Benzene	U	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	Ŭ	1	< 0.00100	${ m mg/L}$	1	0.00100

				• •		Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	$\operatorname{Limits}$
Trifluorotoluene (TFT)			0.115	mg/L	1	0.100	115	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0738	mg/L	1	0.100	74	51.1 - 122.9

Sample: 288692 - MW 2

Laboratory: Midland

BTEXAnalysis: QC Batch: 88644 Prep Batch: 75244

Analytical Method: S 8021B Date Analyzed: 2012-02-15 Sample Preparation: 2012-02-15

Prep Method: S 5030B Analyzed By: tcPrepared By:

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

						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.116	mg/L	1	0.100	116	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0741	${ m mg/L}$	1	0.100	74	51.1 - 122.9

Report Date: February 16, 2012 2001-11193

Work Order: 12021001 South Monument Gathering Sour

Page Number: 5 of 10 South of Monument, NM

Sample: 288693 - MW 1

Laboratory: Analysis: QC Batch:

MidlandBTEX

Analytical Method: 88644 Date Analyzed: Prep Batch: 75244

S 8021B 2012-02-15 Prep Method: S 5030B

Sample Preparation: 2012-02-15 Analyzed By: tcPrepared By:

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

C	1731	<b>Q</b> ,	D 1	TT **	Du	Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	$\operatorname{Limits}_{\scriptscriptstyle{`}}$
Trifluorotoluene (TFT)			0.104	mg/L	. 1	0.100	104	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0681	$_{ m mg/L}$	1	0.100	68	51.1 - 122.9

Report Date: February 16, 2012 2001-11193

Work Order: 12021001 South Monument Gathering Sour

Page Number: 6 of 10 South of Monument, NM

### Method Blanks

Method Blank (1)

QC Batch: 88644

QC Batch:

88644

Date Analyzed:

2012-02-15

Analyzed By: tc

Prep Batch: 75244

QC Preparation: 2012-02-15

Prepared By: tc

			$\operatorname{MDL}$		
Parameter	$\operatorname{Flag}$	Cert	Result	Units	RL
Benzene		1	< 0.000600	m mg/L	0.001
Toluene		1	< 0.000400	${ m mg/L}$	0.001
Ethylbenzene		1	< 0.000600	${ m mg/L}$	0.001
Xylene		1	< 0.00130	${ m mg/L}$	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.118	mg/L	1	0.100	118	74.2 - 126
4-Bromofluorobenzene (4-BFB)			0.0851	mg/L	1	0.100	85	54.3 - 104.6

Report Date: February 16, 2012 2001-11193

Work Order: 12021001 South Monument Gathering Sour

Page Number: 7 of 10 South of Monument, NM

### Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2012-02-15

Analyzed By: tc

Prep Batch: 75244

QC Preparation: 2012-02-15

Prepared By: tc

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
Benzene		1	0.102	mg/L	1	0.100	< 0.000600	102	89.7 - 117.6
Toluene		1	0.102	mg/L	1	0.100	< 0.000400	102	83.9 - 113.9
Ethylbenzene		1	0.0982	mg/L	1	0.100	< 0.000600	98	76.8 - 110.8
Xylene		1	0.286	mg/L	1	0.300	< 0.00130	95	76.2 - 110.5

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

		LCSD			Spike	Matrix		Rec.		RPD
Param I	r C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	1	0.105	mg/L	1	0.100	< 0.000600	105	89.7 - 117.6	3	20
Toluene	1	0.104	mg/L	1	0.100	< 0.000400	104	83.9 - 113.9	2	20
Ethylbenzene	1	0.102	mg/L	1	0.100	< 0.000600	102	76.8 - 110.8	4	20
Xylene	1	0.294	mg/L	1	0.300	< 0.00130	98	76.2 - 110.5	3	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)	0.109	0.110	mg/L	1	0.100	109	110	72.5 - 117
4-Bromofluorobenzene (4-BFB)	0.0913	0.0948	$\mathrm{mg/L}$	1	0.100	91	95	69.4 - 114

Matrix Spike (MS-1)

Spiked Sample: 288673

QC Batch: Prep Batch: 75244

88644

Date Analyzed:

2012-02-15 QC Preparation: 2012-02-15

Analyzed By: tc Prepared By: tc

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.14	mg/L	10	1.00	0.0304	111	86.6 - 130.3
Toluene		1	1.07	${ m mg/L}$	10	1.00	< 0.00400	107	82.2 - 120.1
Ethylbenzene		1	1.71	${ m mg/L}$	10	1.00	0.678	103	66.8 - 119.2
Xylene		1	2.92	m mg/L	10	3.00	< 0.0130	97	66.5 - 118.4

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

Report Date: February 16, 2012 2001-11193

Work Order: 12021001 South Monument Gathering Sour Page Number: 8 of 10 South of Monument, NM

Param	F	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.07	mg/L	10	1.00	0.0304	104	86.6 - 130.3	6	20
Toluene		1	1.00	mg/L	10	1.00	< 0.00400	100	82.2 - 120.1	7	20
Ethylbenzene		1	1.64	mg/L	10	1.00	0.678	96	66.8 - 119.2	4	20
Xylene		1	2.78	mg/L	10	3.00	< 0.0130	93	66.5 - 118.4	5	20

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

	MS	MSD			$\operatorname{Spike}$	MS	MSD	${ m Rec.}$
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	1.16	1.11	mg/L	10	1	116	111	73.2 - 116.6
4-Bromofluorobenzene (4-BFB)	0.928	0.878	mg/L	10	1	93	88	64.8 - 125.7

Report Date: February 16, 2012 2001-11193

Work Order: 12021001 South Monument Gathering Sour Page Number: 9 of 10 South of Monument, NM

### Calibration Standards

### Standard (CCV-1)

QC Batch: 88644

Date Analyzed: 2012-02-15

Analyzed By: tc

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	2012-02-15
Toluene		1	${ m mg/L}$	0.100	0.0950	95	80 - 120	2012-02-15
Ethylbenzene		1	mg/L	0.100	0.0904	90	80 - 120	2012-02-15
Xylene		1	mg/L	0.300	0.264	88	80 - 120	2012-02-15

### Standard (CCV-2)

QC Batch: 88644

Date Analyzed: 2012-02-15

Analyzed By: tc

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.110	110	80 - 120	2012-02-15
Toluene		1	$_{ m mg/L}$	0.100	0.105	105	80 - 120	2012-02-15
Ethylbenzene		1	mg/L	0.100	0.0997	100	80 - 120	2012-02-15
Xylene		1	mg/L	0.300	0.289	96	80 - 120	2012-02-15

Page Number: 10 of 10 South of Monument, 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	T104704392-11-3	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.

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Order
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email: lab@traceanalysis.com

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200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (868) 588-3443

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