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Annual GW Mon. REPORTS

DATE:
2009



2009 ANNUAL MONITORING REPORT

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Environmental Bureau

SOUTH MONUMENT GATHERING SOUR Oil Conservation Division

NW 1/4, NE 1/4, SECTION 5, TOWNSHIP 20 SOUTH, RANGE 37 EAST LEA COUNTY, NEW MEXICO PLAINS SRS # 2001-11193 RP #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

February 2010

Ronald K. Rounsaville

Senior Project Manager

Brittan K. Byerly, P.

President

TABLE OF CONTENTS

INTRODUCTION
SITE DESCRIPTION AND BACKGROUND INFORMATION
FIELD ACTIVITIES2
LABORATORY RESULTS2
SUMMARY3
ANTICIPATED ACTIONS4
LIMITATIONS4
DISTRIBUTION5
FIGURES Figure 1 – Site Location Map
Figure 2A – Inferred Groundwater Gradient Map February 5, 2009 2B – Inferred Groundwater Gradient Map May 30, 2009 2C – Inferred Groundwater Gradient Map August 15, 2009 2D – Inferred Groundwater Gradient Map November 19, 2009
3A – Groundwater Concentration and Inferred PSH Extent Map February 5, 2009 3B – Groundwater Concentration and Inferred PSH Extent Map May 30, 2009 3C – Groundwater Concentration and Inferred PSH Extent Map August 15, 2009 3D – Groundwater Concentration and Inferred PSH Extent Map November 19, 2009
TABLES Table 1 – 2009 Groundwater Elevation Data Table 2 – 2009 Concentrations of BTEX and TPH in Groundwater Table 2 – 2009 Concentrations of PAH in Groundwater
APPENDICES

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

ENCLOSED ON DATA DISK

2009 Annual Monitoring Report

2009 Tables 1, 2 and 3 - Groundwater Elevation, BTEX, TPH and PAH Concentration Data 2009 Figures 1, 2A-2D, and 3A-3D

Electronic Copies of Laboratory Reports

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

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 2009 only. However, historic data tables as well as 2009 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 2009 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 collected 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 and existing 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 these areas.

On September 13, 2006, a backhoe was utilized to excavate five investigation trenches along the reported crude oil flow path. The result of trenching activities in the flow path indicated hydrocarbon impact is 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.

Currently, three monitor wells are located on site.

FIELD ACTIVITIES

Groundwater Monitoring

During the 2009 reporting period, measurable PSH or hydrocarbon sheen was not observed in any of the site monitor wells. The 2009 gauging data is provided in Table 1.

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

Sampling	Schedule
MW-1	Quarterly
MW-2	Quarterly
MW-3	Quarterly

The site monitor wells were gauged and sampled on February 5, May 30, August 15, and November 19, 2009. 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 2009 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-1. The corrected groundwater elevation has ranged between 3,530.51 and 3,531.62 feet above mean sea level, in monitor wells MW-1 on November 19, 2009 and MW-2 on February 5, 2009, 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 2009 were delivered to TraceAnalysis, Inc. in Midland, Texas for determination of Benzene, Toluene, Ethyl-benzene and Xylene (BTEX) constituent concentrations by EPA Method 8021B, and Polynuclear Aromatic Hydrocarbons (PAH) concentrations by EPA Method 8270C. A listing of BTEX constituent concentrations for 2009 are summarized in Table 2 and the PAH constituent concentrations for 2009 are summarized in Table 3. Copies of the laboratory reports generated for 2009 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 the last fourteen consecutive quarters. PAH analysis during the 4th quarter sampling event indicated detectable concentrations above MDLs for naphthalene (0.00043 mg/L), phenanthrene (0.000627 mg/L) and dibenzofuran (0.000584 mg/L), which are below the WQCC Drinking Water Standards.

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 nine consecutive quarters. PAH analysis during the 4th quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

Monitor well MW-3 is sampled on a quarterly schedule and analytical results indicate benzene, toluene and ethyl-benzene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. Xylene concentrations ranged from <0.001 mg/L during the 2nd, 3rd and 4th quarters to 0.0036 mg/L during the 1st quarter of the reporting period. Xylene concentrations were below NMOCD during all four quarters of 2009. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last fourteen consecutive quarters. PAH analysis during the 4th quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

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 2009. 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 2009 monitoring period indicates BTEX and PAH constituent concentrations

were below NMOCD regulatory standard in all three monitor wells during the 2009 reporting period. BTEX concentrations have been below NMOCD regulatory standards for a minimum of nine consecutive quarters in monitor well MW-2 and a minimum of fourteen consecutive quarters for MW-1 and MW-3. Review of PAH analysis indicates a decreasing trend in constituent concentrations in monitor well MW-1 as compared to the 2008 PAH analytical data.

ANTICIPATED ACTIONS

Review of the laboratory analysis for the groundwater samples collected and analyzed over the past several years indicates that BTEX constituent concentrations have been below the NMOCD criteria for at least eight consecutive quarters and as such, NOVA recommends sampling and analysis be discontinued and the monitor wells properly plugged and abandoned.

LIMITATIONS

1

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

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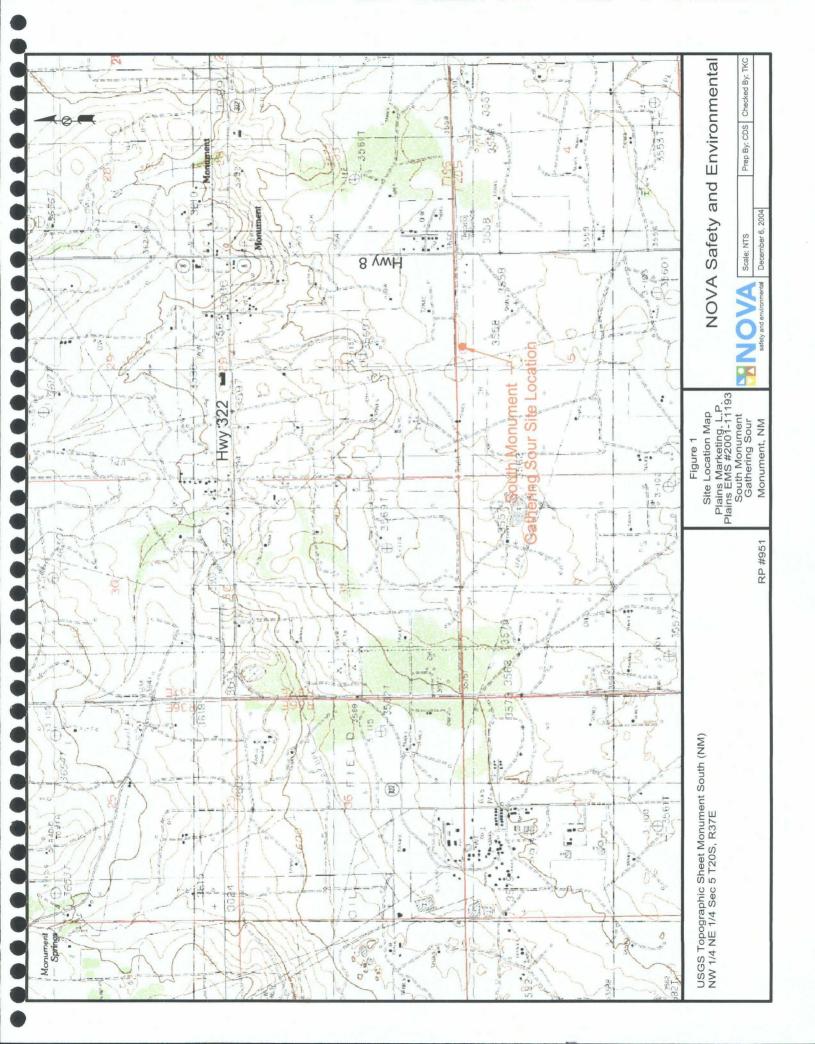
Houston, TX 77002 jpdann@paalp.com

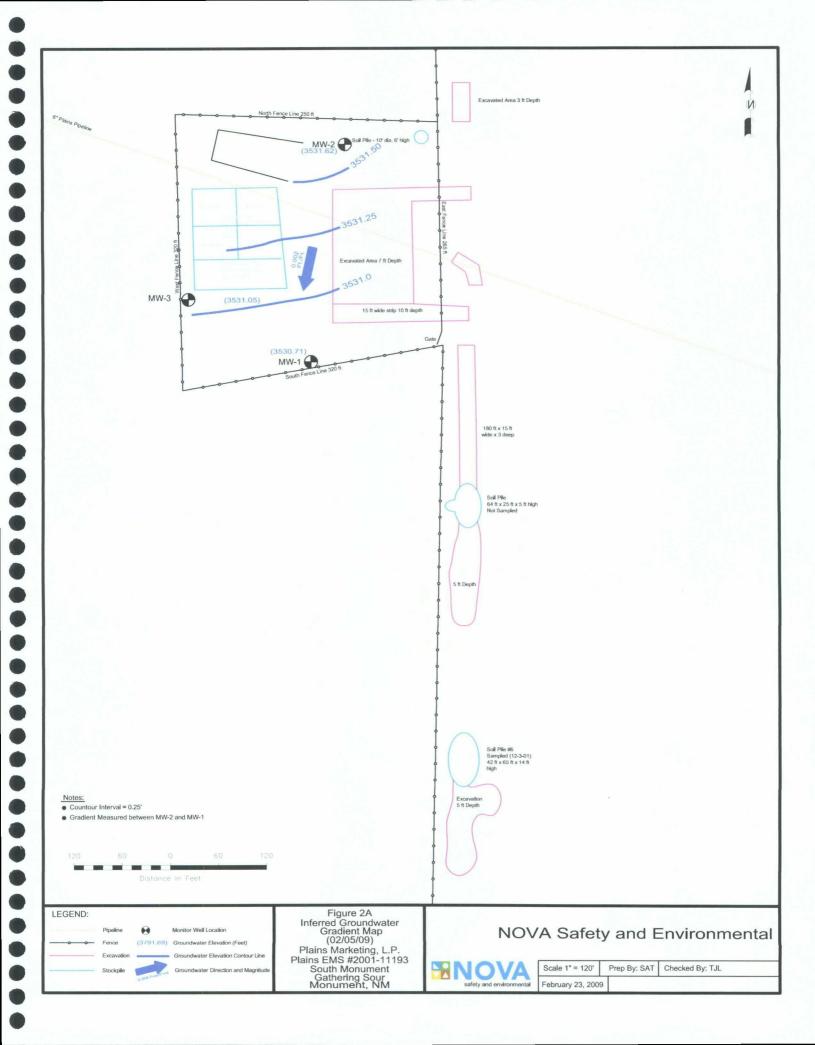
Copy 5: NOVA Safety and Environmental

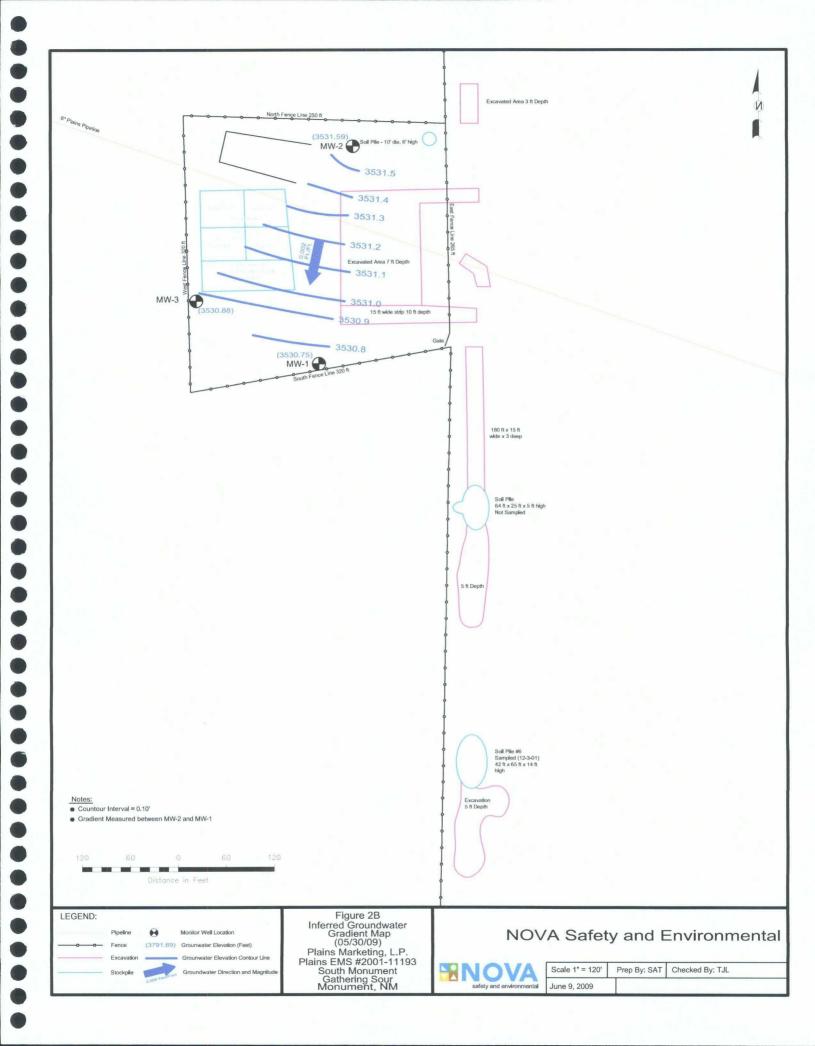
2057 Commerce Street Midland, TX 79703

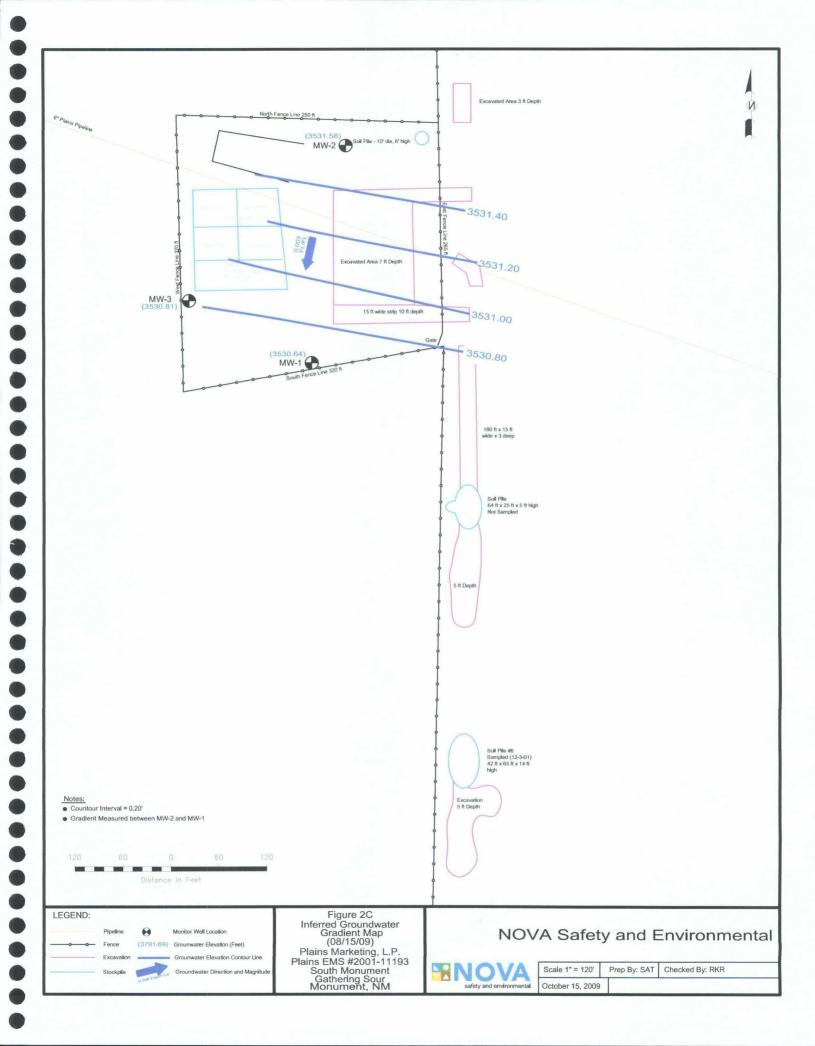
rrounsaville@novatraining.cc

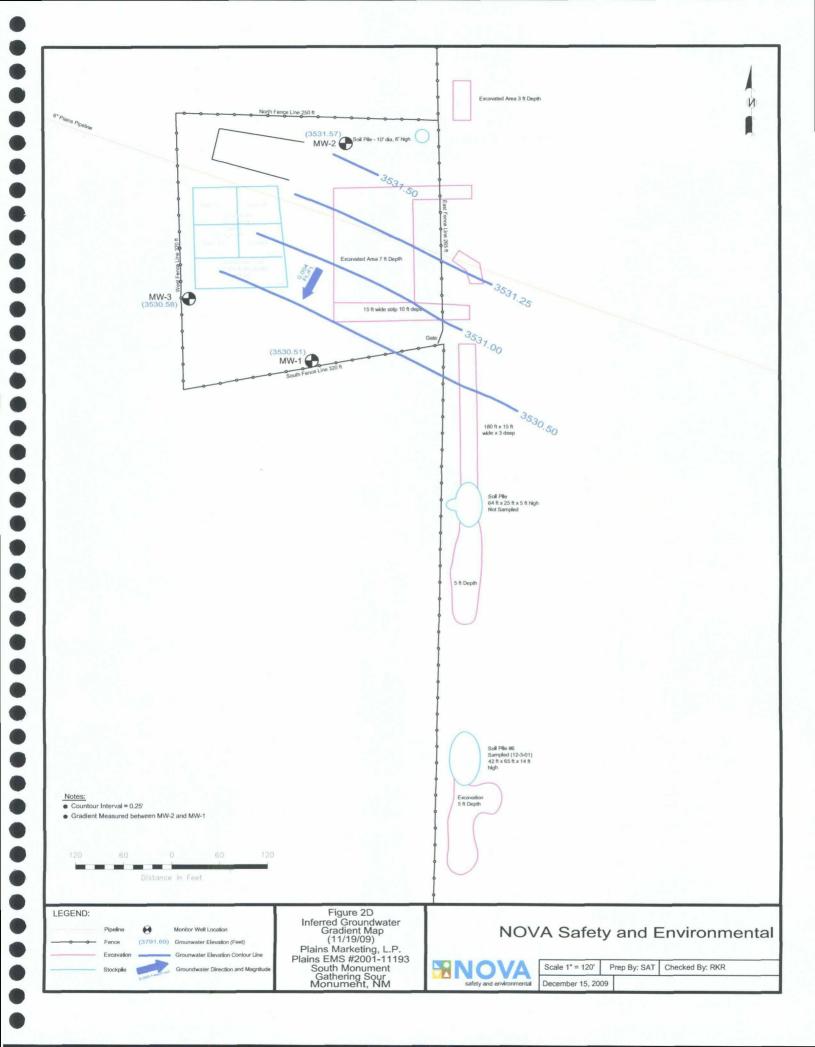
Figures

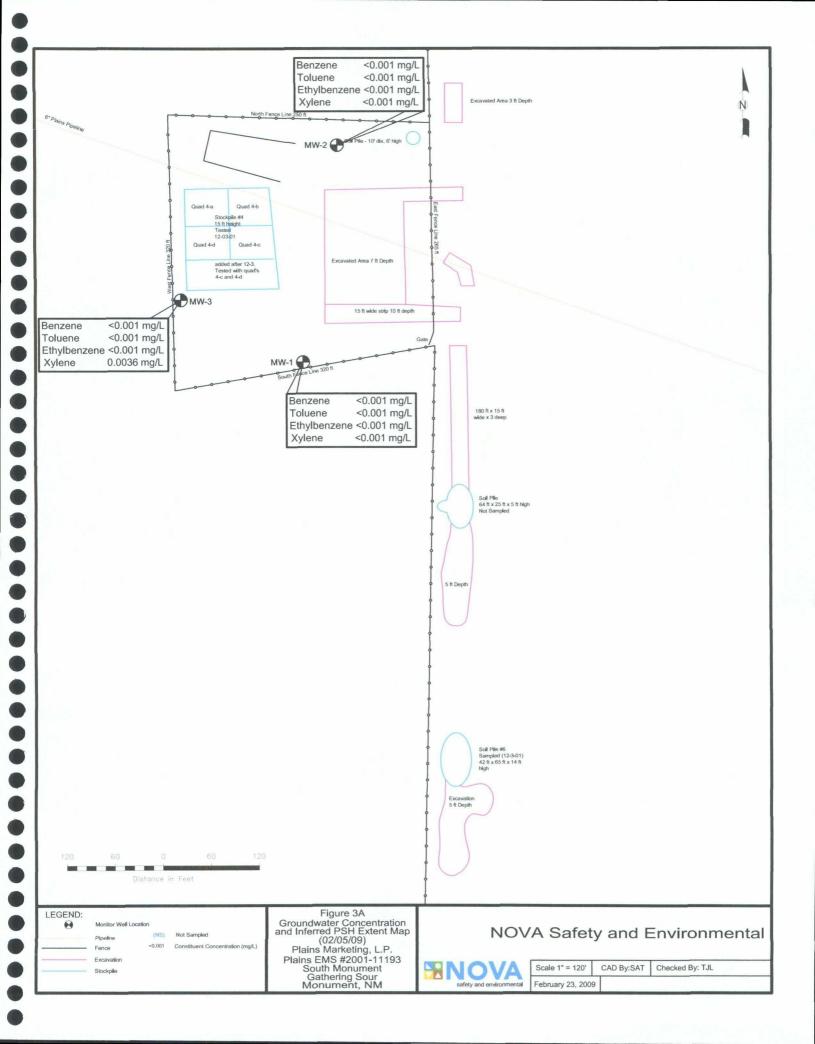


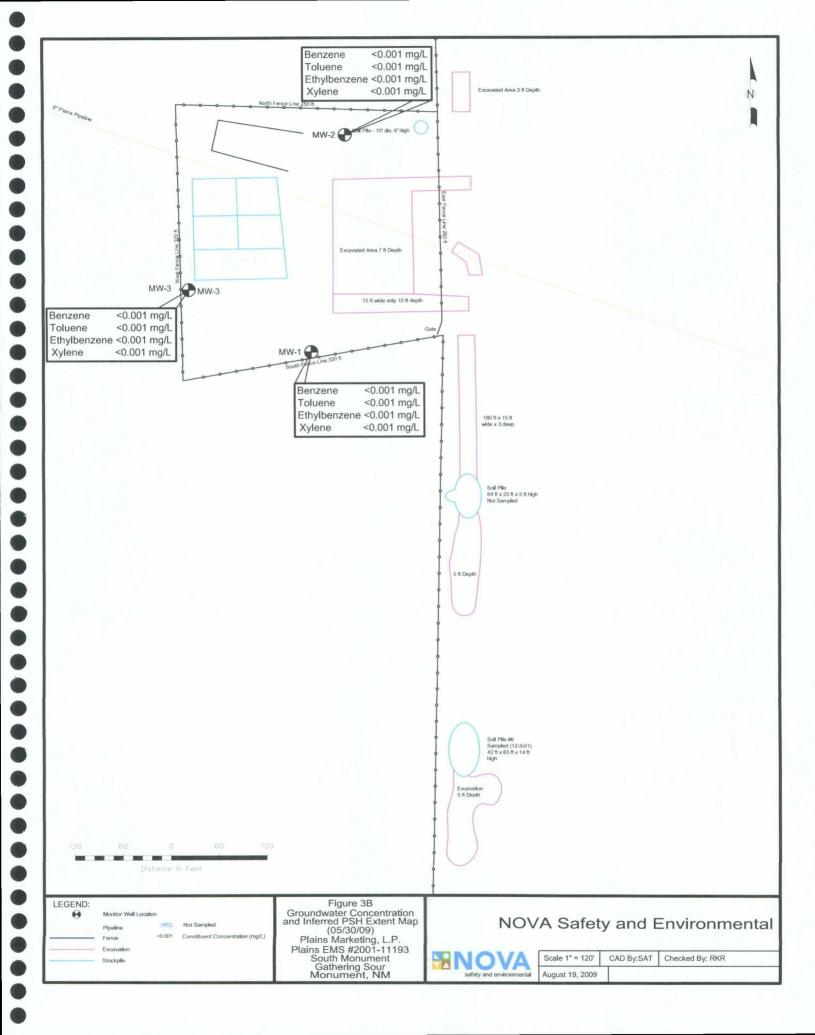


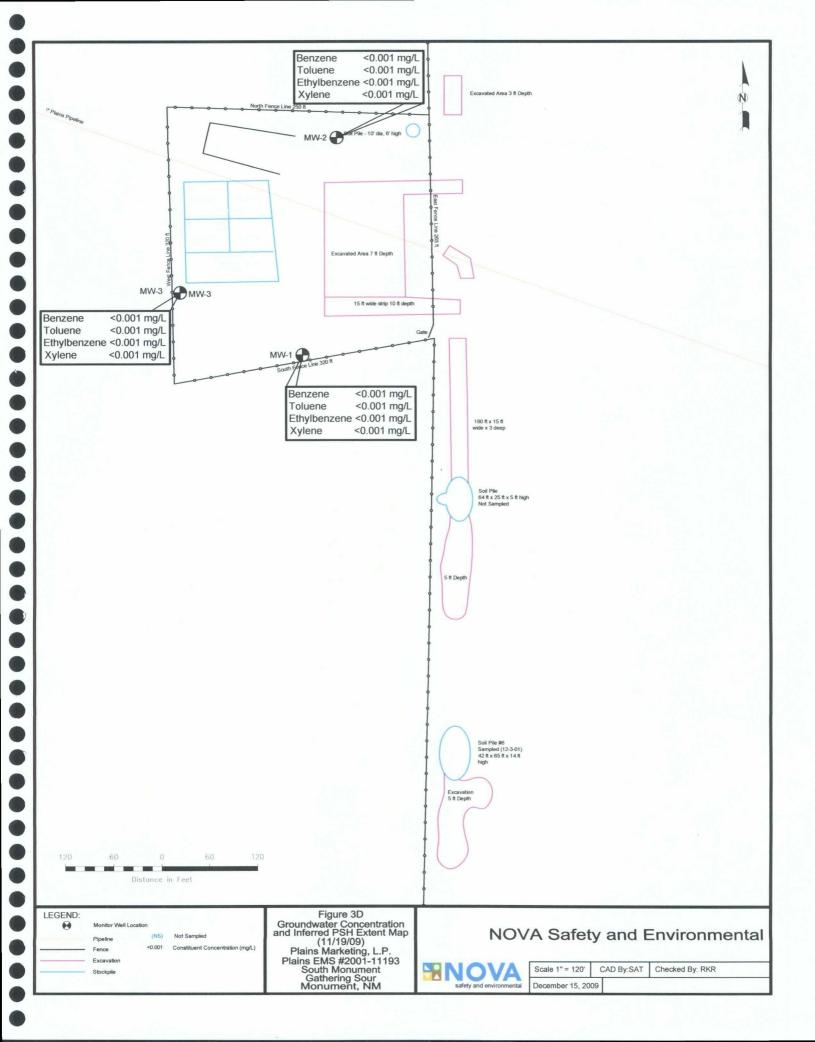


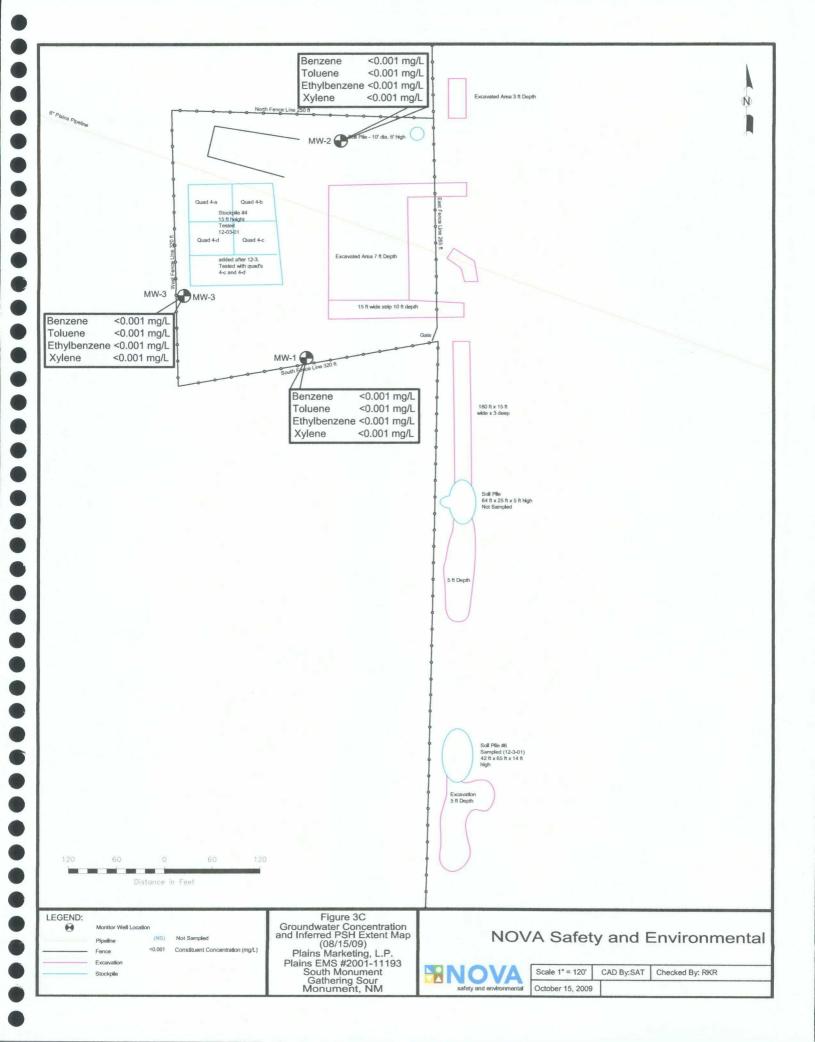












Tables

TABLE 1

2009 - 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-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-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-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

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

TABLE 2

2009 - CONCENTRATIONS OF BTEX IN GROUNDWATER

PLAINS MARKETING, L.P. SOUTH MONUMENT GATHERING SOUR Lea County, New Mexico NMOCD REFERENCE NUMBER RP-951

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	
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			< 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	8/15/09 MW-2		< 0.001	< 0.001	< 0.001	
11/19/09	1/19/09 MW-2		< 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	

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

TABLE 3

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POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

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

All water concentrations are reported in mg/L

	Dibenzoluran	_	0.000584		<0.000185	<0.000184		<0.000184	<0.000183	
	2-Methylnaphthalene		0.0000875	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183 <0.000183
	1-Methylnaphthalene	. J\3m £0.0	0.00357	<0.000184		<0.000185	<0.000184		<0.000184	
	Pyrene	<0.000185	<0.000184	1000	<0.000185	<0.000184		<0.000184	<0.000183 <0.000183	
	Phenanthrene	0.000758	0.000627		<0.000185	<0.000184		<0.000184	<0.000183	
	Naphthalene	0.00173	0.00043		<0.000185	<0.000184		<0.000184	<0.000183	
	Indeno[1,2,3-cd)pyrene	.I\zan \$000.0	<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183
	Fluorene		0.000922	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183
3510	Fluoranthene		<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183
EPA SW846-8270C, 3510	Dibenz[a,h]anthracene	J\3m £000.0	<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183
EPA SW8	Сргузепе	J\3m 2000.0	<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183
	Benzo[k]Iluoranthene	J\3m 2000.0	<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	0.000183
	Reuzo[E'p';]betAjeue	_	<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183 <0.000183
	Benzo[b]Auoranthene	J\3m 2000.0	<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	3183
	Benzo[a]pyrene	J\3m 7000.0	<0.000185	<0.000184			<0.000184		0.000184 <	0.000183
	Benzo[z]anthracene	J\3m 1000.0	<0.000185	<0.000184		<0.000185	<0.000184		<0.000184 <0.000184	<0.000183
	Апідгасепе			<0.000184 <0.000184		<0.000185	<0.000184		0.000184	0.000183
	Acensphihylene	_	<0.000185 <0.000185	<0.000184		<0.000185 <0.000185 <0.000185 <0.000185	<0.000184	-	<0.000184 <0.000184	<0.000183
	Acenaphthene		<0.000185	<0.000184		<0.000185	<0.000184		<0.000184	<0.000183 <0.000183 <0.000183 <0.000183 <0.000183 <0.000183 <0.000183
	SAMPLE DATE	aminant I WQCC ns 1- ns 1-	> 80/50/11	> 60/61/11		11/05/08 <	> 60/61/11		11/05/08 <	> 60/61/11
•	SAMPLE SO	Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1- 101.UU and 3-103.A.	MW-1	1		MW-2	7		MW-3	
	SAMPLE	Maximum C. Levels from 1 Drinking wat standards See	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 1301 W. Grand Avenue, Artesia, NM 88210 District III
1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural Resources**

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

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

Form C-141

Revised October 10, 2003

side of form

Release Notification and Corrective Action

						OPER.	ATOR		x Initia	al Report		Final Re	eport
Name of Company Plains Marketing, LP							nille Reynolds						
Address 5805 East Hwy. 80, Midland, TX 79706							No. 505-441-09						
Facility Name South Monument Gathering Sour						Facility Type 6"Steel Pipeline							
Surface Ow	ner Jimmi	e Cooper	r Lease No.										
				LOCA	TIO	N OF REI	LEASE						
Unit Letter	Section	Township	Range	Feet from the		h/South Line	Feet from the	East/W	est Line	County			
B	5	208	37E	1 cot mont the	11010	in Bouin Emo	T cot nom the	I I I I I I I I I I I I I I I I I I I	ost Eme	Lea			
								<u> </u>					
		Latitud	de_32°36	5'29.0"		_ Longitude	103° 16' 26.8"	, 		_			
				NAT	URF	OF REL	EASE						
Type of Rele	ase Crude (Oil .					Release 1200 bar	rrels	Volume F	Recovered 91	0 barre	ls	
Source of Re							lour of Occurrence			Hour of Disc			
						11-20-01			11-20-01				
Was Immedi	ate Notice (If YES, To							
		x `	Yes 🔲	No Not Req	uired	Paul Sheel	ey						
By Whom? F							lour 11-20-01@1						
Was a Water	course Read		F7	l sr		If YES, Vo	olume Impacting t	the Wate	rcourse.				
		L	Yes 🛭	No									
Describe Are Initial responsoil and ground NOTE: This information	a Affected se activities ndwater inv informatic to be corre	and Cleanup As included exceptigation and on was obtain ect.	Action Tak avation an I preparati	n Taken.* Interna ken.* The crude o ad stockpiling of a on of a remedial a	il was pproxi action p	vacuumed up imately 5,000 t plan. Plains acquire	and the impacted o 7,000 cubic yar	soil was ds of soi	excavated l. Future r	and stockpil response active	ed on p vities w	plastic. vill includ	de a
regulations a public health should their or or the environ	I operators or the envi- operations hament. In a	are required to ronment. The nave failed to a	o report ar acceptance adequately OCD accep	e is true and complete is true and complete of a C-141 report investigate and restance of a C-141 report invest	elease rt by t emedia	notifications as he NMOCD mate contaminati	nd perform correct arked as "Final R on that pose a thr e the operator of	ctive acti eport" de eat to gr responsi	ons for relopes not reloound water bility for c	eases which ieve the oper r, surface wa ompliance w	may en- ator of ter, hun ith any	danger liability nan healt	th
							OIL CON	<u>SERV</u>	<u>ATION</u>	DIVISIO	<u>N</u>		
Signature:													
Printed Name	e: Camille F	Reynolds				Approved by	District Supervis	or:					
						Approval Dat	e:	Expiration Date:					
E-mail Addre	E-mail Address: cjreynolds@paalp.com					Conditions of	Approval:			Attached			
Date: 12-29-04 Phone:505-441-0965													
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