3R - 410

ANNUAL MONITORING REPORT

05/04/2009

3R410

RECEIVED RECEIVED AMERICA PRODUCTION CO. MAY 4 AM 9 45

GROUNDWATER REMEDIATION REPORT

SAMMONS GC F #1
(A) SECTION 18, T29N, R9W, NMPM
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
NEW MEXICO OIL CONSERVATION DIVISION
1220 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87504

APRIL 2009

PREPARED BY: BLAGG ENGINEERING, INC.

Consulting Petroleum / Reclamation Services
P.O. Box 87
Bloomfield, New Mexico 87413

BP AMERICA PRODUCTION COMPANY SAMMONS GC F # 1 – Production Tank Pit NE/4 NE/4, Sec. 18, T29N, R9W

Monitor Well Installation Dates: 11/01/06 (MW #2A), 8/29/07 (MW #1A & #3A)

Monitor Well Sampling Dates: 4/4/08, 6/27/08, 8/25/08, 12/19/08

Site History:

A groundwater impact was identified following closure of a production tank pit in August 2004. Documentation for this work and subsequent groundwater monitoring data for the site have previously been submitted for New Mexico Oil Conservation Division (**NMOCD**) review. Further limited excavation of the source area was suggested within the report. The reporting herein is for site monitoring from June 2008 only.

Groundwater Monitor Well Sampling Procedures:

Each monitor well was developed by hand-bailing, using new disposable bailers after installation. Prior to sample collections, each monitor well was purged approximately three (3) well bore volumes with new disposable bailers. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B or 8260 was conducted.

Fluids generated during monitor well development and purging was managed by discarding into the separator below-grade tank (BGT) located on the well site. The BGT contents are then disposed through approved NMOCD operational procedures for removal of produced fluids.

Water Quality and Gradient Information:

MW #2A has tested with total xylenes fluctuations below and above the New Mexico Water Quality Control Commission (NMWQCC) standards since its installation. Down gradient delineation appears to have been achieved, based on test results of MW #3A. A summary of BTEX laboratory analytical results is included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included.

Groundwater contour maps of relative water table elevations have consistently been measure to flow in the southwest direction toward MW #3A (Figure 2 through Figure 4).

Summary and/or Recommendations:

Limited excavation of the impacted soil at the source area is still recommended. Thereafter, installation of a replacement monitor well and continue quarterly sampling until a minimum of four (4) consecutive sampling events below NMWQCC standards has been attained. Bi-annual sampling of MW #2A is currently suggested unless circumstances dictate otherwise.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS SUBMITTED BY BLAGG ENGINEERING, INC.

SAMMONS GC F #1 - PROD. TANK PIT UNIT A, SEC. 18, T29N, R9W

REVISED DATE: January 8, 2009

FILENAME: (SF1-4Q08.WK4) NJV

								ВТЕХ	EPA METH	OD 8021B (ppb)
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D.	TDS (mg/L)	COND. umhos	рН	PRODUCT	Benzene	Toluene	Ethyl Benzene	Total Xylene
19-Sep-07	MW #1A	5.25	15.00		700	6.86		ND	ND	ND	ND
14-Nov-06	MW #2A	6.05	13.00		1,300	6.96		10	ND	14	1,000
26-Feb-07		5.92			1,500	6.91		ND	ND_	ND	670
22-May-07		3.86			900	6.78		14	ND	ND	270
16-Aug-07		5.12			1,200	6.73		4.9	ND	7.8	2,300
03-Dec-07		3.83	11.22		1,200	7.12		3.7	3.4	2.1	1,200
04-Apr-08		2.59			1,000	6.90		2.3	ND	1.2	1,100
27-Jun-08		1.31			1,200	6.97		3.8	ND	ДИ	534
25-Aug-08		2.65			1,100	7.03		3.0	ND	ND	1,700
	duplicate	и		l	H .	"		3.3	ND	ND	1,700
19-Dec-08		4.09			900	7.30		2.2	ND	ND	740
19-Sep-07	MW #3A	3.11	13.50		900	6.74		ND	ND	ND	ND
03-Dec-07		3.49			900	7.11		ND	ND	ND	ND
04-Apr-08		2.15			900	6.88		ND	ND	ND	ND
27-Jun-08		0.94			800	7.02		ND	ND	ND	ND
		NMW	QCC GR	OUNDV	VATER S	TANDA	ARDS	10	750	750	620

NOTES: 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS.

- 2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PROCEEDING RESULTS EXCEEDED.
- 3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10).

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS), ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE

1A **FIGURE**





BP AMERICA PRODUCTION CO.

SAMMONS GC F # 1

NE/4 NE/4 SEC. 18, T29N, R9W

SAN JUAN COUNTY, NEW MEXICO

DRAWN BY: NJV BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

BLOOMFIELD, NEW MEXICO 87413 P.O. BOX 87

PHONE: (505) 632-1199

PROJECT: MW INSTALLATION

FILENAME: SAMMONS GC F 1-SM2.SKF

REVISED: 08-23-07

SITE

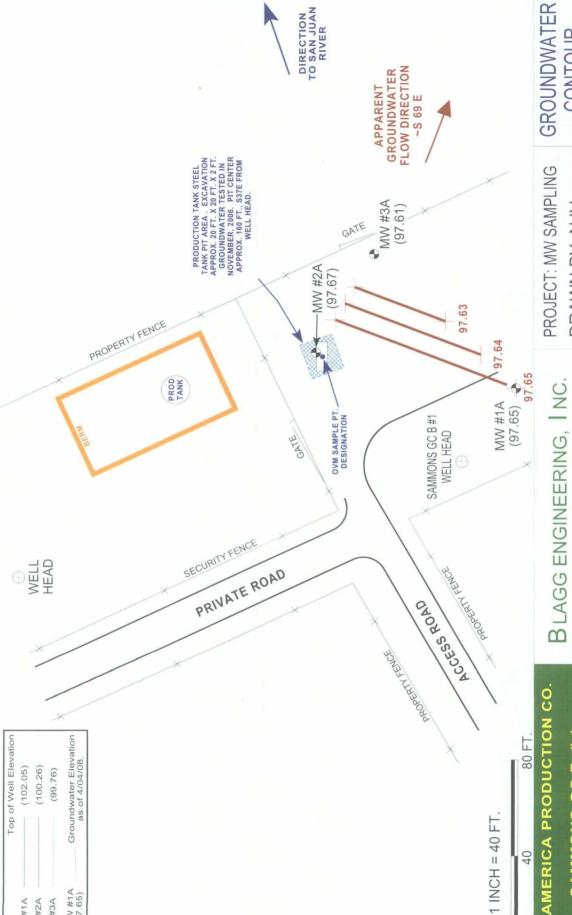
70/80

(TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE. MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD

(100.26)(102.05)(99.76) • MW #1A (97.65) MW #1A MW #2A MW #3A

(2nd 1/4, 2008) FIGURE 2





BP AMERICA PRODUCTION CO.

SAMMONS GC F #

NE/4 NE/4 SEC. 18, T29N, R9W

SAN JUAN COUNTY, NEW MEXICO

BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

PROJECT: MW SAMPLING

FILENAME: 04-04-08-GW.SKF

DRAWN BY: NJV

REVISED: 04-04-08

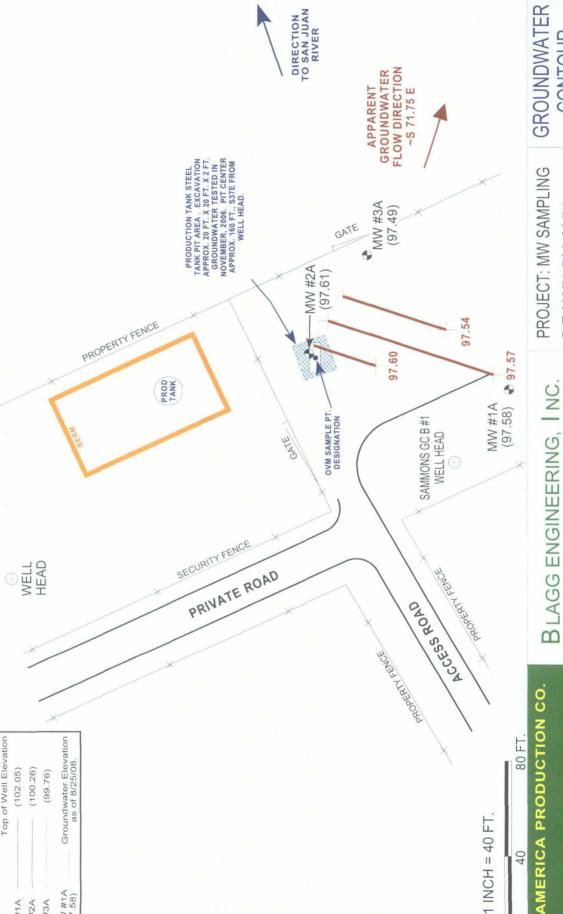
CONTOUR 04/08 MAP

(TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS), ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD BE TO SCALE









BP AMERICA PRODUCTION CO.

NE/4 NE/4 SEC. 18, T29N, R9W

SAMMONS GC F # 1

SAN JUAN COUNTY, NEW MEXICO

CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199

PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 08-25-08-GW.SKF

REVISED: 08-25-08

CONTOUR MAP

08/08

DIRECTION TO SAN JUAN RIVER GROUNDWATER GROUNDWATER FLOW DIRECTION ~S 71.75 E APPARENT PRODUCTION TANK STEEL
TANK PIT AREA. EXCAVATION
APPROX. 20 FT. X 20 FT. X 2 FT.
GROUNDWATER TESTED IN
NOVEMBER, 2006. PIT CENTER
APPROX. 160 FT. S37E FROM
WELL HEAD. PROJECT: MW SAMPLING MW #3A (96.01) GATE -MW #2A (96.17) 96.05 PROPERTY FENCE 96.10 96.15 PROD BLAGG ENGINEERING, INC. 9 MW #1A (96.13)(4th 1/4, 2008) OVM SAMPLE PT. SAMMONS GC B #1 GATE WELL HEAD FIGURE SECURITY FENCE PROPERTY PENCE WELL PRIVATE ROAD PCCESS ROPO PROPERTY FEWCE **BP AMERICA PRODUCTION CO.** 80 FT. (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT Groundwater Elevation as of 12/19/08. MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD Top of Well Elevation (100.26)(102.05)(99.76)1 INCH = 40 FT 40 MW #1A (96.13) BE TO SCALE MW #1A **MW #2A** MW #3A

CONTOUR

MAP

FILENAME: 12-19-08-GW.SKF

REVISED: 12-31-08

DRAWN BY: NJV

CONSULTING PETROLEUM / RECLAMATION SERVICES

BLOOMFIELD, NEW MEXICO 87413

P.O. BOX 87

PHONE: (505) 632-1199

SAN JUAN COUNTY, NEW MEXICO

NE/4 NE/4 SEC. 18, T29N, R9W

SAMMONS GC F #

12/08

BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: LABORATORY (S) USED: PACE ANALYTICAL SAMMONS GC F #1 - PROD. TANK PIT

SAMPLER: NJV Date: April 4, 2008

NJVFilename: 04-04-08.WK4 PROJECT MANAGER:

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1 A	102.05	97.65	4.40	15.00	-	-	-	-	-
2A	100.26	97.67	2.59	11.22	1510	6.90	1,000	14.0	4.25
3 A	99.76	97.61	2.15	13.50	1430	6.88	900	15.2	5.50

INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00 2,800 **DATE & TIME =** | 04/03/08 1030 156388

NOTES: Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores). (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

UNIT A, SEC. 18, T29N, R9W

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Excellent	recovery	in MW	#2A 8	#3A.	Collected	samples	for E	STEX p	er US	EPA	Method	8260	from
MW #2A	& #3A	only .				-							

Top of casing MW #1A ~ 2.40 ft., MW #2A ~ 0.20 ft. below grade, MW #3A ~ 0.35 ft. below grade.





ANALYTICAL RESULTS

Project:

SAMMONS GC F #1

Pace Project No.: 6038271

Sample: MW #2A	Lab ID: 6038271001	Collected: 04/04/0	8 15:10	Received: 04	/08/08 08:45	Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA	8260					
Benzene	2.3 ug/L	1.0	1		04/12/08 08:09	71-43-2	
Ethylbenzene	1.2 ug/L	1.0	1		04/12/08 08:09	100-41-4	
Toluene	ND ug/L	1.0	1		04/12/08 08:09	108-88-3	
Xylene (Total)	1100 ug/L	30.0	10		04/14/08 13:16	3 1330-20-7	
Dibromofluoromethane (S)	96 %	85-114	1		04/12/08 08:09	1868-53-7	
Toluene-d8 (S)	105 %	82-114	1		04/12/08 08:09	2037-26-5	
4-Bromofluorobenzene (S)	99 %	85-119	1		04/12/08 08:09	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %	81-118	1		04/12/08 08:09	17060-07-0	
Preservation pH	1.0	1.0	1		04/12/08 08:09)	

Date: 04/15/2008 05:50 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SAMMONS GC F #1

Pace Project No.: 6038271

Sample: MW #3A	Lab ID: 603827	1002	Collected: 04/04/0	8 14:30	Received: 04	/08/08 08:45 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method	: EPA 826	0					
Benzene	ND ug/L		1.0	1		04/12/08 08:25	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		04/12/08 08:25	100-41-4	
Toluene	ND ug/L		1.0	1		04/12/08 08:25	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		04/12/08 08:25	1330-20-7	
Dibromofluoromethane (S)	99 %		85-114	1		04/12/08 08:25	1868-53-7	
Toluene-d8 (S)	98 %		82-114	1		04/12/08 08:25	2037-26-5	
4-Bromofluorobenzene (S)	92 %		85-119	1		04/12/08 08:25	460-00-4	
1,2-Dichloroethane-d4 (S)	105 %		81-118	1		04/12/08 08:25	17060-07-0	
Preservation pH	1.0		1.0	1		04/12/08 08:25		

Date: 04/15/2008 05:50 PM

REPORT OF LABORATORY ANALYSIS

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156388

G 1 # Chain of Custody Record

SAMMONS Project Name: SAMM BP BU/AR Region/Enfos Segment:

NMOCD State or Lead Regulatory Agency: 1/07/78 Requested Due Date (mm/dd/yy):

80/5/

Direction: WEST/NW CARELY SUNNY Temp: Temp: Sky Conditions: Sulvey 73 Wind Speed: 5-10 mPH Meteorological Events: On-site Time: Off-site Time:

									1			_				
Lab	Lab Name: MACE MAINEYTIC	70			BP/AR Facility	No.:	ڊ ا	1816	9217	3			Consultant/Contractor:	actor: A	A66/URS	
Address:	ress: 9608 LOIRET B	NO.		i	BP/AR Facility	Address	S:						Address:	10 N.	FORTH ST.	
	LENEXA, KS	1895	õ		Site Lat/Long:				İ				7	SCONFIELD	FRED, NM	87413
Lab PM:	MARY FANK	URUS			California Global ID No.:	al ID N	0::						Consultant/Contractor Project No.:	ractor Proje	ct No.: / 1/008	725
Tele/.	39-865	7X:693	1599-	K	59 Enfos Project N	lo:		0	,100	9			Consultant/Contractor PM:	actor PM:	NELSON VE	をよて
BP/A	ALL MIKE W	WELPLAN	d	(h	Provision or RCOP (circle one)	30P (c)	rcle on						Tele/Fax:(505)632	J632-	1199 FAX: (505)	1632-3903
Address:	DESTARY /	mak 6	con:		Phase/WBS:								Report Type & QC Level:	C Level:	STANDARD	
B	28. 1448 A	buston, 7	X	9600	_	::	 						E-mail EDD To:		9-11/10 yahoo	so, com
Tele/	x (281)366-748 5	182):84	3366	<u> 7</u> 894	Cost Element:		0						Invoice to: Cons	Consultant or BP	P of Atlantic Richfield Co.	Co. circle one)
Lab	Lab Bottle Order No:			Matrix	[[¤.]			Prese	Preservative			Requ	Requested Analysis			
	- 25 - 2					ners				=		На			(28271	12
Item No.	Sample Description	əmiT	Date	Soil/Solid Water/Liquid	Laboratory No.	چ No. of Contai	Unpreserved	HNO³ H ⁵ OS ⁷ H	Methanol HCI	BTEX 8021	BTEX/TPH	Eby 8260 BTEX/Oxy/T	EPA 8270		Sample Point Lat/Long and Comments	ng and Comment
_	MW # 24	1510 4	11/08	>		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		∤├ ──	╢			41	304913			ارى
2	my #3A	1430 4	B9/h/h			\mathbb{S}							₩.			Ósz
3																
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Sam	Sampler's Name: 1/2 30 1/21	152			Ŗeli	inquished By	ed By/	Affiliation	u		Date	Time	Acc	ccepted By / A	Affiliation	Date Time
Sami	Sampler's Company: んんん モン	ととかの	300	77	Melio	7	2	-BIA	ASE EX	(W	1895	530	XXX	k V	8	1860 Bro
Ship	APPUL 7	2008	^		,											
Ship		OVERNITE	3								+					
Ship	Shipment Tracking No:															
Speci	Special Instructions: KEPOKT	A .		B	JSTIMEN	K	コクマ	7	7	7	149	B	County M	2		
Çaşt	Custody Seals In Place Yes X No			emp F	Temp Blank Yes X No				Cooler	Cooler Tennerature on Receint	ature or	Recei	1 3,4 °HC)	Tri	Trin Blank Yes X No	
	╢													,	1	





SAMPLE SUMMARY

Project:

SAMMONS GC F #1

Pace Project No.:

6038271

Lab ID	5	Sample ID	Matrix	Date Collected	Date Received
6038271001	MW #2A	Wa	ater	04/04/08 15:10	04/08/08 08:45
6038271002	MW #3A	Wa	ater	04/04/08 14:30	04/08/08 08:45





(913)599-5665



SAMPLE ANALYTE COUNT

Project:

SAMMONS GC F #1

Pace Project No.:

6038271

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6038271001	MW #2A	EPA 8260	JKL	9
6038271002	MW #3A	EPA 8260	JKL	9





Pace Analytical Services, Inc. 9608 Loiret Blvd.

> Lenexa, KS 66219 (913)599-5665

Pace Analytical www.pacelabs.com

PROJECT NARRATIVE

Project: SAMMONS GC F #1

Pace Project No.: 6038271

Method: EPA 8260

Description: 8260 MSV UST, Water **Client:** BP-Blagg Engineering

Date: April 15, 2008

General Information:

2 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/13967

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS





(913)599-5665



Project:

SAMMONS GC F #1

Pace Project No.:

6038271

QC Batch:

MSV/13967

Analysis Method:

EPA 8260

QC Batch Method:

EPA 8260

Analysis Description:

8260 MSV UST-WATER

Associated Lab Samples:

6038271001, 6038271002

METHOD BLANK: 311355

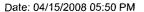
Associated Lab Samples:

6038271001, 6038271002

<u>_</u> .		Blank	Reporting	
Parameter	Units	Result	Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	108	81-118	
4-Bromofluorobenzene (S)	%	93	85-119	
Dibromofluoromethane (S)	%	99	85-114	
Toluene-d8 (S)	%	101	82-114	

LABORATORY CONTROL SAMPLE: 311356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	9.2	92	87-117	
Ethylbenzene	ug/L	10	8.9	89	84-123	
Toluene	ug/L	10	8.7	87	81-124	
Xylene (Total)	ug/L	30	26.7	89	83-125	
1,2-Dichloroethane-d4 (S)	%			106	81-118	
4-Bromofluorobenzene (S)	%			91	85-119	
Dibromofluoromethane (S)	%			101	85-114	
Toluene-d8 (S)	%			101	82-114	







Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 (913)599-5665

QUALIFIERS

Project:

SAMMONS GC F #1

Pace Project No.:

6038271

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/13967

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Date: 04/15/2008 05:50 PM









QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

SAMMONS GC F #1

Pace Project No.:

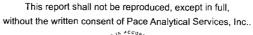
6038271

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6038271001 6038271002	MW #2A MW #3A	EPA 8260 EPA 8260	MSV/13967 MSV/13967		

Date: 04/15/2008 05:50 PM

REPORT OF LABORATORY ANALYSIS

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Face Analytical Client Name	s: Bows	Project #
Courier: Fed Ex UPS USPS Clie Tracking #: 499 434 775	ent Commercial Pace Other	Proj. Due Date:
Custody Seal on Cooler/Box Present: yes	no Seals intact: Syes	Proj. Name: 9/(8/4) no Schools 6(F) 14
Packing Material: Bubble Wrap Bubble	e Bags	Semans G(E)
Thermometer Used T-168 1-169	Type of Ice: Wet Blue None	
Cooler Temperature 36	Biological Tissue is Frozen: Yes	Date and Initials of person examining contents:
Temp should be above freezing to 6°C	Comments:	No No
Chain of Custody Present:	ØKes □No □N/A 1.	
Chain of Custody.Filled Out:	AYes □No □N/A 2.	
Chain of Custody Relinquished:	ØYes □No □N/A 3.	
Sampler Name & Signature on COC:	ØYes □No □N/A 4.	
Samples Arrived within Hold Time:	ØYes □No □N/A 5.	
Short Hold Time Analysis (<72hr):	□Yes ◘40 □N/A 6.	
Rush Turn Around Time Requested:	□Yes ☑N/A 7.	
Sufficient Volume:	ÁYểs □No □N/A 8.	
Correct Containers Used:	Dres Ono Onia 9.	
-Pace Containers Used:	ØYes □No □N/A	
Containers Intact:	ZiYes □No □N/A 10.	
Filtered volume received for Dissolved tests	☐Yes ☐No 🖼 11.	
Sample Labels match COC:	Øres □No □N/A 12.	
-Includes date/time/ID/Analysis Matrix:	LIT	
All containers needing preservation have been checked.	□Yes □No ØN/A 13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	□Yes □No ØN/A	
exceptions: VOX, coliform, TOC, O&G, WI-DRO (water)	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	□Yes □No ÆH/A 14.	
Headspace in VOA Vials (>6mm):	□Yes 🗫 □N/A 15.	
Trip Blank Present:	Eyes ONO ON/A 16. 3 mg	Sent w/ nutriple propereds
Trip Blank Custody Seals Present	□Yes ☑No □N/A	in the paper
Pace Trip Blank Lot # (if purchased): 6 3/7	5-3-2	B
Client Notification/ Resolution:		Field Data Required? Y / N
Person Contacted:	Date/Time:	
Comments/ Resolution:		
Project Manager Review: Mw 4 a	k8 .	Date:
Tojost manager to tom Tymo atter	<i>y</i> 5	p- 41-41

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT & OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

N/A

SAMMONS GC F #1 - PROD. TANK PIT

UNIT A, SEC. 18, T29N, R9W

SAMPLER:

LABORATORY (S) USED: PACE ANALYTICAL

NJV

Date: June 23, 2008

Filename: 06-23-08.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV.	WATER ELEV.	DEPTH TO WATER	TOTAL DEPTH	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1A	102.05	98.93	3.12	15.00	-	-	-	-	-
2A	100.26	98.95	1.31	11.22	0910	6.97	1,200	23.6	4.75
3A	99.76	98.82	0.94	13.50	0830	7.02	800	24.0	6.25

INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00

DATE & TIME =

4.01/7.00/10.00 2,800 06/23/08 0634

NOTES: Volume of water purged from well prior to sampling; $V = pi \times r2 \times h \times 7.48 \text{ gal./ft3} \times 3 \text{ (wellbores)}$. (i.e. 2" MW r = (1/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW #2A & #3A. Collected samples for BTEX per US EPA Method 8260 from MW #2A & #3A only.____

Top of casing MW #1A \sim 2.40 ft., MW #2A \sim 0.20 ft. below grade, MW #3A \sim 0.35 ft. below grade.

on-site	8:01	temp_	72 F	
off-site	9:26	temp	81 F	
sky cond.	Sunny			
wind speed	0-5	direct.	east	





ANALYTICAL RESULTS

Project:

SAMMONS GC F 1

Pace Project No.: 6042389

Sample: MW #2A	Lab ID: 6042389001	Collected: 06/23/0	8 09:10	Received: 06	6/25/08 09:00	Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 82	60					
Benzene	3.8 ug/L	1.0	1		06/27/08 11:5	1 71-43-2	
Ethylbenzene	ND ug/L	1.0	1		06/27/08 11:5	1 100-41-4	
Toluene	ND ug/L	1.0	1		06/27/08 11:51	1 108-88-3	
Xylene (Total)	534 ug/L	3.0	1		06/27/08 11:5	1 1330-20-7	1e,E
Dibromofluoromethane (S)	97 %	85-114	1		06/27/08 11:51	1 1868-53-7	
Toluene-d8 (S)	105 %	82-114	1		06/27/08 11:5	1 2037-26-5	
4-Bromofluorobenzene (S)	103 %	85-119	1		06/27/08 11:5	1 460-00-4	
1,2-Dichloroethane-d4 (S)	95 %	81-118	1		06/27/08 11:51	1 17060-07-0	
Preservation pH	1.0	1.0	1		06/27/08 11:51	1	

Date: 06/27/2008 04:26 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project:

SAMMONS GC F 1

Pace Project No.: 6042389

Sample: MW #3A	Lab ID: 6042389002	Collected: 06/23/08	8 08:30	Received: 06	6/25/08 09:00 N	fatrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 82	260					
Benzene	ND ug/L	1.0	1		06/27/08 02:47	71-43-2	
Ethylbenzene	ND ug/L	1.0	1		06/27/08 02:47	100-41-4	
Toluene	ND ug/L	1.0	1		06/27/08 02:47	108-88-3	
Xylene (Total)	ND ug/L	3.0	1		06/27/08 02:47	1330-20-7	
Dibromofluoromethane (S)	98 %	85-114	1		06/27/08 02:47	1868-53 - 7	
Toluene-d8 (S)	100 %	82-114	1		06/27/08 02:47	2037-26-5	
4-Bromofluorobenzene (S)	102 %	85-119	1		06/27/08 02:47	460-00-4	
1,2-Dichloroethane-d4 (S)	93 %	81-118	1		06/27/08 02:47	17060-07-0	
Preservation pH	1.0	1.0	1		06/27/08 02:47		

Date: 06/27/2008 04:26 PM

REPORT OF LABORATORY ANALYSIS

Page 7 of 10



Atlantic Richfield Company

Chain of Custody Record

Project Name: SAMMONS GCF 1
BP BU/AR Region/Enfos Segment: SJOC

South

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

On-site Time: 8:01 Temp: 72 を Off-site Time: 9:26 Temp: 8/9 を Sky Conditions: 5センハソ Meteorological Events: Wind Speed: 0 - S Direction: EAST

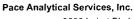
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Constituent Contractor Project No. Contractor Project Project No. Contractor Project Project No. Contractor Project Project Project Project No. Contractor Project Project Proje		Lenexa, KS	66219				Sis	e Lat/Long:								Bloomf	ield, NN	1 87413	
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Park Bird. Provision or OCC (circle one) Prof. (26th) 623-3993 Provision or OCC (circle one) Provision or OCC (circl	Tele/	Fax: 913-563-1401					En	fos Project No.:	8	19C-00)1				Consulta	nt/Contra	ctor PM:	Nelson Velez	
State Park Hold Sub Place WBS Sub Place Task Sub	BP/A	R EMB: Mike Who	elan				Pr	ovision or OOC	(circle	one)					Tele: (5)	05) 632-1	199 Fax	: (505) 632-3903	
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Pace (281) 366-7094 Coss Element Preservative Requested Analysis Autrix	Rm28, 144B Hor	uston, TX 77	679			Su	b Phase/Task:	1						E-Mail F	DD To:	blagg-nj	ve@yahoo.com		
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BP COC Rev. 5 10/11/2006

MS/MSD Sample Submitted: Yes//No

Cooler Temp on Receipt: 3.5 °F/E

Temp Blank/(Yes\ No



9608 Loiret Blvd. Lenexa, KS 66219 (913)599-5665



SAMPLE SUMMARY

Project:

SAMMONS GC F 1

Pace Project No.:

6042389

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6042389001	MW #2A	Water	06/23/08 09:10	06/25/08 09:00
6042389002	MW #3A	Water	06/23/08 08:30	06/25/08 09:00





(913)599-5665

Lenexa, KS 66219



SAMPLE ANALYTE COUNT

Project:

SAMMONS GC F 1

Pace Project No.:

6042389

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6042389001	MW #2A	EPA 8260	SSM	9
6042389002	MW #3A	EPA 8260	SSM	9





Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219

(913)599-5665

PROJECT NARRATIVE

Project:

SAMMONS GC F 1

Pace Project No.:

6042389

Method:

EPA 8260

Client:

Description: 8260 MSV UST, Water

BP-Blagg Engineering

June 27, 2008

General Information:

2 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/15384

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MSV/15384

1e: As per method 5035; a dilution analysis was performed. However the results were not consistent. Sample determined to be nonhomogeneous.

- MW #2A (Lab ID: 6042389001)
 - · Xylene (Total)

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MW #2A (Lab ID: 6042389001)
 - · Xylene (Total)

REPORT OF LABORATORY ANALYSIS

Page 4 of 10

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PROJECT NARRATIVE

Project: SAMMONS GC F 1

Pace Project No.: 6042389

Method: EPA 8260

Description: 8260 MSV UST, Water Client: BP-Blagg Engineering Date: June 27, 2008

This data package has been reviewed for quality and completeness and is approved for release.





QUALITY CONTROL DATA

Project:

SAMMONS GC F 1

Pace Project No.:

6042389

LABORATORY CONTROL SAMPLE: 344276

QC Batch:

MSV/15384

Analysis Method:

EPA 8260

QC Batch Method:

EPA 8260

Analysis Description:

8260 MSV UST-WATER

Associated Lab Samples:

6042389001, 6042389002

METHOD BLANK: 344275

Associated Lab Samples:

6042389001, 6042389002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	 ug/L	ND .	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	95	81-118	
4-Bromofluorobenzene (S)	%	101	85-119	
Dibromofluoromethane (S)	%	94	85-114	
Toluene-d8 (S)	%	103	82-114	

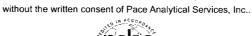
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L		9.1	91	87-117	
Ethylbenzene	ug/L	10	9.6	96	84-123	
Toluene	ug/L	10	9.4	94	81-124	
Xylene (Total)	ug/L	30	27.3	91	83-125	
1.2-Dichloroethane-d4 (S)	0/2			QΛ	01 110	

1,2-Dichloroethane-d4 (S) 94 81-118 4-Bromofluorobenzene (S) % 103 85-119 Dibromofluoromethane (S) % 97 85-114 Toluene-d8 (S) % 101 82-114

Date: 06/27/2008 04:26 PM

REPORT OF LABORATORY ANALYSIS This report shall not be reproduced, except in full,

Page 8 of 10





QUALIFIERS

Project:

SAMMONS GC F 1

Pace Project No.:

6042389

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/15384

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

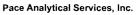
ANALYTE QUALIFIERS

1e As per method 5035; a dilution analysis was performed. However the results were not consistent. Sample determined to be non-homogeneous.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

Date: 06/27/2008 04:26 PM





9608 Loiret Blvd. Lenexa, KS 66219 (913)599-5665



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

SAMMONS GC F 1

Pace Project No.:

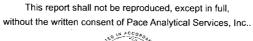
6042389

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6042389001 6042389002	MW #2A MW #3A	EPA 8260 EPA 8260	MSV/15384 MSV/15384		

Date: 06/27/2008 04:26 PM

REPORT OF LABORATORY ANALYSIS

Page 10 of 10





Sample Condition Upon Receipt ace Analytical" Client Name: BP BLAGE Project # 604 236 9 Optional Proj. Due Date: Courier: Fed Ex UPS USPS Client Commercial Pace Other Proj. Name: Tracking #: OF COC Custody Seal on Cooler/Box Present: ves Seals intact: ves no no Packing Material: Bubble Wrap Bubble Bags Done Other T-169 /1/179 Type of ice: Wet Blue None Samples on ice, cooling process has begun **Thermometer Used** Date and Initials of person examining contents: 6/25 Biological Tissue is Frozen: Yes No **Cooler Temperature** Temp should be above freezing to 6°C Comments: 5: 1006 ØYes □No □N/A Chain of Custody Present: ØYes □No □N/A Chain of Custody Filled Out: ØYes □No □N/A Chain of Custody Relinquished: ØYes □No □N/A Sampler Name & Signature on COC: ØYes □No □N/A Samples Arrived within Hold Time: □Yes ☑No □N/A Short Hold Time Analysis (<72hr): ☐Yes □No Rush Turn Around Time Requested: □N/A 2044 ₽Yes □No □N/A Sufficient Volume: -ETYes ONo □N/A Correct Containers Used: ∰Yes □No □N/A -Pace Containers Used: TYes DNo DN/A Containers Intact: ☐Yes ☐No □N/A Filtered volume received for Dissolved tests 111. EYes ONo ON/A 12. Sample Labels match COC: -Includes date/time/ID/Analysis 4 All containers needing preservation have been checked. □Yes □No ĐŃA 13. All containers needing preservation are found to be in ☐Yes ☐No ☐N/A compliance with EPA recommendation. Initial when Lot # of added ₽Yes □No exceptions: VOA coliform, TOC, O&G, WI-DRO (water) completed preservative ☐Yes ☐No ØN/A 14 Samples checked for dechlorination: ☐Yes ☐No □N/A 15. Headspace in VOA Vials (>6mm): ☐Yes ☐No Trip Blank Present: □N/A 16. □Yes □No Trip Blank Custody Seals Present □N/A Pace Trip Blank Lot # (if purchased): Client Notification/ Resolution: Field Data Required? Date/Time: Person Contacted: Comments/ Resolution: Project Manager Review: Nww 6 12510 Y Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

N/A

SAMMONS GC F #1 - PROD. TANK PIT

UNIT A, SEC. 18, T29N, R9W

SAMPLER:

LABORATORY (S) USED: HALL ENVIRONMENTAL

NJV

Date: August 25, 2008

Filename: 08-25-08.WK4

PROJECT MANAGER:

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1A	102.05	97.58	4.47	15.00	-		-	-	-
2A	100.26	97.61	2.65	11.22	1035	7.03	1,100	27.2	4.25
3A	99.76	97.49	2.27	13.50	-	_	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00

DATE & TIME = 08/25/08

4.01/7.00/10.00 2,800 08/25/08 0730

NOTES: Volume of water purged from well prior to sampling; $V = pi \times r2 \times h \times 7.48 \text{ gal./ft3} \times 3 \text{ (wellbores)}$. (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well_diameter if not standard 2 ".

Excellent recovery in MW #2A. Collected samples for BTEX per US EPA Method 8021B from

MW # 2A & duplicate labeled MW # 4A with time 1050.

Top of casing MW #1A ~ 2.40 ft., MW #2A ~ 0.20 ft. below grade, MW #3A ~ 0.35 ft. below grade.

on-site	9:59	temp	76 F
off-site	10:47	temp	80 F
sky cond.	Mostly	sunny	
wind speed	0-5	direct.	southwest

Hall Environmental Analysis Laboratory, Inc.

Date: 27-Aug-07

CLIENT:

Blagg Engineering

Lab Order:

0708246

Project:

Sammons GC F #1

Lab ID:

0708246-01

Client Sample ID: MW #2A

Collection Date: 8/16/2007 11:50:00 AM

Date Received: 8/17/2007

Matrix: AQUEOUS

					the state of the s
Analyses	Result	PQL Qı	ual Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: SMP
Benzene	4.9	1.0	μg/L	1	8/23/2007 10:53:39 PM
Toluene	ND	1.0	μg/L	1	8/23/2007 10:53:39 PM
Ethylbenzene	7.8	1.0	μg/L	1	8/23/2007 10:53:39 PM
Xylenes, Total	2300	40	µg/L	20	8/24/2007 1:34:20 PM
Surr: 4-Bromofluorobenzene	98.1	70.2-105	%REC	20	8/24/2007 1:34:20 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

F Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

HALL ENVIRONMENTAL	ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Albuquerque, New Mexico B 7109 Tel. 505.345.3975 Fex 505.345.4107	www.nanenvironmental.com				08) s	edspe ') ' LCB,	eabioi (A(AOV-ir	12897 (VC (NSen	noinA 1808 0838 0738									
NAH MAH		Albuq			[Å]	nO əni	oseg	58 (6 (1.8 (1.1) (13)	+ 381	Metho Metho Haeth Haeth	7PH (EDB (\ \							Remarks:	
128	Std L Level 4 L Other:	Project Name:	Samuods GC F #1	Project #:	200	Project Manager:	>	Sampler:	Sample Temperature:	Preservative	Number/Volume HgCl ₂ HNO ₃ C3 O8 246	2-40ml V						(A)	Peceived By: (Signature) -8/20/07	(Reteived By: (Signature)
	CHAIN-OF-CUSTODY RECORD	18P AMERICA		80X 87	Non 87413			6611-			Matrix Sample I.D. No.	WATER MW # 2A							Relinguisher By, KSignature)	Relinquished By: (Signatung)
	CHAIN-OF.	Went: PLACE FOCK.		Address: P.O.	8UTO.			1hone #: 633	ax #:) Letter Ime 3 16 67	1150	•						5	ate: Time:

Date: 27-Aug-07

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: Sammons GC F #1

Work Order:

0708246

Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD RF	PDLimit Qual
Method: SW8021								
Sample ID: 5ML RB		MBLK			Batch ID:	R24885	Analysis Date:	8/23/2007 9:10:07 AN
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Sample ID: 5ML RB		MBLK			Batch ID:	R24905	Anatysis Date:	8/24/2007 10:01:20 AM
Benzene	ND	μg/L	1.0		•			
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Sample ID: B		MBLK			Batch ID:	R24905	Analysis Date:	8/24/2007 6:25:38 PN
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID:	R24885	Analysis Date:	8/23/2007 2:37:33 PM
Benzene	17.77	μg/L	1.0	88.9	85.9	113		•
Toluene	17.37	μg/L	1.0	86.9	86,4	113		
Ethylbenzene	18.05	μg/L	1.0	90.2	83.5	118		
Xylenes, Total	54.72	μg/L	2.0	90.9	83.4	122		
Sample ID: 100NG BTEX LCS		LCS			Batch ID:	R24905	Analysis Date:	8/24/2007 11:31:32 AM
Benzene	17.89	µg/L	. 1.0	89.4	85,9	113		
Toluene	17.92	μg/L	1.0	89.6	86.4	113		
Ethylbenzene	18.15	μg/L	1.0	90.3	83.5	118		
Xylenes, Total	54.67	μg/L	2.0	90.5	83.4	122		
Sample ID: 100NG BTEX LCS B		LCS			Batch tD:	R24905	Analysis Date:	8/25/2007 11:02:46 PM
Benzene	18.86	μg/L	1.0	94.3	85.9	113		
Toluene	19.72	μg/L	1.0	98.6	86.4	113		
Ethylbenzene	20.17	μg/L	1.0	100	83.5	118		
Xylenes, Total	62.26	μg/L	2.0	102	83.4	122		
Sample ID: 100NG BTEX LCSD		LCSD			Batch ID:		Analysis Date:	8/23/2007 3:07:41 PI
Benzene	18.32	µg/L	1.0	91.6	85.9	113	-	27
Toluene	18.12	μg/L	1.0	90.6	86.4	113		19
Ethylbenzene	18.75	μg/L	1.0	93,7	83.5	118		10
Xylenes, Total	56.41	µg/L	2.0	93.7	83.4	122		13

Qualifiers:

- E Value above quantitation range
 - J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 1

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG			Date and Tim	e Received:	8/17/2007
Work Order Number 07	08246	3 1	Received b	y TLS	
Checklist completed by	Signature	8 17 (Dale	A		
Matrix	Carrier na	ame <u>UPS</u>			
Shipping container/coole	r in good condition?	Yes 🗹	No 🗌	Not Present	•
Custody seals intact on s	shipping container/cooler?	Yes 🗹	No 🗀	Not Present	Not Shipped
Custody seals intact on s	sample bottles?	Yes 🗌	No 🗌	N/A 🗹	
Chain of custody present	?	Yes 🗹	No 🗌		
Chain of custody signed	when relinquished and received?	Yes 🗹	No 🗀		
Chain of custody agrees	with sample labels?	Yes 🗹	No 🗌		
Samples in proper contain	iner/bottle?	Yes 🗹	No 🗌		
Sample containers intact	?	Yes 🛂	No 🗀		
Sufficient sample volume	e for indicated test?	Yes 🔽	No 🗆		
All samples received with	nin holding time?	Yes 🗹	No 🗀		
Water - VOA vials have a	zero headspace? No VOA vials	submitted	Yes 🗸	No 🗀	
Water - Preservation labor	els on bottle and cap match?	Yes 🗌	No 🗆	N/A 🗹	
Water - pH acceptable u	pon receipt?	Yes	No 🗌	N/A 🗹	
Container/Temp Blank te	emperature?	1°	4° C ± 2 Accep		
COMMENTS:			II given sufficie	nt time to cool.	
•			•		
)					
Client contacted	Date contacted	l:	Pe	rson contacted	
Contacted by:	Regarding				
Comments:		·			
Name of the same o					
Corrective Action					

BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT:	BP AME	RICA P	ROD. CO).	С	HAIN-OF-C	USTODY#:	N	/ A
SAMMONS	S GC F #1	- PROD.	TANK PIT		LAE	ORATORY	(S) USED:	HALL ENVI	RONMENTAL
UNIT A, S	SEC. 18, T2	9N, R9W					-		
Date :	December	19, 2008					SAMPLER:	N	J V
Filename :	12-1 ₉ -08.W	VK4			ı	PROJECT I	MANAGER :	N	JV
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	102.05	96.13	5.92	15.00	-	-	-	-	
2A	100.26	96.17	4.09	11.22	1525	7.30	900	11.2	1.75
3A	99.76	96.01	3.75	13.50	-	-	-		_
			INSTRUM	ENT CALIE	RATIONS =	4.01/7.00/10.00	2,800		
				DAT	E & TIME =	12/19/08	1515		
NOTES:	(i.e. 2" MW	r = (1/12) f sinimum of	t. h = 1 ft.) three (3) we	(i.e. 4" MW ellbore volu	campling; V = r = (2/12) ft imes: ns per foot o	. h = 1 ft.)	X 7.48 gal./f	<u>f3) X 3 (well</u>	bores).
	Comments	or note we	<u>ll diameter i</u>	f not stand	<u>dard 2".</u>				
	Fair recove	ry in MW #	2A . Collecte	ed samples	for BTEX p	er US EPA	Method 802	1B from	
	MW # 2A o	nly .							
									
	Top of casi	ing MW #1	A ~ 2.40 ft.,	MW # 2A	~ 0.20 ft. be	low grade,	MW #3A ~	0.35 ft. bel	ow grade.

Hall Environmental Analysis Laboratory, Inc.

Date: 05-Jan-09

CLIENT:

Blagg Engineering

Lab Order:

0812494

Project:

Sammons GC F #1

Lab ID:

0812494-01

Client Sample ID: MW #2A

Collection Date: 12/19/2008 3:25:00 PM

Date Received: 12/23/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: DAM
Benzene	2.2	2.0	μg/L	2	1/1/2009 10:27:36 AM
Toluene	ND	2.0	μg/L	2	1/1/2009 10:27:36 AM
Ethylbenzene	ND	2.0	μg/L	2 ·	1/1/2009 10:27:36 AM
Xylenes, Total	740	20	μg/L	10	12/30/2008 4:49:28 PM
Surr: 4-Bromofluorobenzene	94.5	65.9-130	%REC	10	12/30/2008 4:49:28 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
 - RL Reporting Limit

E. C. F. H. C. Seer Agine Only) E. C. F. H.		N-OF	-cust	CHAIN-OF-CUSTODY RECORD	Other:	Stort Level 4 [Level 4 🔲					HAI AN 4901	HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	AROP S LAE s NE, Si	MEN SORA Jite D	TAL		
### 10 - 190	Client:	教记	sek.	81 AMERICA	Project Name:							Albuq Tel. 5(uerque,)5.345	New Me 3975	Exico 87 Fax 50	7109 15.345.	4107	
## 10 60% 87 Project Manager ## 17 Project Manage			•		Sommers		11	<i>)</i> #				,,,,,,,,						
Personal Property Pers	Address:	PO.		. 87	Project #:				10 mg			ANA	SISK	REOU	EST			
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Time Metrix Sample I.D. No. Number/Volume Preservative HEALIN,	Fax #:				Sample Tempera	ure:)	-		3108 P				/ səpic				
# 15.25 world Mills # 3-A 2-40m V -1 V Time: Relinguished By: (Signature) Received By: (Signature) POSO Remarks:	Date	Time	Matrix	Sample I.D. No.	Number/Volume		arvative NO ₃ HZ	HEAL No		odtaM H9T				itaa9 1808		· · · · · · · · · · · · · · · · · · ·		
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	D		Helinguish	ed by: (Signature)	Received	By: (Signi	Sture)	200	Remark	:-								

Date: 05-Jan-09

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: Sammons GC F #1

Work Order:

0812494

							· · · · · · · · · · · · · · · · · · ·	
Analyte	Result	Units	PQL	%Rec	LowLimit F	lighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8021B: V	/olatiles							
Sample ID: 5ML RB		MBLK			Batch ID:	R31821	Analysis Date:	12/30/2008 9:43:24 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xvlenes, Total	ND	μg/L	2.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID:	R31821	Analysis Date:	12/30/2008 7:54:57 PM
Benzene	21.74	μg/L	1.0	109	85.9	113		
Toluene	21.32	μg/L	1.0	107	86.4	113		
Ethylbenzene	20.84	μg/L	1.0	104	83.5	118		
Xylenes, Total	61.77	μg/L	2.0	103	83.4	122		

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

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Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

		Date Rece	wed.	12/23/2008	
Work Order Number 0812494		Received	by: TLS	or Comment	
Checklist completed by:	16	13 2	O labels checked by:	Initials	
Matrix: Carrier na	me <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present \Box	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌	N/A 🔽		•
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌			
All samples received within holding time?	Yes 🗹	No 🗌			
Water - VOA vials have zero headspace? No VOA vials	submitted	Yes 🗹	No 🗀		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A 🗹		
Water - pH acceptable upon receipt?	Yes 🗌	No 🗀	N/A 🗹		
Container/Temp Blank temperature?	1°	<6° C Accept	table		
COMMENTS:		If given suffici	ent time to cool.		
		=====			·
Client contacted Date contacted:		P	erson contacted		
Contacted by: Regarding:					
Comments					
	· · ·				
		·			
Corrective Action					
Corrective Action					