District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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 August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BP America Production Co.	Contact: Steve Moskal
Address: 380 Airport Road, Durango, CO 81303	Telephone No.: 505-330-9179
Facility Name: Fields A 007A	Facility Type: Natural Gas Well

Surface Owner: Federal	Mineral Owner: Federal	API No. 3004522464

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
E	34	32N	11W	1,620	North	1,100	West	

Latitude 36.69972° **Longitude** -108.04646°

NATURE OF RELEASE

Type of Release: Hydrocarbon – historic pit	Volume of Release: unknown	Volume Recovered: unknown
Source of Release: Separator/Blow pit - historical	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: June 1992
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action. * A historical discharge pit was noted in a 1992 pit closure. The pit was sampled with results above the pit closure standards as well as the spill and release guidelines. BP/Amoco installed a single groundwater monitoring well and sampled quarterly for 3 quarters below NMWQCC standards. BP excavated the known soil impacts in March 2004 and later installed additional monitoring wells in November 2006. A passive remediation system was installed in 2007. Additional wells installed in 2007.

Describe Area Affected and Cleanup Action Taken.* Attached is information regarding the above activities as well as recent groundwater monitoring data. To date, All impacts have effectively been removed and there are no impacts remaining at the site which belong to BP. Residual impacts are believed to be the source of the previous pipeline operators' dehy pit.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Steve Moskal	Approved by Environmental Specialist: ACCEPTED
Title: Field Environmental Coordinator	Approval Date: / Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval: Attached ☐ FOR RECORD ONLY
Date: March 2, 2018 Phone: 505-330-9179	

* Attach Additional Sheets If Necessary

No Review Done/AOR Only.
Addtional Submittal For Closure Required.
CS 3/10/2020

3RP-1056

From: Smith, Cory, EMNRD
To: "Steven Moskal"
Subject: RE: Fields A#7A - Request for BP Monitoring Well Analytical Results
Date: Tuesday, March 10, 2020 10:00:00 AM

Steve,

I do not see any notes from Vanessa, Nor any incident# etc I do see an email were I created the RP#.

I will Accept this submission for Records purposes only.. it has not been reviewed etc.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Steven Moskal <Steven.Moskal@BPX.COM>
Sent: Tuesday, March 10, 2020 8:47 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: [EXT] FW: Fields A#7A - Request for BP Monitoring Well Analytical Results

Cory – Joe Wiley with KM asked about our most recent monitoring data for the subject site. While searching the NMOCD online database, I cannot find anything pertaining to this report or in the #RP-1056 file for this site. It looks like Vanessa updated the 1056 file in November 0f 2017. The attached report was provided at her request, but perhaps did not upload it.

Just curious.

Steve Moskal
Environmental Coordinator
BP America Production Co.
bpx energy - WBU
1199 Main Ave. | Suite 101
Durango | CO | 81301

Direct: 505.330.9179
steven.moskal@bpx.com

bpx energy

From: Steven Moskal
Sent: Tuesday, March 10, 2020 8:40 AM
To: Wiley, Joe <Joe_Wiley@kindermorgan.com>
Subject: RE: Fields A#7A - Request for BP Monitoring Well Analytical Results

Joe – I actually was able to find the attached C-141 I had submitted to the agency in 2018, with well monitoring data from 2017. I am not sure why it was never uploaded to the 3RP-1056 OCD file or the well file.

Steve Moskal
Environmental Coordinator
BP America Production Co.
bpx energy - WBU
1199 Main Ave. | Suite 101
Durango | CO | 81301

Direct: 505.330.9179
steven.moskal@bpx.com

From: Wiley, Joe [mailto:Joe_Wiley@kindermorgan.com]
Sent: Tuesday, March 10, 2020 8:14 AM
To: Steven Moskal <Steven.Moskal@BPX.COM>
Subject: RE: Fields A#7A - Request for BP Monitoring Well Analytical Results

Ok, thanks Steve.

Joseph (Joe) Wiley, P.G.
Project Manager - Pipeline Remediation
Kinder Morgan, Inc.

1001 Louisiana Street, Room 757A
Houston, TX 77002
Phone: 713-420-3475
Cell Phone: 832-279-1610
Joe_wiley@kindermorgan.com

From: Steven Moskal [mailto:Steven.Moskal@BPX.COM]
Sent: Tuesday, March 10, 2020 9:11 AM
To: Wiley, Joe
Subject: FW: Fields A#7A - Request for BP Monitoring Well Analytical Results

[This email message was received from the Internet and came from outside of Kinder Morgan]

Joe – BP has not monitored the site in quite some time. Below are the last dates sampled that we could find after a quick check. BP does not have this on the current monitoring schedule.

Steve Moskal
Environmental Coordinator
Direct: 505.330.9179
steven.moskal@bpx.com

bpx energy

From: Nelson Velez [mailto:blagg_njv@yahoo.com]
Sent: Tuesday, March 10, 2020 8:07 AM
To: jeffcblagg@aol.com; Steven Moskal <Steven.Moskal@BPX.COM>
Subject: Re: Fields A#7A - Request for BP Monitoring Well Analytical Results

MW #3 - 12/2009
MW #2 - 05/2009
MW #1 - 07/2007
MW #1A - 07/2007

Nelson J. Velez

Blagg Engr.
cell: (505) 320-3489

On Tuesday, March 10, 2020, 07:46:14 AM MDT, Steven Moskal <steven.moskal@bpx.com> wrote:

Jeff and Nelson – When was the last time the Fields A 7A MWs were sampled?

Steve Moskal

Environmental Coordinator

Direct: 505.330.9179

steven.moskal@bpx.com

From: Wiley, Joe [mailto:Joe_Wiley@kindermorgan.com]
Sent: Friday, March 6, 2020 9:51 AM
To: Steven Moskal <Steven.Moskal@BPX.COM>
Subject: Fields A#7A - Request for BP Monitoring Well Analytical Results

Hi Steve,

Can you provide monitoring well results for the BP wells at Fields A#7A? We can't find anything in the NMOCD files available on their website. Thanks,

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\FIELDS A#7\2016 MAPS\Fields_A#7_GARM_2SA_2016.mxd

LEGEND:

- 6082 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- SMA BENCHMARK
- MONITORING WELL
- SOIL BORING
- ABANDONED MONITORING WELL
- OTHER MONITORING WELL
- PASSIVE VENT WELL
- WELLHEAD

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
µg/L = MICROGRAMS PER LITER
<1 = BELOW METHOD DETECTION LIMIT

ANALYTE	NMWQCC STANDARDS
B = Benzene	10 µg/L
T = Toluene	750 µg/L
E = Ethylbenzene	750 µg/L
X = Total Xylenes	620 µg/L

N

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	1/23/2017	SLG	SLG	SV

TITLE:

GROUNDWATER ANALYTICAL RESULTS
OCTOBER 14, 2016

PROJECT:

FIELDS A#7A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 3

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\FIELDS A#7\2016 MAPS\Fields_A#7_GECM_2SA_2016.mxd

LEGEND:

- 6082 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- SMA BENCHMARK
- MONITORING WELL
- ABANDONED MONITORING WELL
- OTHER MONITORING WELL
- PASSIVE VENT WELL
- WELLHEAD

NOTES:

5739.86 GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

5739.0 CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	1/23/2017	SLG	SLG	SRV

TITLE:

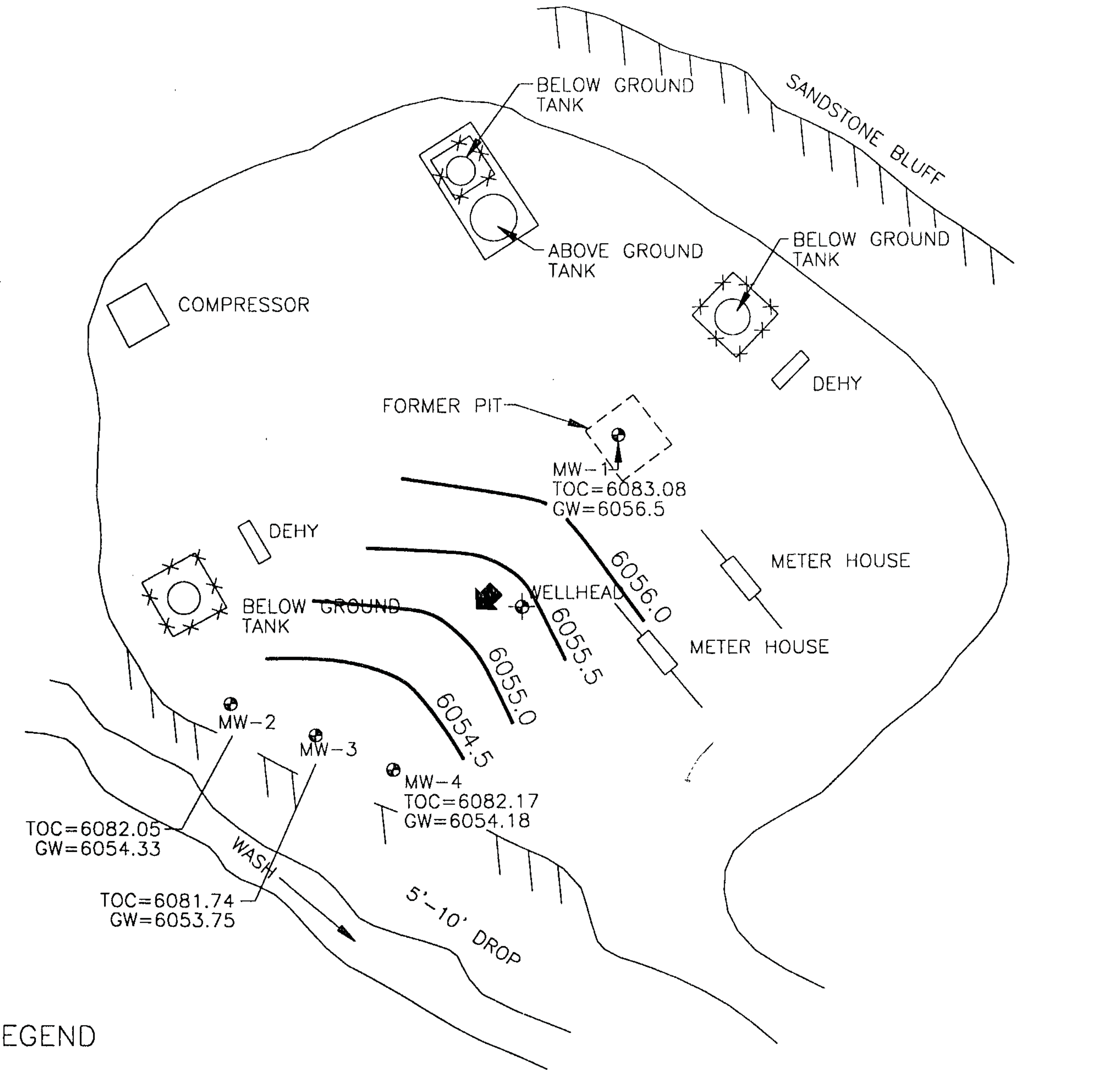
GROUNDWATER ELEVATION MAP
OCTOBER 14, 2016

PROJECT:

FIELDS A#7A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 4



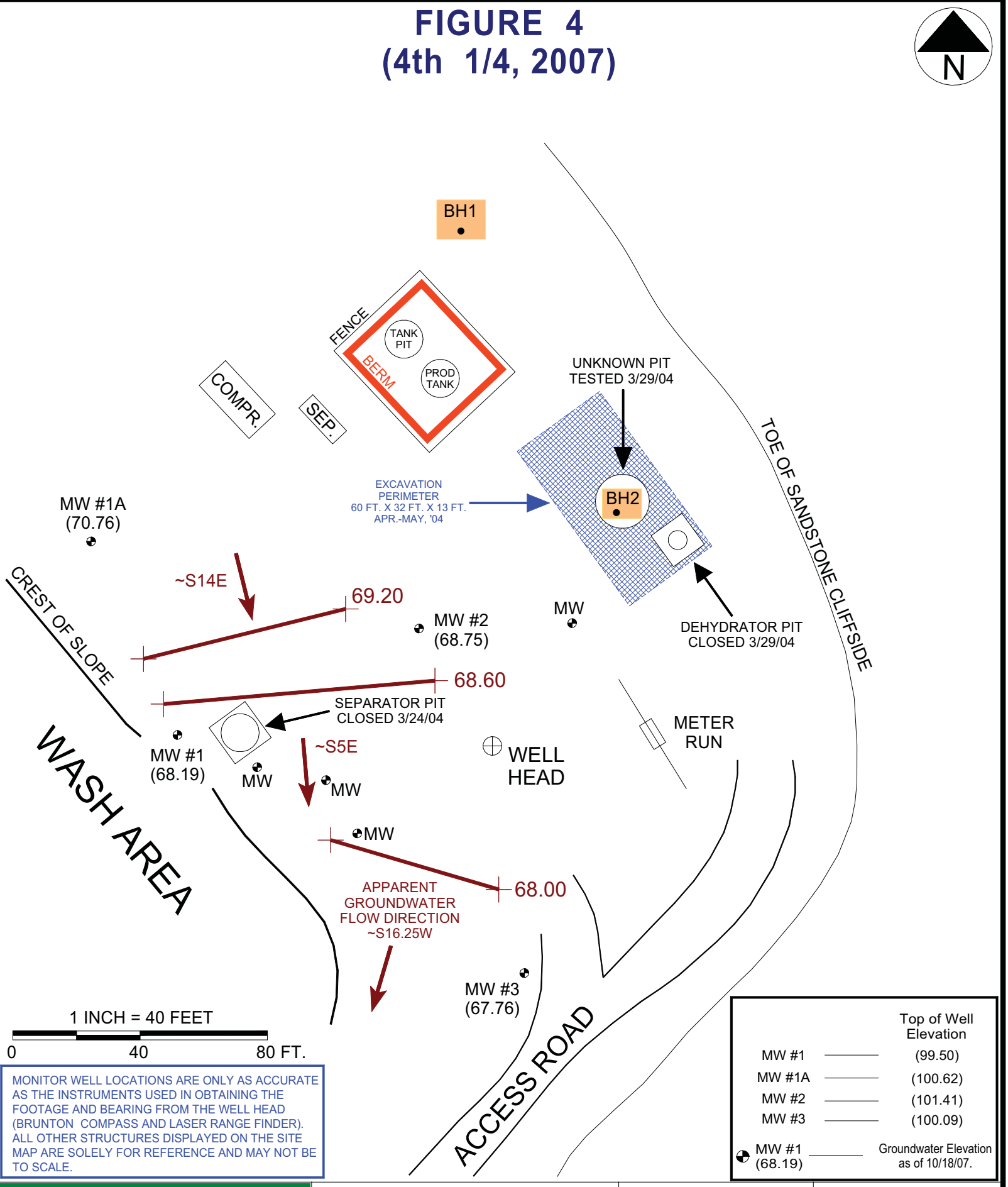
LEGEND

MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
TOC	TOP OF CASING ELEVATION
GW	GROUNDWATER POTENTIOMETRIC SURFACE
(arrow)	GROUNDWATER GRADIENT

PSC PHILIP SERVICES CORP.

TITLE:	DWN:	DES.:	PROJECT NO.: 17520
FIELDS A #7A METER 89961/97546 2/3/98	TMM	CC	EPFS GW PITS
	CHKD: CC	APPD:	
	DATE: 3/22/99	REV.: 0	FIGURE 1

FIGURE 4
(4th 1/4, 2007)



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

	Top of Well Elevation
MW #1	(99.50)
MW #1A	(100.62)
MW #2	(101.41)
MW #3	(100.09)
MW #1 (68.19)	Groundwater Elevation as of 10/18/07.

BP AMERICA PRODUCTION COMPANY

FIELDS A # 7A

SW/4 NW/4 SEC. 34, T32N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAWN BY: NJV

FILENAME: 10-18-07-GW.SKF

REVISED: 10/18/07 NJV

GROUNDWATER CONTOUR MAP

10/07

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 13, 2017

Steve Moskal

Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Fields A 7A OrderNo.: 1711034

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 11/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #1
Project: Fields A 7A
Collection Date: 10/31/2017 9:36:00 AM
Lab ID: 1711034-001
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst: **pmf**	
Hardness (As CaCO3)	1500	6.6		mg/L	1	11/7/2017	R46981
SPECIFIC GRAVITY						Analyst: **JRR**	
Specific Gravity	1.003	0			1	11/2/2017 1:18:00 PM	R46859
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	98	5.0		mg/L	10	11/2/2017 1:24:02 AM	R46843
Sulfate	3000	50	*	mg/L	100	11/2/2017 1:36:27 AM	R46843
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	5200	5.0		µmhos/cm	1	11/6/2017 2:59:24 PM	R46906
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	368.5	20.00		mg/L CaCO3	1	11/6/2017 2:59:24 PM	R46906
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	11/6/2017 2:59:24 PM	R46906
Total Alkalinity (as CaCO3)	368.5	20.00		mg/L CaCO3	1	11/6/2017 2:59:24 PM	R46906
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	4270	200	*D	mg/L	1	11/6/2017 1:37:00 PM	34800
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.49		H	pH units	1	11/6/2017 2:59:24 PM	R46906
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Calcium	510	10		mg/L	10	11/6/2017 5:52:44 PM	B46923
Iron	0.13	0.020		mg/L	1	11/6/2017 3:50:03 PM	B46923
Magnesium	48	1.0		mg/L	1	11/6/2017 3:50:03 PM	B46923
Potassium	4.3	1.0		mg/L	1	11/6/2017 3:50:03 PM	B46923
Sodium	850	10		mg/L	10	11/6/2017 5:52:44 PM	B46923
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Toluene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Ethylbenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Naphthalene	ND	2.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
2-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Acetone	ND	10		µg/L	1	11/3/2017 5:06:00 AM	A46852

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #1
Project: Fields A 7A
Collection Date: 10/31/2017 9:36:00 AM
Lab ID: 1711034-001
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Bromobenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Bromodichloromethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Bromoform	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Bromomethane	ND	3.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
2-Butanone	ND	10		µg/L	1	11/3/2017 5:06:00 AM	A46852
Carbon disulfide	ND	10		µg/L	1	11/3/2017 5:06:00 AM	A46852
Carbon Tetrachloride	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Chlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Chloroethane	ND	2.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Chloroform	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Chloromethane	ND	3.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
2-Chlorotoluene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
4-Chlorotoluene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
cis-1,2-DCE	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Dibromochloromethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Dibromomethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,1-Dichloroethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,1-Dichloroethene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2-Dichloropropane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,3-Dichloropropane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
2,2-Dichloropropane	ND	2.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,1-Dichloropropene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Hexachlorobutadiene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
2-Hexanone	ND	10		µg/L	1	11/3/2017 5:06:00 AM	A46852
Isopropylbenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
4-Isopropyltoluene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
4-Methyl-2-pentanone	ND	10		µg/L	1	11/3/2017 5:06:00 AM	A46852
Methylene Chloride	ND	3.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
n-Butylbenzene	ND	3.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
n-Propylbenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
sec-Butylbenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Styrene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
tert-Butylbenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

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Project: Fields A 7A
Collection Date: 10/31/2017 9:36:00 AM
Lab ID: 1711034-001
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
trans-1,2-DCE	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Trichlorofluoromethane	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Vinyl chloride	ND	1.0		µg/L	1	11/3/2017 5:06:00 AM	A46852
Xylenes, Total	ND	1.5		µg/L	1	11/3/2017 5:06:00 AM	A46852
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	11/3/2017 5:06:00 AM	A46852
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	11/3/2017 5:06:00 AM	A46852
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/3/2017 5:06:00 AM	A46852
Surr: Toluene-d8	95.4	70-130		%Rec	1	11/3/2017 5:06:00 AM	A46852

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #1A
Project: Fields A 7A
Collection Date: 10/31/2017 9:02:00 AM
Lab ID: 1711034-002
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst: **pmf**	
Hardness (As CaCO3)	1300	6.6		mg/L	1	11/7/2017	R46981
SPECIFIC GRAVITY						Analyst: **JRR**	
Specific Gravity	1.007	0			1	11/2/2017 1:18:00 PM	R46859
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	99	5.0		mg/L	10	11/2/2017 1:48:52 AM	R46843
Sulfate	2900	50	*	mg/L	100	11/2/2017 2:01:16 AM	R46843
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	5000	5.0		µmhos/cm	1	11/6/2017 3:16:10 PM	R46906
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	380.0	20.00		mg/L CaCO3	1	11/6/2017 3:16:10 PM	R46906
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	11/6/2017 3:16:10 PM	R46906
Total Alkalinity (as CaCO3)	380.0	20.00		mg/L CaCO3	1	11/6/2017 3:16:10 PM	R46906
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	4170	40.0	*D	mg/L	1	11/6/2017 1:37:00 PM	34800
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.53		H	pH units	1	11/6/2017 3:16:10 PM	R46906
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Calcium	440	10		mg/L	10	11/7/2017 5:50:41 PM	A46981
Iron	0.87	0.10	*	mg/L	5	11/7/2017 5:42:44 PM	A46981
Magnesium	49	1.0		mg/L	1	11/6/2017 3:56:02 PM	B46923
Potassium	4.1	1.0		mg/L	1	11/6/2017 3:56:02 PM	B46923
Sodium	720	10		mg/L	10	11/7/2017 5:50:41 PM	A46981
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Toluene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Ethylbenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Naphthalene	ND	2.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
2-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Acetone	ND	10		µg/L	1	11/3/2017 5:29:00 AM	A46852

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #1A
Project: Fields A 7A
Collection Date: 10/31/2017 9:02:00 AM
Lab ID: 1711034-002
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Bromobenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Bromodichloromethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Bromoform	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Bromomethane	ND	3.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
2-Butanone	ND	10		µg/L	1	11/3/2017 5:29:00 AM	A46852
Carbon disulfide	ND	10		µg/L	1	11/3/2017 5:29:00 AM	A46852
Carbon Tetrachloride	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Chlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Chloroethane	ND	2.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Chloroform	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Chloromethane	ND	3.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
2-Chlorotoluene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
4-Chlorotoluene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
cis-1,2-DCE	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Dibromochloromethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Dibromomethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,1-Dichloroethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,1-Dichloroethene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2-Dichloropropane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,3-Dichloropropane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
2,2-Dichloropropane	ND	2.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,1-Dichloropropene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Hexachlorobutadiene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
2-Hexanone	ND	10		µg/L	1	11/3/2017 5:29:00 AM	A46852
Isopropylbenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
4-Isopropyltoluene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
4-Methyl-2-pentanone	ND	10		µg/L	1	11/3/2017 5:29:00 AM	A46852
Methylene Chloride	ND	3.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
n-Butylbenzene	ND	3.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
n-Propylbenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
sec-Butylbenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Styrene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
tert-Butylbenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #1A
Project: Fields A 7A
Collection Date: 10/31/2017 9:02:00 AM
Lab ID: 1711034-002
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
trans-1,2-DCE	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Trichlorofluoromethane	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Vinyl chloride	ND	1.0		µg/L	1	11/3/2017 5:29:00 AM	A46852
Xylenes, Total	ND	1.5		µg/L	1	11/3/2017 5:29:00 AM	A46852
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	11/3/2017 5:29:00 AM	A46852
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	11/3/2017 5:29:00 AM	A46852
Surr: Dibromofluoromethane	102	70-130		%Rec	1	11/3/2017 5:29:00 AM	A46852
Surr: Toluene-d8	96.1	70-130		%Rec	1	11/3/2017 5:29:00 AM	A46852

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #2
Project: Fields A 7A
Collection Date: 10/31/2017 10:37:00 AM
Lab ID: 1711034-003
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst: **pmf**	
Hardness (As CaCO3)	400	6.6		mg/L	1	11/7/2017	R46981
SPECIFIC GRAVITY						Analyst: **JRR**	
Specific Gravity	1.006	0			1	11/2/2017 1:18:00 PM	R46859
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	210	50		mg/L	100	11/2/2017 2:26:04 AM	R46843
Sulfate	2500	50	*	mg/L	100	11/2/2017 2:26:04 AM	R46843
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	6200	5.0		µmhos/cm	1	11/6/2017 3:33:06 PM	R46906
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	918.2	20.00		mg/L CaCO3	1	11/6/2017 3:33:06 PM	R46906
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	11/6/2017 3:33:06 PM	R46906
Total Alkalinity (as CaCO3)	918.2	20.00		mg/L CaCO3	1	11/6/2017 3:33:06 PM	R46906
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	4640	40.0	*D	mg/L	1	11/6/2017 1:37:00 PM	34800
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.87		H	pH units	1	11/6/2017 3:33:06 PM	R46906
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Calcium	130	10		mg/L	10	11/6/2017 4:08:31 PM	B46923
Iron	0.33	0.020	*	mg/L	1	11/6/2017 4:06:36 PM	B46923
Magnesium	18	1.0		mg/L	1	11/6/2017 4:06:36 PM	B46923
Potassium	3.4	1.0		mg/L	1	11/6/2017 4:06:36 PM	B46923
Sodium	1300	20		mg/L	20	11/7/2017 5:52:40 PM	A46981
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	180	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Toluene	150	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Ethylbenzene	76	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Methyl tert-butyl ether (MTBE)	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2,4-Trimethylbenzene	180	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,3,5-Trimethylbenzene	88	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2-Dichloroethane (EDC)	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2-Dibromoethane (EDB)	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Naphthalene	ND	10	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1-Methylnaphthalene	ND	20	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
2-Methylnaphthalene	ND	20	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Acetone	ND	50	D	µg/L	5	11/3/2017 5:53:00 AM	A46852

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #2
Project: Fields A 7A
Collection Date: 10/31/2017 10:37:00 AM
Lab ID: 1711034-003
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Bromobenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Bromodichloromethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Bromoform	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Bromomethane	ND	15	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
2-Butanone	ND	50	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Carbon disulfide	ND	50	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Carbon Tetrachloride	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Chlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Chloroethane	ND	10	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Chloroform	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Chloromethane	ND	15	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
2-Chlorotoluene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
4-Chlorotoluene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
cis-1,2-DCE	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
cis-1,3-Dichloropropene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2-Dibromo-3-chloropropane	ND	10	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Dibromochloromethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Dibromomethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2-Dichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,3-Dichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,4-Dichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Dichlorodifluoromethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,1-Dichloroethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,1-Dichloroethene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2-Dichloropropane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,3-Dichloropropane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
2,2-Dichloropropane	ND	10	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,1-Dichloropropene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Hexachlorobutadiene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
2-Hexanone	ND	50	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Isopropylbenzene	17	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
4-Isopropyltoluene	6.8	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
4-Methyl-2-pentanone	ND	50	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Methylene Chloride	ND	15	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
n-Butylbenzene	ND	15	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
n-Propylbenzene	16	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
sec-Butylbenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Styrene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
tert-Butylbenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #2
Project: Fields A 7A
Collection Date: 10/31/2017 10:37:00 AM
Lab ID: 1711034-003
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1,1,2-Tetrachloroethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,1,2,2-Tetrachloroethane	ND	10	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Tetrachloroethene (PCE)	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
trans-1,2-DCE	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
trans-1,3-Dichloropropene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2,3-Trichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2,4-Trichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,1,1-Trichloroethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,1,2-Trichloroethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Trichloroethene (TCE)	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Trichlorofluoromethane	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
1,2,3-Trichloropropane	ND	10	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Vinyl chloride	ND	5.0	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Xylenes, Total	1000	7.5	D	µg/L	5	11/3/2017 5:53:00 AM	A46852
Surr: 1,2-Dichloroethane-d4	99.8	70-130	D	%Rec	5	11/3/2017 5:53:00 AM	A46852
Surr: 4-Bromofluorobenzene	97.1	70-130	D	%Rec	5	11/3/2017 5:53:00 AM	A46852
Surr: Dibromofluoromethane	103	70-130	D	%Rec	5	11/3/2017 5:53:00 AM	A46852
Surr: Toluene-d8	102	70-130	D	%Rec	5	11/3/2017 5:53:00 AM	A46852

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #3
Project: Fields A 7A
Collection Date: 10/31/2017 10:15:00 AM
Lab ID: 1711034-004
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst: **pmf**	
Hardness (As CaCO3)	440	6.6		mg/L	1	11/7/2017	R46981
SPECIFIC GRAVITY						Analyst: **JRR**	
Specific Gravity	1.006	0			1	11/2/2017 1:18:00 PM	R46859
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	210	50		mg/L	100	11/2/2017 3:15:41 AM	R46843
Sulfate	2500	50	*	mg/L	100	11/2/2017 3:15:41 AM	R46843
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	6400	5.0		µmhos/cm	1	11/6/2017 4:05:48 PM	R46906
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	1160	20.00		mg/L CaCO3	1	11/6/2017 4:05:48 PM	R46906
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	11/6/2017 4:05:48 PM	R46906
Total Alkalinity (as CaCO3)	1160	20.00		mg/L CaCO3	1	11/6/2017 4:05:48 PM	R46906
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	4850	100	*D	mg/L	1	11/6/2017 1:37:00 PM	34800
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.03		H	pH units	1	11/6/2017 4:05:48 PM	R46906
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Calcium	130	10		mg/L	10	11/6/2017 4:12:06 PM	B46923
Iron	1.1	0.20	*	mg/L	10	11/6/2017 4:12:06 PM	B46923
Magnesium	26	1.0		mg/L	1	11/6/2017 4:10:23 PM	B46923
Potassium	3.3	1.0		mg/L	1	11/6/2017 4:10:23 PM	B46923
Sodium	1400	20		mg/L	20	11/7/2017 5:54:35 PM	A46981
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	1500	50		µg/L	50	11/3/2017 2:10:00 PM	R46886
Toluene	17	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Ethylbenzene	88	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Methyl tert-butyl ether (MTBE)	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2,4-Trimethylbenzene	160	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,3,5-Trimethylbenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2-Dichloroethane (EDC)	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2-Dibromoethane (EDB)	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Naphthalene	ND	10	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1-Methylnaphthalene	ND	20	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
2-Methylnaphthalene	ND	20	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Acetone	ND	50	D	µg/L	5	11/3/2017 6:16:00 AM	A46852

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #3
Project: Fields A 7A
Collection Date: 10/31/2017 10:15:00 AM
Lab ID: 1711034-004
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Bromobenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Bromodichloromethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Bromoform	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Bromomethane	ND	15	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
2-Butanone	ND	50	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Carbon disulfide	ND	50	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Carbon Tetrachloride	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Chlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Chloroethane	ND	10	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Chloroform	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Chloromethane	ND	15	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
2-Chlorotoluene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
4-Chlorotoluene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
cis-1,2-DCE	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
cis-1,3-Dichloropropene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2-Dibromo-3-chloropropane	ND	10	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Dibromochloromethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Dibromomethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2-Dichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,3-Dichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,4-Dichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Dichlorodifluoromethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,1-Dichloroethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,1-Dichloroethene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2-Dichloropropane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,3-Dichloropropane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
2,2-Dichloropropane	ND	10	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,1-Dichloropropene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Hexachlorobutadiene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
2-Hexanone	ND	50	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Isopropylbenzene	15	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
4-Isopropyltoluene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
4-Methyl-2-pentanone	ND	50	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Methylene Chloride	ND	15	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
n-Butylbenzene	ND	15	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
n-Propylbenzene	9.8	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
sec-Butylbenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Styrene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
tert-Butylbenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #3
Project: Fields A 7A
Collection Date: 10/31/2017 10:15:00 AM
Lab ID: 1711034-004
Matrix: AQUEOUS
Received Date: 11/1/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1,1,2-Tetrachloroethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,1,2,2-Tetrachloroethane	ND	10	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Tetrachloroethene (PCE)	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
trans-1,2-DCE	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
trans-1,3-Dichloropropene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2,3-Trichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2,4-Trichlorobenzene	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,1,1-Trichloroethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,1,2-Trichloroethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Trichloroethene (TCE)	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Trichlorofluoromethane	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
1,2,3-Trichloropropane	ND	10	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Vinyl chloride	ND	5.0	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Xylenes, Total	680	7.5	D	µg/L	5	11/3/2017 6:16:00 AM	A46852
Surr: 1,2-Dichloroethane-d4	96.7	70-130	D	%Rec	5	11/3/2017 6:16:00 AM	A46852
Surr: 4-Bromofluorobenzene	101	70-130	D	%Rec	5	11/3/2017 6:16:00 AM	A46852
Surr: Dibromofluoromethane	99.8	70-130	D	%Rec	5	11/3/2017 6:16:00 AM	A46852
Surr: Toluene-d8	98.6	70-130	D	%Rec	5	11/3/2017 6:16:00 AM	A46852

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**

13-Nov-17

Client: Blagg Engineering

Project: Fields A 7A

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46923**	RunNo: **46923**
Prep Date:	Analysis Date: **11/6/2017**	SeqNo: **1497084** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46923**	RunNo: **46923**
Prep Date:	Analysis Date: **11/6/2017**	SeqNo: **1497088** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.2	85	115			
Iron	0.50	0.020	0.5000	0	99.0	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Sodium	51	1.0	50.00	0	101	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46981**	RunNo: **46981**
Prep Date:	Analysis Date: **11/7/2017**	SeqNo: **1498910** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Sodium	ND	1.0								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46981**	RunNo: **46981**
Prep Date:	Analysis Date: **11/7/2017**	SeqNo: **1498912** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	47	1.0	50.00	0	94.2	85	115			
Iron	0.49	0.020	0.5000	0	98.2	85	115			
Sodium	48	1.0	50.00	0	96.3	85	115			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**

13-Nov-17

Client: Blagg Engineering

Project: Fields A 7A

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46843**	RunNo: **46843**
Prep Date:	Analysis Date: **11/1/2017**	SeqNo: **1493759** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46843**	RunNo: **46843**
Prep Date:	Analysis Date: **11/1/2017**	SeqNo: **1493760** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	100	90	110			
Sulfate	10	0.50	10.00	0	103	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**

13-Nov-17

Client: Blagg Engineering

Project: Fields A 7A

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A46852**	RunNo: **46852**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494176** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	70	130			
Toluene	19	1.0	20.00	0	96.6	70	130			
Chlorobenzene	19	1.0	20.00	0	96.9	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		96.7	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46852**	RunNo: **46852**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494179** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**

13-Nov-17

Client: Blagg Engineering

Project: Fields A 7A

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46852**	RunNo: **46852**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494179** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**

13-Nov-17

Client: Blagg Engineering

Project: Fields A 7A

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46852**	RunNo: **46852**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494179** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.3	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R46886**	RunNo: **46886**
Prep Date:	Analysis Date: **11/3/2017**	SeqNo: **1495512** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.6		10.00		95.9	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46886**	RunNo: **46886**
Prep Date:	Analysis Date: **11/3/2017**	SeqNo: **1495514** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.6		10.00		96.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**
13-Nov-17

Client: Blagg Engineering
Project: Fields A 7A

Sample ID	**lcs-1 ~20uS eC**	SampType: **LCS**		TestCode: **SM2510B: Specific Conductance**						
Client ID:	**LCSW**	Batch ID: **R46906**		RunNo: **46906**						
Prep Date:		Analysis Date: **11/6/2017**		SeqNo: **1497381**		Units: **µmhos/cm**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity		22	5.0	19.96	0	109	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**

13-Nov-17

Client: Blagg Engineering

Project: Fields A 7A

Sample ID	**mb-1 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R46906**		RunNo:	**46906**					
Prep Date:		Analysis Date:	**11/6/2017**		SeqNo:	**1497408**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-1**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R46906**		RunNo:	**46906**					
Prep Date:		Analysis Date:	**11/6/2017**		SeqNo:	**1497409**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	79.48	20.00	80.00	0	99.4	90	110				

Sample ID	**mb-2 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R46906**		RunNo:	**46906**					
Prep Date:		Analysis Date:	**11/6/2017**		SeqNo:	**1497432**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-2 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R46906**		RunNo:	**46906**					
Prep Date:		Analysis Date:	**11/6/2017**		SeqNo:	**1497433**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	79.16	20.00	80.00	0	99.0	90	110				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711034**

13-Nov-17

Client: Blagg Engineering

Project: Fields A 7A

Sample ID	**MB-34800**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**34800**	RunNo:	**46902**					
Prep Date:	**11/3/2017**	Analysis Date:	**11/6/2017**	SeqNo:	**1496051**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-34800**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**34800**	RunNo:	**46902**					
Prep Date:	**11/3/2017**	Analysis Date:	**11/6/2017**	SeqNo:	**1496052**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1711034 | RcptNo: 1

Received By: Anne Thorne 11/1/2017 7:00:00 AM

Completed By: Ashley Gallegos 11/1/2017 1:12:13 PM

Reviewed By: 11/1/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☒	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 4 (<2 or >12 unless noted)

Adjusted? yes

Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: | Date:

By Whom: | Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks: Poured off from B fraction into C fraction for od-004 preserved -001C, -002C, -003C, -004C with 0.4 mL HNO_3 11/01/17 @ 1340

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA
BLAGG ENGINEERING INC.
Mailing Address:
Phone #: (505) 320-1183
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: FIELDS A 7A
Project #:
Project Manager: STEVE MOSKAL
Sampler: JEFF BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711034	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	API WATER				Air Bubbles (Y or N)
10/31/2017	0936	WATER	MW #1	3x VOA 1x 500	HCL COOL	-001										X		X				
"	0902	"	MW #1A	"	"	-002										"		"				
"	1037	"	MW #2	"	"	-003										"		"				
"	1015	"	MW #3	"	"	-004										"		"				

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/31/2017	1142	Jeff Blagg	Chris Walters	10/31/2017	1142
10/31/17	1911	Chris Walters		11/1/17	0700

Remarks: BILL BP
CONTACT: STEVE MOSKAL

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

API WATER LIST

EPA METHOD 300.0 ANIONS
- Chloride
- Sulfate

EPA 6010B: HARDNESS
- Hardness (As CaCO3)

EPA METHOD 6010B: DISSOLVED METALS
- Calcium
- Magnesium
- Iron
- Potassium
- Sodium

SM2320C: ALKALINITY
- Alkalinity, Total (As CaCO3)
- Carbonate
- Bicarbonate
- Hydroxide

EPA 120.1: SPECIFIC CONDUCTANCE
- Specific Conductance

SM4500-H+B: PH
- pH

SPECIFIC GRAVITY BY SM 2710F
- Specific Gravity

SM2540C: TDS
- Total Dissolved Solids

REQUIRED BOTTLES:

1-500mL HDPE unpreserved
1-125mL HDPE HNO3 preserved
1- Filter
1-Syringe

HISTORICAL REPORTS & DATA

BP AMERICA PRODUCTION COMPANY

ENVIRONMENTAL PRIORITY ASSESSMENT ON FEDERAL LEASE

Submitted by Blagg Engineering, Inc., Consultant, Bloomfield, NM

WELL NAME: FIELDS A #7A

WELL STATUS: ACTIVE

SURFACE OWNER: Bureau Land Management (BLM)

LEGALS: UNIT E (SW/NW), SEC. 34, T32N, R11W
(General area description): Kiffen Canyon off of CR2900 (Ruins Rd.)

BRIEF SUMMARY OF HISTORICAL ENVIRONMENTAL CONDITION(S)

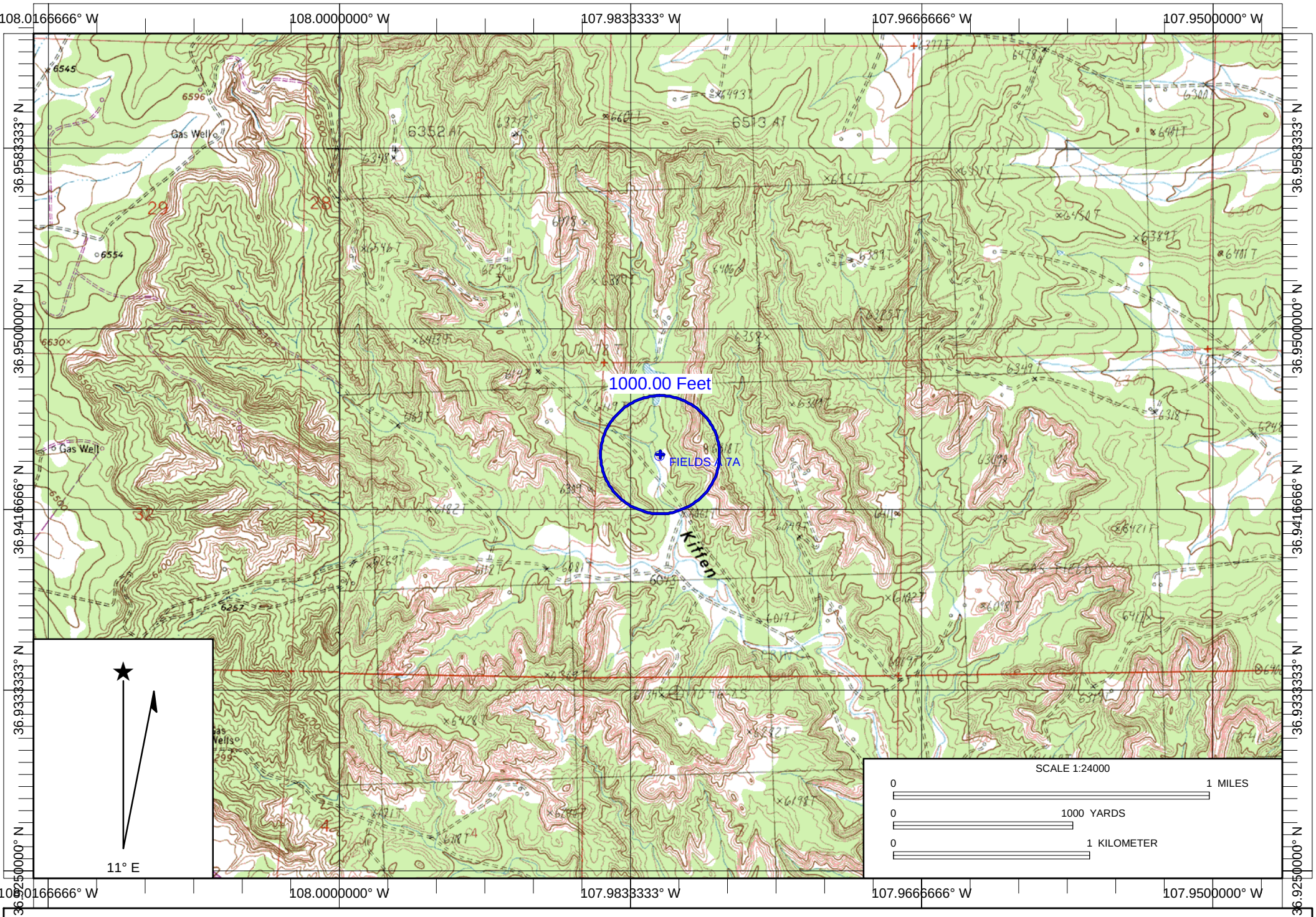
This site contains numerous potential source areas along with a complex subsurface lithology. To simplify the historical events to date, the proceeding page briefly outlines the chronological data incorporated with this file. This site also has a third party involved with a formal regulatory directive from the New Mexico Oil Conservation Division (NMOCD) in remediating soil and/or groundwater.

FUTURE INVESTIGATION RECOMMENDED

At a minimum, one (1) additional monitor well needs to be installed in the down gradient direction from the impacted MW #3 position. Monitoring of MW #2 free phase product level/status and continuation of quarterly sampling of MW #3 is advised. Due to the remoteness of the site, no immediate/aggressive remedial effort(s) appears warranted or is suggested.

FIELDS A #7A HISTORICAL CHRONOLOGICAL OUTLINE

1. Site assessments conducted on dehydrator, production tank, and separator/compressor pits in June, 1992 (all revealed hydrocarbon impact in soil only).
2. Monitor well MW #1 installed near separator/compressor pit in December, 1992 as part of an investigation to discover groundwater depths in the expanded vulnerable areas.
3. In May, 1993, MW #1 contained approximately 0.42 ft. of free phase product.
4. Three (3) quarterly sampling events on MW #1 between December, 1993 and June, 1994 showed benzene, toluene, ethylbenzene, and total xylenes (BTEX) levels below New Mexico Water Quality Control Commission (NMWQCC) standards.
5. El Paso Field Services (EPFS) initiated soil/groundwater investigation at their dehydrator pit in September, 1994. Submitted a formal report to NMOCD in June, 1997.
6. EPFS, in a correspondence letter attached to numerous groundwater reports dated February 27, 1998, recommended no further action at the site until BP commenced with remediation associated with its production tank pits.
7. NMOCD responds to EPFS and BP in July, 1998 and requested cooperation from both parties to address the soil/groundwater hydrocarbon impact at the site.
8. BP conducts three (3) pit closures in March, 2004 (dehydrator, separator, and unknown pits).
9. Unknown pit remediation conducted in April, 2004 with an excavation measured approximately 60 ft. X 32 ft. X 13 ft. in depth (*up gradient of EPFS dehydrator pit*). Bedrock exposed at the bottom of the excavation. Approximately 950 cubic yards removed and landfarmed at Fields A #4B (Sec. 28, T32N, R11W).
10. BP continued its investigation of the unknown pit with borings advanced with a conventional drill rig in November, 2006. Auger refusal from bedrock noted at 10 ft. below grade within up gradient boring and at 23 ft. below grade within the unknown pit location. One (1) monitor well (MW #2) installed in the suspected down gradient direction from the unknown pit excavation. Total depth of MW #2 noted at 37 ft. below grade.
11. MW #2 testing for BTEX on November 29, 2006 showed all BTEX constituents above NMWQCC standards except for ethylbenzene.
12. MW #2 revealed 0.61 ft. of free phase product on March 29, 2007.
13. Passive vent wind turbine installed on MW #2 casing on April 2, 2007.
14. Two (2) additional monitor wells installed on June 26, 2007 (MW #1A-background & MW #3-down gradient of MW #2).
15. July 19, 2007, organic matter in MW #1 was removed via air utilizing an air compressor and poly tubing down the casing. Afterwards, sampling of MW #1, #1A, and #3 was conducted. MW #2 contained 0.01 ft. of free phase product. Laboratory results revealed MW #3 contained benzene above NMWQCC standards (390 ppb).
16. October 18, 2007 sampling event showed MW #2 again with 0.01 ft. of free phase product and MW #3 with a benzene level of 290 ppb.
17. Groundwater flow appears to initiate in south direction, then shifts to the southwest based on information gathered in 2007.



Name: CEDAR HILL
Date: 1/7/2008
Scale: 1 inch equals 2000 feet

Location: 036.9441430° N 107.9817808° W
Caption: FIELDS A #7A
Unit E, Sec. 34, T32N, R11W

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

94298

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: BACKHOE

DATE STARTED: 6/11/92
DATE FINISHED: 6/11/92
ENVIRO. SPCLT: NM
OPERATOR: DB
ASSISTANT: PV

LOCATION: LSE: FIELD WELL: #7A QD: SW/4 NW/4
SEC: 34 TWP: 32N RNG: 11W PM: NM CNTY: SAN JUAN ST: NM PIT: DEHY
LAND USE: RANGE NM-010989
SURFACE CONDITIONS: SAND, LT BROWN TO TAN COLOR, EARTHEN (WATER AND/OR CONDENSATE)

FIELD NOTES & REMARKS: SAND AND SILT, WELL SORTED, DK. BROWN AT PIT SURFACE, IMMEDIATELY TURNS BLACK (SMELLS LIKE SEWAGE) DOWN 10 FT. THEN GRAY AT BASE. TRENCHED OUT T1 TO T4, PROBABLY AN OLD EXISTING RESERVE PIT.

SAMPLE INVENTORY:

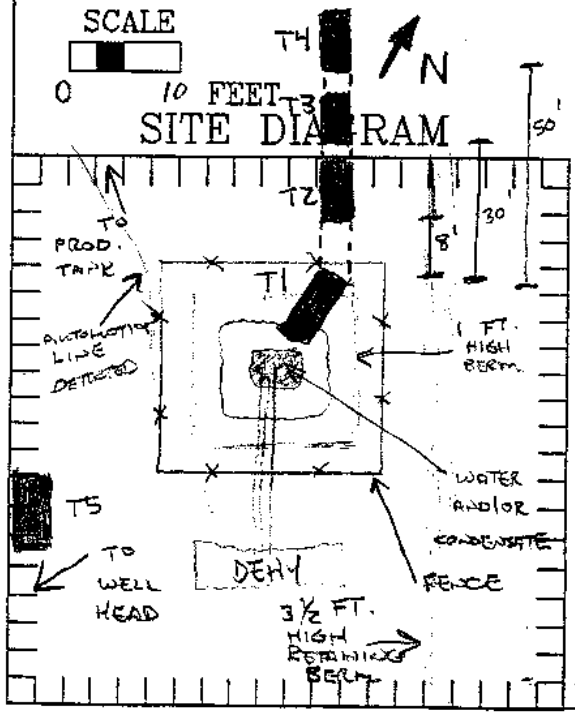
SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:	
T1@10'	SOIL	TPH/8020	1400
T4@6	SOIL	HEAD	1445
T5@10	SOIL	HEAD	1615

1416

PIT LOCATION: 40 FT NORTH, 50 FT. EAST OF WELL HEAD

NOTE: HIT ANIMATION LINE (NEW OR OLD LINE UNKNOWN) @ T5. COULD NOT DETECT THIS LINE W/ DETECTOR. DETECTED LINE RUNNING DOWN WEST SIDE OF FENCE.

SCALE
0 10 FEET



TEST HOLE LOGS:

TH#: 1

SOIL TYPE:	SMPL TYPE:	OVM/TPH	
GROUND SURFACE			0
	BLACK		2
			4
SM		2315	6
	GRAY		8
SM		2108	10
			12
TD	-	11'	14
GW	-	NR	
HIT BEDROCK			

TH#: 2

SOIL TYPE:	SMPL TYPE:	OVM/TPH	
	BLACK		4
SM		770	6
TD	-	10'	12
GW	-	NR	

TH#: 3

SOIL TYPE:	SMPL TYPE:	OVM/TPH	
	BLACK		4
SM		27	6
TD	-	10'	12
GW	-	NR	

TH#: 4

SOIL TYPE:	SMPL TYPE:	OVM/TPH	
	BLACK		4
SM		49.0	6
TD	-	8'	10
GW	-	NR	

SOIL TYPE: C - Clay, M - Silt, S - Sand, G - Gravel Plasticity: L - None, H - Plastic Grading: P - Poorly, W - Well

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

94298

FIELD REPORT: SITE ASSESSMENT

JOB No: _____
PAGE No: ____ of ____

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: _____

DATE STARTED: _____
DATE FINISHED: _____
ENVIRO. SPCLT: _____
OPERATOR: _____
ASSISTANT: _____

LOCATION: LSE: Fields WELL: #7A QD: SW/4 NW/4
SEC: TWP: RNG: PM: CNTY: ST: PIT: DEHY.

LAND USE: _____
SURFACE CONDITIONS: _____

FIELD NOTES & REMARKS: CONTINUED COCR 1416

SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:

SCALE
0 FEET

SITE DIAGRAM

TEST HOLE LOGS:

TH#: 5

SOIL TYPE:	SMPL TYPE:	OVM/TPH
GROUND SURFACE		
		2
		4
		6
		8
BLACK		2338
		10
		5256
		12
TD	-	12'
GW	-	NR

TH#: _____

SOIL TYPE:	SMPL TYPE:	OVM/TPH

TH#: _____

SOIL TYPE:	SMPL TYPE:	OVM/TPH

TH#: _____

SOIL TYPE:	SMPL TYPE:	OVM/TPH

SOIL TYPE: C = Clay, M = Silt, S = Sand, G = Gravel Plasticity: L = None, H = Plastic Grading: P = Poorly, W = Well

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	AMOCO	Project #:	92140
Sample ID:	T-1 @ 10'	Date Reported:	07-20-92
Laboratory Number:	1264	Date Sampled:	06-11-92
Sample Matrix:	Soil	Date Received:	06-11-92
Preservative:	Cool	Date Analyzed:	07-20-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	104	5.0

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Fields A-7A Dehydrator Pit 94298 9

Analyst

Review

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 10'	Date Reported:	10-09-92
Laboratory Number:	1264	Date Sampled:	06-11-92
Sample Matrix:	Soil	Date Received:	06-11-92
Preservative:	Cool	Date Extracted:	07-20-92
Condition:	Cool & Intact	Date Analyzed:	10-05-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	398	29.9
Toluene	10,400	40
Ethylbenzene	3,580	29.9
p,m-Xylene	31,800	50
o-Xylene	8,600	39.9

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	122 %
Bromfluorobenzene	109 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Fields A 7A---Dehy. Pit---94298

Analyst

Review

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T5 @ 10'	Date Reported:	09-16-92
Laboratory Number:	1265	Date Sampled:	06-11-92
Sample Matrix:	Soil	Date Received:	06-11-92
Preservative:	Cool	Date Analyzed:	08-27-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	2.4
Toluene	8.3	5.6
Ethylbenzene	11.3	1.6
p,m-Xylene	182	1.6
o-Xylene	84	1.6

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Fields A 7A---Dehy. Pit---94298

Analyst

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T4 @ 6'	Date Reported:	09-16-92
Laboratory Number:	1266	Date Sampled:	06-11-92
Sample Matrix:	Soil	Date Received:	06-11-92
Preservative:	Cool	Date Analyzed:	08-27-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	2.4
Toluene	6.2	5.6
Ethylbenzene	2.0	1.6
p,m-Xylene	8.6	1.6
o-Xylene	6.4	1.6

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Fields A 7A---Dehy. Pit---94298

Analyst

Review

(1416)

94298

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO 92140	DEHY PIT FIELDS A7A	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH	BTEX	HEAD BTEX				Remarks
T1 @ 10	6/11/92	1400	12664	SOIL	1	1	1					
T4 @ 6	6/11/92	1445	12660	SOIL	1			1				
T5 @ 10	6/11/92	1615	12665	SOIL	1			1				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/11/92	1727	Vanessa Pierson	6/11/92	1727
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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JJ

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94236

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: BACKHOE

DATE STARTED: 6/3/92
DATE FINISHED: 6/12/92
ENVIRO. SPCLT: NV
OPERATOR: DB
ASSISTANT: PV

LOCATION: LSE: FIELDS WELL: A7A QD: SW/4 NW/4
SEC: 34 TWP: 32N RNG: 11W PM: NM CNTY: SAN JUAN ST: NM PIT: PROD
LAND USE: RANGE NM - 010989
SURFACE CONDITIONS: SAND, LT. BROWN TO TAN COLOR, EARTHEN

FIELD NOTES & REMARKS:

EQUIP BLANK 1105 (RINSE WATER)

BLACK, WELL SORTED SAND FROM PIT SURFACE TO APPROX. 10 FT. IN DEPTH. BROWN, WELL SORTED SAND 10-13 FT. INTERVAL @ T1. RECOMMEND FURTHER ASSESSMENT.

PIT LOCATION: 110 FT NORTH OF WELL HEAD.

NOTE: NEED TO DETECT GROUND RTD LINES BEFORE ANY MORE ASSESSMENT CAN BE DONE.
6/3/92 THIS SITE ALSO HAS DEHY PIT TO BE ASSESSED w/ AUTOMATION LINE TO BE STAKED OUT.

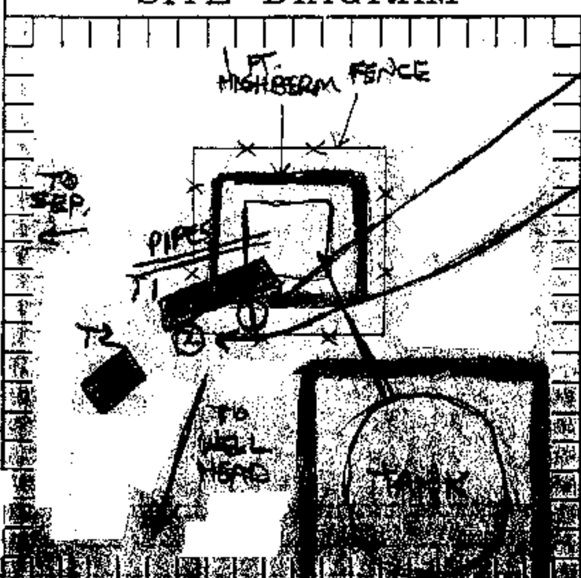
SAMPLE INVENTORY:

	SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:	
6/3/92 1346	T1@10'	SOIL	TPH / 8020	1055
6/12/92 1417	T2@5	SOIL	HEAD	0910
	T3@10	SOIL	HEAD	1010

SCALE
0 10 FEET

N

SITE DIAGRAM



TEST HOLE LOGS:

Depth	TH#: 1 SOIL TYPE:	SMPL TYPE:	OVM/TPH	TH#: 2 SOIL TYPE:	SMPL TYPE:	OVM/TPH	TH#: 3 SOIL TYPE:	SMPL TYPE:	OVM/TPH	TH#: SOIL TYPE:	SMPL TYPE:	OVM/TPH
2	PIT GRND	DK. BROWN		BROWN			BROWN					
4												
6	SP	①	2094	SP		147	SP		105			
8		BLACK										
10	SP		1625	SP		439	SP		339			
12	SP	BROWN ②	148.7	SP		434	SP		551			
14	TD	-	13'	TD	-	14'	TD	-	14'			
16	GW	-	NR	GW	-	NR	GW	-	NR			
18	HIT	BEDROCK										
	6/3/91 ONLY			6/12/92			6/12/92					

SOIL TYPE: C - Clay, M - Silt, S - Sand, G - Gravel Plasticity: L - None, H - Plastic Grading: P - Poorly, W - Well

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	AMOCO	Project #:	92140
Sample ID:	T-1 @ 10'	Date Reported:	07-14-92
Laboratory Number:	1059	Date Sampled:	06-03-92
Sample Matrix:	Soil	Date Received:	06-03-92
Preservative:	Cool	Date Analyzed:	07-14-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,360	5.0

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Fields A-7 A ~~Separator~~ ARCO. TANK Pit 94236

Analyst

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ENVIROTECH LABS

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 10'	Date Reported:	10-05-92
Laboratory Number:	1059	Date Sampled:	06-03-92
Sample Matrix:	Soil	Date Received:	06-03-92
Preservative:	Cool	Date Extracted:	07-14-92
Condition:	Cool & Intact	Date Analyzed:	10-01-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	115	20.0
Toluene	8,000	80
Ethylbenzene	13,600	29.9
p,m-Xylene	159,300	60
o-Xylene	20,300	39.9

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Bromfluorobenzene	102 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Fields A7A---Production Pit---94236.

Robert M Young
Analyst

David D Young
Review

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T2 @ 5'	Date Reported:	09-16-92
Laboratory Number:	1293	Date Sampled:	06-12-92
Sample Matrix:	Soil	Date Received:	06-12-92
Preservative:	Cool	Date Analyzed:	08-31-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	1.6
Toluene	ND	8.0
Ethylbenzene	3.8	1.6
p,m-Xylene	4.2	4.0
o-Xylene	6.3	4.8

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Fields A 7A---Production Pit---94236

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T3 @ 10'	Date Reported:	09-16-92
Laboratory Number:	1294	Date Sampled:	06-12-92
Sample Matrix:	Soil	Date Received:	06-12-92
Preservative:	Cool	Date Analyzed:	08-31-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	2.3	1.6
Toluene	ND	8.0
Ethylbenzene	3.3	1.6
p,m-Xylene	25.4	4.0
o-Xylene	15.7	4.8

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Fields A 7A---Production Pit---94236

Analyst

Review

1546

94236

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	
AMOCO 92140	PROD. ~~TEP~~. PIT FIELDS A7A	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BOZO	TPH	HEAD				Remarks
TI @ 10'	6/3/92	1055	~~1058~~ 1059MT	SOIL	1	✓	✓					
EQUIP BLANK	6/3/92	1105	~~1059~~ 1060MT	WATER	1	✓						SAMPLE TAKEN AFTER CLEANING GLASSWARE
TRIP BLANK	6/3/92	–	~~1060~~ 1062MT	WATER	1	✓						
TRIP BLANK	6/3/92	–	~~1061~~ 1061MT	SOIL	1			✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/3/92	1627	Michael J. E[illegible]	6-3-92	1623
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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1417

CHAIN OF CUSTODY RECORD

94236

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO 92140	PROD. PIT FIELDS ATA	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH	BTEX	HEAD BTEX				Remarks
T2 @ 5'	6/12/92	0910	1293	SOIL	1			1				
T3 @ 10'	6/12/92	1010	1294	SOIL	1			1				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/12/92	1543	Vanessa Ransom	6/12/92	1543
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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94227

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: BACKHOE

DATE STARTED: 6/2/96
DATE FINISHED: 6/3/96
ENVIRO. SPCLT: NV
OPERATOR: DB
ASSISTANT: NV

LOCATION: LSE: FIELDS WELL: A1A QD: SW/4 NW/4
SEC: 34 TWP: 32N RNG: 11W PM: NM CNTY: SAN JUAN ST: NM PIT: SEP/COMPRESSOR
LAND USE: RANGE FED LSE. NO. NM-010989
SURFACE CONDITIONS: SAND, GRAVEL ON TOP OF 1 FT. BERM, DOUBLE BOTTOM STEEL TANK

FIELD NOTES & REMARKS: SAND, DK. BROWN 5-8 FT., BROWN TO LT. BROWN BELOW 8 FT. VERY STRONG ODOR (LIKE GASOLINE) @ T1.
RECOMMEND EXCAVATING SOIL BELOW TANK AND PIT AREA & VAPOR RECOVERY.

PIT LOCATION 70 FT. WEST OF WELL HEAD.

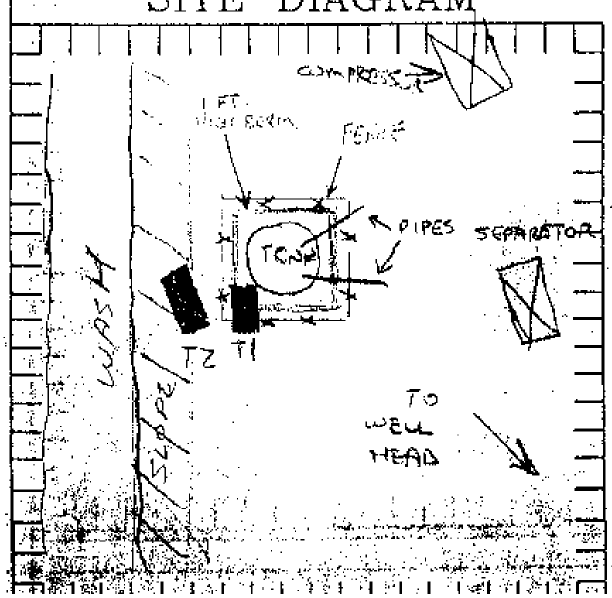
SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:	
T1@11	SOIL	TPH/8020	1450
T2@6'	SOIL	HEAD	1520
T2@15	SOIL	TPH/8020	1545

1336

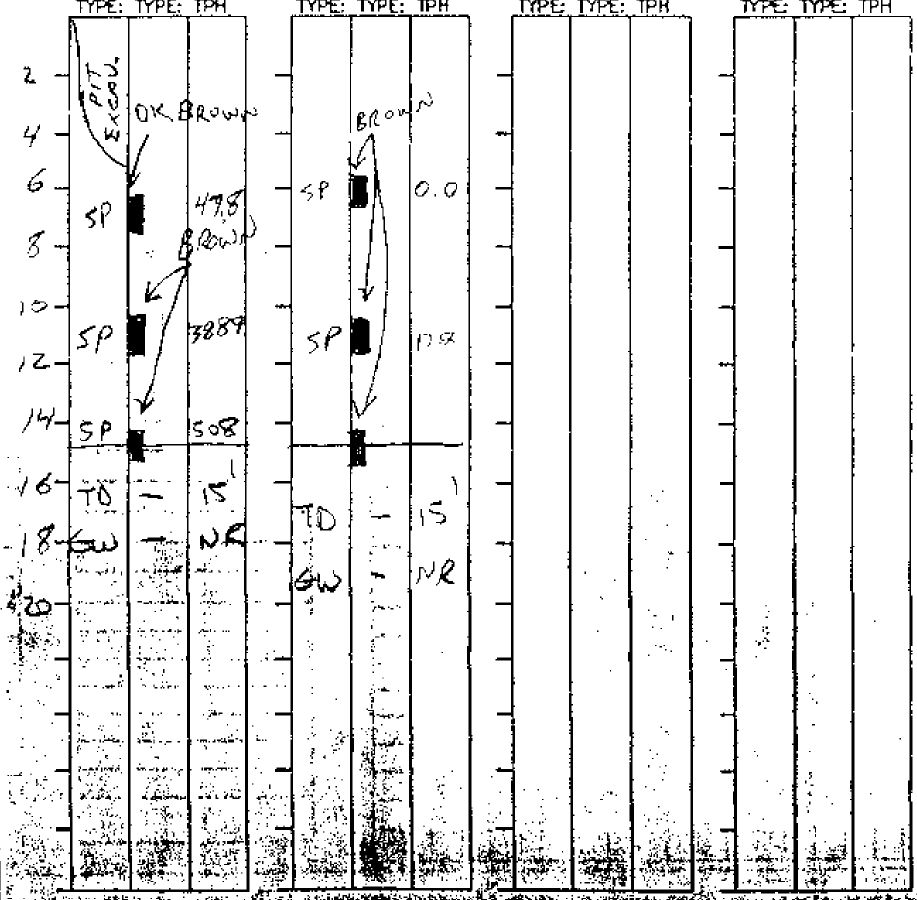
SCALE
0 20 FEET

SITE DIAGRAM



TEST HOLE LOGS:

TH#: 1 TH#: 2 TH#: TH#:



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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	AMOCO	Project #:	92140
Sample ID:	T-1 @ 11'	Date Reported:	07-16-92
Laboratory Number:	1018	Date Sampled:	06-02-92
Sample Matrix:	Soil	Date Received:	06-02-92
Preservative:	Cool	Date Analyzed:	07-16-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,200	5.0

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Fields A7A Separator/Compressor Pit 94227

Vanessa Ramos
Analyst

Review

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 11'	Date Reported:	10-05-92
Laboratory Number:	1018	Date Sampled:	06-02-92
Sample Matrix:	Soil	Date Received:	06-02-92
Preservative:	Cool	Date Extracted:	07-16-92
Condition:	Cool & Intact	Date Analyzed:	10-01-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	89	20.0
Toluene	880	50
Ethylbenzene	3,100	29.9
p,m-Xylene	42,500	70
o-Xylene	14,700	39.9

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	90 %
	Bromfluorobenzene	115 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Fields A7A---Separator/Compressor Pit---94227.

Robert M Young
Analyst

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T2 @ 6'	Date Reported:	09-01-92
Laboratory Number:	1019	Date Sampled:	06-02-92
Sample Matrix:	Soil	Date Received:	06-02-92
Preservative:	Cool	Date Analyzed:	08-11-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	20.2	1.6
Toluene	ND	7.2
Ethylbenzene	ND	10.4
p,m-Xylene	ND	17.6
o-Xylene	ND	9.6

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Fields A 7A Separator / Compressor Pit 94227

Analyst

Review

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	AMOCO	Project #:	92140
Sample ID:	T-2 @ 15'	Date Reported:	07-13-92
Laboratory Number:	1020	Date Sampled:	06-02-92
Sample Matrix:	Soil	Date Received:	06-02-92
Preservative:	Cool	Date Analyzed:	07-13-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	8.9	5.0

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Fields A-7 A Separator/Compressor Pit 94227

Vanessa Ranson
Analyst

Review

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T2 @ 15	Date Reported:	10-05-92
Laboratory Number:	1020	Date Sampled:	06-02-92
Sample Matrix:	Soil	Date Received:	06-02-92
Preservative:	Cool	Date Extracted:	07-13-92
Condition:	Cool & Intact	Date Analyzed:	10-01-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	20.0
Toluene	815	50
Ethylbenzene	59	29.9
p,m-Xylene	334	70
o-Xylene	147	39.9

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	93 %
	Bromfluorobenzene	103 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Fields A7A---Separator/Compressor Pit---94227.

Robert M Young
Analyst

Review

1536

CHAIN OF CUSTODY RECORD

94227

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO 92140	SEP/COMPRESSOR PIT FIELDS A7A	

Sampler: (Signature): Nelson Velez

Chain of Custody Tape No.:

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	8020	TPH	HEAD				Remarks
TI @ 11	6/2/92	1450	1018	SOIL	1	·1	·1					
T2 @ 6	6/2/92	1520	1019	SOIL	1			·1				
T2 @ 15	6/2/92	1545	1020	SOIL	1	·1	·1					
EQUIP BLANK	6/2/92	1340	1021	WATER		·✓						
TRIP BLANK	6/2/92	–	1022	WATER		·✓						
TRIP BLANK	6/2/92	–	1023	SOIL				·✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/2/92	1712	Vicki Trujillo	6/2/92	1712
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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ENVIROTECH INC.

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BORE HOLE REPORT

PROJECT:	MONITOR WELL DRILLING PROJECT (EXPANDED VULNER. AREA)
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	ENVIROTECH INC.
EQUIPMENT USED:	DRILLING RIG (CME 55)

BORING No:	BH -1
JOB No:	92140
PAGE No:	15
LOCATION:	FIELDS A7A
DATE START:	12/01/92
DATE FINISH:	12/01/92
OPERATOR:	MD
PREPARED BY:	NV

DEPTH FEET	USCS	OVM PPM	SAMPLE TYPE	BLOW/ FOOT	FIELD CLASSIFICATION AND REMARKS
					YELLOWISH BROWN SILTY SAND, DRY, LOOSE TO SLIGHT DENSE NO APPARENT ODOR.
5	SM	ND	CUT'G	NA	SAA.
10	SM	ND	SPT	NA	SAA.
15	SM	ND	CUT'G	NA	SAA, SLIGHTLY MOIST.
20	SM	2.8	SPT	NA	SAA, BROWN, SLIGHT ODOR.
25	SM	8.2	CUT'G	NA	SOIL TPH ANALYSIS @ 24' (USEPA Method 418.1) = 22.7 ppm. SAA, SATURATED.
30					
35	▼				TOTAL DEPTH: 25 FEET GROUNDWATER DEPTH: 35 FEET @ 1300 (12/01/92)
40					
45					
50					

COMPLETION: SEE SHEET #6 (MONITOR WELL DETAILS; MW - 1).

NOTES:
- SPT - SPLIT SPOON SAMPLE COLLECTED BY DRILL RIG.
- WTR - GROUNDWATER SAMPLE
- SAA - SAME SOIL TYPE AS DESCRIBED ABOVE, EXCEPT AS NOTED.
- CUT'G - GRAB SOIL SAMPLE.
- ND - NONE DETECTED.
- OVM - SOIL SAMPLE COLLECTED DURING EXPLORATION, ANALYZED FOR HYDROCARBON VAPORS PER NMED HEADSPACE FIELD METHOD USING THERMO ENVIRONMENTAL INSTRUMENTS MODEL 580-B ORGANIC VAPOR METER (OVM).
- TPH - TOTAL PETROLEUM HYDROCARBONS. REFER TO LAB ANALYSIS MW #1 (24').

DRAWING: THRPT15
DATE: 02-12-93
DWN BY: NV

ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	MW#1 (24')	Date Reported:	12-07-92
Laboratory Number:	4043	Date Sampled:	12-01-92
Sample Matrix:	Soil	Date Received:	12-01-92
Preservative:	Cool	Date Analyzed:	12-07-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	22.7	5.0

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Fields A7A---Separator/Compressor Pit---94227

Analyst

Review

2217

CHAIN OF CUSTODY RECORD

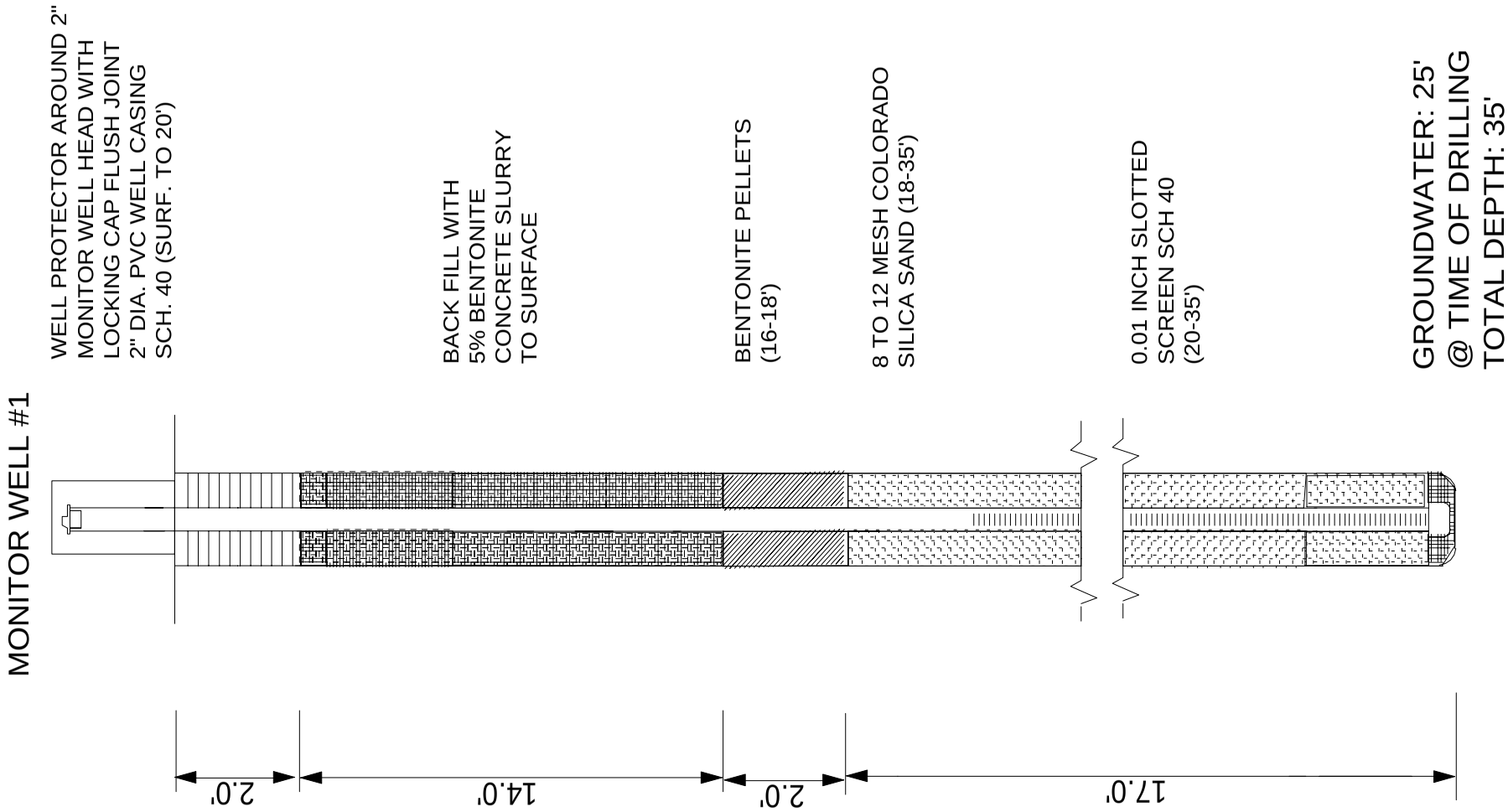
94227

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
Amoco 92140	SEP./COMPR. PIT FIELDS A7A	
Sampler: (Signature) Mike Donahue 3M5	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (418.1)						Remarks
MW #1 (24')	12/1/92	1300	4043	SOIL	✓	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	12/3/92	0755	Linda Pruden	12-3-92	0755
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615



MONITOR WELL DETAILS
AMOCO PRODUCTION COMPANY
FIELDS A7A
KIFFEN CANYON, NEW MEXICO

ENVIROTECH INC.

ENVIRONMENTAL SCIENTISTS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

ENGINEER: N. VELEZ
DRAFTER: N. VELEZ
DATE: JANUARY 29, 1993
MONITOR WELLS # 1
SHEET: # 6

AMOCO MONITOR WELL LABORATORY RESULTS - *BLAGG ENGINEERING, INC.*

REVISED DATE: FEBRUARY 24, 2008 (A7A-SUM1.WK4)

PIT NO.	WELL NAME	U-S-T-R	SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8020 (PPB) Benzene	Toluene	Ethyl Benzene	Total Xylene	Total BTEX
94227	FIELDS A 7A	E343211	14-Jan-93	MW #1	26.23	37.04	5,860	5,200	6.9		3.0	6.0	ND	2.0	11.0
			14-May-93		23.59					**0.42**					
			03-Sep-93		23.65			5,100	7.1		**51**	**222**	**26**	**338**	**637**
			03-Dec-93		23.22			5,400	7.2		3.6	20.3	2.6	26.9	53.4
			11-Mar-94		23.17			6,100	6.9		3.9	96.0	8.5	122.7	231.1
			23-Jun-94		22.86			5,800	7.0		6.3	2.5	0.6	17.1	26.5

VUL 3004522464

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

CLIENT: BP

LOCATION NO: B1353

COCR NO: HALL

5

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: FIELDS A WELL #: 7A TYPE: DEHY

DATE STARTED: 3/29/04

DATE FINISHED:

QUAD/UNIT: E SEC: 34 TWP: 32N RNG: 11W PM: NM CNTY: SJ ST: NM

ENVIRONMENTAL SPECIALIST: NV

QTR/FOOTAGE: 1620'N / 1100'W SW/NW CONTRACTOR: FLINT (JODY)

EXCAVATION APPROX. NA FT. x NA FT. x NA FT. DEEP. CUBIC YARDAGE: NA

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: CLOSE AS IS

LAND USE: RANGE - BLM LEASE: NM010989 FORMATION: pc/mv

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 87 FT. N42E FROM WELLHEAD.

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'

NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

OVM CALIB. READ. = 53.7 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 4:40 am/pm DATE: 3/29/04

SOIL AND EXCAVATION DESCRIPTION:

SOIL TYPE: (SAND) / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER

SOIL COLOR: PALE YELL. ORANGE TO LT. GRAY

COHESION (ALL OTHERS): (NON COHESIVE) SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

CONSISTENCY (NON COHESIVE SOILS): (LOOSE) (FIRM) DENSE / VERY DENSE

~~PLASTICITY (CLAYS)~~: NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

~~DENSITY (COHESIVE CLAYS & SILTS)~~: SOFT / FIRM / STIFF / VERY STIFF / HARD

CLOSED

MOISTURE: DRY / SLIGHTLY MOIST (MOIST) / (WET) SATURATED / SUPER SATURATED

DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - LT. GRAY BET. 7.5'-9.0' BELOW GRADE

HC ODOR DETECTED: (YES) / NO EXPLANATION - DISCOLORED SOIL ONLY

SAMPLE TYPE: (GRAB) / COMPOSITE - # OF PTS. —

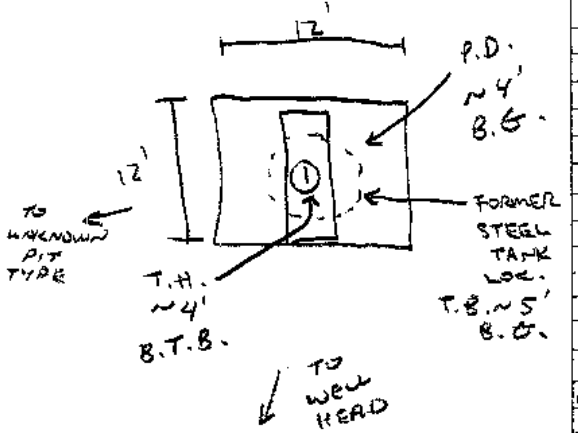
ADDITIONAL COMMENTS:

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)

SCALE 0 FT

PIT PERIMETER



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW
T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM

OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @ 9'	104.6
2 @	
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
① @ 9'	TPH (8015B)	1638
"	BTEX (8021B)	"
BOTH PASSED		

PIT PROFILE

NOT APPLICABLE

TRAVEL NOTES: CALLOUT: 3/29/04 - AFTER. ONSITE: 3/29/04 - AFTER.

Hall Environmental Analysis Laboratory

Date: *12-Apr-04*

CLIENT:	Blagg Engineering	**Client Sample ID:**	1 @ 9' Dehydrator Pit
Lab Order:	0403243	**Collection Date:**	3/29/2004 4:38:00 PM
Project:	Field A #7A		
Lab ID:	0403243-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	5.0		mg/Kg	1	4/2/2004 12:08:45 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/2/2004 12:08:45 AM
Surr: DNOP	98.3	60-124		%REC	1	4/2/2004 12:08:45 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	13	5.0		mg/Kg	1	4/1/2004 6:00:23 PM
Surr: BFB	98.7	74-118		%REC	1	4/1/2004 6:00:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	4/1/2004 6:00:23 PM
Toluene	ND	0.025		mg/Kg	1	4/1/2004 6:00:23 PM
Ethylbenzene	0.082	0.025		mg/Kg	1	4/1/2004 6:00:23 PM
Xylenes, Total	0.095	0.025		mg/Kg	1	4/1/2004 6:00:23 PM
Surr: 4-Bromofluorobenzene	91.0	74-118		%REC	1	4/1/2004 6:00:23 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

VNL 30045224 64

CLIENT: BP	**BLAGG ENGINEERING, INC.** **P.O. BOX 87, BLOOMFIELD, NM 87413** **(505) 632-1199**	LOCATION NO: B1353 COCR NO: HALL

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: FIELDS A WELL #: 7A TYPE: SEP

QUAD/UNIT: E SEC: 34 TWP: 32N RNG: 11W PM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: 1620'N/1100'W SW/NW CONTRACTOR: FLINT (JODY)

DATE STARTED: 3/24/04

DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. NA FT. x NA FT. x NA FT. DEEP. CUBIC YARDAGE: NA

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: CLOSE AS IS

LAND USE: RANGE-BLM LEASE: NM010989 FORMATION: PC/mV

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 87 FT. N87W FROM WELLHEAD.

DEPTH TO GROUNDWATER: ≤50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'

NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

OVM CALIB. READ. = 51.9 ppm CHECK
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 1:55 am/pm DATE: 3/24/04

SOIL AND EXCAVATION DESCRIPTION:

SOIL TYPE: (SAND) SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER

SOIL COLOR: PALE YELL. ORANGE

COHESION (ALL OTHERS): (NON COHESIVE) SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

CONSISTENCY (NON COHESIVE SOILS): (LOOSE) (FIRM) / DENSE / VERY DENSE

~~PLASTICITY (CLAYS)~~: NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

~~DENSITY (COHESIVE CLAYS & SILTS)~~: SOFT / FIRM / STIFF / VERY STIFF / HARD

MOISTURE: DRY / (SLIGHTLY MOIST) MOIST / WET / SATURATED / SUPER SATURATED

(CLOSED)

DISCOLORATION/STAINING OBSERVED: YES / (NO) EXPLANATION -

HC ODOR DETECTED: YES / (NO) EXPLANATION -

SAMPLE TYPE: (GRAB) COMPOSITE - # OF PTS. -

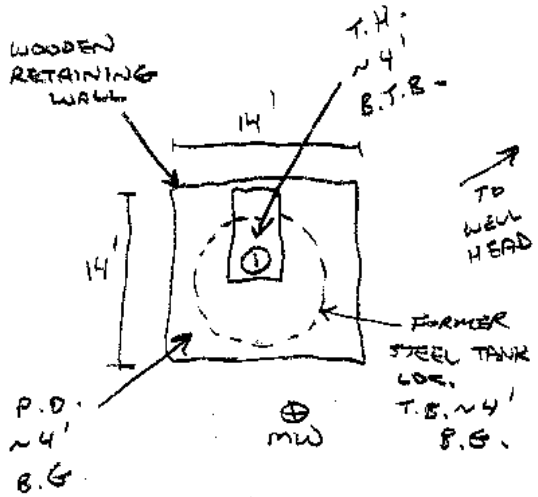
ADDITIONAL COMMENTS: STEEL TANK REMOVED PRIOR TO ARRIVAL.

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)

SCALE 0 FT

PIT PERIMETER



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW
T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM

OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @ 8'	0.5
2 @	
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
@ 8'	TPH (8015B)	1347
	PASSED	

PIT PROFILE

NOT APPLICABLE

TRAVEL NOTES: CALLOUT: 3/24/04 - AFTER. ONSITE: 3/24/04 - AFTER.

Hall Environmental Analysis Laboratory

Date: *01-Apr-04*

CLIENT:	Blagg Engineering	**Client Sample ID:**	1 @ 8' Separator Pit
Lab Order:	0403216	**Collection Date:**	3/24/2004 1:47:00 PM
Project:	Fields A #7A		
Lab ID:	0403216-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	5.0		mg/Kg	1	3/30/2004 7:51:05 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/30/2004 7:51:05 AM
Surr: DNOP	94.2	60-124		%REC	1	3/30/2004 7:51:05 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/29/2004 7:36:40 PM
Surr: BFB	94.1	74-118		%REC	1	3/29/2004 7:36:40 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA
Project Name: FIELDS A #7A
Address: P.O. BOX 87 BLOOMFIELD, NM 87413
Project #:
Project Manager: NJV
Phone #: 505-632-1199
Sampler: NJV
Fax #: 505-632-3903
Sample Temperature: 1.0

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
3/24/03	1347	SOIL	@ 8' - SEPARATOR PIT	1-4oz.				0403216 1

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
		✓														

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
3/25/04	0730		03/25/04
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 1647

Remarks:

VLL

CLIENT: BP

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

LOCATION NO: 81353
COCR NO: HALL

5

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: FIELDS A WELL #: 7A TYPE: UNKNOWN
QUAD/UNIT: E SEC: 34 TWP: 32N RNG: 11W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 1620'N/1100'W SW/NW CONTRACTOR: FLINT (JODY)

DATE STARTED: 3/29/04
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. ____ FT. x ____ FT. x ____ FT. DEEP. CUBIC YARDAGE: ____

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: ____

LAND USE: RANGE - BLM LEASE: NM010989 FORMATION: PC/MV

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 87 FT. N28E FROM WELLHEAD.

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'

NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

OVM CALIB. READ. = 53.7 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 4:40 am/pm DATE: 3/29/04

SOIL AND EXCAVATION DESCRIPTION:

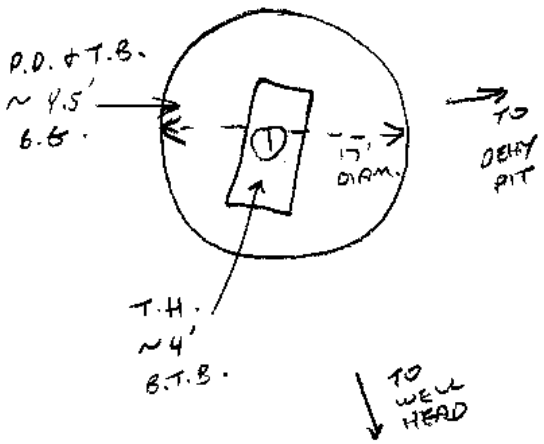
SOIL TYPE: (SAND) / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER ____
SOIL COLOR: PALE YELL. ORANGE TO BLACK
COHESION (ALL OTHERS): (NON COHESIVE) / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): LOOSE / (FIRM) / DENSE / VERY DENSE
PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY / (SLIGHTLY MOIST) / (MOIST) / WET / SATURATED / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - DK. GRAY TO BLACK BET. 7.5' - 8.5' BELOW GRADE
HC ODOR DETECTED: (YES) / NO EXPLANATION - DISCOLORED SOIL & OVM SAMPLE
SAMPLE TYPE: (GRAB) / COMPOSITE - # OF PTS. —
ADDITIONAL COMMENTS: ESTABLISH VERTICAL EXTENT

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)

SCALE
0 FT

PIT PERIMETER



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW
T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM

OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @ 8.5'	324
2 @	
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
① @ 8.5'	TPH (8015B)	1635
"	BTEX (8021B)	"
BOTH FAILED		

PIT PROFILE

TRAVEL NOTES: CALLOUT: 3/29/04 - AFTER. ONSITE: 3/29/04 - AFTER.

Hall Environmental Analysis Laboratory

Date: *12-Apr-04*

CLIENT: Blagg Engineering
Client Sample ID: I @ 8.5' Unknown Pit
Lab Order: 0403243
Collection Date: 3/29/2004 4:35:00 PM
Project: Field A #7A
Lab ID: 0403243-01
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	5.0		mg/Kg	1	4/1/2004 11:38:37 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/1/2004 11:38:37 PM
Surr: DNOP	98.6	60-124		%REC	1	4/1/2004 11:38:37 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	460	100		mg/Kg	20	4/1/2004 5:29:58 PM
Surr: BFB	97.4	74-118		%REC	20	4/1/2004 5:29:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.50		mg/Kg	20	4/1/2004 5:29:58 PM
Toluene	12	0.50		mg/Kg	20	4/1/2004 5:29:58 PM
Ethylbenzene	6.3	0.50		mg/Kg	20	4/1/2004 5:29:58 PM
Xylenes, Total	45	0.50		mg/Kg	20	4/1/2004 5:29:58 PM
Surr: 4-Bromofluorobenzene	110	74-118		%REC	20	4/1/2004 5:29:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENER. / BP AMERICA
Address: P.O. BOX 87
BLOOMFIELD, NM 87413
Phone #: 505 - 632 - 1199
Fax #: 505 - 632 - 3903

Project Name: FIELDS A #7A
Project #: 7M
Project Manager: NJV
Sampler: NJV
Sample Temperature: 2°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative Cool	HEAL No.	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
3/29/04	1635	SOIL	① @ 8.5' - UNKNOWN PIT	1-4oz.	* 7M		✓	0403243-1	✓		✓														
3/29/04	1638	SOIL	① @ 9' - DEHYDRATOR PIT	1-4oz			✓	2	✓		✓														

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
3/30/04	0730		3/31/04 0832
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

30-045-30633

CLIENT: BP

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

LOCATION NO: _____
C.O.C. NO: 2042

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: FIELDS A WELL #: 4B PITS: FROM FIELDS A 7A
QUAD/UNIT: J SEC: 28 TWP: 32N RNG: 11W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 2195 FSL x 1390 FEL CONTRACTOR:

DATE STARTED: _____
DATE FINISHED: 5/3/07
ENVIRONMENTAL SPECIALIST: JCB

SOIL REMEDIATION:
REMEDIATION SYSTEM: LANDFARM
APPROX. CUBIC YARDAGE: 450 ±
LAND USE: RANGE- BLM
LIFT DEPTH (ft): 18"

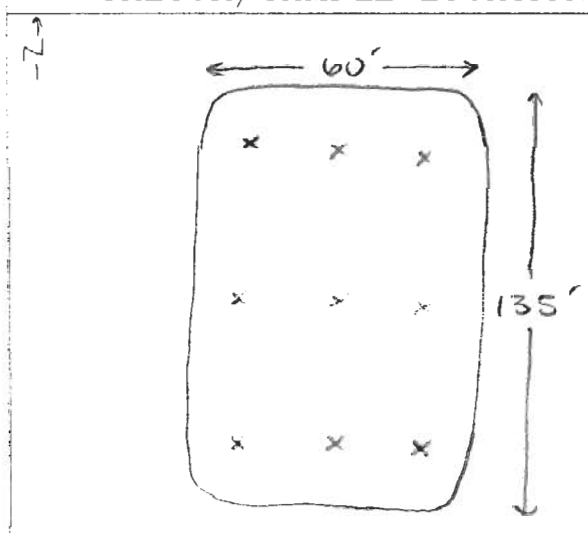
FIELD NOTES & REMARKS: NMOCD RANKING SCORE: 10 NMOCD TPH CLOSURE STD: 1000 PPM
DEPTH TO GROUNDWATER: >100 NEAREST WATER SOURCE: >1000 NEAREST SURFACE WATER: <1000

SOIL TYPE: (SAND / SILTY SAND) / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____
SOIL COLOR: DARK TAN
COHESION (ALL OTHERS): (NON COHESIVE) / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): (LOOSE) / FIRM / DENSE / VERY DENSE
PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY / (SLIGHTLY MOIST) / MOIST / WET / SATURATED / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: YES / (NO) EXPLANATION - _____
HC ODOR DETECTED: YES / (NO) EXPLANATION - _____
SAMPLING DEPTHS (LANDFARMS): 9" - 12" (INCHES)
SAMPLE TYPE: GRAB / COMPOSITE - # OF PTS. 9
ADDITIONAL COMMENTS: LANDFARM FROM REMEDIATION @ FIELDS A # 7A

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SKETCH/SAMPLE LOCATIONS



X = SAMPLE POINT

OVM CALIB. READ. _____ ppm
OVM CALIB. GAS = 100 ppm; RF = 0.52
TIME: _____ am/pm DATE: _____

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
9-POINT	TPH	1345	ND
COMPOSITE	BTEX		0.006
	CL⁻		20

SCALE
0 FT

TRAVEL NOTES: CALLOUT: _____ ONSITE: 5/3/07

revised: 07/16/01 bei1006A.skd

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	9-Point Composite	Date Reported:	05-09-07
Laboratory Number:	41400	Date Sampled:	05-03-07
Chain of Custody No:	2042	Date Received:	05-07-07
Sample Matrix:	Soil	Date Extracted:	05-08-07
Preservative:	Cool	Date Analyzed:	05-09-07
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Fields A #4B Landfarm**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	9-Point Composite	Date Reported:	05-09-07
Laboratory Number:	41400	Date Sampled:	05-03-07
Chain of Custody:	2042	Date Received:	05-07-07
Sample Matrix:	Soil	Date Analyzed:	05-09-07
Preservative:	Cool	Date Extracted:	05-08-07
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**1.8**
Toluene	**1.9**	**1.7**
Ethylbenzene	**ND**	**1.5**
p,m-Xylene	**4.1**	**2.2**
o-Xylene	**ND**	**1.0**
Total BTEX	**6.0**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**98.0 %**
	1,4-difluorobenzene	**98.0 %**
	Bromochlorobenzene	**98.0 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Fields A #4B Landfarm**

Analyst

Revlew

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

Chloride

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	9-Point Composite	Date Reported:	05-09-07
Lab ID#:	41400	Date Sampled:	05-03-07
Sample Matrix:	Soil	Date Received:	05-07-07
Preservative:	Cool	Date Analyzed:	05-09-07
Condition:	Cool and Intact	Chain of Custody:	2042

Parameter	Concentration (mg/Kg)
Total Chloride	**20.0**

Reference: Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Fields A #4B Landfarm**

Analyst

Review

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CHAIN OF CUSTODY RECORD

2042

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG/BP	FIELDS A #4B	
Sampler: JEFF BLAGG	**Client No.** 94034-010	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH 8015	BTEX 8021	CL-				Remarks
9-POINT COMPOSITE	5/3/07	1345	41400	SOIL	1	X	X	X				LANDFARM

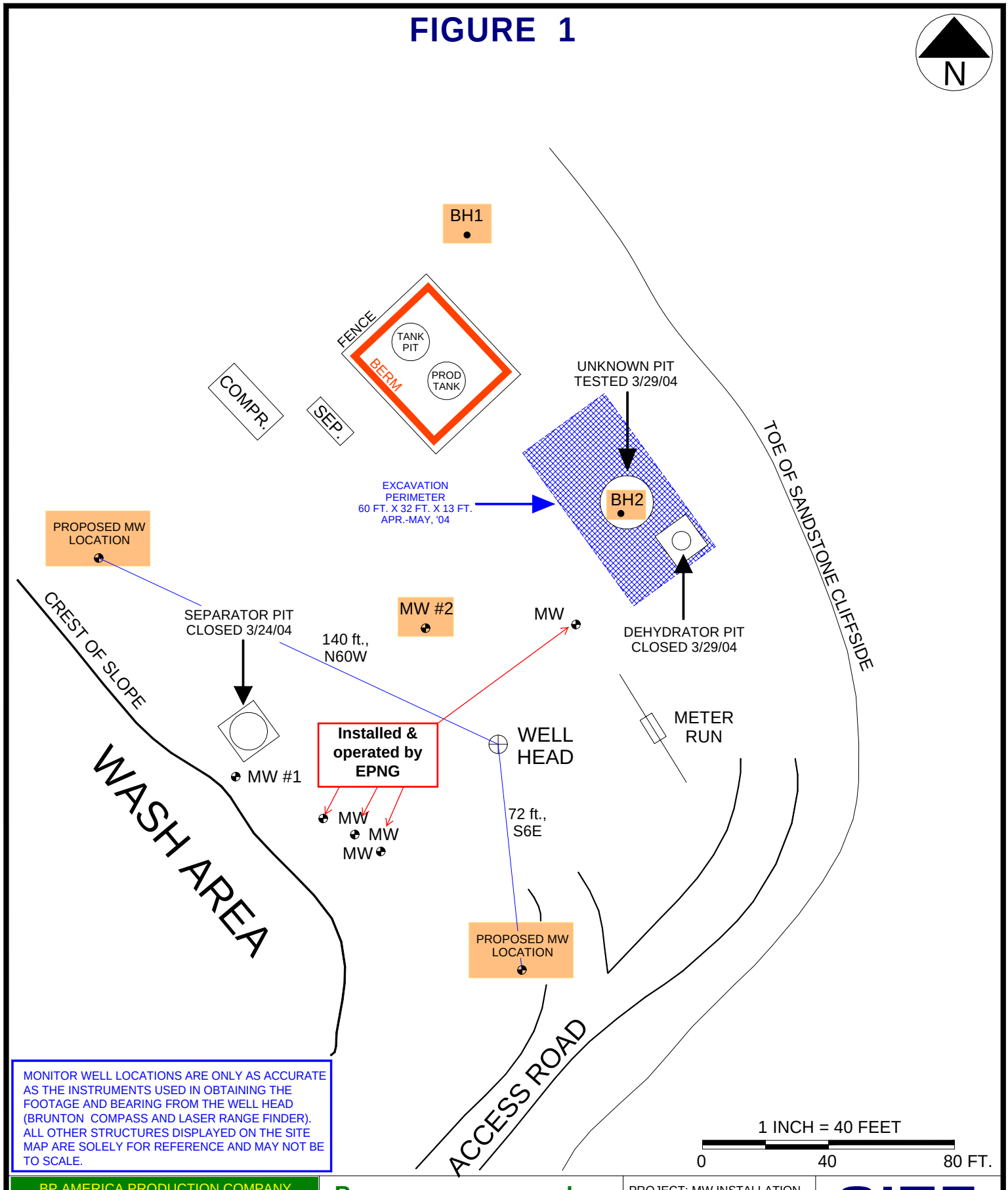
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Jeff Blagg	5/7/07	0720	[signature]	5/7/07	0720
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	X		
Cool - Ice/Blue Ice	X		

FIGURE 1



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

BP AMERICA PRODUCTION COMPANY

FIELDS A # 7A

SW/4 NW/4 SEC. 34, T32N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW INSTALLATION

DRAWN BY: NJV

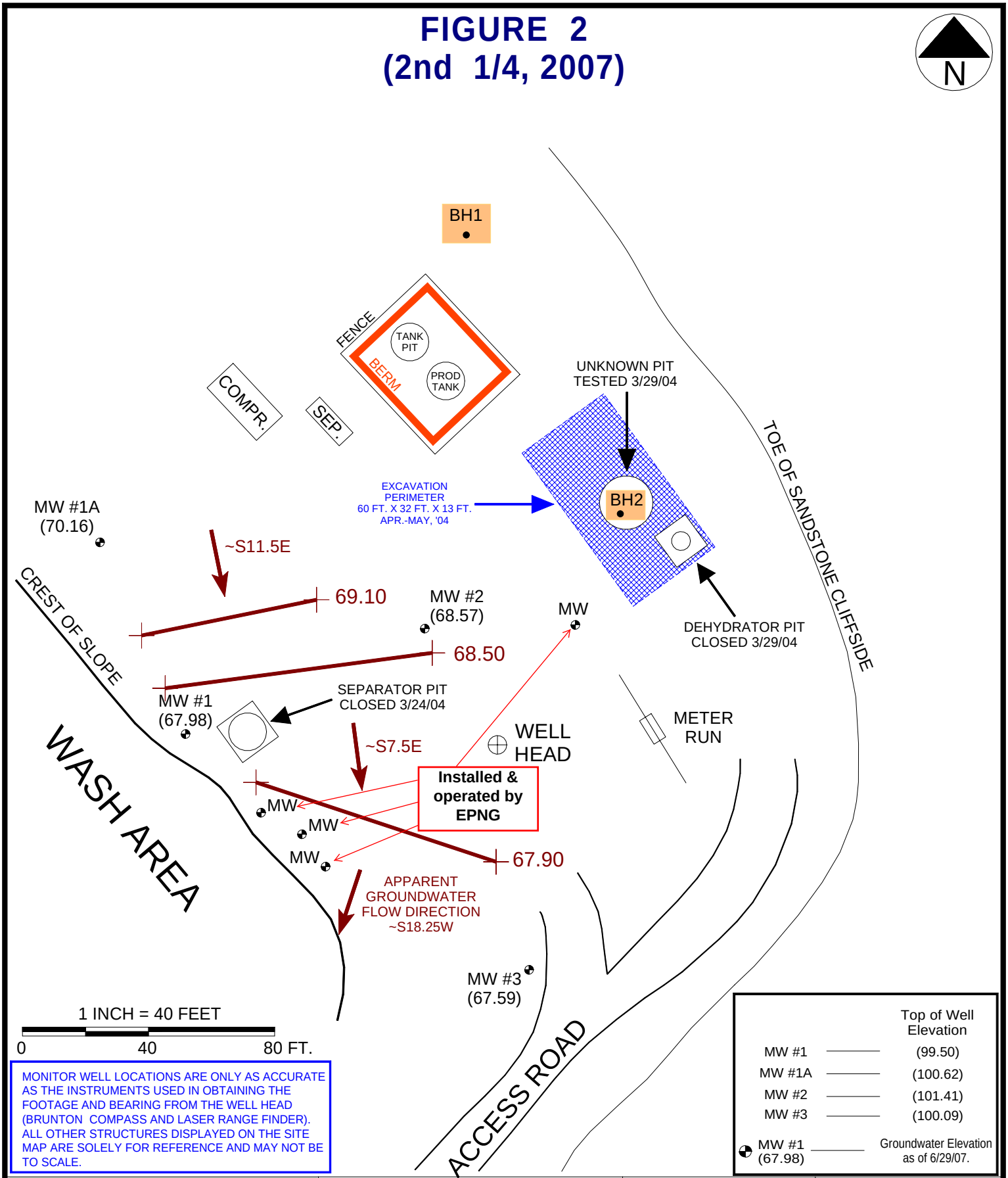
FILENAME: FIELDS A 7A-SM2.SKF

REVISED: 04/02/07 NJV

SITE MAP

04/07

FIGURE 2
(2nd 1/4, 2007)



BP AMERICA PRODUCTION COMPANY

FIELDS A # 7A

SW/4 NW/4 SEC. 34, T32N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW INSTALLATIONS

DRAWN BY: NJV

FILENAME: 06-29-07-GW.SKF

REVISED: 06/29/07 NJV

GROUNDWATER CONTOUR MAP

06/07

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

FIELDS A # 7A

UNIT E, SEC. 34, T32N, R11W

Revised Date: December 31, 2009

Submitted by Blagg Engineering, Inc.

SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT. (umhos)	pH	FREE PHASE PRODUCT (ft)	BTEX US EPA METHOD 8021B or 8260B BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
19-Jul-07	MW #1	31.64	37.04		3,900	6.80		ND	ND	ND	ND
19-Jul-07	MW #1A	30.24	40.90		3,800	6.88		ND	ND	ND	ND
29-Nov-06	MW #2	32.17	37.50		5,300	7.16		**730**	**1,900**	140	**1,300**
19-Jul-07		32.88					**0.01**				
18-Oct-07		32.66					**0.01**				
15-Apr-07		29.42			3,200	7.41		**488**	**371**	195	**1,950**
24-Jun-08		31.13			3,600	7.49		**444**	**90.3**	146	**1,730**
18-May-09		32.47			3,000	7.53		**170**	**98**	45	**740**
19-Jul-07	MW #3	32.53	41.50		4,500	7.05		**390**	500	36	250
18-Oct-07		32.33			5,000	7.40		**290**	14	13	43
15-Apr-07		30.13			2,900	7.24		**1,560**	395	182	**1,060**
24-Jun-08		30.77			3,500	7.36		**2,230**	298	177	**1,300**
18-May-09		32.09			2,500	7.95		**880**	370	66	**420**
16-Dec-09		32.74						**78**	120	ND	**120**
							NMWQCC GROUNDWATER STANDARDS	**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 PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .**
3) **ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .**
4) **NMWQCC INDICATES NEW MEXICO WATER QUALITY CONTROL COMMISSION.**

BLAGG ENGINEERING, Inc.

P.O. BOX 87

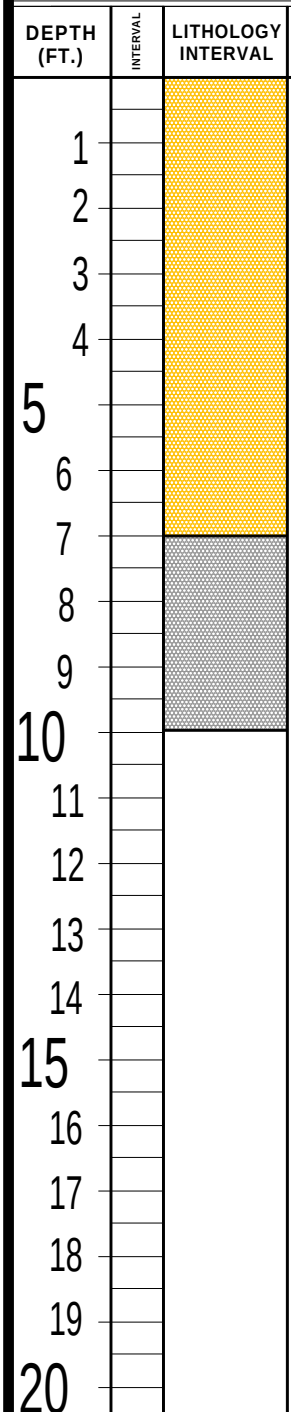
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	FIELDS A # 7A — UNIT E, SEC. 34, T32N, R11W
CONTRACTOR:	**BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**
EQUIPMENT USED:	**MOBILE DRILL RIG (CME 75)**
BORING LOCATION:	162 FEET, N3.5W FROM WELL HEAD.

BORING #.....	BH1
MW #.....	NA
PAGE #.....	1
DATE STARTED	11/27/06
DATE FINISHED	11/27/06
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).

MEDIUM TO LIGHT GRAY SAND, NON COHESIVE, DENSE, DRY TO SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.0 - 10.0 FT. BELOW GRADE).

OVM READING (ppm): 0.0

BH1 @ 9-10 FT. TIME COLLECTED: 0945 ; TIME OF READING: 1029 ; BLOW COUNT = 50 PER 0.9 FEET ; COLLECTED WITH SPLIT SPOON SAMPLER ; TPH = 23 ppm , BENZENE = ND, TOTAL BTEX = ND, CHOLORIDE = 21 ppm.

AUGER REFUSAL @ 10 FT. BELOW GRADE.

NOTES:

- SAND.

OVM - Organic Vapor Meter or Photo-ionization Detector (PID).
TPH - Total Petroleum Hydrocarbons EPA Method 8015B.
BTEX - Benzene, Toluene, Ethylbenzene, & total Xylenes.
ND - Not detected at the Reporting Limit.
ppm - Parts per million (unit value).
TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

OVM CALIBRATION = 52.3 ppm with 100 ppm Isobutylence gas & response factor set @ 0.52 ; DATE - 11/27/06, TIME - 1020.

DRAWING: **FIELDS A 7A BH1.SKF** | DATE: **11/29/06** | DWN BY: **NJV**

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Dec-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH1 @ 9'-10'
Lab Order:	0611346	**Collection Date:**	11/27/2006 9:45:00 AM
Project:	Fields A #7A	**Date Received:**	11/29/2006
Lab ID:	0611346-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	23	10		mg/Kg	1	12/6/2006 8:42:06 AM
Surr: DNOP	97.9	61.7-135		%REC	1	12/6/2006 8:42:06 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/30/2006 3:28:39 PM
Surr: BFB	111	84-138		%REC	1	11/30/2006 3:28:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	11/30/2006 3:28:39 PM
Toluene	ND	0.050		mg/Kg	1	11/30/2006 3:28:39 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/30/2006 3:28:39 PM
Xylenes, Total	ND	0.15		mg/Kg	1	11/30/2006 3:28:39 PM
Surr: 4-Bromofluorobenzene	86.6	68.2-109		%REC	1	11/30/2006 3:28:39 PM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	21	1.5		mg/Kg	5	12/5/2006 6:56:38 AM

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

BLAGG ENGINEERING, Inc.

P.O. BOX 87

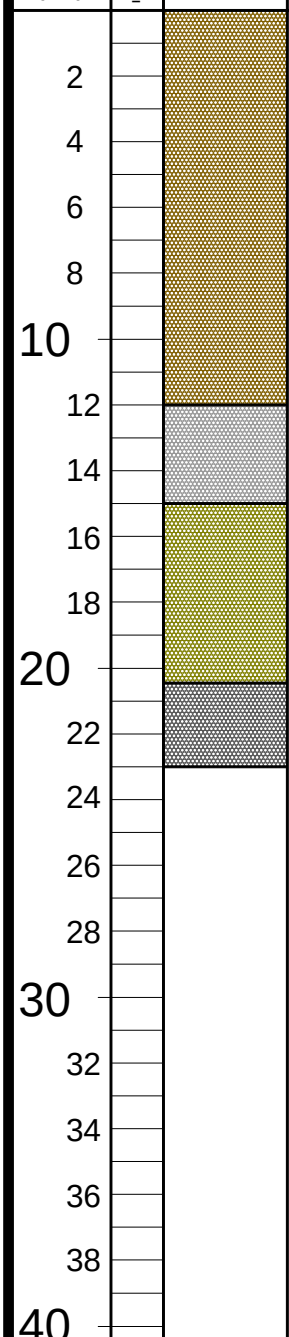
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	FIELDS A # 7A — UNIT E, SEC. 34, T32N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	83 FEET, N28E FROM WELL HEAD.

BORING #.....	BH2
MW #.....	NA
PAGE #.....	2
DATE STARTED	11/27/06
DATE FINISHED	11/27/06
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

DARK YELLOWISH BROWN SAND (FILL MATERIAL), NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 12.0 FT. BELOW GRADE).

ENCOUNTERED FOREIGN OBJECT BETWENN 9.0-10.0 FT. BELOW GRADE.

MEDIUM TO LIGHT GRAY SAND, NON COHESIVE, FIRM TO DENSE, SLIGHTLY MOIST, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 15.0 FT. BELOW GRADE).

1.7 — BH1 @ 15-16 FT. TIME COLLECTED: 1024 ; TIME OF READING: 1035 ; BLOW COUNT = 50 PER 0.9 FEET ; COLLECTED WITH SPLIT SPOON SAMPLER ; TPH = 12 ppm , BENZENE = ND, TOTAL BTEX = ND, CHLORIDE = 16 ppm.

OLIVE GRAY SAND, NON COHESIVE, DENSE, SLIGHTLY MOIST, NO APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (15.0 - 20.0 FT. BELOW GRADE).

2.9 — BH1 @ 19.5-20.5 FT. TIME COLLECTED: 1047 ; TIME OF READING: 1101 ; BLOW COUNT = 50 PER 1.0 FEET ; COLLECTED WITH SPLIT SPOON SAMPLER ; TPH = 15 ppm , BENZENE = ND, TOTAL BTEX = ND, CHLORIDE = 19 ppm.

LIMITED GRAY TO BLACK SAND, NON COHESIVE, DENSE, SLIGHTLY MOIST, SEWER-LIKE ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (20.0 - 23.0 FT. BELOW GRADE).

AUGER REFUSAL @ 23 FT. BELOW GRADE - COMPETENT SANDSTONE.

NOTES:

- SAND.
- SAND (possibly impacted).

OVM - Organic Vapor Meter or Photo-ionization Detector (PID).
TPH - Total Petroleum Hydrocarbons EPA Method 8015B.
BTEX - Benzene, Toluene, Ethylbenzene, & total Xylenes.
ND - Not detected at the Reporting Limit.
ppm - Parts per million (unit value).
TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

OVM CALIBRATION = 52.3 ppm with 100 ppm Isobutylence gas & response factor set @ 0.52 ; DATE - 11/27/06, TIME - 1020.

DRAWING: **FIELDS A 7A BH2.SKF** | DATE: **11/29/06** | DWN BY: **NJV**

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Dec-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH2 @ 15'-16'
Lab Order:	0611346	**Collection Date:**	11/27/2006 10:24:00 AM
Project:	Fields A #7A	**Date Received:**	11/29/2006
Lab ID:	0611346-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	12	10		mg/Kg	1	12/6/2006 9:16:46 AM
Surr: DNOP	94.0	61.7-135		%REC	1	12/6/2006 9:16:46 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/30/2006 3:59:21 PM
Surr: BFB	107	84-138		%REC	1	11/30/2006 3:59:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	11/30/2006 3:59:21 PM
Toluene	ND	0.050		mg/Kg	1	11/30/2006 3:59:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/30/2006 3:59:21 PM
Xylenes, Total	ND	0.15		mg/Kg	1	11/30/2006 3:59:21 PM
Surr: 4-Bromofluorobenzene	81.7	68.2-109		%REC	1	11/30/2006 3:59:21 PM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	16	0.30		mg/Kg	1	12/6/2006 7:55:28 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Dec-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH2 @ 19.5'-20.5'
Lab Order:	0611346	**Collection Date:**	11/27/2006 10:47:00 AM
Project:	Fields A #7A	**Date Received:**	11/29/2006
Lab ID:	0611346-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	15	10		mg/Kg	1	12/6/2006 11:00:44 AM
Surr: DNOP	63.8	61.7-135		%REC	1	12/6/2006 11:00:44 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/30/2006 5:31:18 PM
Surr: BFB	109	84-138		%REC	1	11/30/2006 5:31:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	11/30/2006 5:31:18 PM
Toluene	ND	0.050		mg/Kg	1	11/30/2006 5:31:18 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/30/2006 5:31:18 PM
Xylenes, Total	ND	0.15		mg/Kg	1	11/30/2006 5:31:18 PM
Surr: 4-Bromofluorobenzene	84.3	68.2-109		%REC	1	11/30/2006 5:31:18 PM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	19	1.5		mg/Kg	5	12/5/2006 7:31:28 AM

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

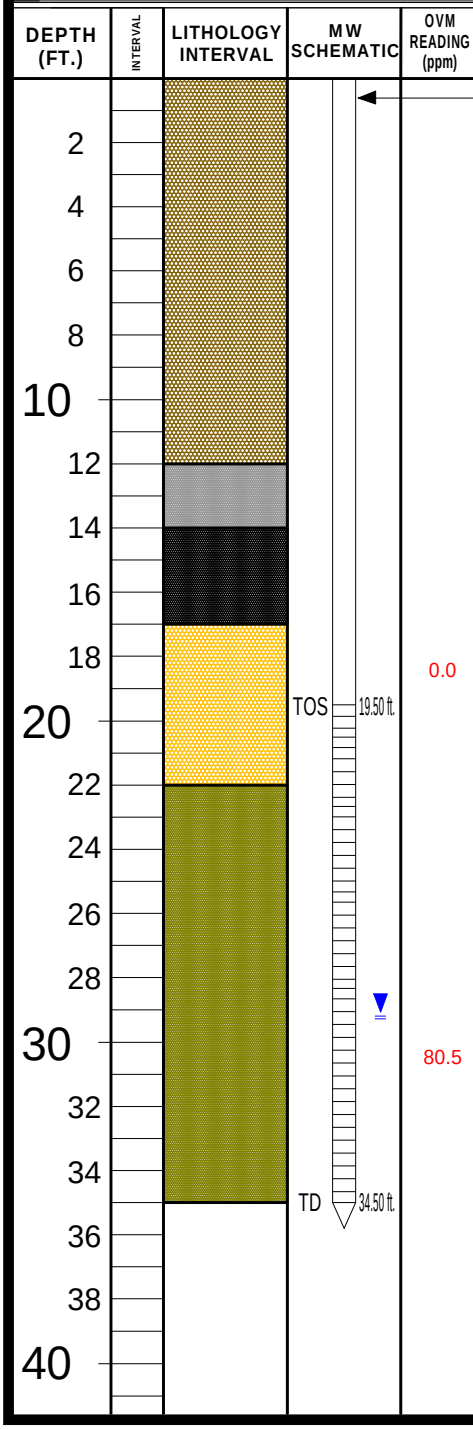
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #2

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	FIELDS A # 7A UNIT E, SEC. 34, T32N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	43.5 FEET, N32W FROM WELL HEAD.

BORING #.....	BH3
MW #.....	2
PAGE #.....	3
DATE STARTED	11/27/06
DATE FINISHED	11/27/06
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.00 FEET ABOVE GRADE.

PALE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 12.0 FT. BELOW GRADE).

MEDIUM GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT SEWER-LIKE ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 14.0 FT. BELOW GRADE).

BLACK SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM TO DENSE, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 17.0 FT. BELOW GRADE).

BH1 @ 18.0-18.5 FT. TIME COLLECTED: 1157 ; TIME OF READING: 1211 ; BLOW COUNT = 50 PER 0.6 FEET ; COLLECTED WITH SPLIT SPOON SAMPLER ; TPH = ND , BENZENE = ND, TOTAL BTEX = ND, CHLORIDE = 10 ppm.

PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 22.0 FT. BELOW GRADE).

OLIVE GRAY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM TO DENSE, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (22.0 - 35.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 29.17 FT. FROM GROUND SURFACE MEASURED ON 11/29/06.

BH3 @ 30.0-30.5 FT. TIME COLLECTED: 1243 ; TIME OF READING: 1303 ; BLOW COUNT = 50 PER 0.5 FEET ; COLLECTED WITH SPLIT SPOON SAMPLER ; TPH = ND , BENZENE = ND, TOTAL BTEX = ND, CHLORIDE = 18 ppm.

NOTES:

- SAND.
- SAND (most likely impacted).

OVM - Organic Vapor Meter or Photo-ionization Detector (PID).
TPH - Total Petroleum Hydrocarbons EPA Method 8015B.
BTEX - Benzene, Toluene, Ethylbenzene, & total Xylenes.
ND - Not detected at the Reporting Limit.
ppm - Parts per million (unit value).
TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 3.00 ft. above grade to 19.50 ft. below grade, 0.010 slotted screen between 19.50 to 34.50 ft. below grade, sand packed annular to 17.5 ft. below grade, bentonite grout between 15.0 to 17.5 ft. below grade, fill dirt between 2.5 to 15.0 ft. below grade, bentonite grout between 0.0 to 2.5 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

OVM CALIBRATION = 52.3 ppm with 100 ppm Isobutylence gas & response factor set @ 0.52 ; DATE - 11/27/06, TIME - 1020.

DRAWING: FIELDS A 7A BH3-MW2. SKF | DATE: 11/29/06 | DWN BY: NJV

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Dec-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH3 @ 18'-18.5'
Lab Order:	0611346	**Collection Date:**	11/27/2006 11:57:00 AM
Project:	Fields A #7A	**Date Received:**	11/29/2006
Lab ID:	0611346-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/6/2006 11:35:27 AM
Surr: DNOP	76.2	61.7-135		%REC	1	12/6/2006 11:35:27 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/30/2006 6:01:49 PM
Surr: BFB	108	84-138		%REC	1	11/30/2006 6:01:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	11/30/2006 6:01:49 PM
Toluene	ND	0.050		mg/Kg	1	11/30/2006 6:01:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/30/2006 6:01:49 PM
Xylenes, Total	ND	0.15		mg/Kg	1	11/30/2006 6:01:49 PM
Surr: 4-Bromofluorobenzene	83.0	68.2-109		%REC	1	11/30/2006 6:01:49 PM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	10	1.5		mg/Kg	5	12/5/2006 8:23:42 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Dec-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH3 @ 30'-30.5'
Lab Order:	0611346	**Collection Date:**	11/27/2006 12:43:00 PM
Project:	Fields A #7A	**Date Received:**	11/29/2006
Lab ID:	0611346-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/6/2006 11:24:04 PM
Surr: DNOP	110	61.7-135		%REC	1	12/6/2006 11:24:04 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/30/2006 6:32:37 PM
Surr: BFB	108	84-138		%REC	1	11/30/2006 6:32:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	11/30/2006 6:32:37 PM
Toluene	ND	0.050		mg/Kg	1	11/30/2006 6:32:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/30/2006 6:32:37 PM
Xylenes, Total	ND	0.15		mg/Kg	1	11/30/2006 6:32:37 PM
Surr: 4-Bromofluorobenzene	83.7	68.2-109		%REC	1	11/30/2006 6:32:37 PM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	18	1.5		mg/Kg	5	12/5/2006 8:41:06 AM

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

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENER. / BP AMERICA
Address: P.O. BOX 87
BLFD. NM 87413
Phone #: 632-1199
Fax #:

Project Name: FIELDS A #7A
Project #: 715
Project Manager: NV
Sampler: NV
Sample Temperature: 30

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative cool	HEAL No. 0611346	BTEX ~~+ MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles or Headspace (Y or N)
11/27/06	0945	SOIL	BH1 @ 9'-10' (715) (715)	1 - 4 oz.			✓	1	✓		✓										✓				
11/27/06	1024	SOIL	BH2 @ 15'-16'	1 - 4 oz.			✓	2	✓		✓										✓				
11/27/06	1047	SOIL	BH2 @ 19.5'-20.5'	1 - 4 oz.			✓	3	✓		✓										✓				
11/27/06	1157	SOIL	BH3 @ 18'-18.5'	1 - 4oz.			✓	4	✓		✓										✓				
11/27/06	1243	SOIL	BH3 @ 30'-30.5'	1 - 4 oz.			✓	~~5~~ -5	✓		✓										✓				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
11/28/06	0800	Melon VM	Tonya Tomin 11/29/06 942
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: TPH - GAS & DIESEL RANGES ONLY.

BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

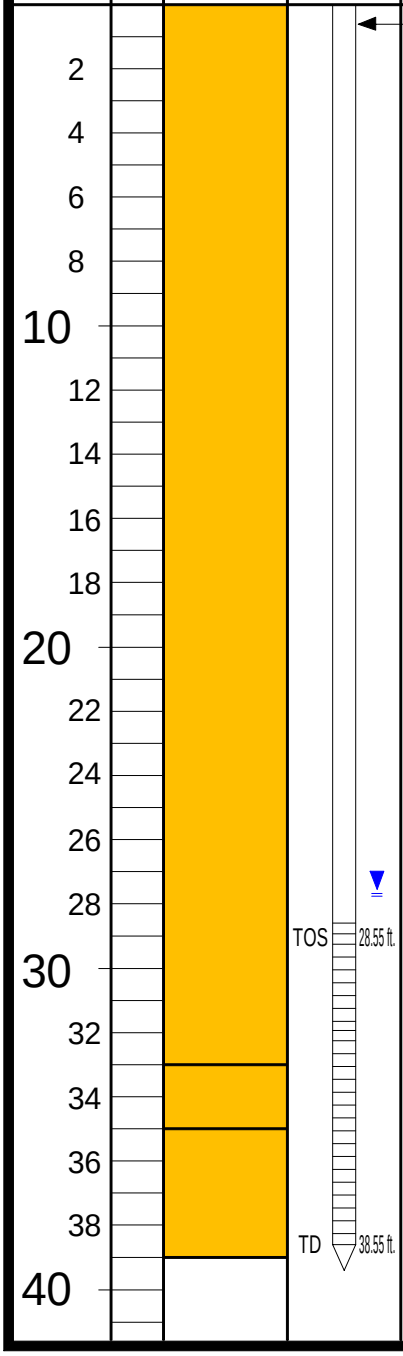
MW #1A

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	FIELDS A # 7A UNIT E, SEC. 34, T32N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	141.5 FEET, N63W FROM WELL HEAD.

BORING #.....	BH4
MW #.....	1A
PAGE #.....	4
DATE STARTED	06/26/07
DATE FINISHED	06/26/07
OPERATOR.....	DP
PREPARED BY	NJV

DEPTH (FT.) | INTERVAL | LITHOLOGY INTERVAL | MW SCHEMATIC



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.35 FEET ABOVE GRADE.

Monitor well consist of 2 inch PVC piping - casing from 2.35 ft. above grade to 28.55 ft. below grade, 0.010 slotted screen between 28.55 to 38.55 ft. below grade, sand packed annular to 26.0 ft. below grade, bentonite grout between 23.0 to 26.0 ft. below grade, fill dirt between 0.0 to 23.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

PALE YELLOWISH BROWN SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 33.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 27.81 FT. FROM GROUND SURFACE MEASURED ON 6/29/07.

SAME AS ABOVE EXCEPT FIRM TO DENSE, MOIST TO WET (33.0 - 35.0 FT. BELOW GRADE).

SAME AS 0.0 TO 33.0 INTERVAL EXCEPT MOIST TO WET & PHASING INTO A CLAY (35.0 - 39.0 FT. BELOW GRADE).

NOTES:
- SAND.
TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

DRAWING: FIELDS A 7A BH4-MW1A. SKF | DATE: 06/29/07 | DWN BY: NJV

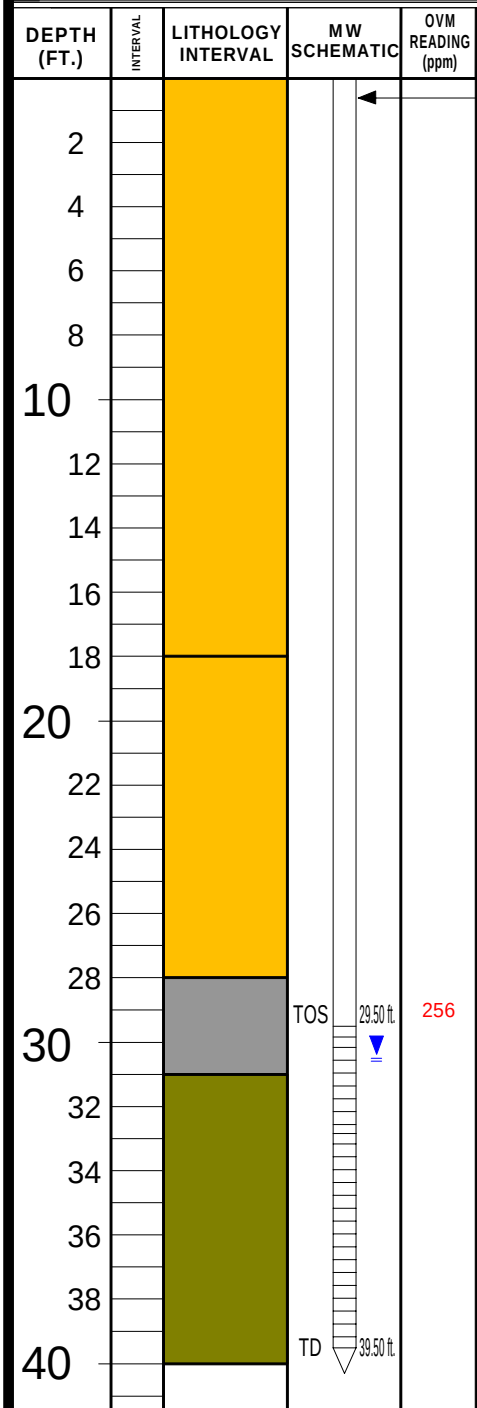
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	FIELDS A # 7A UNIT E, SEC. 34, T32N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	72 FEET, S6E FROM WELL HEAD.

BORING #.....	BH5
MW #.....	3
PAGE #.....	5
DATE STARTED	06/26/07
DATE FINISHED	06/26/07
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FEET ABOVE GRADE.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 29.50 ft. below grade, 0.010 slotted screen between 29.50 to 39.50 ft. below grade, sand packed annular to 27.0 ft. below grade, bentonite grout between 24.0 to 27.0 ft. below grade, fill dirt between 0.0 to 24.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

PALE YELLOWISH BROWN SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 18.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT FIRM TO SLIGHTLY DENSE, (18.0 - 28.0 FT. BELOW GRADE).

MEDIUM GRAY TO BLACK SAND, NON COHESIVE, MOIST, FIRM, STRONG APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (28.0 - 31.0 FT. BELOW GRADE).

BH5 @ 28-30 FT. TIME COLLECTED: 1017 ; TIME OF READING: 1033 ; COLLECTED SAMPLE FROM AUGER CUTTINGS; TPH = 9.2 ppm , BENZENE = ND, TOTAL BTEX = ND, CHLORIDE = 14 ppm.

DEPTH TO WATER APPROX. 30.50 FT. FROM GROUND SURFACE MEASURED ON 6/29/07.

OLIVE GRAY SAND, NON COHESIVE, MOIST TO WET, FIRM TO DENSE, APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (31.0 - 40.0 FT. BELOW GRADE).

NOTES: - SAND. - SAND (impacted).

OVM	- Organic Vapor Meter or Photo-ionization Detector (PID).
TPH	- Total Petroleum Hydrocarbons EPA Method 8015B.
BTEX	- Benzene, Toluene, Ethylbenzene, & total Xylenes.
ND	- Not detected at the Reporting Limit.
ppm	- Parts per million (unit value).
TOS	- Top of screen of monitor well.
TD	- Total depth/bottom extent of monitor well.

OVM CALIBRATION = 52.7 ppm with 100 ppm Isobutylence gas & response factor set @ 0.52 ; DATE - 06/26/07, TIME - 0801.

DRAWING: FIELDS A 7A BH5-MW3. SKF | DATE: 06/29/07 | DWN BY: NJV

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jul-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH5@28'-30'
Lab Order:	0706439	**Collection Date:**	6/26/2007 10:17:00 AM
Project:	Fields A #7A	**Date Received:**	6/29/2007
Lab ID:	0706439-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/3/2007 9:38:09 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/3/2007 9:38:09 PM
Surr: DNOP	93.5	61.7-135		%REC	1	7/3/2007 9:38:09 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	9.2	5.0		mg/Kg	1	7/4/2007 2:31:29 AM
Surr: BFB	115	84-138		%REC	1	7/4/2007 2:31:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	7/4/2007 2:31:29 AM
Toluene	ND	0.050		mg/Kg	1	7/4/2007 2:31:29 AM
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2007 2:31:29 AM
Xylenes, Total	ND	0.10		mg/Kg	1	7/4/2007 2:31:29 AM
Surr: 4-Bromofluorobenzene	101	68.2-109		%REC	1	7/4/2007 2:31:29 AM
EPA METHOD 9056A: ANIONS						Analyst: **CMS**
Chloride	14	1.5		mg/Kg	5	7/6/2007 7:17:39 AM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA

Project Name: FIELDS A #7A

Address: P.O. BOX 87
BLFD., NM 87413

Project #: 710

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					$HgCl_2$	HNO_3	cool	0706439
6/26/07	1017	SOIL	BH5 @ 28'-30'	1-4oz.			✓	1

ANALYSIS REQUEST

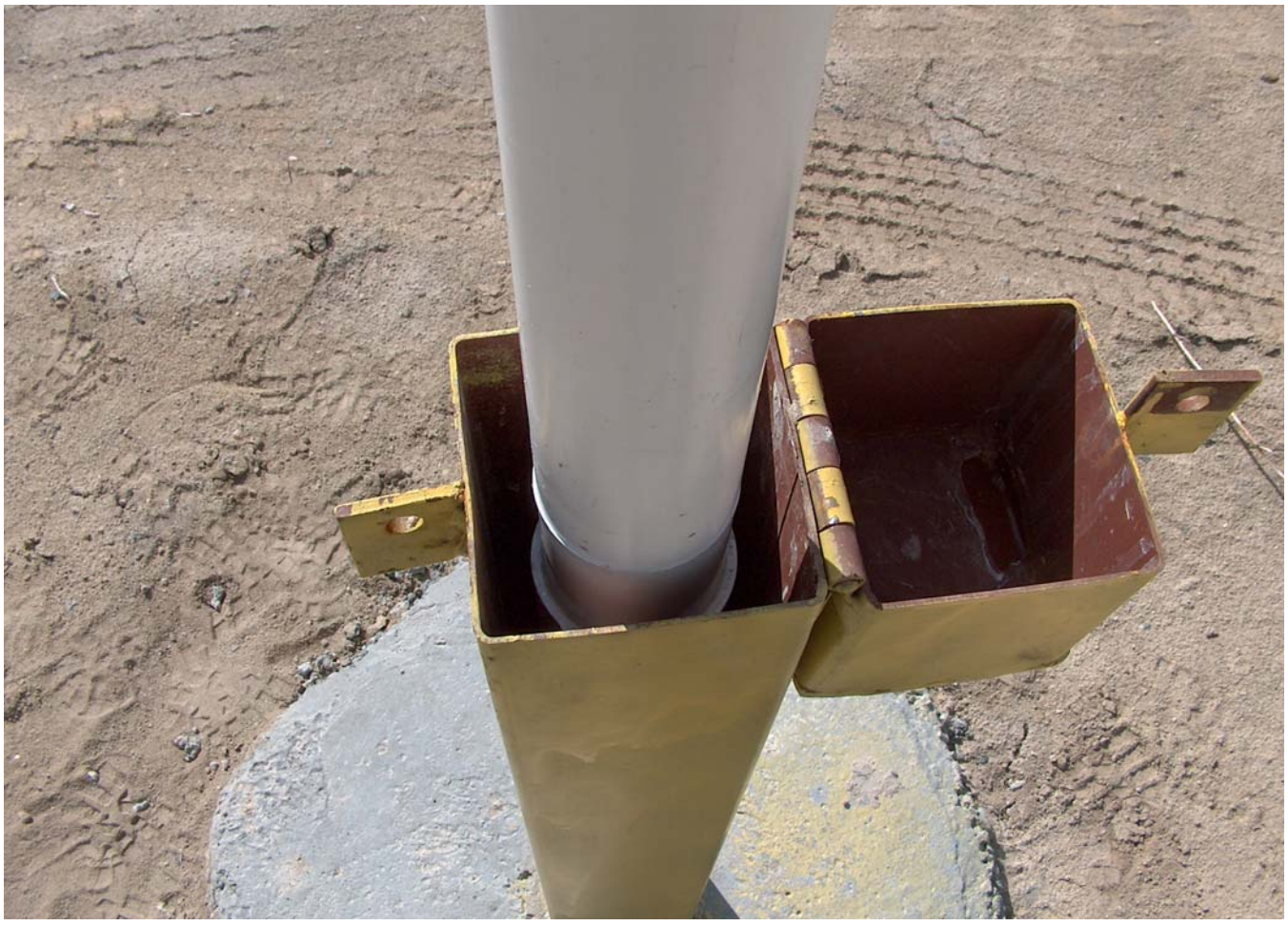
BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles or Headspace (Y or N)
✓		✓										✓				

Date: 6/28/07 Time: 1600 Relinquished By: (Signature) _____ Received By: (Signature) _____ 6/29/07 09:28

Date: Time: Relinquished By: (Signature) _____ Received By: (Signature) _____

Remarks: GAS & DIESEL RANGES ONLY ON TPH ANALYSIS.

Fields A #7A - Passive venting of MW #2



Fields A #7A - Coupling attachment of MW #2

BP AMERICA PRODUCTION COMPANY

FIELDS A # 7A

UNIT LTR - E , SEC. 34 , T32N , R11W , NMPM

FIELD SUMMARY - OVM READINGS & MW DEVELOPMENT

	SAMP. ID.	DATE	TIME	OVM (ppm)	DTW (ft.)	DTP (ft.)	PROD. Removed (oz.)	T. D. (ft.)	CALC. PURGE AMT. (gal.)	ACT. PURGE AMT. (gal.)	COMMENTS
1	**MW - 2**	03/21/07	N / A	N / A	32.59	32.38	N / A	37.50	2.50	4.00	Free phase product measured at 0.61 ft. in thickness .
2		04/02/07	1045	**401**	32.68	N / A	-	37.50	2.50	3.75	Installed wind turbine , glue odor possibly contributing to OVM reading .
3		06/26/07	0802	0.0	32.84	N / A	N / A	37.50	2.25	N / A	Depth to water probe contained HC odor physically detected .
4											
5											
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16											
17											
18											
19											
20											

OVM CALIBRATION (RF = 0.52)

	DATE	TIME	CALIB. GAS STAN. (ppm)	CALIB. READING (ppm)
1	03/21/07	N / A	N / A	N / A
2	03/29/07	1000	100	52.5
3	06/26/07	0801	100	52.7
4				
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EL PASO
FIELD SERVICES

Bill Olson
New Mexico Oil Conservation Commission
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Date: June 2, 1997

Subject: Semi-Annual El Paso Field Services Pit Project Groundwater Report

Mr. Olson,

El Paso Field Services (EPFS) has encountered groundwater at various locations while investigating and or remediating exempt hydrocarbon unlined pits. The enclosed list includes all locations which are in this category. Please find enclosed, the locations and status of each individual pit.

These pits are being remediated according to the "EPFS Remediation Plan for Groundwater Encountered During Pit Closure Activities" dated November 29,1995.

EPFS requests that future reports for this project be submitted on a yearly basis to begin December 1, 1997 which will include soil boring logs, monitoring well completion diagrams, analytical data, groundwater elevation data, any risk analysis and type of remediation method.

For questions regarding this report please contact Ricky Cosby at (505)599-2158.

Ricky D. Cosby
Compliance Specialist

cc: Denny Foust - Aztec District

El Paso Field Services Company P.O. Box 4990 Farmington, New Mexico 87499 Phone (505) 325-2841 Fax (505) 599-2119

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

July 8, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-235-437-304

Ms. Sandra D. Miller
El Paso Field Services
614 Reilly Ave.
Farmington, New Mexico 87401

RE: SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Ms. Miller:

The New Mexico Oil Conservation Division (OCD) has completed a review of El Paso Field Services (EPFS) February 27, 1998 "RE: 1997 GROUNDWATER ANNUAL REPORT" and accompanying March 1998 "SAN JUAN BASIN PIT CLOSURES, SAN JUAN BASIN, NEW MEXICO, EL FIELD SERVICES PIT PROJECT PIT CLOSURE REPORT" and March 1998 "SAN JUAN BASIN PIT CLOSURE, SAN JUAN BASIN, NEW MEXICO, EL PASO FIELD SERVICES PIT PROJECT GROUNDWATER REPORT ANNUAL REPORT". These documents contain the results of EPFS's 1997 monitoring and remediation of contaminated ground water related to the closure of unlined oil and gas production pits at 57 sites in the San Juan Basin. The documents also requests closure for 11 of the sites based on the remediation and monitoring actions taken to date.

The OCD's review of the above referenced documents is addressed below:

A. The final pit closure, soil remediation and ground water activities conducted at the 10 sites listed below are **approved** and the OCD considers these sites closed.

1.	2C-45 Line Drip (Drip pit)	Unit P, Sec. 06, T25N, R13W
2.	Miles Federal #1A (MV) (Drip pit)	Unit F, Sec. 05, T26N, R07W
3.	Graham #53 (Dehy pit)	Unit L, Sec. 10, T27N, R08W
4.	K-17 Line Drip (Drip pit)	Unit C, Sec. 26, T27N, R08W
5.	John Charles #8 (Dehy pit)	Unit B, Sec. 13, T27N, R09W
6.	Florance C LS #7 (Drip pit)	Unit F, Sec. 30, T28N, R08W
7.	Trunk D Line Drip (Drip pit)	Unit F, Sec. 20, T28N, R08W
8.	Trujillo GC #1 PC (Drip pit)	Unit M, Sec. 21, T29N, R10W
9.	Usselman Gas Com #1 (Drip pit)	Unit B, Sec. 04, T31N, R10W
10.	Lat H-37 Drip Y-3 (Line drip pit)	Unit F, Sec. 01, T31N, R13W

Please be advised that OCD approval does not relieve EPFS of liability if remaining contaminants are found to pose a future threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve EPFS of responsibility for compliance with any other federal, state or local laws and regulations.

B. The closure report for the site listed below shows that ground waters in a piezometer downgradient from the source area at the pit are still contaminated in excess of New Mexico Water Quality Control Commission (WQCC) ground water standards. In addition a review of the data shows that the downgradient extent of contamination has not been completely defined. Therefore, the OCD cannot issue final closure approval at this time and approval of closure actions at this site is **denied**. The OCD requires that EPFS install additional ground water monitoring wells to monitor and determine the extent of ground water contamination pursuant to their previously approved ground water investigation plan.

1.	Sheets #2 (Drip pit)	Unit H, Sec. 28, T31N, R09W.

C. A review of the annual ground water reports for the sites listed below shows that the extent of ground water contamination in excess of WQCC standards at these sites has not been defined or the sites do not contain permanent downgradient ground water monitoring points. The OCD requires that EPFS install additional ground water monitoring wells at these sites to monitor and determine the extent of ground water contamination pursuant to their previously approved ground water investigation plan.

1.	Anderson GC A#1 CH	Unit C, Sec. 28, T29N, R10W
2.	D Loop Line Drip	Unit I, Sec. 33, T28N, R08W
3.	Hammond #41A	Unit O, Sec. 25, T27N, R08W
4.	Horton #1E	Unit H, Sec. 28, T31N, R09W
5.	James F Bell #1E	Unit P, Sec. 10, T30N, R13W
6.	Jennapah #1	Unit H, Sec. 36, T28N, R09W
7.	K-27 Line Drip	Unit E, Sec. 04, T25N, R06W
8.	K-31 Line Drip	Unit N, Sec. 16, T25N, R06W
9.	Lat 3B-39 Line Drip	Unit M, Sec. 10, T29N, R09W
10.	Lat L-40 Line Drip	Unit H, Sec. 13, T28N, R04W
11.	Lateral 0-21 Line Drip	Unit O, Sec. 12, T30N, R09W
12.	Lindrith B#24	Unit N, Sec. 09, T24N, R03W
13.	K-27 Line Drip	Unit E, Sec. 04, T25N, R06W
14.	Mesa CPD	Unit C, Sec. 04, T29N, R14W
15.	Miles Federal #1A (CH)	Unit F, Sec. 05, T26N, R07W
16.	Ramenta Et Al #1	Unit J, Sec. 13, T27N, R09W
17.	State Gas Com N#1	Unit H, Sec. 16, T31N, R12W

D. At the sites listed below EPS proposes to take no further actions until the operator commences remediation associated with their production pits. The OCD is sending letters to the operators of these sites requiring them to investigate and remediate soil and ground water contamination related to their activities. The OCD requests that EPFS work cooperatively with the operator to investigate and remediate contaminated ground water at these sites.

1.	Canada Mesa #2	Unit I, Sec. 24, T24N, R06W
2.	Coldiron Com A #1	Unit K, Sec. 02, T30N, R11W
3.	Fields A #7A	Unit E, Sec. 34, T32N, R11W
4.	Fogelson 4-1 Com #14	Unit P, Sec. 04, T29N, R11W
5.	Gallegos Canyon Unit Com A #142E	Unit G, Sec. 25, T29N, R12W
6.	Johnston Federal #4	Unit H, Sec. 33, T31N, R09W
7.	Johnston Federal #6A	Unit F, Sec. 35, T31N, R09W
8.	Knight #1	Unit A, Sec. 05, T30N, R13W
9.	Ohio C Govt #3	Unit P, Sec. 26, T28N, R11W
10.	Sandoval Gas Com A #1A	Unit C, Sec. 35, T30N, R09W
11.	Standard Oil Com #1	Unit N, Sec. 36, T29N, R09W
12.	Turner A #1	Unit K, Sec. 34, T31N, R11W

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Bill Liess, BLM Farmington District Office
Mike Matush, New Mexico State Land Office

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

July 9, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-235-437-308

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

RE: SAN JUAN BASIN PIT GROUND WATER SITES

Dear Mr. Shaw:

Information in El Paso Field Services (EPFS) recent annual ground water monitoring report shows the presence of shallow ground at some well sites operated by Amoco Production Company (Amoco). Disposal activities at EPFS pits on these locations have resulted in contamination of shallow ground water. These sites also apparently have former unlined production pits operated by Amoco, some of which appear to be contributing to ground water contamination seen in EPFS monitoring wells.

Due to the presence of ground water contamination at these sites and the apparent commingling of contaminated waters from EPFS's former unlined dehy pit and Amoco's former unlined production pits, the OCD requests that Amoco cooperate with EPFS to investigate and remediate contaminated ground water at the sites listed below:

1.	Coldiron Com A#1	Unit K, Sec. 02, T30N, R11W.
2.	Fields A #7A	Unit E, Sec. 34, T32N, R11W.
3.	Gallegos Canyon Unit Com A #142E	Unit G, Sec. 25, T29N, R12W.
4.	Sandoval Gas Com A #1A	Unit C, Sec. 35, T30N, R09W.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Sandra D. Miller, El Paso Field Services
Bill Liess, BLM Farmington Office

NEW MEXICO ENERGY, MINERALS and
NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

July 18, 2001

CERTIFIED MAIL
RETURN RECEIPT NO. 3771-7460

Mr. Scott T. Pope
El Paso Field Services
614 Reilly Ave.
Farmington, New Mexico 87401

RE: 2000 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Mr. Pope:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Field Services (EPFS) February 26, 2001 "2000 PIT PROJECT ANNUAL GROUNDWATER REPORT". This document contains the results of EPFS's 2000 monitoring and remediation of contaminated ground water related to the closure of unlined oil and gas production pits at 36 sites in the San Juan Basin. The documents also requests closure for 6 of the sites based on the remediation and monitoring actions taken to date.

The OCD's review of the above referenced document is addressed below:

A. Final pit closure approvals for the sites listed below were previously issued by the OCD on April 3, 2001.

1.	Charlie Pah #2 (Drip pit)	Unit B, Sec. 12, T27N, R09W
2.	K-51 Line Drip (Drip pit)	Unit A, Sec. 34, T26N, R06W
3.	Mesa CPD (Drip pit)	Unit E, Sec. 04, T29N, R14W
4.	Sheets Well #2 (Drip pit)	Unit H, Sec. 28, T31N, R09W
5.	Turner A#1 Pit #1 (Dehy pit)	Unit K, Sec. 34, T31N, R11W
6.	Turner A#1 Pit #2 (Drip pit)	Unit K, Sec. 34, T31N, R11W

B. The final pit closure and ground water activities at the sites listed below appear satisfactory. However, the reports do not include a completed pit remediation and closure form which contains the results of all soil remediation actions. The OCD cannot issue final closure approval until EPFS submits this information.

1.	Ohio C Government #3 (Dehy pit)	Unit P, Sec. 26, T28N, R11W
2.	Anderson GC A#1 (CH) (Dehy pit)	Unit C, Sec. 28, T29N, R10W.

C. A review of the annual ground water reports for the sites listed below shows that the extent of ground water contamination in excess of WQCC standards at these sites has not been defined or the sites do not contain permanent downgradient ground water monitoring points. The OCD requires that EPFS install additional ground water monitoring wells at these sites to monitor and determine the extent of ground water contamination pursuant to their previously approved ground water investigation plan.

1.	Hammond #41A	Unit O, Sec. 25, T27N, R08W
2.	James F Bell #1E	Unit P, Sec. 10, T30N, R13W
3.	K-27 Line Drip	Unit E, Sec. 04, T25N, R06W
4.	K-31 Line Drip	Unit N, Sec. 16, T25N, R06W
5.	Lateral 0-21 Line Drip	Unit O, Sec. 12, T30N, R09W
6.	Lindrith B#24	Unit N, Sec. 09, T24N, R03W
7.	Miles Federal #1A (CH)	Unit F, Sec. 05, T26N, R07W
8.	State Gas Com N#1	Unit H, Sec. 16, T31N, R12W

D. At the sites listed below where EPFS states that there is possible ground water contamination related to the operators activities, the OCD requests that EPFS work cooperatively with the operator to investigate and remediate contaminated ground water.

1.	Canada Mesa #2	Unit I, Sec. 24, T24N, R06W
2.	Fields A #7A	Unit E, Sec. 34, T32N, R11W
3.	Fogelson 4-1 Com #14	Unit P, Sec. 04, T29N, R11W
4.	Gallegos Canyon Unit Com A #142E	Unit G, Sec. 25, T29N, R12W
5.	Johnston Federal #4	Unit H, Sec. 33, T31N, R09W
6.	Johnston Federal #6A	Unit F, Sec. 35, T31N, R09W
7.	Knight #1	Unit A, Sec. 05, T30N, R13W
8.	Sandoval Gas Com A #1A	Unit C, Sec. 35, T30N, R09W
9.	Standard Oil Com #1	Unit N, Sec. 36, T29N, R09W

If you have any questions, please call me at (505) 476-3491.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Bill Liess, BLM Farmington District Office
Mike Matush, NM State Land Office
Bill Freeman, Navajo Nation EPA

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

April 3, 2003

Mr. Scott T. Pope
El Paso Field Services
614 Reilly Ave.
Farmington, New Mexico 87401

RE: 2003 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Mr. Pope:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Field Services (EPFS) February 28, 2003 "2002 PIT PROJECT ANNUAL GROUNDWATER REPORT". This document contains the results of EPFS's 2002 monitoring and remediation of contaminated ground water related to the closure of unlined oil and gas production pits at 30 sites in the San Juan Basin. The document also requests closure for one site based on the remediation and monitoring actions taken to date.

The OCD's review of the above referenced document is addressed below:

A. Final pit closure for the site listed below is approved on the condition that the site monitor wells be plugged and abandoned by cutting the casing off below ground surface and filling the casing annulus from bottom to top with a cement grout containing 3-5 % bentonite. Please be aware that OCD approval does not relieve EPFS of responsibility if remaining contaminants pose a future threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve EPFS of responsibility for compliance with any other federal, state, tribal or local laws and regulations.

1. Ramenta et al #1 (Dehy pit) Unit J, Sec. 13, T27N, R09W

B. A review of the annual ground water reports for the sites listed below shows that the extent of ground water contamination in excess of New Mexico Water Quality Control Commission (WQCC) standards at these sites has not been completely defined. The OCD requires that EPFS install additional ground water monitoring wells at these sites to determine the extent of ground water contamination pursuant to their previously approved ground water investigation plan.

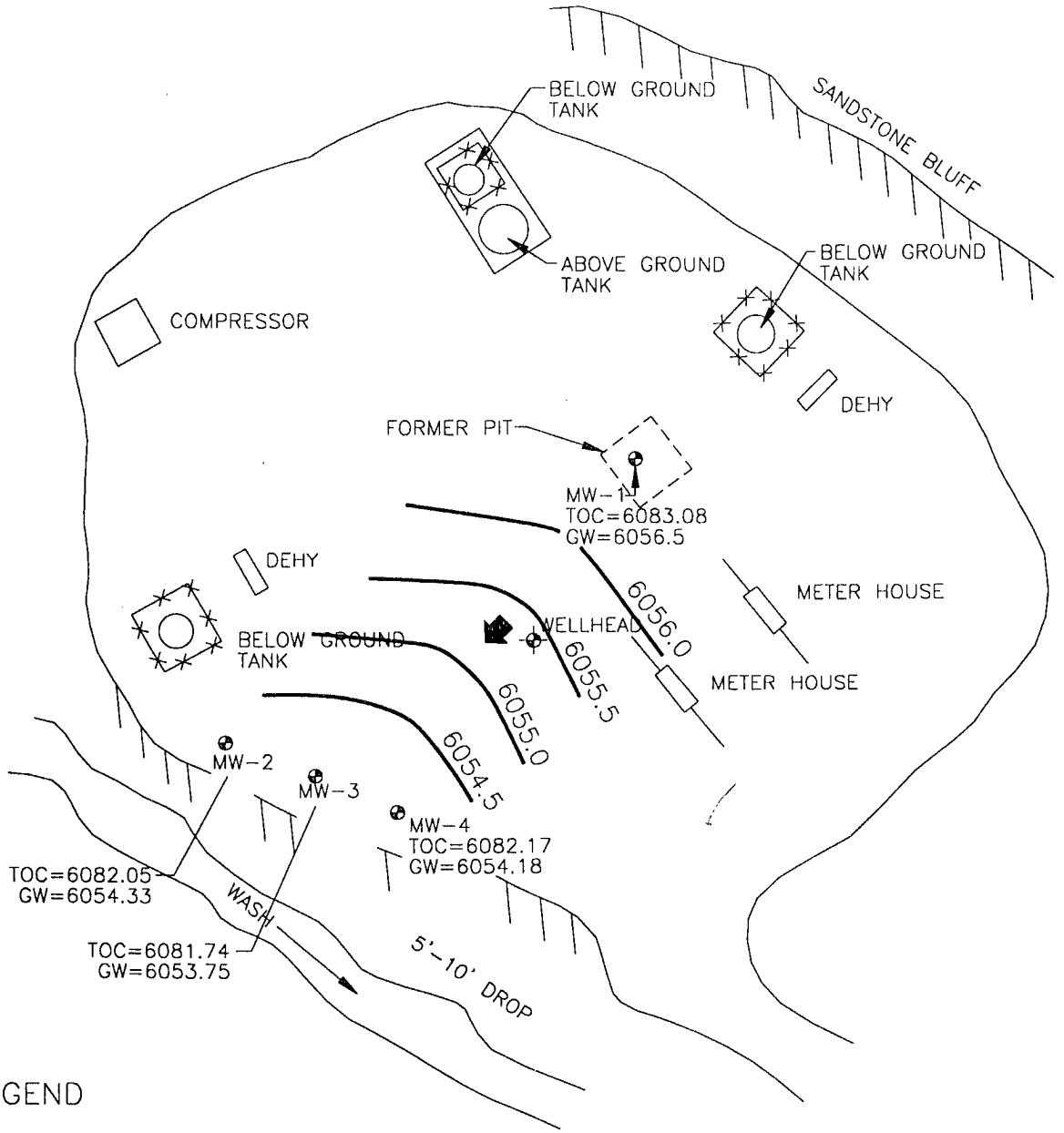
1.	Fields A#7A	Unit E, Sec. 34, T32N, R11W
2.	Hamner #9	Unit A, Sec. 20, T29N, R09W
3.	James F Bell #1E	Unit P, Sec. 10, T30N, R13W
4.	Johnston Federal #4	Unit H, Sec. 33, T31N, R09W
5.	Johnston Federal #6A	Unit F, Sec. 35, T31N, R09W
6.	K-27 Line Drip	Unit E, Sec. 04, T25N, R06W
7.	K-31 Line Drip	Unit N, Sec. 16, T25N, R06W
8.	Lateral 0-21 Line Drip	Unit O, Sec. 12, T30N, R09W
9.	Standard Oil Com #1	Unit N, Sec. 36, T29N, R09W
10.	State Gas Com N#1	Unit H, Sec. 16, T31N, R12W

If you have any questions, please call me at (505) 476-3491.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Bill Liess, BLM Farmington District Office
Mike Matush, NM State Land Office
Bill Freeman, Navajo Nation EPA



LEGEND

MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
TOC	TOP OF CASING ELEVATION
GW	GROUNDWATER POTENTIOMETRIC SURFACE
	GROUNDWATER GRADIENT

0 40
FEET

N

PHILIP SERVICES CORP

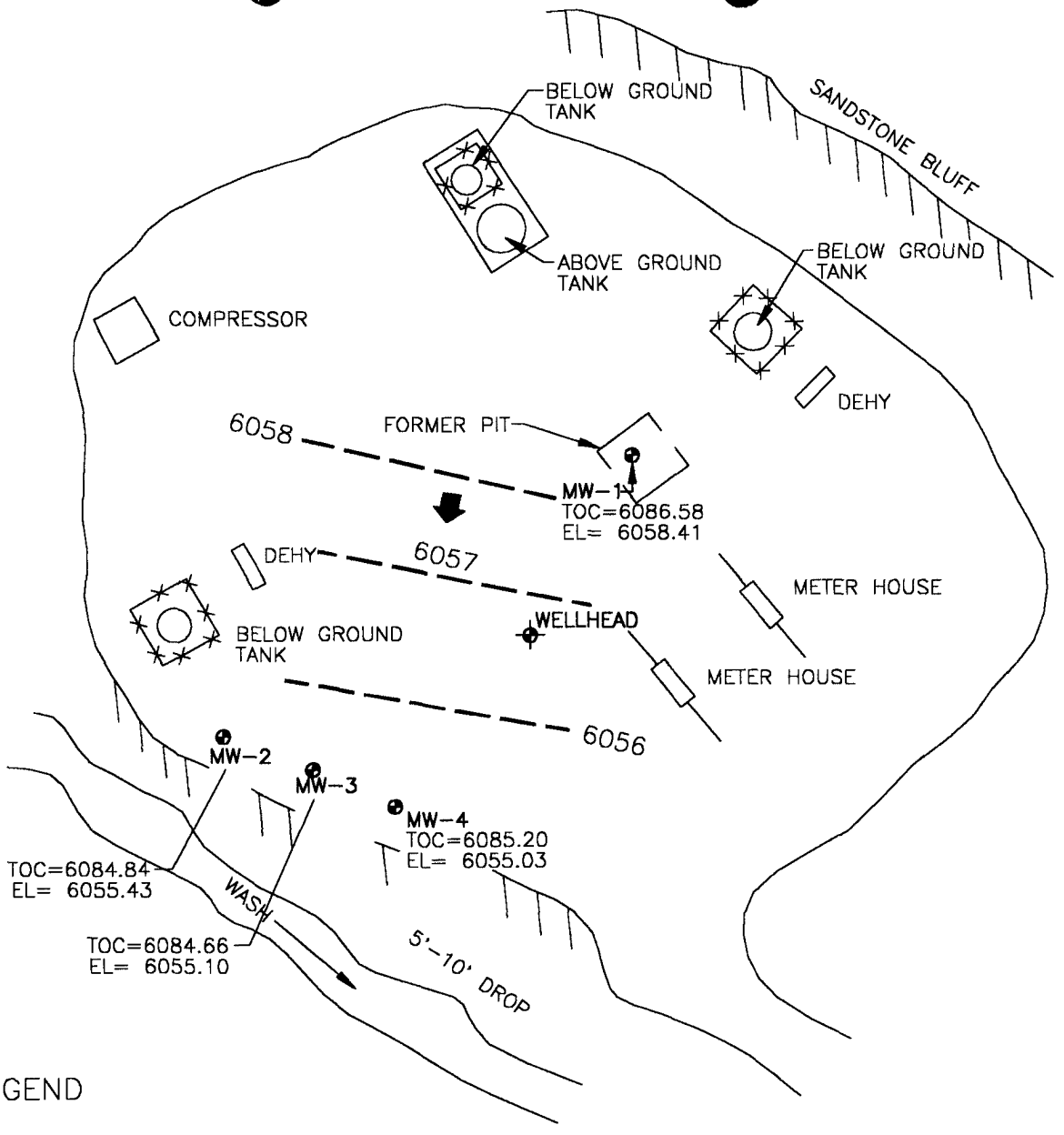
TITLE:
FIELDS A #7A
METER 89961/97546
2/3/98

DWN:	DES.:
TMM	CC
CHKD:	APPD:
CC	
DATE:	REV.:
3/22/99	0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

COL: 17520R-005



LEGEND

MW-1	MONITORING WELL NUMBER AND APPROXIMATE LOCATION
TOC	TOP OF CASING ELEVATION
EL	GROUNDWATER ELEVATION
	GROUNDWATER GRADIENT

0 40
FEET

N

PSC

TITLE:
FIELDS A #7A
METER 89961/97546
FEBRUARY 23, 1999

DWN: CJG	DES.: CC	PROJECT NO.: 17520	
CHKD: CC	APPD:	EPFS GW PITS	
DATE: 02/25/00	REV.: 0	FIGURE 1	

CDL 17520K-007