TETRA TECH, INC.

1910 N. Big Spring St.
Midland, Texas 79705
432-686-8081

December 2, 2009

Mr. Geoffrey Leking
New Mexico Oil Conservation Division
1625 N. French Dr.
Hobbs, NM 88240

Ms. Trisha Bad Bear
US Bureau of Land Management
414 West Taylor
Hobbs, NM 88240

RE: MCA 2A Header Findings Report
Lea County, New Mexico
Unit G, Sec. 29, T17S, R32E
1RP 2300

Dear Mr. Leking and Ms. Bad Bear:

Tetra Tech, on behalf of ConocoPhillips, submits this findings report for the subsurface investigation performed November 4, 2009 at ConocoPhillips' MCA 2A Header produced water release site. This work was performed in support of ConocoPhillips efforts to delineate and remediate a recent 878.4 barrel produced water release reported to the New Mexico Oil Conservation Division (NMOCD; C141 Attached). The Site is located below Mescalero Ridge, approximately 1.1 miles southwest of the ConocoPhillips MCA Unit office in Lea County, New Mexico (32.805893°N, 103.788380°W; Figure 1). The U.S. Bureau of Land Management (BLM) is the land administrator.

The Site is located in the Querecho Plains of eastern New Mexico. This area generally consists of a thin cover of Quaternary sand dunes overlying the undivided Triassic Upper Chinle Group[1]. The Pyote-Kermit soil association at the Site is gently undulating deep sandy soil that is well drained, non-calcareous sands.[2]

The Site is heavily populated with oil field pipelines. Observations made by Tetra Tech during an initial site overview revealed that there are at least 5 pipelines running through the site.

Exposure Pathway Analysis

Depth to water in the vicinity of the Site is estimated to be approximately 76 feet below ground surface (fbgs). This interpretation is based information gathered at monitoring well MW-20 that is described in ConocoPhillips' remediation project entitled "*Maljamar Gas Plant GW-020*" (log

[1] U.S. Department of Agriculture, Natural Resources Conservation Services. Web Soil Survey Database.
[2] Turner, M.T., D.N. Cox, B.C Mickelson, A.J. Roath, and C.D Wilson, 1973. Soil Survey Lea County, New Mexico. U.S. Depart of Agr Soil Conser Ser, 89p.

attached). The monitoring well is located approximately 3,515 feet northeast of the Site. The nearest playa is approximately 0.6 miles east-southeast of the Site.

Following the ranking criteria presented in "*Guidelines for Remediation of Leaks, Spills, and Releases*" promulgated on August 13, 1993 by the NMOCD, this Site has the following score:

Criteria		Ranking Score
Depth to groundwater	50 - 99 feet	10
Distance from water source	>1,000 feet	0
Distance from domestic water source	>200 feet	0
Distance from surface water body	>1,000 feet	0
Total Ranking Score		10

The remediation action level for a ranking score of 10-19 is 10 parts per million (ppm) for benzene, 50 ppm for total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 ppm for total petroleum hydrocarbons (TPH).

In the event of oil/gas releases to the environment, the NMOCD uses the New Mexico Water Quality Control Commission's maximum contaminate level of 250 ppm for chloride (20.6.2.3103 NMAC, Subsection A) for delineation.

Scope of Work

The lateral extent of the release area is defined by soil discoloration (Figure 2). To delineate the vertical extent of the crude oil / produced water affected area, a hand auger was used in the affected area to describe vertical environmental conditions. Soil samples were collected every three feet in each boring.

Twelve soil samples were collected from six borings and submitted to a laboratory for analyses. The samples were placed into glass sample jars, sealed with Teflon-lined lids, and placed on ice for transportation with a chain-of-custody to an analytical laboratory where they were analyzed for diesel and gasoline range TPH (TPH_{DRO} and TPH_{GRO}, Method 8015 modified), BTEX (Method 8021-B), and chloride (Method 300).

Findings

Soil encountered at the Site was moist yellowish brown sands from the surface to varying depths. Locally, the dune sands overlie red sandy clay.

TPH and BTEX laboratory analyses for this investigative event are presented in Table 1. TPH concentrations were detected in all auger samples and ranged from 265 to 7,510 milligrams per

kilogram (mg/Kg). Benzene (0.069 mg/Kg) was detected in only one sample (HA-3 at 6 fbgs). BTEX concentrations ranged from non-detection to 40.77 mg/Kg.

Table 1
ConocoPhillips
MCA 2A Header
Analytical Soil Analyses
November 4, 2009

	Location	Sample Depth (ft)	Chloride (mg/Kg)	Petroleum Hydrocarbons (mg/Kg)			Volatile Organic Compounds (mg/Kg)				
				DRO	GRO	Total	Benzene	Ethyl-benzene	Toluene	Xylenes Total	Total BTEX
Hand Auger (HA) Sampling Locations	HA-1	2.5	5,170	5,400	460	5,860	ND	11	3.10	18.6	32.70
		5.5	2,190	1,300	130	1,430	ND	0.4	0.021	2.9	3.32
	HA-2	3.0	4,290	6,600	910	7,510	ND	12	0.77	28.0	40.77
		6	1,410	160	1	161	ND	ND	ND	ND	ND
	HA-3	4.0	2,220	ND	ND	2,220	ND	ND	ND	ND	ND
		6.0	25,000	4,500	350	4,850	0.069	6.4	3.8	13.1	23.37
	HA-4	6	4,520	ND	ND	4,520	ND	ND	ND	0.002	0.002
		4	293	ND	ND	293	ND	ND	ND	ND	ND
	HA-5	3	1,990	ND	ND	1,990	ND	ND	ND	ND	ND
		5.0	878	1,000	ND	1,000	ND	ND	ND	ND	ND
	HA-6	3	1,120	740.0	0.2	740	ND	ND	ND	ND	ND
		6.5	2,570	250	15.0	265	ND	0.0014	0.003	0.079	0.08

TPH_{GRO} =Gasoline range petroleum hydrocarbons
TPH_{DRO} =Diesel range petroleum hydrocarbons
ft = Feet
mg/Kg = Milligrams per kilogram
ND = Analyte not detected at or above laboratory detection limits

Chloride concentrations were present in all hand auger boring locations and ranged from 293 to 25,000 mg/Kg (Table 1).

Conclusions

Exposure pathway analysis indicated a ranking score of "10." Therefore, the site-specific remediation levels are 1,000 mg/kg for TPH, 50 mg/kg for BTEX and 10 mg/kg for benzene. Laboratory analyses of soils collected during this investigation indicate TPH was reported at concentrations above remediation action levels in all sampling locations, except for location HA-6. Benzene and BTEX concentrations were below the action levels in all sampling locations.

Laboratory analyses indicate the produced water (chloride) penetrated and migrated downward in the sandy soil, stayed generally within a swale located between the facility pad and sand dunes (Figure 1), and appeared to be confined by an underlying clay layer.

Recommendations

Tetra Tech recommends the following actions be taken at the Site:

Tetra Tech proposes to excavate the soil affected by the produced water release. At a minimum, the area will be excavated to a depth of approximately 10 fbgs. The plan includes using a roustabout crew to complete two full length and four perpendicular hand-dug trenches in an attempt to identify any unknown pipelines crossing the Site. To reduce hazards to potential unforced releases, Tetra Tech requests any active pipeline to be de-pressurized before excavating within 4 feet of the line.

Tetra Tech will remove any out of service pipelines within a 100 feet radius of the remediation area before excavation begins, and will take every precaution to minimize stress to known pipelines crossing the Site. Soil bridges and rig mats will be used to across remaining pipelines in the work zone.

A trackhoe will be used to excavate the affected soil. A front-end loader will haul the material to a nearby pad (MCA 2A header) to load dump trucks. Individual soil samples will be collected in a "W" pattern, and composited for each sidewall and floor in the excavations, and field analyzed using chloride titration and PetroFlag field screening[3] (TPH_{DRO}) to determine that remediation levels established by NMOCD have been achieved.

Soil samples will be collected and submitted to an analytical laboratory for analyses for chloride (Method 300), TPH (Method 8015), and BTEX (Method 8021) to confirm a clean excavation. The NMOCD will be notified 48 hours in advance of collection of confirmation samples to witness sample collection. Barrowed clean material will be used to partially backfilled the excavation. Natural wind erosion will re-sculpture the affected area and restore the sand dune lizard's, *Sceloporus arenicolus,* habitat. The USBLM approved seed mix will be applied to the rough graded surface.

Tetra Tech will supervise and direct all subcontractor activities, and prepare a report describing and documenting what was done at the Site, including a site map. This report on activities, laboratory results and recommendations will be submitted for USBLM and NMOCD review and ultimate approval for closure.

Project Approach

Mr. Charles Durrett will serve as the Project Manager and will have the authority to commit whatever resources are necessary to support the project team. It will be Mr. Durrett's responsibility to ensure that the Client's needs are met in terms of scope of work and schedule. Mr. Durrett is located in Tetra Tech's Midland, Texas office.

[3] U.S. Environmental Protection Agency, 2001. Innovative Technology Verification Report, Dexsil Corporation PetroFlag System. Prepared by Tetra Tech EM Inc. for USEPA National Exposure Research Laboratory Office of Research and Development. EPA/R-01/092.

Project Schedule

ConocoPhillips has authorized Tetra Tech to commence work on this project immediately following BLM and NMOCD's approval of this work plan. Please contact me or Mr. John Gates (ConocoPhillips, 575-390-4821), if you have any questions or require additional information.

Respectfully,

Tetra Tech

Charles Durrett

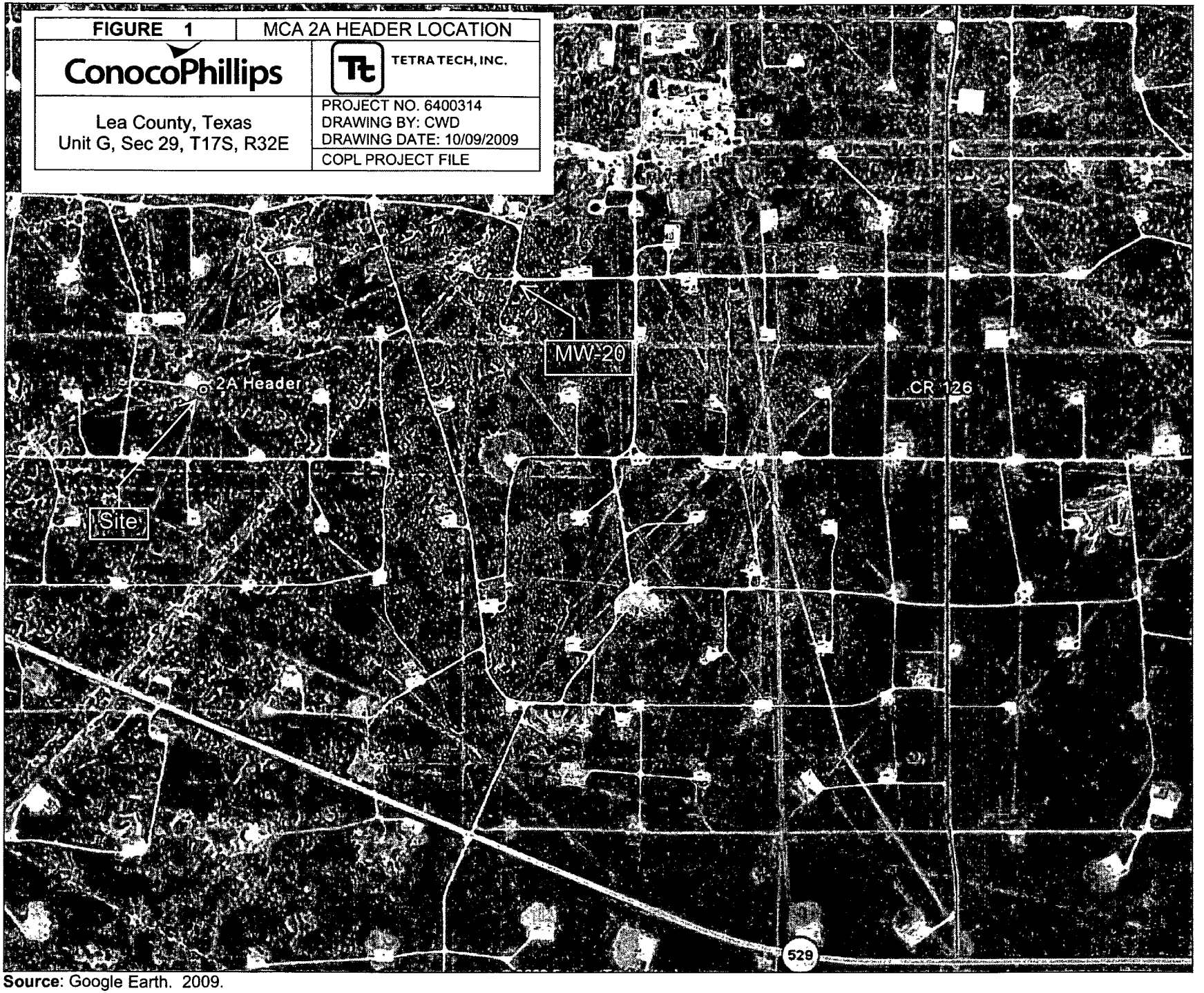
Digitally signed by Charles Durrett
DN cn=Charles Durrett, o=TETRA TECH, ou=Midland, TX, email=Charles Durrett@TetraTech.com, c=US
Date 2009.12.02 08:42:36 -06'00'

Charles Durrett
Sr. Project Manager

Attachments

Cc: John Gates, ConocoPhillips Company

FIGURE 1	MCA 2A HEADER LOCATION
ConocoPhillips	TETRA TECH, INC.
Lea County, Texas Unit G, Sec 29, T17S, R32E	PROJECT NO. 6400314 DRAWING BY: CWD DRAWING DATE: 10/09/2009 COPL PROJECT FILE



Source: Google Earth. 2009.

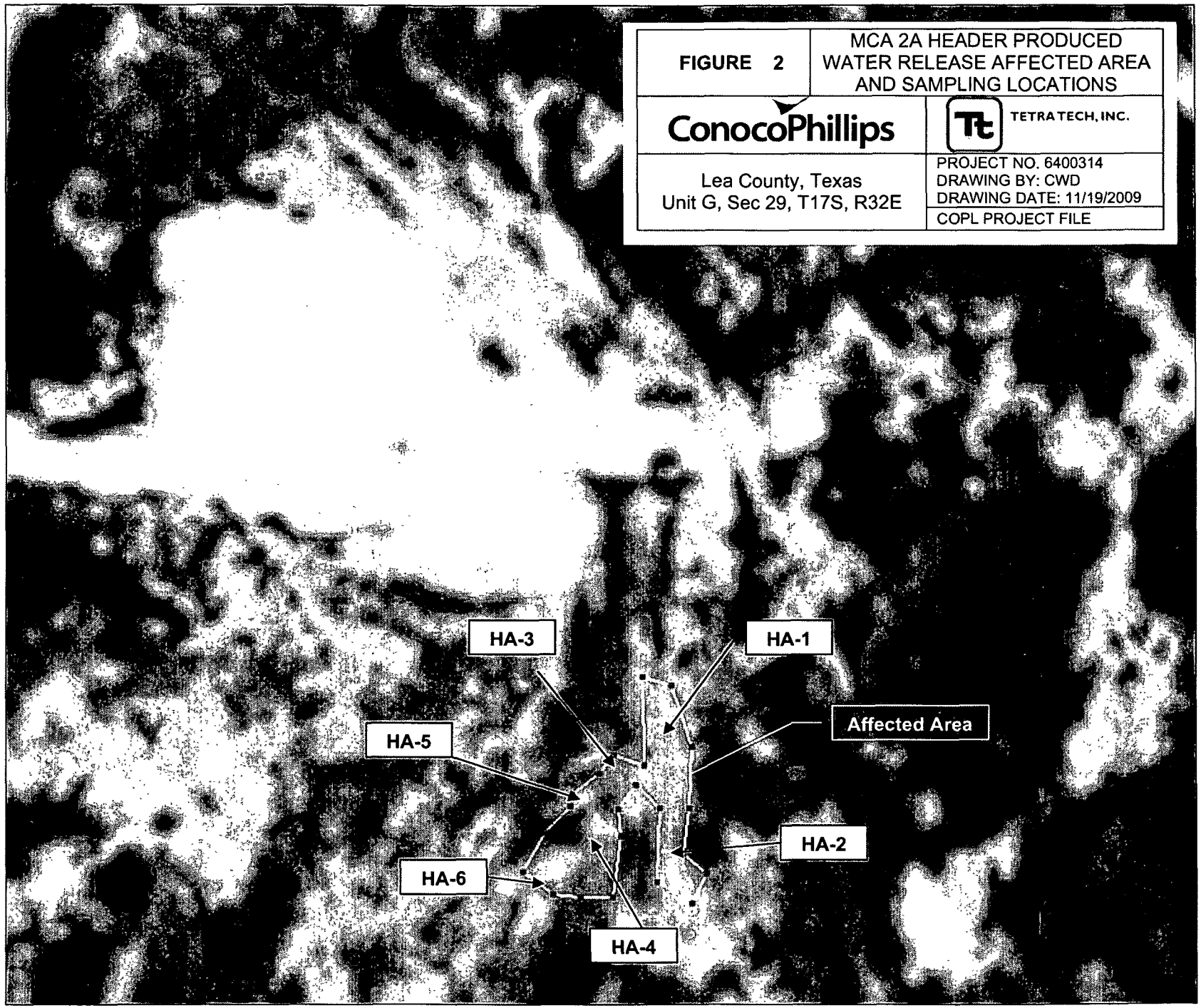


FIGURE 2	MCA 2A HEADER PRODUCED WATER RELEASE AFFECTED AREA AND SAMPLING LOCATIONS
ConocoPhillips	TETRA TECH, INC.
Lea County, Texas Unit G, Sec 29, T17S, R32E	PROJECT NO. 6400314 DRAWING BY: CWD DRAWING DATE: 11/19/2009 COPL PROJECT FILE

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

RECEIVED
SEP 23 2009
HOBBSOCD

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company **ConocoPhillips Company**	Contact **John W. Gates**
Address **3300 North A St. Bldg 6, Midland, TX 79705-5406**	Telephone No. **505.391.3158**
Facility Name **MCA 2A Header**	Facility Type **Oil and Gas**

Surface Owner **Federal**	Mineral Owner **Federal**	Lease No **LC-060199A**

LOCATION OF RELEASE

NEARBY WELL MCA UNIT 308 API # 30.025.24076.00.00

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	**29**	**17S**	**32E**					**Lea**

Latitude 32.48.340 **Longitude 103 47.301**

NATURE OF RELEASE

Type of Release **Produced Water**	Volume of Release **878.4**bbl (**0**oil, **878.4**water)	Volume Recovered (**0**oil, **845**water)
Source of Release **2" Fiberglass Trunkline**	Date and Hour of Occurrence **9/19/09 Unknown**	Date and Hour of Discovery **9/19/09 0717**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Pat Hutchins**	
By Whom? **Tommy Brooks**	Date and Hour **9/19/09 1615**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

WATER @ 170'

Describe Cause of Problem and Remedial Action Taken.*

Leak originated from a hole in a 2" fiberglass trunkline due to fatigue. Trunkline was isolated and the 2A header

Describe Area Affected and Cleanup Action Taken.*

300' X 60' X 2" area of sandy pasture land with no livestock present. Spill site will be delineated & remediated in accordance with an agreement with NMOCD and BLM guidelines.

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: John W. Gates

Printed Name: **John W. Gates**

Title: **HSER Lead**

E-mail Address: **John.W.Gates@conocophillips.com**

Date: **9/21/09** Phone: **505.391.3158**

OIL CONSERVATION DIVISION

Approved by ~~District Supervisor:~~ ENV ENGINEER Geoffrey Leking

Approval Date: 09/24/09 Expiration Date: 11/24/09

Conditions of Approval: DELINEATE TO CLEAN #1. SUBMIT FINAL BY 11/24/09.

Attached ☐

IRP-09-10-2300

- Attach Additional Sheets If Necessary

fGRL0928731707

BORING LOG

PROJECT NAME: Maxim #2690032

LOCATION: Maljamar Gas Plant, Lea County

MONITORING WELL NO. MW-20

FIELD LOGGED BY: F. Lichnovsky

ELEVATION: GROUND SURFACE (msl): 3975.42 (ft)

GROUNDWATER ELEVATION (msl): 3899.92 (ft)

DRILL TYPE: Truck Mounted Air Rotary

BORE HOLE DIAMETER: 5 (in)

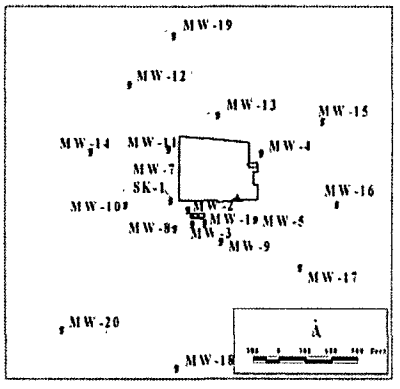
DRILLED BY: Scarborough Drilling

DATE/TIME: HOLE STARTED: 9/18/02

DATE/TIME: COMPLETED: 9/19/02

REMARKS: bgs=Below Ground Surface
ND=Not Detected, NS=No Sample
msl=mean sea level
FOG-First occurrence of groundwater
SWL-Static Water Level

LOCATION MAP



WELL COMPLETION INFORMATION

Measuring Point Description (msl): Top of Casing

Measuring Point Elevation (msl): 3976.92

Static Water Level (feet below Top of Casing): 77

Well Development: Water Extraction Until Visibly Free of Sediment

Well Cap: Locking Cap

Type of Casing: PVC

Casing Diameter: 2 in.

Slot Size: 0.010 in

ELEVATION (msl) - ft	SAMPLE INTERVAL/ID #	COMPLETION DIAGRAM	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	ANALYTICAL	TIME	% RECOVERY	PID RESULT (ppm)	DEPTH (bgs) - ft
3975.0										0
	1		SAND, red	SP					0.6	
3970.0		GROUTED ANNULUS								5
	2		Shale, red						2.2	
3965.0			Caliche, white							10
	3								4.2	
3960.0			SAND, light red							15
	4			SP					2.5	
3955.0										20
	5								2.1	
3950.0										25
	6								1.9	
3945.0										30
	7		Shale, red						2.2	
3940.0										35
	8								2.4	
3935.0										40

Boring Terminated at 120' bgs

Bulk Sampling

2690032	MAXIM TECHNOLOGIES INC	EXPLORATORY BORING LOG	MW-20

PROJECT NAME: Maxim #2690032

LOCATION: Maljamar Gas Plant, Lea County

MONITORING WELL NO. MW-20

FIELD LOGGED BY: F. Lichnovsky

ELEVATION: GROUND SURFACE (msl): 3975.42 (ft)

GROUNDWATER ELEVATION (msl): 3899.92 (ft)

DRILL TYPE: Truck Mounted Air Rotary

BORE HOLE DIAMETER: 5 (in)

DRILLED BY: Scarborough Drilling

DATE/TIME: HOLE STARTED. 9/18/02

DATE/TIME: COMPLETED: 9/19/02

REMARKS: bgs=Below Ground Surface
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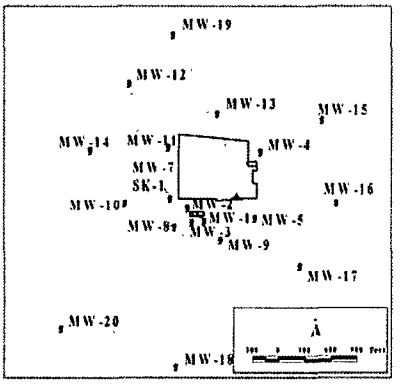

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3930.0	9		Shale, gray						2.0	45
3925.0	10								2.8	50
3920.0	11								2.4	55
3915.0	12		Shale, gray, with light yellow sand						2.1	60
3910.0	13		Shale, light yellow						3.1	65
3905.0	14		Shale, light yellowish-green, sand, yellow						2.6	70
3900.0	15	BENTONITE SEAL	Shale, gray to grayish-green						3.2	75
3895.0	16	9/17/02 SWL	Shale, grayish-green						1.5	80

Boring Terminated at 120' bgs

Bulk Sampling

2690032	MAXIM TECHNOLOGIES INC	EXPLORATORY BORING LOG	MW-20

PROJECT NAME: Maxim #2690032

LOCATION: Maljamar Gas Plant, Lea County

MONITORING WELL NO. MW-20

FIELD LOGGED BY: F. Lichnovsky

ELEVATION: GROUND SURFACE (msl): 3975.42 (ft)

GROUNDWATER ELEVATION (msl): 3899.92 (ft)

DRILL TYPE: Truck Mounted Air Rotary

BORE HOLE DIAMETER: 5 (in)

DRILLED BY: Scarborough Drilling

DATE/TIME: HOLE STARTED: 9/18/02

DATE/TIME: COMPLETED: 9/19/02

REMARKS: bgs=Below Ground Surface
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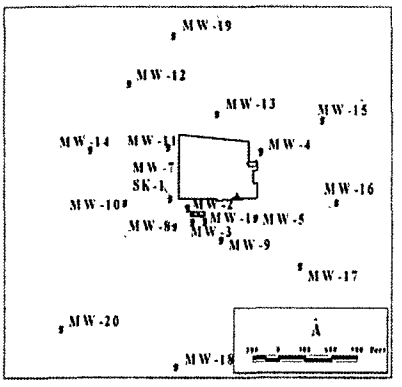
LOCATION MAP



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Slot Size: 0.010 in

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3890.0	17	SAND PACK	Shale, gray, some thin layers of red shale						1.5	85
3885.0	18		Shale, red						1.4	90
3880.0	19								2.7	95
3875.0	20								1.7	100
3870.0	21		Shale, purplish-red						1.9	105
3865.0	22								1.7	110
3860.0	23								1.3	115
	24								0.9	120

Boring Terminated at 120' bgs

Bulk Sampling

2690032	MAXIM TECHNOLOGIES INC	EXPLORATORY BORING LOG	MW-20

APPENDIX

Laboratory Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

Conoco Phillips

Certificate of Analysis Number:

09110235

Report To:		Project Name:	MCA 2A Header A
Tetra Tech		Site:	Maljamar, NM
Charlie Durrett		Site Address:	
1910 N. Big Spring St			
Midland		PO Number:	
TX		State:	New Mexico
79705-		State Cert. No.:	
ph: (432) 682-4559	fax:	Date Reported:	11/19/2009

Per the Conoco Phillips TSM Revision 0, a copy of the internal chain of custody is to be included in final data package. However, due to LIMS limitations, this cannot be provided at this time.

I. SAMPLE RECEIPT:

All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II: ANALYSIS AND EXCEPTIONS:

SW8015 - Diesel Range Organics:

Samples "HA-1 2.5', HA-1 5.5', HA-2 3', HA-2 6', HA-5 5', HA-6 3', HA-6 6.5' and HA-3 6" (SPL ID: 09110235-01, 02, 03, 04, 09, 10, 11, 12) were reported as diesel range hydrocarbons, range C10-C28 as requested, however, sample has coelution of diesel and oil patterns.

SW8015 - Gasoline Range Organics:

Sample ID "HA-2 6'" (SPL ID: 09110235-04) was randomly selected for use in SPL's quality control program for Batch ID: R288956. The Matrix Spike Duplicate (MSD) recovery was outside of the advisory quality control limits due to possible matrix interference. A Laboratory Control Sample (LCS) was analyzed as a quality control check for the analytical batch and all recoveries were within acceptable limits.

SW8021 - Purgeable Aromatics:

Sample ID "HA-4 6'" (SPL ID: 09110235-06) was randomly selected for use in SPL's quality control program for Batch ID: R289073. The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries were outside of the advisory quality control limits due to possible matrix interference for the following analyte: Ethylbenzene. A Laboratory Control Sample (LCS) was analyzed as a quality control check for the analytical batch and all recoveries were within acceptable limits.

III. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Some of the percent recoveries and RPD's on the QC report for the MS/MSD may be different than the calculated recoveries and RPD's using the sample result and the MS/MSD results that appear on the report because, the actual raw result is used to perform the calculations for percent recovery and RPD.

Erica Cardenas
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

Conoco Phillips

Certificate of Analysis Number:

09110235

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or by his designee, as verified by the following signature.

11/19/2009

Erica Cardenas
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Conoco Phillips

Certificate of Analysis Number:

09110235

Report To: Tetra Tech
Charlie Durrett
1910 N. Big Spring St

Midland
TX
79705-
ph: (432) 682-4559 fax: (432) 686-8085

Fax To:

Project Name: MCA 2A Header A
Site: Maljamar, NM
Site Address:

PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 11/19/2009

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
HA-1 2.5'	09110235-01	Soil	11/4/2009 11:30:00 AM	11/6/2009 9:15:00 AM	301957	☐
HA-1 5.5'	09110235-02	Soil	11/4/2009 11:35:00 AM	11/6/2009 9:15:00 AM	301957	☐
HA-2 3'	09110235-03	Soil	11/4/2009 12:00:00 PM	11/6/2009 9:15:00 AM	301957	☐
HA-2 6'	09110235-04	Soil	11/4/2009 12:35:00 PM	11/6/2009 9:15:00 AM	301957	☐
HA-3 4'	09110235-05	Soil	11/4/2009 1:05:00 PM	11/6/2009 9:15:00 AM	301957	☐
HA-4 6"	09110235-06	Soil	11/4/2009 1:30:00 PM	11/6/2009 9:15:00 AM	301957	☐
HA-4 4'	09110235-07	Soil	11/4/2009 1:35:00 PM	11/6/2009 9:15:00 AM	301957	☐
HA-5 3'	09110235-08	Soil	11/4/2009 2:00:00 PM	11/6/2009 9:15:00 AM	301957	☐
HA-5 5'	09110235-09	Soil	11/4/2009 2:05:00 PM	11/6/2009 9:15:00 AM	301957	☐
HA-6 3'	09110235-10	Soil	11/4/2009 2:30:00 PM	11/6/2009 9:15:00 AM	302259	☐
HA-6 6.5'	09110235-11	Soil	11/4/2009 2:35:00 PM	11/6/2009 9:15:00 AM	302259	☐
HA-3 6	09110235-12	Soil	11/4/2009 1:30:00 PM	11/6/2009 9:15:00 AM	302259	☐
Trip Blank	09110235-13	Water	11/4/2009	11/6/2009 9:15:00 AM	302259	☐

11/19/2009

Erica Cardenas
Project Manager

Date

Kesavalu M. Bagawandoss Ph.D., J.D.
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-1 2.5' **Collected:** 11/04/2009 11:30 **SPL Sample ID:** 09110235-01

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	5400		500	100	11/17/09 3:39	NW	5294073
Surr: n-Pentacosane	D	*	% 20-154	100	11/17/09 3:39	NW	5294073

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	460		20	200	11/12/09 13:15	WLV	5287505
Surr: 1,4-Difluorobenzene	106		% 63-142	200	11/12/09 13:15	WLV	5287505
Surr: 4-Bromofluorobenzene	271MI	*	% 50-159	200	11/12/09 13:15	WLV	5287505

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:46	XML	1.00

ION CHROMATOGRAPHY				**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	5170		250	50	11/14/09 13:35	BDG	5290946

PURGEABLE AROMATICS				**MCL**	**SW8021B**	**Units: ug/kg**	
Benzene	ND		25	25	11/13/09 13:05	JSP	5288900
Toluene	3100		25	25	11/13/09 13:05	JSP	5288900
Ethylbenzene	11000		25	25	11/13/09 13:05	JSP	5288900
Methyl tert-butyl ether	ND		25	25	11/13/09 13:05	JSP	5288900
m,p-Xylene	10000		25	25	11/13/09 13:05	JSP	5288900
o-Xylene	8600		25	25	11/13/09 13:05	JSP	5288900
Xylenes,Total	18600		25	25	11/13/09 13:05	JSP	5288900
Surr: 1,4-Difluorobenzene	108		% 70-130	25	11/13/09 13:05	JSP	5288900
Surr: 4-Bromofluorobenzene	199 MI	*	% 63-145	25	11/13/09 13:05	JSP	5288900

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/12/2009 10:37	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-1 5.5' **Collected:** 11/04/2009 11:35 **SPL Sample ID:** 09110235-02

Site: Maljamar, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	1300			100	20	11/13/09 19:38	NW	5294062
Surr: n-Pentacosane	D	*	%	20-154	20	11/13/09 19:38	NW	5294062

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	130			5	50	11/12/09 2:25	JSP	5286888
Surr: 1,4-Difluorobenzene	104		%	63-142	50	11/12/09 2:25	JSP	5286888
Surr: 4-Bromofluorobenzene	263 MI	*	%	50-159	50	11/12/09 2:25	JSP	5286888

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:47	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	2190			100	20	11/14/09 13:51	BDG	5290947

PURGEABLE AROMATICS					**MCL**	**SW8021B**	**Units: ug/kg**	
Benzene	ND			5	1	11/12/09 23:33	JSP	5288883
Toluene	21			5	1	11/12/09 23:33	JSP	5288883
Ethylbenzene	400			50	50	11/12/09 2:25	JSP	5287265
Methyl tert-butyl ether	ND			5	1	11/12/09 23:33	JSP	5288883
m,p-Xylene	1500			50	50	11/12/09 2:25	JSP	5287265
o-Xylene	1400			50	50	11/12/09 2:25	JSP	5287265
Xylenes,Total	2900			50	50	11/12/09 2:25	JSP	5287265
Surr: 1,4-Difluorobenzene	103		%	70-130	50	11/12/09 2:25	JSP	5287265
Surr: 1,4-Difluorobenzene	97.7		%	70-130	1	11/12/09 23:33	JSP	5288883
Surr: 4-Bromofluorobenzene	130		%	63-145	50	11/12/09 2:25	JSP	5287265
Surr: 4-Bromofluorobenzene	132		%	63-145	1	11/12/09 23:33	JSP	5288883

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/12/2009 10:41	XML	5.00
SW5030B	11/09/2009 14:47	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-2 3' **Collected:** 11/04/2009 12:00 **SPL Sample ID:** 09110235-03

Site: Maljamar, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	6600			500	100	11/17/09 4:40	NW	5294076
Surr: n-Pentacosane	D	*	%	20-154	100	11/17/09 4:40	NW	5294076

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	910			50	500	11/12/09 2:53	JSP	5286889
Surr: 1,4-Difluorobenzene	106		%	63-142	500	11/12/09 2:53	JSP	5286889
Surr: 4-Bromofluorobenzene	195 MI	*	%	50-159	500	11/12/09 2:53	JSP	5286889

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:50	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	4290			250	50	11/14/09 14:08	BDG	5290948
PURGEABLE AROMATICS					**MCL**	**SW8021B**	**Units: ug/kg**	
Benzene	ND			50	50	11/13/09 0:31	JSP	5288884
Toluene	770			50	50	11/13/09 0:31	JSP	5288884
Ethylbenzene	12000			50	50	11/13/09 0:31	JSP	5288884
Methyl tert-butyl ether	ND			50	50	11/13/09 0:31	JSP	5288884
m,p-Xylene	19000			50	50	11/13/09 0:31	JSP	5288884
o-Xylene	9000			50	50	11/13/09 0:31	JSP	5288884
Xylenes,Total	28000			50	50	11/13/09 0:31	JSP	5288884
Surr: 1,4-Difluorobenzene	103		%	70-130	50	11/13/09 0:31	JSP	5288884
Surr: 4-Bromofluorobenzene	171 MI	*	%	63-145	50	11/13/09 0:31	JSP	5288884

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:50	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-2 6' **Collected:** 11/04/2009 12:35 **SPL Sample ID:** 09110235-04

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	160		50	10	11/13/09 17:36	NW	5294058
Surr: n-Pentacosane	144		% 20-154	10	11/13/09 17:36	NW	5294058

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	0.5		0.1	1	11/11/09 19:58	JSP	5286879
Surr: 1,4-Difluorobenzene	106		% 63-142	1	11/11/09 19:58	JSP	5286879
Surr: 4-Bromofluorobenzene	131		% 50-159	1	11/11/09 19:58	JSP	5286879

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:33	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	1410		50	10	11/14/09 14:25	BDG	5290949

PURGEABLE AROMATICS			**MCL**	**SW8021B**	**Units: ug/kg**		
Benzene	ND		1	1	11/12/09 19:13	JSP	5288877
Toluene	ND		1	1	11/12/09 19:13	JSP	5288877
Ethylbenzene	ND		1	1	11/12/09 19:13	JSP	5288877
Methyl tert-butyl ether	ND		1	1	11/12/09 19:13	JSP	5288877
m,p-Xylene	ND		1	1	11/12/09 19:13	JSP	5288877
o-Xylene	ND		1	1	11/12/09 19:13	JSP	5288877
Xylenes,Total	ND		1	1	11/12/09 19:13	JSP	5288877
Surr: 1,4-Difluorobenzene	100		% 70-130	1	11/12/09 19:13	JSP	5288877
Surr: 4-Bromofluorobenzene	106		% 63-145	1	11/12/09 19:13	JSP	5288877

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/12/2009 10:44	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-3 4' **Collected:** 11/04/2009 13:05 **SPL Sample ID:** 09110235-05

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	ND		5	1	11/13/09 16:35	NW	5294055
Surr: n-Pentacosane	78.0		% 20-154	1	11/13/09 16:35	NW	5294055

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	ND		0.1	1	11/11/09 19:02	JSP	5286877
Surr: 1,4-Difluorobenzene	103		% 63-142	1	11/11/09 19:02	JSP	5286877
Surr: 4-Bromofluorobenzene	96.2		% 50-159	1	11/11/09 19:02	JSP	5286877

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/10/2009 10:09	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	2220		100	20	11/14/09 14:41	BDG	5290950

PURGEABLE AROMATICS			**MCL**	**SW8021B**	**Units: ug/kg**		
Benzene	ND		1	1	11/12/09 18:45	JSP	5288876
Toluene	ND		1	1	11/12/09 18:45	JSP	5288876
Ethylbenzene	ND		1	1	11/12/09 18:45	JSP	5288876
Methyl tert-butyl ether	ND		1	1	11/12/09 18:45	JSP	5288876
m,p-Xylene	ND		1	1	11/12/09 18:45	JSP	5288876
o-Xylene	ND		1	1	11/12/09 18:45	JSP	5288876
Xylenes,Total	ND		1	1	11/12/09 18:45	JSP	5288876
Surr: 1,4-Difluorobenzene	93.5		% 70-130	1	11/12/09 18:45	JSP	5288876
Surr: 4-Bromofluorobenzene	99.0		% 63-145	1	11/12/09 18:45	JSP	5288876

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/12/2009 10:47	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-4 6" **Collected:** 11/04/2009 13:30 **SPL Sample ID:** 09110235-06

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	ND		5	1	11/13/09 16:56	NW	5294056
Surr: n-Pentacosane	96.5		% 20-154	1	11/13/09 16:56	NW	5294056

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	ND		0.1	1	11/11/09 19:30	JSP	5286878
Surr: 1,4-Difluorobenzene	102		% 63-142	1	11/11/09 19:30	JSP	5286878
Surr: 4-Bromofluorobenzene	92.7		% 50-159	1	11/11/09 19:30	JSP	5286878

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:35	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	4520		250	50	11/14/09 15:31	BDG	5290953

PURGEABLE AROMATICS			**MCL**	**SW8021B**	**Units: ug/kg**		
Benzene	ND		1	1	11/12/09 19:42	JSP	5288878
Toluene	ND		1	1	11/12/09 19:42	JSP	5288878
Ethylbenzene	ND		1	1	11/12/09 19:42	JSP	5288878
Methyl tert-butyl ether	ND		1	1	11/12/09 19:42	JSP	5288878
m,p-Xylene	2		1	1	11/12/09 19:42	JSP	5288878
o-Xylene	ND		1	1	11/12/09 19:42	JSP	5288878
Xylenes, Total	2		1	1	11/12/09 19:42	JSP	5288878
Surr: 1,4-Difluorobenzene	97.5		% 70-130	1	11/12/09 19:42	JSP	5288878
Surr: 4-Bromofluorobenzene	100		% 63-145	1	11/12/09 19:42	JSP	5288878

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/12/2009 10:49	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-4 4' **Collected:** 11/04/2009 13:35 **SPL Sample ID:** 09110235-07

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	ND		5	1	11/14/09 22:21	NW	5295158
Surr: n-Pentacosane	88.7		% 20-154	1	11/14/09 22:21	NW	5295158

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/13/2009 10:34	QMT	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	ND		0.1	1	11/12/09 0:07	JSP	5286884
Surr: 1,4-Difluorobenzene	104		% 63-142	1	11/12/09 0:07	JSP	5286884
Surr: 4-Bromofluorobenzene	97.6		% 50-159	1	11/12/09 0:07	JSP	5286884

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:38	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	293		25	5	11/14/09 15:48	BDG	5290954

PURGEABLE AROMATICS			**MCL**	**SW8021B**	**Units: ug/kg**		
Benzene	ND		1	1	11/12/09 0:07	JSP	5287261
Toluene	ND		1	1	11/12/09 0:07	JSP	5287261
Ethylbenzene	ND		1	1	11/12/09 0:07	JSP	5287261
Methyl tert-butyl ether	ND		1	1	11/12/09 0:07	JSP	5287261
m,p-Xylene	ND		1	1	11/12/09 0:07	JSP	5287261
o-Xylene	ND		1	1	11/12/09 0:07	JSP	5287261
Xylenes,Total	ND		1	1	11/12/09 0:07	JSP	5287261
Surr: 1,4-Difluorobenzene	103		% 70-130	1	11/12/09 0:07	JSP	5287261
Surr: 4-Bromofluorobenzene	97.3		% 63-145	1	11/12/09 0:07	JSP	5287261

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:38	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-5 3' **Collected:** 11/04/2009 14:00 **SPL Sample ID:** 09110235-08

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	ND		5	1	11/13/09 17:16	NW	5294057
Surr: n-Pentacosane	72.6		% 20-154	1	11/13/09 17:16	NW	5294057

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	ND		0.1	1	11/12/09 0:35	JSP	5286885
Surr: 1,4-Difluorobenzene	104		% 63-142	1	11/12/09 0:35	JSP	5286885
Surr: 4-Bromofluorobenzene	98.6		% 50-159	1	11/12/09 0:35	JSP	5286885

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:39	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	1990		100	20	11/14/09 16:05	BDG	5290955

PURGEABLE AROMATICS			**MCL**	**SW8021B**	**Units: ug/kg**		
Benzene	ND		1	1	11/12/09 0:35	JSP	5287262
Toluene	ND		1	1	11/12/09 0:35	JSP	5287262
Ethylbenzene	ND		1	1	11/12/09 0:35	JSP	5287262
Methyl tert-butyl ether	ND		1	1	11/12/09 0:35	JSP	5287262
m,p-Xylene	ND		1	1	11/12/09 0:35	JSP	5287262
o-Xylene	ND		1	1	11/12/09 0:35	JSP	5287262
Xylenes,Total	ND		1	1	11/12/09 0:35	JSP	5287262
Surr: 1,4-Difluorobenzene	103		% 70-130	1	11/12/09 0:35	JSP	5287262
Surr: 4-Bromofluorobenzene	99.4		% 63-145	1	11/12/09 0:35	JSP	5287262

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:39	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-5 5' **Collected:** 11/04/2009 14:05 **SPL Sample ID:** 09110235-09

Site: Maljamar, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	1000			100	20	11/13/09 20:19	NW	5294063
Surr: n-Pentacosane	D	*	%	20-154	20	11/13/09 20:19	NW	5294063

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	ND			0.1	1	11/12/09 1:03	JSP	5286886
Surr: 1,4-Difluorobenzene	102		%	63-142	1	11/12/09 1:03	JSP	5286886
Surr: 4-Bromofluorobenzene	95.7		%	50-159	1	11/12/09 1:03	JSP	5286886

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:41	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	878			50	10	11/14/09 16:21	BDG	5290956

PURGEABLE AROMATICS					**MCL**	**SW8021B**	**Units: ug/kg**	
Benzene	ND			1	1	11/13/09 3:53	JSP	5288888
Toluene	ND			1	1	11/13/09 3:53	JSP	5288888
Ethylbenzene	ND			1	1	11/13/09 3:53	JSP	5288888
Methyl tert-butyl ether	ND			1	1	11/13/09 3:53	JSP	5288888
m,p-Xylene	ND			1	1	11/13/09 3:53	JSP	5288888
o-Xylene	ND			1	1	11/13/09 3:53	JSP	5288888
Xylenes,Total	ND			1	1	11/13/09 3:53	JSP	5288888
Surr: 1,4-Difluorobenzene	95.3		%	70-130	1	11/13/09 3:53	JSP	5288888
Surr: 4-Bromofluorobenzene	99.1		%	63-145	1	11/13/09 3:53	JSP	5288888

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/12/2009 16:02	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-6 3' **Collected:** 11/04/2009 14:30 **SPL Sample ID:** 09110235-10

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	740		100	20	11/13/09 17.57	NW	5294059
Surr: n-Pentacosane	D	*	% 20-154	20	11/13/09 17:57	NW	5294059

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	0.21		0.1	1	11/12/09 1:30	JSP	5286887
Surr: 1,4-Difluorobenzene	100		% 63-142	1	11/12/09 1:30	JSP	5286887
Surr: 4-Bromofluorobenzene	93.5		% 50-159	1	11/12/09 1:30	JSP	5286887

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:43	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	1120		50	10	11/14/09 16:38	BDG	5290957

PURGEABLE AROMATICS			**MCL**	**SW8021B**	**Units: ug/kg**		
Benzene	ND		1	1	11/13/09 4:22	JSP	5288889
Toluene	ND		1	1	11/13/09 4:22	JSP	5288889
Ethylbenzene	ND		1	1	11/13/09 4:22	JSP	5288889
Methyl tert-butyl ether	ND		1	1	11/13/09 4:22	JSP	5288889
m,p-Xylene	ND		1	1	11/13/09 4:22	JSP	5288889
o-Xylene	ND		1	1	11/13/09 4:22	JSP	5288889
Xylenes,Total	ND		1	1	11/13/09 4:22	JSP	5288889
Surr: 1,4-Difluorobenzene	96.0		% 70-130	1	11/13/09 4:22	JSP	5288889
Surr: 4-Bromofluorobenzene	100		% 63-145	1	11/13/09 4:22	JSP	5288889

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/12/2009 16:04	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-6 6.5' **Collected:** 11/04/2009 14:35 **SPL Sample ID:** 09110235-11

Site: Maljamar, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	250			100	20	11/13/09 18:17	NW	5294060
Surr: n-Pentacosane	D	*	%	20-154	20	11/13/09 18:17	NW	5294060

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	15			2.5	25	11/12/09 12:13	WLV	5287504
Surr: 1,4-Difluorobenzene	93.2		%	63-142	25	11/12/09 12:13	WLV	5287504
Surr: 4-Bromofluorobenzene	115		%	50-159	25	11/12/09 12:13	WLV	5287504

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:53	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	2570			100	20	11/14/09 16:55	BDG	5290958

PURGEABLE AROMATICS					**MCL**	**SW8021B**	**Units: ug/kg**	
Benzene	ND			1	1	11/13/09 12:34	JSP	5288899
Toluene	3.4			1	1	11/13/09 12:34	JSP	5288899
Ethylbenzene	1.4			1	1	11/13/09 12:34	JSP	5288899
Methyl tert-butyl ether	ND			1	1	11/13/09 12:34	JSP	5288899
m,p-Xylene	56			1	1	11/13/09 12:34	JSP	5288899
o-Xylene	23			1	1	11/13/09 12:34	JSP	5288899
Xylenes,Total	79			1	1	11/13/09 12:34	JSP	5288899
Surr: 1,4-Difluorobenzene	95.7		%	70-130	1	11/13/09 12:34	JSP	5288899
Surr: 4-Bromofluorobenzene	152 MI	*	%	63-145	1	11/13/09 12:34	JSP	5288899

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/13/2009 10:46	XML	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: HA-3 6 **Collected:** 11/04/2009 13:30 **SPL Sample ID:** 09110235-12

Site: Maljamar, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	4500			500	100	11/17/09 5:01	NW	5294077
Surr: n-Pentacosane	D	*	%	20-154	100	11/17/09 5:01	NW	5294077

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	11/11/2009 16:18	FAK	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	350			50	500	11/12/09 3:49	JSP	5286890
Surr: 1,4-Difluorobenzene	107		%	63-142	500	11/12/09 3:49	JSP	5286890
Surr: 4-Bromofluorobenzene	132		%	50-159	500	11/12/09 3:49	JSP	5286890

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	11/09/2009 14:55	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	25000			1000	200	11/16/09 17:21	BDG	5292846
PURGEABLE AROMATICS					**MCL**	**SW8021B**	**Units: ug/kg**	
Benzene	69			25	25	11/13/09 1:29	JSP	5288885
Toluene	3800			25	25	11/13/09 1:29	JSP	5288885
Ethylbenzene	6400			25	25	11/13/09 1:29	JSP	5288885
Methyl tert-butyl ether	120			25	25	11/13/09 1:29	JSP	5288885
m,p-Xylene	8800			25	25	11/13/09 1:29	JSP	5288885
o-Xylene	4300			25	25	11/13/09 1:29	JSP	5288885
Xylenes,Total	13100			25	25	11/13/09 1:29	JSP	5288885
Surr: 1,4-Difluorobenzene	117		%	70-130	25	11/13/09 1:29	JSP	5288885
Surr: 4-Bromofluorobenzene	164 MI	*	%	63-145	25	11/13/09 1:29	JSP	5288885

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: Trip Blank **Collected:** 11/04/2009 0:00 **SPL Sample ID:** 09110235-13

Site: Maljamar, NM

Analyses/Method	Result	QUAL	Rep.Limit		Dil. Factor	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/L**		
Gasoline Range Organics	ND		0.1		1	11/10/09 2:00	R_S	5283506
Surr: 1,4-Difluorobenzene	94.9		% 60-155		1	11/10/09 2:00	R_S	5283506
Surr: 4-Bromofluorobenzene	94.1		% 50-158		1	11/10/09 2:00	R_S	5283506
PURGEABLE AROMATICS				**MCL**	**SW8021B**	**Units: ug/L**		
Benzene	ND		1		1	11/12/09 18:37	R_S	5288259
Toluene	ND		1		1	11/12/09 18:37	R_S	5288259
Ethylbenzene	ND		1		1	11/12/09 18:37	R_S	5288259
m,p-Xylene	ND		1		1	11/12/09 18:37	R_S	5288259
o-Xylene	ND		1		1	11/12/09 18:37	R_S	5288259
Xylenes,Total	ND		1		1	11/12/09 18:37	R_S	5288259
Surr: 1,4-Difluorobenzene	92.9		% 70-130		1	11/12/09 18:37	R_S	5288259
Surr: 4-Bromofluorobenzene	92.5		% 70-130		1	11/12/09 18:37	R_S	5288259

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Diesel Range Organics
Method: SW8015B
WorkOrder: 09110235
Lab Batch ID: 95506

Method Blank

RunID: HP_V_091113C-5294052 Units: mg/kg
Analysis Date: 11/13/2009 11:05 Analyst: NW
Preparation Date: 11/11/2009 16:18 Prep By: FAK Method: SW3550B

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	5.0
Surr: n-Pentacosane	80.8	20-154

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-01B	HA-1 2.5'
09110235-02B	HA-1 5.5'
09110235-03B	HA-2 3'
09110235-04B	HA-2 6'
09110235-05B	HA-3 4'
09110235-06B	HA-4 6"
09110235-08B	HA-5 3'
09110235-09B	HA-5 5'
09110235-10B	HA-6 3'
09110235-11B	HA-6 6.5'
09110235-12B	HA-3 6

Laboratory Control Sample (LCS)

RunID: HP_V_091113C-5294053 Units: mg/kg
Analysis Date: 11/13/2009 11:25 Analyst: NW
Preparation Date: 11/11/2009 16:18 Prep By: FAK Method: SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics (C10-C28)	33.3	32.0	96.0	57	150
Surr: n-Pentacosane	1.66	1.57	94.5	20	154

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110235-01
RunID: HP_V_091113C-5294074 Units: mg/kg
Analysis Date: 11/17/2009 3:59 Analyst: NW
Preparation Date: 11/11/2009 16:18 Prep By: FAK Method: SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics (C10-C28)	5400	66.6	3610	N/C	66.6	3670	N/C	N/C	50	21	175
Surr: n-Pentacosane	ND	1.66	D	D	1.66	D	D	D	30	20	154

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Diesel Range Organics
Method: SW8015B
WorkOrder: 09110235
Lab Batch ID: 95552

Method Blank

RunID: HP_V_091114B-5295156 Units: mg/kg
Analysis Date: 11/14/2009 21:41 Analyst: NW
Preparation Date: 11/13/2009 10:34 Prep By: QMT Method: SW3550B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-07B	HA-4 4'

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	5.0
Surr: n-Pentacosane	88.2	20-154

Laboratory Control Sample (LCS)

RunID: HP_V_091114B-5295157 Units: mg/kg
Analysis Date: 11/14/2009 22:01 Analyst: NW
Preparation Date: 11/13/2009 10:34 Prep By: QMT Method: SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics (C10-C28)	33.3	28.5	85.4	57	150
Surr: n-Pentacosane	1.66	1.43	86.3	20	154

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110235-07
RunID: HP_V_091114B-5295159 Units: mg/kg
Analysis Date: 11/14/2009 22:42 Analyst: NW
Preparation Date: 11/13/2009 10:34 Prep By: QMT Method: SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics (C10-C28)	ND	33.3	24.0	60.4	33.3	27.6	71.4	14.2	50	21	175
Surr: n-Pentacosane	ND	1.66	1.09	65.9	1.66	1.38	83.0	23.0	30	20	154

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 09110235
Lab Batch ID: R288748

Method Blank

RunID: HP_P_091109A-5283500 Units: mg/L
Analysis Date: 11/09/2009 15:37 Analyst: R_S

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-13A	Trip Blank

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	95.7	60-155
Surr: 4-Bromofluorobenzene	92.4	50-158

Laboratory Control Sample (LCS)

RunID: HP_P_091109A-5283499 Units: mg/L
Analysis Date: 11/09/2009 13:12 Analyst: R_S

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1.00	0.949	94.9	42	136
Surr: 1,4-Difluorobenzene	0.100	0.101	101	60	155
Surr: 4-Bromofluorobenzene	0.100	0.0946	94.6	50	158

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110176-08
RunID: HP_P_091109A-5283533 Units: mg/L
Analysis Date: 11/09/2009 23:39 Analyst: R_S

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	2.04	1	2.20	16.3 *	1	2.66	62.5	19.0	36	22	174
Surr: 1,4-Difluorobenzene	ND	0.1	0.184	184 *	0.1	0.199	199 *	7.41	30	60	155
Surr: 4-Bromofluorobenzene	ND	0.1	0.103	103	0.1	0.108	108	4.84	30	50	158

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 09110235
Lab Batch ID: R288920

Method Blank

RunID: VARD_091111A-5286249 Units: ug/kg
Analysis Date: 11/11/2009 11:41 Analyst: JSP
Preparation Date: 11/11/2009 11:41 Prep By: Method:

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Methyl tert-butyl ether	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	101.1	70-130
Surr: 4-Bromofluorobenzene	97.0	63-145

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-02A	HA-1 5.5'
09110235-07A	HA-4 4'
09110235-08A	HA-5 3'

Methanolic Preparation Blank

RunID: VARD_091111A-5287290 Units: ug/kg
Analysis Date: 11/12/2009 6:07 Analyst: JSP
Preparation Date: 11/12/2009 6:07 Prep By: Method: SW5030B

Analyte	Result	Rep Limit
Ethylbenzene	ND	25
m,p-Xylene	ND	25
o-Xylene	ND	25
Xylenes,Total	ND	25
Surr: 1,4-Difluorobenzene	102.3	70-130
Surr: 4-Bromofluorobenzene	98.9	63-145

Laboratory Control Sample (LCS)

RunID: VARD_091111A-5286247 Units: ug/kg
Analysis Date: 11/11/2009 10:45 Analyst: JSP
Preparation Date: 11/11/2009 10:45 Prep By: Method: SW5030B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	21.8	109	70	130
Ethylbenzene	20.0	22.3	111	75	122
Methyl tert-butyl ether	20.0	21.2	106	74	127
Toluene	20.0	22.0	110	75	123
m,p-Xylene	40.0	47.0	118	74	122
o-Xylene	20.0	22.2	111	70	130
Xylenes,Total	60.0	69.2	115	70	130

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 09110235
Lab Batch ID: R288920

Laboratory Control Sample (LCS)

RunID: VARD_091111A-5286247 Units: ug/kg
Analysis Date: 11/11/2009 10:45 Analyst: JSP
Preparation Date: 11/11/2009 10:45 Prep By: Method: SW5030B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Surr: 1,4-Difluorobenzene	100	102	102	70	130
Surr: 4-Bromofluorobenzene	100	98.9	98.9	63	145

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110187-02
RunID: VARD_091111A-5286252 Units: ug/kg
Analysis Date: 11/11/2009 13:31 Analyst: JSP
Preparation Date: 11/11/2009 13:18 Prep By: XML Method: SW5030B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	5.38	20	22.1	83.6	20	19.8	72.3	10.7	31	41	133
Ethylbenzene	ND	20	21.4	107	20	19.7	98.5	8.41	39	31	129
Methyl tert-butyl ether	6.48	20	22.8	81.7	20	18.4	59.8	21.2	25	29	148
Toluene	ND	20	21.6	108	20	19.8	99.0	8.83	25	34	130
m,p-Xylene	ND	40	45.6	112	40	41.4	101	9.57	26	35	123
o-Xylene	ND	20	21.6	108	20	19.0	94.9	13.0	35	33	124
Xylenes,Total	ND	60	ND	110	60	ND	99.1	10.6	35	33	124
Surr: 1,4-Difluorobenzene	ND	100	102	102	100	104	104	2.11	30	70	130
Surr: 4-Bromofluorobenzene	ND	100	96.9	96.9	100	101	101	4.17	30	63	145

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 09110235
Lab Batch ID: R288956

Method Blank

RunID: VARD_091111B-5286876 Units: mg/kg
Analysis Date: 11/11/2009 18:34 Analyst: JSP
Preparation Date: 11/11/2009 18:34 Prep By: Method:

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	103.2	63-142
Surr: 4-Bromofluorobenzene	96.4	50-159

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-02A	HA-1 5.5'
09110235-03A	HA-2 3'
09110235-04A	HA-2 6'
09110235-05A	HA-3 4'
09110235-06A	HA-4 6"
09110235-07A	HA-4 4'
09110235-08A	HA-5 3'
09110235-09A	HA-5 5'
09110235-10A	HA-6 3'
09110235-12A	HA-3 6

Methanolic Preparation Blank

RunID: VARD_091111B-5286892 Units: mg/kg
Analysis Date: 11/12/2009 6:07 Analyst: JSP
Preparation Date: 11/12/2009 6:07 Prep By: Method: SW5030B

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	2.5
Surr: 1,4-Difluorobenzene	106.1	63-142
Surr: 4-Bromofluorobenzene	100.4	50-159

Laboratory Control Sample (LCS)

RunID: VARD_091111B-5286874 Units: mg/kg
Analysis Date: 11/11/2009 17:39 Analyst: JSP
Preparation Date: 11/11/2009 17:39 Prep By: Method: SW5030B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1.00	1.18	118	70	130
Surr: 1,4-Difluorobenzene	0.100	0.116	116	63	142
Surr: 4-Bromofluorobenzene	0.100	0.107	107	50	159

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Gasoline Range Organics **WorkOrder:** 09110235
Method: SW8015B **Lab Batch ID:** R288956

Sample Spiked: 09110235-04
RunID: VARD_091111B-5286880 Units: mg/kg
Analysis Date: 11/11/2009 21:21 Analyst: JSP
Preparation Date: 11/09/2009 16:12 Prep By: XML Method: SW5030B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	0.499	1	1.87	137	1	2.04	154 *	8.48	50	26	147
Surr: 1,4-Difluorobenzene	ND	0.1	0.109	109	0.1	0.108	108	0.829	30	63	142
Surr: 4-Bromofluorobenzene	ND	0.1	0.173	173 *	0.1	0.201	201 *	14.8	30	50	159

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Gasoline Range Organics
Method: SW8015B

WorkOrder: 09110235
Lab Batch ID: R288979

Method Blank

RunID: HP_O_091111A-5287487 Units: mg/kg
Analysis Date: 11/11/2009 14:50 Analyst: WLV
Preparation Date: 11/11/2009 14:50 Prep By: Method: SW5030B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-01A	HA-1 2.5'
09110235-11A	HA-6 6.5'

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0 10
Surr: 1,4-Difluorobenzene	97.2	63-142
Surr: 4-Bromofluorobenzene	101.3	50-159

Methanolic Preparation Blank

RunID: HP_O_091111A-5287488 Units: mg/kg
Analysis Date: 11/11/2009 15:18 Analyst: WLV
Preparation Date: 11/11/2009 15:18 Prep By: Method: SW5030B

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	2.5
Surr: 1,4-Difluorobenzene	95.1	63-142
Surr: 4-Bromofluorobenzene	99 2	50-159

Laboratory Control Sample (LCS)

RunID: HP_O_091111A-5287486 Units: mg/kg
Analysis Date: 11/11/2009 14:21 Analyst: WLV
Preparation Date: 11/11/2009 14:21 Prep By: Method: SW5030B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1.00	1.26	126	70	130
Surr: 1,4-Difluorobenzene	0.100	0.108	108	63	142
Surr: 4-Bromofluorobenzene	0.100	0.112	112	50	159

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110365-01
RunID: HP_O_091111A-5287515 Units: mg/kg
Analysis Date: 11/11/2009 16:24 Analyst: WLV
Preparation Date: 11/11/2009 10:42 Prep By: XML Method: SW5030B

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Gasoline Range Organics **WorkOrder:** 09110235
Method: SW8015B **Lab Batch ID:** R288979

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	5480	1000	6630	N/C	1000	6820	N/C	N/C	50	26	147
Surr: 1,4-Difluorobenzene	ND	100	106	106	100	116	116	8.20	30	63	142
Surr: 4-Bromofluorobenzene	ND	100	156	156	100	165	165 *	5.87	30	50	159

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 09110235
Lab Batch ID: R289040

Method Blank

RunID: HP_N_091112A-5288249 Units: ug/L
Analysis Date: 11/12/2009 6:03 Analyst: R_S

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-13A	Trip Blank

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	92.2	70-130
Surr: 4-Bromofluorobenzene	92.6	70-130

Laboratory Control Sample (LCS)

RunID: HP_N_091112A-5288248 Units: ug/L
Analysis Date: 11/12/2009 5:00 Analyst: R_S

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	20.4	102	70	130
Ethylbenzene	20.0	21.3	107	70	130
Toluene	20.0	20.6	103	70	130
m,p-Xylene	40.0	44.1	110	70	130
o-Xylene	20.0	20.9	104	70	130
Xylenes,Total	60.0	65.0	108	70	130
Surr: 1,4-Difluorobenzene	100	91.8	91.8	70	130
Surr: 4-Bromofluorobenzene	100	94.8	94.8	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110437-04
RunID: HP_N_091112A-5288272 Units: mg/L
Analysis Date: 11/13/2009 1:57 Analyst: R_S

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 09110235
Lab Batch ID: R289040

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	5.54	1	5.58	N/C	1	5.81	N/C	N/C	31	66	141
Ethylbenzene	0.514	1	1.45	94.0	1	1.52	100	4.29	28	52	136
Toluene	0.260	1	1.20	93.6	1	1.25	99.1	4.44	25	61	131
m,p-Xylene	0.824	2	2.79	98.1	2	2.91	104	4.44	36	60	130
o-Xylene	0.189	1	1.19	99.8	1	1.24	105	4.57	30	64	130
Xylenes,Total	1.01	3	3.98	98.7	3	4.15	105	4.48	36	60	130
Surr: 1,4-Difluorobenzene	ND	5000	4680	93.5	5000	4780	95.6	2.17	30	70	130
Surr: 4-Bromofluorobenzene	ND	5000	4710	94.2	5000	4850	97.1	3.04	30	70	130

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 09110235
Lab Batch ID: R289073

Method Blank

RunID: HP_O_091112A-5288873 Units: ug/kg
Analysis Date: 11/12/2009 17:10 Analyst: JSP
Preparation Date: 11/12/2009 17:10 Prep By: Method:

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Methyl tert-butyl ether	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	91 6	70-130
Surr: 4-Bromofluorobenzene	93.4	63-145

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-01A	HA-1 2.5'
09110235-02A	HA-1 5.5'
09110235-03A	HA-2 3'
09110235-04A	HA-2 6'
09110235-05A	HA-3 4'
09110235-06A	HA-4 6"
09110235-09A	HA-5 5'
09110235-10A	HA-6 3'
09110235-11A	HA-6 6.5'
09110235-12A	HA-3 6

Methanolic Preparation Blank

RunID: HP_O_091112A-5288874 Units: ug/kg
Analysis Date: 11/12/2009 17:39 Analyst: JSP
Preparation Date: 11/12/2009 17:39 Prep By: Method: SW5030B

Analyte	Result	Rep Limit
Benzene	ND	25
Ethylbenzene	ND	25
Methyl tert-butyl ether	ND	25
Toluene	ND	25
m,p-Xylene	ND	25
o-Xylene	ND	25
Xylenes,Total	ND	25
Surr: 1,4-Difluorobenzene	90.3	70-130
Surr: 4-Bromofluorobenzene	95.3	63-145

Laboratory Control Sample (LCS)

RunID: HP_O_091112A-5288901 Units: ug/kg
Analysis Date: 11/13/2009 13:37 Analyst: JSP
Preparation Date: 11/13/2009 13:37 Prep By: Method: SW5030B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	18.7	93.7	70	130
Ethylbenzene	20.0	18.9	94.5	75	122
Methyl tert-butyl ether	20.0	18.4	92.2	74	127
Toluene	20.0	19.6	98.0	75	123

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 09110235
Lab Batch ID: R289073

Laboratory Control Sample (LCS)

RunID: HP_O_091112A-5288901 Units: ug/kg
Analysis Date: 11/13/2009 13:37 Analyst: JSP
Preparation Date: 11/13/2009 13:37 Prep By: Method: SW5030B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
m,p-Xylene	40.0	36.7	91.8	74	122
o-Xylene	20.0	18.2	91.0	70	130
Xylenes,Total	60.0	54.9	91.5	70	130
Surr: 1,4-Difluorobenzene	100	90.9	90.9	70	130
Surr: 4-Bromofluorobenzene	100	97.8	97.8	63	145

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110235-06
RunID: HP_O_091112A-5288879 Units: ug/kg
Analysis Date: 11/12/2009 20:11 Analyst: JSP
Preparation Date: 11/12/2009 10:51 Prep By: XML Method: SW5030B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	12.1	60.7	20	13.4	67.0	9.93	31	41	133
Ethylbenzene	ND	20	4.37	21.8 *	20	5.28	26.4 *	18.9	39	31	129
Methyl tert-butyl ether	ND	20	16.6	83.0	20	19.7	98.7	17.3	25	29	148
Toluene	ND	20	11.8	57.3	20	13.2	64.6	11.6	25	34	130
m,p-Xylene	1.98	40	26.8	62.1	40	30.1	70.4	11.7	26	35	123
o-Xylene	ND	20	13.1	63.5	20	14.5	70.6	10.4	35	33	124
Xylenes,Total	2.37	60	39.9	62.6	60	44.6	70.5	11.3	35	33	124
Surr: 1,4-Difluorobenzene	ND	100	94.4	94.4	100	100	100	5.76	30	70	130
Surr: 4-Bromofluorobenzene	ND	100	100	100	100	105	105	4.78	30	63	145

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Ion Chromatography
Method: E300.0 MOD
WorkOrder: 09110235
Lab Batch ID: R289199

Method Blank

RunID: IC1_091113D-5290944 Units: mg/kg
Analysis Date: 11/14/2009 13:02 Analyst: BDG

Analyte	Result	Rep Limit
Chloride	ND	5.0

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-01B	HA-1 2.5'
09110235-02B	HA-1 5.5'
09110235-03B	HA-2 3'
09110235-04B	HA-2 6'
09110235-05B	HA-3 4'
09110235-06B	HA-4 6"
09110235-07B	HA-4 4'
09110235-08B	HA-5 3'
09110235-10B	HA-6 3'

Laboratory Control Sample (LCS)

RunID: IC1_091113D-5290945 Units: mg/kg
Analysis Date: 11/14/2009 13:18 Analyst: BDG

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	100.0	99.22	99.22	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110235-10
RunID: IC1_091113D-5290960 Units: mg/kg
Analysis Date: 11/14/2009 17:28 Analyst: BDG

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	1121	1000	2234	111.4	1000	2303	118.2	3.017	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Ion Chromatography
Method: E300.0 MOD

WorkOrder: 09110235
Lab Batch ID: R289199A

Method Blank

RunID: IC1_091113D-5290944 Units: mg/kg
Analysis Date: 11/14/2009 13:02 Analyst: BDG

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-09B	HA-5 5'
09110235-11B	HA-6 6.5'

Analyte	Result	Rep Limit
Chloride	ND	5.0

Laboratory Control Sample (LCS)

RunID: IC1_091113D-5290945 Units: mg/kg
Analysis Date: 11/14/2009 13:18 Analyst: BDG

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	100.0	99.22	99.22	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110235-09
RunID: IC1_091113D-5290962 Units: mg/kg
Analysis Date: 11/14/2009 18:01 Analyst: BDG

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	878.1	1000	2019	114.0	1000	1982	110.4	1.822	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

MCA 2A Header A

Analysis: Ion Chromatography
Method: E300.0 MOD
WorkOrder: 09110235
Lab Batch ID: R289312

Method Blank

RunID: IC1_091116C-5292840 Units: mg/kg
Analysis Date: 11/16/2009 12:10 Analyst: BDG

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09110235-12B	HA-3 6

Analyte	Result	Rep Limit
Chloride	ND	5 0

Laboratory Control Sample (LCS)

RunID: IC1_091116C-5292841 Units: mg/kg
Analysis Date: 11/16/2009 12:27 Analyst: BDG

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	100.0	95.96	95.96	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09110235-12
RunID: IC1_091116C-5292849 Units: mg/kg
Analysis Date: 11/16/2009 20:40 Analyst: BDG

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	25000	20000	47260	111.3	20000	48110	115.5	1.775	20	75	125

Qualifiers:
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B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
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Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	**09110235**	Received By:	**AMV**
Date and Time Received:	**11/6/2009 9:15:00 AM**	Carrier name:	**Fedex-Standard Overnight**
Temperature:	**5.0°C**	Chilled by:	**Water Ice**

1.	**Shipping container/cooler in good condition?**	Yes	☑	No	☐	Not Present ☐
2.	**Custody seals intact on shippping container/cooler?**	Yes	☑	No	☐	Not Present ☐
3.	**Custody seals intact on sample bottles?**	Yes	☐	No	☐	Not Present ☑
4.	**Chain of custody present?**	Yes	☑	No	☐	
5.	**Chain of custody signed when relinquished and received?**	Yes	☑	No	☐	
6.	**Chain of custody agrees with sample labels?** 1) Received sample HA-3 6 at 13:30 but not on COC logged in with analysis.TB 3. Lab received a Trip Blank that was not listed on the COC.	Yes	☐	No	☑	
7.	**Samples in proper container/bottle?**	Yes	☑	No	☐	
8.	**Sample containers intact?**	Yes	☑	No	☐	
9.	**Sufficient sample volume for indicated test?**	Yes	☑	No	☐	
10.	**All samples received within holding time?**	Yes	☑	No	☐	
11.	**Container/Temp Blank temperature in compliance?**	Yes	☑	No	☐	
12.	**Water - VOA vials have zero headspace?**	Yes	☐	No	☐	VOA Vials Not Present ☑
13.	**Water - Preservation checked upon receipt (except VOA*)?**	Yes	☐	No	☐	Not Applicable ☑

***VOA Preservation Checked After Sample Analysis**

SPL Representative: _____ **Contact Date & Time:** _____

Client Name Contacted: _____

Non Conformance Issues: 2. COC#302259 does not indicate the requested analysis. Logged in the samples on COC#302259 with the same analysis as COC#301957 3. Logged in Trip Blank for 8021 and 8015 analysis.

Client Instructions:

SPL, Inc.

Analysis Request & Chain of Custody Record

09110235 | 301951

page 1 of 2

Client Name: TetRA Tech
Address: 1910 N Big Spring
City Midland State TX Zip 79705
Phone/Fax: 432 686 8081
Client Contact: C Durrett Email:
Project Name/No.: MCA 2A header A
Site Name:
Site Location: Maljamar, NM
Invoice To: Ph:

matrix: W=water S=soil O=oil A=air SL=sludge E=encore X=other
bottle: P=plastic A=amber glass G=glass V=vial X=other
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other
pres.: 1=HCl 2=HNO3 3=H2SO4 X=other

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	Requested Analysis: Cl 300	TPH DRO 8015	TPH GRO 8015	BTEX 8021
HA-1 2.5'	4Nov09	1130		X	S	G	4	X	2				
HA-1 5.5'		1135											
HA-2 3'		1200											
HA-2 6'		1235											
~~HA-3 3'~~		~~100~~											
HA-3 4'		105											
HA-4 ~~3~~ 6"		130											
HA-4 4'		135											
HA-5 3'		200											
HA-5 5'	4Nov09	205		X	S	G	4	X	2				

Client/Consultant Remarks:

Laboratory remarks:

Intact? Y N
Ice? Y N
Temp: 5.0

Requested TAT

- 1 Business Day
- 2 Business Days
- 3 Business Days
- Contract
- Standard
- Other
- Rush TAT requires prior notice

Special Reporting Requirements Results: Fax Email PDF
Standard QC Level 3 QC Level 4 QC TX TRRP LA RECAP

Special Detection Limits (specify):

PM review (initial):

	date	time	
1. Relinquished by Sampler: S A Deems	4Nov09	430	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 11/6/09	time 9:15	6. Received by Laboratory: Amanda Vickrey

8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

459 Hughes Drive
Traverse City MI 49686 (231) 947-5777

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 09110235 | 302259

page 2 of 2

Client Name: Tetra Tech
Address: 1910 N. Big Spring
City: Midland State: TX Zip: 79705
Phone/Fax: 432 686 8031
Client Contact: C. Durrett Email:
Project Name/No.:
Site Name: MCA 2A-A header
Site Location: Maljamar, NM
Invoice To: Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil A=air SL=sludge E=encore X=other)	bottle (P=plastic A=amber glass G=glass V=vial X=other)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other)	pres. (1=HCl 2=HNO3 3=H2SO4 X=other)	Number of Containers	Requested Analysis
HA-6 3'	4Nov09	230		X	S	G	4	X	2	
HA-6 5.5'	4Nov09	235		X	S	G	4	X	2	
Last Item										

Client/Consultant Remarks:

Laboratory remarks:

Intact? Y N
Ice? Y N
Temp: 5.0

Requested TAT

- 1 Business Day
- 2 Business Days
- 3 Business Days
- Contract
- Standard
- Other
- Rush TAT requires prior notice

Special Reporting Requirements Results: Fax Email PDF
Standard QC Level 3 QC Level 4 QC TX TRRP LA RECAP

Special Detection Limits (specify):

PM review (initials)

	date	time	
1. Relinquished by Sampler: JA Owens	4Nov09	4:30	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 11/6/09	time 9:15	6. Received by Laboratory: Amanda Vickrey

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