3R-098

QTR GW monitoring report
Sampling event

DATE:
October 2008

TETRA TECH, INC.

6121 Indian School Rd. NE Suite 200
Albuquerque, NM 87110
(505) 237-8440

3RP-98

March 4, 2009

Mr. Glen von Gonten
State of New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

RE: (1) ConocoPhillips Shepherd & Kelsey 1E 2008 Quarterly Report ✓
Bloomfield, New Mexico
(2) ConocoPhillips Faye Burdette No. 1 2008 Quarterly Report
Aztec, New Mexico
(3) ConocoPhillips El Paso 1A 2008 Quarterly Report
Blanco, New Mexico

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced documents as compiled by Tetra Tech, Inc., formerly Maxim Technologies, for these Farmington area sites.

Please do not hesitate to contact me at (505) 237-8440 if you have any questions or require additional information.

Sincerely,

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager/Geologist

Enclosures (3)

QUARTERLY GROUNDWATER MONITORING REPORT OCTOBER 2008 SAMPLING EVENT

CONOCOPHILLIPS SHEPHERD & KELSEY 1E BLOOMFIELD, NEW MEXICO

OCD # 3RP-98-0

Prepared for:

ConocoPhillips

420 South Keeler Avenue
Bartlesville, OK 74004

Prepared by:

TETRA TECH, INC.

6121 Indian School Rd. NE Suite 200
Albuquerque, NM 87110
Tetra Tech Project No. 9690121.100

February 11, 2009

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QUARTERLY GROUNDWATER MONITORING REPORT CONOCOPHILLIPS SHEPHERD & KELSEY 1E, BLOOMFIELD, NEW MEXICO

1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring completed by Tetra Tech, Inc. (Tetra Tech) on October 23, 2008, at the ConocoPhillips, formerly Burlington Resources, Shepherd & Kelsey 1E Site in Bloomfield, New Mexico. This event represents the first quarter of groundwater sampling conducted by Tetra Tech at the site.

The site is located near the intersection of Highway 64 and county road 5097 in Bloomfield, NM. The site can be reached by turning onto county road 5097 from Highway 64 and making an immediate left onto county road 5095. Follow 5095 until the road dead ends and then make a right onto the private drive which leads down to the site on the left. The site consists of a gas production well head and associated equipment and installations. The location and general features of the Shepherd & Kelsey 1E site are shown on **Figures 1** and **2**, respectively.

1.1 Site History

The history of the ConocoPhillips Shepherd & Kelsey 1E Site is outlined in **Table 1**.

2.0 METHODOLOGY AND RESULTS

The following subsections describe the groundwater monitoring methodology and sampling analytical results.

2.1 Groundwater Monitoring Methodology

Groundwater sampling

Monitor well MW-1was sampled during this event to initiate quarterly groundwater monitoring at the site. Approximately 4 gallons of water, or greater than three well volumes, were purged from the monitoring well before sampling was performed. The purged water was disposed of in the waste water tank located on site (**Figure 2**). A 1.5-inch dedicated bailer was used to purge and collect groundwater samples. The samples were placed in laboratory prepared bottles, packed on ice, and shipped with chain of custody documentation to Southern Petroleum Laboratory located in Houston, Texas. The samples were analyzed for presence of volatile organic compounds (VOC) including but not limited to benzene, toluene, ethyl-benzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B, semi-volatile organics compounds (SVOC) by EPA Method 8270C, total petroleum hydrocarbons (TPH) by EPA Method SW8015B, ion chromatography by EPA Method E300.0, metals including mercury by EPA Methods SW7470A, 6010B, 6020A, and nitrogen by EPA Method E353.2.

2.2 Groundwater Sampling Analytical Results

The October 2008 analysis of the collected groundwater samples indicates that all contaminants of concern are below the NMWQCC standards. Laboratory analytical data from the October 2008 sampling are summarized on **Table 2**. The field groundwater sampling form is presented in **Appendix A** and the laboratory analytical report is presented in **Appendix B**.

3.0 CONCLUSIONS

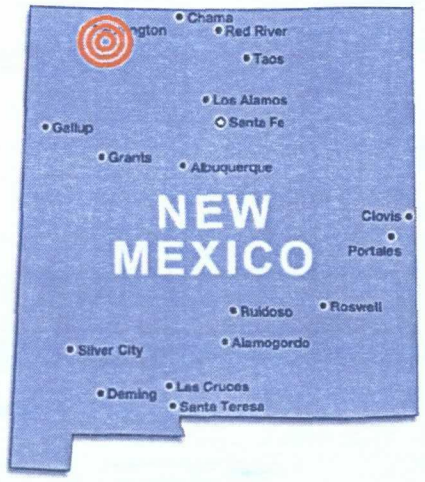
Tetra Tech recommends continued quarterly groundwater monitoring of MW-1 and the additional three monitoring wells MW-2, MW-3 and MW-4 that were installed in late January of 2009 in order to provide sufficient data for site closure. If results indicate all constituents of concern are below NMWQCC standards, groundwater monitoring will be discontinued and site closure will be requested.

FIGURES

1. Site Location Map
2. Site Layout Map

FIGURE 1.

Site Location Map
ConocoPhillips
Shepherd & Kelsey 1E
Bloomfield, NM



Directions from HW 64 to ConocoPhillips Shepherd & Kelsey 1E Site Location

Approximate ConocoPhillips Shepherd & Kelsey 1E Site location

N

TETRA TECH, INC.

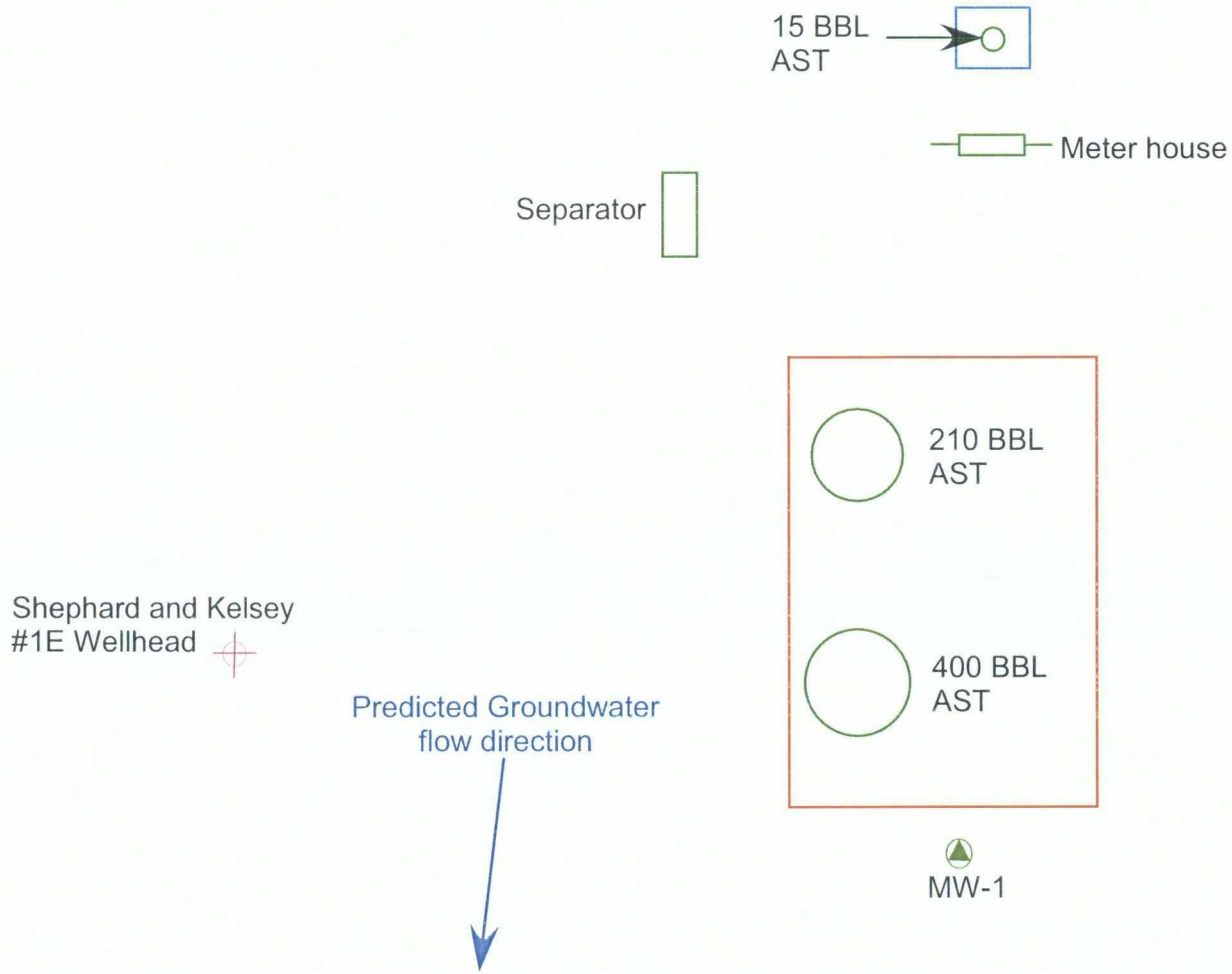


FIGURE 2:
PROPOSED WELL LOCATIONS MAP
CONOCOPHILLIPS
SHEPHARD & KELSEY #1E
Sec 29, Twp 29N, Rng 11W
Bloomfield, New Mexico

LEGEND

- TEMPORARY MONITORING WELL
- MONITORING WELL
- BERM
- FENCE LINE
- EQUIPMENT
- GROUNDWATER CONTOUR
- INFERRED GROUNDWATER CONTOUR

0 20 40
FEET

N

TETRA TECH, INC.

TABLES

Table 1. Site History Timeline - ConocoPhillips Shepherd and Kelsey 1E

DATE	ACTIVITY
5-Jun-07	Contaminated soil discovered during routine maintenance of the Site. Soil excavation was performed at the Site, and three soil samples were obtained. Sample results showed total petroleum hydrocarbon (TPH) concentrations below the NMOCD regulations of 100 parts per million (ppm). Original source of contamination is unknown.
12-Jun-07	A separate area of TPH soil contamination discovered.
June 15-18, 2007	A 50 foot by 20 foot by 4 foot excavation completed. Soil samples taken from the second excavation show TPH at 992 ppm, and water samples obtained show benzene and total xylenes above State of New Mexico drinking water standards.
26-Sep-07	Ground water monitoring well installed to a depth of ten (10) feet below ground surface (bgs) by Envirotech Inc. of Farmington, NM (Envirotech). Depth to groundwater recorded at four (4) feet bgs. Soil and groundwater samples obtained for TPH, benzene, and, toluene, ethylbenzene and total xylenes (BTEX) were below the respective NMOCD regulations of 100 ppm, 10 ppm and 50 ppm.
Nov-07	Envirotech report recommends plugging and abandonment of the temporary ground water monitoring well and a no further action determination for the Site (Envirotech, 2007).
Apr-08	Oil Concervation Division of NM Energy, Minerals, and Resources Dept. indicates additional investigation and sampling is necessary for closure consideration during a meeting with Glenn Von Gonten
23-Oct-08	1st quarter sampling of MW-1 by Tetra Tech
Jan-09	Installed additional monitoring wells MW-2, MW-3 and MW-4
30-Jan-09	2nd quarter sampling of MW-1 by Tetra Tech

Table 2.

Analytical Data Shepherd & Kelsey 1E October 23,2008

	NM Groundwater Stnadards	EPA Groundwater Standards	Well ID MW-1
Volatile Organic Compounds (ug/L)			
Benzene	**10**	**5**	<5
Toluene	**750**	-	<5
Ethylbenzene	**750**	**700**	<5
Xylenes	**620**	-	<5
Diesel Range Organics	-	-	3.7
General Chemistry (mg/L)			
Chloride	**250**	**250**	22.8
Nitrate	-	-	2.8
Sulfate	**600**	**250 / 400**	438
Inorganic Contaminants (mg/L)			
Calcium	-	-	141
Iron	**1**	**0.3**	**2.59**
Magnesium	-	-	18.3
Sodium	-	-	245
Arsenic	**0.1**	**0.05**	<0.005
Lead	**0.05**	**0.015**	0.00509
Barium	**1**	**2**	0.0459
Manganese	**0.2**	**0.05**	**0.417**
Mercury	**0.002**	**0.002**	<.0002

Notes

Concentrations marked **bold** exceed NMWQCC standards
Only detected constituents are included on Table 2.

APPENDIX A

GROUNDWATER SAMPLING FIELD FORM

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name: Shepherd and Kelsey #1E — Page 1 of 1

Project No.:

Site Location: San Juan County, NM

Site/Well No.: MW-1 — Coded/ Replicate No.: — Date: 10/23/08

Weather: Windy, Sunny — Time Sampling Began: 16:40 — Time Sampling Completed: 17:00 ~~16:58~~

EVACUATION DATA

Description of Measuring Point (MP): TOC

Height of MP Above/Below Land Surface: — MP Elevation:

Total Sounded Depth of Well Below MP: 12.00 — Water-Level Elevation:

Held: — Depth to Water Below MP: 4.02 — Diameter of Casing: 2"

Wet: — Water Column in Well: 7.98 — Gallons Pumped/Bailed Prior to Sampling: 4 gallons

Gallons per Foot: 0.16

Gallons in Well: 1.3 — Sampling Pump Intake Setting (feet below land surface):

Purging Equipment: bailer / purge pump — x 3 = 3.9

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (C°)	pH	Conductivity	TDS in g/L	ORP (mV)	DO
1645	15.72	7.28	1.813	1.179	-28.7	6.04
1648	15.80	7.26	1.778	1.156	-27.9	3.07
1649	15.72	7.25	1.790	1.164	-25.5	2.36

Sampling Equipment: Disposable polyethylene bailer

Constituents Sampled	Container Description	Preservative
BTEX, VOCs, SVOCs, Total Metals, Gen Chem & Anions, TPH	6 - 40 mL glass VOAs, 2 Ambers, 2 plastic 1bor, 2 plastic 32oz	HCL, HNO3

Remarks: murky, brown, no odor

Sampling Personnel: Christine Mathews, Ana Moreno

Well Casing Volumes

Gal./ft.				
	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3" ½ = 0.50	6" = 1.46

APPENDIX B

LABORATORY ANALYTICAL REPORT

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

Conoco Phillips

Certificate of Analysis Number:

08101658

Report To:		Project Name:	COP Shepherd Kelsey #1E
Tetra Tech, Inc. Kelly Blanchard 6121 Indian School Road, N.E. Suite 200 Albuquerque NM 87110- ph: (505) 237-8440 fax:		Site:	Bloomfield, NM
		Site Address:	
		PO Number:	4509668194
		State:	New Mexico
		State Cert. No.:	
		Date Reported:	11/21/2008

This Report Contains A Total Of 32 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

11/21/2008

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:

08101658

Report To:		Project Name:	COP Shepherd Kelsey #1E
Tetra Tech, Inc.		Site:	Bloomfield, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	4509668194
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	11/21/2008
ph: (505) 237-8440	fax:		

All samples received outside the 48-hour hold time for Nitrate and Orthophosphate analysis. Per historical records SPL, Inc continued with analysis.

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.

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.

Due to limited sample volume, a Matrix Spike (MS) or Matrix Spike Duplicate (MSD) was not extracted with Batch ID: 84925 for the Diesel Range Organics analysis by Method 8015B. A Laboratory Control Sample (LCS) and a Laboratory Control Sample Duplicate (LCSD) were extracted with the analytical batch and serve as the batch quality control (QC). The LCS and LCSD recovered acceptably and precision criteria were met.

Due to limited sample volume, a Matrix Spike (MS) or Matrix Spike Duplicate (MSD) was not extracted with Batch ID:84949 for the Semivolatile Organics analysis by SW846 Method 8270C. A Laboratory Control Sample (LCS) and a Laboratory Control Sample Duplicate (LCSD) were extracted with the analytical batch and serve as the batch quality control (QC). The LCS and LCSD recovered acceptably and precision criteria were met.

Your sample ID "MW-1" (SPL ID:08101658-01) was randomly selected for use in SPL's quality control program for the Volatile Organics analysis by SW846 Method 8260. The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries were outside of the advisable quality control limits for 2-Chloroethyl vinyl ether (Batch ID: R256001) due to compound decomposition as a result of acid preservation. A Laboratory Control Sample (LCS) was analyzed as a quality control check for the analytical batch and all recoveries were within acceptable limits.

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.

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.

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

Erica Cardenas

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:

08101658

Report To: Tetra Tech, Inc.
Kelly Blanchard
6121 Indian School Road, N.E.
Suite 200
Albuquerque
NM
87110-
ph: (505) 237-8440 fax: (505) 881-3283

Fax To:

Project Name: COP Shepherd Kelsey #1E
Site: Bloomfield, NM
Site Address:

PO Number: 4509668194
State: New Mexico
State Cert. No.:
Date Reported: 11/21/2008

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-1	08101658-01	Water	10/23/2008 5:00:00 PM	10/28/2008 9:30:00 AM		☐

Erica Cardenas
Project Manager

11/21/2008
Date

Richard R. Reed
Laboratory Director

Ted Yen
Quality Assurance Officer

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

Client Sample ID: MW-1 **Collected:** 10/23/2008 17:00 **SPL Sample ID:** 08101658-01

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/L**	
Diesel Range Organics (C10-C28)	3.7		1	10	11/02/08 23:09	NW	4750383
Surr: n-Pentacosane	110		% 20-150	10	11/02/08 23:09	NW	4750383

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	10/30/2008 10:38	JDM	1.00

ION CHROMATOGRAPHY				MCL	E300.0	Units: mg/L	
Chloride	22.8		2	4	11/10/08 22:26	TW	4766034
Fluoride	ND		2	4	11/10/08 22:26	TW	4766034
Ortho-phosphate (As P)	ND		5	10	11/20/08 8:10	TW	4780778
Sulfate	438		50	100	11/11/08 16:22	TW	4766452

MERCURY, TOTAL				MCL	SW7470A	Units: mg/L	
Mercury	ND		0.0002	1	11/06/08 14:30	F_S	4755694

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7470A	11/06/2008 13:18	F_S	1.00

METALS BY METHOD 6010B, TOTAL				MCL	SW6010B	Units: mg/L	
Calcium	141		0.1	1	11/04/08 23:48	S_C	4752072
Iron	2.59		0.02	1	11/04/08 23:48	S_C	4752072
Magnesium	18.3		0.1	1	11/04/08 23:48	S_C	4752072
Manganese	0.417		0.005	1	11/04/08 23:48	S_C	4752072
Sodium	245		0.5	1	11/04/08 23:48	S_C	4752072

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	10/31/2008 15:00	BDG	1.00

METALS BY METHOD 6020A, TOTAL				MCL	SW6020A	Units: mg/L	
Arsenic	ND		0.005	1	11/06/08 14:07	AL_H	4755590
Barium	0.0459		0.005	1	11/06/08 14:07	AL_H	4755590
Cadmium	ND		0.005	1	11/06/08 14:07	AL_H	4755590
Chromium	ND		0.005	1	11/06/08 14:07	AL_H	4755590
Lead	0.00509		0.005	1	11/06/08 14:07	AL_H	4755590
Selenium	ND		0.005	1	11/06/08 14:07	AL_H	4755590
Silver	ND		0.005	1	11/06/08 14:07	AL_H	4755590

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	10/31/2008 15:00	BDG	1.00

NITRATE NITROGEN (AS N), TOTAL				MCL	E353.2	Units: mg/L	
Nitrogen,Nitrate (As N)	2.8		0.5	1	11/03/08 15:17	TW	4757609

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: MW-1 **Collected:** 10/23/2008 17:00 **SPL Sample ID:** 08101658-01

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
SEMIVOLATILE ORGANICS BY METHOD 8270C				**MCL**	**SW8270C**	**Units: ug/L**	
1,2,4-Trichlorobenzene	ND		5	1	11/06/08 16:58	GY	4755962
1,2-Dichlorobenzene	ND		5	1	11/06/08 16:58	GY	4755962
1,2-Diphenylhydrazine	ND		10	1	11/06/08 16:58	GY	4755962
1,3-Dichlorobenzene	ND		5	1	11/06/08 16:58	GY	4755962
1,4-Dichlorobenzene	ND		5	1	11/06/08 16:58	GY	4755962
2,4,5-Trichlorophenol	ND		10	1	11/06/08 16:58	GY	4755962
2,4,6-Trichlorophenol	ND		5	1	11/06/08 16:58	GY	4755962
2,4-Dichlorophenol	ND		5	1	11/06/08 16:58	GY	4755962
2,4-Dimethylphenol	ND		5	1	11/06/08 16:58	GY	4755962
2,4-Dinitrophenol	ND		25	1	11/06/08 16:58	GY	4755962
2,4-Dinitrotoluene	ND		5	1	11/06/08 16:58	GY	4755962
2,6-Dinitrotoluene	ND		5	1	11/06/08 16:58	GY	4755962
2-Chloronaphthalene	ND		5	1	11/06/08 16:58	GY	4755962
2-Chlorophenol	ND		5	1	11/06/08 16:58	GY	4755962
2-Methylnaphthalene	ND		5	1	11/06/08 16:58	GY	4755962
2-Nitroaniline	ND		25	1	11/06/08 16:58	GY	4755962
2-Nitrophenol	ND		5	1	11/06/08 16:58	GY	4755962
3,3'-Dichlorobenzidine	ND		10	1	11/06/08 16:58	GY	4755962
3-Nitroaniline	ND		25	1	11/06/08 16:58	GY	4755962
4,6-Dinitro-2-methylphenol	ND		25	1	11/06/08 16:58	GY	4755962
4-Bromophenyl phenyl ether	ND		5	1	11/06/08 16:58	GY	4755962
4-Chloro-3-methylphenol	ND		5	1	11/06/08 16:58	GY	4755962
4-Chloroaniline	ND		5	1	11/06/08 16:58	GY	4755962
4-Chlorophenyl phenyl ether	ND		5	1	11/06/08 16:58	GY	4755962
4-Nitroaniline	ND		25	1	11/06/08 16:58	GY	4755962
4-Nitrophenol	ND		25	1	11/06/08 16:58	GY	4755962
Acenaphthene	ND		5	1	11/06/08 16:58	GY	4755962
Acenaphthylene	ND		5	1	11/06/08 16:58	GY	4755962
Aniline	ND		5	1	11/06/08 16:58	GY	4755962
Anthracene	ND		5	1	11/06/08 16:58	GY	4755962
Benz(a)anthracene	ND		5	1	11/06/08 16:58	GY	4755962
Benzo(a)pyrene	ND		5	1	11/06/08 16:58	GY	4755962
Benzo(b)fluoranthene	ND		5	1	11/06/08 16:58	GY	4755962
Benzo(g,h,i)perylene	ND		5	1	11/06/08 16:58	GY	4755962
Benzo(k)fluoranthene	ND		5	1	11/06/08 16:58	GY	4755962
Benzoic acid	ND		25	1	11/06/08 16:58	GY	4755962
Benzyl alcohol	ND		5	1	11/06/08 16:58	GY	4755962
Bis(2-chloroethoxy)methane	ND		5	1	11/06/08 16:58	GY	4755962
Bis(2-chloroethyl)ether	ND		5	1	11/06/08 16:58	GY	4755962

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: MW-1 **Collected:** 10/23/2008 17:00 **SPL Sample ID:** 08101658-01

Site: Bloomfield, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
Bis(2-chloroisopropyl)ether	ND			5	1	11/06/08 16:58	GY	4755962
Bis(2-ethylhexyl)phthalate	ND			5	1	11/06/08 16:58	GY	4755962
Butyl benzyl phthalate	ND			5	1	11/06/08 16:58	GY	4755962
Carbazole	ND			5	1	11/06/08 16:58	GY	4755962
Chrysene	ND			5	1	11/06/08 16:58	GY	4755962
Dibenz(a,h)anthracene	ND			5	1	11/06/08 16:58	GY	4755962
Dibenzofuran	ND			5	1	11/06/08 16:58	GY	4755962
Diethyl phthalate	ND			5	1	11/06/08 16:58	GY	4755962
Dimethyl phthalate	ND			5	1	11/06/08 16:58	GY	4755962
Di-n-butyl phthalate	ND			5	1	11/06/08 16:58	GY	4755962
Di-n-octyl phthalate	ND			5	1	11/06/08 16:58	GY	4755962
Fluoranthene	ND			5	1	11/06/08 16:58	GY	4755962
Fluorene	ND			5	1	11/06/08 16:58	GY	4755962
Hexachlorobenzene	ND			5	1	11/06/08 16:58	GY	4755962
Hexachlorobutadiene	ND			5	1	11/06/08 16:58	GY	4755962
Hexachlorocyclopentadiene	ND			5	1	11/06/08 16:58	GY	4755962
Hexachloroethane	ND			5	1	11/06/08 16:58	GY	4755962
Indeno(1,2,3-cd)pyrene	ND			5	1	11/06/08 16:58	GY	4755962
Isophorone	ND			5	1	11/06/08 16:58	GY	4755962
Naphthalene	ND			5	1	11/06/08 16:58	GY	4755962
Nitrobenzene	ND			5	1	11/06/08 16:58	GY	4755962
N-Nitrosodi-n-propylamine	ND			5	1	11/06/08 16:58	GY	4755962
N-Nitrosodiphenylamine	ND			5	1	11/06/08 16:58	GY	4755962
Pentachlorophenol	ND			25	1	11/06/08 16:58	GY	4755962
Phenanthrene	ND			5	1	11/06/08 16:58	GY	4755962
Phenol	ND			5	1	11/06/08 16:58	GY	4755962
Pyrene	ND			5	1	11/06/08 16:58	GY	4755962
Pyridine	ND			5	1	11/06/08 16:58	GY	4755962
2-Methylphenol	ND			5	1	11/06/08 16:58	GY	4755962
3 & 4-Methylphenol	ND			5	1	11/06/08 16:58	GY	4755962
Surr: 2,4,6-Tribromophenol	66.7		%	10-123	1	11/06/08 16:58	GY	4755962
Surr: 2-Fluorobiphenyl	72.0		%	23-116	1	11/06/08 16:58	GY	4755962
Surr: 2-Fluorophenol	37.3		%	16-110	1	11/06/08 16:58	GY	4755962
Surr: Nitrobenzene-d5	70.0		%	21-114	1	11/06/08 16:58	GY	4755962
Surr: Phenol-d5	28.0		%	10-110	1	11/06/08 16:58	GY	4755962
Surr: Terphenyl-d14	72.0		%	22-141	1	11/06/08 16:58	GY	4755962

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	10/30/2008 16:53	LLL	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
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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: MW-1 **Collected:** 10/23/2008 17:00 **SPL Sample ID:** 08101658-01

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
1,1,1,2-Tetrachloroethane	ND		5	1	11/04/08 16:40	LT	4752371
1,1,1-Trichloroethane	ND		5	1	11/04/08 16:40	LT	4752371
1,1,2,2-Tetrachloroethane	ND		5	1	11/04/08 16:40	LT	4752371
1,1,2-Trichloroethane	ND		5	1	11/04/08 16:40	LT	4752371
1,1-Dichloroethane	ND		5	1	11/04/08 16:40	LT	4752371
1,1-Dichloroethene	ND		5	1	11/04/08 16:40	LT	4752371
1,1-Dichloropropene	ND		5	1	11/04/08 16:40	LT	4752371
1,2,3-Trichlorobenzene	ND		5	1	11/04/08 16:40	LT	4752371
1,2,3-Trichloropropane	ND		5	1	11/04/08 16:40	LT	4752371
1,2,4-Trichlorobenzene	ND		5	1	11/04/08 16:40	LT	4752371
1,2,4-Trimethylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
1,2-Dibromo-3-chloropropane	ND		5	1	11/04/08 16:40	LT	4752371
1,2-Dibromoethane	ND		5	1	11/04/08 16:40	LT	4752371
1,2-Dichlorobenzene	ND		5	1	11/04/08 16:40	LT	4752371
1,2-Dichloroethane	ND		5	1	11/04/08 16:40	LT	4752371
1,2-Dichloropropane	ND		5	1	11/04/08 16:40	LT	4752371
1,3,5-Trimethylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
1,3-Dichlorobenzene	ND		5	1	11/04/08 16:40	LT	4752371
1,3-Dichloropropane	ND		5	1	11/04/08 16:40	LT	4752371
1,4-Dichlorobenzene	ND		5	1	11/04/08 16:40	LT	4752371
2,2-Dichloropropane	ND		5	1	11/04/08 16:40	LT	4752371
2-Butanone	ND		20	1	11/04/08 16:40	LT	4752371
2-Chloroethyl vinyl ether	ND		10	1	11/04/08 16:40	LT	4752371
2-Chlorotoluene	ND		5	1	11/04/08 16:40	LT	4752371
2-Hexanone	ND		10	1	11/04/08 16:40	LT	4752371
4-Chlorotoluene	ND		5	1	11/04/08 16:40	LT	4752371
4-Isopropyltoluene	ND		5	1	11/04/08 16:40	LT	4752371
4-Methyl-2-pentanone	ND		10	1	11/04/08 16:40	LT	4752371
Acetone	ND		100	1	11/04/08 16:40	LT	4752371
Acrylonitrile	ND		50	1	11/04/08 16:40	LT	4752371
Benzene	ND		5	1	11/04/08 16:40	LT	4752371
Bromobenzene	ND		5	1	11/04/08 16:40	LT	4752371
Bromochloromethane	ND		5	1	11/04/08 16:40	LT	4752371
Bromodichloromethane	ND		5	1	11/04/08 16:40	LT	4752371
Bromoform	ND		5	1	11/04/08 16:40	LT	4752371
Bromomethane	ND		10	1	11/04/08 16:40	LT	4752371
Carbon disulfide	ND		5	1	11/04/08 16:40	LT	4752371
Carbon tetrachloride	ND		5	1	11/04/08 16:40	LT	4752371
Chlorobenzene	ND		5	1	11/04/08 16:40	LT	4752371

Qualifiers:

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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: MW-1 **Collected:** 10/23/2008 17:00 **SPL Sample ID:** 08101658-01

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
Chloroethane	ND		10	1	11/04/08 16:40	LT	4752371
Chloroform	ND		5	1	11/04/08 16:40	LT	4752371
Chloromethane	ND		10	1	11/04/08 16:40	LT	4752371
Dibromochloromethane	ND		5	1	11/04/08 16:40	LT	4752371
Dibromomethane	ND		5	1	11/04/08 16:40	LT	4752371
Dichlorodifluoromethane	ND		10	1	11/04/08 16:40	LT	4752371
Ethylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
Hexachlorobutadiene	ND		5	1	11/04/08 16:40	LT	4752371
Isopropylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
Methyl tert-butyl ether	ND		5	1	11/04/08 16:40	LT	4752371
Methylene chloride	ND		5	1	11/04/08 16:40	LT	4752371
Naphthalene	ND		5	1	11/04/08 16:40	LT	4752371
n-Butylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
n-Propylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
sec-Butylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
Styrene	ND		5	1	11/04/08 16:40	LT	4752371
tert-Butylbenzene	ND		5	1	11/04/08 16:40	LT	4752371
Tetrachloroethene	ND		5	1	11/04/08 16:40	LT	4752371
Toluene	ND		5	1	11/04/08 16:40	LT	4752371
Trichloroethene	ND		5	1	11/04/08 16:40	LT	4752371
Trichlorofluoromethane	ND		5	1	11/04/08 16:40	LT	4752371
Vinyl acetate	ND		10	1	11/04/08 16:40	LT	4752371
Vinyl chloride	ND		10	1	11/04/08 16:40	LT	4752371
cis-1,2-Dichloroethene	ND		5	1	11/04/08 16:40	LT	4752371
cis-1,3-Dichloropropene	ND		5	1	11/04/08 16:40	LT	4752371
m,p-Xylene	ND		5	1	11/04/08 16:40	LT	4752371
o-Xylene	ND		5	1	11/04/08 16:40	LT	4752371
trans-1,2-Dichloroethene	ND		5	1	11/04/08 16:40	LT	4752371
trans-1,3-Dichloropropene	ND		5	1	11/04/08 16:40	LT	4752371
1,2-Dichloroethene (total)	ND		5	1	11/04/08 16:40	LT	4752371
Xylenes,Total	ND		5	1	11/04/08 16:40	LT	4752371
Surr: 1,2-Dichloroethane-d4	104		% 62-130	1	11/04/08 16:40	LT	4752371
Surr: 4-Bromofluorobenzene	94.0		% 70-130	1	11/04/08 16:40	LT	4752371
Surr: Toluene-d8	104		% 74-122	1	11/04/08 16:40	LT	4752371

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MI - Matrix Interference

Quality Control Documentation

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

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Diesel Range Organics
Method: SW8015B

WorkOrder: 08101658
Lab Batch ID: 84925

Method Blank

RunID: HP_Z_081102B-4750378 Units: mg/L
Analysis Date: 11/02/2008 15:11 Analyst: NW
Preparation Date: 10/30/2008 10:38 Prep By: JDM Method SW3510C

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01C	MW-1

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	0.10
Surr: n-Pentacosane	85.6	20-150

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HP_Z_081102B-4750379 Units: mg/L
Analysis Date: 11/02/2008 15:33 Analyst: NW
Preparation Date: 10/30/2008 10:38 Prep By: JDM Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Diesel Range Organics (C10-C28)	2.00	2.09	104	2.00	2.03	102	2.7	20	21	130
Surr: n-Pentacosane	0.0500	0.0469	93.8	0.0500	0.0440	88.0	6.4	30	20	150

Qualifiers:

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B/V - 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
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Metals by Method 6010B, Total
Method: SW6010B
WorkOrder: 08101658
Lab Batch ID: 85019

Method Blank

RunID: TJA_081104A-4752057 Units: mg/L
Analysis Date: 11/04/2008 22:40 Analyst: S_C
Preparation Date: 10/31/2008 15:00 Prep By: BDG Method SW3010A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01E	MW-1

Analyte	Result	Rep Limit
Calcium	ND	0.1
Iron	ND	0.02
Magnesium	ND	0.1
Manganese	ND	0.005
Sodium	ND	0.5

Laboratory Control Sample (LCS)

RunID: TJA_081104A-4752058 Units: mg/L
Analysis Date: 11/04/2008 22:44 Analyst: S_C
Preparation Date: 10/31/2008 15:00 Prep By: BDG Method SW3010A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Calcium	1.000	1.052	105.2	80	120
Iron	1.000	1.005	100.5	80	120
Magnesium	1.000	1.005	100.5	80	120
Manganese	1.000	1.016	101.6	80	120
Sodium	1.000	1.079	107.9	80	120

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

Sample Spiked: 08101725-02
RunID: TJA_081104A-4752060 Units: mg/L
Analysis Date: 11/04/2008 22:53 Analyst: S_C
Preparation Date: 10/31/2008 15:00 Prep By: BDG Method SW3010A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Calcium	1026	1	1001	N/C	1	1055	N/C	N/C	20	75	125
Iron	0.5156	1	1.480	96.44	1	1.502	98.59	1.440	20	75	125
Magnesium	1406	1	1370	N/C	1	1442	N/C	N/C	20	75	125
Manganese	18.28	1	18.82	N/C	1	19.79	N/C	N/C	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - 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

COP Shepherd Kelsey #1E

Analysis: Metals by Method 6010B, Total
Method: SW6010B
WorkOrder: 08101658
Lab Batch ID: 85019

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

Sample Spiked: 08101725-02
RunID: TJA_081104A-4752060
Units: mg/L
Analysis Date: 11/04/2008 22:53
Analyst: S_C
Preparation Date: 10/31/2008 15:00
Prep By: BDG Method SW3010A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Sodium	4678	1	4547	N/C	1	4751	N/C	N/C	20	75	125

Qualifiers:

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B/V - 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

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HOUSTON, TX 77054
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Metals by Method 6020A, Total
Method: SW6020A
WorkOrder: 08101658
Lab Batch ID: 85019d-I

Method Blank

RunID: ICPMS_081104A-4750503 Units: mg/L
Analysis Date: 11/04/2008 13:42 Analyst: AL_H
Preparation Date: 10/31/2008 15:00 Prep By: BDG Method SW3010A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01E	MW-1

Analyte	Result	Rep Limit
Arsenic	ND	0.005
Barium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.005
Lead	ND	0.005
Selenium	ND	0.005
Silver	ND	0.005

Laboratory Control Sample (LCS)

RunID: ICPMS_081104A-4750511 Units: mg/L
Analysis Date: 11/04/2008 14:41 Analyst: AL_H
Preparation Date: 10/31/2008 15:00 Prep By: BDG Method SW3010A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Arsenic	0.1000	0.1014	101.4	80	120
Barium	0.1000	0.09790	97.90	80	120
Cadmium	0.1000	0.09410	94.10	80	120
Chromium	0.1000	0.09262	92.62	80	120
Lead	0.1000	0.09830	98.30	80	120
Selenium	0.1000	0.1038	103.8	80	120
Silver	0.1000	0.09411	94.11	80	120

Post Digestion Spike (PDS) / Post Digestion Spike Duplicate (PDSD)

Sample Spiked: 08101725-02
RunID: ICPMS_081104A-4750512 Units: mg/L
Analysis Date: 11/04/2008 14:46 Analyst: AL_H

Analyte	Sample Result	PDS Spike Added	PDS Result	PDS % Recovery	PDSD Spike Added	PDSD Result	PDSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Arsenic	0.00857	0.1	0.08618	77.61	0.1	0.0854	76.83	0.9092	20	75	125
Cadmium	ND	0.1	0.06186	61.86 *	0.1	0.06181	61.81 *	0.08086	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - 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
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Metals by Method 6020A, Total **WorkOrder:** 08101658
Method: SW6020A **Lab Batch ID:** 85019d-I

Silver	ND	0.1	0.06299	62.99 *	0.1	0.06274	62.74 *	0.3977	20	75	125

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

Sample Spiked: 08101725-02
RunID: ICPMS_081104A-4750505 Units: mg/L
Analysis Date: 11/04/2008 13:56 Analyst: AL_H
Preparation Date: 10/31/2008 15:00 Prep By: BDG Method SW3010A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Arsenic	0.008570	0.1	0.08153	72.96 *	0.1	0.08008	71.51 *	1.794	20	75	125
Barium	0.03462	0.1	0.1285	93.88	0.1	0.1218	87.18	5.354	20	75	125
Cadmium	ND	0.1	0.06051	60.51 *	0.1	0.05932	59.32 *	1.986	20	75	125
Chromium	ND	0.1	0.07857	78.57	0.1	0.07566	75.66	3.774	20	75	125
Lead	ND	0.1	0.1001	100.1	0.1	0.1008	100.8	0.6969	20	75	125
Selenium	0.02830	0.1	0.1066	78.30	0.1	0.1125	84.20	5.386	20	75	125
Silver	ND	0.1	0.06497	64.97 *	0.1	0.06439	64.39 *	0.8967	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - 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

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Mercury, Total
Method: SW7470A
WorkOrder: 08101658
Lab Batch ID: 85178

Method Blank

RunID: HGLC_081106A-4755670 Units: mg/L
Analysis Date: 11/06/2008 13:32 Analyst: F_S
Preparation Date: 11/06/2008 13:18 Prep By: F_S Method SW7470A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01E	MW-1

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Laboratory Control Sample (LCS)

RunID: HGLC_081106A-4755671 Units: mg/L
Analysis Date: 11/06/2008 13:35 Analyst: F_S
Preparation Date: 11/06/2008 13:18 Prep By: F_S Method SW7470A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Mercury	0.002000	0.001983	99.15	80	120

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

Sample Spiked: 08101734-09
RunID: HGLC_081106A-4755673 Units: mg/L
Analysis Date: 11/06/2008 13:39 Analyst: F_S
Preparation Date: 11/06/2008 13:18 Prep By: F_S Method SW7470A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Mercury	ND	0.002	0.001885	94.26	0.002	0.001843	92.14	2.266	20	75	125

Qualifiers:

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B/V - 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
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Semivolatile Organics by Method 8270C
Method: SW8270C
WorkOrder: 08101658
Lab Batch ID: 84949

Method Blank

RunID: H_081106B-4755273
Units: ug/L
Analysis Date: 11/06/2008 10:56
Analyst: GY
Preparation Date: 10/30/2008 16:53
Prep By: LLL Method SW3510C

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01D	MW-1

Analyte	Result	Rep Limit
1,2,4-Trichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Diphenylhydrazine	ND	10
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
2,4,5-Trichlorophenol	ND	10
2,4,6-Trichlorophenol	ND	5.0
2,4-Dichlorophenol	ND	5.0
2,4-Dimethylphenol	ND	5.0
2,4-Dinitrophenol	ND	25
2,4-Dinitrotoluene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
2-Chloronaphthalene	ND	5.0
2-Chlorophenol	ND	5.0
2-Methylnaphthalene	ND	5.0
2-Nitroaniline	ND	25
2-Nitrophenol	ND	5.0
3,3'-Dichlorobenzidine	ND	10
3-Nitroaniline	ND	25
4,6-Dinitro-2-methylphenol	ND	25
4-Bromophenyl phenyl ether	ND	5.0
4-Chloro-3-methylphenol	ND	5.0
4-Chloroaniline	ND	5.0
4-Chlorophenyl phenyl ether	ND	5.0
4-Nitroaniline	ND	25
4-Nitrophenol	ND	25
Acenaphthene	ND	5.0
Acenaphthylene	ND	5.0
Aniline	ND	5.0
Anthracene	ND	5.0
Benz(a)anthracene	ND	5.0
Benzo(a)pyrene	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzoic acid	ND	25
Benzyl alcohol	ND	5.0
Bis(2-chloroethoxy)methane	ND	5.0
Bis(2-chloroethyl)ether	ND	5.0
Bis(2-chloroisopropyl)ether	ND	5.0
Bis(2-ethylhexyl)phthalate	ND	5.0
Butyl benzyl phthalate	ND	5.0
Carbazole	ND	5.0
Chrysene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Dibenzofuran	ND	5.0

Qualifiers:

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E - Estimated Value exceeds calibration curve
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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Semivolatile Organics by Method 8270C
Method: SW8270C
WorkOrder: 08101658
Lab Batch ID: 84949

Method Blank

RunID: H_081106B-4755273 Units: ug/L
Analysis Date: 11/06/2008 10:56 Analyst: GY
Preparation Date: 10/30/2008 16:53 Prep By: LLL Method SW3510C

Analyte	Result	Rep Limit
Diethyl phthalate	ND	5.0
Dimethyl phthalate	ND	5.0
Di-n-butyl phthalate	ND	5.0
Di-n-octyl phthalate	ND	5.0
Fluoranthene	ND	5.0
Fluorene	ND	5.0
Hexachlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
Hexachloroethane	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Isophorone	ND	5.0
Naphthalene	ND	5.0
Nitrobenzene	ND	5.0
N-Nitrosodi-n-propylamine	ND	5.0
N-Nitrosodiphenylamine	ND	5.0
Pentachlorophenol	ND	25
Phenanthrene	ND	5.0
Phenol	ND	5.0
Pyrene	ND	5.0
Pyridine	ND	5.0
2-Methylphenol	ND	5.0
3 & 4-Methylphenol	ND	5.0
Surr: 2,4,6-Tribromophenol	76.0	10-123
Surr: 2-Fluorobiphenyl	82.0	23-116
Surr: 2-Fluorophenol	78.7	16-110
Surr: Nitrobenzene-d5	76.0	21-114
Surr: Phenol-d5	85.3	10-110
Surr: Terphenyl-d14	80.0	22-141

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: H_081106B-4755274 Units: ug/L
Analysis Date: 11/06/2008 11:26 Analyst: GY
Preparation Date: 10/30/2008 16:53 Prep By: LLL Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
1,2,4-Trichlorobenzene	25.0	19.0	76.0	25.0	20.0	80.0	5.1	39	21	120
1,2-Dichlorobenzene	25.0	20.0	80.0	25.0	20.0	80.0	0.0	50	20	150

Qualifiers:

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(713) 660-0901

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Semivolatile Organics by Method 8270C
Method: SW8270C
WorkOrder: 08101658
Lab Batch ID: 84949

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: H_081106B-4755274
Analysis Date: 11/06/2008 11:26
Preparation Date: 10/30/2008 16:53
Units: ug/L
Analyst: GY
Prep By: LLL Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
1,2-Diphenylhydrazine	25.0	18.0	72.0	25.0	19.0	76.0	5.4	50	10	251
1,3-Dichlorobenzene	25.0	19.0	76.0	25.0	20.0	80.0	5.1	50	20	150
1,4-Dichlorobenzene	25.0	20.0	80.0	25.0	20.0	80.0	0.0	45	20	150
2,4,5-Trichlorophenol	25.0	20.0	80.0	25.0	23.0	92.0	14.0	50	30	150
2,4,6-Trichlorophenol	25.0	20.0	80.0	25.0	22.0	88.0	9.5	50	30	150
2,4-Dichlorophenol	25.0	20.0	80.0	25.0	21.0	84.0	4.9	50	30	150
2,4-Dimethylphenol	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	32	140
2,4-Dinitrophenol	25.0	14.0	56.0	25.0	15.0	60.0	6.9	50	10	160
2,4-Dinitrotoluene	25.0	22.0	88.0	25.0	24.0	96.0	8.7	50	30	150
2,6-Dinitrotoluene	25.0	20.0	80.0	25.0	23.0	92.0	14.0	50	30	150
2-Chloronaphthalene	25.0	22.0	88.0	25.0	24.0	96.0	8.7	50	30	150
2-Chlorophenol	25.0	21.0	84.0	25.0	22.0	88.0	4.7	40	23	134
2-Methylnaphthalene	25.0	22.0	88.0	25.0	23.0	92.0	4.4	50	20	170
2-Nitroaniline	25.0	22.0	88.0	25.0	24.0	96.0	8.7	50	20	160
2-Nitrophenol	25.0	19.0	76.0	25.0	22.0	88.0	14.6	50	29	182
3,3'-Dichlorobenzidine	25.0	19.0	76.0	25.0	20.0	80.0	5.1	50	30	200
3-Nitroaniline	25.0	19.0	76.0	25.0	22.0	88.0	14.6	50	20	160
4,6-Dinitro-2-methylphenol	25.0	17.0	68.0	25.0	18.0	72.0	5.7	50	10	160
4-Bromophenyl phenyl ether	25.0	22.0	88.0	25.0	22.0	88.0	0.0	50	30	150
4-Chloro-3-methylphenol	25.0	20.0	80.0	25.0	22.0	88.0	9.5	42	25	160
4-Chloroaniline	25.0	21.0	84.0	25.0	23.0	92.0	9.1	50	20	160
4-Chlorophenyl phenyl ether	25.0	23.0	92.0	25.0	24.0	96.0	4.3	50	25	158
4-Nitroaniline	25.0	20.0	80.0	25.0	24.0	96.0	18.2	50	20	160
4-Nitrophenol	25.0	18.0	72.0	25.0	20.0	80.0	10.5	50	10	132
Acenaphthene	25.0	21.0	84.0	25.0	22.0	88.0	4.7	31	30	150
Acenaphthylene	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	33	250
Aniline	50.0	41.0	82.0	50.0	44.0	88.0	7.1	50	10	135
Anthracene	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	27	133
Benz(a)anthracene	25.0	22.0	88.0	25.0	22.0	88.0	0.0	50	33	143
Benzo(a)pyrene	25.0	19.0	76.0	25.0	20.0	80.0	5.1	50	17	163
Benzo(b)fluoranthene	25.0	20.0	80.0	25.0	22.0	88.0	9.5	50	24	159
Benzo(g,h,i)perylene	25.0	22.0	88.0	25.0	23.0	92.0	4.4	50	30	160
Benzo(k)fluoranthene	25.0	23.0	92.0	25.0	22.0	88.0	4.4	50	11	162

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

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Semivolatile Organics by Method 8270C
Method: SW8270C
WorkOrder: 08101658
Lab Batch ID: 84949

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: H_081106B-4755274 Units: ug/L
Analysis Date: 11/06/2008 11:26 Analyst: GY
Preparation Date: 10/30/2008 16:53 Prep By: LLL Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Benzoic acid	25.0	40.0	160	25.0	40.0	160	0.0	50	10	400
Benzyl alcohol	25.0	19.0	76.0	25.0	20.0	80.0	5.1	50	30	160
Bis(2-chloroethoxy)methane	25.0	33.0	132	25.0	36.0	144	8.7	50	33	184
Bis(2-chloroethyl)ether	25.0	22.0	88.0	25.0	22.0	88.0	0.0	50	12	158
Bis(2-chloroisopropyl)ether	25.0	23.0	92.0	25.0	24.0	96.0	4.3	50	20	160
Bis(2-ethylhexyl)phthalate	25.0	22.0	88.0	25.0	22.0	88.0	0.0	50	10	158
Butyl benzyl phthalate	25.0	22.0	88.0	25.0	23.0	92.0	4.4	50	30	160
Carbazole	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	30	150
Chrysene	25.0	22.0	88.0	25.0	22.0	88.0	0.0	50	17	168
Dibenz(a,h)anthracene	25.0	22.0	88.0	25.0	22.0	88.0	0.0	50	30	160
Dibenzofuran	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	30	150
Diethyl phthalate	25.0	21.0	84.0	25.0	23.0	92.0	9.1	50	30	160
Dimethyl phthalate	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	30	160
Di-n-butyl phthalate	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	30	160
Di-n-octyl phthalate	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	20	150
Fluoranthene	25.0	21.0	84.0	25.0	22.0	88.0	4.7	50	26	137
Fluorene	25.0	21.0	84.0	25.0	23.0	92.0	9.1	50	30	150
Hexachlorobenzene	25.0	20.0	80.0	25.0	21.0	84.0	4.9	50	20	150
Hexachlorobutadiene	25.0	19.0	76.0	25.0	20.0	80.0	5.1	50	20	140
Hexachlorocyclopentadiene	25.0	17.0	68.0	25.0	18.0	72.0	5.7	50	10	150
Hexachloroethane	25.0	19.0	76.0	25.0	20.0	80.0	5.1	50	14	120
Indeno(1,2,3-cd)pyrene	25.0	23.0	92.0	25.0	24.0	96.0	4.3	50	30	160
Isophorone	25.0	22.0	88.0	25.0	24.0	96.0	8.7	50	21	196
Naphthalene	25.0	20.0	80.0	25.0	21.0	84.0	4.9	50	21	133
Nitrobenzene	25.0	20.0	80.0	25.0	21.0	84.0	4.9	50	20	160
N-Nitrosodi-n-propylamine	25.0	22.0	88.0	25.0	23.0	92.0	4.4	38	30	160
N-Nitrosodiphenylamine	50.0	51.0	102	50.0	52.0	104	1.9	50	30	150
Pentachlorophenol	25.0	14.0	56.0	25.0	15.0	60.0	6.9	50	14	176
Phenanthrene	25.0	20.0	80.0	25.0	21.0	84.0	4.9	50	10	140
Phenol	25.0	21.0	84.0	25.0	23.0	92.0	9.1	42	40	132
Pyrene	25.0	22.0	88.0	25.0	22.0	88.0	0.0	38	30	150
Pyridine	50.0	35.0	70.0	50.0	34.0	68.0	2.9	50	10	150
2-Methylphenol	25.0	21.0	84.0	25.0	23.0	92.0	9.1	50	30	160

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HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Semivolatile Organics by Method 8270C
Method: SW8270C

WorkOrder: 08101658
Lab Batch ID: 84949

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: H_081106B-4755274
Analysis Date: 11/06/2008 11:26
Preparation Date: 10/30/2008 16:53

Units: ug/L
Analyst: GY
Prep By: LLL Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
3 & 4-Methylphenol	25.0	19.0	76.0	25.0	21.0	84.0	10.0	50	10	160
Surr: 2,4,6-Tribromophenol	75.0	64.0	85.3	75.0	70.0	93.3	9.0	30	10	123
Surr: 2-Fluorobiphenyl	50.0	42.0	84.0	50.0	41.0	82.0	2.4	30	23	116
Surr: 2-Fluorophenol	75.0	62.0	82.7	75.0	65.0	86.7	4.7	30	16	110
Surr: Nitrobenzene-d5	50.0	40.0	80.0	50.0	42.0	84.0	4.9	30	21	114
Surr: Phenol-d5	75.0	65.0	86.7	75.0	69.0	92.0	6.0	30	10	110
Surr: Terphenyl-d14	50.0	42.0	84.0	50.0	42.0	84.0	0.0	30	22	141

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E - Estimated *Value exceeds calibration curve*
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 08101658
Lab Batch ID: R256001

Method Blank

RunID: N_081104A-4752370 Units: ug/L
Analysis Date: 11/04/2008 16:12 Analyst: LT
Preparation Date: 11/04/2008 16:12 Prep By: Method

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01A	MW-1

Analyte	Result	Rep Limit
1,1,1,2-Tetrachloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
1,1-Dichloroethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0
1,2,3-Trichloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
1,2-Dibromo-3-chloropropane	ND	5.0
1,2-Dibromoethane	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dichloropropane	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,3-Dichloropropane	ND	5.0
1,4-Dichlorobenzene	ND	5.0
2,2-Dichloropropane	ND	5.0
2-Butanone	ND	20
2-Chloroethyl vinyl ether	ND	10
2-Chlorotoluene	ND	5.0
2-Hexanone	ND	10
4-Chlorotoluene	ND	5.0
4-Isopropyltoluene	ND	5.0
4-Methyl-2-pentanone	ND	10
Acetone	ND	100
Acrylonitrile	ND	50
Benzene	ND	5.0
Bromobenzene	ND	5.0
Bromochloromethane	ND	5.0
Bromodichloromethane	ND	5.0
Bromoform	ND	5.0
Bromomethane	ND	10
Carbon disulfide	ND	5.0
Carbon tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	10
Chloroform	ND	5.0
Chloromethane	ND	10
Dibromochloromethane	ND	5.0
Dibromomethane	ND	5.0
Dichlorodifluoromethane	ND	10
Ethylbenzene	ND	5.0

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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 08101658
Lab Batch ID: R256001

Method Blank

RunID: N_081104A-4752370 Units: ug/L
Analysis Date: 11/04/2008 16:12 Analyst: LT
Preparation Date: 11/04/2008 16:12 Prep By: Method

Analyte	Result	Rep Limit
Hexachlorobutadiene	ND	5.0
Isopropylbenzene	ND	5.0
Methyl tert-butyl ether	ND	5.0
Methylene chloride	ND	5.0
Naphthalene	ND	5.0
n-Butylbenzene	ND	5.0
n-Propylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
Styrene	ND	5.0
tert-Butylbenzene	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Trichloroethene	ND	5.0
Trichlorofluoromethane	ND	5.0
Vinyl acetate	ND	10
Vinyl chloride	ND	10
cis-1,2-Dichloroethene	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
m,p-Xylene	ND	5.0
o-Xylene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,2-Dichloroethene (total)	ND	5.0
Xylenes,Total	ND	5.0
Surr: 1,2-Dichloroethane-d4	106.0	62-130
Surr: 4-Bromofluorobenzene	96.0	70-130
Surr: Toluene-d8	106.0	74-122

Laboratory Control Sample (LCS)

RunID: N_081104A-4752369 Units: ug/L
Analysis Date: 11/04/2008 15:32 Analyst: LT
Preparation Date: 11/04/2008 15:32 Prep By: Method

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
1,1,1,2-Tetrachloroethane	20.0	19.0	95.0	71	136
1,1,1-Trichloroethane	20.0	20.0	100	66	132
1,1,2,2-Tetrachloroethane	20.0	19.0	95.0	55	139
1,1,2-Trichloroethane	20.0	20.0	100	70	130
1,1-Dichloroethane	20.0	20.0	100	67	131

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(713) 660-0901

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B

WorkOrder: 08101658
Lab Batch ID: R256001

Laboratory Control Sample (LCS)

RunID: N_081104A-4752369 Units: ug/L
Analysis Date: 11/04/2008 15:32 Analyst: LT
Preparation Date: 11/04/2008 15:32 Prep By: Method

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
1,1-Dichloroethene	20.0	19.0	95.0	71	146
1,1-Dichloropropene	20.0	19.0	95.0	59	138
1,2,3-Trichlorobenzene	20.0	17.0	85.0	37	155
1,2,3-Trichloropropane	20.0	21.0	105	70	145
1,2,4-Trichlorobenzene	20.0	17.0	85.0	39	133
1,2,4-Trimethylbenzene	20.0	18.0	90.0	53	147
1,2-Dibromo-3-chloropropane	20.0	18.0	90.0	43	137
1,2-Dibromoethane	20.0	19.0	95.0	63	126
1,2-Dichlorobenzene	20.0	18.0	90.0	70	130
1,2-Dichloroethane	20.0	19.0	95.0	64	150
1,2-Dichloropropane	20.0	19.0	95.0	76	124
1,3,5-Trimethylbenzene	20.0	17.0	85.0	57	146
1,3-Dichlorobenzene	20.0	19.0	95.0	72	134
1,3-Dichloropropane	20.0	19.0	95.0	78	130
1,4-Dichlorobenzene	20.0	18.0	90.0	70	130
2,2-Dichloropropane	20.0	21.0	105	45	156
2-Butanone	120	83.0	69.2	20	235
2-Chloroethyl vinyl ether	20.0	23.0	115	13	179
2-Chlorotoluene	20.0	18.0	90.0	64	122
2-Hexanone	20.0	17.0	85.0	34	182
4-Chlorotoluene	20.0	18.0	90.0	64	142
4-Isopropyltoluene	20.0	17.0	85.0	60	134
4-Methyl-2-pentanone	20.0	17.0	85.0	11	145
Acetone	200	100	50.0	13	386
Acrylonitrile	100	100	100	43	194
Benzene	20.0	20.0	100	76	126
Bromobenzene	20.0	19.0	95.0	70	130
Bromochloromethane	20.0	18.0	90.0	63	131
Bromodichloromethane	20.0	20.0	100	77	138
Bromoform	20.0	17.0	85.0	55	129
Bromomethane	20.0	20.0	100	58	148
Carbon disulfide	20.0	18.0	90.0	46	146
Carbon tetrachloride	20.0	19.0	95.0	66	137
Chlorobenzene	20.0	18.0	90.0	67	136

Qualifiers:

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

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 08101658
Lab Batch ID: R256001

Laboratory Control Sample (LCS)

RunID: N_081104A-4752369 Units: ug/L
Analysis Date: 11/04/2008 15:32 Analyst: LT
Preparation Date: 11/04/2008 15:32 Prep By: Method

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloroethane	20.0	19.0	95.0	50	137
Chloroform	20.0	19.0	95.0	70	135
Chloromethane	20.0	23.0	115	51	140
Dibromochloromethane	20.0	18.0	90.0	69	127
Dibromomethane	20.0	20.0	100	74	130
Dichlorodifluoromethane	20.0	22.0	110	32	161
Ethylbenzene	20.0	18.0	90.0	67	122
Hexachlorobutadiene	20.0	15.0	75.0	43	144
Isopropylbenzene	20.0	15.0	75.0	60	135
Methyl tert-butyl ether	40.0	35.0	87.5	48	160
Methylene chloride	20.0	20.0	100	52	143
Naphthalene	20.0	17.0	85.0	24	150
n-Butylbenzene	20.0	16.0	80.0	50	140
n-Propylbenzene	20.0	16.0	80.0	62	137
sec-Butylbenzene	20.0	15.0	75.0	66	126
Styrene	20.0	18.0	90.0	60	139
tert-Butylbenzene	20.0	17.0	85.0	67	140
Tetrachloroethene	20.0	22.0	110	26	200
Toluene	20.0	20.0	100	70	131
Trichloroethene	20.0	19.0	95.0	64	137
Trichlorofluoromethane	20.0	21.0	105	46	167
Vinyl acetate	20.0	20.0	100	10	193
Vinyl chloride	20.0	20.0	100	31	147
cis-1,2-Dichloroethene	20.0	19.0	95.0	70	142
cis-1,3-Dichloropropene	20.0	17.0	85.0	61	134
m,p-Xylene	40.0	37.0	92.5	72	150
o-Xylene	20.0	19.0	95.0	78	141
trans-1,2-Dichloroethene	20.0	19.0	95.0	67	141
trans-1,3-Dichloropropene	20.0	17.0	85.0	56	136
1,2-Dichloroethene (total)	40	38	95	73	139
Xylenes,Total	60	56	93	72	150
Surr: 1,2-Dichloroethane-d4	50.0	48	96.0	62	130
Surr: 4-Bromofluorobenzene	50.0	51	102	70	130
Surr: Toluene-d8	50.0	52	104	74	122

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HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 08101658
Lab Batch ID: R256001

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

Sample Spiked: 08101658-01
RunID: N_081104A-4752372 Units: ug/L
Analysis Date: 11/04/2008 17:07 Analyst: LT

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
1,1,1,2-Tetrachloroethane	ND	20	18.0	90.0	20	18.0	90.0	0	20	35	175
1,1,1-Trichloroethane	ND	20	20.0	100	20	19.0	95.0	5.13	20	35	175
1,1,2,2-Tetrachloroethane	ND	20	20.0	100	20	20.0	100	0	20	35	175
1,1,2-Trichloroethane	ND	20	20.0	100	20	19.0	95.0	5.13	20	35	175
1,1-Dichloroethane	ND	20	20.0	100	20	19.0	95.0	5.13	20	35	175
1,1-Dichloroethene	ND	20	18.0	90.0	20	17.0	85.0	5.71	22	61	145
1,1-Dichloropropene	ND	20	19.0	95.0	20	19.0	95.0	0	20	35	175
1,2,3-Trichlorobenzene	ND	20	15.0	75.0	20	15.0	75.0	0	20	27	187
1,2,3-Trichloropropane	ND	20	21.0	105	20	19.0	95.0	10.0	20	35	175
1,2,4-Trichlorobenzene	ND	20	14.0	70.0	20	14.0	70.0	0	20	34	150
1,2,4-Trimethylbenzene	ND	20	16.0	80.0	20	16.0	80.0	0	20	35	175
1,2-Dibromo-3-chloropropane	ND	20	20.0	100	20	18.0	90.0	10.5	20	15	175
1,2-Dibromoethane	ND	20	18.0	90.0	20	18.0	90.0	0	20	35	175
1,2-Dichlorobenzene	ND	20	18.0	90.0	20	18.0	90.0	0	20	35	175
1,2-Dichloroethane	ND	20	20.0	100	20	19.0	95.0	5.13	20	35	175
1,2-Dichloropropane	ND	20	19.0	95.0	20	19.0	95.0	0	20	35	175
1,3,5-Trimethylbenzene	ND	20	16.0	80.0	20	16.0	80.0	0	20	35	175
1,3-Dichlorobenzene	ND	20	18.0	90.0	20	17.0	85.0	5.71	20	35	175
1,3-Dichloropropane	ND	20	20.0	100	20	19.0	95.0	5.13	20	35	175
1,4-Dichlorobenzene	ND	20	18.0	90.0	20	18.0	90.0	0	20	35	175
2,2-Dichloropropane	ND	20	20.0	100	20	19.0	95.0	5.13	20	35	175
2-Butanone	ND	20	31.0	155	20	27.0	135	13.8	20	10	230
2-Chloroethyl vinyl ether	ND	20	0	0 *	20	0	0 *	0	20	10	250
2-Chlorotoluene	ND	20	18.0	90.0	20	18.0	90.0	0	20	31	175
2-Hexanone	ND	20	24.0	120	20	24.0	120	0	20	10	250
4-Chlorotoluene	ND	20	18.0	90.0	20	18.0	90.0	0	20	31	175
4-Isopropyltoluene	ND	20	15.0	75.0	20	15.0	75.0	0	20	35	175
4-Methyl-2-pentanone	ND	20	19.0	95.0	20	18.0	90.0	5.41	20	10	175
Acetone	ND	100	140	140	100	140	140	0	20	10	400
Acrylonitrile	ND	200	190	95.0	200	180	90.0	5.41	20	15	250

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

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 08101658
Lab Batch ID: R256001

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

Sample Spiked: 08101658-01
RunID: N_081104A-4752372 Units: ug/L
Analysis Date: 11/04/2008 17:07 Analyst: LT

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	19.0	95.0	20	19.0	95.0	0	22	76	127
Bromobenzene	ND	20	18.0	90.0	20	19.0	95.0	5.41	20	35	175
Bromochloromethane	ND	20	18.0	90.0	20	19.0	95.0	5.41	20	35	175
Bromodichloromethane	ND	20	19.0	95.0	20	18.0	90.0	5.41	20	35	175
Bromoform	ND	20	17.0	85.0	20	18.0	90.0	5.71	20	35	175
Bromomethane	ND	20	17.0	85.0	20	16.0	80.0	6.06	20	35	175
Carbon disulfide	ND	20	19.0	95.0	20	18.0	90.0	5.41	20	30	225
Carbon tetrachloride	ND	20	19.0	95.0	20	19.0	95.0	0	20	35	175
Chlorobenzene	ND	20	19.0	95.0	20	19.0	95.0	0	21	70	130
Chloroethane	ND	20	19.0	95.0	20	18.0	90.0	5.41	20	35	175
Chloroform	ND	20	19.0	95.0	20	18.0	90.0	5.41	20	35	175
Chloromethane	ND	20	18.0	90.0	20	18.0	90.0	0	20	35	175
Dibromochloromethane	ND	20	18.0	90.0	20	19.0	95.0	5.41	20	35	175
Dibromomethane	ND	20	19.0	95.0	20	20.0	100	5.13	20	35	175
Dichlorodifluoromethane	ND	20	14.0	70.0	20	12.0	60.0	15.4	20	35	175
Ethylbenzene	ND	20	18.0	90.0	20	18.0	90.0	0	20	35	175
Hexachlorobutadiene	ND	20	14.0	70.0	20	14.0	70.0	0	20	43	144
Isopropylbenzene	ND	20	18.0	90.0	20	18.0	90.0	0	20	35	175
Methyl tert-butyl ether	ND	20	18.0	90.0	20	17.0	85.0	5.71	20	35	175
Methylene chloride	ND	20	20.0	100	20	19.0	95.0	5.13	20	35	175
Naphthalene	ND	20	16.0	80.0	20	15.0	75.0	6.45	20	20	210
n-Butylbenzene	ND	20	14.0	70.0	20	14.0	70.0	0	20	35	175
n-Propylbenzene	ND	20	16.0	80.0	20	16.0	80.0	0	20	35	175
sec-Butylbenzene	ND	20	14.0	70.0	20	14.0	70.0	0	20	35	175
Styrene	ND	20	19.0	95.0	20	19.0	95.0	0	20	35	175
tert-Butylbenzene	ND	20	16.0	80.0	20	15.0	75.0	6.45	20	35	175
Tetrachloroethene	ND	20	17.0	85.0	20	17.0	85.0	0	20	30	250
Toluene	ND	20	19.0	95.0	20	19.0	95.0	0	24	70	131
Trichloroethene	ND	20	19.0	95.0	20	19.0	95.0	0	21	60	140
Trichlorofluoromethane	ND	20	19.0	95.0	20	18.0	90.0	5.41	20	17	250
Vinyl acetate	ND	20	20.0	100	20	19.0	95.0	5.13	20	10	250
Vinyl chloride	ND	20	16.0	80.0	20	16.0	80.0	0	20	35	175

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HOUSTON, TX 77054
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 08101658
Lab Batch ID: R256001

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

Sample Spiked: 08101658-01
RunID: N_081104A-4752372 Units: ug/L
Analysis Date: 11/04/2008 17:07 Analyst: LT

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
cis-1,2-Dichloroethene	ND	20	20.0	100	20	18.0	90.0	10.5	20	35	175
cis-1,3-Dichloropropene	ND	20	17.0	85.0	20	18.0	90.0	5.71	20	35	175
m,p-Xylene	ND	40	36.0	90.0	40	36.0	90.0	0	20	35	175
o-Xylene	ND	20	19.0	95.0	20	19.0	95.0	0	20	35	175
trans-1,2-Dichloroethene	ND	20	19.0	95.0	20	18.0	90.0	5.41	20	35	175
trans-1,3-Dichloropropene	ND	20	17.0	85.0	20	17.0	85.0	0	20	35	175
1,2-Dichloroethene (total)	ND	40	39	98	40	36	90	8.0	20	35	175
Xylenes,Total	ND	60	55	92	60	55	92	0	20	35	175
Surr: 1,2-Dichloroethane-d4	ND	50	50	100	50	48.0	96.0	4.08	30	62	130
Surr: 4-Bromofluorobenzene	ND	50	51	102	50	53.0	106	3.85	30	70	130
Surr: Toluene-d8	ND	50	54	108	50	53.0	106	1.87	30	74	122

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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Nitrate Nitrogen (as N), Total
Method: E353.2

WorkOrder: 08101658
Lab Batch ID: R256285A

Method Blank

RunID: WET_081103ZD-4757587 Units: mg/L
Analysis Date: 11/03/2008 15:17 Analyst: TW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01F	MW-1

Analyte	Result	Rep Limit
Nitrogen,Nitrate (As N)	ND	0.50

Laboratory Control Sample (LCS)

RunID: WET_081103ZD-4757590 Units: mg/L
Analysis Date: 11/03/2008 15:17 Analyst: TW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Nitrogen,Nitrate (As N)	5.000	5.372	107.4	90	110

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

Sample Spiked: 08101626-01
RunID: WET_081103ZD-4757607 Units: mg/L
Analysis Date: 11/03/2008 15:17 Analyst: TW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Nitrogen,Nitrate (As N)	ND	5	4.471	89.43 *	5	4.920	98.39	9.548	20	90	110

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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Ion Chromatography
Method: E300.0

WorkOrder: 08101658
Lab Batch ID: R256813A

Method Blank

RunID: IC1_081110B-4766166 Units: mg/L
Analysis Date: 11/10/2008 21:54 Analyst: TW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01F	MW-1

Analyte	Result	Rep Limit
Chloride	ND	0.50
Fluoride	ND	0.50

Laboratory Control Sample (LCS)

RunID: IC1_081110B-4766017 Units: mg/L
Analysis Date: 11/10/2008 16:51 Analyst: TW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	10.00	9.409	94.09	85	115
Fluoride	10.00	10.03	100.3	85	115

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

Sample Spiked: 08101658-01
RunID: IC1_081110B-4766035 Units: mg/L
Analysis Date: 11/10/2008 22:43 Analyst: TW

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	22.83	40	61.19	95.91	40	62.16	98.34	1.575	20	80	120
Fluoride	ND	40	34.23	85.58	40	34.88	87.20	1.872	20	80	120

Qualifiers:

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B/V - 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
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Ion Chromatography
Method: E300.0
WorkOrder: 08101658
Lab Batch ID: R256827A

Method Blank

RunID: IC1_081111A-4766450 Units: mg/L
Analysis Date: 11/11/2008 15:49 Analyst: TW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01F	MW-1

Analyte	Result	Rep Limit
Sulfate	ND	0.50

Laboratory Control Sample (LCS)

RunID: IC1_081111A-4766451 Units: mg/L
Analysis Date: 11/11/2008 16:06 Analyst: TW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Sulfate	10.00	9.496	94.96	85	115

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

Sample Spiked: 08101658-01
RunID: IC1_081111A-4766453 Units: mg/L
Analysis Date: 11/11/2008 16:39 Analyst: TW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Sulfate	437.9	1000	1350	91.23	1000	1344	90.62	0.4506	20	80	120

Qualifiers:

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B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey #1E

Analysis: Ion Chromatography
Method: E300.0
WorkOrder: 08101658
Lab Batch ID: R257651A

Method Blank

RunID: IC1_081119A-4780752 Units: mg/L
Analysis Date: 11/19/2008 18:44 Analyst: TW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08101658-01F	MW-1

Analyte	Result	Rep Limit
Ortho-phosphate (As P)	ND	0.50

Laboratory Control Sample (LCS)

RunID: IC1_081119A-4780753 Units: mg/L
Analysis Date: 11/19/2008 19:01 Analyst: TW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Ortho-phosphate (As P)	10.00	9.167	91.67	85	115

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

Sample Spiked: 08101597-01
RunID: IC1_081119A-4780767 Units: mg/L
Analysis Date: 11/20/2008 5:09 Analyst: TW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Ortho-phosphate (As P)	ND	100	101.9	101.9	100	100.9	100.9	0.9614	20	80	120

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - 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.

Sample Receipt Checklist

And

Chain of Custody

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

Sample Receipt Checklist

Workorder:	**08101658**	Received By:	**RE**
Date and Time Received:	**10/28/2008 9:30:00 AM**	Carrier name:	**Fedex-Priority**
Temperature:	**3.0°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?**	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?** 2.Recieved Nitrate and Ortho out of hold collected on 10/23/08.	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: Elder, Allen
Contact Date & Time: 10/29/2008 3:00:00 PM
Client Name Contacted: Kelley Blanchard

Non Conformance Issues: 1.Logged in analysis per containers received.2.Continue with analysis.

Client Instructions: Notified client of expirations via email and that we will continue with analysis per historicals.

Chain of Custody Record

Client: Tetra Tech/ Conoco Phillips — SPL Workorder Number: 08101658

Attention: Kelly Blanchard/Tetra Tech

Phone: 505-237-8440 | email: kelly.blanchard@tetratech.c

Address: 6121 Indian School Road, NE Ste. 200

City: Albuquerque | State: NM | Zip Code: 87110

Project Name: Shephard Kelsey #1E

P.O. Number:

Sampled By: Signature / print: Clinton Mathews

Sample ID	Collected Date	Collected Time	Sample Type Comp	Sample Type Grab	Matrix Water	Matrix Soil	Bottle Type	Preservative Type	# of Containers	Requested Analysis: 8260-BTEX	8015-GRO	8015-DRO	8260-VOC	8270-SVOC	Tot Metals-6020/7470	Tot Metals-6020/7421	Anions
MW-1	10/23	1100		X	X		1	3	3				X	X	X	NO	
				X	X		1	3	3		X						
				X	X		5	2	1			X					
				X	X		5	1	1					X			
				X	X		6	2	2						X	X	
				X	X		3	1	2								X

Turnaround Time Requirements: 24 hr( ) 48 hr( ) 72 hr( ) 5 w/day( ) 10w/day - Standard( )

Remarks: Anions=F,Cl,N,PO4,SO4

Intact? Y or N

Temperature: 4.1/4.2 PVE

Bottle Types: 1: 3/40ml Vials 2. 1L Glass 3. 1L Plastic 4. 1L Amber Glass 5. 8oz Plastic 6. 1/2oz

Preservative Types: 1: NONE 2. HNO3 3. HCl 4. H2SO4

	Date	Time	
Relinquished by Sampler:	10-27-08	1530	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date 10/28/8	Time 0930	Received by SPL, Inc.

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