3R - 97

REPORTS

DATE:

JUL 2006

MAXIM TECHNOLOGIES INC

10601 Lomas NE, Suite 106
Albuquerque, NM 87112
(505) 237-8440

3RC097

July 28, 2006

RECEIVED

JUL 31 2006

Oil Conservation Division
Environmental Bureau

Mr. Glen Von Gonten
State of New Mexico
Oil Conservation Division
Environmental Bureau
1220 South Saint Francis Drive
Santa Fe, NM 87505

RE: (1) ConcoPhillips Shephard and Kelsey #1
Quarterly Groundwater Monitoring Report
Gila Street, Farmington, New Mexico

Dear Mr. Von Gonten:

Enclosed please find a copy of the above-referenced document as compiled by Maxim Technologies, for the Shephard and Kelsey #1 site.

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

Sincerely,

Kelly E. Henderson
Project Manager/Geologist

Enclosures (1)

3R0097

QUARTERLY GROUNDWATER MONITORING REPORT

RECEIVED
JUL 31 2006
Oil Conservation Division
Environmental Bureau

CONOCOPHILLIPS
SHEPHARD & KELSEY #1
BLOOMFIELD, NEW MEXICO

OCD # 3R0097

Prepared for:

ConocoPhillips

600 North Dairy Ashford
Houston, TX 77079

Prepared by:

MAXIM TECHNOLOGIES
A DIVISION OF TETRA TECH, INC.

10601 Lomas NE, Suite 106
Albuquerque, NM 87112
Maxim Project No. 6690009.100

July 28, 2006

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CONOCOPHILLIPS
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July 28, 2006

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

QUARTERLY GROUNDWATER MONITORING REPORT CONOCOPHILLIPS SHEPHARD & KELSEY #1, BLOOMFIELD, NEW MEXICO

1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring completed on May 16, 2006, at the ConocoPhillips Shephard & Kelsey #1 Site in Bloomfield, New Mexico, by Maxim Technologies (Maxim).

The site is located on the southwest side of Bloomfield, New Mexico south of Highway 64 and the San Juan River. The site consists of a gas production well and associated equipment and installations. The location and general features of the Shephard & Kelsey #1 site are shown on Figures 1 and 2, respectively.

In response to landowner concerns following a hydrocarbon release, On Site Technologies (Onsite) conducted a site investigation in the area of a former unlined earthen pit and existing production tank used to store separator waste water. On September 30, 1996 Onsite advanced two test holes with a hand auger to the shallow groundwater table located approximately 3.5 to 4 feet below ground surface (bgs). One test hole was advanced adjacent to the tank and one at a presumed downgradient location. Both locations were below laboratory detection limits for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH) laboratory analyses. Onsite returned to the site on November 11, 1996, advanced two additional test holes immediately adjacent to the tank, and discovered impacts in soil and groundwater northeast of the tank. On February 13, 1996 soils were excavated from the former pit area until delineation was achieved to a practical extent due to site equipment placement, and confirmatory samples were obtained.
Monitoring wells (MW-NE, DG 1, SB-12, UG 1, UG 2, and DG-MW) were subsequently installed at the site. All monitoring wells had reached compliance with the exception of SB-12, with concentrations of benzene above the New Mexico Water Quality Control Commission (NMWQCC) standard until the November 21, 2005 sampling event at which time the benzene concentration was below the laboratory detection limit and the NMWQCC standard.

On May 16, 2006 Maxim was onsite to conduct a quarterly groundwater sampling event. Groundwater elevation measurements were collected from all wells, except DG-MW, which could not be located. A groundwater sample from SB-12 was collected and shipped to Lancaster Laboratories in Lancaster, Pennsylvania to be analyzed for the presence of BTEX.

2.0 METHODOLOGY AND RESULTS

The following describes the groundwater monitoring methodology and results:

2.1 Groundwater Monitoring Methodology

On May 16, 2006 groundwater elevation measurements were recorded in monitor wells. Table 1 presents the well specifications, groundwater levels, and the top of casing survey measurements used to calculate the groundwater elevations at the site. A groundwater elevation contour map was created for the May 2006 sampling event and is presented as Figure 3.

Approximately 2 gallons of water were purged from SB-12 before sampling. The purged water was placed in the on site waste water sump. A 1.5-inch dedicated, clear, poly-vinyl, disposable bailer was used to collect the groundwater sample. The groundwater sample containers were placed in laboratory prepared bottles, packed on ice, and shipped with chain of custody documentation to Lancaster Laboratories located in Lancaster, Pennsylvania. The sample was analyzed for the presence of BTEX by Environmental Protection Agency (EPA) Method 8260B.

2.2 Groundwater Sampling Analytical Results

Analysis of groundwater collected from SB-12 shows concentrations of benzene at 12 micrograms per liter (µg/L), which exceeds the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 µg/L. Ethylbenzene is present at a concentration of 1.0 µg/L, and total xylene is present at a concentration of 3 µg/L. Table 2 presents the historical laboratory analytical results for the site. The laboratory analytical report is included as Appendix A.

3.0 CONCLUSIONS

Maxim will continue to sample SB-12 quarterly with the next event taking place during August 2006. Other site wells will be monitored during the final, fourth quarter to verify site closure. If you have any questions or require additional information please contact Kelly Henderson at Maxim at 505-237-8440 or khenders@maximusa.com.

FIGURES

1/2

0 1 mile

☆=Approximate Site Location

N

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A DIVISION OF TETRA TECH, INC.

FIGURE 1.
SITE LOCATION MAP
CONOCOPHILLIPS
SHEPHARD & KELSEY #1
Bloomfield, New Mexico

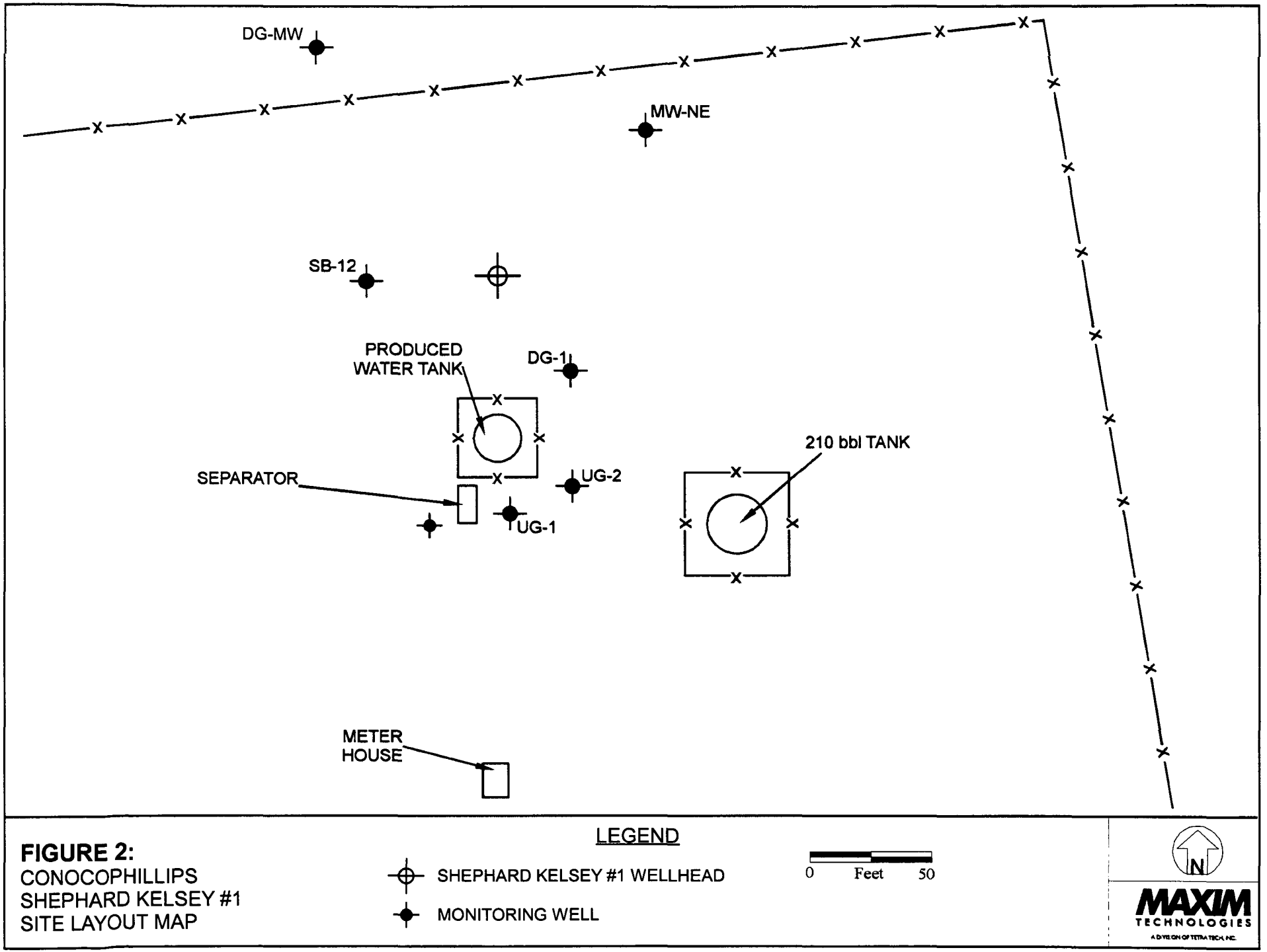

FIGURE 2:
CONOCOPHILLIPS
SHEPHARD KELSEY #1
SITE LAYOUT MAP

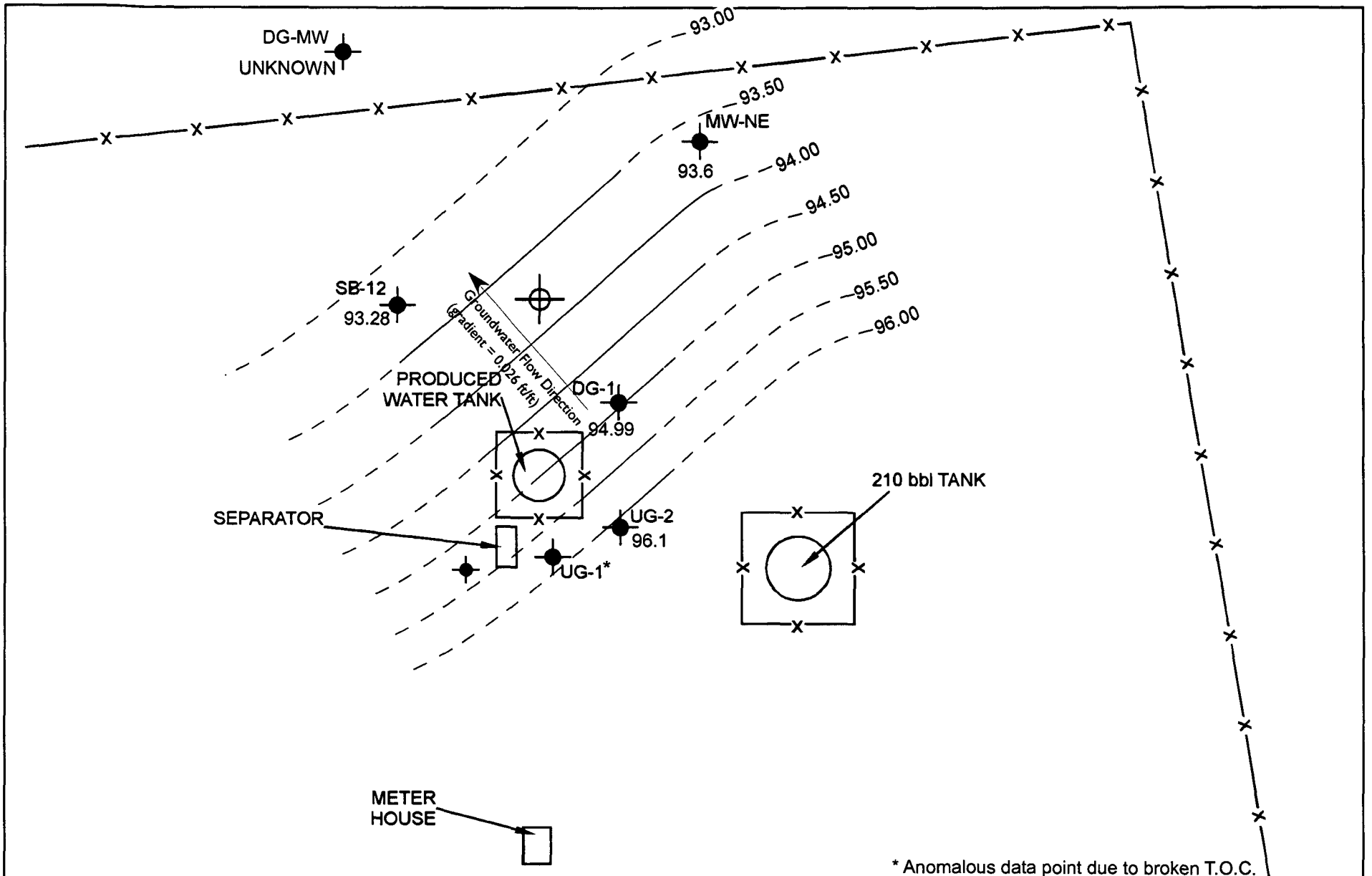

FIGURE 3:
CONOCOPHILLIPS
SHEPHARD KELSEY #1
GROUNDWATER ELEVATION
CONTOUR MAP (5/16/06)

LEGEND

SHEPHARD KELSEY #1 WELLHEAD

MONITORING WELL

GROUNDWATER ELEVATION CONTOUR (INTERVAL 0.5FT.)

(INFERRED)

0 Feet 50

N

MAXIM TECHNOLOGIES
A DIVISION OF TETRA TECH, INC.

TABLES

Table 1. ConocoPhillps Shephard & Kelsey #1 Monitoring Well Specifications and Groundwater Elevation Table

Well ID	Total Depth (ft. bgs)	Screen Interval (ft)	*Elevation (ft.) (TOC)	Date Measured	Groundwater Level (ft TOC)	Relative Groundwater Elevation (ft TOC)
MW-NE	5.42	4	100	5/10/2005	5.25	94.75
				11/21/2005	5.92	94.08
				2/17/2006	6.1	93.9
				6/16/2006	6.4	93.6
DG 1	9.05	4	100.89	5/10/2005	5.55	95.34
				11/21/2005	5.95	94.94
				2/17/2006	5.84	95.05
				6/16/2006	5.9	94.99
SB-12	11.31	4	99.01	5/10/2005	5.03	93.98
				11/21/2005	6.01	93
				2/17/2006	5.76	93.25
				6/16/2006	5.73	93.28
UG 1	9.83	4	101.71	5/10/2005	4.02**	unknown
				11/21/2005	5**	unknown
				2/17/2006	4.82**	unknown
				6/16/2006	5.15**	unknown
UG 2	9.84	4	101.23	5/10/2005	5.79	95.44
				11/21/2005	5.42	95.81
				2/17/2006	5.33	95.9
				6/16/2006	5.13	96.1
DG-MW	5.42	4	unknown	could not locate		unknown

ft. = Feet
TOC = Top of casing
bgs = below ground surface
* Relative Elevation
** Groundwater depth anomolous due to broken casing

Table 2. ConocoPhillips Shephard & Kelsey #1 Groundwater Analytical Results Summary

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
SB-12	6/14/2001	**42**	5.5	72	370
	9/19/2001	**111**	BDL	120	**810**
	12/13/2001	**28**	BDL	63	322.9
	3/12/2002	**64**	BDL	56	211.4
	6/19/2002	**130**	BDL	76	380
	9/17/2002	**40**	BDL	51	245.1
	3/20/2003	**53**	10	41	213
	6/11/2003	**370**	BDL	19	53.8
	10/6/2003	6.1	BDL	30	182
	1/30/2004	**12**	BDL	16	74.2
	4/26/2004	**45**	BDL	21	100
	5/10/2005	**24**	<0.7	18	140
	11/21/2005	<0.5	<0.7	14	68
	2/17/2006	7	<0.7	4	12
	6/16/206	**12**	<0.7	1	3
NMWQCC Standards		**10 (µg/L)**	**750 (µg/L)**	**750 (µg/L)**	**620 (µg/L)**

NMWQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per liter (parts per million)
µg/L = micrograms per liter (parts per billion)
NE=Not Extablished
NA = Not Analyzed
BDL = Below laboratory detection limits
<0.7 = Below laboratory detection limit of 0.7 ug/L

APPENDIX A

LABORATORY REPORT

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 989945. Samples arrived at the laboratory on Wednesday, May 17, 2006. The PO# for this group is 4506560639 and the release number is KINGER.

Client Description	Lancaster Labs Number
SB-12 Grab Water Sample	4773715
Trip Blank Water Sample	4773716

ELECTRONIC COPY TO	Maxim Technologies	Attn: Kelly Henderson
1 COPY TO	Maxim Technologies	Attn: Robert Sengebush

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Questions? Contact your Client Services Representative
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Robin C. Runkle
Senior Specialist

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4773715

SB-12 Grab Water Sample
Site# 6083
Shephard&Kelsey #1, NM

Collected:05/16/2006 11:00 by KH

Account Number: 11288

Submitted: 05/17/2006 09:05
Reported: 06/23/2006 at 16:40
Discard: 07/24/2006

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

SHE12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
02300	UST-Unleaded Waters by 8260B						
05401	Benzene	71-43-2	12.	0.5	5.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	5.	ug/l	1
05415	Ethylbenzene	100-41-4	1.	0.8	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	3.	0.8	5.	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	1	05/23/2006 04:08	Kelly E Brickley	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	05/23/2006 04:08	Kelly E Brickley	1

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4773716

Trip Blank Water Sample
Site# 6083
Shephard&Kelsey #1, NM

Collected: n.a.

Account Number: 11288

Submitted: 05/17/2006 09:05
Reported: 06/23/2006 at 16:40
Discard: 07/24/2006

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

SHETB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
02300	UST-Unleaded Waters by 8260B						
05401	Benzene	71-43-2	N.D.	0.5	5.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	5.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	5.	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	1	05/23/2006 04:35	Kelly E Brickley	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	05/23/2006 04:35	Kelly E Brickley	1

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Quality Control Summary

Client Name: ConocoPhillips Group Number: 989945
Reported: 06/23/06 at 04:40 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: P061421AA	Sample number(s): 4773715-4773716								
Benzene	N.D.	0.5	5.	ug/l	96	97	85-117	1	30
Toluene	N.D.	0.7	5.	ug/l	90	90	85-115	1	30
Ethylbenzene	N.D.	0.8	5.	ug/l	89	90	82-119	1	30
Xylene (Total)	N.D.	0.8	5.	ug/l	89	90	83-113	0	30

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: P061421AA	Sample number(s): 4773715-4773716 UNSPK: P773608								
Benzene	102		83-128						
Toluene	92		83-127						
Ethylbenzene	92		82-129						
Xylene (Total)	91		82-130						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: UST-Unleaded Waters by 8260B
Batch number: P061421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4773715	91	89	87	89
4773716	92	90	87	90
Blank	92	90	88	89
LCS	91	89	88	91
LCSD	91	89	87	91
MS	91	89	87	91
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

001132

For Lancaster Laboratories use only
Acct. #: 11288 Group # 98945 Sample #: 477375-16
SCR#: 28446

Site #: Shephard Kelsey WNO #:
Site Address: Shephard Kelsey
ConocoPhillips PM: N. Gates Company Code:
Core Work Order#: V083MAX004 Total Lab Budget: $396.00
Consultant/Office: Maxim Technologies
Consultant Prj. Mgr: Kelly Henderson
Consultant Phone #: 505-239-8440 Fax #: 87656
Sampler: K. Henderson / A. Cedar

Matrix: ☐ Potable ☐ NPDES; Soil, Water, Oil ☐ Air ☐

Analyses Requested — List total number of containers in the box under each analysis.
Preservation Codes: B, X, E, X

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil ☐ Air ☐	B	X	E	X	Remarks
SB-12	5-16-06	1100	X			X		X	X	X	X	

Turnaround Time Requested in Business Days (TAT) (please circle):
STD. TAT 5 day 48 hour
24 hour other

Reporting Requirements (please circle)
NJ Reduced NY ASP Cat. A Raw Data Diskette
NY ASP Cat. B Full Type I Other

Relinquished by:	Date	Time	Received by:	Date	Time
K. Hunt	5-9-06	0830			
Angela Cedar	5-16-06	1300			
			Rosa Zapata	5/17/06	0905

Relinquished by Commercial Carrier: UPS FedEx X Other

Temperature Upon Receipt 1.6 C°

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300 4531.01
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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