

1R - 187

REPORTS

DATE:

4/1/2002

Mike Griffin

From: Mike Griffin [whearth@iamerica.net]
Sent: Monday, April 01, 2002 11:46 AM
To: Wayne Price
Cc: Kent Weissling
Subject: Request for Final Closure - UMC Carlisle # 1



East Well Sampling
Summary.xls...



South Well Sampling
Summary.xls...



West Well Sampling
Summary.xls...



3-25-02 Executive
Summary.doc

Wayne,

It was good talking to you this morning.

In accordance with your guidance, we are asking for final closure of the above project. Upon your acceptance, we intend to pull the casing and grout all three monitor wells to surface. A copy of the Well Plugging Report will be forwarded to you immediately upon completion.

I've also taken the liberty of preparing spread sheets showing the BTEX concentrations within the well bores for the past six quarters. I believe that the high Benzene reading for the 9/19/00 west well report is almost certainly due to cross-contamination of our pumping equipment. We reverted to dedicated, manual bailers beginning April, 2001 and got clean results thereafter.

Copies of the September 2000 and January 2001 test results are being sent to you under separate cover.

Also attached is a correction to the Executive Summary of the Closure Report dated March 26, 2002. Thank you for catching the error.

Mike Griffin



Executive Summary

On March 20th, 1998 a drilling upset occurred at the UMC Carlisle # 1 well site. The upset released hydrocarbons under high pressure resulting in an aerial plume extending for a distance of several hundred feet from the well bore. Additionally, significant quantities of hydrocarbon and brine liquids were ejected from the well. These fluids were substantially contained within two emergency pits situated to the east and west of the source. The fluids contained within these impoundments were subsequently sent to commercial disposal.

Remediation of the site was conducted in three phases. The first involved the remediation of approximately 77,000 yd³ of soils impacted by run-off, over-spray or cross contamination within the spread zones. Included within this first phase was the drilling, development and testing of three monitor wells. Two of the wells were situated immediately southeast of the emergency pits and a third located approximately 1,500 ft. downgradient of the east / west midpoint of the two emergency pit monitor wells. The closure report for this phase of the project was submitted to the OCD on March 11, 1999. On August 2nd, 1999 the OCD requested additional information related to the project. Clarifications were submitted to the NMOCD on November 8, 1999.

On April 25th, 2000 the NMOCD requested that additional remediation occur in the area of the southern mix zone. This second phase of the remediation project was completed and reported to the OCD in October 2000.

The third phase of the project was to analyze the waters within the three monitor wells. The acceptance criterion for this phase of the project was four consecutive quarters in which the BTEX concentrations within the monitor wells fell within NMWQCC drinking water standards. Additionally, Whole Earth analyzed for major cations, anions, volatile and semi-volatile compounds, carbonates, bicarbonate, sulfate and TDS. The final test for these criteria contaminants was completed on January 30, 2002.

Ocean Energy Corporation
U.M.C. Carlisle # 1
West Monitor Well Sampling Results

Lab. #	31247	36128	38916	0101097-03	0101641-02	0202511-02
Sample Date	9/19/2000	1/6/2001	4/1/2001	7/5/2001	9/22/2001	1/29/2002
Benzene	0.098	0.026	0.005	0.005	0.005	0.001
Toluene	0.000	0.009	0.001	0.001	0.001	0.001
Ethylbenzene	0.000	0.004	0.001	0.001	0.001	0.001
m,p Xylene	0.009	0.017	0.002	0.001	0.001	0.001
o Xylene	0.000	0.010	0.001	0.001	0.001	0.001
Total Xylene	0.009	0.027	0.003	0.002	0.002	0.002
Total BTEX	0.107	0.066	0.010	0.009	0.009	0.005

Ocean Energy Corporation
U.M.C. Carlisle # 1
South Monitor Well Sampling Results

Lab. #	31248	36129	38914	0101097-02	0101641-03	0202511-03
Sample Date	9/19/2000	1/6/2001	4/1/2001	7/5/2001	9/22/2001	1/29/2002
Benzene	0.000	0.005	0.001	0.001	0.001	0.001
Toluene	0.000	0.006	0.001	0.001	0.001	0.001
Ethylbenzene	0.000	0.003	0.001	0.001	0.001	0.001
m,p Xylene	0.000	0.011	0.001	0.001	0.001	0.001
o Xylene	0.000	0.008	0.001	0.001	0.001	0.001
Total Xylene	0.000	0.019	0.002	0.002	0.002	0.002
Total BTEX	0.000	0.033	0.005	0.005	0.005	0.005

Ocean Energy Corporation
U.M.C. Carlisle # 1
East Monitor Well Sampling Results

Lab. #	31248	36127	38915	0101097-01	0101641-01	0202511-01
Sample Date	9/19/2000	1/6/2001	4/6/2001	7/5/2001	9/22/2001	1/29/2002
Benzene	0.000	0.005	0.001	0.001	0.001	0.001
Toluene	0.000	0.006	0.001	0.001	0.001	0.001
Ethylbenzene	0.000	0.003	0.001	0.001	0.001	0.001
m,p Xylene	0.000	0.013	0.001	0.001	0.001	0.001
o Xylene	0.007	0.008	0.001	0.001	0.001	0.001
Total Xylene	0.007	0.021	0.002	0.002	0.002	0.002
Total BTEX	0.007	0.035	0.005	0.005	0.005	0.005

Ocean Energy Corporation
U.M.C. Carlisle # 1
South Monitor Well Sampling Results

Lab. #	31248	36129	38914	0101097-02	0101641-03	0202511-03
Sample Date	9/19/00	1/6/01	4/1/01	7/5/01	9/22/01	1/29/02
Benzene	0.000	0.005	0.001	0.001	0.001	0.001
Toluene	0.000	0.006	0.001	0.001	0.001	0.001
Ethylbenzene	0.000	0.003	0.001	0.001	0.001	0.001
m,p Xylene	0.000	0.011	0.001	0.001	0.001	0.001
o Xylene	0.000	0.008	0.001	0.001	0.001	0.001
Total Xylene	0.000	0.019	0.002	0.002	0.002	0.002
Total BTEX	0.000	0.033	0.005	0.005	0.005	0.005

Ocean Energy Corporation
U.M.C. Carlisle # 1
East Monitor Well Sampling Results

Lab. #	31248	36127	38915	0101097-01	0101641-01	0202511-01
Sample Date	9/19/00	1/6/01	4/6/01	7/5/01	9/22/01	1/29/02
Benzene	0.000	0.005	0.001	0.001	0.001	0.001
Toluene	0.000	0.006	0.001	0.001	0.001	0.001
Ethylbenzene	0.000	0.003	0.001	0.001	0.001	0.001
m,p Xylene	0.000	0.013	0.001	0.001	0.001	0.001
o Xylene	0.007	0.008	0.001	0.001	0.001	0.001
Total Xylene	0.007	0.021	0.002	0.002	0.002	0.002
Total BTEX	0.007	0.035	0.005	0.005	0.005	0.005

Ocean Energy Corporation
U.M.C. Carlisle # 1
West Monitor Well Sampling Results

Lab. #	31247	36128	38916	0101097-03	0101641-02	0202511-02
Sample Date	9/19/00	1/6/01	4/1/01	7/5/01	9/22/01	1/29/02
Benzene	0.098	0.026	0.005	0.005	0.005	0.001
Toluene	0.000	0.009	0.001	0.001	0.001	0.001
Ethylbenzene	0.000	0.004	0.001	0.001	0.001	0.001
m,p Xylene	0.009	0.017	0.002	0.001	0.001	0.001
o Xylene	0.000	0.010	0.001	0.001	0.001	0.001
Total Xylene	0.009	0.027	0.003	0.002	0.002	0.002
Total BTEX	0.107	0.066	0.010	0.009	0.009	0.005

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. ELLIOT WERNER
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

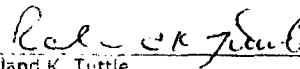
Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ 2.8 deg. C
Project #: None Given
Project Name: Ocean Energy
Project Location: None Given

Sampling Date: 01/06/01
Receiving Date: 01/10/01
Analysis Date: 01/11/01

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
36127	Ocean E. Emerg.	0.005	0.006	0.003	0.013	0.008
36128	W. Emerg.	0.026	0.009	0.004	0.017	0.010
36129	Well #3	0.005	0.006	0.003	0.011	0.008

%IA	87	87	86	91	88
%EA	86	87	87	93	91
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B, 5030


Ralene K. Tuttle

1-11-01
Date

Environmental Lab of Texas, Inc. 12600 West I-20 East Odessa, Texas 79763

(915) 363-1800 FAX (915) 363-1710

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

MIKE GRIFFIN

Phone #: 281-492-7077

FAX #:

Company Name & Address:

WITOLE EARTH ENVIRONMENTAL

Project #:

OCEAN ENERGY

Project Name:

LOVINGTON STATE COM #1

Project Location:

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING	
				WATER	SOIL	AIR	SLUDGE	ICE	OTHER	ICE	OTHER	DATE	TIME
31246	SOUTH	5	✓	✓								9/18	10:00
31247	WEST	1	✓	✓								9/18	10:30
31248	EAST	1	✓	✓								9/18	11:00

ANALYSIS REQUEST

ICP Metals Ag As Ba Cd Cr Pb Hg Se

Total Metals Ag As Ba Cd Cr Pb Hg Se

TPH 418.1

DEK 8020/5030

Total Volatiles

Semi Volatiles

TOC

DOC

6000 metal ICP WQCC

average

REMARKS

-2.5°C

Received by:

Time:

Date:

Signature

Received by:

Time:

Date:

Signature

Received by Laboratory:

Time:

Date:

Signature

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Page 2 of 2

Sample Type: Water
Sample Condition: Intact/-2.5 deg. C
Project #: Ocean Energy
Project Name: Livingston State Com #1
Project Location: None Given

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 09/27/00
Field Code: East

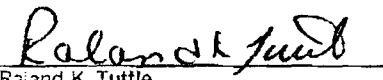
Volatiles EPA SW 846-8260, (mg/L) Compounds	ELT# 31248	REPORTING LIMIT	%DEV	Method Blank	% EA
Acetone	ND	0.0020	21.8	ND	89
Benzene	ND	0.0020	3.2	ND	
1,1,2,2-Tetrachloroethane	ND	0.0020	1.0	ND	
Styrene	ND	0.0020	6.6	ND	
m,p-Xylene	ND	0.0020	4.6	ND	
o-Xylene	0.0067	0.0020	3.6	ND	
Bromoforn	ND	0.0020	20.0	ND	
1,1,2,2-Tetrachloroethane	ND	0.0020	34.1#	ND	
1,2,3-Trichloropropane	ND	0.0020	77.2#	ND	
1,4-Dichlorobenzene	ND	0.0020	4.9	ND	
1,2-Dichlorobenzene	ND	0.0020	7.0	ND	
1,2-Dibromo-3-Chloropropane	ND	0.0100	38.3#	ND	

SYSTEM MONITORING COMPOUNDS

% RECOVERY

Dibromofluoromethane	101
Toluene-d8	96
4-Bromofluorobenzene	83
1,2-Dichloroethane-d4	83

ND=<REPORTING LIMIT


Randall K. Tuttle

10-20-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Water
Sample Condition: Intact/ -2.5 deg. C
Project #: Ocean Energy
Project Name: Livingston State Com #1
Project Location: None Given
E-1# 31248

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 10/01/00

ELV 82/0 COMPOUNDS	Reporting Limit*	East Concentration mg/L	%DEV	RPD	% EA
N-nitrosod methylamine	0.005	ND	2.7		
Aniline	0.005	ND	4.2		
Phenol	0.005	ND	10.3	10	4#
Bis (2-chloroethyl) ether	0.005	ND	16.1		
2,2-dichlorophenol	0.005	ND	0.1	26	20#
1,3-dichlorobenzene	0.005	ND	4.8		
1,2-dichlorobenzene	0.005	ND	6.4	28	25#
1,4-dichlorobenzene	0.005	ND	7.6		
Benzyl Alcohol	0.005	ND	2.9		
Bis (2-chloro isopropyl) ether	0.005	ND	10.0		
2-Methoxyphenol	0.005	ND	0.8		
N-nitroso-di-n-propylamine	0.005	ND	14.9	32	29#
4-Methylphenol	0.005	ND	28.7#		
Hexachloroethane	0.005	ND	12.1		
Nitrobenzene	0.005	ND	25.5#		
Isophorone	0.005	ND	13.8		
2-Nitrophenol	0.005	ND	4.5		
2,4-Dimethylphenol	0.005	ND	5.4		
Bis (2-chloroethoxy) methane	0.005	ND	16.1		
2,4-Dichlorophenol	0.005	ND	39.6#		
Benzole acid	0.005	ND	17.7		
1,2,4-Trichlorobenzene	0.005	ND	7.2	28	26#
Napthalene	0.005	ND	11.1		
4-Chloroaniline	0.005	ND	23.9#		
Hexachlorobutadiene	0.005	ND	14.4		
4-Chloro-3-methylphenol	0.005	ND	19.8	12	24#
2-Methylnaphthalene	0.005	ND	16.0		
Hexachlorocyclopentadiene	0.005	ND	17.4		
2,4,6-Trichlorophenol	0.005	ND	0.9		
2,4,5-Trichlorophenol	0.005	ND	5.9		
2-Chloronapthalene	0.005	ND	9.6		
2-Nitroaniline	0.005	ND	7.6		
Dimethylphthalate	0.005	ND	5.9		
2,6-Dinitrotoluene	0.005	ND	0.2		

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

LIT# 31248

East

Page 2 of 2

EPA 8270 COMPOUNDS	Reporting Limits*	Concentration mg/L	%DEV	RPD	%EA	
Acenaphthylene	0.005	ND	16.9			
1,1,1-trichloroethane	0.005	ND	14.4			
Acenaphthene	0.005	ND	15.9	31	38#	
2,4-Dinitrophenol	0.005	ND	19.5			
4-Nitrophenol	0.005	ND	1.6	50	0#	
Dibenzofuran	0.005	ND	4.8			
2,4-Dinitrotoluene	0.005	ND	1.1			
Diethylphthalate	0.005	ND	19.4			
Fluorene	0.005	ND	3.0			
4-Chlorophenyl phenyl ether	0.005	ND	4.2			
1,1,1-trichloroethane	0.005	ND	5.6			
Azobenzene	0.005	ND	5.5			
4,6-Dinitro-2-methylphenol	0.005	ND	5.8			
4-Nitrosodiphenylamine	0.005	ND	6.9			
4-Bromophenyl phenyl ether	0.005	ND	12.4			
Hexachlorobenzene	0.005	ND	24.4#			
Pentachlorophenol	0.005	ND	31.7#	15	12	
Fluoranthene	0.005	ND	2.4			
Anthracene	0.005	ND	3.0			
Carbazole	0.005	ND	5.0			
1-methylphthalate	0.005	ND	2.8			
Fluoranthene	0.005	ND	8.9			
Benzene	0.005	ND	35.3#			
Ethene	0.005	ND	20.4	31	48	
Butylbenzylphthalate	0.005	ND	31.0#			
Benzo (a) anthracene	0.005	ND	13.7			
3,3'-Dichlorobenzidine	0.005	ND	5.1			
Chrysene	0.005	ND	11.6			
1,4-bis(2-ethylhexyl) phthalate	0.005	ND	21.0#			
1-methylphthalate	0.005	ND	32.4#			
Benzo (b) fluoranthene	0.005	ND	16.4			
Benzo (k) fluoranthene	0.005	ND	20.6			
Benzo (a) pyrene	0.005	ND	18.9			
Indeno (1,2,3-c,d) pyrene	0.005	ND	2.7			
Triphenyl (a,i) anthracene	0.005	ND	6.4			
Benzo (g,h,i) perylene	0.005	ND	5.4			

SURROGATES

% RECOVERY

2-Fluorophenol SURR

90

Phenol-d5 SURR

70

1,1,1-trichloroethane-d5 SURR

70

2-Fluorobiphenyl SURR

112

2,4,6-Tribromophenol SURR

64

p-Tolphenyl d14 SURR

113

Method: SW 846-8270C

Roland K Tuttle
Roland K Tuttle

10-20-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL

Page 1 of 2

ATTN: MR. MIKE GRIFFIN

19606 SAN GABRIEL

HOUSTON, TEXAS 77084

FAX: 281-646-8996

Sample Type: Water

Sample Condition: Intact/ -2.5 deg C

Project #: Ocean Energy

Project Name: Lovington State Corn #1

Project Location: None Given

Sampling Date: 09/19/00

Receiving Date: 09/23/00

Analysis Date: 09/27/00

Field Code: East

Volatiles EPA SW 846-8260, (mg/L) Compounds	ELT# 31248	REPORTING LIMIT	%DEV	Method Blank	% EA
Chloromethane	ND	0.0020	12.7	ND	
Vinyl chloride	ND	0.0020	3.7	ND	
Bromomethane	ND	0.0020	0.7	ND	
Chloroethane	ND	0.0020	14.5	ND	
Trichloroethene	ND	0.0020	-10.7	ND	
1,1-Dichloroethene	ND	0.0020	3.3	ND	60
Carbon Disulfide	ND	0.0020	1.1	ND	
Ethylene Chloride	ND	0.0050	28.0#	ND	
trans 1,2-Dichloroethene	ND	0.0020	-3.1	ND	
1,1-Dichloroethane	ND	0.0020	8.3	ND	
2-Butanone	ND	0.0100	32.8#	ND	
cis 1,2-dichloroethene	ND	0.0020	1.7	ND	
Bromochloromethane	ND	0.0020	15.1	ND	
Chloroform	ND	0.0020	4.4	ND	
1,1,1-Trichloroethane	ND	0.0020	-1.0	ND	
Carbon Tetrachloride	ND	0.00200	-0.5	ND	
Benzene	ND	0.0020	11.3	ND	84
1,2-Dichloroethane	ND	0.0020	12.4	ND	
Trichloroethene	ND	0.0020	13.4	ND	72
1,2-Dichloropropane	ND	0.0020	19.4	ND	
Dibromomethane	ND	0.0020	11.6	ND	
Bromodichloromethane	ND	0.0020	10.8	ND	
2-Hexanone	ND	0.0100	46.8#	ND	
4-Vinyl 2-Pentanone	ND	0.0100	43.2#	ND	
cis 1,3-Dichloropropene	ND	0.0020	15.2	ND	
Toluene	ND	0.0020	-1.6	ND	94
trans 1,3-Dichloropropene	ND	0.0020	26.0#	ND	
1,1,2-Trichloroethane	ND	0.0020	14.3	ND	
Libromochloromethane	ND	0.0020	10.7	ND	

ENVIRONMENTAL LAB OF , INC.

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WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Page 2 of 2

Sample Type: Water
Sample Condition: Intact/-2.5 deg. C
Project #: Ocean Energy
Project Name: Lovington State Corn #1
Project Location: None Given

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 09/27/00
Field Code: South

Volatiles EPA SW 846-8260, (mg/L) Compounds	ELT# 31246	REPORTING LIMIT	%DEV	Method Blank	% EA
Tetrachloroethene	ND	0.0020	21.8	ND	89
Chlorobenzene	ND	0.0020	-3.2	ND	
1,1,1,2-Tetrachloroethane	ND	0.0020	-1.0	ND	
Thylbenzene	ND	0.0020	-6.6	ND	
m&p Xylene	ND	0.0020	-4.6	ND	
o Xylene	ND	0.0020	-3.6	ND	
Bromoform	ND	0.0020	20.0	ND	
1,1,2,2-Tetrachloroethane	ND	0.0020	34.1#	ND	
1,2,3-Trichloropropane	ND	0.0020	77.2#	ND	
4-Dichlorobenzene	ND	0.0020	4.9	ND	
1,2-Dichlorobenzene	ND	0.0020	7.0	ND	
1,2-Dibromo 3-Chloropropane	ND	0.0100	38.3#	ND	

SYSTEM MONITORING COMPOUNDS

% RECOVERY

1,1-Dibromofluoromethane	93
Toluene-d8	93
1-Bromofluorobenzene	81
2-Dichloroethane-d4	78

ND=<REPORTING LIMIT

Raland K. Tuttle
Raland K. Tuttle

10-20-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Page 1 of 2

Sample Type: Water
Sample Condition: Intact/ -2.5 deg. C
Project #: Ocean Energy
Project Name: Livingston State Corn #1
Project Location: None Given

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 09/27/00
Field Code: South

Volatiles EPA SW 846-8260, (mg/L) Compounds	ELT# 31246	REPORTING LIMIT	%DEV	Method Blank	% EA
Chloromethane	ND	0.0020	12.7	ND	
Vinyl chloride	ND	0.0020	3.7	ND	
Bromomethane	ND	0.0020	0.7	ND	
Chloroethane	ND	0.0020	14.5	ND	
1,1-Dichloromethane	ND	0.0020	-10.7	ND	
1,1-Dichloroethene	ND	0.0020	3.3	ND	60
Carbon Disulfide	ND	0.0020	1.1	ND	
Methylene Chloride	ND	0.0050	28.0#	ND	
trans-1,2-Dichloroethene	ND	0.0020	-3.1	ND	
1,1-Dichloroethane	ND	0.0020	8.3	ND	
2-Butanone	ND	0.0100	32.8#	ND	
cis-1,2-dichloroethene	ND	0.0020	1.7	ND	
Bromochloromethane	ND	0.0020	15.1	ND	
Chloroform	ND	0.0020	4.4	ND	
1,1,1-Trichloroethane	ND	0.0020	-4.0	ND	
Carbon Tetrachloride	ND	0.00200	-0.5	ND	
Benzene	ND	0.0020	11.3	ND	84
2-Dichloroethane	ND	0.0020	12.4	ND	
Trichloroethene	ND	0.0020	13.4	ND	72
2-Dichloropropane	ND	0.0020	19.4	ND	
Bromomethane	ND	0.0020	11.6	ND	
Bromodichloromethane	ND	0.0020	10.8	ND	
2-Hexanone	ND	0.0100	46.8#	ND	
4-Methyl-2-Pentanone	ND	0.0100	43.2#	ND	
cis-1,3-Dichloropropene	ND	0.0020	15.2	ND	
Styrene	ND	0.0020	-1.6	ND	94
trans-1,3-Dichloropropene	ND	0.0020	26.0#	ND	
1,2-Trichloroethane	ND	0.0020	14.3	ND	
1,1,1,2-Tetrachloroethane	ND	0.0020	10.7	ND	

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Water
Sample Condition: Intact/ -2.5 deg C
Project #: Ocean Energy
Project Name: Livingston State Com #1
Project Location: None Given
File # 31246

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 10/01/00

1,4-DICHLORO COMPOUNDS	Reporting Limit*	South Concentration mg/L	%DEV	RPD	% EA
N,N-Dimethylmethanamine	0.005	ND	2.7		
Aniline	0.005	ND	4.2		
Phenol	0.005	ND	10.3	10	4#
Bis (2-chloropropyl) ether	0.005	ND	16.1		
2-Chlorophenol	0.005	ND	-0.1	26	20#
1,2-Dichlorobenzene	0.005	ND	-4.8		
1,4-Dichlorobenzene	0.005	ND	6.4	28	25#
1,3-Dichlorobenzene	0.005	ND	-7.6		
Benzyl Alcohol	0.005	ND	2.9		
Bis (2-chloroisopropyl) ether	0.005	ND	10.0		
2-Methylphenol	0.005	ND	-0.8		
n-Nitrosodimethylamine	0.005	ND	14.9	32	29#
4-Methylphenol	0.005	ND	28.7#		
Hexachloroethane	0.005	ND	-12.1		
Nitrobenzene	0.005	ND	25.5#		
Isophorone	0.005	ND	13.8		
2-Nitrophenol	0.005	ND	4.5		
2,4-Dimethylphenol	0.005	ND	5.4		
Bis (2-chloroethoxy) methane	0.005	ND	16.1		
2,6-Dichlorophenol	0.005	ND	39.6#		
Benzoic acid	0.005	ND	17.7		
1,2,4-Trichlorobenzene	0.005	ND	7.2	28	26#
Naphthalene	0.005	ND	11.1		
4-Chloroaniline	0.005	ND	23.9#		
Hexachlorobutadiene	0.005	ND	14.4		
4-Chloro-3-methylphenol	0.005	ND	19.8	12	24#
2-Methylnaphthalene	0.005	ND	-16.0		
Hexachlorocyclopentadiene	0.005	ND	-17.4		
2,4,6-Trichlorophenol	0.005	ND	0.9		
2,4,5-Trichlorophenol	0.005	ND	5.9		
2-Chloronaphthalene	0.005	ND	-9.6		
2-Nitroaniline	0.005	ND	7.6		
Dimethylphthalate	0.005	ND	-5.9		
2,6-Dinitrotoluene	0.005	ND	0.2		

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

FW 31246

South

Page 2 of 2

SW 846-82700 COMPOUNDS	Reporting Limits*	Concentration mg/L	%DEV	RPD	%EA
Arenachthyrene	0.005	ND	-16.9		
2-Nitroaniline	0.005	ND	14.4		
Arenachthyrene	0.005	ND	-15.9	31	38#
2,4-Dinitrophenol	0.005	ND	-19.5		
4-Nitrophenol	0.005	ND	1.6	50	0#
Dibenzofuran	0.005	ND	-4.8		
2,4-Dinitrotoluene	0.005	ND	1.1		
Diethylphthalate	0.005	ND	19.4		
Fluorene	0.005	ND	-3.0		
4-Hydroxyphenyl phenyl ether	0.005	ND	4.2		
4-Nitroaniline	0.005	ND	-5.6		
Azobenzene	0.005	ND	-5.5		
4-Hydroxy-2-methylphenol	0.005	ND	5.8		
4-Nitrophenylamine	0.005	ND	6.9		
4-Hydroxyphenyl phenyl ether	0.005	ND	12.4		
Hexachlorobenzene	0.005	ND	24.4#		
Pentachlorophenol	0.005	ND	31.7#	15	12
Pterianterene	0.005	ND	-2.4		
Anthracene	0.005	ND	3.0		
Carbazole	0.005	ND	5.0		
Dibutylphthalate	0.005	ND	2.8		
Fluoranthene	0.005	ND	8.9		
Benzidine	0.005	ND	-35.3#		
Pyrene	0.005	ND	-20.4	31	48
Butylbenzylphthalate	0.005	ND	-31.0#		
Benzo(a)anthracene	0.005	ND	-13.7		
3,3'-Dichlorobenzidine	0.005	ND	-5.1		
Chrysene	0.005	ND	-11.6		
Bis(2-ethylhexyl) phthalate	0.005	ND	21.0#		
Dibutylphthalate	0.005	ND	32.4#		
Benzo(b)fluoranthene	0.005	ND	16.4		
Benzo(k)fluoranthene	0.005	ND	-20.6		
Benzo(a)pyrene	0.005	ND	-18.9		
Indeno(1,2,3-c,d)pyrene	0.005	ND	2.7		
Dibenz(a,h)anthracene	0.005	ND	-6.4		
Benzo(g,h,i)perylene	0.005	ND	5.4		

SURROGATES

% RECOVERY

2,4-Dinitrophenol SURR
Phenol d5 SURR
Nitrobenzene d5 SURR
2,4-Dinitrophenyl SURR
2,4,6-Trinitrophenol SURR
p-Tolophenyl d14 SURR

84
70
66
101
57
106

Method: SW 846-82700

Ralanda K. Tuttle
Ralanda K. Tuttle

10-20-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Water
Sample Conditions: Intact/-2.5 deg. C
Project #: Ocean Energy
Project Name: Livingston State Com #1
Project Location: None Given
BIT# 31247

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 10/01/00

ENVIRONMENTAL COMPOUNDS	Reporting Limit*	West Concentration mg/L	%DEV	RPD	% EA
N,N-Dimethylamine	0.005	ND	2.7		
Aniline	0.005	ND	4.2		
Phenol	0.005	ND	10.3	10	4#
Bis (2-chloroethyl) ether	0.005	ND	16.1		
2-Chlorophenol	0.005	ND	0.1	26	20#
1,2-Dichlorobenzene	0.005	ND	4.8		
1,4-Dichlorobenzene	0.005	ND	6.4	28	25#
1,1-Dichlorobenzene	0.005	ND	7.6		
Benzyl Alcohol	0.005	ND	2.9		
Bis (2-chloroisopropyl) ether	0.005	ND	10.0		
2-Methylphenol	0.005	ND	0.8		
N,N-Diisopropylamine	0.005	ND	14.9	32	29#
4-Methylphenol	0.005	ND	28.7#		
Hexachloroethane	0.005	ND	12.1		
Nitrobenzene	0.005	ND	25.5#		
Isophorone	0.005	ND	13.8		
2-Nitrophenol	0.005	ND	4.5		
2,4-Dimethylphenol	0.005	ND	5.4		
Bis (2-chloroethoxy) methane	0.005	ND	16.1		
2,4-Dichlorophenol	0.005	ND	39.6#		
Benzoic acid	0.005	ND	17.7		
1,2,4-Trichlorobenzene	0.005	ND	7.2	28	26#
Naphthalene	0.005	ND	11.1		
4-Chloroaniline	0.005	ND	23.9#		
Hexachlorobutadiene	0.005	ND	14.4		
4-Chloro-3-methylphenol	0.005	ND	19.8	12	24#
2-Methylnaphthalene	0.005	0.005	16.0		
Hexachlorocyclopentadiene	0.005	ND	17.4		
2,4,6-Trichlorophenol	0.005	ND	0.9		
2,4,5-Trichlorophenol	0.005	ND	5.9		
2-Chloronaphthalene	0.005	ND	9.6		
2-Propanamine	0.005	ND	7.6		
Dimethylphthalate	0.005	ND	5.9		
2,6-Dinitrotoluene	0.005	ND	0.2		

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

Lab # 31247

West

Page 2 of 2

EPA 8270 COMPOUNDS	Reporting Limits*	Concentration mg/L	%DEV	RPD	%EA
Acenaphthylene	0.005	ND	-16.9		
3,4-Difluorobenzene	0.005	ND	-14.4		
Acenaphthene	0.005	ND	-15.9	31	38#
2,4-Dichlorophenol	0.005	ND	-19.5		
4-Nitrophenol	0.005	ND	1.6	50	0#
Dibenzofuran	0.005	ND	4.8		
2,4-Dinitrotoluene	0.005	ND	1.1		
Diethylphthalate	0.005	ND	-19.4		
Fluorene	0.005	ND	-3.0		
4-Chlorophenyl phenyl ether	0.005	ND	4.2		
4-Nitroaniline	0.005	ND	5.6		
Azobenzene	0.005	ND	-5.5		
4,4'-Dinitro-2-methylphenol	0.005	ND	5.8		
m-Nitrosodiphenylamine	0.005	ND	6.9		
4-Bromophenyl phenyl ether	0.005	ND	12.4		
Hexachlorobenzene	0.005	ND	24.4#		
Pentachlorophenol	0.005	ND	31.7#	15	12
Phenanthrene	0.005	ND	2.4		
Anthracene	0.005	ND	3.0		
Carbazole	0.005	ND	5.0		
Dimethylphthalate	0.005	ND	-2.8		
Fluoranthene	0.005	ND	8.9		
Benzidine	0.005	ND	-35.3#		
Pyrene	0.005	ND	-20.4	31	48
Benzylbenzylphthalate	0.005	ND	-31.0#		
Benzo (a) anthracene	0.005	ND	-13.7		
3,3'-Dichlorobenzidine	0.005	ND	-5.1		
Chrysene	0.005	ND	-11.6		
BB (2-ethoxyethyl) phthalate	0.005	ND	-21.0#		
Dioctylphthalate	0.005	ND	32.4#		
Benzo (b) fluoranthene	0.005	ND	-16.4		
Benzo (k) fluoranthene	0.005	ND	-20.6		
Benzo (a) pyrene	0.005	ND	-18.9		
Indeno (1,2,3-c,d) pyrene	0.005	ND	-2.7		
Dibenz (a,h) anthracene	0.005	ND	-6.4		
Benzo (g,h,i) perylene	0.005	ND	5.4		

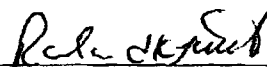
SURROGATES

% RECOVERY

2,4-Dichlorophenol SURR
Phenol-d5 SURR
Nitrobenzene-d5 SURR
2,4-Dichlorophenyl SURR
2,4,6-Trichlorophenol SURR
p-Terphenyl-d14 SURR

82
68
66
106
60
111

Method: SW 846-8270C


Roland K. Tuttle

10-20-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Page 1 of 2

Sample Type: Water
Sample Condition: Intact/ -2.5 deg. C
Project #: Ocean Energy
Project Name: Livingston State Com #1
Project Location: None Given

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 09/27/00
Field Code: West

Inhalable EPA SW 846 8260, (mg/L) Compounds	ELT# 31247	REPORTING LIMIT	%DEV	Method Blank	% EA
Chloromethane	ND	0.0020	12.7	ND	
Methyl Chloride	ND	0.0020	3.7	ND	
Bromomethane	ND	0.0020	0.7	ND	
Chloroethane	ND	0.0020	14.5	ND	
Trichlorofluoromethane	ND	0.0020	10.7	ND	
1,1-Dichloroethene	ND	0.0020	3.3	ND	60
Carbon Disulfide	ND	0.0020	1.1	ND	
Methylene Chloride	ND	0.0050	28.0#	ND	
trans 1,2-Dichloroethene	ND	0.0020	-3.1	ND	
1,1-Dichloroethane	ND	0.0020	8.3	ND	
1-Butanol	ND	0.0100	32.8#	ND	
cis 1,2-dichloroethene	ND	0.0020	1.7	ND	
Bromochloromethane	ND	0.0020	15.1	ND	
Chloroform	ND	0.0020	4.4	ND	
1,1,1-Trichloroethane	ND	0.0020	-4.0	ND	
Carbon Tetrachloride	ND	0.00200	-0.5	ND	
Benzene	0.0981	0.0020	11.3	ND	84
1,2-Dichloroethane	ND	0.0020	12.4	ND	
1,1,1-Trichloroethene	ND	0.0020	13.4	ND	72
1,2-Dichloropropane	ND	0.0020	19.4	ND	
Dibromomethane	ND	0.0020	11.6	ND	
Bromodichloromethane	ND	0.0020	10.8	ND	
2-Hexanone	ND	0.0100	46.8#	ND	
4-Methyl-2-Pentanone	ND	0.0100	43.2#	ND	
cis 1,3-Dichloropropene	ND	0.0020	15.2	ND	
Isobutane	ND	0.0020	-1.6	ND	94
trans 1,3-Dichloropropene	ND	0.0020	26.0#	ND	
1,1,2-Trichloroethane	ND	0.0020	14.3	ND	
Dibromochloromethane	ND	0.0020	10.7	ND	

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77081
FAX: 281 646-8996

Page 2 of 2

Sample Type: Water
Sample Condition: Intact/-2.5 deg. C
Project #: Ocean Energy
Project Name: Livingston State Cor #1
Project Location: None Given

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 09/27/00
Field Code: West

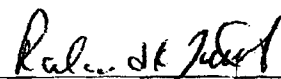
Volatiles EPA SW 846-8260. (mg/L) Compounds	ELT# 31247	REPORTING LIMIT	%DEV	Method Blank	% EA
Tetrachloroethene	ND	0.0020	21.8	ND	89
Chlorobenzene	ND	0.0020	3.2	ND	
1,1,1,2-Tetrachloroethane	ND	0.0020	-1.0	ND	
Ethylbenzene	ND	0.0020	-6.6	ND	
m&p Xylene	0.0095	0.0020	-4.6	ND	
p Xylene	ND	0.0020	-3.6	ND	
Bromobenzene	ND	0.0020	20.0	ND	
1,1,2,2-Tetrachloroethane	ND	0.0020	34.1#	ND	
1,2,3-Trichloropropane	ND	0.0020	77.2#	ND	
1,4-Dichlorobenzene	ND	0.0020	4.9	ND	
1,2-Dichlorobenzene	ND	0.0020	7.0	ND	
1,2-Dichloro-3-Chloropropane	ND	0.0100	38.3#	ND	

SYSTEM MONITORING COMPOUNDS

% RECOVERY

Dichlorofluoromethane	86
Toluene d8	86
4-Bromofluorobenzene	73
1,2-dichloroethane-d4	75

ND < REPORTING LIMIT


Rafael K. Tuttle

10-20-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Water
Sample Condition: Intact/ -2.5 deg. C
Project #: Ocean Energy
Project Name: Lovington State Com #1
Project Location: None Given

Sample Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: 09/28/00
Analysis Date: Hg 10/18/00

Analyte (mg/L)	South 31246	West 31247	East 31248	Report Limit	%IA	%EA	BLANK	RPD
Aluminum	5.83	4.87	6.67	0.0500	100	105	<0.0500	1.30
Arsenic	0.0100	0.0080	0.0120	0.0050	104	106	<0.0050	1.87
Barium	0.235	0.229	0.308	0.0100	105	106	<0.0100	0.47
Beryllium	ND	ND	ND	0.0040	104	102	<0.0040	0.00
Cadmium	0.0010	ND	0.0010	0.0010	104	102	<0.0010	0.00
Calcium	150.0	241.0	421.0	1.000	104	N/A	<1.000	1.10
Chromium	0.0100	0.0090	0.0130	0.0050	102	100	<0.0050	0.00
Cobalt	ND	ND	ND	0.0200	98	96	<0.0200	0.21
Copper	0.0110	ND	0.0150	0.0100	102	106	<0.0100	1.19
Iron	3.28	2.84	3.39	0.0500	105	102	<0.0500	2.48
Lead	0.0040	0.0040	0.0040	0.0030	102	106	<0.0030	1.87
Magnesium	13.90	27.80	41.80	1.000	102	N/A	<1.000	1.35
Manganese	0.0730	0.0550	0.0690	0.0150	99	95	<0.0150	0.85
Mercury	0.005	0.005	0.003	0.002	102	109	<0.002	7.10
Molybdenum	ND	ND	ND	0.050	97	94	<0.050	1.06
Nickel	ND	ND	ND	0.0100	100	97	<0.0100	0.88
Potassium	3.120	4.620	6.450	1.000	87	N/A	<1.000	2.39
Selenium	0.0070	0.0070	0.0150	0.0050	108	114	<0.0050	1.74
Silver	ND	ND	ND	0.00500	110	108	<0.0050	0.00
Sodium	38.3	59.7	77.3	1.000	94	N/A	<1.000	2.21
Tin	ND	ND	ND	0.0500	92	92	<0.0500	0.40
Vanadium	0.0590	0.0500	0.0710	0.0200	92	91	<0.0200	0.22
Zinc	ND	0.1240	0.0400	0.0200	95	96	<0.0200	0.83
Boron	0.155	0.245	0.350	0.050	114	113	<0.050	1.30
Strontium	0.525	1.15	1.99	0.050	109	106	<0.050	1.72

ND = Below Reporting Limit
METHOD: EPA SW846-6010B, 7470

Roland K. Tuttle
Roland K. Tuttle

10-20-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Water
Sample Condition: Intact/ 25 deg. C
Project #: Ocean Energy
Project Name: Livingston State Com #1
Project Location: None Given

Sampling Date: 09/19/00
Receiving Date: 09/23/00
Analysis Date: See Below

ELT#	FIELD CODE	Sulfate mg/L	Chloride mg/L	Carbonate mg/L	Bicarbonate mg/L
31246	MW 17	86	30	<2	156
31247	MW 18	106	189	<2	238
31248	MW 19	267	222	<2	294

QUALITY CONTROL	47.6	5140	*	*
TRUE VALUE	50.0	5000	*	*
% PRECISION	95	103	*	*
ANALYSIS DATE	10/6/00	10/6/00	10/6/00	10/6/00

METHODS: EPA 375.4, 325.3, 310

Raland K. Tuttle
Raland K. Tuttle

10-20-00
Date