ERI

ENVIRONMENTAL RESOLUTIONS, INC.

May 9, 2005
ERI 261913.L20

Mr. John Mahoney
Redwood Oil Company
455 Yolanda Avenue
Santa Rosa, California 95404

Subject: Laboratory Analysis Results of Groundwater Sample Collected from Private Water Well Located at 1815 Guerneville Road, Santa Rosa, California.

Mr. Mahoney:

At the request of Redwood Oil Company (Redwood), Environmental Resolutions, Inc. (ERI) is providing the analytical laboratory results of the groundwater sample collected from the private water well located at 2075 Marlow Road, in Santa Rosa, California, on April 22, 2005. The sample was collected by ERI and analyzed by a California state-certified laboratory, under Chain-of-Custody protocol, for methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and ethanol using Environmental Protection Agency (EPA) Method 8260B; and methanol using EPA Method 8015. Results of laboratory analysis of the water sample are summarized on the attached table.

Please contact Mr. Glenn L. Matteucci, ERI's project manager for this site, at (707) 766-2000 with any questions.

Sincerely,
Environmental Resolutions, Inc.

Karen Navarro

SCANNED IMAGE

Karen L. Navarro
Technical Writer

Glenn L. Matteucci
Project Manager

Attachment: Private Water Well Sampling Data
Laboratory Analysis Report and Chain-of-Custody Record

cc: Mr. Reggie Smith
Ms. Joan Fleck, California Regional Water Quality Control Board, North Coast Region

601 North McDowell Boulevard, Petaluma, California 94954 707-766-2000 FAX 707-789-0414
Lake Forest • Petaluma • Seattle • Phoenix

TABLE 1A
CUMULATIVE GROUNDWTAER MONITORING AND SAMPLING DATA
Redwood Oil Company Facility 114
1855 Guerneville Road
Santa Rosa, California
(Page 1 of 1)

Well ID # (TOC)	Sample Date	TPHd	TPHg	MTBE	B	T	E	X
		<———			ug/L			———>
DW1815	01/31/05	—	—	<1	—	—	—	—
	02/25/05	—	—	<1	—	—	—	—
	03/30/05	—	—	<1	—	—	—	—
	04/22/05	—	—	<1	—	—	—	—

Notes:

Data collected prior to April, 2004 compiled from the ECM Group *Systems Operations Report* dated July 9, 2004.

TOC	=	Elevation of top of well casing; relative to mean sea level.
DTW	=	Depth to water.
Elev.	=	Elevation of groundwater above mean sea level.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015M.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015M.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8021B.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
1,2-DCA	=	1,2-Dichloroethane analyzed using EPA Method 8260B.
EDB	=	1,2-Dibromoethane analyzed using EPA Method 8260B.
Ethanol	=	Ethanol analyzed using EPA Method 8260B.
Methanol	=	Methanol analyzed using EPA Method 8015.
ug/L	=	Micrograms per liter.
—	=	Not analyzed/Not measured.
<	=	Analytes not detected at or above the laboratory reporting limit.

TABLE 1B
ADDITIONAL CUMULATIVE GROUNDWTAER MONITORING AND SAMPLING DATA
Redwood Oil Company Facility 114
1855 Guerneville Road
Santa Rosa, California
(Page 1 of 1)

Well ID #	Sample Date	ETBE	TBA	DIPE	TAME	1,2-DCA	EDB	Ethanol	Methanol
		<———			ug/L			———>	
DW1815	01/31/05	<5	<10	<5	<5	—	—	<100	<0.5
	02/25/05	<5	<10	<5	<5	—	—	<100	—
	03/30/05	<5	<10	<5	<5	—	—	<100	<0.5
	04/22/05	**<5**	**<10**	**<5**	**<5**	**—**	**—**	**<100**	**<0.5**

Notes:

Data collected prior to April, 2004 compiled from the ECM Group *Systems Operations Report* dated July 9, 2004.

TOC	=	Elevation of top of well casing; relative to mean sea level.
DTW	=	Depth to water.
Elev.	=	Elevation of groundwater above mean sea level.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015M.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015M.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8021B.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
1,2-DCA	=	1,2-Dichloroethane analyzed using EPA Method 8260B.
EDB	=	1,2-Dibromoethane analyzed using EPA Method 8260B.
Ethanol	=	Ethanol analyzed using EPA Method 8260B.
Methanol	=	Methanol analyzed using EPA Method 8015.
ug/L	=	Micrograms per liter.
—	=	Not analyzed/Not measured.
<	=	Analytes not detected at or above the laboratory reporting limit.
a	=	Analyzed using EPA Method 8260B.

Entech Analytical Labs, Inc.

MAY 0 2 2005

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Glenn Matteucci
Environmental Resolutions, Inc.
601 North McDowell Blvd.
Petaluma, CA 94954

Certificate ID: 43291 - 4/29/2005 5:49:52 PM

Order Number: 43291
Project Name: Redwood Oil #114
Project Number: 2619

Date Received: 4/25/2005 1:51:16 PM
P.O. Number: 2619

Certificate of Analysis - Final Report

On April 25, 2005, sample was received under chain of custody for analysis. Entech analyzes samples "as received" unless otherwise noted. The following class of analyses are included:

Matrix	Test	Comments
Liquid	8260Petroleum Methanol	

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,

Laurie Glantz-Murphy
Laboratory Director

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Environmental Resolutions, Inc.
601 North McDowell Blvd.
Petaluma, CA 94954
Attn: Glenn Matteucci

Project Number: 2619
Project Name: Redwood Oil #114
Date Received: 4/25/2005
P.O. Number: 2619
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab # : 43291-001 Sample ID: 1815 Matrix: Liquid Sample Date: 4/22/2005 9:15 AM

EPA 8015

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Methanol	ND		1	0.5	mg/L	N/A	N/A	04/26/2005	WGC5050426

Surrogate	Surrogate Recovery	Control Limits (%)
n-Butanol	86.6	65 - 135

Analyzed by: mruan
Reviewed by: MTU

EPA 8260B - Gas Chromatography/Mass Spectrometry (GC/MS)
EPA 5030B - Purge-and-Trap for Aqueous Samples

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Methyl-t-butyl Ether	ND		1	1	µg/L	N/A	N/A	04/26/2005	WMS2050426
tert-Butyl Ethyl Ether	ND		1	5	µg/L	N/A	N/A	04/26/2005	WMS2050426
tert-Butanol (TBA)	ND		1	10	µg/L	N/A	N/A	04/26/2005	WMS2050426
Diisopropyl Ether	ND		1	5	µg/L	N/A	N/A	04/26/2005	WMS2050426
tert-Amyl Methyl Ether	ND		1	5	µg/L	N/A	N/A	04/26/2005	WMS2050426
Ethanol	ND		1	100	µg/L	N/A	N/A	04/26/2005	WMS2050426

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	119	75 - 125
Dibromofluoromethane	120	75 - 125
Toluene-d8	115	75 - 125

Analyzed by: TAF
Reviewed by: MTU

Detection Limit = Detection Limit for Reporting.

ND = Not Detected at or above the Detection Limit.

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Quality Control - Method Blank
Liquid

Reviewed by: MTU - 04/27/05

QC Batch ID: WGC5050426

QC Batch ID Analysis Date: 4/26/2005

Method Blank **Method: EPA 8015**

Parameter	Result	DF	PQLR	Units
Methanol	ND	1	0.50	mg/L

Surrogate for Blank	% Recovery	Control Limits
1-Butanol	94.4	65 - 135

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Quality Control - Laboratory Control Spike / Duplicate Results

Liquid

Reviewed by: MTU - 04/27/05

QC BatchID: WGC5050426

Analysis Date: 4/26/2005

Method: EPA 8015 **Conc. Units: mg/L**

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	% Recovery	RPD	RPD Limits	Recovery Limits
Methanol	<0.2	50	51	102			65 - 135

Surrogate	% Recovery	Control Limits
1-Butanol	97.5	65 - 135

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	% Recovery	RPD	RPD Limits	Recovery Limits
Methanol	<0.2	50	44	87.6	16	25.0	65 - 135

Surrogate	% Recovery	Control Limits
1-Butanol	91.3	65 - 135

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Quality Control - Matrix Spike / Duplicate Results
Liquid

QC Batch ID: WGC5050426 Reviewed by: MTU - 04/27/05

QC Batch ID Analysis Date: 4/26/2005

Method EPA 8015 Conc. Units: mg/L

MS

SampleNumber: 43301-002 Parameter	Sample Result	Spike Amount	Spike Result	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Methanol	ND	50	45.6	4/26/2005	91.3			65 - 135

Surrogate	% Recovery	Control Limits
1-Butanol	87.9	65 - 135

MSD

SampleNumber: 43301-002 Parameter	Sample Result	Spike Amount	Spike Result	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Methanol	ND	50	45.2	4/26/2005	90.4	1.0	25	65 - 135

Surrogate	% Recovery	Control Limits
1-Butanol	96.7	65 - 135

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Quality Control - Method Blank
Liquid

QC Batch ID: WMS2050426

Reviewed by: MTU - 04/29/05

QC Batch ID Analysis Date: 4/26/2005

Method Blank **Method: EPA 8260B**

Parameter	Result	DF	PQLR	Units
Diisopropyl Ether	ND	1	5.0	µg/L
Ethanol	ND	1	100	µg/L
Methyl-t-butyl Ether	ND	1	1.0	µg/L
tert-Amyl Methyl Ether	ND	1	5.0	µg/L
tert-Butanol (TBA)	ND	1	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5.0	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	117	75 - 125
Dibromofluoromethane	111	75 - 125
Toluene-d8	116	75 - 125

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Quality Control - Laboratory Control Spike / Duplicate Results

Liquid

Reviewed by: MTU - 04/29/05

QC BatchID: WMS2050426

Analysis Date: 4/26/2005

Method: EPA 8260B **Conc. Units: µg/L**

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	% Recovery	RPD	RPD Limits	Recovery Limits
1,1-Dichloroethene	<0.2	20	20	101			80 - 120
Benzene	<0.2	20	21	104			80 - 120
Chlorobenzene	<0.2	20	20	98.5			80 - 120
Methyl-t-butyl Ether	<0.3	20	23	116			80 - 120
Toluene	<0.2	20	21	104			80 - 120
Trichloroethene	<0.2	20	21	104			80 - 120

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	117	75 - 125
Dibromofluoromethane	115	75 - 125
Toluene-d8	115	75 - 125

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	% Recovery	RPD	RPD Limits	Recovery Limits
1,1-Dichloroethene	<0.2	20	19	95.0	5.8	25.0	80 - 120
Benzene	<0.2	20	20	101	3.0	25.0	80 - 120
Chlorobenzene	<0.2	20	19	96.7	1.9	25.0	80 - 120
Methyl-t-butyl Ether	<0.3	20	22	112	3.3	25.0	80 - 120
Toluene	<0.2	20	20	102	1.3	25.0	80 - 120
Trichloroethene	<0.2	20	20	101	3.3	25.0	80 - 120

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	115	75 - 125
Dibromofluoromethane	116	75 - 125
Toluene-d8	114	75 - 125

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Quality Control - Matrix Spike / Duplicate Results
Liquid

QC Batch ID: WMS2050426 Reviewed by: MTU - 04/29/05

QC Batch ID Analysis Date: 4/26/2005

Method EPA 8260B Conc. Units: µg/L

MS

SampleNumber: 43281-001 Parameter	Sample Result	Spike Amount	Spike Result	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	0.648	20	21.5	4/26/2005	104			65 - 135
Methyl-t-butyl Ether	ND	20	24.2	4/26/2005	121			65 - 135
Toluene	0.423	20	21.1	4/26/2005	103			65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	116	75 - 125
Dibromofluoromethane	121	75 - 125
Toluene-d8	114	75 - 125

MSD

SampleNumber: 43281-001 Parameter	Sample Result	Spike Amount	Spike Result	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	0.648	20	20.9	4/26/2005	101	2.8	25	65 - 135
Methyl-t-butyl Ether	ND	20	22.2	4/26/2005	111	8.4	25	65 - 135
Toluene	0.423	20	21.2	4/26/2005	104	0.4	25	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	114	75 - 125
Dibromofluoromethane	115	75 - 125
Toluene-d8	114	75 - 125

Entech Analytical Labs, Inc.

3334 Victor Court (408) 588-0200
Santa Clara, CA 95054 (408) 588-0201 - Fax

Chain of Custody / Analysis Request

Attention to: Glenn Matteucci	Phone No.: (707) 766-2030	Purchase Order No.:	Invoice to: (If Different) John Mahoney	Phone:
Company Name: Environmental Resolutions, Inc.	Fax No.: (707) 789-0414	Project No.: 2619	Company: Redwood Oil	Quote No.:
Mailing Address: 601 N. McDowell Blvd.	Email Address: milnale@eri-us.com	Project Name: Redwood Oil #114	Billing Address: (If Different) 455 Yolanda Ave.	
City: Petaluma	State: CA / Zip Code: 94954	Project Location: 1855 Guerneville Rd.	City: Santa Rosa	State: CA / Zip: 95404

Sampler:

Field Org. Code:

Global ID: T0609700601

Turn Around Time: ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 Day ☑ 5 Day ☐ 10 Day

Order ID:

Client ID / Field Point	Lab. No.	Sample Date	Sample Time	Matrix	No. of Containers	EPA 8260B	BTEX ☐ MTBE ☐ TPH Gas ☐ by 8260B	5 Oxygenates (MTBE, TBA, ETBA, DIPE, TAME) Lead Scavengers (1,2-DCA & EDB) ☐ Ethanol	Base/Neutral/Acid Organics 8270C ☐ PAH - 8270C ☐ PAH - 8270C SIM ☐	TPH Extractable: Diesel ☐ Motor Oil ☐ Other ☐ w/ Si-Gel Cleanup ☐	Pesticides-8081 ☐ PCBs - 8082 ☐	TPH as Gas/BTEX ☐ MTBE ☐ by 8015M/8020	Methanol by 8015M	Anions: F ☐ Cl ☐ Br ☐ SO4 ☐ NO3 ☐ NO2 ☐ PO4 ☐	pH ☐ TSS ☐ SC ☐ TOC ☐ TRPH ☐ O & G ☐	Metals - Circle Below Total ☐ Dissolved ☐ STLC ☐ TCLP ☐	Remarks
1815		4-22-05	9:15		5			X				X					43291-001

Relinquished by:	Received by:	Date:	Time:
[signature]	Fridge	4-22-05	3:30
Fridge	[signature]	4/22/05	1048
[signature]			

Special Instructions or Comments

email EDF to:- jlacy@eri-us.com

Metals:
Al, As, Sb, Ba, Be, Bi, B, Cd, Ce, Ca, Cr, Co, Cs, Cu, Fe, Pb, Mg, Mn,
Ga, Ge, Hg, In, Li, Mo, Ni, P, K, Si, Ag, Na, S, Se, Sr, Ta, Te, Tl, Sn, Ti, Zn, V, W, Zr

☐ EDD Report
☑ EDF Report
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☐ LUFT-5
☐ RCRA-8
☐ PPM-13
☐ CAM-17