AP – 026

FINAL CLOSURE APPROVAL

3/4/2009

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

March 04, 2009

Mr. David W. Lauritzen-Attorney at Law
Cotton Bledsoe Tighe & Dawson. PC
500 West Illinois, Suite 300
Midland, Texas 79701-4337

Reference: Order No. R-12152-A
Case No. 13142
Maralo, LLC

Subject: AP-26 Remediation Work at Humble State #3 Tank Battery

Dear Mr. Lauritzen:

OCD is in receipt of the amended closure report dated November 05, 2008 and date stamped received Nov 2008 prepared by Elke Environmental, Inc, submitted on behalf of Maralo LLC. In addition, OCD is in receipt of the E-mail dated February 20, 2009 with laboratory results. ***OCD hereby approves of the closure activities and requires no further action at this time.***

Please be advised that approval of this report does not relieve the owner/operator of responsibility should operations have failed to protect the environment, or results in future pollution of property, fresh water, public health or the environment. Nor does this approval relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

Sincerely,

Wayne Price-Environmental Bureau Chief

Cc: Daniel Sanchez-Enforcement and Compliance
Dorothy Phillip- OCD Bond Administrator
Geoffrey Perrin-VP Maralo, LLC

New Mexico Energy, Minerals and Natural Resources Department

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March 04, 2009

Mr. David W. Lauritzen-Attorney at Law
Cotton Bledsoe Tighe & Dawson. PC
500 West Illinois, Suite 300
Midland, Texas 79701-4337

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Case No. 13142
Maralo, LLC

Subject: AP-26 Remediation Work at Humble State #3 Tank Battery

Dear Mr. Lauritzen:

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Sincerely,

Wayne Price-Environmental Bureau Chief

Cc: Daniel Sanchez-Enforcement and Compliance
Dorothy Phillip- OCD Bond Administrator
Geoffrey Perrin-VP Maralo, LLC

Price, Wayne, EMNRD

From: Snyder, Jim, EMNRD
Sent: Monday, March 02, 2009 9:49 AM
To: Price, Wayne, EMNRD
Subject: Maralo Humble State #3 manifest verification

Importance: High

Hi Wayne

I spoke with Judy Roberts on Monday 3/2 @ 0900. She verbally verified a total of 96,822 cu.yds. I entered the correct contact number for her (575-392-9697) into RBDMS. They (J&L Landfarm) has been slowed lately due to 3 heart attacks suffered by her spouse.

Jim Snyder

Hydrologist
Environmental Bureau
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
505-476-3484
fax -476-3462
jim.snyder@state.nm.us

Price, Wayne, EMNRD

From: Logan Anderson [la_elkeenv@yahoo.com]
Sent: Friday, February 20, 2009 4:10 PM
To: Price, Wayne, EMNRD
Subject: Re: Maralo Humble state AP-26
Attachments: Lab.pdf; Lab #2.pdf

Wayne,

The analysis were Total's, the metals came back high so we ran a background on metals on the soil Jay Anthony sold for backfill and the metals were in the same range. Attached are the 2 lab reports. Anything else just let me know.

Thanks,
Logan Anderson

--- On **Fri, 2/20/09, Price, Wayne, EMNRD <*wayne.price@state.nm.us*>** wrote:

From: Price, Wayne, EMNRD <wayne.price@state.nm.us>
Subject: Maralo Humble state AP-26
To: La_elkeenv@yahoo.com
Date: Friday, February 20, 2009, 4:42 PM

Good afternoon Logan:

I am in the process of writing the final closure approval for the Maralo Humble state AP-26. I have one question, on the final samples around the Jal city water line WL-1-4 were these analyzed using SPLP 1312 or were they totals? Also for some reason I don□t have the analytical for these. Can you provide?

Wayne Price-Environmental Bureau Chief

Oil Conservation Division

1220 S. Saint Francis

Santa Fe, NM 87505

E-mail wayne.price@state.nm.us

Tele: 505-795-1222

Fax: 505-476-3462

Maralo LLC
5151 San Felipe Suite 400
Houston, TX 77056

Closure Report

Amended

Humble State #3 Tank Battery

Lea County, NM

Prepared by
Elke Environmental, Inc.
P O Box 14167 Odessa, TX 79768
Ph 432-366-0043 Fax 432-366-0884

Elke Environmental, Inc.

P.O. Box 14167 Odessa, TX 79768
Phone (432) 366-0043 Fax (432) 366-0884

November 5, 2008

New Mexico Oil Conservation Division
Mr. Wayne Price
1220 South St. Francis Drive
Sante Fe, New Mexico 87505

Re: OCD Case 131142 Order R-12152-A
Humble State #3 Tank Battery Site

Mr. Wayne Price,

Enclosed is the amended portion of the final closure report for the Maralo, LLC – Humble State #3 Tank Battery site and associated wells. This amended report will satisfy the request in the email you sent on October 24, 2008. Any questions concerning the enclosed report please contact me at the office.

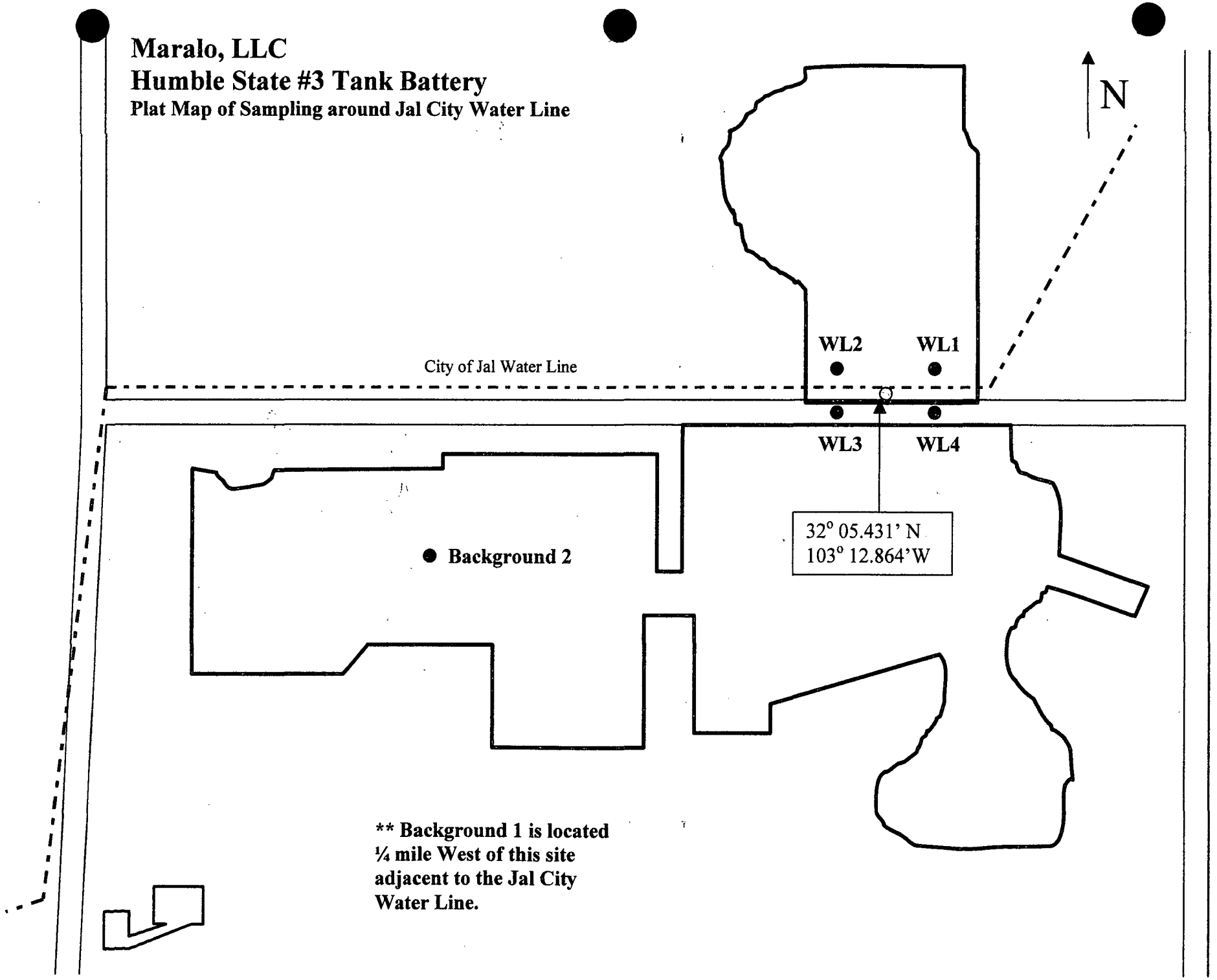
Sincerely,

Logan Anderson

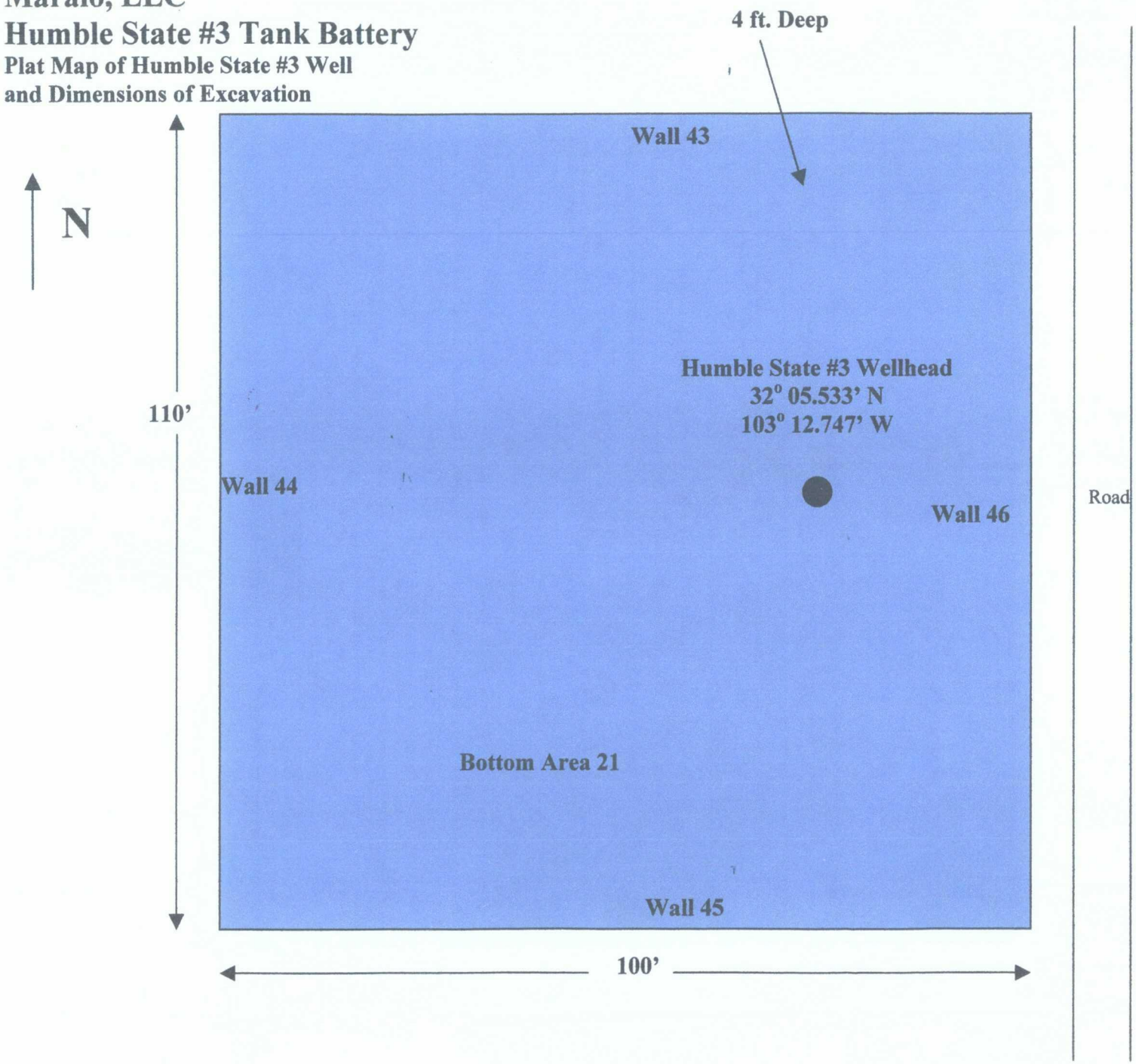
Attachment A

Plat Maps of Site

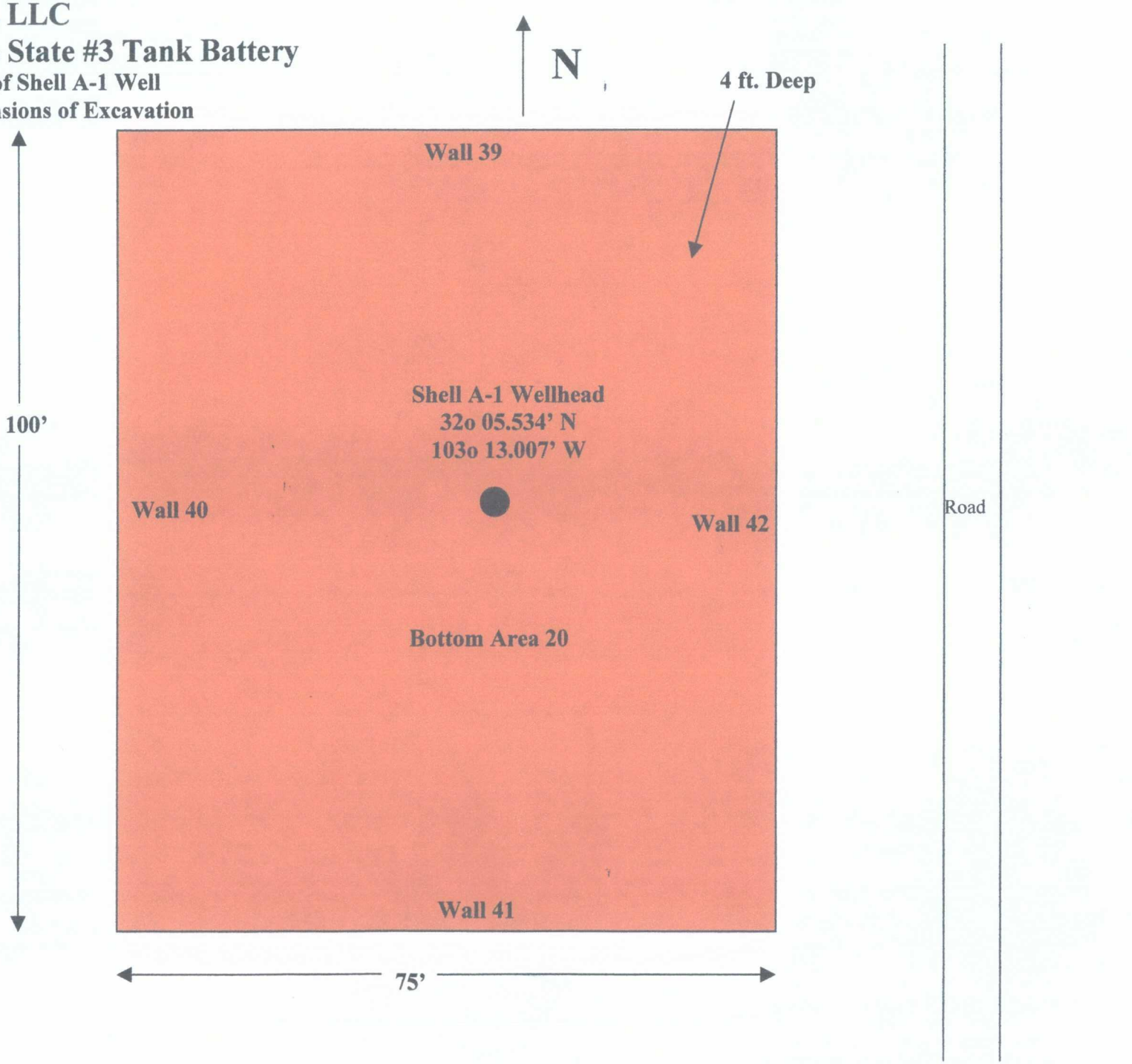
Maralo, LLC
Humble State #3 Tank Battery
Plat Map of Sampling around Jal City Water Line



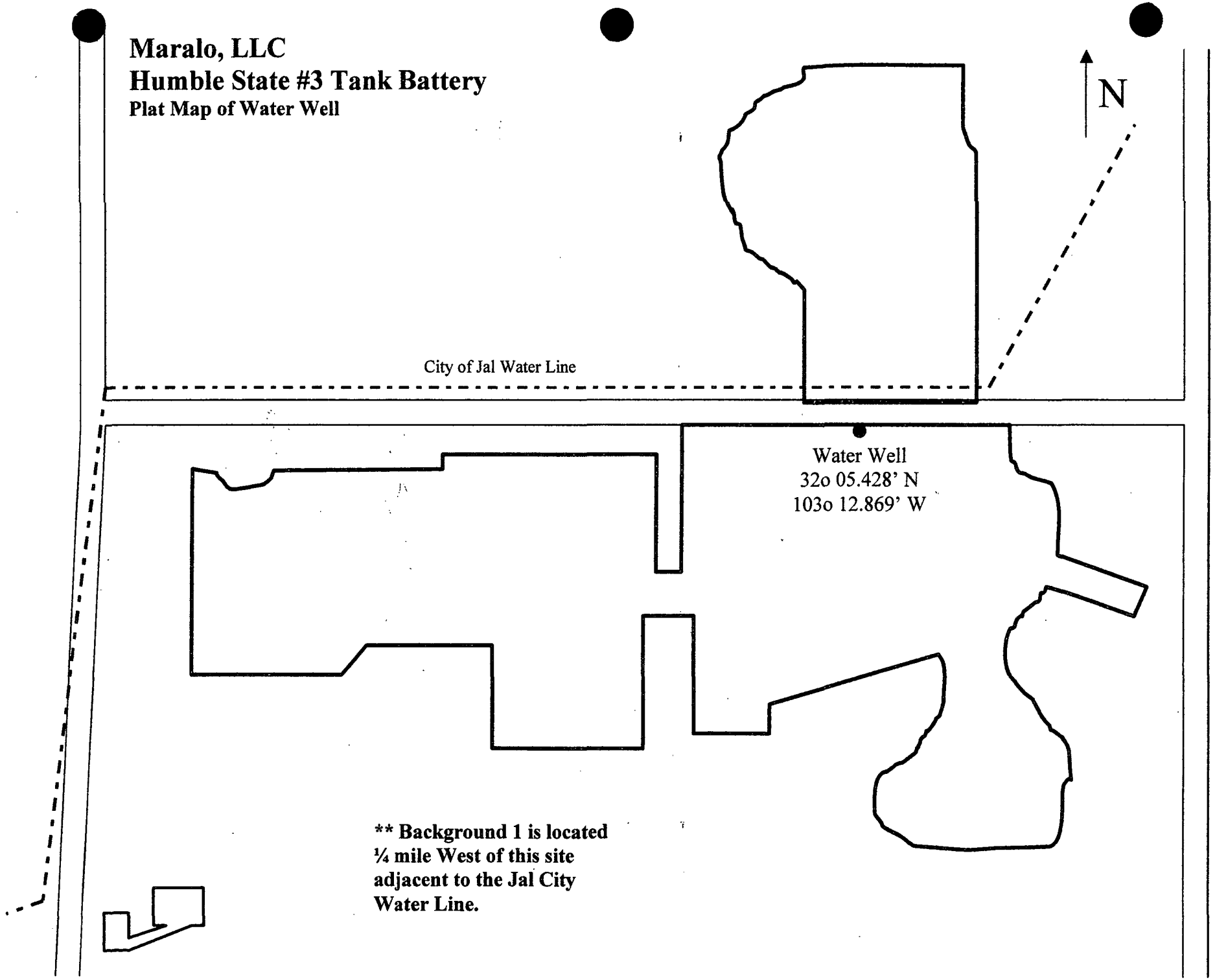
Maralo, LLC
Humble State #3 Tank Battery
Plat Map of Humble State #3 Well and Dimensions of Excavation



Maralo, LLC
Humble State #3 Tank Battery
Plat Map of Shell A-1 Well
and Dimensions of Excavation



Maralo, LLC
Humble State #3 Tank Battery
Plat Map of Water Well



**** Background 1 is located ¼ mile West of this site adjacent to the Jal City Water Line.**

YAHOO! MAIL Classic

AP-26 Humble State#3 Tank Battery Friday, October 24, 2008 4:59 PM

From: "Price, Wayne, EMNRD" <wayne.price@state.nm.us>
To: La_elkeenv@yahoo.com
Cc: "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>, "Johnson, Larry, EMNRD" <larry.johnson@state.nm.us>

Ref: Order No. R-12152-A
Case No. 13142
Maralo, LLC

Dear Logan:

OCD is in receipt of the final closure report Dated October 14, 2008.

Reference Attachment A "Plat Maps of Site" please provide amended maps showing the GPS Lat-Long reading on the following points:

1. The approximately middle of the WL 1-4 points.
2. The old water well on-site.
3. The shell A-1 Wellhead
4. Humble State #3 Wellhead
5. Any other pertinent feature that would help ID the location of this project.
6. The waste manifest, if already submitted reference report.

Wayne Price-Environmental Bureau Chief
Oil Conservation Division
1220 S. Saint Francis
Santa Fe, NM 87505
E-mail wayne.price@state.nm.us
Tele: 505-476-3490
Fax: 505-476-3462

Analytical Report 312479

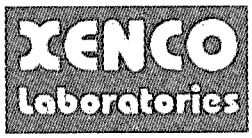
for

Elke Environmental, Inc.

Project Manager: Logan Anderson

Maralo

22-SEP-08



E84880

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

22-SEP-08

Project Manager: **Logan Anderson**
Elke Environmental, Inc.
4817 Andrews Hwy
P.O. Box 14167 Odessa, tx 79768
Odessa, TX 79762

Reference: XENCO Report No: **312479**
Maralo
Project Address: Humble State # 3 Battery

Logan Anderson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 312479. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 312479 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 312479

Elke Environmental, Inc., Odessa, TX

Maralo

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WL1 @ 2'	S	Sep-15-08 09:57	2 ft	312479-001
WL1 @ 4'	S	Sep-15-08 10:03	4 ft	312479-002
WL1 @ 8'	S	Sep-15-08 10:17	8 ft	312479-003
WL2 @ 2'	S	Sep-15-08 10:50	2 ft	312479-004
WL2 @ 4'	S	Sep-15-08 10:59	4 ft	312479-005
WL2 @ 8'	S	Sep-15-08 11:09	8 ft	312479-006
WL3 @ 2'	S	Sep-15-08 11:29	2 ft	312479-007
WL3 @ 4'	S	Sep-15-08 11:34	4 ft	312479-008
WL3 @ 8'	S	Sep-15-08 11:44	8 ft	312479-009
WL4 @ 2'	S	Sep-15-08 11:55	2 ft	312479-010
WL4 @ 4'	S	Sep-15-08 12:02	4 ft	312479-011
WL4 @ 8'	S	Sep-15-08 12:08	8 ft	312479-012

Certificate of Analysis Summary 312479
Elke Environmental, Inc., Odessa, TX

Project Name: Maralo

Project Id:
Contact: Logan Anderson
Project Location: Humble State # 3 Battery

Date Received in Lab: Sep-15-08 04:45 pm
Report Date: 22-SEP-08
Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	312479-001		312479-002		312479-003		312479-004	
	Field Id:	WL1 @ 2'		WL1 @ 4'		WL1 @ 8'		WL2 @ 2'	
	Depth:	2 ft		4 ft		8 ft		2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-15-08 09:57		Sep-15-08 10:03		Sep-15-08 10:17		Sep-15-08 10:50	
Anions by EPA 300/300.1	Extracted:								
	Analyzed:	Sep-16-08 11:35		Sep-16-08 11:35		Sep-16-08 11:35		Sep-16-08 11:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND	5.00	ND	5.00	ND	20.0	ND	5.00
BTEX by EPA 8021B	Extracted:	Sep-16-08 12:00		Sep-16-08 12:00		Sep-16-08 12:00		Sep-16-08 12:00	
	Analyzed:	Sep-16-08 14:12		Sep-16-08 14:35		Sep-16-08 14:57		Sep-16-08 15:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010
Toluene		ND	0.0021	ND	0.0021	ND	0.0022	ND	0.0021
Ethylbenzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010
m,p-Xylenes		ND	0.0021	ND	0.0021	ND	0.0022	ND	0.0021
o-Xylene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010
Total Xylenes		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND	
Mercury by SW 7471A	Extracted:								
	Analyzed:	Sep-17-08 16:05		Sep-17-08 16:05		Sep-17-08 16:05		Sep-17-08 16:05	
	Units/RL:	ug/kg	RL	ug/kg	RL	ug/kg	RL	ug/kg	RL
Mercury		ND	13.13	ND	13.18	ND	13.69	ND	12.90
Percent Moisture	Extracted:								
	Analyzed:	Sep-16-08 11:30		Sep-16-08 11:30		Sep-16-08 11:30		Sep-16-08 11:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.78		5.17		8.71		3.09	
TPH By SW8015 Mod	Extracted:	Sep-16-08 11:00		Sep-16-08 11:00		Sep-16-08 11:00		Sep-16-08 11:00	
	Analyzed:	Sep-16-08 13:04		Sep-16-08 13:30		Sep-16-08 13:56		Sep-16-08 14:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.8	ND	15.8	ND	16.4	ND	15.5
C12-C28 Diesel Range Hydrocarbons		ND	15.8	ND	15.8	ND	16.4	ND	15.5
C28-C35 Oil Range Hydrocarbons		ND	15.8	ND	15.8	ND	16.4	ND	15.5
Total TPH		ND		ND		ND		ND	
TPH by EPA 418.1	Extracted:								
	Analyzed:	Sep-16-08 10:48		Sep-16-08 10:48		Sep-16-08 10:48		Sep-16-08 10:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH, Total Petroleum Hydrocarbons		ND	10.5	ND	10.5	ND	11.0	ND	10.3

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 312479

Elke Environmental, Inc., Odessa, TX

Project Name: Maralo

Project Id:

Contact: Logan Anderson

Project Location: Humble State # 3 Battery

Date Received in Lab: Sep-15-08 04:45 pm

Report Date: 22-SEP-08

Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	312479-001		312479-002		312479-003		312479-004	
	Field Id:	WL1 @ 2'		WL1 @ 4'		WL1 @ 8'		WL2 @ 2'	
	Depth:	2 ft		4 ft		8 ft		2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-15-08 09:57		Sep-15-08 10:03		Sep-15-08 10:17		Sep-15-08 10:50	
Total RCRA Metals by SW6020A	*Extracted:*	Sep-18-08 12:10		Sep-18-08 12:10		Sep-18-08 12:10		Sep-18-08 12:10	
	Analyzed:	Sep-22-08 12:56		Sep-22-08 13:16		Sep-22-08 13:20		Sep-22-08 12:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Arsenic		0.301	0.194	0.293	0.195	0.922	0.217	0.526	0.202
Barium		12.6	0.486	8.67	0.488	23.4	0.542	14.7	0.506
Cadmium		ND	0.097	ND	0.098	ND	0.108	ND	0.101
Chromium		2.02	0.292	1.97	0.293	3.31	0.325	2.51	0.303
Lead		1.57	0.194	1.56	0.195	2.65	0.217	1.85	0.202
Selenium		ND	0.292	ND	0.293	ND	0.325	ND	0.303
Silver		ND	0.194	ND	0.195	ND	0.217	ND	0.202

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 312479

Elke Environmental, Inc., Odessa, TX

Project Name: Maralo

Project Id:
Contact: Logan Anderson
Project Location: Humble State # 3 Battery

Date Received in Lab: Sep-15-08 04:45 pm
Report Date: 22-SEP-08
Project Manager: Brent Barron, II

Analysis Requested		Lab Id:	312479-005		312479-006		312479-007		312479-008	
		Field Id:	WL2 @ 4'		WL2 @ 8'		WL3 @ 2'		WL3 @ 4'	
		Depth:	4 ft		8 ft		2 ft		4 ft	
		Matrix:	SOIL		SOIL		SOIL		SOIL	
		Sampled:	Sep-15-08 10:59		Sep-15-08 11:09		Sep-15-08 11:29		Sep-15-08 11:34	
Anions by EPA 300/300.1	Extracted:									
	Analyzed:	Sep-16-08 11:35		Sep-16-08 11:35		Sep-16-08 11:35		Sep-16-08 11:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND	5.00	16.6	10.0	ND	5.00	ND	5.00
BTEX by EPA 8021B	Extracted:	Sep-16-08 12:00		Sep-16-08 12:00		Sep-16-08 12:00		Sep-16-08 12:00	
	Analyzed:	Sep-16-08 15:43		Sep-16-08 16:06		Sep-16-08 16:29		Sep-16-08 16:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0011
Toluene		ND	0.0022	ND	0.0022	ND	0.0021	ND	0.0022
Ethylbenzene		ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0011
m,p-Xylenes		ND	0.0022	ND	0.0022	ND	0.0021	ND	0.0022
o-Xylene		ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0011
Total Xylenes		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND	
Mercury by SW 7471A	Extracted:								
	Analyzed:	Sep-17-08 16:05		Sep-17-08 16:05		Sep-17-08 16:05		Sep-17-08 16:05	
	Units/RL:	ug/kg	RL	ug/kg	RL	ug/kg	RL	ug/kg	RL
Mercury		ND	13.49	ND	13.63	ND	12.96	ND	13.71
Percent Moisture	Extracted:								
	Analyzed:	Sep-16-08 11:30		Sep-16-08 11:30		Sep-16-08 11:30		Sep-16-08 11:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.34		8.26		3.54		8.8	
TPH By SW8015 Mod	Extracted:	Sep-16-08 11:00		Sep-16-08 11:00		Sep-16-08 11:00		Sep-16-08 11:00	
	Analyzed:	Sep-16-08 14:48		Sep-16-08 15:15		Sep-16-08 15:41		Sep-16-08 16:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.2	ND	16.4	ND	15.6	ND	16.4
C12-C28 Diesel Range Hydrocarbons		ND	16.2	ND	16.4	ND	15.6	ND	16.4
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	16.4	ND	15.6	ND	16.4
Total TPH		ND		ND		ND		ND	
TPH by EPA 418.1	Extracted:								
	Analyzed:	Sep-16-08 10:48		Sep-16-08 10:48		Sep-16-08 10:48		Sep-16-08 10:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH, Total Petroleum Hydrocarbons		ND	10.8	ND	10.9	ND	10.4	ND	11.0

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 312479

Elke Environmental, Inc., Odessa, TX

Project Name: Maralo

Project Id:

Contact: Logan Anderson

Project Location: Humble State # 3 Battery

Date Received in Lab: Sep-15-08 04:45 pm

Report Date: 22-SEP-08

Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	312479-005		312479-006		312479-007		312479-008	
	Field Id:	WL2 @ 4'		WL2 @ 8'		WL3 @ 2'		WL3 @ 4'	
	Depth:	4 ft		8 ft		2 ft		4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-15-08 10:59		Sep-15-08 11:09		Sep-15-08 11:29		Sep-15-08 11:34	
Total RCRA Metals by SW6020A	***Extracted:***	Sep-18-08 12:10		Sep-18-08 12:10		Sep-18-08 12:10		Sep-18-08 12:10	
	Analyzed:	Sep-22-08 13:25		Sep-22-08 13:30		Sep-22-08 13:34		Sep-22-08 13:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Arsenic		1.29	0.208	1.25	0.210	0.549	0.203	1.67	0.213
Barium		28.2	0.519	35.2	0.524	16.4	0.508	36.6	0.532
Cadmium		ND	0.104	ND	0.105	ND	0.102	ND	0.106
Chromium		5.08	0.311	4.30	0.314	2.68	0.305	5.77	0.319
Lead		3.32	0.208	3.26	0.210	2.08	0.203	3.73	0.213
Selenium		ND	0.311	ND	0.314	ND	0.305	ND	0.319
Silver		ND	0.208	ND	0.210	ND	0.203	ND	0.213

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 312479
Elke Environmental, Inc., Odessa, TX

Project Name: Maralo

Project Id:
Contact: Logan Anderson
Project Location: Humble State # 3 Battery

Date Received in Lab: Sep-15-08 04:45 pm
Report Date: 22-SEP-08
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	312479-009		312479-010		312479-011		312479-012	
	Field Id:	WL3 @ 8'		WL4 @ 2'		WL4 @ 4'		WL4 @ 8'	
	Depth:	8 ft		2 ft		4 ft		8 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-15-08 11:44		Sep-15-08 11:55		Sep-15-08 12:02		Sep-15-08 12:08	
Anions by EPA 300/300.1	*Extracted:*								
	Analyzed:	Sep-16-08 11:35		Sep-16-08 11:35		Sep-16-08 11:35		Sep-16-08 11:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		137	10.0	ND	5.00	ND	5.00	ND	5.00
BTEX by EPA 8021B	*Extracted:*	Sep-16-08 12:00		Sep-16-08 12:00		Sep-16-08 12:00		Sep-16-08 12:00	
	Analyzed:	Sep-16-08 17:14		Sep-16-08 17:37		Sep-16-08 18:23		Sep-16-08 18:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0011
Toluene		ND	0.0023	ND	0.0021	ND	0.0021	ND	0.0022
Ethylbenzene		ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0011
m,p-Xylenes		ND	0.0023	ND	0.0021	ND	0.0021	ND	0.0022
o-Xylene		ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0011
Total Xylenes		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND	
Mercury by SW 7471A	*Extracted:*								
	Analyzed:	Sep-17-08 16:05		Sep-17-08 16:05		Sep-17-08 16:05		Sep-17-08 16:05	
	Units/RL:	ug/kg	RL	ug/kg	RL	ug/kg	RL	ug/kg	RL
Mercury		ND	14.20	ND	13.38	ND	12.99	ND	13.71
Percent Moisture	*Extracted:*								
	Analyzed:	Sep-16-08 11:30		Sep-16-08 11:30		Sep-16-08 11:30		Sep-16-08 11:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		12.0		6.57		3.77		8.85	
TPH By SW8015 Mod	*Extracted:*	Sep-16-08 11:00		Sep-16-08 11:00		Sep-16-08 11:00		Sep-16-08 11:00	
	Analyzed:	Sep-16-08 16:31		Sep-16-08 16:56		Sep-16-08 17:47		Sep-16-08 18:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	17.0	ND	16.1	ND	15.6	ND	16.5
C12-C28 Diesel Range Hydrocarbons		ND	17.0	ND	16.1	16.1	15.6	ND	16.5
C28-C35 Oil Range Hydrocarbons		ND	17.0	ND	16.1	ND	15.6	ND	16.5
Total TPH		ND		ND		16.1		ND	
TPH by EPA 418.1	*Extracted:*								
	Analyzed:	Sep-16-08 10:48		Sep-16-08 10:48		Sep-16-08 10:48		Sep-16-08 10:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH, Total Petroleum Hydrocarbons		ND	11.4	ND	10.7	510	10.4	ND	11.0

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 312479

Elke Environmental, Inc., Odessa, TX

Project Name: Maralo

Project Id:

Contact: Logan Anderson

Project Location: Humble State # 3 Battery

Date Received in Lab: Sep-15-08 04:45 pm

Report Date: 22-SEP-08

Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	312479-009		312479-010		312479-011		312479-012	
	Field Id:	WL3 @ 8'		WL4 @ 2'		WL4 @ 4'		WL4 @ 8'	
	Depth:	8 ft		2 ft		4 ft		8 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-15-08 11:44		Sep-15-08 11:55		Sep-15-08 12:02		Sep-15-08 12:08	
Total RCRA Metals by SW6020A	***Extracted:***	Sep-18-08 12:10		Sep-18-08 12:10		Sep-18-08 12:10		Sep-18-08 12:10	
	Analyzed:	Sep-22-08 13:44		Sep-22-08 13:49		Sep-22-08 13:53		Sep-22-08 14:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Arsenic		1.25	0.203	0.452	0.185	0.485	0.198	1.12	0.184
Barium		85.8	0.507	12.4	0.461	14.6	0.495	24.3	0.461
Cadmium		ND	0.101	ND	0.092	ND	0.099	ND	0.092
Chromium		3.17	0.304	2.43	0.277	2.26	0.297	3.04	0.277
Lead		1.88	0.203	2.02	0.185	1.79	0.198	2.79	0.184
Selenium		ND	0.304	ND	0.277	ND	0.297	ND	0.277
Silver		ND	0.203	ND	0.185	ND	0.198	ND	0.184

Brent Barron
Odessa Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Maralo

Work Orders : 312479,

Project ID:

Lab Batch #: 734308 **Sample:** 312479-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0373	0.0300	0	80-120	**
4-Bromofluorobenzene	0.0273	0.0300	91	80-120	

Lab Batch #: 734308 **Sample:** 312479-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0372	0.0300	124	80-120	**
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 734308 **Sample:** 312479-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0366	0.0300	122	80-120	**
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 734308 **Sample:** 312479-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0373	0.0300	124	80-120	**
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 734308 **Sample:** 312479-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0366	0.0300	122	80-120	**
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Maralo

Work Orders : 312479,

Project ID:

Lab Batch #: 734308 **Sample:** 312479-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0372	0.0300	124	80-120	**
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 734308 **Sample:** 312479-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0370	0.0300	123	80-120	**
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 734308 **Sample:** 312479-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0363	0.0300	121	80-120	**
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 734308 **Sample:** 312479-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0361	0.0300	120	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 734308 **Sample:** 312479-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0367	0.0300	122	80-120	**
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Maralo

Work Orders : 312479,

Project ID:

Lab Batch #: 734308 **Sample:** 312479-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0358	0.0300	119	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 734308 **Sample:** 312479-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0367	0.0300	122	80-120	**
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 734308 **Sample:** 515721-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 734308 **Sample:** 515721-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0378	0.0300	126	80-120	**
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 734308 **Sample:** 515721-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Maralo

Work Orders : 312479,

Project ID:

Lab Batch #: 734336 **Sample:** 312479-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	44.2	50.0	88	70-135	

Lab Batch #: 734336 **Sample:** 312479-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.5	100	84	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

Lab Batch #: 734336 **Sample:** 312479-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.7	100	84	70-135	
o-Terphenyl	45.9	50.0	92	70-135	

Lab Batch #: 734336 **Sample:** 312479-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.2	100	86	70-135	
o-Terphenyl	44.6	50.0	89	70-135	

Lab Batch #: 734336 **Sample:** 312479-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.5	100	85	70-135	
o-Terphenyl	44.6	50.0	89	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Maralo

Work Orders : 312479,

Project ID:

Lab Batch #: 734336 **Sample:** 312479-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.5	100	86	70-135	
o-Terphenyl	43.6	50.0	87	70-135	

Lab Batch #: 734336 **Sample:** 312479-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.3	100	86	70-135	
o-Terphenyl	44.3	50.0	89	70-135	

Lab Batch #: 734336 **Sample:** 312479-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.8	100	85	70-135	
o-Terphenyl	43.8	50.0	88	70-135	

Lab Batch #: 734336 **Sample:** 312479-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.1	100	87	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

Lab Batch #: 734336 **Sample:** 312479-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.8	100	85	70-135	
o-Terphenyl	45.1	50.0	90	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Maralo

Work Orders : 312479,

Project ID:

Lab Batch #: 734336 **Sample:** 312479-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	45.4	50.0	91	70-135	

Lab Batch #: 734336 **Sample:** 312479-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.4	100	87	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

Lab Batch #: 734336 **Sample:** 312479-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.3	100	84	70-135	
o-Terphenyl	43.9	50.0	88	70-135	

Lab Batch #: 734336 **Sample:** 312479-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.2	100	85	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 734336 **Sample:** 515744-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.2	100	87	70-135	
o-Terphenyl	46.2	50.0	92	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Maralo

Work Orders : 312479,

Project ID:

Lab Batch #: 734336 **Sample:** 515744-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.4	100	84	70-135	
o-Terphenyl	43.7	50.0	87	70-135	

Lab Batch #: 734336 **Sample:** 515744-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	45.9	50.0	92	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Maralo

Work Order #: 312479 **Project ID:**

Lab Batch #: 734296 **Sample:** 734296-1-BKS **Matrix:** Solid
Date Analyzed: 09/16/2008 **Date Prepared:** 09/16/2008 **Analyst:** LATCOR
Reporting Units: mg/kg **Batch #:** 1

Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Chloride	ND	10.0	9.39	94	75-125	

Lab Batch #: 734825 **Sample:** 515843-1-BKS **Matrix:** Solid
Date Analyzed: 09/22/2008 **Date Prepared:** 09/18/2008 **Analyst:** HAT
Reporting Units: mg/kg **Batch #:** 1

Total RCRA Metals by SW6020A Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Arsenic	ND	5.00	5.14	103	70-125	
Barium	ND	5.00	5.05	101	70-125	
Cadmium	ND	2.00	2.03	102	70-125	
Chromium	ND	5.00	5.14	103	70-125	
Lead	ND	5.00	5.11	102	70-125	
Selenium	ND	5.00	5.42	108	70-125	
Silver	ND	2.00	1.98	99	70-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Maralo

Work Order #: 312479

Project ID:

Analyst: ASA **Date Prepared:** 09/16/2008 **Date Analyzed:** 09/16/2008

Lab Batch ID: 734308 **Sample:** 515721-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1127	113	0.1	0.1110	111	2	70-130	35	
Toluene	ND	0.1000	0.1097	110	0.1	0.1070	107	2	70-130	35	
Ethylbenzene	ND	0.1000	0.1117	112	0.1	0.1094	109	2	71-129	35	
m,p-Xylenes	ND	0.2000	0.2304	115	0.2	0.2255	113	2	70-135	35	
o-Xylene	ND	0.1000	0.1053	105	0.1	0.1034	103	2	71-133	35	

Analyst: LATCOR **Date Prepared:** 09/17/2008 **Date Analyzed:** 09/17/2008

Lab Batch ID: 734392 **Sample:** 734392-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: ug/kg

Mercury by SW 7471A	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	ND	1.000	1.140	114	1	1.130	113	1	75-125	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Maralo

Work Order #: 312479 **Project ID:**

Analyst: ASA **Date Prepared:** 09/16/2008 **Date Analyzed:** 09/16/2008

Lab Batch ID: 734259 **Sample:** 734259-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by EPA 418.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH, Total Petroleum Hydrocarbons	ND	2500	2730	109	2500	2660	106	3	65-135	35	

Analyst: IRO **Date Prepared:** 09/16/2008 **Date Analyzed:** 09/16/2008

Lab Batch ID: 734336 **Sample:** 515744-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	880	88	1000	882	88	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	929	93	1000	932	93	0	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Maralo

Work Order #: 312479

Lab Batch #: 734296 **Project ID:**

Date Analyzed: 09/16/2008 **Date Prepared:** 09/16/2008 **Analyst:** LATCOR

QC- Sample ID: 312479-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	100	87.9	88	75-125	

Lab Batch #: 734392

Date Analyzed: 09/17/2008 **Date Prepared:** 09/17/2008 **Analyst:** LATCOR

QC- Sample ID: 312479-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: ug/kg

Mercury by SW 7471A	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Mercury	ND	52.51	58.81	112	75-125	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Maralo

Work Order # : 312479 **Project ID:**

Lab Batch ID: 734259 **QC- Sample ID:** 312479-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/16/2008 **Date Prepared:** 09/16/2008 **Analyst:** ASA

Reporting Units: mg/kg

TPH by EPA 418.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH, Total Petroleum Hydrocarbons	ND	2630	3250	124	2630	3140	119	4	65-135	35	

Lab Batch ID: 734336 **QC- Sample ID:** 312479-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/16/2008 **Date Prepared:** 09/16/2008 **Analyst:** IRO

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1050	919	88	1050	906	86	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1050	986	94	1050	978	93	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Maralo

Work Order # : 312479 **Project ID:**

Lab Batch ID: 734825 **QC- Sample ID:** 312479-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/22/2008 **Date Prepared:** 09/18/2008 **Analyst:** HAT

Reporting Units: mg/kg

Total RCRA Metals by SW6020A Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.526	5.06	4.40	77	4.91	4.21	75	3	70-125	30	
Barium	14.7	5.06	19.5	95	4.91	19.6	100	5	70-125	30	
Cadmium	ND	2.02	1.68	83	1.97	1.60	81	2	70-125	30	
Chromium	2.51	5.06	7.00	89	4.91	6.94	90	1	70-125	30	
Lead	1.85	5.06	6.18	86	4.91	6.07	86	0	70-125	30	
Selenium	ND	5.06	3.93	78	4.91	3.44	70	11	70-125	30	
Silver	ND	2.02	1.63	81	1.97	1.60	81	0	70-125	30	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Maralo

Work Order #: 312479

Lab Batch #: 734296 **Project ID:**
Date Analyzed: 09/16/2008 **Date Prepared:** 09/16/2008 **Analyst:** LATCOR
QC- Sample ID: 312479-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Anions by EPA 300/300.1 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	ND	ND	NC	20	

Lab Batch #: 734369
Date Analyzed: 09/16/2008 **Date Prepared:** 09/16/2008 **Analyst:** WRU
QC- Sample ID: 312479-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	4.78	4.92	3	20	

Lab Batch #: 734825
Date Analyzed: 09/22/2008 **Date Prepared:** 09/18/2008 **Analyst:** HAT
QC- Sample ID: 312479-004 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Total RCRA Metals by SW6020A Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Arsenic	0.526	0.516	2	30	
Barium	14.7	15.7	7	30	
Cadmium	ND	ND	NC	30	
Chromium	2.51	2.67	6	30	
Lead	1.85	1.95	5	30	
Selenium	ND	ND	NC	30	
Silver	ND	ND	NC	30	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

Environmental Lab of Texas

Xenco Laboratories Company

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Logan Anderson
Company Name: Elke Environmental
Company Address: P O Box 14167
City/State/Zip: Odessa, TX 79768
Telephone No: 432-366-0043 Fax No: 432-366-0884
Sampler Signature:
e-mail: la_elkeenv@yahoo.com

Project Name: Marlo
Project #:
Project Loc: Humble State #3 Battery
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(Lab use only)
ORDER #: 312479

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW-Drinking Water GW = Groundwater S=Soil/Solid SL=Sludge NP=Non-Potable Specify Other	Analyze For: 8015M	TPH: TX 1005	TPH: TX 1005	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals (As Ag Ba Cd Cr Pb Hg Se)	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	WL1 @ 2'		2'	9-15-08	9:57 A		2	X								S	X			X		X			X						X
02	WL1 @ 4'		4'	9-15-08	10:03 A		2	X								S	X			X		X			X						X
03	WL1 @ 8'		8'	9-15-08	10:19 A		2	X								S	X			X		X			X						X
04	WL2 @ 2'		2'	9-15-08	10:50 A		2	X								S	X			X		X			X						X
05	WL2 @ 4'		4'	9-15-08	10:59 A		2	X								S	X			X		X			X						X
06	WL2 @ 8'		8'	9-15-08	11:09 A		2	X								S	X			X		X			X						X
01	WL3 @ 2'		2'	9-15-08	11:24 A		2	X								S	X			X		X			X						X
03	WL3 @ 4'		4'	9-15-08	11:34 A		2	X								S	X			X		X			X						X
01	WL3 @ 8'		8	9-15-08	11:44 A		2	X								S	X			X		X			X						X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	9/15/08	4:45P			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Sam	Date 9.15.08	Time 4:45

Laboratory Comments:
Sample Containers Intact? X N
VOCs Free of Headspace? X N
Labels on container(s) X N
Custody seals on container(s) X N
Custody seals on cooler(s) X N
Sample Hand Delivered X N
by Sampler/Client Rep ?
by Courier? UPS DHL FedEx Lone Star
ACL Van
Temperature Upon Receipt: 4.0 °C

Environmental Lab of Texas

Xenco Laboratories Company

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Logan Anderson
Company Name: Elke Environmental
Company Address: P O Box 14167
City/State/Zip: Odessa, TX 79768
Telephone No: 432-366-0043 Fax No: 432-366-0884
Sampler Signature: e-mail: la_elkeenv@yahoo.com

Project Name: Marlo
Project #:
Project Loc: Humble State #3 Battery
PO #:
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 312479

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	# of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: GW=Ground Water SL=Sludge DW=Drinking Water SW=Surface Water SOL=Solid NP=Non-Potable Specify Other	Analyze For: TCLP: 8015B (NM)	TPH: TX 1005	TPH: TX 1005	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals Ag As Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or MTBE 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
10	WL4 @ 2'		2'	9-15-08	11:55A		2	X								S	X		X	X	X	X			X				X
11	WL4 @ 4'		4'	9-15-08	12:02P		2	X								S	X		X	X	X	X			X				X
12	WL4 @ 8'		8'	9-15-08	12:08P		2	X								S	X		X	X	X	X			X				X

Special Instructions: No Cations (LA)

Relinquished by:	Date	Time	Received by:	Date	Time
	9-15-08	4:45P			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Lam	Date 9-15-08	Time 4:45

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N
by Courier? UPS DHL FedEx Lone Star		
Temperature Upon Receipt: 4.0 °C		

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Elke Env.

Date/ Time: 9.15.05 4:45

Lab ID # : 312479

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	4.0 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Analytical Report 313402

for

Elke Environmental, Inc.

Project Manager: Logan Anderson

Maralo

01-OCT-08

E84880

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

01-OCT-08

Project Manager: **Logan Anderson**
Elke Environmental, Inc.
4817 Andrews Hwy
P.O. Box 14167 Odessa, tx 79768
Odessa, TX 79762

Reference: XENCO Report No: **313402**
Maralo
Project Address: Humble State # 3 Battery

Logan Anderson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 313402. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 313402 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 313402

Elke Environmental, Inc., Odessa, TX

Maralo

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Background 1 @ 4'	S	Sep-26-08 09:30	4 ft	313402-001
Background 1 @ 8'	S	Sep-26-08 09:40	8 ft	313402-002
Background 2 @ 1'	S	Sep-26-08 10:30	1 ft	313402-003

Certificate of Analysis Summary 313402

Elke Environmental, Inc., Odessa, TX

Project Name: Maralo

Project Id:
Contact: Logan Anderson
Project Location: Humble State # 3 Battery

Date Received in Lab: Sep-26-08 02:37 pm
Report Date: 01-OCT-08
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	313402-001		313402-002		313402-003	
	Field Id:	Background 1 @ 4'		Background 1 @ 8'		Background 2 @ 1'	
	Depth:	4 ft		8 ft		1 ft	
	Matrix:	SOIL		SOIL		SOIL	
	Sampled:	Sep-26-08 09:30		Sep-26-08 09:40		Sep-26-08 10:30	
Mercury by SW 7471A	*Extracted:*						
	Analyzed:	Sep-30-08 11:24		Sep-30-08 11:24		Sep-30-08 11:24	
	Units/RL:	ug/kg	RL	ug/kg	RL	ug/kg	RL
Mercury		ND	14.53	ND	13.02	ND	13.70
Percent Moisture	*Extracted:*						
	Analyzed:	Sep-30-08 09:58		Sep-30-08 09:58		Sep-30-08 09:58	
	Units/RL:	%	RL	%	RL	%	RL
Percent Moisture		14		3.99		8.73	
RCRA Metals by SW846-6010B	*Extracted:*						
	Analyzed:	Oct-01-08 09:39		Oct-01-08 09:39		Oct-01-08 09:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL
Lead		ND	0.600	ND	0.600	ND	0.600
Arsenic		7.92	0.500	ND	0.500	ND	0.500
Selenium		ND	0.500	ND	0.500	ND	0.500
Barium		43.9	0.500	30.8	0.500	9.42	0.500
Cadmium		0.800	0.250	1.16	0.250	0.580	0.250
Silver		ND	0.200	ND	0.200	2.16	0.200
Chromium		5.94	0.250	11.8	0.250	0.650	0.250

Brent Barron
Odessa Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

* Outside XENCO'S scope of NELAC Accreditation

BS / BSD Recoveries

Project Name: Maralo

Work Order #: 313402 **Project ID:**

Analyst: LATCOR **Date Prepared:** 09/30/2008 **Date Analyzed:** 09/30/2008

Lab Batch ID: 735600 **Sample:** 735600-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: ug/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Mercury by SW 7471A Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	ND	1.000	1.150	115	1	1.120	112	3	75-125	25	

Analyst: LATCOR **Date Prepared:** 10/01/2008 **Date Analyzed:** 10/01/2008

Lab Batch ID: 735713 **Sample:** 735713-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

RCRA Metals by SW846-6010B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	ND	0.800	0.819	102	0.8	0.774	97	6	75-125	20	
Barium	ND	0.200	0.203	102	0.2	0.199	100	2	75-125	20	
Cadmium	ND	0.200	0.210	105	0.2	0.207	104	1	75-125	20	
Chromium	ND	0.200	0.187	94	0.2	0.183	92	2	75-125	20	
Lead	ND	1.10	1.12	102	1.1	1.10	100	2	75-125	20	
Selenium	ND	0.400	0.403	101	0.4	0.415	104	3	75-125	20	
Silver	ND	0.400	0.380	95	0.4	0.352	88	8	75-125	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Maralo

Work Order #: 313402

Lab Batch #: 735600

Project ID:

Date Analyzed: 09/30/2008 **Date Prepared:** 09/30/2008 **Analyst:** LATCOR

QC- Sample ID: 312776-019 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: ug/kg

Mercury by SW 7471A Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Mercury	ND	52.47	48.27	92	75-125	

Lab Batch #: 735713

Date Analyzed: 10/01/2008 **Date Prepared:** 10/01/2008 **Analyst:** LATCOR

QC- Sample ID: 312705-004 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

RCRA Metals by SW846-6010B Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Barium	88.0	10.0	86.1	0	75-125	X
Silver	ND	20.0	ND	0	75-125	X
Chromium	ND	10.0	ND	0	75-125	X
Lead	ND	55.0	14.0	25	75-125	X
Selenium	ND	20.0	0.580	3	75-125	X
Arsenic	ND	40.0	20.6	52	75-125	X
Cadmium	0.975	10.0	6.66	57	75-125	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

Sample Duplicate Recovery

Project Name: Maralo

Work Order #: 313402

Lab Batch #: 735581 **Project ID:**

Date Analyzed: 09/30/2008 **Date Prepared:** 09/30/2008 **Analyst:** WRU

QC- Sample ID: 313405-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	14.0	13.0	7	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

Environmental Lab of Texas

A Xenco Laboratories Company

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Logan Anderson
Company Name: Elke Environmental Inc.
Company Address: 4017 Andrews Hwy
City/State/Zip: Odessa, TX 79762
Telephone No: 432-366-0443 Fax No: 432-366-0884
Sampler Signature: e-mail: la_elkeenv@yahoo.com

Project Name: Mario
Project #:
Project Loc: Humble State #3 Battery
PO #:
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only) ORDER #: 40 39402

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: GW-Drinking Water SL-Sludge	GW - Groundwater SS-Soil/Solid	Non-Potable Specify Other	Analyze For: TCLP	TOTAL	TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: Ag As Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	TRRP Report	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	Background 1 @ 4'		4'	9-26-08	9:30 A		1	X								S										X							X
02	Background 1 @ 8'		8'	9-26-08	9:40 A		1	X								S										X							X
03	Background 2 @ 1'		1'	9-26-08	10:50 A		1	X								S										X							X

Special Instructions:

Relinquished by	Date	Time	Received by:	Date	Time
	9-26-08	2:37P			
Relinquished by	Date	Time	Received by:	Date	Time
Relinquished by	Date	Time	Received by ELOT: Andrea Sam	9-26-08	2:37

Laboratory Comments:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep ? Y N
by Courier? UPS DHL FedEx Lone Star
9039055
Temperature Upon Receipt: 3.0 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Elke Env.

Date/ Time: 9.26.08 14.37

Lab ID #: 313402

Initials: al

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	3.0 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Dec 9, 2004

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

CASE NO. 13142
De Novo

APPLICATION OF THE NEW MEXICO OIL CONSERVATION DIVISION, THROUGH THE ENVIRONMENTAL BUREAU CHIEF, FOR AN ORDER REQUIRING MARALO, LLC TO REMEDIATE HYDROCARBON CONTAMINATION AT AN ABANDONED WELL AND BATTERY SITE; LEA COUNTY, NEW MEXICO.

Order No. R-12152-A

DECISION OF THE COMMISSION

This matter comes before the Oil Conservation Commission (OCC) on Application of the Environmental Bureau Chief of the Oil Conservation Division (Division or OCD) for an Order requiring **Maralo,** LLC to remediate hydrocarbon contamination at an abandoned well and battery site in Lea County, New Mexico. The Commission held a hearing on the Application in Santa Fe on November 10, 2004, at which both parties were represented by counsel and Jay Anthony, the surface owner of the site at issue, was also represented by counsel. The Commission having considered the pleadings and evidence of record, the testimony of witnesses before it, the applicable law and rules, the arguments of counsel, and being fully advised in the matter, finds that:

1. The Commission has jurisdiction of the matter pursuant to Section 70-2-13, NMSA 1978, on appeal to the Commission. The matter was heard de novo based on the issues raised in the following Amended Application:

AMENDED APPLICATION
FOR ORDER DIRECTING REMEDIATION

1. Maralo, LLC ("Maralo") is the current operator of record of the Humble State Well No. 3 (API No. 30-025-09831) and associated tank battery and pits, located in Unit A, Section 36, Township 25 South, Range 36 East, Lea County, New Mexico ("the site").

2. Ralph Lowe drilled the Humble State Well No. 3 in 1945 and operated the well and the associated tank battery and pits until his death.

3. Mr. Lowe's daughter, Mary Ralph Lowe, was one of the organizers of "Maralo, Inc.," which replaced Ralph Lowe as operator of record for the well in 1974. According to records filed with the Oil Conservation Division ("OCD"), "Maralo, Inc." plugged and abandoned the Humble State Well No. 3 in 1988.

4. In 1999, the OCD approved a request for an operator name change from "Maralo, Inc." to "Maralo, LLC." "Maralo, LLC" is registered to do business in New Mexico under SCC number 2017929. The Public Regulation Commission web site shows no listing for "Maralo, Inc."

5. The OCD's Environmental Bureau began an investigation of the Humble State Well No. 3 and associated tank battery and pits in response to the surface owner's complaint that water samples taken from a water well adjacent to the tank battery showed elevated levels of chlorides.

6. At the time of the Environmental Bureau's initial site inspection in 2001 the tank or tanks used at the battery site had been removed. OCD inspectors observed chunks of petroleum contaminated soil ranging from smaller pieces up to softball size or larger covering an area surrounding the former tank battery. It appeared to the inspectors that the material had been spread across or disked across the area.

7. OCD inspectors observed three unlined pits at the site. One pit, approximately 75' square, is located to the south of the former tank battery. Two pits, each approximately 150' square, are located to the west of the former tank battery. OCD inspectors observed a rim of hard oil-contaminated soils around each of the three pits. It appeared to the inspectors that the pits had been covered or buried, but that the oil had resurfaced around the rims.

8. Water samples taken by OCD inspectors from the water well at the site confirmed some chloride contamination of groundwater above the New Mexico Water Quality Control Commission standard, but did not show petroleum contamination of the water.

9. In 2001, OCD investigators collected one soil sample from the surface of the tank battery area, and five samples from the pits at depths ranging from zero to 8 feet. Laboratory analysis of the soil samples showed negligible levels of chlorides. However, the soil sample taken in 2001 at a level of zero to 12 inches in the area of the tank battery showed 35,700 mg/Kg of total petroleum hydrocarbons (TPH) and 0.685 mg/Kg of xylene; the soil sample taken from the surface of one of the pits contained 23,900 mg/Kg of TPH; and a soil sample taken from one of the pits at a depth of three to four feet contained 20,900 mg/Kg TPH.

10. In 2002, OCD investigators returned to take additional soil samples at depths ranging from 2 feet to 27 feet. Again, laboratory analysis of the soil samples showed negligible levels of chlorides. Laboratory analysis of soil samples taken from two locations at the site contained up to 25,400 mg/Kg of total petroleum hydrocarbons (TPH); up to 0.179 mg/Kg of benzene; up to 0.432 mg/Kg of ethylbenzene; and up to 0.921 mg/Kg of xylene.

11. According to testimony from a former Lowe/Maralo employee at the division hearing in this matter, Ralph Lowe used the pits to dispose of produced water until 1968, and the water, although low in chlorides,

contained oil in emulsion. The employee also testified that the oil tanks at the battery site had overflowed on occasion.

12. The Oil and Gas Act, Chapter 70, Article 2 NMSA 1978 ("the Act"), grants the Commission and the OCD broad enforcement powers, including "jurisdiction, authority and control of and over all persons, matters or things necessary or proper to enforce effectively the provisions of this act or any other law of this state relating to the conservation of oil or gas...." Section 70-2-6, NMSA 1978. Similar language has described the powers of the Commission since its creation in 1935. See Laws, 1935, ch. 72, Section 4.

13. Rule 313 [19.15.5.313 NMAC] provides:

Wells producing oil shall be operated in such a manner as will reduce as much as practicable the formation of emulsion and basic sediments. These substances and tank bottoms shall not be allowed to pollute fresh waters or cause surface damage. (Emphasis added.)

This prohibition has been in effect since 1935. See Oil Conservation Commission of New Mexico Order No. 4, rule 16.

14. Rule 310.A [19.15.5.310.A NMAC] provides in relevant part as follows:

Oil shall not be stored or retained in earthen reservoirs, or in open receptacles.

This prohibition has been in effect since 1935. See Oil Conservation Commission of New Mexico Order No. 4, rule 15.

15. To enforce Rule 313's prohibition against allowing emulsions to cause surface damage or pollute fresh waters, and to enforce Rule 310.A's prohibition against retaining oil in earthen reservoirs or open receptacles, the Commission should exercise its enforcement powers under Section 70-2-6 by issuing an order requiring Maralo, the current operator of record, to remediate the ongoing hydrocarbon contamination at the site.

16. Alternatively, the Commission should order Maralo to remediate hydrocarbon contamination at the site under one or more of the following authorities:

a. Section 70-2-12(B), NMSA 1978 authorizes the OCD:

to make...orders for the purposes and with respect to the subject matter stated in this subsection:

...

(18) to ... do all acts necessary and proper to ... restore and remediate abandoned well sites and associated production facilities in accordance

with the provisions of the Oil and Gas Act, the rules and regulations adopted under that act ....

(21) to regulate the disposition of nondomestic wastes resulting from the exploration, development, production or storage of crude oil or natural gas to protect public health and the environment....

b. Rule 13.B [19.15.1.13.B NMAC] provides:

all operators, contractors, drillers, carriers, gas distributors, service companies, pipe pulling and salvaging contractors, treating plant operators or other persons shall at all times conduct their operations in or related to the drilling, equipping, operating, producing, plugging and abandonment of oil, gas, injection, disposal, and storage wells or other facilities in a manner that will prevent waste of oil and gas, the contamination of fresh waters and shall not wastefully utilize oil or gas, or allow either to leak or escape from a natural reservoir, or from wells, tanks, containers, pipe or other storage, conduit or operating equipment.

c. Rule 202.B(3) [19.15.4.202.B(3) NMAC] requires the operator, no later than one year after the completion of plugging operations, to take such measures as are necessary or required by the OCD "to restore the location to a safe and clean condition."

d. Rule 116.D [19.15.3.116.D NMAC] provides:

The responsible person must complete division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with Section 19 of 19.15.1 NMAC.

17. Although the statutes and rules cited in paragraph 16, above, took effect after the date Maralo states it plugged and abandoned the well and discontinued use of the site, the Commission may apply these statutes and rules to remediate existing contamination.

WHEREFORE, the Environmental Bureau Chief of the Division hereby applies to the Commission to enter an order:

A. Directing Maralo to submit a work plan to remediate hydrocarbon contamination existing at the Humble State No. 3 site;

B. Upon approval of said work plan by the Environmental Bureau, to complete remediation of the site in accordance with the work plan; and

C. For such other and further relief as the Commission deems just and proper under the circumstances.

2. The application sets forth several alternative rule violations that could justify an order for remediation. The Commission needs only to find non-compliance with one rule to justify such an order.

3. The Environmental Bureau was present and represented by counsel who characterized the case as one of responsibility for contamination. Jay Anthony, the surface owner of the site, was present and represented by counsel who described the remaining problems for the rancher related to the contamination. Maralo was present and represented by counsel who characterized the case as the retroactive application of standards, a rewriting of the rules, no wrongdoing by Maralo, and the lease was assigned to another operator therefore Maralo was the wrong party.

REVIEW OF THE EVIDENCE

4. Wayne Price, a Senior Environmental Engineer of the Environmental Bureau of the OCD in Santa Fe, was accepted as an expert based on his education and experience.

5. Mr. Price and other OCD employees visited the site identified in Paragraph 1 of the Application, set out above, after Jay Anthony, the surface owner in the area of Humble State Well Number 3, made a complaint. Pits and tanks were associated with this well. Records of the OCD indicated the well and the facilities were owned and had been operated by Maralo or its predecessors in interest. Visual inspections indicated surface contamination of the soils by hydrocarbons.

6. Beginning in 2001 the OCD conducted tests at the site. Samples from the water well on the site showed some elevated chlorides above groundwater standards, but no significant hydrocarbons. Tests of soil samples at various places on the site including in the area of former pits and tank batteries indicated the presence of hydrocarbons.

7. Petroleum hydrocarbons at certain levels can be detrimental to plant and animal life. Crude oil contains benzene, which is a carcinogen. It also contains BTEX, an acronym for benzene, toluene, ethyl benzene and m-, p-and o-xylenes. OCD employees were concerned about the possibility of contaminants entering the pipeline or aqueduct supplying fresh water to the City of Jal, contaminants entering watercourses in the area, contaminates entering playa lake beds, and contaminants reaching groundwater in the area.

8. OCD guidelines for cleaning up contamination from leaks and spills apply different standards for the concentration of contaminants that may remain in the soil depending on the depth to groundwater from the bottom of the contamination. If the distance is less than 50 feet from the lowermost contaminants to groundwater then the clean up standard is 100 parts per million of total petroleum hydrocarbons (TPH) remaining in the soil. If the distance is 50 to 100 feet, the

standard is 1000 parts per million. If the distance is more than 100 feet then the standard is 5000 parts per million. The distance to a water well is also considered. If the distance from the contaminants to the water well is zero to 200 feet then the clean up standard is 100 parts per million. If the distance is 200 to 1000 feet then the clean up standard is 1000 parts per million. If the distance is greater than 1000 feet then the standard is 5000 parts per million.

9. These guidelines have been in place since 1993. Prior to that time OCD followed one standard allowing no more than 100 parts per million TPH.

10. Soil tests at the site varied and indicated levels of TPH up to 35,700 parts per million. Benzene was also found at levels exceeding state groundwater standards. At one point in an old pit area the soil was saturated with hydrocarbons. In a field test, squeezing the soil in a paper towel would result in a liquid stain. Some of the pit areas appeared to be covered with a sandy soil. Covering hydrocarbon contamination with soil will extend the life of the contamination that might otherwise dissipate naturally.

11. Boreholes at one pit on the site produced samples at the five-foot level with a TPH level of approximately 18,000 parts per million and at the 10-foot level increased to 25,000 parts per million. At 15 feet, 13,000 parts per million and at lower depths less contamination. Mr. Price testified the pit had obviously had oil in it.

12. Mr. Price also reviewed testing supplied by a consultant to the surface owner that indicated contamination down to 80 feet.

13. Mr. Price indicated the heaviest contamination found was in the upper area which probably explains why there is no vegetation growing in the area.

14. Mr. Price indicated invoices provided by Maralo show a contractor performed services for Maralo in 1994 to restore and clean up at the abandoned tank battery. The well, Humble Number 3, had been plugged in 1988. OCD files do not indicate that OCD approved the clean up of the tank battery site. Mr. Price testified the clean up was substandard and that it appeared all that was done was breaking of the dirt and then adding more dirt.

15. In order to remediate the site, Mr. Price testified that the total extent of the contamination must be delineated and then the leachability of the material must be determined to see if there will be an impact to groundwater. Some of the spots of highest contamination will probably have to be removed, but some could remain if the material is not leachable and the surface is restored so that it will not contaminate groundwater in the future. Then the area would grow grass and not be a threat to people using the surface area for work or recreation.

16. When questioned by counsel for the surface owner, Mr. Price testified the casing in a water well could serve as a conduit for contamination to groundwater. He also said the standard of care for a contaminated site is to clean up to a level that would support the growth of plants and that has not been done at this site. He also said he could not rule out the possibility of elevated chlorides in the water well resulting from the site until the site delineation is complete.

17. Mr. Price also testified that it was the practice of OCD to look to the current operator of the site to be responsible for the condition of the site.

18. On cross-examination Mr. Price testified that at this time OCD staff was not alleging groundwater had been contaminated by the site.

19. A comparison of aerial photographs used as exhibits indicated that certain surface disposal pits existing in 1968 were not in active use in 1977.

20. Mr. Price testified that his evidence of Maralo's activity at the site was based on the invoices from the contractor indicating contaminated dirt was treated and some was removed. He had no direct evidence that Maralo used a surface disposal pit to store oil or placed tank bottoms or bottom sediments in the pits.

21. Mr. Price testified that all produced water will have some amount of oil in it and that locations used as surface disposal pits would have some amount of hydrocarbons in the soil. When asked if all those sites would have to be cleaned up Mr. Price indicated they would if they were a threat to public health, the environment, or groundwater.

22. He stated that the threat to the water of the City of Jal was of low probability and was not an immediate threat.

23. Mr. Price agreed on cross-examination that operating a well for any length of time would result in some emulsion and basic sediments and that Rule 313 requires that the operator reduce as much as possible the formation of emulsion and basic sediments. He did not have sufficient information about Maralo's operations to criticize the way Maralo operated the wells.

24. Mr. Price understood the Maralo was the current operator at the site. In all material matters the testimony of Mr. Price was consistent with the OCD hydrologist appearing before the Division Hearing Examiner.

25. Responding to questions from the Commissioners Mr. Price said that the asphalt-type material on the surface was not very amenable to bioremediation. It would have to be broken up and nutrients applied to or it would be there forever. He also testified that clean up to the 5000 parts per million standard would support vegetation comparable to the area surrounding the site.

26. Mr. Price read into the record portions of several documents from the files of the State Land Office and the documents were admitted without objection. The documents were assignments of the oil and gas lease for the site from Humble Oil and Refining Company to Ralph Lowe, from Erma Lowe individually and as independent Executrix and Trustee of the Estate of Ralph Lowe to herself and to Maralo, Inc., and from the Estate of Erma Lowe and Maralo Merging Corporation to Lowe Partners, LP. In each document the assignee assumed and agreed to perform all obligations to the State of New Mexico insofar as the described land is affected and to do other acts as required by the original lease. Mr. Price then read from the base lease the section providing that the lessee will be liable and pay for all damages to the range, livestock, growing crops, or improvements caused by lessee's operations. The base lease was admitted without objection.

27. The "New Mexico State Land Office, Oil and Gas Miscellaneous Instrument Record Sheet," did not indicate any further assignments of the lease.

28. On further questioning from the Commission Mr. Price explained that historical contamination referenced in the initial complaint from OCD meant the contamination had not been addressed, but production operations had ceased.

29. Mr. Price indicated that the elevated chlorides in the water well at the site would be red flag indicating testing would be needed to determine if there might be a localized source for those chlorides and that would be included in delineation plan.

30. He further testified that the benzene levels in the soil would exceed groundwater standards and when that is seen there is a high probability that groundwater may be contaminated.

31. Mr. Price stated that it appeared the site was a centralized disposal facility for the wells on the lease and would not be cleaned up until all the wells had been plugged.

32. Mr. Price testified that it was approximately 200 feet from the surface to groundwater based on the water well at the edge of the southern pit area, the tank battery area. The soils there are sandy with high permeability and transmissivity.

33. Mr. Price said allowing an operator to plug the wells and leave the site without taking care of the contamination would open the door for massive contamination to remain there and contaminate our future groundwater supply. If the operator did not pay for the clean up then it would be paid for by the people of New Mexico.

34. Returning to the 1977 aerial photograph, Mr. Price stated that the area at the site without vegetation would indicate there was contamination at the area in 1977. This situation continued to the time of Mr. Price's first visit to the site years later.

Hydrocarbon contamination was visible at that time with dark soil, chunks of asphalty material, oil residue left on the hand when picking up the soil, and the smell of oil from the soil. If emulsions were placed into the pits the emulsions were still causing contamination of the surface of the site.

35. Dorothy Phillips, the OCD plugging bond administrator, provided OCD financial assurance records showing that Humble State Number 3 had not been transferred from Maralo to some other operator. The same was true of Shell State A Number 1. Additionally the financial assurance files showed that in 1999 Maralo requested a name change on its bond from Maralo, Inc. to Maralo, LLC. In 2000 Maralo, LLC added Lowe Partners, LP as an additional principal on the bond. OCD approved both of these actions. Ms. Phillips also checked with other state agencies regarding Lowe Partners and learned that Erma Lowe and Marolo, Inc. were its general partners.

36. Ralph Lowe individually was considered a different entity from Maralo by OCD records.

37. Roger C. Anderson, Environmental Bureau Chief for OCD, was accepted as an expert in oilfield contamination and remediation.

38. OCD's well files for the Humble State Number 3 included a Notice of Intention to Drill filed by Ralph Lowe as the operator in 1945. It also includes a Certification of Compliance and Authorization for Ralph Lowe as the operator in 1945. That document indicates that tanks were on the lease site. Documents in 1974 indicate a change of operator from Ralph Lowe to Maralo, Inc. In 1986 and 1987 Maralo, Inc. filed proposals to plug and abandon the well. A subsequent report was filed in 1988 on the plugging and abandonment of the Humble State Number 3. No documents in the file indicated approval by the OCD for any clean up of the tank battery and pits. Nothing in the well file indicated Hal J. Rasmussen Operating, Inc. had become the operator. Nor was Southwest Royalties mentioned in the file.

39. Mr. Anderson explained that normally OCD would look to the operator to clean up contamination at a site. In this case the current operator of record is Maralo, LLC. Prior to the name change, the operator was Maralo, Inc. Prior to Maralo, Inc., the operator was Ralph Lowe, now deceased. Lease records at the hearing indicate the leaseholder is Lowe Partners, LP, and its partners are Maralo and Erma Lowe.

40. Mr. Anderson testified contamination continues at a site until it is cleaned up and it remains a threat because the contaminants are available for migration to groundwater, or back to the surface, or to other waters, or to a water well. In his opinion the contamination described in this case at the Humble State Number 3 site is still a threat.

41. Mr. Anderson provided a definition of emulsion as a stable dispersion of one liquid in a second immiscible liquid, such as oil dispersed in water. He stated that when an oil well is produced, there is enough turbulence to mix oil and water to create an emulsion. Some of that emulsion would have been included in the produced water that was carried over into a disposal pit. When the pit was closed then any remaining oil needs to be treated to avoid surface damage.

42. Mr. Anderson explained that basic sediment is oil, water, and foreign matter that collects in the bottom of petroleum storage tanks, and is also known as bottoms, bottom settlings, sediment and water. A common industry practice is to mix this material with sand to stabilize areas around a tank battery. He also said oil accumulations from spills or otherwise cannot be sold and is sediment oil under Rule 313.

43. Mr. Anderson says that Maralo is in violation of Rule 313 today because the hydrocarbons are still causing contamination of the surface. It will continue to be in violation until the contamination is cleaned up. If it is not cleaned up the rule will continue to be violated.

44. The Commission took administrative notice of its rulemaking records showing that the language in Rule 313 dates from rules in place as far back as 1935.

45. OCD records for wells other than the Humble State Number 3 on the lease do contain references to Rasmussen and Southwest Royalties, but the facilities associated with Humble State Number 3 are where the contamination is found.

46. Mr. Anderson testified that once the contamination was identified then OCD located records in the well file for Humble State Number 3 that reference the tank battery on the lease. In correspondence Maralo never claimed it was not the operator of the tank battery facility and did state that it had worked on the site in the mid-1990s.

47. Jay Sean Anthony is the ranch owner who initiated the complaint regarding the Maralo site. He testified that he would like to use the well at the site for cattle. He said other wells in the area did not have high chloride levels.

48. He had hoped the work by Maralo in 1993-94 would allow grass to grow on the site, but after several years it did not.

49. Maralo offered an exhibit showing the assignment from Maralo to Rasmussen in 1994. It was not an OCD record. According to counsel it transferred all of the wells on the site and the shallow rights. Maralo retained the right to drill deep wells.

50. William P. Hunt was an employee of Ralph Lowe and Maralo who retired in 1996. He started out working on drilling rigs and was operations manager when

he retired. He was familiar with the site from 1958 until 1981. He testified before the Division Hearing Examiner and the record indicates the testimony was similar to that before the Commission.

51. Mr. Hunt identified the location of tanks, heater treaters, and the water well on the site. He said he stopped using surface disposal pits in 1968 and was told to close the pits. Produced water went down to Number 1 SWD, the saltwater disposal well.

52. Mr. Hunt worked for Ralph Lowe when he died in 1965. Maralo, Inc. included Mary Ralph Lowe, Ralph Lowe's daughter. The leases have been in the Lowe family since the early 1950s.

53. While Maralo, Inc. was the operator the tanks would run over. When that happened the employees would use a pump to pick up the oil, but it was not possible to pick up all of the oil. The saturated soil was never remediated.

54. Texas-New Mexico pipeline caused the tanks on the site to run over sometimes.

55. Some of the contamination happened while Maralo was on the site.

56. A trucking company or a tank cleaning company from Hobbs removed tank bottoms.

57. Mr. Hunt approved payment of the clean up efforts contracted for by Maralo in 1994 as shown in Maralo Exhibit 20.

58. Mr. Hunt testified that the site looks like it does because some residue oil not cleaned by the heater treater was there. There is some percentage of oil that could not be treated out of the water. It would build up in the pits to a point that it would be picked up and treated again.

59. Joe Pulido is the land manger for Maralo. He was responsible for compiling Exhibit 9 from Maralo's files. Maralo Exhibit 9B transferred certain rights to Rasmussen.

60. Mr. Pulido testified that the assignments included in Exhibit 9 were for undivided interests and did not qualify for record title change with the Land Office. They assigned only the working interest in certain properties. The State Land Office records reflect that Lowe Partners would be responsible for activities on the lease as record title owner and for the requirements in the lease.

61. Mr. Pulido explained Maralo, LLC is the operating entity of Lowe Partners. Lowe Partners is the record title owner of the lease. It has a contractual assignment into Hal Rasmussen for the fee interest down to 3500 feet that is not

filed with the state. Mary Ralph Lowe is the president of Maralo, LLC, the managing partner of Lowe Partners.

62. Maralo, Inc. no longer exists. Erma Lowe died in 1998 so the partners of record listed with the Secretary of State for Lowe Partners no longer exist.

63. Despite the assignment Maralo still appears as operator of record, as far as the OCD is concerned, for Humble 3, Shell State A 1, Humble 1 (converted to a saltwater disposal well) and Humble 2. No notice of the transfer was provided to OCD or the State Land Office.

64. The lease assignment to Rasmussen occurred less than 30 days after the clean up work on the site in 1994. Maralo may have agreed to indemnify Rasmussen for the inadequate cleanup.

FINDINGS AND CONCLUSIONS

1. The OCC has jurisdiction of this matter.

2. This matter concerns soil and perhaps water contamination at pits and tank batteries associated with Humble State Well Number 3 in Lea County.

3. Testing indicates soil contamination exists at the surface of the site and to some depth below the surface, perhaps as much as 80 feet. The contamination is likely to migrate until it is remediated. Vegetation will not grow on the site.

4. It has not yet been determined if the groundwater in the area has been contaminated, though the high chloride levels in a water well at the site indicate more testing is needed. Groundwater is 200 feet below the surface. Other bodies of fresh water may be at risk from the contamination.

5. While Maralo operated the site produced water with oil in it, an emulsion, was placed into the pits, the tanks overflowed, a pipeline link caused the tanks to overflow, and Maralo took inadequate measures to close the pits. The soil was not remediated and the contamination continued and may have been exacerbated by Maralo having it covered. However the contamination was created, emulsions and basic sediment were placed on the soils and resulted in surface damage and possible contamination of fresh water. Maralo was the operator during the time period at least part of the contamination was created and is still listed in OCD records as the operator.

6. Maralo, LLC is the operating entity of Lowe Partners, LP the record title owner of the lease. Mary Ralph Lowe, the daughter of Ralph Lowe, is the president of Maralo, LLC. Lowe Partners has assigned interests in the site, but did not change the record title with the State Land Office.

7. Maralo is shown as the operator of the site in OCD records since 1974. In 1999 Maralo requested a name change on its bond for financial assurance from Maralo, Inc. to Maralo, LLC. Later Lowe Partners, LP was named as an additional principal on the bond.

8. OCD records for the site do not refer to any other parties as operator of the site.

9. Exhibits indicate a portion of the interest in the lease has been assigned, but that this information was not provided to the state agencies nor has Maralo been released from the obligations related to this site.

10. Oily emulsions were released on the surface of the site. They have caused surface damage and may have polluted fresh water. The contamination continues so there is no retroactive application of clean up standards.

11. Maralo has not complied with Rule 313, which has existed in similar form since 1935.

12. The actions complained of in this matter took place after 1935.

IT IS THEREFORE ORDERED,

13. The Amended Application of the Environmental Bureau of the Oil Conservation Division is approved.

14. Maralo is ordered, within 45 days of this decision, to submit to the Environmental Bureau for approval or revision and approval a plan to delineate the extent of the contamination existing at the site of the Humble State Well Number 3 and its associated facilities including areas used for pits, tank batteries and the like.

15. Within six months of having the plan approved, Maralo is ordered to complete the activities necessary to delineate all the contamination of the site associated with the production of hydrocarbons including a determination of possible ground water contamination. The delineation report will be provided to the Environmental Bureau within the six-month time frame.

16. Maralo is further ordered to provide a plan for remediation of the contamination to the Environmental Bureau within 90 days of completing the delineation. The Environmental Bureau may approve the plan or revise it and approve it.

17. Maralo is further ordered to complete the physical tasks required in the remediation plan within six months of the approval of the plan, unless the plan specifies that certain activities may take place after that time. In that instance, Maralo shall meet the timeframes set forth in the plan.

18. Jurisdiction of this case is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the 9th day of December 2004.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JAMI BAILEY, CPG, MEMBER

FRANK T. CHAVEZ, MEMBER

MARK E. FESMIRE, P.E., CHAIR

SEAL

PATRICK H. LYONS
COMMISSIONER

State of New Mexico
Commissioner of Public Lands
310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE
Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

BUT THIS BOND COVERS LEASE 1051 EDDY CO., NM NM-93402-001

February 11, 2005

Maralo, LLC
5151 San Felipe, Suite 400
Houston, TX 77056-3607

Attn: Kathy Norberg

Re: Release of Surface Improvement Damage Bond OGB-561
RLI Insurance Bond No. RLB0002235
Lowe Partners, LP and Maralo, LLC

Dear Ms. Norberg:

We must deny your request of February 7, 2005 for release of the referenced bond.

On December 9, 2004 the Oil Conservation Commission issued Order No. R-12152-A in Case No. 13142 De Novo. By that order, Maralo LLC is required to perform certain tasks concerning contamination existing at the site of the Humble State Well #3, located in Unit A, Section 36, Township 25 South, Range 36 East, Lea County, New Mexico. The site and associated facilities are located on state trust land.

Until Maralo, Inc has fully complied with the Order to:

- obtain approval from the Oil Conservation Division Environmental Bureau for a plan to delineate the extent of the contamination at the site and its associated facilities;
- complete activities including a report, necessary to delineate all the contamination of the site, including determination of possible ground water contamination;
- obtain approval for a plan to remediate the contamination; and
- complete the physical tasks required in the remediation plan,

we cannot release the bond.

If you have any questions, feel free to contact our bond administrator, Anna Villa, at (505) 827-5789. — called 4-19-05 to see about releasing blanket it replaces with single Bond & she said no - the one used holds up the whole thing KN

Sincerely,

John H Bemis

John Bemis
Assistant Commissioner for Mineral Resources

JB/JB/jb

Cc: RLI Insurance Company
8 Greenway Plaza, Suite 400
Houston, TX 77046

John L. Wortham & Son, LP
P.O. Box 1388
Houston, TX 77251-1388

Roger Anderson, Environmental Bureau Chief
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Price, Wayne, EMNRD

From: Price, Wayne, EMNRD

Sent: Tuesday, June 20, 2006 7:48 AM

To: 'elkeenv@yahoo.com'

Cc: Johnson, Larry, EMNRD; Sheeley, Paul, EMNRD; Sanchez, Daniel J., EMNRD; Macquesten, Gail, EMNRD; Brooks, David K., EMNRD

Subject: OCD Order 13142 Case #12152-A Maralo Humble State #3 Tank Battery

Attachments: Maralo Clean-up plan.doc

To: Tom Kellahin-Attorney for Maralo LLC.
Mr. Rob Elam-Elk Environmental consultant for Maralo
Mr. Jay Anthony-Landowner

Please find attached a copy of the clean-up requirement dated March 03, 2006 pursuant to OCD Order 13142 case # 12152-A. OCD understands that waste material generated off-site has been placed in one of the excavated areas. After reviewing the attached clean-up plan issued pursuant to an OCD Commission Order there does not appear to be an allowance for this activity. Therefore, your are hereby ordered to cease and desist in placing any further waste material into the Humble #3 Tank Battery Site.

In a sprit of cooperation and to facilitate a prompt closure, OCD would like Maralo LLC to perform the following actions:

1. Contact the OCD Hobbs office and make arrangements to have OCD witness the sampling of the most visually contaminated material or material with a high olfactory hydrocarbon smell that was placed in the excavation from off-site activities.

2. Collect, sample and analyze this material using approved EPA protocols. The material shall be analyzed using the EPA method 1312 SPLP extraction method and analyzed for BTEX (8021), TPH (8015M GRO/DRO), Chlorides and RCRA 8 metals.

3. Submit the data requested in item #2 above and the data collected to date for OCD review and approval. Please note Maralo must receive written approval before back filing the excavated areas.

cc: Jay Anthony-Landowner
Tom Kellahin-attorney for Maralo LLC.
David Brooks, OCD legal
Gale McQuestron-OCD legal

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

March 03, 2006

CERTIFIED MAIL
Return Receipt Requested: 7001 1940 0004 7923 4801

Maralo, LLC
Mr. David W. Lauritzen
C/o Cotton, Bledsoe, Tighe & Dawson
P.O. Box 2776
Midland, Texas 79701

Re: OCD Case 131142 Order R-12152-A
Humble State #3 Tank Battery Site
Jal, New Mexico

Dear Ladies and Gentlemen:

On December 09, 2004 the New Mexico Oil Conservation Commission issued an order requiring Maralo LLC. to perform approved delineation and remediation at the Humble State #3 Tank Battery Site. As of this date Maralo LLC has failed to perform the requirements of Order R-12152-A.

Therefore, OCD hereby orders Maralo LLC to perform the following actions:

1. Excavate all on-site contaminated soils that exceed the standards shown in item 2., down to a maximum depth of 10 feet below existing ground surface. All contaminated soils shall be disposed of off-site at an approved OCD facility.

2. Soils containing the following Levels of contaminants are contaminated soils: benzene that exceeds 0.2 mg/kg as determined by EPA SW-846 Method 8021B; total BTEX that exceeds 50 mg/kg as determined by EPA SW-846 Method 8021B; TPH that exceeds 500 mg/kg. (GRO/DRO) combined fraction, as determined by EPA SW-846 Method 8015M; total extractable petroleum hydrocarbon fractions that exceed 5000 mg/kg as determined by EPA 418.1 Method; and chlorides that exceed 250 mg/kg as determined by EPA Method 300.1.

3. Final confirmation samples shall be collected and analyzed for the constituents shown in item 2. Each excavated area shall have at a minimum 5 bottom hole samples taken and each side wall shall have at least one 4 point composite sample collected. In addition all obvious "hot spots" shall be sampled.

4. All excavated areas shall be backfilled and compacted with similar native clean soils only after OCD approval.

5. Re-vegetation by establishment of a vegetative cover over at least 70% of the site, consisting of at least two native plant species and not including noxious weeds, and maintenance of that cover through two successive growing seasons. Deviations for re-vegetation may be allowed if Maralo receives written landowner acceptance.

6. Maralo LLC shall notify the OCD Santa Fe office, OCD District office and the landowner at least 72 hours in advance of all scheduled activities so that the OCD has the opportunity to witness the events and/or split samples during OCD's normal business hours.

7. Maralo LLC shall submit a final report ***for OCD approval by June 15, 2006***. The report shall contain the following information:

   a. A scaled plot plan of the clean-up area showing pertinent features, location and dimensions of all excavated areas and final sample points.

   b. Dated photos of the project, before, and during excavation, at sample points and after final closure.

   c. Records of all waste manifest.

   d. Daily log of major activities.

   e. All Laboratory analytical results cross referenced to sample points.

Please note the OCD requirements stated above do not relieve Maralo LLC of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If Maralo LLC wishes a technical meeting or guidance concerning the remediation requirement please contact Wayne Price Environmental Bureau Chief at 505-476-3487 or E-mail wayne.price.state.nm.us. If OCD does not hear from Maralo LLC within 15 days of receipt of this letter then OCD will assume Maralo LLC understands the requirements and shall commence work.

Failure to perform the required actions by June 16, 2006 may result in civil penalties of $1000 dollars per day for each day that Maralo LLC has been deficient in the clean-up operation.. If Maralo wants a hearing concerning the specific requirements of this directive it may file an application for a hearing with the Division clerk within 15 days of receipt of this letter.

Sincerely,

Daniel Sanchez
Enforcement & Compliance Manager

cc: Jay Anthony-Landowner
Tom Kellahin-attorney for Maralo LLC.
David Brooks, OCD legal

P. 01

TRANSACTION REPORT

JUL-14-2006 FRI 08:51 AM

FOR:

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
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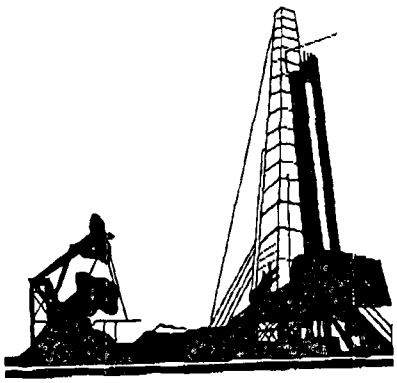
TOTAL : 2M 22S PAGES: 3



TRANSMITTAL COVER SHEET

OIL CONSERVATION DIVISION
1220 S. ST. FRANCIS DRIVE
SANTA FE, NM 87505
(505) 476-3440
(505)476-3462 (Fax)

PLEASE DELIVER THIS FAX: Fax # 432-366-0884

TO: LOGAN ANDERSON - ELKE ENVR.

FROM: OCD - D PRICE

called 8:49 AM
THEY REC!

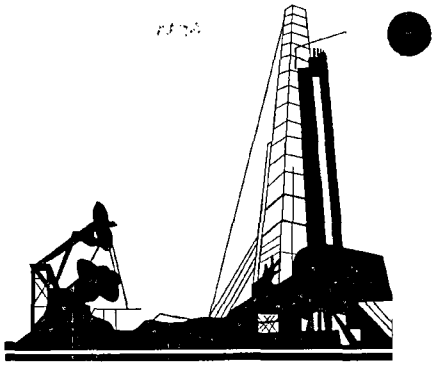
7/14/06

AP - 26

GENERAL CORRESPONDENCE

YEAR(S):

7/14/06 → 99



TRANSMITTAL COVER SHEET

OIL CONSERVATION DIVISION
1220 S. ST. FRANCIS DRIVE
SANTA FE, NM 87505
(505) 476-3440
(505)476-3462 (Fax)

PLEASE DELIVER THIS FAX: FAX # 432-366-0884

TO: LOGAN ANDERSON - ELKE ENVR.

FROM: OCD - W PRICE

DATE: 7/14/06

PAGES: 3

SUBJECT: ORDER R-12152-A MARALO HUMBLE ST #3

E-MAIL DATED 7/13/06 ENCLOSED

IF YOU HAVE TROUBLE RECEIVING THIS FAX, PLEASE CALL THE OFFICE NUMBER ABOVE.

Price, Wayne, EMNRD

To: elkeenv@yahoo.com

Cc: Johnson, Larry, EMNRD

Subject: OCD Case 131142 Order R-12152-A Maralo Humble State #3 Tank Battery Site

Attention: Maralo, LLC
in Care of Elke Environmental, Inc.
Logan Anderson:

Dear Mr. Anderson:

A. OCD is in receipt of the remediation confirmation samples sent via E-mail on June 20, 2006 and remaining information by US mail the following week. OCD has evaluated the data and hereby approves of backfilling the following excavated areas shown on the Marallo, LLC Plat map. Approved for backfilling are areas 1, 2, 4, 5, 6, 10, 11, 12, 13, 14, 15 (except a small area around sample point B15E), 17 (south half only), 18, and area 22. Maralo shall adhere to the two following conditions as well.

1. The Jal City water line shall not be in contact with any contaminated soils.
2. The on-site water well shall have a barrier placed around and sealed to the casing to prevent a preferential pathway to the groundwater. The barrier design shall be approved by OCD before installation.

B. The bottom hole report results shows some areas with concentrations that exceed the site specific clean soil standard specified in OCD's letter dated March 03, 2006 which was issued pursuant to Order R-12152-A. During the hearing process there was testimony to the issue of having the operator remove contaminated soil down to a reasonable depth in order to support native vegetation. The original investigation plan and drilling program was not completed pursuant to OCD approval and therefore OCD did not have the opportunity to require areas to be delineated or constituents to be sampled. In addition, Maralo never submitted a clean-up plan that properly delineated or addressed the contamination. In a sprit of cooperation OCD used the data presented and formulated a plan of action that in it's estimation would protect the environment. However, after OCD received the the Elke Environmental report it was apparent that some of the contaminated areas coincide with the areas that had the deepest migration of contaminants. OCD is concerned these areas may be preferential pathways and could cause groundwater contamination or release harmful vapors in the foreseeable future. Therefore, OCD will require Maralo LLC to present a plan for OCD approval to isolate, remediate or remove contaminants from the following areas show on the attached annotated plat map and defined below:

1. All of area 3, 7, 8, 9, 15 (small area around sample point B15E),16, and 17 (north half).

2. Area 19 sample point B19A shall in addition be delineated for BTEX, TPH and chlorides.

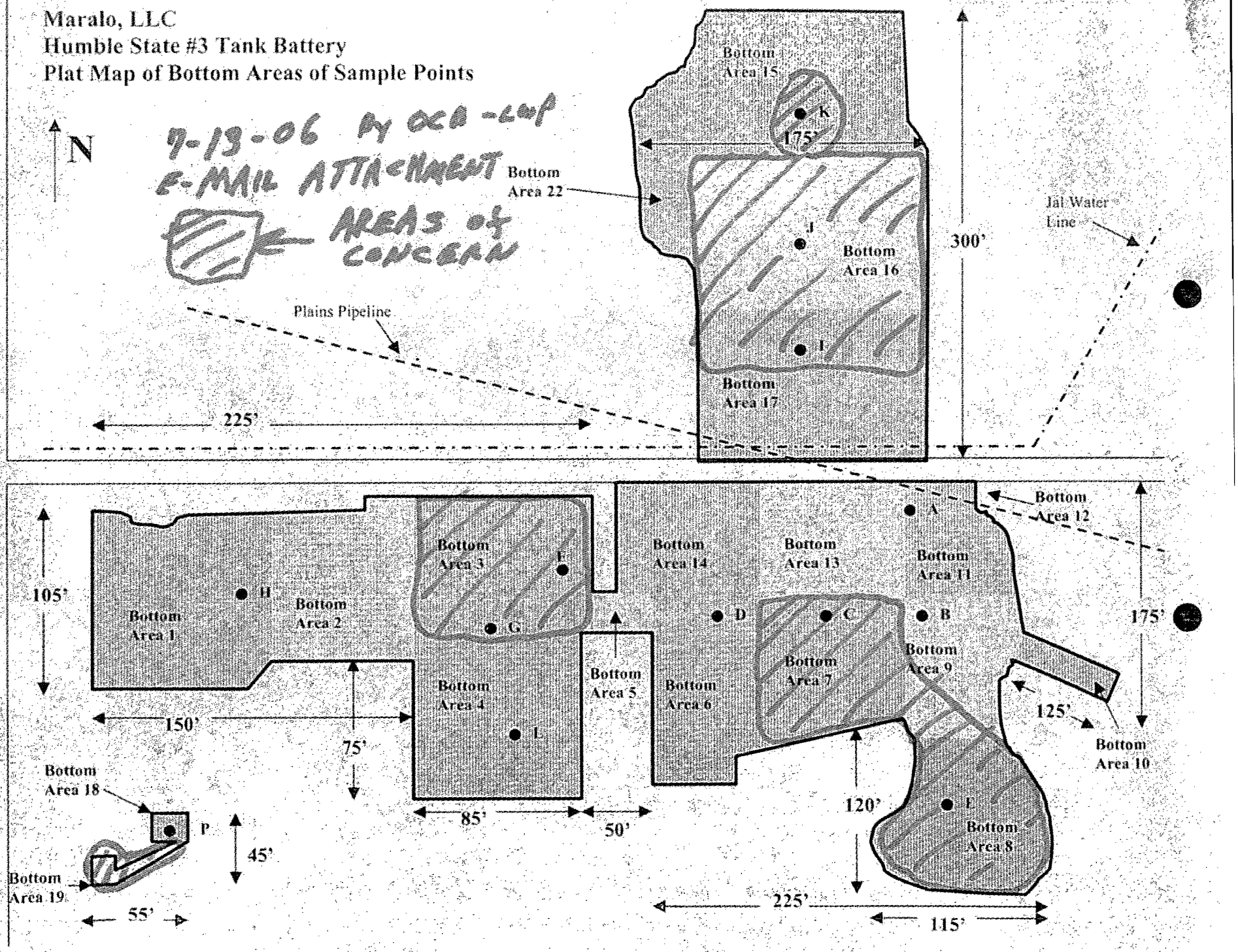
Please submit a plan for OCD approval to address the issues in section A.2 and B. above within 30 days.

If Maralo LLC wishes a technical meeting or guidance concerning the requirements please contact me at 505-476-3490 or E-mail wayne.price.state.nm.us. If OCD does not hear from Maralo LLC within 10 days of receipt of this E-mail then OCD will assume Maralo LLC understands the requirements and shall commence back filling operations and a plan to address the issues listed in Section B of this letter.

cc: Jay Anthony-Landowner
Tom Kellahin-attorney for Maralo, LLC
David Brooks, OCD legal

7/13/2006

Maralo, LLC
Humble State #3 Tank Battery
Plat Map of Bottom Areas of Sample Points



Elke Environmental, Inc.

P.O. Box 14167 Odessa, TX 79768
Phone (432) 366-0043 Fax (432) 366-0884

New Mexico Oil Conservation Division
Mr. Wayne Price
1220 South St. Francis Drive
Sante Fe, New Mexico 87505

2005 JUL 6 PM 3 57

Re: OCD Case 131142 Order R-12152-A
Humble State #3 Tank Battery Site
Jal, New Mexico

Mr. Wayne Price,

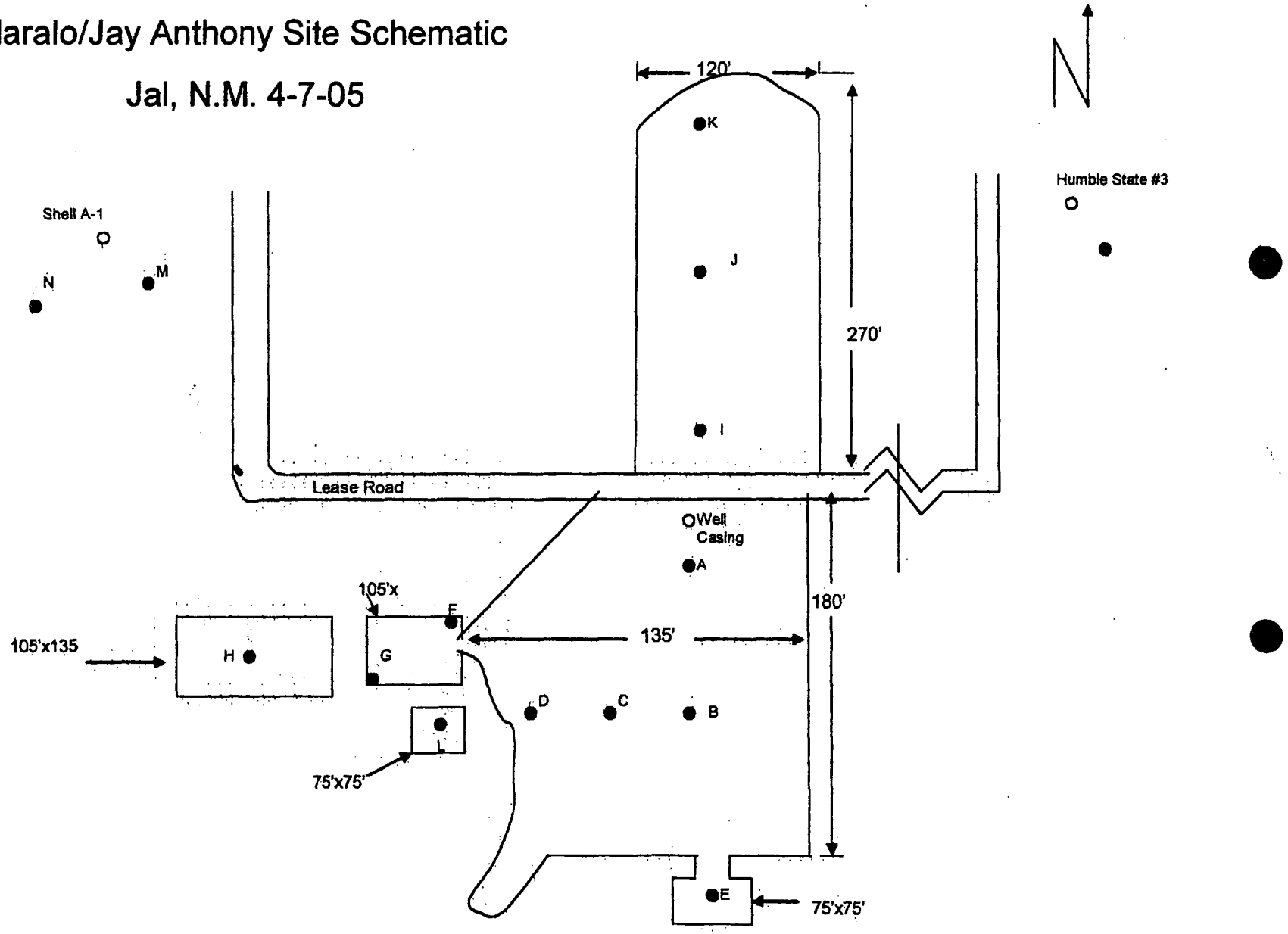
Enclosed are the plat maps, field analytical, and lab confirmation for the drill samples taken in April 2005. The lab report for the sample of the material from the P & A wells that was backfilled in the Tank Battery excavation is also included. If you have any questions about the enclosed documentation please contact me at the office or my cell 432-664-1269.

Sincerely,

Logan Anderson

Maralo/Jay Anthony Site Schematic

Jal, N.M. 4-7-05

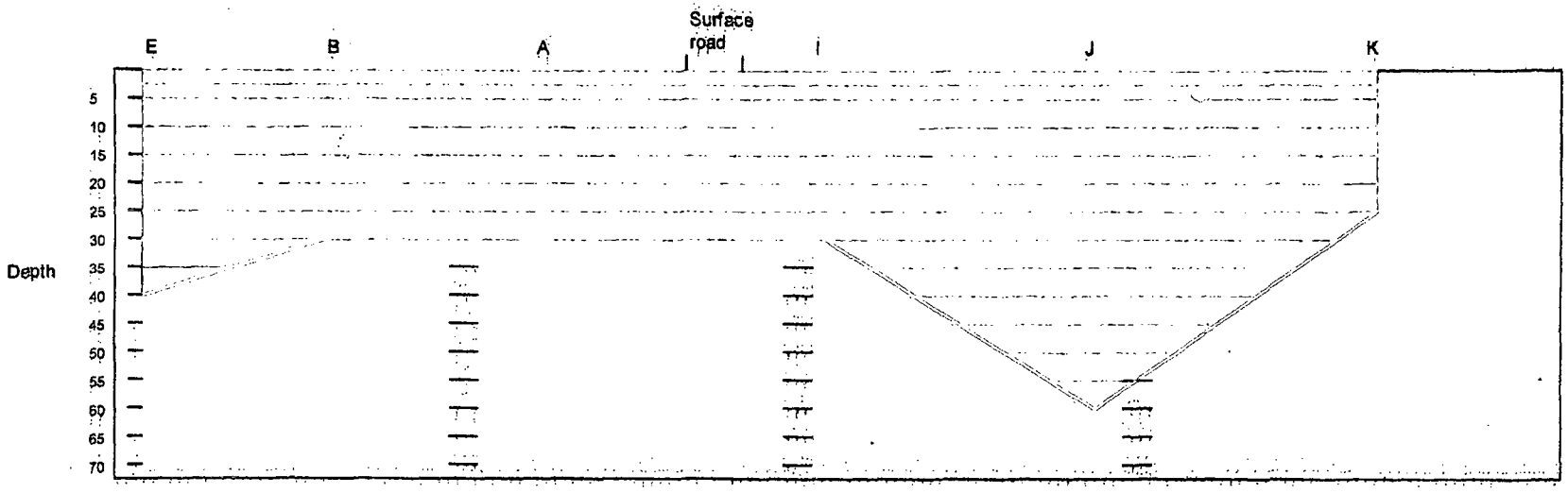


Maralo/Jay Anthony Site Schematic

Jal, N.M. 4-7-05

Looking Horizontally East to West

Area in red is more than 100 ppm PID reading

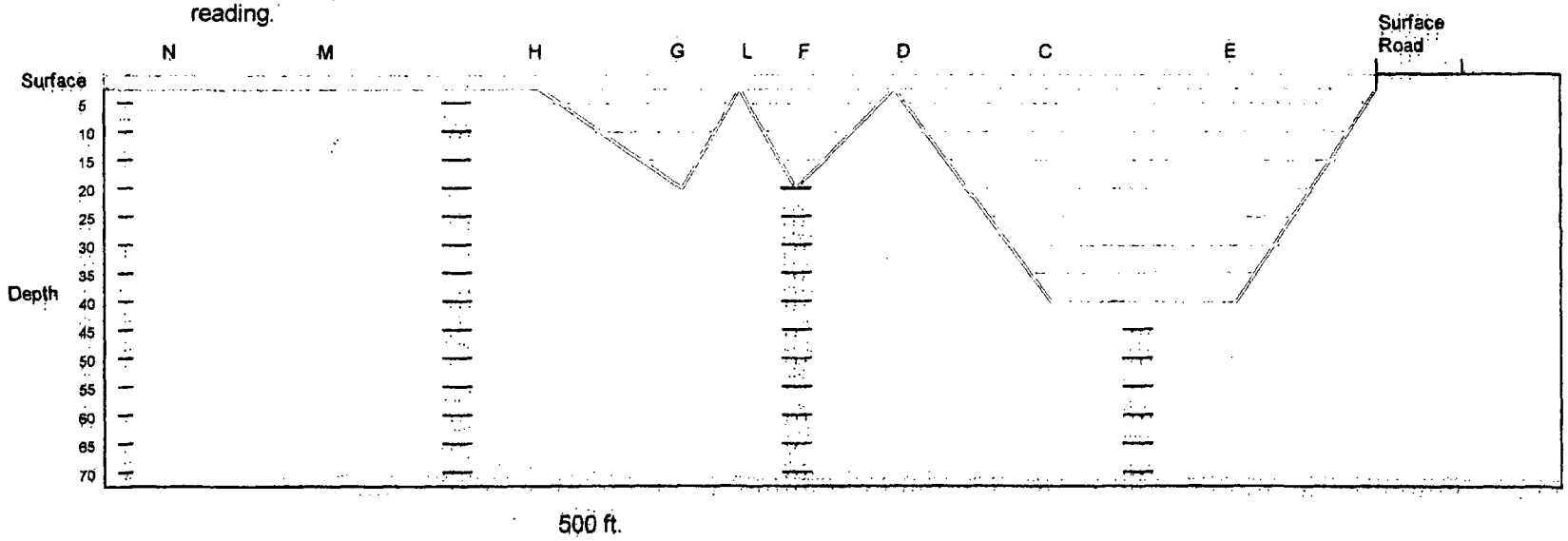


Maralo/Jay Anthony Site Schematic

Jal, N.M. 4-7-05

Looking Horizontally South to North

Area in Red is more than 100 ppm PID reading.



MARALO-JAY ANTHONY SITE

Location and Sample Data 4-7 & 8- 2005

GPS	Depth	PID	TPH	Cl
Sample Pt. A N32 05'25.2" W103 12'52.2"	5 ft.	0.01		
	10 ft.	332		
	15 ft.	356		
	20 ft.	394		
	25 ft.	189	146	24.6
	30 ft.	226		
	35 ft.	31.1		
	40 ft.	17.7		

	Depth	PID	TPH	Cl
Sample Pt. B N32 05'24.5" W103 12'52.1"	5ft.	0.01		
	10 ft.	332		
	15 ft.	356		
	20 ft.	394		
	25 ft.	189		
	30 ft.	226		
	35 ft.	31		
	40 ft.	17.7	155	45.1

Sample Pt. C N32 05'24.4" W103 12'52.9"	5 ft.	230		
	10 ft.	304		
	15 ft.	329		
	20 ft.	504		
	25 ft.	312		
	30 ft.	977		
	35 ft.	502		
	40 ft.	223		
	45 ft.	67		
	50 ft.	28	419	40.1

Sample Pt. D N32 05'24.4" W103 12'53.6"	5 ft.	2.7		
	10 ft.	1.7		
	15 ft.	21.8		
	20 ft.	25.7		
	25 ft.	11.2		
	30 ft.	2.2	ND	16.1

Sample Pt. E N32 05'23.1" W103 12'51.3"	5 ft.	38.4		
	10 ft.	313		
	15 ft.	314		
	20 ft.	455		
	25 ft.	288		
	30 ft.	357		
	35 ft.	350		
	40 ft.	405		
	45 ft.	56.6		
	50 ft.	31.7	505	52.7

Sample Pt. F N32 05'24.9" W103 12'54.8"	5 ft.	458		
	10 ft.	482		
	15 ft.	284		
	20 ft.	222		
	25 ft.	27.3		
	30 ft.	8.3	184	93.9

	GPS	Depth	PID	TPH	Cl
Sample Pt. G	N32 05'24.5" W103 12'55.2"	5 ft.	308		
		10 ft.	312		
		15 ft.	310		
		20 ft.	286		
		25 ft.	41.4		
		30 ft.	21	159	180

	GPS	Depth	PID	TPH	Cl
Sample Pt. H	N32 05'24.7" W103 12'56.4"	5 ft.	0.1		
		10 ft.	0.1		
		15 ft.	2.8		
		20 ft.	0.1		
		25 ft.	0.1		
		30 ft.	0.1	ND	38

	GPS	Depth	PID	TPH	Cl
Sample Pt. I	N32 05'26.6" W103 12'52.4"	5 ft.	135		
		10 ft.	651		
		15 ft.	944		
		20 ft.	769		
		25 ft.	1120		
		30 ft.	837		
		35 ft.	84.4		
		40 ft.	99.3		
		45 ft.	33.3		
		50 ft.	92.9		
		55 ft.	26.1		
		60 ft.	29.5	ND	43

	GPS	Depth	PID	TPH	Cl
Sample Pt. J	N32 05'27.6" W103 12'52.4"	5 ft.	307		
		10 ft.	519		
		15 ft.	525		
		20 ft.	622		
		25 ft.	292		
		30 ft.	271		
		35 ft.	231		
		40 ft.	326		
		45 ft.	329		
		50 ft.	201		
		55 ft.	269		
		60 ft.	307		
		65 ft.	84.3		
		70 ft.	39.1	173	209

	GPS	Depth	PID	TPH	Cl
Sample Pt. K	N32 05'28.2" W103 12'52.3"	5 ft.	291		
		10 ft.	426		
		15 ft.	311		
		20 ft.	267		
		25 ft.	268		
		30 ft.	56.7		
		35 ft.	24.4		
		40 ft.	33.6	215	220

	GPS	Depth	PID	TPH	Cl
Sample Pt. L	N32 05'23.8" W103 12'55.1"	5 ft.	0.6		
		10 ft.	0.1		
		15 ft.	2.2		
		20 ft.	0.1		
		25 ft.	0.1		
		30 ft.	0.1	ND	106

	GPS	Depth	PID	TPH	Cl
Sample Pt. M	N32 05'32.4" W103 13'00.0"	5 ft.	23.5		
		10 ft.	3.3		
		15 ft.	2.5		
		20 ft.	0.1		
		25 ft.	0.2		899

	GPS	Depth	PID	TPH	Cl
Sample Pt. N	N32 05'32.1" W103 13'00.4"	5 ft.	0.1		
		10 ft.	0.6		
		15 ft.	9.1		
		20 ft.	4.7		
		25 ft.	3	ND	467

	GPS	Depth	PID	TPH	Cl
Sample Pt. O	N32 05'32.4" W103 12'45.4"	5 ft.	0.1		
		10 ft.	0.1		
		15 ft.	0.1		
		20 ft.	0.1		662

Sample Pt Well N32 05'25.5" W103 12'[redacted]

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Logan Anderson

Elke Environmental

P.O. Box 14167

Odessa, TX 79768

SPLP of BACKFILL

Project: Maralo

Project Number: None Given

Location: Humble State #3

Lab Order Number: 6F20004

Report Date: 06/22/06

Elke Environmental	Project: Maralo	Fax: (432) 366-0884
P.O. Box 14167	Project Number: None Given	
Odessa TX, 79768	Project Manager: Logan Anderson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Backfill@ 11'	6F20004-01	Soil	06/20/06 10:05	06/20/06 13:24

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Elke Environmental
P.O. Box 14167
Odessa TX, 79768

Project: Maralo
Project Number: None Given
Project Manager: Logan Anderson

Fax: (432) 366-0884

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Backfill@ 11' (6F20004-01) Soil									
Carbon Ranges C6-C12	ND	3.00	mg/L	0.08	EF62112	06/21/06	06/21/06	1312/8015M	
Carbon Ranges C12-C28	ND	3.00	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	3.00	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	3.00	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*73.0 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*71.6 %*	*70-130*		"	"	"	"	

Elke Environmental	Project: Maralo	Fax: (432) 366-0884
P.O. Box 14167	Project Number: None Given	
Odessa TX, 79768	Project Manager: Logan Anderson	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Backfill@ 11' (6F20004-01) Soil									
Chloride	ND	5.00	mg/L	1	EF62204	06/22/06	06/22/06	1312/9253	
% Moisture	**2.2**	0.1	%	"	EF62104	06/20/06	06/21/06	% calculation	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Elke Environmental	Project: Maralo	Fax: (432) 366-0884
P.O. Box 14167	Project Number: None Given	
Odessa TX, 79768	Project Manager: Logan Anderson	

SPLP Metals 1312 by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Extracted	Prepared	Analyzed	Method	Notes
Backfill@ 11' (6F20004-01) Soil										
Mercury	**J [0.000120]**	0.000250	mg/L	1	EF62120	SPLP6/20/06	06/21/06	06/21/06	EPA 7470A	J
Chromium	**J [0.00468]**	0.00975	"	10	EF62123	SPLP 06/20/06	06/21/06	06/21/06	EPA 6020A	J
Arsenic	**ND**	0.0170	"	"	"	"	"	"	"	
Selenium	ND	0.0300	"	"	"	"	"	"	"	
Silver	ND	0.00405	"	"	"	"	"	"	"	
Cadmium	ND	0.00692	"	"	"	"	"	"	"	
Barium	**0.0229**	0.00489	"	"	"	"	"	"	"	
Lead	ND	0.00296	"	"	"	"	"	"	"	

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Elke Environmental	Project: Maralo	Fax: (432) 366-0884
P.O. Box 14167	Project Number: None Given	
Odessa TX, 79768	Project Manager: Logan Anderson	

SPLP Volatile Halocarbons by EPA Method 1312/8021B

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Extracted	Prepared	Analyzed	Method	Notes
Backfill@ 11' (6F20004-01) Soil										
Benzene	ND	0.00100	mg/L	1	EF62109	06/20/06 SPLP	06/21/06	06/21/06	EPA 8021B	
Toluene	**I [0.000663]**	0.00100	"	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	"	
Xylene (p/m)	**ND**	0.00100	"	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*		*80-120*	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*82.8 %*		*80-120*	"	"	"	"	"	

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Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF62112 - EPA GC 1312										
Blank (EF62112-BLK1)				Prepared & Analyzed: 06/21/06						
Carbon Ranges C6-C12	ND	3.00	mg/L							
Carbon Ranges C12-C28	ND	3.00	"							
Carbon Ranges C28-C35	ND	3.00	"							
Total Hydrocarbon nC6-nC35	ND	3.00	"							
Surrogate: 1-Chlorooctane	*36.3*		"	*50.0*		*72.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.0*		"	*50.0*		*72.0*	*70-130*			
LCS (EF62112-BS1)				Prepared & Analyzed: 06/21/06						
Carbon Ranges C6-C12	50.2	3.00	mg/L	50.0		100	75-125			
Carbon Ranges C12-C28	47.0	3.00	"	50.0		94.0	75-125			
Carbon Ranges C28-C35	ND	3.00	"	0.00			75-125			
Total Hydrocarbon nC6-nC35	97.2	3.00	"	100		97.2	75-125			
Surrogate: 1-Chlorooctane	*37.9*		"	*50.0*		*75.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.5*		"	*50.0*		*75.0*	*70-130*			
Calibration Check (EF62112-CCV1)				Prepared & Analyzed: 06/21/06						
Carbon Ranges C6-C12	23.5		mg/L	25.0		94.0	80-120			
Carbon Ranges C12-C28	27.9		"	25.0		112	80-120			
Total Hydrocarbon nC6-nC35	51.4		"	50.0		103	80-120			
Surrogate: 1-Chlorooctane	*45.5*		"	*50.0*		*91.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*41.1*		"	*50.0*		*82.2*	*70-130*			
Matrix Spike (EF62112-MS1)	**Source: 6F20004-01**			Prepared & Analyzed: 06/21/06						
Carbon Ranges C6-C12	49.7	3.00	mg/L	50.0	ND	99.4	75-125			
Carbon Ranges C12-C28	47.9	3.00	"	50.0	ND	95.8	75-125			
Carbon Ranges C28-C35	ND	3.00	"	0.00	ND		75-125			
Total Hydrocarbon nC6-nC35	97.6	3.00	"	100	ND	97.6	75-125			
Surrogate: 1-Chlorooctane	*41.1*		"	*50.0*		*82.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.4*		"	*50.0*		*70.8*	*70-130*			