# AP - <u>26</u>

# GENERAL CORRESPONDENCE

# YEAR(S): 7/14/06 -> 99

			TRANSACTION		-	JUL-14-2006	FRI	08:51	A
F	OR:								
DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE		M#	Ľ
JUL-14	08:49	AM 914323660884	2′ 22″	3	SEND	ОК		213	_
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## 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:

JHX# 432-366-0884

LOGAN ANDERSON - ELKE ENUR. OCD - 2) PRICE

TO:

FROM:

Called 8:49 AM THEY REC! N T(19/06



### TRANSMITTAL COVER SHEET

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

	VER THIS FAX: 5/1×# 432-366-0884-
TO:	LOGAN ANDERSON - ELKE ENUR.
FROM:	OCD-20 PRIEE
DATE:	7/14/06
PAGES:	3
SUBJECT:	ORDER R- 12152-A MARALO HUMBLE ST #3
E-NA/	1 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:

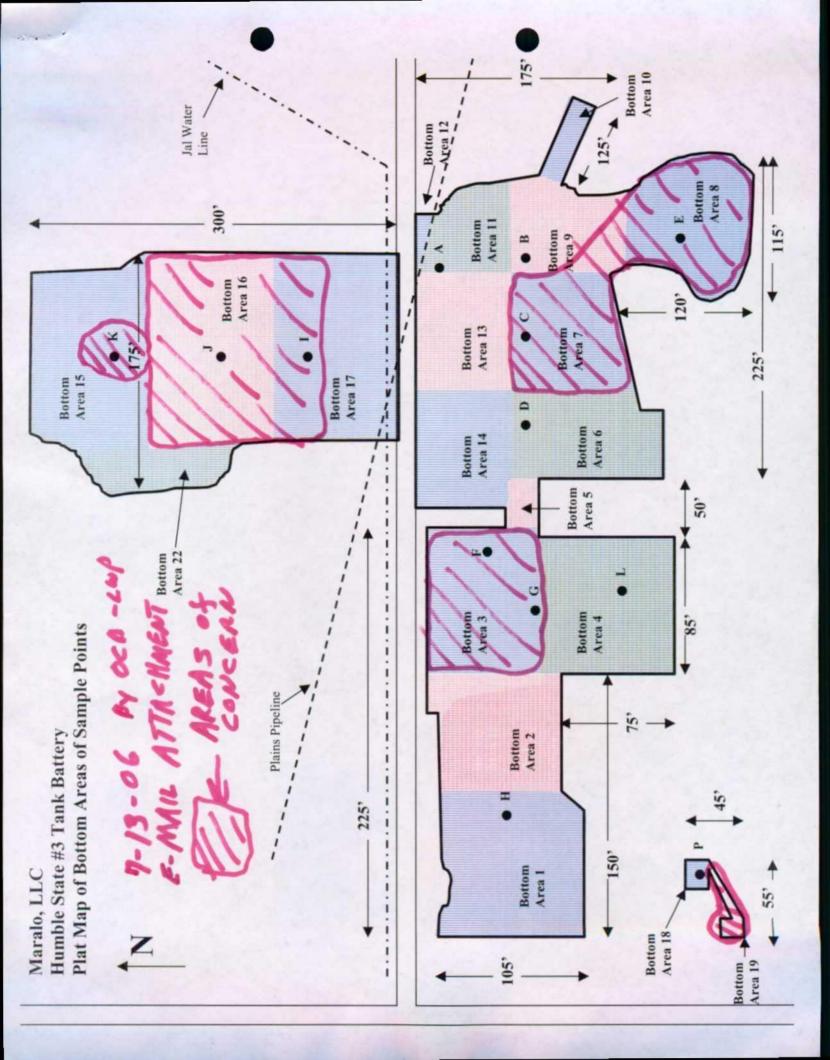
1. All of area 3, 7, 8, 9, 15 (small area around sample point B15E),16, and 17 (north half).

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



# Elke Environmental, Inc.

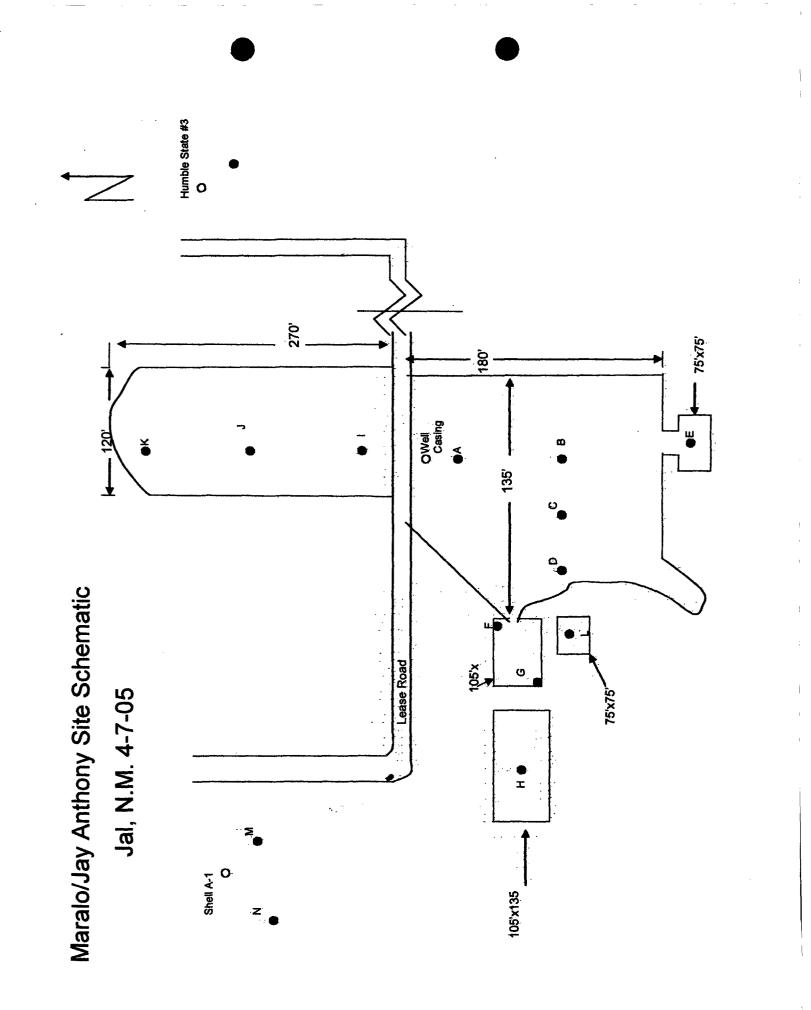
P.O. Box 14167 Odessa, TX 79768 Phone (432) 366-0043 Fax (432) 366-0884

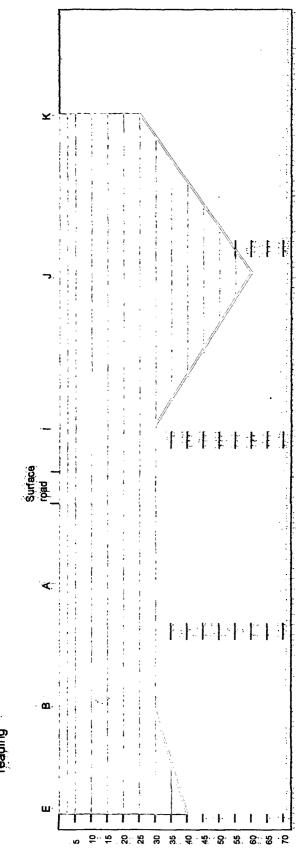
New Mexico Oil Conservation Division Mr. Wayne Price 1220 South St. Francis Drive Sante Fe, New Mexico 87505	2003 JUL
Re: OCD Case 131142 Order R-12152-A	σ
Humble State #3 Tank Battery Site	FN
Jal, New Mexico	<u>ن</u> ـــ
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	CT .
Mr. Wayne Price,	7

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





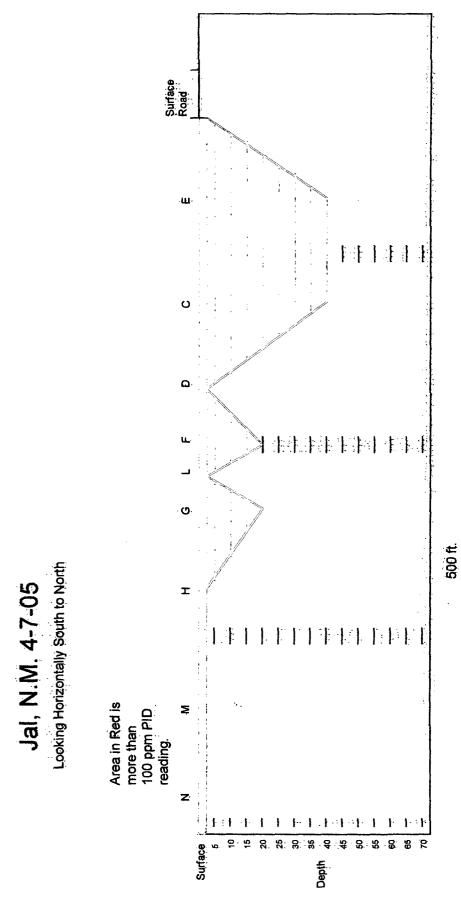
# Maralo/Jay Anthony Site Schematic

Jal, N.M. 4-7-05

Looking Horizontally East to West

Area in red is more than 100 ppm PID reading

Depth



Maralo/Jay Anthony Site Schematic

MARALO-JAY ANTHONY SITE

-																_					 _										 
	ច								45.1							16.1										93.9					
	ТРН								155							0										184					•
	DID	0.01	332	356	394	189	226	31	17.7	-	2.7	1.7	21.8	25.7	11.2	2.2 ND				• •	458	482	284	222	27.3	8.3					•
	Depth	5ft.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	35 ft.	40 ft.		5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	-  -  -				5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.					
tion and Sample Data 4-7 & 8- 2005		Sample Pt. B N32 05'24.5" W103 12'52.1"	•								Sample Pt. D N32 05'24.4" W103 12'53.6"									•	Sample Pt. F N32 05'24.9" W103 12'54.8"										-
mple	ច					24.6	••••													40.1					<b>.</b>	<u></u>				52.7	
and Sa	ТРН					146														419										505	
Ca		0.01	332	356	394	189	226	31.1	17.7		230	304	329	504	312	977	502	223	67	28	38.4	313	314	455	288	357	350	405	56.6	31.7	
Lo	Depth	5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	35 ft.	40 ft.		5 ff.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	35 ft.	40 ft.	45 ft.	50 ft.	5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	35 ft.	40 ft.	45 ft.	50 ft.	
		A N32 05'25.2" W103 12'52.2"								- 4	C N32 05'24.4" W103 12'52.9"	6. <sup>-</sup>									E N32 05'23.1" W103 12'51.3"										
		Sample Pt.									Sample Pt.										Sample Pt.										

																																						7			
ច	Γ						38							<u> </u>								209	]	Γ					106	2						107		•		4	1
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GPS	H N32 05'24.7" W103 12'56.4"								J N32 05'27.6" W103 12'52.4"															- N32 05'23.8" W103 12'55.1"								N N22 05122 411 1414.02 4 2000 411								Sample Pt. Well N32 05'25.5" W103 12'32 15	
	Sample Pt.	•						- 1	Sample Pt.															Sample Pt.	•							Samula D+									
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TPH							159													Q											215										
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Depth	5 ft.	10 ft.	15.8		20 E.	ZD 11.	30 ft.		5 ff.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	35 ft.	40 ft.	45 ft.	50 ft.	55 ft.	60 ft.				5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	35 ft.	40 ft:	44	10 <del>1</del>	15.8	20 #	25.4		5 ft.	10 ft.	15 ft.	20 ft.
GPS	G N32 05'24.5" W103 12'55.2"							- 1	1 N32 U5'26.6" W1U3 12'52.4"															K N32 05'28.2" W103 12'52.3"								M N32 05'32 4" W103 13'00 0"						O N32 05'32.4" W103 12'45.4"			
	Sample Pt.								sample PC.															Sample Pt.								Samula Dt						Sample Pt.			
	Sam								Nam															Sam		_						Came						Sam			

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L.



# **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: Mar	lo	Fax: (432) 366-0884
P.O. Box 14167	Project Number: Non	Given	
Odessa TX, 79768	Project Manager: Loga	n Anderson	

### ANALYTICAL REPORT FOR SAMPLES

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

Page 1 of 13

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					<u></u>	·····			
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						7	
Total Hydrocarbon nC6-nC35	ND	3.00	•				"		
Surrogate: 1-Chlorooctane		73.0 %	70-1	30	"	"		n	
Surrogate: 1-Chlorooctadecane		71.6 %	70-1	30	n	"	"	12	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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1					
	Elke Environmental	Project:	Maralo	Fax: (432) 366-0884	
	P.O. Box 14167	Project Number:	None Given		
	Odessa TX, 79768	Project Manager:	Logan Anderson		

### **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	

Environmental Lab of Texas

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

### Project: Maralo

Project Number: None Given 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			"	"		-	n	

Environmental Lab of Texas

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Elke Environmental P.O. Box 14167 Odessa TX, 79768 Project: Maralo

Project Number: None Given

Project Manager: Logan Anderson

### SPLP Volatile Halocarbons by EPA Method 1312/8021B

### **Environmental Lab of Texas**

		Reporting								
Analyte	Result	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	Ħ		•				•	
Surrogate: a,a,a-Trifluorotoluene	·······	101 %	80	-120	"	"	n	т алта далеать а. И	<i>n</i>	<u></u>
Surrogate: 4-Bromofluorobenzene		82.8 %	80	-120	"	"		n	"	

Environmental Lab of Texas

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

Project: Maralo

Fax: (432) 366-0884

**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
						/4120		<u></u>	Emilt	Trotes
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		'n	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		n	50.0		82.2	70-130			
Matrix Spike (EF62112-MS1)	Sou	rce: 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			

Environmental Lab of Texas

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

Project Number: None Given Project Manager: Logan Anderson Project:MaraloProject Number:None GivenProject Manager:Logan Anderson

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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										
Matrix Spike Dup (EF62112-MSD1)	Source	e: 6F20004-	01	Prepared &	Analyzed:	06/21/06				
Carbon Ranges C6-C12	49.9	3.00	mg/L	50.0	ND	99.8	75-125	0.402	20	
Carbon Ranges C12-C28	47.9	3.00		50.0	ND	95.8	75-125	0.00	20	
Carbon Ranges C28-C35	ND	3.00	•	0.00	ND		75-125		20	
Total Hydrocarbon nC6-nC35	97.8	3.00	*	100	ND	97.8	75-125	0.205	20	
Surrogate: 1-Chlorooctane	41.3	· · · · · ·	"	50.0		82.6	70-130			
Surrogate: 1-Chlorooctadecane	35.7		"	50.0		71.4	70-130			

Environmental Lab of Texas

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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 Anderso	n

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF62104 - General Preparation (Prep)			····						····	
Duplicate (EF62104-DUP1)	Sou	irce: 6F19007-	01	Prepared: 0	6/20/06 A	nalyzed: 06	/21/06			
% Solids	92.5		%		93.1			0.647	20	
Duplicate (EF62104-DUP2)	Sou	rce: 6F20013-	03	Prepared: 0	6/20/06 A	nalyzed: 06	/21/06			
% Solids	97.0		%		95.0			2.08	20	
Batch EF62204 - EPA 1312/9253										
Blank (EF62204-BLK1)				Prepared &	Analyzed	: 06/22/06				
Chloride	0.00	5.00	mg/L				<u> </u>			
LCS (EF62204-BS1)				Prepared &	Analyzed	: 06/22/06				
Chloride	103		mg/L	100		103	80-120			
LCS Dup (EF62204-BSD1)				Prepared &	Analyzed	; 06/22/06				
Chloride	103		mg/L	100		103	80-120	0.00	20	
Matrix Spike (EF62204-MS1)	Sou	ree: 6F20004-	01	Prepared &	Analyzed	: 06/22/06				
Chloride	4960		mg/L	5000	ND	99.2	80-120			
Reference (EF62204-SRM1)				Prepared &	Analyzed	: 06/22/06				
Chloride	4700		mg/L	5000		94.0	80-120			

Environmental Lab of Texas

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Elke Environmental P.O. Box 14167 Odessa TX, 79768 Project: Maralo

Project Number: None Given

Project Manager: Logan Anderson

### SPLP Metals 1312 by EPA / Standard Methods - Quality Control

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF62120 - EPA 1312/7470										
Blank (EF62120-BLK1)				Prepared &	z Analyzed:	06/21/06				
Мегсигу	ND	0.000250	mg/L							
LCS (EF62120-BS1)				Prepared &	Analyzed:	0 <del>6/2</del> 1/06				
Mercury	0.00115	0.000250	mg/L	0.00100		115	85-115		•• ••	
LCS Dup (EF62120-BSD1)				Prepared &	Analyzed	06/21/06				
Mercury	0.00111	0.000250	mg/L	0.00100		111	85-115	3.54	20	
Calibration Check (EF62120-CCV1)				Prepared &	Analyzed:	06/21/06				
Mercury	0.00109		mg/L	0.00100		109	90-110			<u></u>
Matrix Spike (EF62120-MS1)	Sou	rce: 6F20004-	01	Prepared &	Analyzed:	06/21/06				
Mercury	0.00111	0.000250	mg/L	0.00100	0.000120	99.0	75-125			<u>.</u>
Batch EF62123 - EPA 1312/3005 Blank (EF62123-BLK1)	<u> </u>	- <del></del>		Prepared &	Analyzed:	06/21/06			<del></del>	
Chromium	ND	0.000975	mg/L							
Arsenic	ND	0.00170								
Selenium	ND	0.00300	n							
Silver	ND	0.000405								
Cadmium	ND	0.000692								
Barium	ND	0.000489	*							
Lead	ND	0.000296	•							
LCS (EF62123-BS1)				Prepared &	Analyzed:	06/21/06				
Chromium	0.198	0.000975	mg/L	0.200		99.0	85-115			
Arsenic	0.847	0.00170	"	0.800		106	85-115			
Selenium	0.449	0.00300		0.400		112	85-115			
Silver	0.105	0.000405		0.100		105	85-115			
Cadmium	0.208	0.000692	"	0.200		104	85-115			
Barium	0.219	0.000489	-	0.200		110	85-115			
Lead	1.14	0.000296		1.10		104	85-115			

Environmental Lab of Texas

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

Project: Maralo

Project Number: None Given Project Manager: Logan Anderson

### SPLP Metals 1312 by EPA / Standard Methods - Quality Control

### **Environmental Lab of Texas**

<b></b>										
Amelia	Ramit	Reporting	T failer	Spike	Source	WREC.	%REC	000	RPD	N
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF62123 - EPA 1312/3005										
LCS Dup (EF62123-BSD1)				Prepared &	Analyzed:	06/21/06				
Chromium	0.198	0.000975	mg/L	0.200		99.0	85-115	0.00	20	
Arsenic	0.857	0.00170		0.800		107	85-115	1.17	20	
Selenium	0.449	0.00300	*	0.400		112	85-115	0.00	20	
Silver	0.107	0.000405		0.100		107	85-115	1.89	20	
Cadmium	0.208	0.000692		0.200		104	85-115	0.00	20	
Barium	0.215	0.000489	"	0.200		108	85-115	1.84	20	
Lead	1.15	0.000296		1.10		105	85-115	0.873	20	
Calibration Check (EF62123-CCV1)				Prepared &	Analyzed:	06/21/06				
Chromium	0.0470		mg/L	0,0500		94.0	90-110		<u> </u>	
Arsenic	0.0504			0.0500		101	90-110			
Selenium	0.0513			0.0500		103	90-110			
Silver	0.0504			0.0500		101	90-110			
Cadmium	0.0495			0.0500		99.0	90-110			
Barium	0.0507			0.0500		101	90-110			
Lead	0.0502		"	0.0500		100	90-110			
Matrix Spike (EF62123-MS1)	Sou	rce: 6F20004-	01	Prepared &	Analyzed:	06/21/06				
Chromium	0.185	0.00975	mg/L	0.200	0.00468	90.2	75-125	······································	<del></del>	
Arsenic	0.787	0.0170	11	0.800	ND	98.4	75-125			
Selenium	0.403	0.0300	-	0.400	ND	101	75-125			
Silver	0.119	0.00405		0.100	ND	119	75-125			
Cadmium	0.192	0.00692		0.200	ND	96.0	75-125			
Barium	0.232	0.00489	*	0.200	0.0229	105	75-125			
Lead	1.04	0.00296		1.10	ND	94.5	75-125			
Matrix Spike Dup (EF62123-MSD1)	Sou	rce: 6F20004-	01	Prepared &	: Analyzed:	06/21/06				
Chromium	0.185	0.00975	mg/L	0.200	0.00468	90.2	75-125	0.00	20	
Arsenic	0.796	0.0170		0.800	ND	99.5	75-125	1.14	20	
Selenium	0.417	0.0300		0.400	ND	104	75-125	3.41	20	
Silver	0.116	0.00405		0.100	ND	116	75-125	2.55	20	
Cadmium	0.193	0.00692		0.200	ND	96.5	75-125	0.519	20	
Barium	0.232	0.00489		0.200	0.0229	105	75-125	0.00	20	
Lead	1.04	0.00296		1.10	ND	94.5	75-125	0.00	20	

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 Elke Environmental
 Project:
 Maralo

 P.O. Box 14167
 Project Number:
 None Given

Odessa TX, 79768

Project Manager: Logan Anderson

### SPLP Volatile Halocarbons by EPA Method 1312/8021B - Quality Control

### **Environmental Lab of Texas**

		Reporting	** *.	Spike	Source	4/7FC	%REC		RPD	<b>N</b> .
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF62109 - EPA GC 1312		· • · · · · · · · · · · · · · · · · · ·		<u> </u>						
Blank (EF62109-BLK1)				Prepared &	z Analyzed:	06/21/06				
Benzene	ND	0.00100	mg/L							
Foluene	ND	0.00100								
Ethylbenzene	ND	0.00100	*							
Xylene (p/m)	ND	0.00100	-							
Xylene (o)	ND	0.00100	н							
Surrogate: a,a,a-Trifluorotoluene	45.8		ug/kg	40.0		114	80-120			
Surrogate: 4-Bromofluorobenzene	37.6		"	40.0		94.0	80-120			
LCS (EF62109-BS1)				Prepared &	2 Analyzed:	06/21/06				
Benzene	0.0523	0.00100	mg/L	0.0500		105	80-120			
Toluene	0.0568	0.00100	*	0.0500		114	80-120			
Ethylbenzene	0.0548	0.00100	-	0.0500		110	80-120			
Xylene (p/m)	0.119	0.00100	*	0.100		119	80-120			
Xylene (0)	0.0582	0.00100	-	0.0500		116	80-120			
Surrogate: a,a,a-Trifluorotoluene	42.8		ug/kg	40.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	41.1		"	40.0		103	80-120			
Calibration Check (EF62109-CCV1)				Prepared &	Analyzed:	06/21/06				
Benzene	53.5		ug/kg	50.0		107	80-120		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Toluene	58.0			50.0		116	80-120			
Ethylbenzene	55.2			50.0		110	80-120			
Xylene (p/m)	115		"	100		115	80-120			
Xylene (0)	57.0		n	50.0		114	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.1		17	40.0		103	80-120	·····		
Surrogate: 4-Bromofluorobenzene	40.7		"	40.0		102	80-120			
Matrix Spike (EF62109-MS1)	Sou	rce: 6F20004-	01	Prepared &	Analyzed:	06/21/06				
Benzene	0.0533	0.00100	mg/L	0,0500	ND	107	80-120			
Toluene	0.0585	0.00100		0.0500	0.000663	116	80-120			
Ethylbenzene	0.0516	0.00100		0.0500	ND	103	80-120			
Xylene (p/m)	0.120	0.00100		0.100	ND	120	80-120			
Xylene (o)	0.0586	0.00100	•	0.0500	ND	117	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.4		ug/kg	40.0		101	80-120			· · · · ·
Surrogate: 4-Bromofluorobenzene	40.0		"	40.0		100	80-120			

Environmental Lab of Texas

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i	Elke Environmental	Project: N	Maralo	Fax: (432) 366-0884	
	P.O. Box 14167	Project Number: N	Ione Given		
	Odessa TX, 79768	Project Manager: L	ogan Anderson		

### SPLP Volatile Halocarbons by EPA Method 1312/8021B - Quality Control

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF62109 - EPA GC 1312										
Matrix Spike Dup (EF62109-MSD1)	Sour		01	Prepared &	2 Analyzed:	06/21/06				
Benzene	0,0496	0.00100	mg/L	0.0500	ND	99.2	80-120	7.57	20	
Toluene	0.0558	0.00100		0.0500	0.000663	110	80-120	5.31	20	
Ethylbenzene	0.0526	0.00100	•	0.0500	ND	105	80-120	1.92	20	
Xylene (p/m)	0.114	0.00100	-	0.100	ND	114	80-120	5.13	20	
Xylene (0)	0.0564	0.00100		0.0500	ND	113	80-120	3.48	20	
Surrogate: a,a,a-Trifluorotoluene	40.5	· • • • • • • • • • • • • • • • • • • •	ug/kg	40.0		101	80-120			· · · · · · ·
Surrogate: 4-Bromofluorobenzene	39.5		"	40.0		98.8	80-120			

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Elke En	vironmental	Project: Maralo	Fax: (432) 366-0884
P.O. Boz	x 14167	Project Number: None Given	
Odessa TX, 79768		Project Manager: Logan Anderson	
		Notes and Definitions	
J	Detected but below the Reporting L	imit; therefore, result is an estimated concentration (CLP J-Flag).	
DET	Analyte DETECTED		
ND	Analyte NOT DETECTED at or above t	he reporting limit	
NR	Not Reported		
dry	Sample results reported on a dry weight	basis	
RPD	Relative Percent Difference		
LCS	Laboratory Control Spike		
MS	Matrix Spike		

Dup Duplicate

Report Approved By:

Raland K Julits

6/22/2006

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

Date:

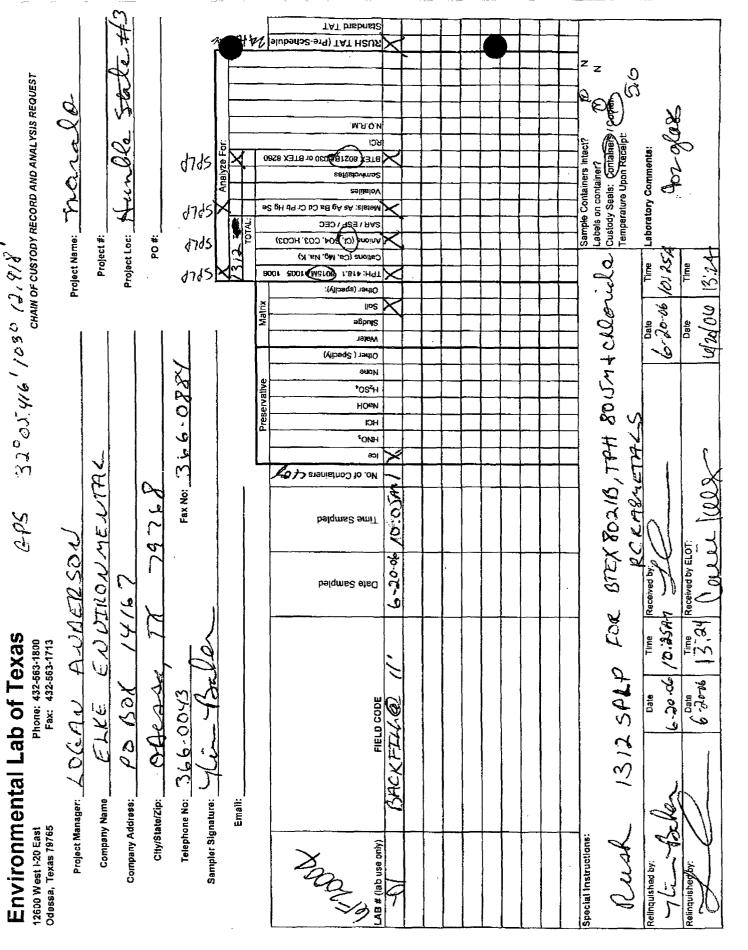
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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

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and the second second

### Environmental Lab of Texas Variance / Corrective Action Report - Sample Log-In

÷.

lient:	ELKE, ENV.
)ate/Time:	6/20/06 13:24
Order #:	6F20004
nitials:	cle

All samples received within sufficient hold time?

VOC samples have zero headspace?

### Sample Receipt Checklist emperature of container/cooler? 5.0 Yes Na C Shipping container/cooler in good condition? 6 No Custody Seals intact on shipping container/cooler? No B Not present **Custody Seals intact on sample bottles?** No (P) Not present Chain of custody present? æ\_ No Sample Instructions complete on Chain of Custody? No ×3 Chain of Custody signed when ralinguished and received? **ES**| No Chain of custody agrees with sample label(s) No (es Container labels legible and intact? Fes No Sample Matrix and properties same as on chain of custody? 105 Na Samples in proper container/bottle? ES | No Samples properly preserved? Ves No Sample bottles intact? 8 No Preservations documented on Chain of Custody? No Containers documented on Chain of Custody? Ø No Sufficient sample amount for indicated test? No Yes

Other observations:

Contact Person: Regarding:	Variance Documentation: _ Date/Time:	_ Contacted by:
Corrective Action Taken:		

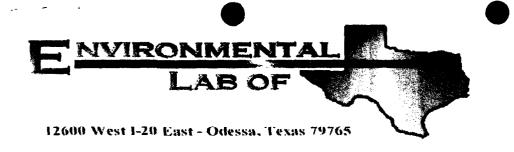
63

Yes)

No

No

Nct Applicable



# Analytical Report

### Prepared for: Rob Elam

Allstate Environmental Services, LLC P.O. Box 11322 Midland, TX 79702

SORILL'ING REPORT

Project: Anthony-Maralo Project Number: None Given Location: Anthony-Maralo

Lab Order Number: 5D08008

Report Date: 04/15/05

Allstate Environmental Services, LLC P.O. Box 11322 Midland TX, 79702	Project: Anthony-Ma Project Number: None Given Project Manager: Rob Elam	ralo		Fax: (432) 682-4182 Reported: 04/15/05 07:34
	ANALYTICAL REPORT FOR SAM	PLES		
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
JA-A-25'	5D08008-01	Soil	04/06/05 07:20	04/08/05 13:1
JA-B-40'	5D08008-02	Soil	04/06/05 07:40	04/08/05 13:1
JA-C-50	5D08008-03	Soil	04/06/05 08:00	04/08/05 13:1
JA-D-30 ,	5D08008-04	Soil	04/06/05 08:20	04/08/05 13:1
JA-H-30	5D08008-05	Soil	04/06/05 09:40	04/08/05 13:1
JA-G-30	5D08008-06	Soil	04/06/05 09:20	04/08/05 13:
JA-F-30	5D08008-07	Soil	04/06/05 09:00	04/08/05 13:1
JA-E-50	5D08008-08	Soil	04/06/05 08:40	04/08/05 13:
JA-I-60	5D08008-09	Soil	04/06/05 07:00	04/08/05 13:
JA-J-70	5D08008-10	Soil	04/07/05 07:00	04/08/05 13:
JA-K-40	5D08008-11	Soil	04/07/05 07:20	04/08/05 13:
JA-L-30	5D08008-12	Soil	04/07/05 07:40	04/08/05 13:
JA-B-30	5D08008-13	Soil	04/07/05 08:00	04/08/05 13:
Humble State #3 0-20	5D08008-14	Soil	04/07/05 11:00	04/08/05 13:
Shell A #1- N-25	5D08008-15	Soil	04/07/05 10:20	04/08/05 13:
Shell A #1- M-25	5D08008-16	Soil	04/07/05 10:00	04/08/05 13:
JA-J-60	5D08008-17	Soil	04/07/05 10:40	04/08/05 13:
JA-I-30	5D08008-18	Soil	04/07/05 11:20	04/08/05 13:
JA-E-40	5D08008-19	Soil	04/07/05 11:40	04/08/05 13:

Allstate Environmental Services, LLC		T	Project: Antho	onv-Mara	do			Fax: (432) (	682-4182
P.O. Box 11322			umber: None					Report	ted:
Midland TX, 79702		-	anager: Rob I					04/15/05	
		O	rganics by	GC					
		Environ	mental La	b of Ta	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
JA-A-25' (5D08008-01) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	146	10.0				м			
Total Hydrocarbon C6-C35	146	10.0		"	н			•	
Surrogate: I-Chlorooctane		98.4 %	70-13	0	"	"	#	"	
Surrogate: 1-Chlorooctadecane		105 %	70-13	0	"	"	"	"	
JA-B-40' (5D08008-02) Soil									
Gasoline Range Organics C6-C12	J [7.13]	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	155	10.0						•	
Total Hydrocarbon C6-C35	155	10.0	٣		•	H	u		
Surrogate: 1-Chlorooctane	the second s	101 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-13	0	"	"	"	"	
JA-C-50 (5D08008-03) Soil									
Gasoline Range Organics C6-C12	21.7	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	397	10.0	,				*	n	
Fotal Hydrocarbon C6-C35	419	10.0	•		"	•	r	11	
Surrogate: 1-Chlorooctane		103 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		108 %	70-13	0	"	"	"	н	
JA-D-30 (5D08008-04) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	•	n	,	л	n	*	
Total Hydrocarbon C6-C35	ND	10.0	"		r	7	"	N	
Surrogate: 1-Chlorooctane		95.2 %	70-13	0	"	"	N	"	
Surrogate: 1-Chlorooctadecane		98.8 %	70-13	0	"	"	"	n	
JA-H-30 (5D08008-05) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0			Π	*		•	
Total Hydrocarbon C6-C35	ND	10.0	"	п	n	. "	*		
Surrogate: 1-Chlorooctane		95.2 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		<i>99.2</i> %	70-13	0	"	"	"	"	

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Page 2 of 12

Allstate Environmental Services, LLC		1	Project: Antho	onv-Mars	alo			Fax: (432) 682-4182 Reported:		
P.O. Box 11322			lumber: None							
Midland TX, 79702			anager: Rob I					04/15/0	5 07:34	
		O	rganics by	GC						
		Environ	mental La	b of Te	exas					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note:	
JA-G-30 (5D08008-06) Soil			· · · · · ·							
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M		
Diesel Range Organics >C12-C35	159	10.0		•	*					
Total Hydrocarbon C6-C35	159	10.0	•	•		"				
Surrogate: 1-Chlorooctane		91.6%	70-13	)	ħ	"	"	"		
Surrogate: 1-Chlorooctadecane		96.4 %	70-13	0	"	"	"	"		
JA-F-30 (5D08008-07) Soil										
Gasoline Range Organics C6-C12	J [8.53]	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M		
Diesel Range Organics >C12-C35	184	10.0			•	•		•		
Total Hydrocarbon C6-C35	184	10.0	н	U	8	11	ŀ	H		
Surrogate: 1-Chlorooctane		92.4 %	70-13	0	"	"	"	"		
Surrogate: 1-Chlorooctadecane		95.2 %	70-13	0	"	"	"	"		
JA-E-50 (5D08008-08) Soil									<u>.</u>	
Gasoline Range Organics C6-C12	32.5	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M		
Diesel Range Organics >C12-C35	472	10.0	•	•		R				
Total Hydrocarbon C6-C35	505	10.0		н	N	•		H		
Surrogate: 1-Chlorooctane		90.8 %	70-13	0	"	*	"	"		
Surrogate: 1-Chlorooctadecane		92.8 %	70-13	0	"	"	"	"		
JA-I-60 (5D08008-09) Soil										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M		
Diesel Range Organics >C12-C35	ND	10.0	n		•	л	a	*		
Total Hydrocarbon C6-C35	ND	10.0	*	n		H	"	n.		
Surrogate: 1-Chlorooctane		120 %	70-13	2	"	"	"	"		
Surrogate: 1-Chlorooctadecane		121 %	70-13	)	"	"	"	"		
JA-J-70 (5D08008-10) Soil										
Gasoline Range Organics C6-C12	24.5	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M		
Diesel Range Organics >C12-C35	148	10.0	*	•	P	-	-	H		
Total Hydrocarbon C6-C35	173	10.0	•	"	n	"	n	N		
Surrogate: 1-Chlorooctane		101 %	70-13	9	"	n	"	"		
Surrogate: 1-Chlorooctadecane		105 %	70-13	2	"	"	"	"		

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Page 3 of 12

Allstate Environmental Services, LLC		1	Project: Anth	Fax: (432) 682-4182					
P.O. Box 11322			umber: None					Report	
Midland TX, 79702		Project M	anager: Rob	Elam				04/15/05	07:34
			rganics by						
		Environ	mental La	b of Te	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
JA-K-40 (5D08008-11) Soil						<u></u>	<u> </u>	· · ·	
Gasoline Range Organics C6-C12	15.7	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	199	10.0	p	•	•				
Total Hydrocarbon C6-C35	215	10.0	n			"			
Surrogate: 1-Chlorooctane		88.8 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		91.8 %	70-13	0	"	"	"	"	
JA-L-30 (5D08008-12) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0							
Total Hydrocarbon C6-C35	ND	10.0						7	
Surrogate: 1-Chlorooctane		86.0 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		89.8 %	70-13	0	"	"	"	"	
JA-B-30 (5D08008-13) Soil									
Gasoline Range Organics C6-C12	18.0	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	85.5	10.0	•		"	7	n	n	
Total Hydrocarbon C6-C35	104	10.0	#	#		n 	*		
Surrogate: 1-Chlorooctane		94.2 %	70-13	10	"	"	"	"	
Surrogate: 1-Chlorooctadecane		95.4 %	70-13	10	n	~	**	"	
Humble State #3 0-20 (5D08008-14) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	,		-		7	a	
Total Hydrocarbon C6-C35	ND	10.0	n			P	n	n 	
Surrogate: 1-Chlorooctane		84.4 %	70-13	80	"	"	"	"	
Surrogate: 1-Chlorooctadecane		87. <b>4 %</b>	70-13	80	"	"	"	"	
Shell A #1- N-25 (5D08008-15) Soil					<u>.</u>				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	•				h	13	
Total Hydrocarbon C6-C35	ND	10.0					b		
Surrogate: 1-Chlorooctane		96.0 %	70-1.	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		98.6 %	70-13	30	"	"	"	"	

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Allstate Environmental Services, LLC P.O. Box 11322 Midland TX, 79702		Project N	Project: Ant umber: Nor anager: Rob	ne Given	ilo			Fax: (432) 6 Report 04/15/05	ted:
			ganics b	-					
		Environ	mental L	ab of Te	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Shell A #1- M-25 (5D08008-16) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	34		P	•	•	19	
Total Hydrocarbon C6-C35	ND	10.0	H		•	•	•	•	
Surrogate: 1-Chlorooctane		86.0 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		86.8 %	70-1	30	"	"	"	"	
JA-J-60 (5D08008-17) Soil									
Gasoline Range Organics C6-C12	439	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	3160	10.0		-	•		•		
Total Hydrocarbon C6-C35	3600	10.0			P	4	u	#	
Surrogate: 1-Chlorooctane		96.2 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	7 <b>0-1</b>	30	"	"	"	"	
JA-I-30 (5D08008-18) Soil									
Gasoline Range Organics C6-C12	139	10.0	mg/kg dry	1	ED50813	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	424	10.0			•				
Total Hydrocarbon C6-C35	563	10.0	H	-	•	n		n	
Surrogate: 1-Chlorooctane		78.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		87. <b>4 %</b>	7 <b>0-1</b>	30	"	"	"	*	
JA-E-40 (5D08008-19) Soil									
Gasoline Range Organics C6-C12	1060	10.0	mg/kg dry	1	ED50815	04/08/05	04/11/05	EPA 8015M	
Diesel Range Organics >C12-C35	6230	10.0						b	
Total Hydrocarbon C6-C35	7290	10.0	tt	n		"		n	<u> </u>
Surrogate: 1-Chlorooctane		93.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		102 %	70-1	30	"	"	"	"	

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

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Allstate Environmental Services, LLC	Project:	Anthony-Maralo	Fax: (432) 682-4182
P.O. Box 11322	Project Number:	None Given	Reported:
Midland TX, 79702	Project Manager:	Rob Elam	04/15/05 07:34

		Environ	nental I	ab of Te	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
JA-A-25' (5D08008-01) Soil									
Chloride	24.6	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	10.7	0.1	%	I	ED51107	04/08/05	04/11/05	% calculation	
JA-B-40' (5D08008-02) Soil									
Chloride	45.1	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	8.3	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-C-50 (5D08008-03) Soil			_						
Chloride	40.1	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	7.2	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-D-30 (5D08008-04) Soil									
Chloride	16.1	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	5.5	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-H-30 (5D08008-05) Soil			_		_				
Chloride	37.7	10.0	mg/kg	20	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	8.1	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-G-30 (5D08008-06) Soil									
Chloride	180	10.0	mg/kg	20	ED51212	04/11/05	04/11/05	▲ EPA 300.0	
% Moisture	9.1	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-F-30 (5D08008-07) Soil									
Chloride	93.9	10.0	mg/kg	20	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	8.9	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-E-50 (5D08008-08) Soil									
Chloride	52.7	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	6.8	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	

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Į	Allstate Environmental Services, LLC	Project:	Anthony-Maralo	Fax: (432) 682-4182
	P.O. Box 11322	Project Number:	None Given	Reported:
	Midland TX, 79702	Project Manager:	Rob Elam	04/15/05 07:34

### **Environmental Lab of Texas**

							_		
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
JA-I-60 (5D08008-09) Soil									
Chloride	42.9	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	7.4	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-J-70 (5D08008-10) Soil									
Chloride	209	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	7.4	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-K-40 (5D08008-11) Soil									
Chloride	220	10.0	mg/kg	20	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	6.4	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-L-30 (5D08008-12) Soil									
Chloride	106	25.0	mg/kg	50	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	8.0	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-B-30 (5D08008-13) Soil									
Chloride	35.5	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	11.5	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
Humble State #3 0-20 (5D08008-14) Soil									
Chloride	467	20.0	mg/kg	40	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	3.2	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
Shell A #1- N-25 (5D08008-15) Soil									
Chloride	662	50.0	mg/kg	100	ED51212	04/11/05	04/11/05	EPA 300.0	-
% Moisture	8.8	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
Shell A #1- M-25 (5D08008-16) Soil									
Chloride		50.0	mg/kg	100	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	10.5	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	

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Allstate Environmental Services, LLC	Project: Anthony-Maralo	Fax: (432) 682-4182
P.O. Box 11322	Project Number: None Given	Reported:
Midland TX, 79702	Project Manager: Rob Elam	04/15/05 07:34

		Environn	nental L	ab of Te	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
JA-J-60 (5D08008-17) Soil									
Chloride	175	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	7.7	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-I-30 (5D08008-18) Soil									
Chloride	33.2	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	
% Moisture	8.6	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	
JA-E-40 (5D08008-19) Soil									
Chloride	65.3	5.00	mg/kg	10	ED51212	04/11/05	04/11/05	EPA 300.0	· /a.a
% Moisture	6.3	0.1	%	1	ED51107	04/08/05	04/11/05	% calculation	

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Allstate Environmental Services, LLC		p	roject: Ant	hony-Maral	0				Fax: (432)	682-4182	
P.O. Box 11322			umber: Nor						Repo	rted:	
Midland TX, 79702											
	-	-		uality Co							
	I	Environn	nental L	ab of Te	xas						
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch ED50813 - Solvent Extraction (GC	)		<b>.</b>		•		·				
Blank (ED50813-BLK1)	···			Prepared: (	)4/08/05 A	nalyzed: 04	/10/05				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet								
Diesel Range Organics >C12-C35	ND	10.0									
Total Hydrocarbon C6-C35	ND	10.0	•								
Surrogate: 1-Chlorooctane	36.4		mg/kg	50.0		72.8	70-130				
Surrogate: 1-Chlorooctadecane	36.1		"	50.0		72.2	70-130				
LCS (ED50813-BS1)				Prepared: (	04/08/05 A	nalyzed: 04	/10/05				
Gasoline Range Organics C6-C12	494	10.0	mg/kg wet	500		98.8	75-125			AM (M. AM	
Diesel Range Organics >C12-C35	483	10.0	n	500		96.6	75-125				
Total Hydrocarbon C6-C35	977	10.0	*	1000		97.7	75-125				
Surrogate: 1-Chlorooctane	38.6		mg/kg	50.0		77.2	70-130				
Surrogate: 1-Chlorooctadecane	38.2		"	50.0		76.4	70-130				
Calibration Check (ED50813-CCV1)				Prepared: (	04/08/05 A	nalyzed: 04	/10/05				
Gasoline Range Organics C6-C12	497	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	mg/kg	500		99.4	80-120				
Diesel Range Organics >C12-C35	511		н	500		102	80-120				
Total Hydrocarbon C6-C35	1010		"	1000		101	80-120				
Surrogate: 1-Chlorooctane	58.6		"	50.0		117	70-130				
Surrogate: 1-Chlorooctadecane	59.9		"	50.0		120	70-130				
Matrix Spike (ED50813-MS1)	Sourc	xe: 5D08008	8-01	Prepared: (	04/08/05 A	nalyzed: 04	/11/05				
Gasoline Range Organics C6-C12	588	10.0	mg/kg dry	560	ND	105	75-125				
Diesel Range Organics >C12-C35	734	10.0		560	146	105	75-125				
Total Hydrocarbon C6-C35	1320	10.0	"	1120	146	105	75-125				
Surrogate: 1-Chlorooctane	56.5		mg/kg	50.0		113	70-130				
Surrogate: 1-Chlorooctadecane	60.3		"	50.0		121	70-130				
Matrix Spike Dup (ED50813-MSD1)		xe: 5D08008	· ··· ·· ··· ·· ···		04/08/05 A						
Gasoline Range Organics C6-C12	587	10.0		560	ND	105	75-125	0.170	20		
Diesel Range Organics >C12-C35	692	10.0		560	146	97.5	75-125	5.89	20		
Total Hydrocarbon C6-C35	1280	10.0	n	1120	146	101	75-125	3.08	20		
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	70-130				
Surrogate: 1-Chlorooctadecane	57.9			50.0		116	70-1 <i>3</i> 0				

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Allstate Environmental Services, LLC P.O. Box 11322 Midland TX, 79702		Project N	roject: Ant umber: Noi unager: Rol		0				Fax: (432) Repo 04/15/0	rted:
	0	rganics by			ntrol					
	Ū	Environ	-	•						
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED50815 - Solvent Extraction (GC)										
Blank (ED50815-BLK1)				Prepared: (	)4/08/05 A	nalyzed: 04	11/05			
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet	-					··	
Diesel Range Organics >C12-C35	ND	10.0	Ħ							
Fotal Hydrocarbon C6-C35	ND	10.0								
Surrogate: 1-Chlorooctane	38.9		mg/kg	50.0		77.8	70-130			
Surrogate: 1-Chlorooctadecane	39.2		"	50.0		78.4	70-130			
LCS (ED50815-BS1)				Prepared: (	)4/08/05 A	nalyzed: 04	11/05			
Basoline Range Organics C6-C12	460	10.0	mg/kg wet	500		92.0	75-125			
Diesel Range Organics >C12-C35	449	10.0	Ħ	500		89.8	75-125			
Total Hydrocarbon C6-C35	909	10.0	"	1000		90.9	75-125			
Surrogate: 1-Chlorooctane	39.7		mg/kg	50.0		79.4	70-130			
Surrogate: 1-Chlorooctadecane	35.8		"	50.0		71.6	70-130			
Calibration Check (ED50815-CCV1)				Prepared: (	04/08/05 A	nalyzed: 04	/11/05			
Gasoline Range Organics C6-C12	516		mg/kg	500		103	80-120			
Diesel Range Organics >C12-C35	515			500		103	80-120			
Total Hydrocarbon C6-C35	1030			1000		103	80-120			
Surrogate: 1-Chlorooctane	63.8		"	50.0	· · · ·	128	70-130			
Surrogate: 1-Chlorooctadecane	63.9		"	50.0		128	70-130			
Matrix Spike (ED50815-MS1)	Sou	rce: 5D0801(	-01	Prepared: (	04/08/05 A	nalyzed: 04	11/05			
Gasoline Range Organics C6-C12	640	10.0	mg/kg dry	703	ND	91.0	75-125			
Diesel Range Organics >C12-C35	749	10.0	"	703	ND	107	75-125			
Total Hydrocarbon C6-C35	1390	10.0	D	1410	ND	98.6	75-125			
Surrogate: 1-Chlorooctane	50.7		mg/kg	50.0		101	70-130			
Surrogate: 1-Chlorooctadecane	44.5		"	50.0		89.0	70-130			
Matrix Spike Dup (ED50815-MSD1)	Sou	rce: 5D0801(	-01	Prepared: (	04/08/05 A	nalyzed: 04	V11/05			
Gasoline Range Organics C6-C12	638	10.0	mg/kg dry	703	ND	90.8	75-125	0.313	20	
Diesel Range Organics >C12-C35	734	10.0		703	ND	104	75-125	2.02	20	
Total Hydrocarbon C6-C35	1370	10.0		1410	ND	97.2	75-125	1.45	20	
Surrogate: 1-Chlorooctane	50.7		mg/kg	50.0		101	70-130		. <u> </u>	•
Surrogate: 1-Chlorooctadecane	44.5		"	50.0		89.0	70-130			

Environmental Lab of Texas

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Allstate Environmental Services, LLC	Project:	Anthony-Maralo	Fax: (432) 682-4182
P.O. Box 11322	Project Number:	None Given	Reported:
Midland TX, 79702	Project Manager:	Rob Elam	04/15/05 07:34

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch ED51107 - General Preparation (P	rep)	· · · · · · · · · · · · · · · · · · ·	·							
Blank (ED51107-BLK1)				Prepared: (	04/08/05 A	nalyzed: 04	/11/05			
% Moisture	ND	0.1	%							
Duplicate (ED51107-DUP1)	Sour	ce: 5D08006	-01	Prepared: (	04/08/05 A	nalyzed: 04	/11/05			
% Moisture	6.0	0.1	%		6.9			14.0	20	
Batch ED51212 - Water Extraction										
Blank (ED51212-BLK1)				Prepared &	Analyzed:	04/11/05				
Chloride	ND	0.500	mg/kg							
LCS (ED51212-BS1)				Prepared &	Analyzed:	04/11/05				
Chloride	10.4	<u></u>	mg/L	10.0		104	80-120			
Calibration Check (ED51212-CCV1)				Prepared &	t Analyzed:	04/11/05				
Chloride	10.8		mg/L	10.0		108	80-120			
Duplicate (ED51212-DUP1)	Sour	ce: 5D08008	-11	Prepared &	t Analyzed:	04/11/05				
								7.86	20	

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Allstate Environmental Services, LLCProject:Anthony-MaraloFax: (432) 682-4182P.O. Box 11322Project Number:None GivenReported:Midland TX, 79702Project Manager:Rob Elam04/15/05 07:34

#### **Notes and Definitions**

- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Ciliz D. Kune Date:

Report Approved By:

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

4/15/2005

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Environmental Lab of Texas

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		Date Time	2121 59/8/12 - Anny 1, 1 MM 7	Data Time	XU/S _ f ("h/orides	2		+	「「「「」」」	02 T-45 11	JA-J- 60	16 Shell ## 1 - M-25	-N - 1 # 4 1/ and 2	14 Humple State # 3. 0-20	13 TA-15-30	JA-1-	J JA	SNO CAB # (lab use only)		7	Bampler Signature:	Telephone No: <u> </u>	chyistatazip: Midland, Texas	Company Address: Pobex 11322	Company Name All's Late Envireners La	Project Nanager: <u>Reb Elarry</u>	Environmental Lab of Texas 12800 West - 20 East Odesse, Texas 79788 Fax: 432-453-1510	
0	Stand me	Received by ELOT:		Received by:		· <b>f</b> *	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	477 200	9/7 1120	4/7 1040	4/7 1000	4/2 /020	4/7 100	00% / 1/1/	4/7 740	251. J.7/4	Date Sampled				या	79702		otal Services			
c	memuu									0110		211	011					No. of Containers Ice HNO3				Fax No: 432-682			ines .			
-	4-																	HCI NaOH HySO, Nons Other ( Specify)	Preservative			682-411						
	4-8-05 1315	Dale Time		Data Time					2 2		2	5				- - - - 	4	Water Studge Soll Other (specify): TPH: 418, 1 (SPISR), 1005 1 Callone (Ca, Mg, Ha, K)	Manx		1	N.S.	1		- Proj	Project Name:	chain of cust	
		d 6 5 1 1	- the star		Laboratory Comments:	Temperature Upon Receipt:	Sample Containers Interio		5	\$					4		¢.	Anion (CO) EC4, CO3, HCO3) SAR / ESP / CEC Metals: As Ag Ba Cd Cr Pb Hg Volatiles Serrivolatiles	Ţ,				P0 #:	we: Antheny	Project #:	mme: Art	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST	
			0-1 1 Ce		ments: 4,0°c	π Γ	E											SEREVALUES BYEX 80218/5030 or BTEX 8 RC1 N.O.R.M.	1260			·		ny - Mara		hony - N	D ANALYSIS REQ	
:		i	V/lakers		~	1	×   z		2			k	- - -	5				RUSH TAT (Pre-Schedu Standard TAT	si <b>e</b>					vale		Javalo	<i>ر</i> د	

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## **Environmental Lab of Texas** Variance / Corrective Action Report - Sample Log-In

Client: Allstate Environmental	
--------------------------------	--

Date/Time: 04-08-05 @ 1315

Order #: 5008008

Initials: Jmm

Sample Receipt Checklist

Sample Receip	t Checkli	st	
Temperature of container/cooler?	(Ye)	No	4.0 C
Shipping pontaine)/cooler in good condition?	(Tes)	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	(Yes)	No	
Sample Instructions complete on Chain of Custody?	(Tas)	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Ces	No	
Container labels legible and intact?	Tes	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in proper container/bottle?	Cles	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	······································
Preservations documented on Chain of Custody?	Yes	No	······································
Containers documented on Chain of Custody?	Tes	No	
Sufficient sample amount for indicated test?	Tes	No	
All samples received within sufficient hold lime?	(tes)	No	
VOC samples have zero headspace?	(Yes)	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: -	 Date/Time:	 Contacted	by:	
Regarding:				

Corrective Action Taken:

### Price, Wayne, EMNRD

From:	Hamp Kerby [elkeenv@yahoo.com]
Sent:	Tuesday, June 20, 2006 11:55 AM
То:	Price, Wayne, EMNRD
Subject:	Maralo - Humble State #3 Tank Battery
Attachments	: 728349218-Plat Map Before Excavation.doc; 3135554616-Final Plat Map for Walls.doc; 974159496-Final Plat Map for Bottoms.doc; 1101085636-Field Analytical Walls.doc; 164352802-Lab Summary Walls.doc; 861140073-Lab Summary Bottoms.doc

### Mr. Wayne Price,

Attached are the plat maps of the site and the field and lab analysis summaries. I will also be sending pictures of all the walls and bottoms, and the lab reports in the mail. If you have any questions please contact me at 432-664-1269.

Thanks, Logan Anderson

Yahoo! Messenger with Voice. <u>Make PC-to-Phone Calls</u> to the US (and 30+ countries) for 2¢/min or less.

### Price, Wayne, EMNRD

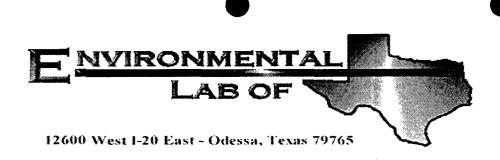
From:	Hamp Kerby [elkeenv@yahoo.com]
Sent:	Thursday, June 22, 2006 2:29 PM
То:	Price, Wayne, EMNRD
Subject:	Maralo Humble State #3 Tank Battery
Attachments:	4289071053-Lab Analysis Soil from P & A Wells.pdf

Mr. Wayne Price,

Enclosed is the lab analysis for the soil that came from the Plugged and Abandoned wells and backfilled into the main excavation of the Humble State #3 Tank Battery site. The sample was taken in witness of Larry Johnson with the Hobbs Field Office of the NMOCD, and is a grab sample of the most visually contaminated soil backfilled so far.

Thanks, Logan Anderson

Yahoo! Messenger with Voice. PC-to-Phone calls for ridiculously low rates.



# Analytical Report

### **Prepared for:**

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

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

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

### 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 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		71.6 %	70-1	30	"	"	"	"	

Elke Environmental	Project:	Maralo	Fax: (432) 366-0884
P.O. Box 14167	Project Number:	None Given	
Odessa TX, 79768	Project Manager:	Logan Anderson	1

### 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	

Environmental Lab of Texas

Elke Environmental P.O. Box 14167

Odessa TX, 79768

Project: Maralo Project Number: None Given

Project Manager: Logan Anderson

#### Fax: (432) 366-0884

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### 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	"	и	"	"	"	"	"	
Selenium	ND	0.0300	"	11	u	"	"	"	"	
Silver	ND	0.00405	**	"	"	u			"	
Cadmium	ND	0.00692	"	*	"	"	"	"		
Barium	0.0229	0.00489	**	11	"	н	"	"	**	
Lead	ND	0.00296	"	"	"	н	"		"	

Environmental Lab of Texas

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

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 5 of 13

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

### **Organics by GC - Quality Control**

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	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)	Sou	rce: 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			

Environmental Lab of Texas

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

### **Organics by GC - Quality Control**

### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch EF62112 - EPA GC 1312

Matrix Spike Dup (EF62112-MSD1)	Sourc	Source: 6F20004-01			Analyzed	06/21/06				
Carbon Ranges C6-C12	49.9	3.00	mg/L	50.0	ND	99.8	75-125	0.402	20	
Carbon Ranges C12-C28	47.9	3.00	11	50.0	ND	95.8	75-125	0.00	20	
Carbon Ranges C28-C35	ND	3.00	"	0.00	ND		75-125		20	
Total Hydrocarbon nC6-nC35	97.8	3.00	"	100	ND	97.8	75-125	0.205	20	
Surrogate: 1-Chlorooctane	41.3		"	50.0		82.6	70-130			
Surrogate: 1-Chlorooctadecane	35.7		"	50.0		71.4	70-130			

Environmental Lab of Texas

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 - Quality Control

### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF62104 - General Preparation (Prep)										
Duplicate (EF62104-DUP1)	Sou	rce: 6F19007-	01	Prepared: 0	6/20/06 A	nalyzed: 06	/21/06			
% Solids	92.5		%		93.1			0.647	20	
Duplicate (EF62104-DUP2)	Sou	rce: 6F20013-	03	Prepared: 0	6/20/06 A	nalyzed: 06	/21/06			
% Solids	97.0		%		95.0			2.08	20	
Batch EF62204 - EPA 1312/9253										
Blank (EF62204-BLK1)				Prepared &	Analyzed:	06/22/06				
Chloride	0.00	5.00	mg/L							
LCS (EF62204-BS1)				Prepared &	Analyzed:	06/22/06				
Chloride	103		mg/L	100		103	80-120			
LCS Dup (EF62204-BSD1)				Prepared &	Analyzed:	06/22/06				
Chloride	103		mg/L	100		103	80-120	0.00	20	
Matrix Spike (EF62204-MS1)	Sou	rce: 6F20004-(	01	Prepared & Analyzed: 06/22/06						
Chloride	4960		mg/L	5000	ND	99.2	80-120	, <u>,,,,,,,,,,,,,,,,,,,</u>		
Reference (EF62204-SRM1)				Prepared &	Analyzed:	06/22/06				
Chloride	4700		mg/L	5000		94.0	80-120			

Environmental Lab of Texas

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

### Project: Maralo

Project Number: None Given

Project Manager: Logan Anderson

### SPLP Metals 1312 by EPA / Standard Methods - Quality Control

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF62120 - EPA 1312/7470										
Blank (EF62120-BLK1)	······			Prepared &	Analyzed:	06/21/06				
Mercury	ND	0.000250	mg/L							
LCS (EF62120-BS1)				Prepared &	Analyzed:	06/21/06				
Mercury	0.00115	0.000250	mg/L	0.00100		115	85-115			
LCS Dup (EF62120-BSD1)				Prepared &	Analyzed:	06/21/06				
Mercury	0.00111	0.000250	mg/L	0.00100		111	85-115	3.54	20	_*
Calibration Check (EF62120-CCV1)				Prepared &	: Analyzed:	06/21/06				
Mercury	0.00109		mg/L	0.00100		109	90-110			
Matrix Spike (EF62120-MS1)	Sou	rce: 6F20004-	01	Prepared &	: Analyzed:	06/21/06				
Mercury	0.00111	0.000250	mg/L	0.00100	0.000120	99.0	75-125			
Batch EF62123 - EPA 1312/3005	<u> </u>								·	<del></del>
Blank (EF62123-BLK1)			,,	Prepared &	Analyzed:	06/21/06				
Chromium	ND ND	0.000975 0.00170	mg/L "							
Arsenic Selenium	ND	0.00170								
Silver	ND	0.000405								
Cadmium	ND	0.000692	"							
Barium	ND	0.000489	"							
Lead	ND	0.000296	11							
LCS (EF62123-BS1)				Prepared &	: Analyzed:	06/21/06				
Chromium	0.198	0.000975	mg/L	0.200		99.0	85-115			
Arsenic	0.847	0.00170	"	0.800		106	85-115			
	0.449	0.00300	"	0.400		112	85-115			
Selenium			"	0.100		105	85-115			
	0.105	0.000405		0.100						
Silver	0.105 0.208	0.000405 0.000692	11	0.200		104	85-115			
Selenium Silver Cadmium Barium						104 110	85-115 85-115			

Environmental Lab of Texas

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

### Project: Maralo

Project Number: None Given Project Manager: Logan Anderson Fax: (432) 366-0884

#### SPLP Metals 1312 by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF62123 - EPA 1312/3005										
LCS Dup (EF62123-BSD1)				Prepared 8	k Analyzed:	06/21/06				
Chromium	0.198	0.000975	mg/L	0.200		99.0	85-115	0.00	20	
Arsenic	0.857	0.00170	"	0.800		107	85-115	1.17	20	
Selenium	0.449	0.00300		0.400		112	85-115	0.00	20	
Silver	0.107	0.000405	"	0.100		107	85-115	1.89	20	
Cadmium	0.208	0.000692	"	0.200		104	85-115	0.00	20	
Barium	0.215	0.000489	۳.	0.200		108	85-115	1.84	20	
Lead	1.15	0.000296	11	1.10		105	85-115	0.873	20	
Calibration Check (EF62123-CCV1)				Prepared &	Analyzed:	06/21/06				
Chromium	0.0470		mg/L	0.0500		94.0	90-110			
Arsenic	0.0504		"	0.0500		101	90-110			
Selenium	0.0513		**	0.0500		103	90-110			
Silver	0.0504			0.0500		101	90-110			
Cadmium	0.0495			0.0500		99.0	90-110			
Barium	0.0507		"	0.0500		101	90-110			
Lead	0.0502		"	0.0500		100	90-110			
Matrix Spike (EF62123-MS1)	Sou	rce: 6F20004-	01	Prepared &	Analyzed:	06/21/06				
Chromium	0.185	0.00975	mg/L	0.200	0.00468	90.2	75-125			
Arsenic	0.787	0.0170	"	0.800	ND	98.4	75-125			
Selenium	0.403	0.0300	"	0.400	ND	101	75-125			
Silver	0.119	0.00405	"	0.100	ND	119	75-125			
Cadmium	0.192	0.00692	"	0.200	ND	96.0	75-125			
Barium	0.232	0.00489	"	0.200	0.0229	105	75-125			
Lead	1.04	0.00296	"	1.10	ND	94.5	75-125			
Matrix Spike Dup (EF62123-MSD1)	Sou	rce: 6F20004-	01	Prepared &	Analyzed:	06/21/06				
Chromium	0.185	0.00975	mg/L	0.200	0.00468	90.2	75-125	0.00	20	
Arsenic	0.796	0.0170		0.800	ND	99.5	75-125	1.14	20	
Selenium	0.417	0.0300	"	0.400	ND	104	75-125	3.41	20	
Silver	0.116	0.00405		0.100	ND	116	75-125	2.55	20	
Cadmium	0.193	0.00692		0.200	ND	96.5	75-125	0.519	20	
Barium	0.232	0.00489	"	0.200	0.0229	105	75-125	0.00	20	
Lead	1.04	0.00296	"	1.10	ND	94.5	75-125	0.00	20	

Environmental Lab of Texas

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 - Quality Control

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF62109 - EPA GC 1312										
Blank (EF62109-BLK1)				Prepared &	2 Analyzed:	06/21/06				
Benzene	ND	0.00100	mg/L							
Toluenc	ND	0.00100	11							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylenc (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	45.8		ug/kg	40.0		114	80-120			
Surrogate: 4-Bromofluorobenzene	37.6		"	40.0		94.0	80-120			
LCS (EF62109-BS1)				Prepared &	2 Analyzed:	06/21/06				
Benzene	0.0523	0.00100	mg/L	0.0500		105	80-120			
Toluene	0.0568	0.00100		0.0500		114	80-120			
Ethylbenzene	0.0548	0.00100	"	0.0500		110	80-120			
Xylene (p/m)	0.119	0.00100	"	0.100		119	80-120			
Xylene (0)	0.0582	0.00100	"	0.0500		116	80-120			
Surrogate: a,a,a-Trifluorotoluene	42.8		ug/kg	40.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	41.1		"	40.0		103	80-120			
Calibration Check (EF62109-CCV1)				Prepared &	2 Analyzed:	06/21/06				
Benzene	53.5		ug/kg	50.0		107	80-120			
Toluene	58.0		a	50.0		116	80-120			
Ethylbenzene	55.2		"	50.0		110	80-120			
Xylene (p/m)	115			100		115	80-120			
Xylene (o)	57.0		11	50.0		114	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.1			40.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	40.7		"	40.0		102	80-120			
Matrix Spike (EF62109-MS1)	Sou	rce: 6F20004-	01	Prepared &	Analyzed:	06/21/06				
Benzene	0.0533	0.00100	mg/L	0.0500	ND	107	80-120			
Toluene	0.0585	0.00100		0.0500	0.000663	116	80-120			
Ethylbenzene	0.0516	0.00100	"	0.0500	ND	103	80-120			
Xylene (p/m)	0.120	0.00100	#	0.100	ND	120	80-120			
Xylenc (o)	0.0586	0.00100	"	0.0500	ND	117	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.4		ug/kg	40.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	40.0		"	40.0		100	80-120			

Environmental Lab of Texas

i	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 - Quality Control

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF62109 - EPA GC 1312										
Matrix Spike Dup (EF62109-MSD1)	Sou	rce: 6F20004-	01	Prepared &	k Analyzed:	06/21/06				
Benzene	0.0496	0.00100	mg/L	0.0500	ND	99.2	80-120	7.57	20	
Toluene	0.0558	0.00100	"	0.0500	0.000663	110	80-120	5.31	20	
Ethylbenzene	0.0526	0.00100	"	0.0500	ND	105	80-120	1.92	20	
Xylene (p/m)	0.114	0.00100	"	0.100	ND	114	80-120	5.13	20	
Xylene (0)	0.0564	0.00100	"	0.0500	ND	113	80-120	3.48	20	
Surrogate: a,a,a-Trifluorotoluene	40.5		ug/kg	40.0		101	80-120			

40.0

98.8

80-120

39.5

Surrogate: 4-Bromofluorobenzene

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

P.O. Box 1	Elke Environmental P.O. Box 14167 Odessa TX, 79768		Maralo None Given Logan Anderson	Fax: (432) 366-0884
		Notes and De	finitions	
J	Detected but below the Reporting Limit;	therefore, result is an estimated	concentration (CLP J-Flag).	
DET	Analyte DETECTED			
ND	Analyte NOT DETECTED at or above the rep	orting limit		
NR	Not Reported			
dry	Sample results reported on a dry weight basis			
RPD	Relative Percent Difference			
LCS	Laboratory Control Spike			
MS	Matrix Spike			
Dup	Duplicate			

Report Approved By:

Raland K Julies Date:

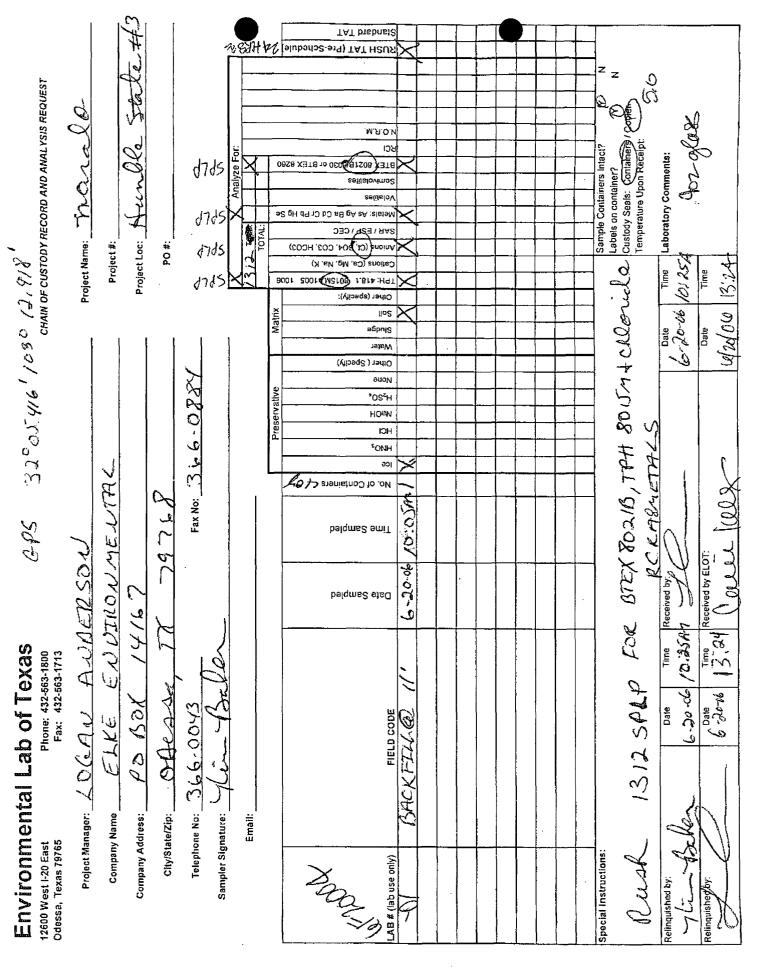
6/22/2006

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

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Environmental Lab of Texas



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# Environmental Lab of Texas

Variance I	Corrective	Action	Report -	Sample	Log-In

lient:	EKE, ENV.	
)ate/Time:	[0[20/06 13:24	-
Order #:	6F10004	
nitjals:	CK	-

# Sample Receipt Checklist

÷.

Temperature of container/cooler?	Yes No	50 CI
Shipping container/cooler in good condition?	NO NO	
Sustody Seals intact on shipping container/cooler?	XB No	Not present
Custody Seals intact on sample bottles?	No No	Not present
Chain of custody present?	YES NO	
Sample Instructions complete on Chain of Custody?	X No I	1
Chain of Custody signed when relinquished and received?	No No	
Chain of custody agrees with sample label(s)	Ges No	
Container labels legible and intact?	Xes No	
Sample Matrix and properties same as on chain of custody?	JES NO	
Samples in proper container/bottle?	1 Co No	
Samples properly preserved?	Ves No	
Sample bottles intact?	No No	
Preservations documented on Chain of Custody?	NO NO	
Containers documented on Chain of Custody?	NO NO	
Sufficient sample amount for indicated test?	YES NO 1	
All samples received within sufficient hold time?	Cas No	
VOC samples have zero headspace?	Yes) No	Nct Applicable

Other observations:

Contact Person: Regarding:	Variance Documentation: _Date/Time:	_Contacted by:
Corrective Action Taken:		
·		





# 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

> 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, lab confirmation, and pictures with descriptions of the Tank Battery Site needed for approval of the site to be backfilled. A final report will be sent at the completion of the backfill. If you have any questions about the enclosed report please contact me at the office or my cell 432-664-1269.

Sincerely,

Logan Anderson

667-1269

### Price, Wayne, EMNRD

From: Johnson, Larry, EMNRD

Sent: Wednesday, June 21, 2006 8:34 AM

To: Price, Wayne, EMNRD

Cc: Caperton, Patricia, EMNRD

Subject: Anthony Sampling

Attachments: P6200006.JPG; P6200007.JPG; P6200009.JPG; P6200010.JPG; P6200012.JPG; P6200014.JPG; P6200020.JPG

06- looking S on W side

- 07- measured depth approx 11' to grade 09- retrieve fresh sample from bucket

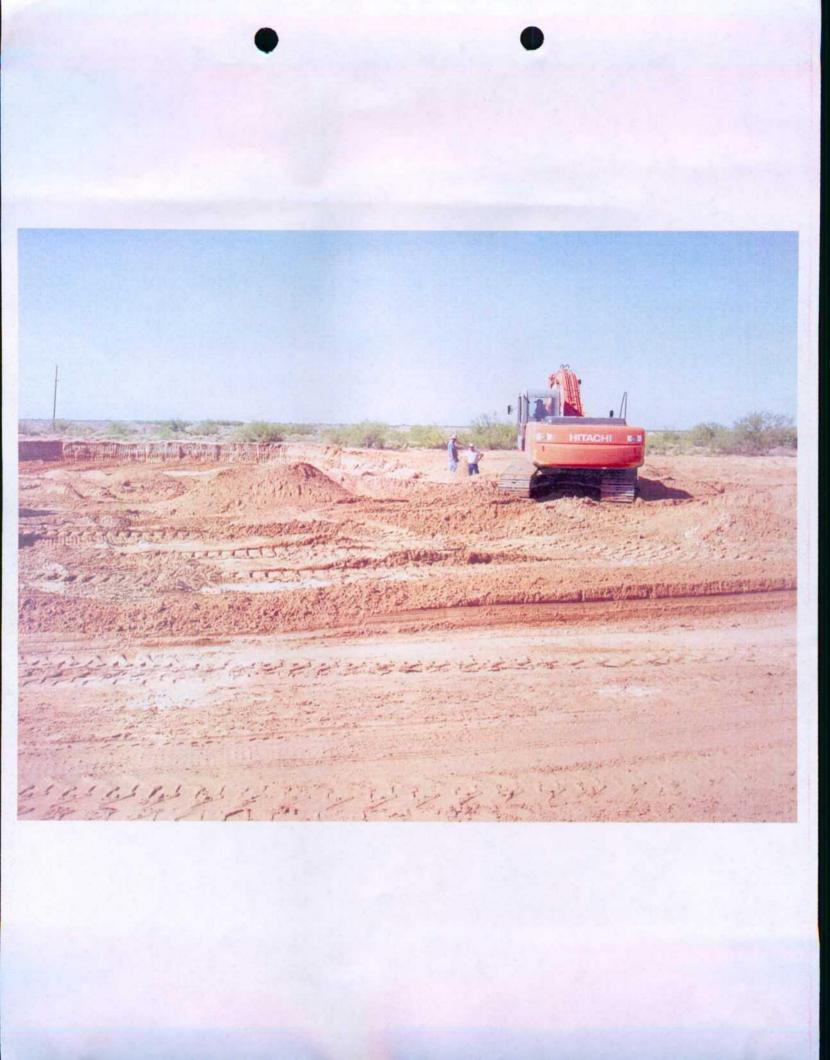
10- packing sample jar

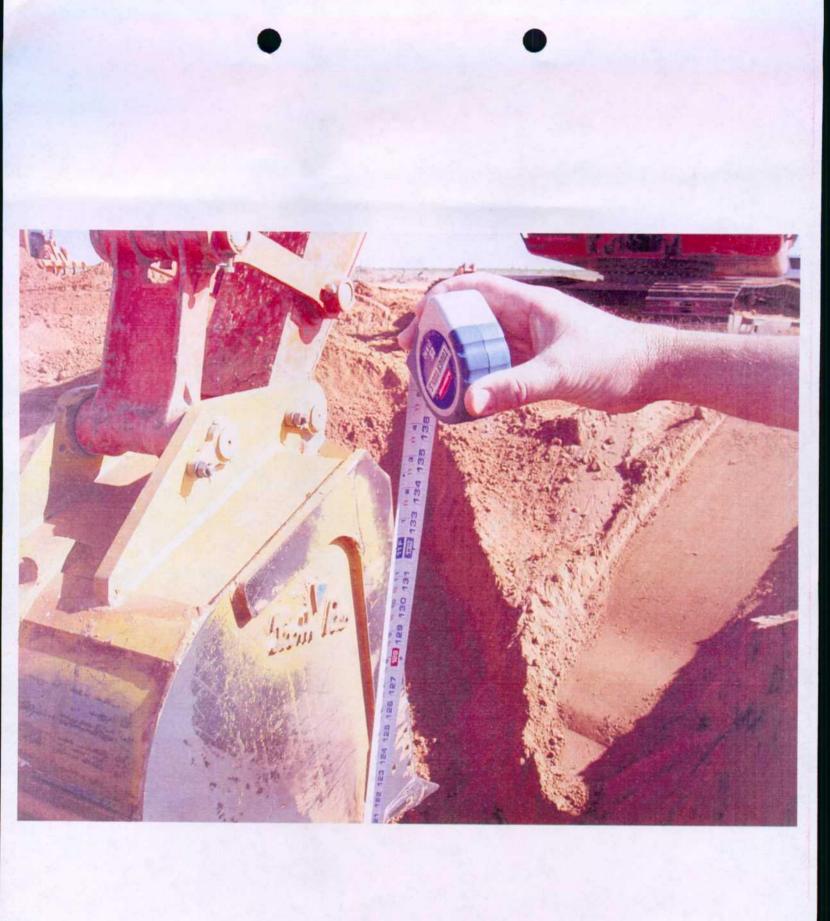
12- sample ID and seal glass

14- sample on ice

20- sealed ice transport container w/chain of custody sheet

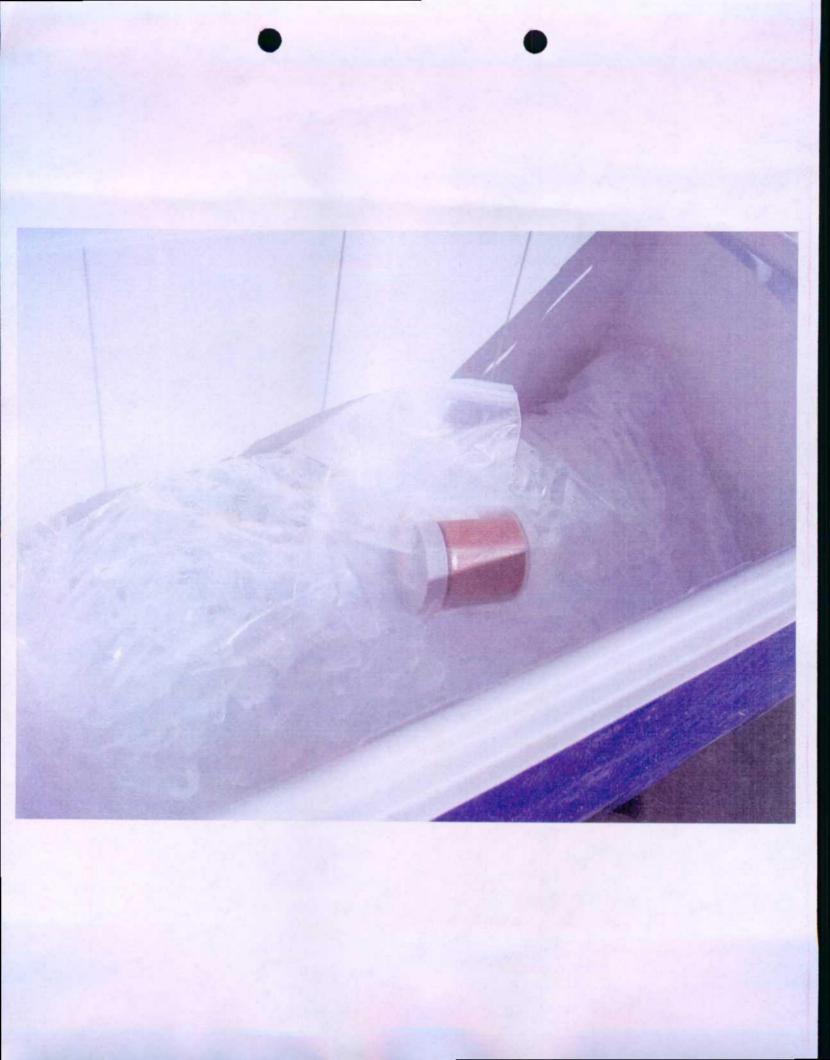
Headed to Lovington --- LJ

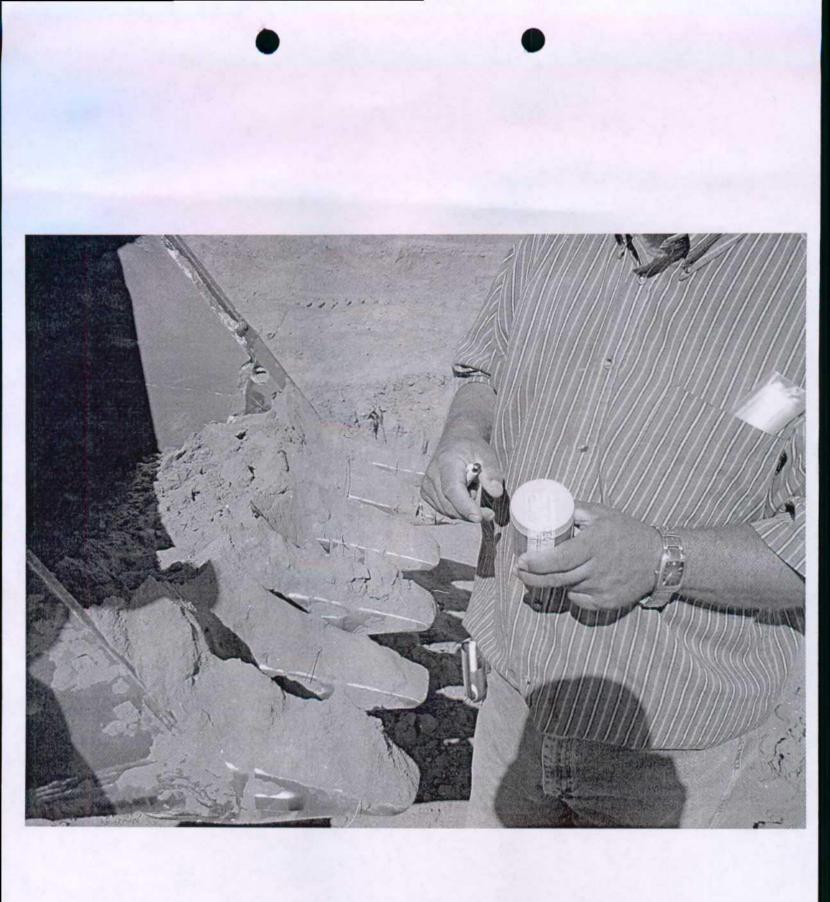


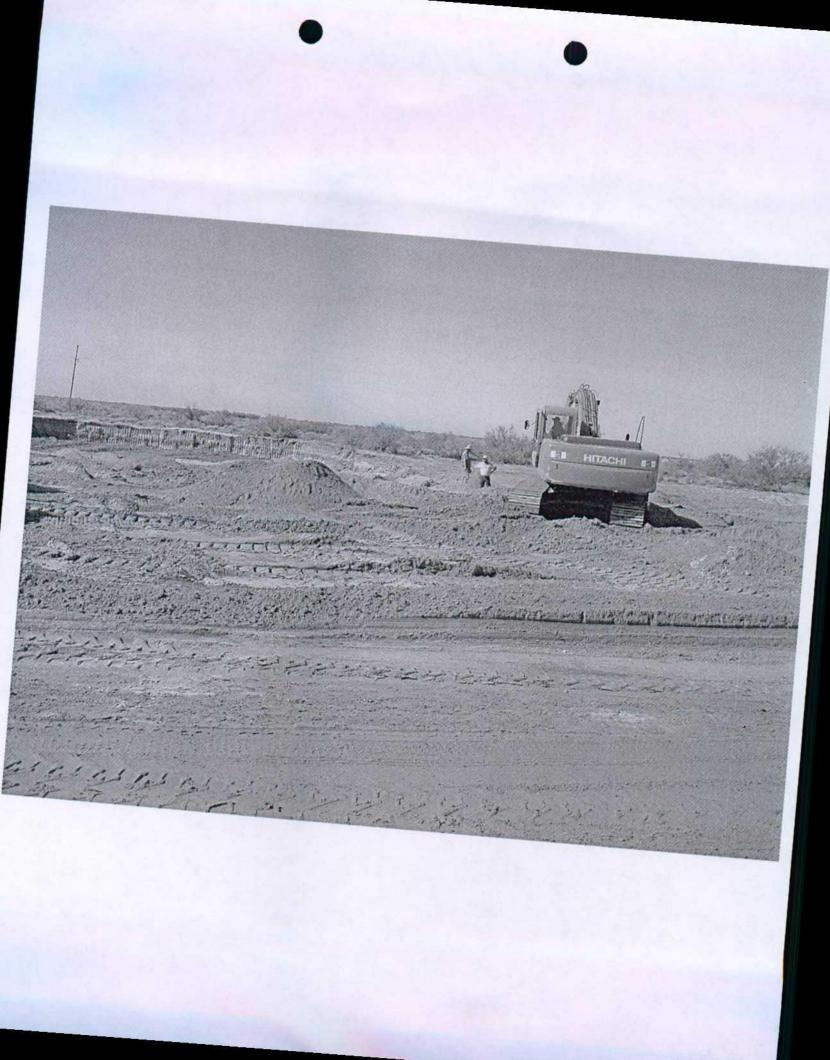


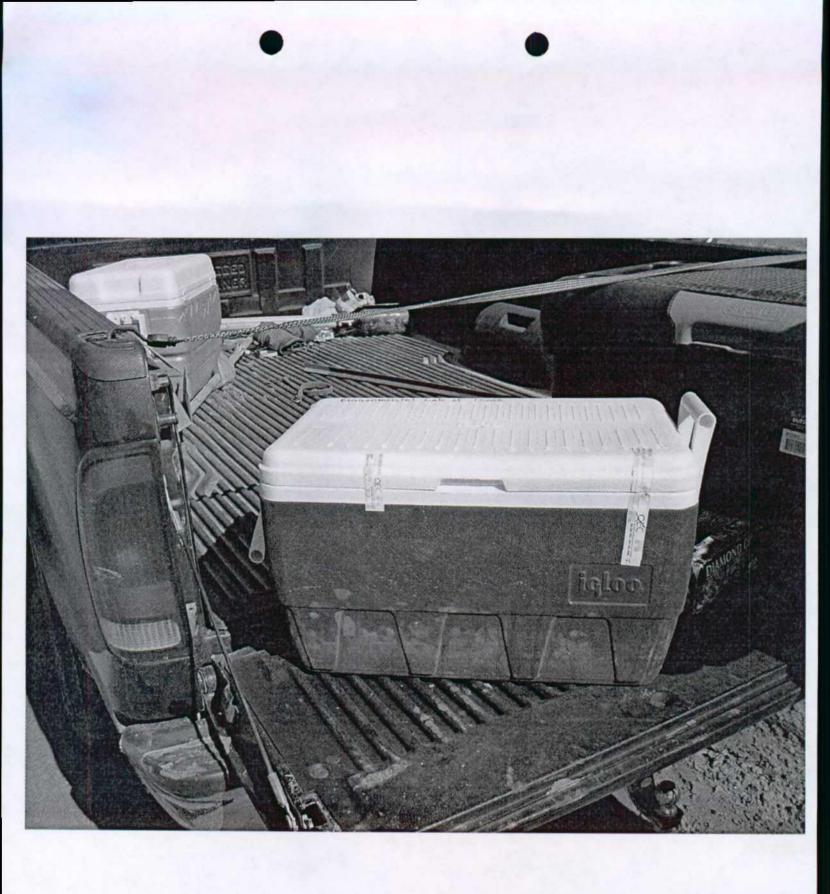












### Price, Wayne, EMNRD

From:Price, Wayne, EMNRDSent:Tuesday, June 20, 2006 7:48 AMTo:'elkeenv@yahoo.com'Cc:Johnson, Larry, EMNRD; Sheeley, Paul, EMNRD; Sanchez, Daniel J., EMNRD; Macquesten,<br/>Gail, EMNRD; Brooks, David K., EMNRDSubject:OCD Order 13142 Case #12152-A Maralo Humble State #3 Tank BatteryAttachments:Waralo 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

6/20/2006

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To: 'elkeenv@yahoo.com'

Cc: Johnson, Larry, EMNRD; Sheeley, Paul, EMNRD; Sanchez, Daniel J., EMNRD; Macquester, 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

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Collect sample and analyze this material using approved EPA protocols. The material shall be analyzed

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	DR:									
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Page 1 of 1

#### 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 Ciean-up plan.doc

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Mr. Jay Anthony-Landowner

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2 Collect sample and analyze this material using approved EPA protocols. The material shall be analyzed



## NEW MEXICO ENERGY, MIRERALS 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.

March 03, 2006

Page 2

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.

Maralo, LLC Mr. David W. Lauritzen C/o Cotton, Bledsoe, Tighe & Dawson



March 03, 2006

Page 3

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,

Amild Ce

Daniel Sanchez Enforcement & Compliance Manager

cc: Jay Anthony-Landowner Tom Kellahin-attorney for Maralo LLC. David Brooks, OCD legal COTTON BLEDSOE TIGHE & DAWSON, PC Attorneys at Law Post Office Box 2776 Midland, Texas 79702-2776 500 West Illinois, Suite 300 Midland, Texas 79701 (432) 684-5782 (432) 682-3672 (Fax)

1415 Louisiana, Suite 2100 Houston, Texas 77002 (713) 759-9281 (713) 759-0458 (Fax) www.cottonbledsoe.com

DAVID W. LAURITZEN, Shareholder • Also Licensed in New Mexico • (432) 685-8555 (Direct Dial) • (432) 684-3137 (Direct Fax) • dlauritzen@cbtd.com

June 17, 2005

Via Facsimile (505) 476-3462 David K. Brooks Assistant General Counsel Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

#### Re: Case 13,142, Application of New Mexico Oil Conservation Division, through the Environment Bureau Chief for an Order Requiring Maralo, LLC to Remediate Hydrocarbon Contamination at an Abandoned Well and Battery Site, Lea County, New Mexico (do novo)

Dear Mr. Brooks:

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We are in receipt of your letter of June 13, 2005, inquiring as to Maralo's position with respect to remediation of the Jay Anthony Ranch.

We apologize for any confusion with respect to the issues discussed in your letter. However, Maralo has attempted to comply with the OCD's rulings in this matter. On or about July 9, 2004, after the OCD's first ruling but while Maralo's Motion for Rehearing was pending, Maralo submitted a remediation plan to the Division for approval. A copy of this correspondence is attached hereto for your review.

After the rehearing of this matter at the end of last year, Maralo realized that the Division had also requested a plan delineating the scope of proposed remediation. Preparation of this delineation plan required the hiring of consultants and testing on the Anthony Ranch. This testing took place earlier this year and on May 5, 2005, Maralo filed its delineation plan with the Division. A copy of this plan is also attached hereto for your reference.

Again, Maralo apologizes for any confusion that may have arisen from this issue but has not willfully neglected this matter. We hope the attachments referenced herein resolve some of the confusion surrounding the remediation of the Anthony Ranch.

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David K. Brooks June 17, 2005 Page 2

Please feel free to give Rick strange or me a call at your convenience if you wish to discuss this matter further. Thank you for your professional courtesies.

Very truly yours,

COTTON, BLEDSOE, TIGHE & DAWSON David W. Lauritzerf

#### DWL:kk Attachments

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cc: William G. Solomon (w/attach.) Attorney at Law 5151 San Felipe, Suite 400 Houston, Texas 77056-3607

> W. Thomas Kellahin (w/attach.) Kellahin and Kellahin 117 North Guadalupe Santa Fe, New Mexico 87501

Mid: 004802\000011\468646.1

## KELLAHIN & KELLAHIN Attorney at Law

W. Thomas Kellahin Recognized Specialist in the Area of Natural Resources-oil and gas law-New Mexico Board of Legal Specialization P.O. Box 2265 Santa Fe, New Mexico 87504 117 North Guadalupe Santa Fe, New Mexico 87501

Telephone 505-982-4285 Facsimile 505-982-2047 kellahin@earthlink.net

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May 5, 2005

#### HAND DELIVERED

Mr. Roger A Environment		JS MAY
-	tion Division	ഗ
1220 South S	St. Francis Drive	Pm
Santa Fe, Ne	Santa Fe, New Mexico 87505	
		دى .
Re:	NMOCD Case 13142 (De Novo) Order R-12152-A	، هستل
	Application of the NMOCD for an Order	-5
	Requiring Maralo, LLC to Remediate	
	Hydrocarbon Contamination at an	
	Abandoned well's tank battery Site	
	•	
	(Jay Anthony Complaint) Lea County, New Mexico	

Dear Mr. Anderson:

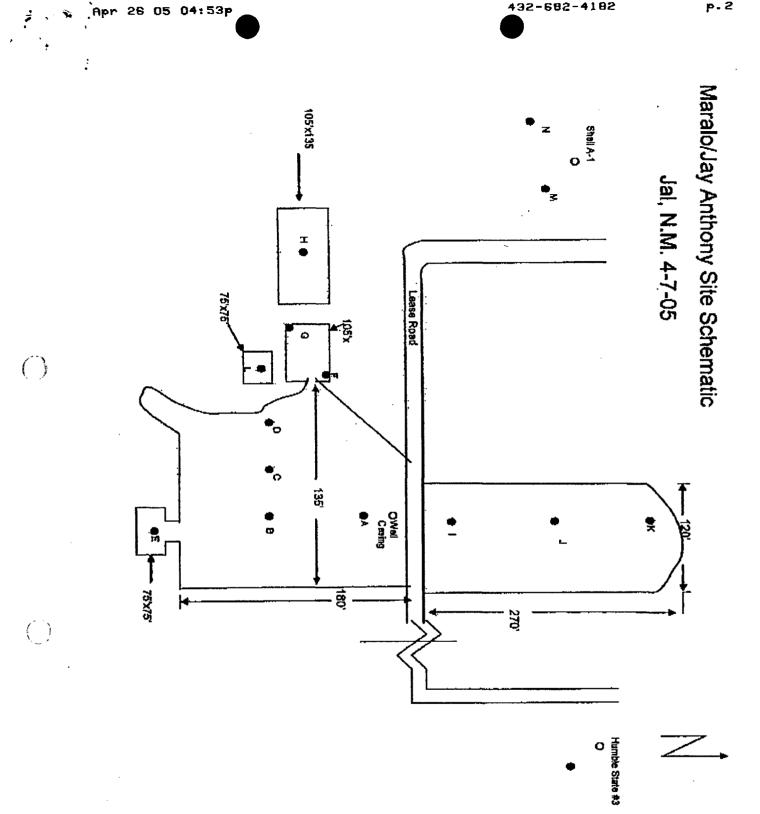
On behalf of Maralo, LLC I am requesting your "approval of a plan to delineate the extent of the contamination existing at the site of the Humble State Well No. 3 and its associated facilities including areas used for pits, tank batteries and the like" that is enclosed that was prepared by Maralo's environmental expert, Mr. Rob Elam, and transmitted to me by facsimile dated April 26, 2005. Mr. Elam's report consists of the enclosed plat and a one-page written summary.

Thomas Kellahin

cc: Maralo, LLC;

Rich Strange, Esq. 432-684-3168 (fx) William Solomon, Esq. 713-960-1672 (fx)

David Sandoval, Esq. Attorney for Jay Anthony 505-986-0632 (fx)



432-682-4182

p.2

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#### CLOSURE PLAN FOR MARALO-ANTHONY SITE

Maralo proposes to conduct exploratory drilling at the subject site to a depth of 150 ft. if. necessary, taking photo ionization detector (PID) samples at 5 ft. intervals to a depth that 2 consecutive samples indicate less than 100 parts per million (ppm) BTEX content. Approximately 15 to 18 borings at points agreed upon by Maralo and Anthony representatives will be selected. The sample will be accessed using a split spoon device with each sample being split with the representatives of each party. Samples for laboratory analysis will be taken at selected points and tested for chloride content and total petroleum hydrocarbon content.

A site drawing is attached indicating proposed drilling/sampling points.

COTTON BLEDSOE TIGHE & DAWSON, PC Attorneys at Law Post Office Box 2776 Midland, Texas 79702-2776 500 West Illinois, Suite 300 Midland, Texas 79701 (432) 684-5782 (432) 682-3672 (Fax)

1415 Louisiana, Suite 2100 Houston, Texas 77002 (713) 759-9281 (713) 759-0458 (Fax)

www.cottonbledsoe.com

DAVID W. LAURITZEN, Shareholder • Also Licensed in New Mexico • (432) 685-8555 (Direct Dial) • (432) 684-3137 (Direct Fax) • Hauritzen@cbtd.com

#### July 9, 2004

Via Facsimile (505) 476-3462 and Certified Mail, Return Receipt Requested Mark E. Fesmire, P.E. State of New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87504

#### Via Facsimile (505) 476-3462 and

<u>Certified Mail, Return Receipt Requested</u> Environmental Bureau of New Mexico 1220 South St. Francis Drive Santa Fe, New Mexico 87504

> Case No. 13142 / Order No. R-12152 — Submission for Approval of Remediation Plan to Delineate the Lateral and Vertical Extent of Hydrocarbon Contamination Existing at the Site of Humble State Well No. 3 in Unit A of Section 36, Township 25 South, Range 36 East, NMPM, Lea County, New Mexico

#### Dear Director Fesmire:

Re:

Pursuant to the Order of the Division dated June 9, 2004, and subject to its pending appeal and request for stay, please accept this as Maralo's submission for approval of a remediation work plan to delineate the lateral and vertical extent of the hydrocarbon contamination existing at the site of the Humble State Well No. 3 in Unit A of Section 36, Township 25 South, Range 36 East, NMPM, Lea County, New Mexico.

The hydrocarbon contamination discussed in the above-referenced Case No. 13142 is on the property of one Jay Anthony.

Maralo proposes to excavate and remediate the top two feet of visual TPH impacted soil to a limit of <5,000 PPM or <100 PPM PDI. Subsequently, Maralo will replace remediated soil back to its original location.

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Before the OCC Case 13142 - *De Novo* OCD Ex. 28 Mark E. Fesmire, P.E. July 9, 2004 Page 2

With the data the State has previously accumulated in this case from its own field representatives, as well as the data provided by Mr. Anthony, Maralo submits that no further bores for delineation are needed for the Humble State Well No. 3.

Maralo believes that this remediation work plan will eliminate the source of the contaminated plume, which consequently will eliminate the head necessary to drive contamination to groundwater. To two-foot remediated topsoil <5,000PPM TPH will support vegetation with sufficient annual waterfall for the region. In previous testimony before the OCD, the Division's expert hydrologist, Mr. William C. Olson<sub>x</sub> indicated that a remediation plan along the lines set out herein would be acceptable to the Division.

Thank you for your attention to this remediation work plan submitted for approval of the Division. As always, if you have any questions or comments, please do not hesitate to contact Rick Strange or me at your convenience. We look forward to hearing from you.

Very truly yours, COTTON, BLEDS DE TIGHE **DAWSON** 

David W. Lauritzen

DWL:kk

cc:

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Via Facsimile (505) 476-3462 Gail MacQuesten Attorney for OCD

<u>Via Facsimile (505) 476-3462</u> William C. Olson OCD

<u>Via Facsimile (505) 986-0632</u> David Sandoval Attorney for Jay Anthony

Via Facsimile (505) 982-2047 W. Thomas Kellahin Attorney for Maralo, LLC

Mid: 004802\000011\420189.1



## NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Mark E. Fesmire, P.E. Director Oil Conservation Division

October 20, 2005

<u>CERTIFIED MAIL RETURN RECEIPT NO. 7001 1940 00047923 4795</u>

William G. Solomon 5151 San Felipe, Suite 400 Houston, Texas 77056-3607

RE: NMOCD Case 131142 Order R-12152-A HUMBLE STATE #3 TANK BATTERY SITE JAL, NEW MEXICO

Dear Mr. Solomon:

OCD has been informed that Maralo conducted a site investigation on or about April 6, 2005. This plan was not approved by OCD, which was a requirement of the Order. On July 12, 2005 and August 04, 2005 OCD sent letters requesting that Maralo submit the results of the investigation to assist OCD in determining a proper path forward for the site. As of this date OCD has not received this information.

Please submit the results of the investigation with conclusions and recommendations for a remediation plan by November 11, 2005. If you have any questions please do not hesitate to contact me at 505-476-3487 or e-mail wayne.price@state.nm.us.

Sincerely;

Wayne Price-Pet. Engr. Spec.

 xc: Roger Anderson-Environmental Bureau Chief David Brooks-OCD Legal Counsel Chris Williams, OCD Hobbs District Office Jay Anthony-Landowner Rick Strange-Maralo Attorney At Law

## COTTON BLEDSOE TIGHE & DAWSON, PC Attorneys at Law

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June 17, 2005

*Via Facsimile (505) 476-3462* David K. Brooks Assistant General Counsel Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

> Re: Case 13,142, Application of New Mexico Oil Conservation Division, through the Environment Bureau Chief for an Order Requiring Maralo, LLC to Remediate Hydrocarbon Contamination at an Abandoned Well and Battery Site, Lea County, New Mexico (do novo)

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Please feel free to give Rick strange or me a call at your convenience if you wish to discuss this matter further. Thank you for your professional courtesies.

Very truly yours,

COTTON, BLEDSOE, TIGHE & DAWSON David W. Lauritzen

#### DWL:kk Attachments

cc: William G. Solomon (w/attach.) Attorney at Law 5151 San Felipe, Suite 400 Houston, Texas 77056-3607

> W. Thomas Kellahin (w/attach.) Kellahin and Kellahin 117 North Guadalupe Santa Fe, New Mexico 87501

Mid: 004802\000011\468646.1

#### Brooks, David K

From: Sent: To: Subject: Price, Wayne Thursday, May 05, 2005 9:37 AM Brooks, David K; MacQuesten, Gail; Williams, Chris; Anderson, Roger Maralo-Jay Anothey Ranch

I received a phone call from Mr. Anothey informing me that on April 6 and 7 Maralo had Allstate Environmental (Mr. Rob Elan) perform delineation at the site. Mr. Anothey wanted to know if we had received any results. I informed Mr. Another OCD was totally unaware of this action. Do any of you know what is going on so I can inform Mr. Anothey??????

Sincerely:

Wayne Price New Mexico Oil Conservation Division 1220 S. Saint Francis Drive Santa Fe, NM 87505 505-476-3487 fax: 505-476-3462 E-mail: WPRICE@state.nm.us

There has been no contact where Monald. So I prove nothing about anything they may be doing. I who is Mr. another? The Randiouna?

## KELLAHIN & KELLAHIN Attorney at Law

W. Thomas Kellahin Recognized Specialist in the Area of Natural Resources-oil and gas law-New Mexico Board of Legal Specialization P.O. Box 2265 Santa Fe, New Mexico 87504 117 North Guadalupe Santa Fe, New Mexico 87501

Telephone 505-982-4285 Facsimile 505-982-2047 kellahin@earthlink.net

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May 5, 2005

#### HAND DELIVERED

Mr. Roger Anderson, Environmental Bureau Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 Re: NMOCD Case 13142 (De Novo) Order R-12152-A Application of the NMOCD for an Order Requiring Maralo, LLC to Remediate Hydrocarbon Contamination at an Abandoned well's tank battery Site (Jay Anthony Complaint) Lea County, New Mexico

Dear Mr. Anderson:

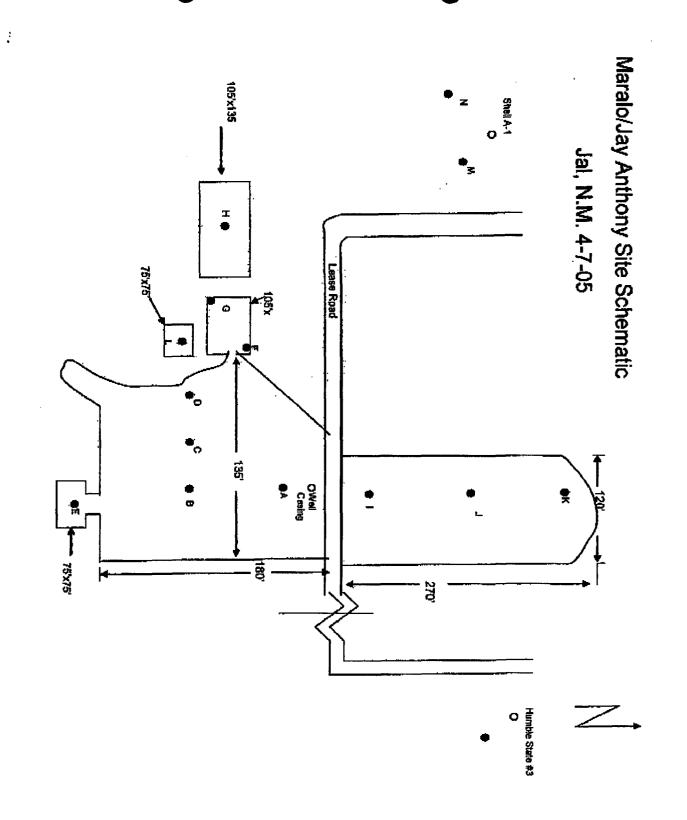
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Thomas Kellahin

cc:

Maralo, LLC; Rich Strange, Esq. 432-684-3168 (fx) William Solomon, Esq. 713-960-1672 (fx)

David Sandoval, Esq. Attorney for Jay Anthony 505-986-0632 (fx) •



Apr 26 05 04:53p

432-682-4182

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#### CLOSURE PLAN FOR MARALO-ANTHONY SITE

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	COTTON, BLEDSOE, TIG Attorneys at 500 W. Illin Suite 300 Midland, Texas 79 (432) 684-53 Fax No. (432) 68	Law wis ) 170J-4337 782	
TO:	Wayne Price		
FIRM/COMPANY:	New Mexico Energy, Minerals &	Natural Resources Dept.	
FROM:	Rick G. Strange	CLIENT NO:	4802/050
FAX NO:	505/476-3462	TOTAL # OF PA (including cover page)	ages: <u>3</u>
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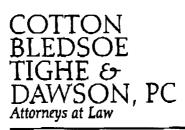
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COTTON, BLEDSOE

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RICK G. STRANGE • SHAREHOLDER • BOARD CERTIFIED - CIVIL TRIAL LAW • BOARD CERTIFIED - OIL, GAS & MINERAL LAW • (432) 685-8574 Direct • (432) 684-3168 Direct Fax • <u>rstrange@cbtd.com</u>

August 4, 2005

BY TELECOPY NUMBER 505/476-3462 Mr. Wayne Price-Pet. Engr. Spec. New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

> Re: NMOCD Case 131142 Orer R-12152-A Humble State #3 Tank Battery Site Jal, New Mexico

Dear Mr. Price:

By correspondence dated July 12<sup>th</sup>, you wrote Joe Pulido with Maralo asking for information about an April 6<sup>th</sup> testing. Last year, Maralo sold many of its assets and closed the Midland office. It is my understanding that your July 12<sup>th</sup> letter was returned to you. I assume, therefore, their forwarding order has expired. I received a letter from David Brooks with a copy of your July 12<sup>th</sup> letter and a request for contact information. Unfortunately, Mr. Brooks' letter arrived while I was out of state on vacation. I apologize for the delay in responding to your request. For your files, Maralo's contact information is:

> William G. Solomon 5151 San Felipe, Suite 400 Houston, Texas 77056-3607

I am looking for the sampling information you requested on July 12<sup>th</sup> and will forward that to you upon receipt.

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COTTON, BLEDSOE

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August 4, 2005 Page 2

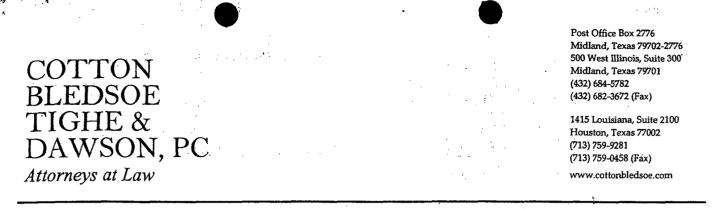
Very truly yours,

COTTON, BLEDSOE, TIGHE & DAWSON

By: Rick G. Strange

RGS/sm cc: Mr. David K. Brooks Assistant General Counsel New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

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DAVID W. LAURITZEN, Shareholder • Also Licensed in New Mexico • (432) 685-8555 (Direct Dial) • (432) 684-3137 (Direct Fax) • dlauritzen@cbtd.com

July 9, 2004

Via Facsimile (505) 476-3462 and Certified Mail, Return Receipt Requested Mark E. Fesmire, P.E. State of New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87504

<u>Via Facsimile (505) 476-3462 and</u> <u>Certified Mail, Return Receipt Requested</u> Environmental Bureau of New Mexico 1220 South St. Francis Drive Santa Fe, New Mexico 87504

> Re: Case No. 13142 / Order No. R-12152 — Submission for Approval of Remediation Plan to Delineate the Lateral and Vertical Extent of Hydrocarbon Contamination Existing at the Site of Humble State Well No. 3 in Unit A of Section 36, Township 25 South, Range 36 East, NMPM, Lea County, New Mexico

Dear Director Fesmire:

Pursuant to the Order of the Division dated June 9, 2004, and subject to its pending appeal and request for stay, please accept this as Maralo's submission for approval of a remediation work plan to delineate the lateral and vertical extent of the hydrocarbon contamination existing at the site of the Humble State Well No. 3 in Unit A of Section 36, Township 25 South, Range 36 East, NMPM, Lea County, New Mexico.

The hydrocarbon contamination discussed in the above-referenced Case No. 13142 is on the property of one Jay Anthony.

Maralo proposes to excavate and remediate the top two feet of visual TPH impacted soil to a limit of <5,000 PPM or <100 PPM PDI. Subsequently, Maralo will replace remediated soil back to its original location.

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Before the OCC Case 13142 - *De Novo* OCD Ex. 28 Mark E. Fesmire, P.E. July 9, 2004 Page 2



With the data the State has previously accumulated in this case from its own field representatives, as well as the data provided by Mr. Anthony, Maralo submits that no further bores for delineation are needed for the Humble State Well No. 3.

Maralo believes that this remediation work plan will eliminate the source of the contaminated plume, which consequently will eliminate the head necessary to drive contamination to groundwater. To two-foot remediated topsoil <5,000PPM TPH will support vegetation with sufficient annual waterfall for the region. In previous testimony before the OCD, the Division's expert hydrologist, Mr. William C. Olson, indicated that a remediation plan along the lines set out herein would be acceptable to the Division.

Thank you for your attention to this remediation work plan submitted for approval of the Division. As always, if you have any questions or comments, please do not hesitate to contact Rick Strange or me at your convenience. We look forward to hearing from you.

Very truly yours, COTTON, BLEDS DE TIGHE & DAWSON David W. Lauritzen

DWL:kk

cc:

<u>Via Facsimile (505) 476-3462</u> Gail MacQuesten Attorney for OCD

<u>Via Facsimile (505) 476-3462</u> William C. Olson OCD

Via Facsimile (505) 986-0632 David Sandoval Attorney for Jay Anthony

<u>Via Facsimile (505) 982-2047</u> W. Thomas Kellahin Attorney for Maralo, LLC

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## NEW MEXICO ENERGY, MENERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Mark E. Fesmire, P.E. Director Oil Conservation Division

July 12, 2005

Mr. Joe Pulido, Manager Maralo, LLC P.O. Box 832 Midland, Texas 79702-0832

#### RE: NMOCD Case 131142 Order R-12152-A HUMBLE STATE #3 TANK BATTERY SITE JAL, NEW MEXICO

Dear Mr. Pulido:

The Oil Conservation Division (OCD) is in receipt of Maralo's delineation plan dated May 05, 2005 for the above referenced site. OCD has been informed that Maralo conducted a site investigation on or about April 6, 2005. This plan was not approved by OCD which was a requirement of the Order. In the sprit of cooperation, OCD is requesting that Maralo submit the results of the investigation to assist OCD in determining a proper path forward for the site.

Please submit the results of the investigation with conclusions and recommendations for a remediation plan by July 29, 2005. If you have any questions please do not hesitate to contact me at 505-476-3487 or e-mail wayne.price@state.nm.us.

Sincerely;

ame

Wayne Price-Pet. Engr. Spec.

xc: Roger Anderson-Environmental Bureau Chief David Brooks-OCD Legal Counsel Chris Williams, OCD Hobbs District Office Jay Anthony-Landowner

CASE NO. 13142
ORDER No. R-
Page 1

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

CASE 13142

#### 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; (Jay Anthony Complaint) LEA COUNTY, NEW MEXICO

#### MARALO, LLC'S PROPOSED ORDER OF THE DIVISION

#### **BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on November 20, 2003, At Santa Fe, New Mexico, before Examiner David R. Catanach.

Now, on this \_\_\_\_\_day of December, 2003, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

#### FINDS THAT:

(1) Due public notice has been given and the Division has jurisdiction of this case and the subject matter.

#### **SUBJECT MATTER AND PARTIES**

(2) The Division's Environmental Bureau Chief ("EBC"), as the applicant, seeking a Division order requiring Maralo, LLC. ("Maralo") to remediate alleged soil contamination based upon its claim that Maralo is the current operator and violated Division Rules 310 and 313 and therefore is the responsible person to remediate low risk level soil contamination at the tank battery facility at the former Humble State Well No. 3 site located within Unit A of Section 36, Township 25 South, Range 36 East in Lea County, New Mexico.

- (3) Maralo claims that it complied with Division Rule 310 and 313 and that it is not the current operator of this facility and is not a responsible person because it ceased all operations on the Humble State Well No. 3 site in 1988 and plugged the well and abandoned the site all in accordance with the Division rules applicable at the time.
- (4) Jay Anthony, appeared with counsel, as the owner of the surface within Unit A of this section in support of the applicant. This case was filed by the EBC based upon a compliant filed on October 6, 1999 by Mr. Anthony.

#### ELEMENTS OF PROOF

- (5) This case is the first time such a case has come to hearing before the Division and constitutes a "precedent". (See Transcript page 76 lines 9-13) Based upon a review of the testimony of Mr. William Olson, EBC' expert witness, the Division is adopting the following "Elements of Proof" that:
  - a. there is soil contamination at the former tank battery facility for the abandoned Humble State Well No 3, located in Unit A of Section 36, T25S, R36E, Lea County, New Mexico; (See Transcript page 47, lines 5-9)
  - **b.** the levels of soil contamination are in excess of current applicable standards; (See Transcript page 28, lines 22-24)
  - c. the soil contamination was caused by placing "tank bottoms" in the pits associated to the Humbler State Well No. 3; (See Transcript page 36, lines 24-25 and page 37, lines 1-10)
  - d. the soil contamination constitutes a violation of Division Rule 313; (See Transcript page 50, lines 19-23)
  - e. Maralo is the current or most recent operator of the former tank battery associated with the Humble State Well No 3. in Unit A of this section; (See Transcript page 40, lines 4-17)
  - f. Maralo is the "responsible person" for the soil contamination and should be required to remediate the contamination. (See Transcript 66, lines 17-19)

CASE NO. 13142 ORDER No. R-Page 3

#### FACTUAL BACKGROUND

- (6) This action concerns an abandoned oil and gas production facility located at the former site of the Humble State Well No. 3 at which all the equipment has been removed, but the site was not remediated in accordance with current Division rules and guidelines. See EBC's response to Maralo motion to dismiss.
- (7) The EBC submitted evidence demonstrating that:
  - a. there are the remains of 3 unlined surface pits and 2 tank battery pits (only one pit is associated with the Humble State Well No. 3) within Unit A; (See located plat attached to EBC Exhibit 3)
  - b. the tank battery pit associated with the Humble State Well No. 3 appears to have been used for containment of emulsions, basic sediments and tank bottoms (collectively "tank bottoms"); (See Transcript page 36, lines 24-25 and page 37, lines 1-10)
  - c. it is not now possible to determine the use of the 3 unlined surface pits or the volumes of produced water and associated hydrocarbons disposed into these pits; (See Transcript page 38, lines 15-18; page 14, lines 17-19 and page 43, lines 14-21)
  - d. it is not now possible to determine when the 2 tank batteries were used; (See Transcript page 38, lines 23-25 and page 43, lines 14-21)
  - e. laboratory analyses of soil samples from the various pits contain up to 25,400 parts per million (ppm) of total petroleum hydrocarbons (TPH); up to 0.179 ppm of benzene; up to 0.432 ppm of ethylbenzene, and up to 0.921 ppm of xylene evidencing low risk level of shallow soil contamination; (See EBC Exhibit 3 & 4 and Transcript page 21, lines 21-24; page 22, lines 19-21; page 62, lines 5-25 and page 63, lines 1-18)
  - f. There is no evidence that the abandoned water well located within Unit A has been contaminated by hydrocarbons; (See EBC Exhibit 7 and Transcript page 11, lines 5-10)

- (8) Maralo submitted evidence by direct testimony and cross-examination demonstrating that:
  - a. On July 23, 1945, Ralph Lowe drilled the Humble State Well No. 3 at a location 660 feet FNL and 660 feet FEL (Unit A) of Section 3. (See EBC Exhibit 11)
  - b. Ralph Lowe installed 3 unlined surface pits that, in accordance with the custom and practice of the industry, were used for surface disposal of produced water and associated hydrocarbons; (See Transcript page 92, lines 11-17 and page 102, lines 15-21)
  - c. Ralph Lowe installed 1 tank battery, with multiple tanks, two of which were associated with the Humble State Well No.3 but at all times relevant to this matter, Ralph Lowe and therefore Maralo properly disposed of "tank bottoms" associated with the Humble State Well No. 3. (See Transcript page 93, lines 10-25; page 94, lines 1-25; page 95, lines 1-7 and page 104, lines 15-23)
  - d. It is not possible to produce oil without also producing associated water. (See Transcript page 55, lines 1-20)
  - e. On May 1, 1968, Division issued Memorandum 2-68 advising all operators that no exceptions would be granted to Order R-3221 that prohibited any further disposal of produced water into unlined earthen pits after January 1, 1969. (See Division Memorandum 2-68)
  - f. In 1968, in accordance with Division Order R-3336, dated November 9, 1968, Ralph Lowe converted the Humble State Well No 1, located 1980 feet FNL and 1980 feet FEL (Unit G) of Section 3 for the disposal of produced water from the Humble State Well No. 3 and the 3 unlined surface pits were no longer used; (See Transcript page 93, lines 6-12)
  - **g.** Despite that fact that it is not possible to determine if the soil contamination was caused by tank overflow rather than improper tank bottom disposal, the EBC has assumed that the cause was improper tank bottom disposal. (See Transcript page 65, lines 1-16)
  - h. On April 19, 1974, Maralo, Inc. became the operator of the Humble State Well No 3; (See Transcript page 40, lines 16-17)

CASE NO. 13142
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Page 5

- From 1974, Maralo continued to use 2 tanks at the tank battery site to temporally store produced oil from the Humble State Well No. 3 until July 7, 1982 when no further fluids were placed in this tank; (See Transcript page 91, lines 14-22; page 93, lines 22-25; page 94, lines 1-25; page 104, lines 7-17 also see OCD well file)
- j. On October 15, 1988, Maralo plugged the Humble State Well No. 3, and cleaned the site all of which was approved by the Division. (See Transcript page 42, lines 1-5, EBC Exhibit 11)
- **k.** On April 1, 1994, Hal J. Rasmussen became the Division designated operator replacing Maralo; (See OCD well File)
- It is not possible to produce oil and avoid the production of emulsions and basic sediments. See Transcript page 53, lines 18-15; page 60, lines 10-13 and page 61, lines 1-25)
- m. The EBC admits that there is no evidence that Maralo ever used these surface disposal pits. (See Transcript page 66, lines 1-3; page 79, lines 10-13)
- **n.** Despite evidence that the prior operator used these surface pits and the lack of evidence that Maralo did, it is the EBC's policy to "go after the current operator". (See Transcript page 66, lines 4-25)
- At all times during Maralo's operations of the tank battery associated with the Humble State Well No. 3, Maralo operated in such a manner as would reduce as much as practicable the formation of emulsion and basic sediments "Tank Bottoms" (See Transcript page 93, lines 13-25 and page 94, lines 1-9)
- p. At no time did Maralo store or retain oil in earthen reservoirs or in open receptacles; (See Transcript page 92, lines 13-17)
- (9) The Division should find that :
  - a. Division Rule 310 provided that:

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

#### b. Division Rule 313 provided that:

"Wells producing oil shall be operated in such a manner as will reduce as much as practicable the formation of emulsions and basic sediments. These substances and tank bottoms shall not be allowed to pollute fresh waters or cause surface damage." (See Transcript page 53, lines 2-17)

- c. The EBC is attempting in this case to apply its "clean-up" guidelines adopted by the Division in 1993. (See Transcript page 23, line 5-6)
- **d.** At all relevant times, the Division did not have rules or regulations concerning the registration, the installation or closer of tank batteries and their associated pits; (See Transcript page 39, lines 6-12)
- e. It is no longer possible to determine when or how this material was placed in these pits; (See Transcript page 43, lines 8-13)
- f. A review of Division files fails to disclose the exact location of pits and tank batteries; (See Transcript page 39, lines 13-24 and page 68, lines 14-16)
- g. The EBC is no longer able to determine who caused this contamination. (See Transcript page 69, lines 1-3)
- h. On October 28, 1988 the Division approved the plugging and abandonment of the Humble State Well No 3 and approved the site "clean-up". (See Transcript page 42, lines 2-4)
- i. Rule 310 only precludes oil from being stored or retained in earthen pits but does not preclude the occurrence of hydrocarbons in these pits. The EBC appears to have abandoned its claim that Rule 310 was violated. (See Transcript page 50, lines 19-23)
- j. Rule 313 only requires the operator of the facility to reduce as much as practicable the formation of "tank bottoms". (See Transcript page 56 & 57)
- **k.** Maralo, while operator, operated this facility in accordance with Division's Rules 310 and 313; its operations were consistent with industry practices accepted by the Division during this period; and it properly disposed of "tank bottoms" associated with the Humble State Well No. 3. (See Transcript page 54, lines 4-25)

#### CHLORIDES:

- (10) The EBC contends that the presence of hydrocarbons and the absence significant levels of chlorides in 3 unlined surface pits indicates that oil was stored in these pits rather than produced water. (See Transcript page 37, lines 8-9 and lines 18-22) but admitted that there is no evidence that Maralo ever placed any oil in any of these pits for any reason. (See Transcript page 79, lines 10-13)
- (11) Maralo contends that these pits were only used by a prior operator for disposal of produced water that by necessity contains some hydrocarbons.
   (See Transcript page 93 lines 13-25)
- (12) Maralo contends that produced water from the Humble State Well No. 3 had a lower level of chlorides than usual produced water. (See Transcript page 92 lines 15-25 and Page 93, lines 1-5)
- (13) The Division should find that EBC has failed to sustain its "burden of proof" by failing to introduce substantial evidence to prove that Maralo did not comply with Division Rule 310.

#### TANK BOTTOMS:

- (14) The EBC speculates that the hydrocarbon levels in the 2 pits associated with the tank batteries are the result of the improper dismissal of tank bottoms in violation of Division Rule 313. (See Transcript page 15, lines 8-14 and page 47, lines 3-9) but cannot tell when this was done. (See Transcript page 38, lines 23-25, page 36, lines 24-25 and page 37, lines 1-10)
- (15) Maralo contends that the EBC failed to demonstrate that Maralo ever utilized any surface disposal pits. (See Page 92, lines 11-14; and page 93, lines 6-12)
- (16) Maralo contends that the EBC failed to demonstrate that the levels of hydrocarbons in the 2 surface disposal pits which were tested are in excess of the level that would result from the customary industry practices for the use of these tanks. (See Transcript page 76-78)
- (17) The Division should find that EBC has failed to sustain its "burden of proof" by failing to introduce substantial evidence to prove that Maralo did not comply with Division Rule 313.



- (18) The EBC contends that Maralo is the "responsible person" and should be ordered to remediate this soil contamination. (See Transcript page 42, lines 15-18)
- (19) Maralo contends that while operator it operated the Humble State Well No. 3 in accordance with Division rules then applicable and therefore is not the operator of the facility responsible for the remediation of any soil contamination.
- (20) The Division should find that:
  - a. Maralo ceased all operations on the Humble State Site No. 3, Unit A, Section 36, T25S, R36E, Lea County, New Mexico, in 1988, plugged the well and abandoned the site all in accordance with the Division's rules. Prior to abandonment, Maralo operated the site in accordance with all New Mexico laws and administrative regulations. The Division initiated this proceeding in 2003, fifteen years after Maralo abandoned the site, contending Maralo violated the New Mexico Administrative Code Title 19 Section 15.5.310A (2000) ("Rule 313") and Section 15.5.310A (2000) ("Rule 313") based upon conduct that by a prior operator occurred as far back as the 40s.
  - b. the EBC is attempting to require Maralo to clean this alleged soil contamination in accordance with the Division's surface impoundment closure guidelines which were adopted by the Division after Maralo abandoned this site.
  - c. The Division should deny the EBC's application because it is an impermissible attempt to apply its rules retroactively. The Division is, in effect, punishing Maralo for conduct that was legal and in accordance with all applicable Division rules and regulations at the time it was committed. This violates Maralo's constitutional right to due process.
  - d. Maralo is not a responsible person for the soil contamination at this facility and should not be required to remediate the soil within Unit A of this section.

CASE NO. 13142
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#### **IT IS THEREFORE ORDERED THAT:**

- (1) The application of the Division's Environmental Bureau Chief should be denied.
- (2) The Division retains jurisdiction of this matter in order to enter such additional order as may be determine necessary.

Done at Santa Fe, New Mexico on the day and year hereinabove designed.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

LORI WROTENBERY Director

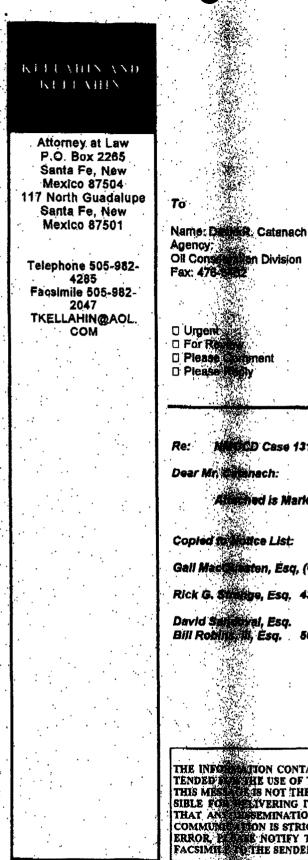
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#### FAX TRANSMITTAL FORM

From

W. Thomas Kellahin

Telephone 505-982-4285 Facsimile 505-982-2047 TKELLAHIN@AOL.COM

Date sent: 11-17-03 Time sent: 12:30 pm Number of pages including cover page:

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#### Marco CD Case 13142

Dear Mr. Catenach:

Attended is Marlo's pre-heering statement

Gall Mac Matten, Esq, (OCD) 505-468-4362

Rick G. Storage, Esq. 432-664-3168

David Salianyal, Esq. Bill Roblins III, Esq. 505-986-0632

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# ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

### IN THE MATTER OF THE MARING CALLED BY THE OIL CONSERVATION DIVISON FOR THE PURPOSE OF CONSIDERING:

CASE NO. 13142

APPLICATION OF THE NEW MEXICO OIL CONSERVATION DIVISION FOR AN ORDER OF DUIRING MARALO, LLC TO REMEDIATE HYDROCANON CONTAMINATION AT AN ABANDONED WELL AND ATTERY SITE, LEA COUNTY, NEW MEXICO

#### **HEARING STATEMENT**

This pre-hearing states will be submitted by Maralo, LLC as required by the New Mexico Oil Conservation Division

#### **ARENCES OF THE PARTIES**

#### APPLICANT .

Oil Conversation Division

#### **OPPONENT**

Maralo, LLC P. O. Box 832 Midland, Texas 79702

#### ATTORNEY

Gail MacQuesten, Esq. NMOCD 1220 S. St. Francis Drive Santa Fe, New Mexico 87505 (505) 476-4351

#### ATTORNEY

W. Thomas Kellahin, Esq. Kellahin & Kellahin P. O. Box 2265 Santa Fe, New Mexico 87504 Phone 505-982-4285 Fax 505-982-2046

Rick G. Strange, Esq. Cotton, Bledsoe, Tighe & Dawson P. O. Box 2776 Midland, Texas 79702 Phone 432-685-8574 Fax 432-684-3168 NMOCD Case 13142 Maralo, LLC's Pre-Hearing Statement Page 2

### OTHERS

Jay Anthony

# ATTORNEY

David Sandoval Bill Robins, III 300 Paseo de Peralta Suite 200 Santa Fe, New Mexico 87501 Phone 505-986-0600 Fax 505-986-0632

#### TATEMENT OF THE CASE

#### **OPPONENT:**

The Division is attempting to require Maralo, LCC to remediate alleged soil contamination alleging that "dean-up" should be accomplished in accordance with the Division's current surface monoundment closures guidelines adopted by the Division in February, 1993 more than Synars after Maralo plugged the well and abandoned this site.

The Division lacks artherity to require Maralo, LLC to conduct the proposed remediation activities because it is impermissibly applying rules retroactively. For example, the Oil Conservation District is attempting to punish Maralo, LLC for conduct that was legal at the time if accurred, by using rules outlawing that conduct, which were adopted after the fact. This rotates Maralo, LLC's constitutional due process rights, and violates the Constitution's to Post Facto provision. Maralo, LLC denies that the commission has jurisdiction or legislative authority to order Maralo, LLC to remediate property that was abandonic in 1988. Maralo, LLC also denies that it is otherwise liable for the charges filed against it.

#### PROPOSED EVIDENCE

# **OPPONENT**

#### WITNESSES

Bill Hunt (operations)

Philip Smith (operations)

Rob Elam

(consultant

EST. TIME EST. EXHIBITS

45 minutes Well File Excerpts

30 minutes

Well File Excerpts Correspondence with OCD

45 minutes

NMOCD 13142 Maralo LLC's Pre-Hearing Statement Page 3

# **PROCEDURAL MATTERS**

Maralo's motion to the miss.

omas Kellahin

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lo's motion to mice

# Maralo's EMENT Reporte **STATE OF NEW MEXICO** ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMEN **OIL CONSERVATION DIVISION**

# **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; (Jay Anthony Complaint) LEA COUNTY, NEW MEXICO

**CASE 13142** 

# RECEIVED

OCT 28 2003

Oil Conservation Division

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# MARALO, LLC'S REPLY TO THE NEW MEXICO OIL CONSERVATION **DIVISION'S AND ANTHONY'S RESPONSE IN OPPOSITION TO** MARALO LLC'S MOTION TO DISMISS

Maralo, LLC ("Maralo") submits this reply brief in response to the New Mexico Oil Conservation Division ("OCD") and Anthony's Response to Maralo, LLC's Motion to Dismiss the OCD's Application for an order requiring remediation of hydrocarbon contamination and in support of Maralo, LLC's Motion to Dismiss and shows as follows:

# INTRODUCTION

Hendrica of utention of 0:1 in earther receptables. Not arguined other rule Maralo submitted a Motion to Dismiss the OCD's application for remediation because it is an attempt to enforce Oil Conservation Division Rule 310 retroactively and to punish Maralo even though it did nothing in violation of the rule.

The OCD claims that the rule's present form was written in 1950 and 1935. This is incorrect. The OCD is ignoring the distinct and critical differences in the language of what cuteral confirmence? the rule over time. Furthermore, in the OCD's Response, they insinuate that Maralo has existing and continuing contamination on the land. It is impossible for Maralo to have continued contaminating the land when it is no longer the operator, has not operated the property for almost 20 years, and has no present connections to the Humble Oil Well.

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The OCD claims that they are not applying the rule retroactively but prospectively. This is incorrect. "A statute or regulation is considered retroactive if it impairs vested rights acquired under prior law or requires new obligations, imposes new duties, or affixes new disabilities to past transactions." *Howell v. Heim*, 882 F.2d 541 (N.M. 1994). OCD's action follows the definition of a retroactive law. It is obvious that the Division is ignoring the United States Constitution, New Mexico Constitution, and case law, for all three frown upon the enforcement of laws retroactively because it is a deprivation of an entity's due process rights. Every action Maralo took on the property was legal and consistent with applicable rules and regulations at the time. The alleged violations are not the result of Maralo's actions, but rather changes in the language of OCD's rules.

In Anthony's Response, he claims that the OCD has unlimited power as an administrative agency and ignores the fact that all administrative agencies, both federal and state, are limited by the statutes that created them. Without limits on administrative agencies, the constitutional principles of a democratic society would fail, for a central overbearing governmental entity would be created.

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Anthony claims that New Mexico case law allows statutes to be applied retroactively. In some instances that is correct – but if, and only if, the enabling statute clearly allows retroactive enforcement. Unlike the OCD's enabling statute, the statutes cited by Anthony clearly allowed for retroactive enforcement. When analyzing a law to see if it may be retroactively applied, the analysis must be closely tailored to the specific statute, rule, or regulation's granting power. It is not a general rule that New Mexico enforces all statutes retroactively. That would be a clear violation of both the United

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States Constitution and the New Mexico Constitution since each prohibits ex post facto laws and retroactive application and enforcement of laws.

#### SUMMARY OF THE ARGUMENT

- Maralo was not in violation of OCD Rule 310 when operating the Humble Oil Well on the Anthony property.
- 2. The division is retroactively applying Rule 310 to Maralo.
- Retroactive application of these rules violate federal constitutional law and New Mexico constitutional and state law.

## ARGUMENT

Maralo did not violate Rule 310 while operating the Humble Well. Maralo plugged and abandoned the Humble Well years ago, - well before this application was sought. Moreover, Maralo ceased using open pits for disposal purposes long before the no pit law was enacted. Prior to that law, when Maralo did use open pits, they were never used to store oil. It is important to understand that before the no pit order, it was legal to use surface disposal pits. For example, the 1935 and 1950 versions of Rule 310 did not ban or regulate the use of pits for salt water disposal. See Exhibit "A". They simply prohibited the storage of oil. Maralo did not use the pits to store oil. Using them for other purposes, such as salt water disposal, reserve pits, and overflow pits and was legal under the 1935 and 1950 rules. Maralo, thus, did not violate Rule 310 when the pits were actually in use.

Pits not und proil. But - we have a pit w/ oil on f.

Since Maralo did not violate Rule 310 or any other OCD rules while operating the Humble Well, the enforcement of the current version Rule 310 against Maralo for prior conduct is retroactive enforcement of an administrative rule. It is against both federal constitutional law and New Mexico constitutional law to retroactively enforce Rule 310 against Maralo. In *Howell v. Heim*, the court addressed the problem of retroactive application of administrative agency rules and regulations. 118 N.M. at 506. The Court stated that the right to enact and enforce the rules and regulations of an administrative agency must be found in the enabling statute. *Id.* The enabling statute also limits the administrative agency according to the *Howell* court. *Id.* Finally, the Court stated that just because a fact situation arises where it would be best to apply retroactive powers; those powers do not automatically arise from that fact situation. *Id.* 

In *Howell*, the court found that an administrative agency was enforcing its rule prospectively because the issue was whether the individual could continue receiving benefits. This case does not support the OCD's contention that it is prospectively applying Rule 310, the OCD is not regulating Maralo's future behavior, but is punishing it for past conduct. The OCD claims that any time a property condition exists on a rule's effective date, and even though that condition results solely from events occurring prior to that day, that a statute is not being applied retroactively. This is a misinterpretation of the case law.

In Gasden Federation of Teachers v. The Board of Education of the Gadsden Independent School District, the New Mexico Appellate court differentiates and explains what the Howell Court meant when they stated that a statute or rule is not retroactively construed if the condition exists when the rule was enacted. 1996 NMCA 69, 13-20. In the case of Howell, the petitioner was seeking future benefits and actions that were no longer going to exist because of a rule terminating the benefits. See generally Howell, 118 N.M. 500. This was a prospective rule for it limited a future action and did not

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punish or take away a right in the past. In *Gasden*, a rule was being enforced retroactively for it affected the rights under a past contract. This affected a past action and an existing contract right that had been taken away and was not concerning a future action. 1996 NMCA 69.

Maralo's actions were all in the past. Maralo ceased all operations on this well many years ago and had ceased all pit use prior to the enactment of the current version of Rule 310. Since no activity occurred after the enactment of the Rule, any enforcement of Rule 310 is punishing Maralo retroactively for an action that was legal at the time it occurred.

Retroactive enforcement is simply not favored and in New Mexico, there is a presumption against any retroactive enforcement of a statute, rule, or regulation. See *Bowen v. Georgetown University Hospital*, 488 U.S. 204 (1988 at 208); *Green v. United States*, 378 U.S. 149, 160 (1964); *Kaiser Aluminum and Chemical Corporation v. Bonjorno*, 494 U.S. 827, 837 (1990); *Coleman v. United Engineers and Constructors, Incorporated*, 878 P.2d 996, 1001 (N.M. 1994); *Gadsden Federation of Teachers v. The Board of Education of the Gadsden Independent School District*, 1996 122 N.M.C.A. 69, 13.

Unless the OCD can prove its enabling statute clearly supports retroactive enforcement, it is discouraged. See *Coleman*, 878 P. 2d at 1001. The statute upon which Rule 310 comes from is silent regarding retroactive application of Rule 310. See discussion in Maralo's Brief in Support of Maralo, LLC's Motion to Dismiss. Silence does not equal permission to retroactively apply Rule 310. In interpreting a statute's language to see if it applies retroactively, you must first look at the words of the statute

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and then secondly the legislative history. You cannot presume or assume that silence regarding retroactivity in a statute means that it can be applied retroactively. In fact, the presumption is reversed. There is actually a presumption that when a statute is silent, the statute must be enforced prospectively unless there is clear evidence regarding legislative history that would suggest that its retroactive application was intended. See Coleman, 878 P.2d at 1001.

Both the Division and Anthony argue that the prohibition of retroactive application of the rules hinders and curtails the OCD's powers as an administration agency. This does not justify retroactive enforcement because the OCD as an administrative agency is not unlimited in its grant of power. The Court in *Public Service Company of New Mexico v. New Mexico Environmental Improvement Board* clearly sets out the boundaries of an administrative body in New Mexico by stating, "administrative bodies are the creatures of statutes. As such, they have no common law or inherent powers and connect only as to those matters that are within the scope of the authority delegated to them." 89 N.M. 223, 226 (N.M. Ct. App. 1976) quoting *Maxwell Land Grant Company v. Jones*, 213 P. 1034 (1923).

Anthony argues that this case sets out that New Mexico allows great power to be given to its administrative agencies. However, he failed to read the full body of the case, for the Court goes on to state that an administrative agency is permitted to accomplish the legislative intent or policy but their limitation is that an administrative agency is not allowed to amend or enlarge its authority under the guise of making rules and regulations. *Id.* at 227. It shows that the court does uphold the boundaries that are in place on administrative agencies and will not allow them to extend their statutory boundaries

further. Thus, OCD is bound under the New Mexico statutes that set forth its powers. Those powers are set out more clearly and can be seen in the Brief in Support of Maralo, LLC's Motion to Dismiss Maralo, LLC from Remediation of Hydrocarbon Contamination. As Maralo set out in the brief retroactivity would definitely be outside of the boundaries of the statute.

As noted, rules such as Rule 310 may only be retroactively enforced if the legislature clearly provides the OCD this authority. See *Coleman*, 878 P.2d at 1001. Both the Division and Anthony argue that this presumption does not exist and that case law has stated that any environmental statute can be enforced retroactively. Anthony specifically cites CERCLA as a statute that has been given retroactive enforcement. However, CERCLA was intended by the United States Congress to be applied retroactively and courts have consistently found that to be true. See *Franklin County Convention Facility Authority v. American Premier Underwriters, Incorporated*, 240 F.3d 534 (6<sup>th</sup> Cir. 2000). But it does not follow that just because CERCLA, a federal statute, could be retroactively applied that every statute in every state can be considered retroactively enforceable. The New Mexico case law cited by both the OCD and Anthony contain statutes, which unlike the OCD's authority, specifically allow retroactive enforcement.

Finally, the OCD and Anthony argue that public policy demands the retroactive application of Rule 310 to Maralo; however, by making this statement, both are admitting that they are using Maralo simply to make an example of them. This public policy argument goes against the United States Constitution, the New Mexico Constitution, and case law. Allowing an agency to take on the broadest power possible just to set an example also goes against the constitutional division of the powers.

Maralo is not questioning the authority of OCD to make rules and regulations to and to enact the rules and regulations that they have made. Those rules cannot be applied retroactively or else the OCD will violate both U.S. Constitutional and State Constitutional laws.

# **CONCLUSION AND PRAYER**

Maralo did not violate any of the versions of Rule 310 that were in place when Maralo operated the Humble Well. The OCD and Anthony can provide no evidence to the contrary. Further, the OCD and Anthony can show no evidence that Maralo is still polluting or creating pollution on this date. Without such evidence, no remedial plan is required. Further, the OCD has no power to enforce Rule 310 retroactively. By doing so, they are violating the United States Constitutional law and the State law. This application is an attempt to punish Maralo and is not based in any law or fact that the OCD or Anthony has produced and therefore the application should be dismissed. Maralo prays further for general relief.

Respectfully submitted,

B١ Rick G. Strange of

COTTON, BLEDSOE, TIGHE & DAWSON A Professional Corporation P. O. Box 2776 Midland, Texas 79702 (432) 684-5782 (432) 682-3672 (Fax)

### ATTORNEY FOR MARALO, LLC

# **CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a true and correct copy of the foregoing document was forwarded on the  $27^{-1}$  day of October, 2003, to the following counsel of record:

W. Thomas Kellahin Kellahin & Kellahin P.O. Box 2265 Santa Fe, New Mexico 87504 via Facsimile and Federal Express

Mr. David Sandoval Heard, Robins, Cloud, Lubel & Greenwood, LLP 300 Paseo de Peralta, Suite 200 Santa Fe, New Mexico 87501 via Certified Mail, RRR

Ms. Gail MacQuesten Assistant General Counsel Energy, Minerals & Natural Resources Department of the State of New Mexico 1220 South St. Francis Drive Santa Fe, New Mexico 87505 via Certified Mail, RRR

Rick G. Strange

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EXHIBIT "A"

# RECEIVED

OCT 28 2003

Oil Conservation Division

COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARINGS CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

> CASE NO. 189 ORDER NO. 850

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# RULES AND REGULATIONS

#### ORDER OF THE COMMISSION

BY THE COMMISSION:

After due notice and hearings in Santa Fe, New Mexico, on September 7, 1949, and November 1, 1949, the Commission finds that certain rules, regulations and orders should be adopted and others repealed.

IT IS THEREFORE ORDERED:

1. All rules, regulations and orders heretofore issued by the Commission are repealed and rescinded, effective January 1, 1950, except the following orders which are of a special nature and are not of statewide application, they being:

- a. All orders heretofore issued granting permission for specific unorthodox locations.
- b. Orders relating to approval of unit agreements No. 570, 583, 603, 602, 628, 629, 648, 655, 656, 676, 677, 684, 706, 717, 731, 737, 755, 759, 772, 774, 786, 794, 796, 836.
- c. Orders relating to Carbon Black Plants No. 650, 651, 724, 806.
- d. Orders relating to spacing in the Fulcher Basin Pool No. 541, 647, 748, 815.
- e. Orders relating to specific five (5) spot locations No. 733, 819, 826, 821, 828, 844.
- f. Order No. 799 relating to spacing in the Blanco Pool.
- g. Orders relating to specified pressure maintenance projects as follows :
  - (1) Loco Hills Pressure Maintenance Association, 339, 484, 498, 540, 562.
  - (2) Maljamar Cooperative Repressuring Agreement, 485, 495, 736, 793.
  - (3) Grayburg Unit Association, 659, 791, 802.
  - (4) Culbertson-Irwin Pressure Maintenance Project, 388.
  - (5) Langlie Unitized Pressuring Project, 340.
- h. Orders relating to pooling of interests in specified leases, No. 739, 780.
- i. Order No. 795 relating to a specific tank battery.
- j. Orders relating to dual completions on specified wells, No. 740, 750, 801, 810, 816, 829, 838.
- k. Order No. 831 rescinding the bonus discovery allowable.
- 1. Order No. 779 relating to 80-acre spacing in the Crossroads Pool.
- m. Section 2 of Order No. 835, relating to gas-oil ratios.
- n. Order 846, establishing 80-acre spacing in Bagley-Hightower Pool.
- o. Order 33, relating to the proration plan for Monument Pool, Lea County, New Mexico.
- p. Order 398, relating to proration plan for Hobbs Pool.
- q. Orders No. 66 and 67, relating to carbon dioxide.

2. This order shall not affect in any way the validity of any statewide proration order heretofore issued.

New Mexico Oil Conservation Commission Rules and Regulations. Effective Jan,1,1950 1950, as to all presently existing oil and gas wells that have been in the past and are presently operated or the products thereof utilized in a manner differing from the requirements herein, but in compliance with former rules and regulations. If during said period the operator is any such well files with the Commission an application for a permanent exception for such well from the requirements of these rules and regulations, the temporary exception herein granted shall continue in force until the Commission has acted on such application.

4. The following rules and regulations are hereby adopted, effective January 1, 1950. DONE at Santa Fe, New Mexico, on this 9th day of December, 1949.

I certify that this is a true copy of the original document in the custody of the State of New Maxico Records

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# STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

THOMAS J. MABRY, CHAIRMAN

GUY SHEPARD, MEMBER

R. R. SPURRIER, SECRETARY

w Mexico Oil Conservation Commission, Rules and Regulations, fective Jan. 1, 1950

#### RULE 306. VENTED CASINGHEAD GAS

Pending arrangement disposition for some useful purpose, wented casinghead gas shall be burned, and the estimated the reported on Form C-115.

#### RULE 307. USE OF VACUUM PUMPS

Vacuum pumps or other devices shall not be used for the purpose of creating a partial vacuum in any stratum containing oil or gas.

#### RULE 308. SALT OR SULPHUR WATER

Operators shall report monthly on Form C-115, the amount or percentage of salt or sulphur water produced with the oil by each well making 2% or more water.

#### RULE 309. CENTRAL TANK BATTERIES

Oil shall not be transported from a lease until it has been received and measured in tanks located on the lease. At the option of the operator, common tankage may be used to receive the production from as many as 8 units of the same basic lease, provided adequate tankage and other equipment is installed so that the production from each well can be accurately determined at reasonable intervals.

#### RULE 310. OIL TANKS AND FIRE WALLS

Oil shall not be stored or retained in earthen reservoirs, or in open receptacles. Dikes or fire walls shall not be required except such fire walls must be erected and kept around all permanent oil tanks, or battery of tanks that are within the corporate limits of any city, town, or village, or where such tanks are closer than 150 feet to any producing oil or gas well or 500 feet to any highway or inhabited dwelling or closer than 1000 feet to any school or church; or where such tanks are so located as to be deemed an objectionable hazard within the discretion of the Commission. Where fire walls are required, fire walls shall form a reservoir having a capacity one-third larger than the capacity of the enclosed tank or tanks.

#### RULE 311. TANK CLEANING PERMIT

No tank bottom shall be removed from any tank used for the storage of crude petroleum oil unless and until application for tank-cleaning permit is approved by Agent of the Commission. To obtain approval, owner shall submit Commission's Form C-117 reporting an accurate gauge of the contents of the tank and the amount of merchantable oil determinable from a representative sample of the tank bottom by the standard centrifugal test as prescribed by the American Petroleum Institute's code for measuring, sampling, and testing crude oil. Number 25, Section 5. The amount of merchantable oil shall be shown as a separate item on Commission Form C-115, and shall be charged against the allowable of the unit or units producing into such tank or pit where such merchantable oil accumulated. Nothing contained in this rule shall apply to the use of tank bottoms on the originating lease where owner retains custody and control of the tank bottom or to the treating of tank bottoms by operator where the merchantable oil recovered is disposed of through a duly authorized transporter and is reported on Commission Form C-115. Nothing contained in this Rule shall apply to reclaiming of pipe line break oil or the treating of tank bottoms at a pipe line station, crude oil storage terminal or refinery or to the treating by a gasoline plant operator of oil and other catchings collected in traps and drips in the gas gathering lines connected to gasoline plants and in scrubbers at such plants.

# RULE 312. TREATING PLANT

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No treating plant shall operate except in conformity with the following provisions:

(a) Before construction of a treating plant and upon written application for treating plant permit stating in detail the location, type, and capacity of the plant contemplated and method of processing proposed, the Commission in not less than 20 days will set such application for hearing to determine whether the proposed plant and method of processing will actually and efficiently process, treat and reclaim tank bottom emulsion and other waste oils, and whether there is need for such a plant at the proposed location thereof. Before actual operations are begun, the permittee shall file with the Commission a surety bond of performance satisfactory to the Commission and payable in the amount of \$25,000.00 to the Commission of the State of New Mexico.

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(b) Such permit, if granted, shall be valid for 1 year, sha<sup>-</sup> Commission at any time after hearing is had on 10 days' notic operator to an approved Certificate of Compliance and Authoriz Form C-110, for the total amount of products secured from

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processed. Any operating treating plant shall, on or before the 15th day of each calendar month, file at the nearest office of the Commission, a monthly report on Commission Form C-118, which report when fully completed and approved by an authorized agent of the Commission, may be used to support a Commission Form C-110 for the net oil on hand at the end of the reported period. In no event shall Commission Form C-110 be issued for moving the products of a treating plant without supporting Commission Form C-118 being completed and approved.

(c) None of the provisions of this rule are applicable to the recovery of wash-in oil, creek oil, or pit oil where such oil is picked up and returned to the lease on which produced or where such oil is disposed of by owner to an authorized transporter and accounted for on Commission Form C-110. Before any person other than owner shall pick up, reclaim or salvage wash-in oil, creek oil, or pit oil, a permit to do so shall be obtained from owner or operator of lease and from the duly authorized agent of the Commission. Application for permit shall state the name and location of the lease, the number of well or wells from which the oil was produced, or the source of such oil and the name of the owner, operator or manager.

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#### RULE 313. EMULSION, BASIC SEDIMENTS, AND TANK BOTTOMS

Wells producing oil shall be operated in such a manner as will reduce as much as practicable the formation of emulsion and B. S. These substances and tank bottoms shall not be allowed to pollute streams or cause surface damage. If tank bottoms are removed to surface pits, the pits shall be fenced and the fence shall be kept in good repair.

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OIL CONSERVATION COMMISSION OF NEW MEXICO ORDER NO. 4	commercial or potentially commercial oil or gas well, and that outside the boundaries of proven oil or gas fields or areas that n be designated by the Commission. Plugged and abandoned w shall not be considered in applying this rule. The Commission may, after notice and hearing, grant excepti to this rule, provided such exceptions will create neither waste hazards conducive to waste. Such exceptions may be granted w
GENERAL RULES AND REGULATIONS GOVERNING THE CONSERVATION OF OIL AND GAS IN NEW MEXICO	<ul> <li>surface conditions render it impracticable without unreasoniexpense to drill a well at a location in conformity with this r or when a separately owned tract is so small or so shaped the location in conformity with this rule is impossible.</li> <li>(b) The foregoing rule with reference to "Wildcat" w shall also apply to all other wells, unless and until the Commiss after notice and hearing, adopts special rules for the spacing</li> </ul>
Pursuant to power delegated by an Act of the Twelfth Regular Session of the Legislature of the State of New Mexico, Chapter 72, Laws of 1935, especially the power delegated by Sections 9 and 10 thereof the Oil Conservation Commission of the State of New	wells in proven oil or gas fields or in areas that the mmis may designate. RULE 3. WELL RECORD
	During the drilling of every well, the owner, opera contractor, driller, or other person responsible for the conduc drilling operations, shall keep at the well a detailed and accu record of the well, reduced to writing from day to day, which s be accessible to the Commission and its agents at all reason times. A copy of the record shall be furnished to the Commis at its request, but shall be kept confidential, if the operator requests in writing, for a period not to exceed ninety days the completion of the well, provided that the report or data the when pertinent, may be introduced in evidence in any public hea
ry well shall be identified by a sign, posted on the derrick le, otherwise on a substantial post not more than twenty a such well, and such signs shall be of durable construction lettering thereon shall be kept in a legible condition and large enough to be legible under normal conditions at a of fifty feet. The wells on each lease or property shall ered consecutively beginning with No. 1, unless some other of numbering was adopted by the owner prior to the of these rules and regulations. Each sign shall show the of the well, the name of the lease (which shall be different lease), the name of the lessee, owner or operator, and the by quarter, section, township and range.	the report be kept confidential. If so ordered by the Commission, samples of drill cuttings i be kept in the State by the owner of the well and shal accessible to the Commission and its agents at all reasor times. RULE 4. DEVIATION TESTS Whenever any well is drilled or deepened, tests to deter the deviation from the vertical shall be taken at intervals o more than 500 feet. Directional surveys may be required by Commission whenever in its judgment the location of the bc of the well is in doubt.
RULE 2. GENERAL SPACING RULES rules for the spacing of oil and gas wells are as follows: "Wildcat" wells shall not be drilled closer than 330 ny lease or property line or less than 660 feet from any J1. "Wildcat" wells, according to the meaning used herein, shall be those which are located not less than two miles from any	RULE 5. PIT FOR SHALE DRILL CUTTINGS REQUIRI During the drilling of any well, all clay and soft shale cuttings shall be accumulated in an adequate pit provided t drilling is commenced, in order to assure a supply of p material for mud-laden fluid to confine oil, gas or water to native strata.
Oil and Gas Conservation Law, Circular No, 1 Agency Historic Rules Coll,	

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Contor and Avenuery DULLE Ledzer 10-3-03	······································
20 DATE U	RULE 12. ABANDONING WELLS
RULE 6 STRATA TO BE SEALED OFF	Before a well is abandoned, it shall be plugged in a ma which will confine permanently all oil. eas and water in the sen
Before any oil or gas well is completed as a producer,	strats originally containing them. This operation shall be ac plished by the use of mud-laden fluid. cement and nings meed e
oil, gas and water strata above the producing horizon shall be sealed or separated in order to prevent their contents from passing	or in combination as may be approved by the Commis The exact location of abandoned wells shall be shown by a
into other strata. RULE 7. SHOOTING AND CHEMICAL TREATING OF WELLS	marker at least four inches in diameter set in concrete, extending at least four feet above mean ground level.
27	RULE 13. BLOW-OUT PREVENTION
permission of the Commission is obtained. Each well shall be shot or treated in such manner as will not cause injury to the	In drilling in areas where high pressures are likely to all proper and necessary precautions shall be taken for keenin
sand, or result in water entering the oil or gas sand, and necessary precautions shall be taken to prevent injury to the casing. If shorting or chemical treating results in irreparable injury to the	well under control, including the use of blow-out preventers high pressure fittings attached to properly anchored and cem- casing strings.
well or to the oil or gas sand, the well shall be properly plugged and abandoned. (See Rule 42.)	RULE 14. CASING REQUIREMENTS FOR OIL AND GAS
RULE 8. WATER SHUT-OFFS	and the second
All water shall be shut off and excluded by a method approved by the Commission from the various oil and gas bearing strata which over membrated Water shut-offs shall ordinarily he made by	Which shall be properly completed with an oil string of c which shall be properly comented at a sufficient depth adequ to protect the oil-bearing stratum. Gas-producing wells sha
50	DITT THE COLUMN CARD AND CARD
mud-laden fluid. Drilling shall not be resumed following the Londing or comenting of each string of cashe until proof is	, KULE 19. UIL TANKS AND FIKE WALLS
·	Ou surfaction of be stored of retained in earthen reservoirs, open receptacies. All lease, stock and oil storage tanks sha
and water shut-off.	protected by a proper fire wall, which wall shall form a rese horing a connective one-third lorger than the connective of the con-
RULE 9. MUD-LADEN FLUID	tank or tanks. Such tanks shall not be erected, enclose
Mud-laden fluid is a term used herein to designate any mixture	tained closer than 150 feet to the nearest producin
of water and finely divided or conjourn material that remains in suspension for a long time. The mud employed shall have suitable	RULE 16. EMULSION, B. S., AND WASTE OIL
physical and chemical properties to accomplish adequately the purpose for which such mud is used.	Wells producing oil shall be operated in such manner a reduce as much as marticable the formation of
RULE 10. USE OF MUD-LADEN FLUID IN SETTING CASING	ese substances and waste oil shall not be
In order to seal off any oil, gas or water stratum during drilling,	RITTER OF VALUE OF VA
the owner shall, it the Commission so requires, run the cashing and seat it in mud-laden fluid, which fluid shall fill the hole outside	-
	vacuum in any stratum co
RULE 11. PULLING OUTSIDE STRINGS OF CASING	RULE 18. PROTECTION OF FRESH AND ARTESIAN WA
In pulling any outside strings of casing from any oil or gas well, the space outside the casing left in the hole shall be kept and left full of mud-laden fluid of adequate specific gravity to seal	All fresh waters and waters of present or probable future for domestic, commercial or stock purposes shall be confi their restrictive strata and shall be adenuately protected by m
off all fresh and salt water strata and any strata bearing oll or gas not producing.	
Oil and Gas Conservation Law, Circular No, 1	
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# STATE OF NEW MEXICO OIL CONSERVATION ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENTVISION OIL CONSERVATION DIVISION

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

# ANTHONY'S RESPONSE IN OPPOSITION TO MARALO, L.L.C.'S MOTION TO DISMISS

COMES NOW, Jay Anthony, by and through counsel, and sets forth his opposition to dismissal as follows:

# I. INTRODUCTION

Jay Anthony is the surface owner of contaminated land in Lea County that is the subject of this remediation proceeding (the "Property"). Maralo, LLC ("Maralo") was the operator of the Humble State Well No. 3, the associated tank battery and pits located on the Property. An earlier investigation by the Oil Conservation Division ("OCD") found that the surface around the former tank battery is contaminated with highly weathered asphaltic type oil and that several backfill pits remain in existence. The pits were apparently used by Maralo for the disposal of emulsions, basic sediments and tank bottoms. The contamination was found to be result of Maralo's violation of OCD Rules 310 and 313.

Pursuant to Rule 313, the OCD ordered Maralo to submit a work plan to remedy the surface pollution. Maralo refused.

Maralo has now filed its Motion to Dismiss on the unsupportable basis that the OCD is without legal authority to require the remediation of existing contamination caused by past conduct. Its request for dismissal is based on a faulty premise that the OCD is attempting to retroactively apply the Rules that have been violated by Maralo.

Maralo's Motion presents a direct attack on the OCD's very power and authority to perform its statutory functions. It presents an important question, the resolution of which will have a major impact on the OCD's ability to remedy pollution in New Mexico. The OCD must take a strong stand here, deny Maralo's dismissal motion, and clearly signal its intent to the public and the oil and gas industry that it will not be stifled in its attempts to address and correct existing contamination.

# II. SUMMARY OF ARGUMENT

- The conduct prohibited by Rules 310 and 313 was illegal during Maralo's operation of the Humble Well. As such, whether the Rules should apply retroactively is a question that is not even before the Hearing Officer.
- 2. The rule against retroactive application is a mere presumption that can be rebutted by a showing of legislative interest or consistency with a statutory purpose. Even if the OCD was seeking to retroactively apply Rules 310 and 313 it is within its power and authority to do so.
- 3. Maralo fails to show a due process violation.

# III. ARGUMENT

A. The OCD Has Broad Power to Promulgate Rules and Regulations.

There is no dispute that "[a]dministrative bodies are creatures of statute and can act only on those matters which are within the scope of authority delegated to them." *In re* 

*Proposed Revocation of the Food and Drink Purveyor's Permit*, 102 N.M. 63, 691 P.2d 64 (Ct. App. 1984). An "agency's authority is not limited to the express power granted by statute, but also includes those powers that arise from the statutory language by fair and necessary implication." Howell v. Heim, 118 N.M. 500, 504, 882 P.2d 541, 545 (1994). Further, the "authority granted to an administrative agency should be construed so as to permit the fullest accomplishment of the legislative intent or policy." *Public Service Co. v. New Mexico Environmental Improvement Board, 89* N.M. 223, 549 P.2d 638 (Ct. App. 1976). New Mexico thus allows much power to its administrative agencies.

The primary restriction on an agency's power is merely that it may not "amend or enlarge its authority under the guise of making rules and regulations." *Public Service Co.*, 89 N.M. at 228, 549 P.2d at 643. Maralo's attack on the OCD's authority is narrowly focused in this regard. That the OCD properly promulgated Rules 310 and 313 is not challenged. Neither does Maralo argue that the substantive coverage of Rules 310 and 313 is outside the scope of the OCD's regulatory authority. As such, the procedural and substantive validity of Rules 310 and 313 is not at issue.

Instead, Maralo merely argues that the OCD cannot apply its Rules retroactively. The argument appears to be a wholesale attack and not limited to Rules 310 and 313. Maralo's argument is that the OCD is completely without authority to promulgate any retroactive regulation whatsoever. This Response will show that retroactivity is not even an issue here since the conduct prohibited by Rules 310 and 313 was in fact illegal at the time that Maralo operated the well. Further, even if the OCD was attempting to apply these

Rules retroactively, it is fully within its power to do so.

B. There is no Retroactivity Here.

As was clearly shown by Staff's comprehensive archival research, the question of whether an OCD Rule may be properly applied retroactively is not even at issue. Staff has shown that the substantive coverage of both Rules 310 and 313 has been in place for decades and certainly during Maralo's operation which caused the contamination sought to be remediated.

The question of retroactivity is in actuality nothing more than a red herring. New Mexico has long and consistently recognized that a statute does not apply retroactively merely because some of the facts and conditions which are dealt with existed prior to the enactment. *Howell*, 118 N.M. at 506; see also, *Lucero v. Board of Regents of Northern New Mexico State School*, 91 N.M. 770, 581 P.2d 458 (1978) (allowing a statute providing tenure rights to teachers after their third consecutive year of employment to operate, even though plaintiff's years of consecutive service occurred prior to the statute's enactment); <u>State v.</u> *Mears*, 79 N.M. 715, 449 P.2d 85 (Ct. App. 1968) (allowing a statute to operate which provided credit for time spent in jail prior to conviction, even though defendant had been jailed prior to the statute's enactment, because defendant was convicted after the statute became effective).

Anthony commends Staff for their research and incorporates the arguments set forth in their Response. As such, rather than reiterate those arguments, Anthony will focus the remainder of this Response on showing that even if Rules 310 and 313 were newly promulgated, that the OCD would be entirely within its powers to apply them retroactively to correct existing contamination regardless of when the conduct causing the contamination may have occurred.

C. The Rule Against Retroactivity is Merely a Presumption.

"New Mexico law presumes a statute to operate prospectively unless a clear intention on the part of the legislature exists to give a statute retroactive effect." Coleman v. United Engineers & Constructors, Inc., 118 N.M. 47, 52 (1994) (emphasis added).

The very statement of this proposition demonstrates (by the use of the word 'presumes') that it is a rule or canon of statutory construction not an inflexible determinant of legislative intent.

Swink v. Fingade, 115 N.M. 275, 283 (1993) (alterations in original) (emphasis added).

Maralo seeks to cement this mere "presumption" into a wholesale restraint on the OCD's rulemaking power. A studied analysis, however, reveals that the OCD is well within its powers to apply Rules 310 and 313 to Maralo and to the consequences of its conduct, regardless of when the conduct may have occurred.

· In determining whether a statute or regulation may be properly applied retroactively, New

Mexico law calls for a three-pronged inquiry as follows:

The prospective application of a newly engaged act to [a preexisting and ongoing transaction] must ... be determined by [1] the words of the statute, [2] the legislature's intent in enacting the statute, and [3] by the public policy considerations which are evident from the statute.

Swink, 115 N.M. at 284.1

1. Words of the Statute and Legislative Intent.

<sup>&</sup>lt;sup>1</sup> This is similar to the balancing test enunciated by the D.C. Circuit in Wholesale and Department Store Union v. Hurb, 466 F.2d 380, 390 (D.C. Cir. 1972), quoted in U.S. v. Harragansett Improvement Co., 571 F.Supp. 688, 696 (R.I.D.C. 1983).

Because legislative intent is primarily ascertained by considering the express language in a statute, the analysis under the first two prongs of the inquiry is necessarily intertwined. "When the wording of a statue is clear and unambiguous" a court "will give effect to the wording of the statute." *Meyers v. Western Auto*, 132 N.M. 675, 54 P.3d 79 (Ct. App. 2002).

New Mexico's Oil and Gas Act, NMSA §§70-2-1 et. seq., states that the OCD "is authorized to make rules, regulations and orders for the purpose and with respect to the subject matter stated in this subsection." §70-2-12B. The Act is silent, however, about whether the OCD has power to retroactively apply its rules and regulations. Maralo takes this silence as evidence of legislative intent against retroactive rulemaking power. Contrary to the conclusion sought by Maralo, legislative silence as to whether a statute or regulation can apply retroactively is not determinative. In fact, there is an abundance of authority for retroactive application even in the face of silence. See, e.g., *Howell*, 118 N.M. 500 (regulation applied retroactively in spite of a lack of express statutory power to enact retroactive regulations); accord, *State v. Mears*, 79 N.M. 715; *Lucero*, 91 N.M. 770. More analogously, the Comprehensive Environmental Response, Compensation and Liability Act of 1970 ("CERCLA"), with obviously similar statutory purposes of addressing pollution caused in the past, has consistently been held to apply retroactively even when Congress failed to specifically say so in the statute. *Franklin County Convention Facilities Authority v. American Premier Underwriters, Inc.*, 240 F.3d 534, 550-52 (6<sup>th</sup> Cir. 2000).

In contrast to Maralo's desire for an express statutory grant of retroactive power, the "words of the statute" analysis instead focuses on the entire substance of the statute and whether its purpose would be furthered by retroactive application of the regulation in question.

In light of the foregoing, a careful review of the Oil and Gas Act is in order. Section 70-2-12 enumerates the OCD's powers. Among those powers are several which clearly contemplate that future regulation will have an effect on prior regulation and past conduct. See e.g., §§70-2-12 (11) and (12) ("to determine whether a particular well or pool is a gas or oil well or a gas or oil pool, as the case may be, and from time to time to classify and reclassify wells and pools accordingly; to determine the limits of any pool producing crude petroleum oil or natural gas or both from time to time redetermine the limits"); §§70-2-12 (1), (2) and (15) ("to require dry or abandoned wells to be plugged in a way to confine the crude petroleum oil, natural gas or water in the strata in which it is found and to prevent it from escaping into other strata; to prevent crude petroleum oil, natural gas or water from escaping from strata in which it is found into other strata; to regulate the disposition of water produced or used in connection with the drilling for or producing oil or gas or both and to direct surface or subsurface disposal of the water in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer"). (emphasis added).

The clear import of this statutory language is that the OCD is charged with an ongoing mission to regulate an industry and is empowered to address changing concerns. An obvious legislative concern and purpose of the Oil and Gas Act is addressing contamination, whether it be by prevention or remediation. If Maralo had its way and the OCD was indeed powerless to promulgate retroactive rules and regulations the very purpose of the Act would be frustrated and impossible to accomplish.

### 2. Public Policy.

The third prong of the retroactivity analysis involves consideration of public policy. This is a critically important factor in situations such as this where the conduct of a regulated industry may have

environmental consequences that will affect not only private landowners, but the public in general. The above analysis has relevance here as well. The OCD has been given authority to protect New Mexico's environment from the consequences of oil and gas drilling. This is a legitimate and important concern and duty of the OCD. It cannot be taken lightly.

Maralo seeks to undermine this mandate by arguing that the only Rules of concern and application to it, are those that were in effect at the time. That simply is not correct. First, as is wellstated by Staff, the fact that contamination remains on the Property strongly suggests that Maralo's operation was actually not in compliance. In addition, Maralo should not expect immunity from further regulation. As was stated by the court in Colo. Dept. Of Public Health and Environment v. Bethell, 60 P.3d 779, 785 (Colo. App. 2002):

> As a participant in a regulated industry, defendant should have recognized the risk of further regulation. Further, the public health risk from improper disposal of solid waste and the long-term threat to the environment outweigh defendant's financial interest.

> Thus, we reject defendant's contention that the regulations are retrospective.

Id. (citations omitted). This is consistent with the Sixth Circuit's analysis of CERCLA to the effect that, "legislation readjusting rights and burdens is not unlawful solely because its upsets otherwise settled expectations. This is true even though the effect of the legislation is to impose a new duty or liability based on past acts." *Franklin County*, 240 F.3d at 551.

New Mexico's public policy clearly outweighs any expectation by Maralo that it no longer should be liable for the lingering consequences of its operation. D. There is No Due Process Violation Here

At the end of its dismissal motion, Maralo baldly concludes that the application of the Rules 310 and 313 would be in violation of its due process rights. Maralo fails, however, to conduct a specific due process analysis. It failure to do so is likely due to the utter weakness of the argument.

"When determining whether a statute or regulation violates due process [a court must] first decide what level of constitutional scrutiny to apply." *Howell*, 118 N.M. at 505, 882 P.2d at 546. That determination depends on what type of right is involved.

Maralo's alleged right is merely based on its generalized claim that it operated the well in compliance with existing law. This is purely an economic interest. As was noted by the Sixth Circuit Court of Appeals in holding that retroactive application of CERCLA did not violate due process:

> Legislative acts adjusting the burdens and benefits of economic life carry a presumption of constitutionality, and the burden of proving that the legislature acted in an arbitrary and irrational way is on the party complaining of the violation.

*Franklin* County, 240 F.3d at 550. As such, retroactive application "need only be rationally related to a legitimate state interest."<sup>2</sup> Howell, 118 N.M. at 505, 882, P.2d at 546.

Clearly, addressing existing pollution amounts to a legitimate state interest sufficient to comply

with due process. The Sixth Circuit's analysis again provides guidance with the following language:

Cleaning abandoned and inactive hazardous waste disposal sites is a legitimate legislative purpose which is furthered by imposing liability for response costs upon those parties that created and profited from those sites.

:

<sup>&</sup>lt;sup>2</sup> This is in contrast with legislation that effects fundamental rights. "When government deprives persons of fundamental rights, it must demonstrate that the law promotes a compelling or overriding government interest." *Howell*, 118 N.M. at 505.

Franklin County, 240 F.3d at 552. The application of Rules 310 and 313 to Maralo does not amount to a violation of Maralo's due process rights.

# IV. CONCLUSION

This Response has shown that Maralo's thinly argued Motion is unsupportable. Remediation may properly proceed.

Respectfully submitted,

HEARD ROBINS, CLOUD, LUBEL & GREENWOOD, L.L.P.

By: C

Bill Robins, III David Sandoval 300 Paseo de Peralta, Suite 200 Santa Fe, New Mexico 87501 Telephone: (505) 986-0600 Telecopy: (505) 986-0632

# ATTORNEYS FOR JAY ANTHONY

# CERTIFICATE OF SERVICE

I hereby certify that I have caused a true and correct copy of the foregoing Anthony's Response In Opposition to Maralo, L.L.C.'s Motion To Dismiss, to be served by U.S. Mail on this day of October, 2003 to the following counsel of record:

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DAVID SANDOVAL

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

# 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.

CASE NO. 13142

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# <u>THE NEW MEXICO OIL CONSERVATION DIVISION'S RESPONSE TO</u> <u>MARALO, LLC'S MOTION TO DISMISS</u>

The Oil Conservation Division (the "Division") respectfully asks the hearing examiner to deny the motion filed by Maralo, LLC ("Maralo") to dismiss it from the remediation of hydrocarbon contamination at Humble State Site No. 3. Maralo's argument that the Division is applying its rules retroactively is based on a misunderstanding of the facts: the rules Maralo says were enacted in 1982 have in fact been in place since 1935, years before the acts causing the contamination took place. Maralo's argument is also based on a misunderstanding of the law: even if the facts were as described by Maralo, those facts would not constitute an impermissible retroactive application of the law. In requesting that Maralo clean up the contaminated area, the Division is not "punishing " past conduct, but is requiring remediation of current, ongoing contamination.

### Factual Background

This action concerns an abandoned oil and gas production facility located at the Humble State Site No. 3 in Lea County, New Mexico. All the equipment has been

removed, but the site was not remediated. There are the remains of pits, with asphaltictype oil present at the surface of the pits. It appears they were used for containment of emulsions, basic sediments and tank bottoms. Laboratory analyses of samples of contaminated soils from the site contain up to 25,400 parts per million (ppm) of total petroleum hydrocarbons (TPH); up to 0.1.79 ppm of benzene; up to 0.432 ppm of ethylbenzene; and up to 0.921 ppm of xylene.

Maralo's predecessor, Ralph Lowe, filed a notice of intent to drill the site in 1945. Maralo became operator of the site in 1974. Maralo filed its plug and abandon report in 1989.

The Division's Application requests an order requiring Maralo to submit a work plan and remediate the area, based on the violation of Division Rules 313 and 310A. The current version of division Rule 313 (19.15.5.313 NMAC) provides, in relevant part:

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.

The current version of division Rule 310A (19.15.5.310A NMAC) provides, in relevant part: "Oil shall not be stored or retained in earthen reservoirs, or in open receptacles."

Rules 313 and 310A have been in place since the Oil Conservation Commission adopted the current rule structure in 1950. See Exhibit A, attached, a certified copy of Order No. 850, Case No. 189, adopting the 1950 version of the rules. Although both rules have been amended in the past half-century, the relevant language was present in the 1950 version of the rules. Exhibit B, attached, is a certified copy of Rules 310 and 313 as they appeared in 1950. The original 1950 version of Rule 310 contains the relevant language: "Oil shall not be stored or retained in earthen reservoirs, or in open

receptacles." And the original 1950 version of Rule 313 contains the relevant language regarding surface damage: "Wells producing oil shall be operated in such a manner as will reduce as much as practicable the formation of emulsion and B.S. These substances and tank bottoms shall not be allowed to pollute streams or cause surface damage." The 1950 version of the rules can be found at the Historical Services Division of the State Records and Archives Center in box serial No. 8898, Location 24-A-8.

The relevant language was even present in the rules adopted in 1935 after the formation of the Oil Conservation Commission, under an earlier numbering system. Exhibit C, attached, is a certified copy of the first four pages of Oil Conservation Commission Order No. 4, adopted in 1935. Rule 15 of the 1935 version provides, in part, "Oil shall not be stored or retained in earthen reservoirs, or in open receptacles." Rule 16 of the 1935 version states "Wells producing oil shall be operated in such manner as will reduce as much as practicable the formation of emulsion and B.S. These substances and waste oil shall not be allowed to pollute streams or cause surface damage." When the Commission adopted the 1950 version of the rules, Rule 15 became Rule 310, and Rule 16 became Rule 313. The 1935 version of the rules can be found at the Historical Services Division of the State Records and Archives Center in box serial No. 12888, Location 59-L-4.

#### Argument

Maralo summarizes its argument in its conclusion, where it states that due process "is violated when the Division enacts a rule and then seeks to enforce it retroactively by punishing a company for conduct that was completely legal and in accordance with all

applicable rules at the time it was committed." Brief in Support of Maralo, LLC's Motion, at page 6.

No factual support exists for Maralo's argument. The rule prohibiting storage or retention of oil in earthen reservoirs or open receptacles and the rule prohibiting emulsion and basic sediments from causing surface damage have been in place since 1935, years before operations began at the site.<sup>1</sup> Obviously, the site was not operated in accordance with these rules because it bears the scars of open pits that still contain asphaltic material, and the surface is contaminated with petroleum hydrocarbons, benzene, ethylbenzene and xylene.

Because Maralo does not have the facts to support its theory, it is not necessary for the hearing examiner to reach the question of whether Maralo's legal theory is correct. It is important, however, for the Division to clarify its position on this issue because it affects the ability of the Division or any agency to remediate existing conditions.

The Division is not "punishing" past conduct. It is requiring Maralo to remediate <u>existing</u> contamination. Although the contamination may be the result of past actions, it is a current threat and that contamination will continue to be a threat until the site is remediated. If the legislature passed a statute today requiring remediation, or if the Division enacted a rule today requiring remediation, application of that statute or rule to existing contamination would not be a "retroactive" application of the law. As the New Mexico Supreme Court has recognized, "a statute or rule ' "is not retroactively construed when applied to a condition existing on its effective date even though the condition

<sup>&</sup>lt;sup>1</sup> Although Maralo's motion seeks relief on the ground that the Division retroactively applied Rule 310A, its brief in support of the motion mentions both Rule 310A and Rule 313. This Response addresses both rules, although only Rule 310A is at issue in this motion.

results from events which occurred prior to the date." " *Howell v. Heim*, 118 N.M. 500, 506, 882 P.2d 541 (1994), quoting with approval from *Philadelphia v. Phillips*, 179 Pa.Super. 87, 116 A.2d 243, 247 (1955) quoting *Burger v. Unemployment Compensation Bd. Of Review*, 168 Pa.Super. 89, 77 A.2d 737, 739 (1951). Maralo's interpretation of the law of retroactivity would prevent the legislature or regulatory agencies from ever remedying existing problems. In the context of environmental cleanup, the result would be that all existing contamination would be "grandfathered" in, with no remediation required.

# Conclusion

Maralo's motion to dismiss is not supported by the facts or the law. The Division respectfully requests that the hearing examiner deny Maralo's motion.

RESPECTFULLY SUBMITTED, this \_7 day of October by

Gail MacQuesten Assistant General Counsel Energy, Minerals and Natural Resources Department of the State of New Mexico 1220 S. St. Francis Drive Santa Fe, NM 87505 (505)-476-3451

Attorney for The New Mexico Oil Conservation Division

### **Certificate of Service**

I certify that I mailed a copy of this pleading, by first class mail, to

W. Thomas Kellahin Kellahin & Kellahin P.O. Box 2265 Santa Fe, NM 87504 Attorney for Maralo, LLC

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David Sandoval Heard, Robins, Cloud, Lubel & Greenwood, LLP 300 Paseo de Peralta, Suite 200 Santa Fe, NM 87501 Attorney for Jay Anthony

day of October, 2003. this 🔊 here

Gail MacQuesten

# BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARINGS CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

> CASE NO. 189 ORDER NO. 850

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# RULES AND REGULATIONS

# ORDER OF THE COMMISSION

#### BY THE COMMISSION:

After due notice and hearings in Santa Fe, New Mexico, on September 7, 1949, and November 1, 1949, the Commission finds that certain rules, regulations and orders should be adopted and others repealed.

#### IT IS THEREFORE ORDERED:

1. All rules, regulations and orders heretofore issued by the Commission are repealed and rescinded, effective January 1, 1950, except the following orders which are of a special nature and are not of statewide application, they being:

- a. All orders heretofore issued granting permission for specific unorthodox locations.
- b. Orders relating to approval of unit agreements No. 570, 583, 603, 602, 628, 629, 648, 655, 656, 676, 677, 684, 706, 717, 731, 737, 755, 759, 772, 774, 786, 794, 796, 836.
- c. Orders relating to Carbon Black Plants No. 650, 651, 724, 806.
- d. Orders relating to spacing in the Fulcher Basin Pool No. 541, 647, 748, 815.
- e. Orders relating to specific five (5) spot locations No. 733, 819, 826, 821, 828, 844.
- f. Order No. 799 relating to spacing in the Blanco Pool.
- g. Orders relating to specified pressure maintenance projects as follows:
  - (1) Loco Hills Pressure Maintenance Association, 339, 484, 498, 540, 562.
  - (2) Maljamar Cooperative Repressuring Agreement, 485, 495, 736, 793.
  - (3) Grayburg Unit Association, 659, 791, 802.
  - (4) Culbertson-Irwin Pressure Maintenance Project, 388.
  - (5) Langlie Unitized Pressuring Project, 340.
- h. Orders relating to pooling of interests in specified leases, No. 739, 780.
- i. Order No. 795 relating to a specific tank battery.
- j. Orders relating to dual completions on specified wells, No. 740, 750, 801, 810, 816, 829, 838.
- k. Order No. 831 rescinding the bonus discovery allowable.
- 1. Order No. 779 relating to 80-acre spacing in the Crossroads Pool.
- m. Section 2 of Order No. 835, relating to gas-oil ratios.
- n. Order 846, establishing 80-acre spacing in Bagley-Hightower Pool.
- o. Order 33, relating to the proration plan for Monument Pool, Lea County, New Mexico.
- p. Order 398, relating to proration plan for Hobbs Pool.
- q. Orders No. 66 and 67, relating to carbon dioxide.

2. This order shall not affect in any way the validity of any statewide proration order heretofore issued.

New Mexico Oil Conservation Commission Rules and Regulations Effective Jan.1.1950

Case No. 131 **OCD** Exhibit October 23,

3. An exception from the rules and regulations hereby adopted is granted until March 31, 1950, as to all presently existing oil and gas wells that have been in the past and are presently operated or the products thereof utilized in a manner differing from the requirements herein, but in compliance with former rules and regulations. If during said period the operator of any such well files with the Commission an application for a permanent exception for such well from the requirements of these rules and regulations, the temporary exception herein granted shall continue in force until the Commission has acted on such application.

4. The following rules and regulations are hereby adopted, effective January 1, 1950. DONE at Santa Fe, New Mexico, on this 9th day of December, 1949.

I certify that this is a true copy of the original document

In the custody of the State of New Alexico Records

Center and Archives - 10-3-03 100

STATE OF NEW MEXICO

OIL CONSERVATION COMMISSION

THOMAS J. MABRY, CHAIRMAN

GUY SHEPARD, MEMBER

R. R. SPURRIER, SECRETARY

New Mexico Oil Conservation Commission, Rules and Regulations, Effective Jan. 1, 1950

#### **RULE 306. VENTED CASINGHEAD GAS**

Pending arrangement for disposition for some useful purpose, all vented casinghead gas shall be burned, and the estimated volume reported on Form C-115.

#### RULE 307. USE OF VACUUM PUMPS

Vacuum pumps or other devices shall not be used for the purpose of creating a partial vacuum in any stratum containing oil or gas.

#### RULE 308. SALT OR SULPHUR WATER

Operators shall report monthly on Form C-115, the amount or percentage of salt or sulphur water produced with the oil by each well making 2% or more water.

#### RULE 309. CENTRAL TANK BATTERIES

Oil shall not be transported from a lease until it has been received and measured in tanks located on the lease. At the option of the operator, common tankage may be used to receive the production from as many as 8 units of the same basic lease, provided adequate tankage and other equipment is installed so that the production from each well can be accurately determined at reasonable intervals.

#### RULE 310. OIL TANKS AND FIRE WALLS

Oil shall not be stored or retained in earthen reservoirs, or in open receptacles. Dikes or fire walls shall not be required except such fire walls must be erected and kept around all permanent oil tanks, or battery of tanks that are within the corporate limits of any city, town, or village, or where such tanks are closer than 150 feet to any producing oil or gas well or 500 feet to any highway or inhabited dwelling or closer than 1000 feet to any school or church; or where such tanks are so located as to be deemed an objectionable hazard within the discretion of the Commission. Where fire walls are required, fire walls shall form a reservoir having a capacity one-third larger than the capacity of the enclosed tank or tanks.

#### RULE 311. TANK CLEANING PERMIT

No tank bottom shall be removed from any tank used for the storage of crude petroleum oil unless and until application for tank-cleaning permit is approved by Agent of the Commission. To obtain approval, owner shall submit Commission's Form C-117 reporting an accurate gauge of the contents of the tank and the amount of merchantable oil determinable from a representative sample of the tank bottom by the standard centrifugal test as prescribed by the American Petroleum Institute's code for measuring, sampling, and testing crude oil. Number 25, Section 5. The amount of merchantable oil shall be shown as a separate item on Commission Form C-115, and shall be charged against the allowable of the unit or units producing into such tank or pit where such merchantable oil accumulated. Nothing contained in this rule shall apply to the use of tank bottoms on the originating lease where owner retains custody and control of the tank bottom or to the treating of tank bottoms by operator where the merchantable oil recovered is disposed of through a duly authorized transporter and is reported on Commission Form C-115. Nothing contained in this Rule shall apply to reclaiming of pipe line break oil or the treating of tank bottoms at a pipe line station, crude oil storage terminal or refinery or to the treating by a gasoline plant operator of oil and other catchings collected in traps and drips in the gas gathering lines connected to gasoline plants and in scrubbers at such plants.

#### RULE 312. TREATING PLANT

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No treating plant shall operate except in conformity with the following provisions:

(a) Before construction of a treating plant and upon written application for treating plant permit stating in detail the location, type, and capacity of the plant contemplated and method of processing proposed, the Commission in not less than 20 days will set such application for hearing to determine whether the proposed plant and method of processing will actually and efficiently process, treat and reclaim tank bottom emulsion and other waste oils, and whether there is need for such a plant at the proposed location thereof. Before actual operations are begun, the permittee shall file with the Commission a surety bond of performance satisfactory to the Commission and payable in the amount of \$25,000.00 to the Commission of the State of New Mexico.

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(b) Such permit, if granted, shall be valid for 1 year, sha Commission at any time after hearing is had on 10 days' notic operator to an approved Certificate of Compliance and Authoriz Form C-110, for the total amount of products secured from OCD Exhibit

Case No. 13142 October 23, 2003

processed. Any operating treating plant shall, on or before the 15th day of each calendar month, file at the nearest office of the Commission, a monthly report on Commission Form C-118, which report when fully completed and approved by an authorized agent of the Commission, may be used to support a Commission Form C-110 for the net oil on hand at the end of the reported period. In no event shall Commission Form C-110 be issued for moving the products of a treating plant without supporting Commission Form C-118 being completed and approved.

(c) None of the provisions of this rule are applicable to the recovery of wash-in oil, creek oil, or pit oil where such oil is picked up and returned to the lease on which produced or where such oil is disposed of by owner to an authorized transporter and accounted for on Commission Form C-110. Before any person other than owner shall pick up, reclaim or salvage wash-in oil, creek oil, or pit oil, a permit to do so shall be obtained from owner or operator of lease and from the duly authorized agent of the Commission. Application for permit shall state the name and location of the lease, the number of well or wells from which the oil was produced, or the source of such oil and the name of the owner, operator or manager.

#### RULE 313. EMULSION, BASIC SEDIMENTS, AND TANK BOTTOMS

Wells producing oil shall be operated in such a manner as will reduce as much as practicable the formation of emulsion and B. S. These substances and tank bottoms shall not be allowed to pollute streams or cause surface damage. If tank bottoms are removed to surface pits, the pits shall be fenced and the fence shall be kept in good repair.

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OMMISSIC	commercial or potentially commercial oll or gas well, and that are- outside the boundaries of proven oil or gas fields or areas that may be designated by the Commission. Plugged and abandoned wells shall not be considered in applying this rule. The Commission may, after notice and hearing, grant exceptions
ORDER NO. 4	to this rule, provided such exceptions will create neither waste nor hazards conducive to waste. Such exceptions may be granted when
GENERAL RULES AND REGULATIONS GOVERNING THE CONSERVATION OF OIL AND GAS	surface conditions render it impracticable without unreasonable expense to drill a well at a location in conformity with this rule, or when a separately owned tract is so small or so shaped that a location in conformity with this rule is impossible.
	(b) The foregoing rule with reference to "Wildcat" wells shall also apply to all other wells, unless and until the Commission, after notice and hearing, adopts special rules for the spacing of
Pursuant to power delegated by an Act of the Twelftli Regular Section of the Lorislature of the State of New Mexico, Chanter 79	wells in proven oil or gas fields or in areas that the Commission may designate.
Laws of 1935, especially the power delegated by Sections 9 and 10	RULE 3. WELL RECORD
thereof, the Oil Conservation Commission of the State of New Mexico, hereinafter designated as the "Commission", hereby and	During the drilling of every well, the owner, operator, contractor duillar or other nervon responsible for the conduct of
herein makes and promulgates the following general rules and regulations which are found by the Commission, after notice and	drilling operations, or other person responsible to a me contact or record of the well wedge to writting from dow to dow which theil
hearing as required by law, held at Santa Fe, New MexIco, June 28th 1935 to he reasonably necessary to prevent present and	
imminent waste of oil and gas, as defined by law, and otherwise	times. A copy of the record shall be furnished to the Commission at its request, but shall be kept confidential, if the operator so
to carry out the purposes of said Act. These rules and regulations shall become effective August 12, 1935.	iting, for a period not to exceed ninety days af
RULE 1. SIGNS ON WELLS	the compretion of the weit, provided that the report of data therein, when pertinent, may be introduced in evidence in any public hearing
Case	before the Commission or any Court, regardless of the request that the report be kept confidential.
and a such well, and such signs shall be of durable construction is over the state of the second shall be kept in a legible condition and solve the second shall be legible under normal conditions at a	It so ordered by the Commission, samples of drift cuttings shall be kept in the State by the owner of the well and shall be accessible to the Commission and its agents at all reasonable times.
The of first feet. The wells on each lease of property s red consecutively beginning with No. 1, unless some of	RULE 4. DEVIATION TESTS
of numbering was adopted by the owner prior to the of these rules and regulations. Each sign shall show the of the well, the name of the lease (which shall be different lease), the name of the lessee, owner or operator, and the by quarter, section, township and range.	Whenever any well is drilled or deepened, tests to determine the deviation from the vertical shall be taken at intervals of not more than 500 feet. Directional surveys may be required by the Commission whenever in its judgment the location of the bottom of the well is in doubt.
RULE 2. GENERAL SPACING RULES	RULE 5. PIT FOR SHALE DRILL CUTTINGS REQUIRED
rules for the spacing of oil and gas wells are as follows: "Wildcat" wells shall not be drilled closer than 330 my lease or property line or less than 660 feet from any ""	During the drilling of any well, all clay and soft shale drill cuttings shall be accumulated in an adequate pit provided before drilling is commenced, in order to assure a supply of proper material for mud-laden fluid to confine oil, gas or water to their native strata.
Oil and Gas Conservation Law, Circular No, 1 Agency Historic Rules Coll.	

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Center and Azonteen (1, 12, 1, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,	21,
	RULE 12. ABANDONING WELLS
RULE 6. STRATA TO BE SEALED OFF	÷ 0
Before any oil or gas well is completed as a producer, all oil, gas and water strata above the producing horizon shall be sealed or separated in order to prevent their contents from passing into other strata.	strata originally containing them. This operation shall be accom- plished by the use of mud-laden fluid, cement and plugs, used singly or in combination as may be approved by the Commission. The exact location of abandoned wells shall be shown by a steel
RULE 7. SHOOTING AND CHEMICAL TREATING OF WELLS	mean ground level.
ly treated until (	RULE 13. BLOW-OUT PREVENTION
permission of the Commission is obtained. Each well shall be shot or treated in such manner as will not cause injury to the sand, or result in water entering the oil or gas sand, and necessary precautions shall be taken to prevent injury to the casing. If shooting or chemical treating results in irreparable injury to the	In drilling in areas where high pressures are likely to exist, all proper and necessary precautions shall be taken for keeping the well under control, including the use of blow-out preventers and high pressure fittings attached to properly anchored and cement casing strings.
well or to the oll or gas sand, the well shall be properly plugged and abandoned. (See Rule 42.)	RULE 14. CASING REQUIREMENTS FOR OIL AND GAS PRODUCTION
RULE 8. WATER SHUT-OFFS	Oll molls shall he semulated with an ell string of sesing
All water shall be shut off and excluded by a method approved by the Commission from the various oil and gas bearing strata which are penetrated. Water shut-offs shall ordinarily be made by	compress with an out sound of ade cemented at a sufficient depth ade g stratum. Gas-producing wells sh ar.
cementary castag of landang castag with of without the use of mud-laden fluid. Drilling shall not be resumed following the	RULE 15. OIL TANKS AND FIRE WALLS
landing or cementing of each string of casing until proof is obtained satisfactory to the Commission of a proper oil and gas and water shut-off.	Oil shall not be stored or retained in earthen reservoirs, or in open receptacles. All lease, stock and oil storage tanks shall be protected by a proper fire wall, which wall shall form a reservoir
RULE 9. MUD-LADEN FLUID	g a capacity one-third larger than the capacity of the enclos
Mud-laden fluid is a term used herein to designate any mixture	maintained closer than 150 feet to the nearest producing well.
of water and they drived of conordat material that remains in suspension for a long time. The mud employed shall have suitable	RULE 16. EMULSION, B. S., AND WASTE OIL
physical and chemical properties to accomplish adequately the purpose for which such mud is used. RULE 10. USE OF MUD-LADEN FLUID IN SETTING CASING	Wells producing oil shall be operated in such manner as veduce as much as practicable the formation of emulsion a. B. S. These substances and waste oil shall not be allowed to
In order to seal off any oil gas or water stratium during drilling	pollute streams or cause surface damage.
the owner shall, if the Commission so requires, run the casing and seat it in mud-laden fluid, which fluid shall fill the hole outside	RULE 17. USE OF VACUUM PUMPS Vacuum numps or other devices shall not be used for the
the casing to the top, where the level of said fluid shall be main- tained.	eating a partial vacuum in any stratu
RULE 11. PULLING OUTSIDE STRINGS OF CASING	RULE 18. PROTECTION OF FRESH AND ARTESIAN WATERS
In pulling any outside strings of casing from any oil or gas well, the space outside the casing left in the hole shall be kept and left full of mud-laden fluid of adequate specific gravity to seal off all fresh and salt water strata and any strata bearing oil or gas not producing.	All fresh waters and waters of present or probable future value for domestic, commercial or stock purposes shall be confined to their respective strata and shall be adequately protected by methods
Oil and Gas Conservation Law, Circular No, l Agency Historic Rules Coll,	

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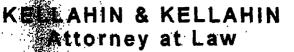
W. Thomas Kellahin

oil and gas law

New Mexico Board of Legal.

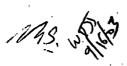
in the area of natural resources-

Specialization Recognized Specialist



P.O. Box 2265 Santa Fe, New Mexico 87504 117 North Guadalupe Santa Fe, New Mexico 87501

September 16, 2003



Telephone 505-982-4285 Facsimile 505-982-2047 kellahin@earthlink.net

#### VIA FACSIMILE 476-3462

Ms. Lori Wrotenbery, Director Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: CORRECTED RECEAST FOR CONTINUANCE NMOCD Case 1314 Application of the Decision for an order requiring Maralo, Inc. to remediate hydrocaston contamination at an abandoned well and battery site. Jay Anthony site, Les County, New Mexico

Dear Ms. Wrotenbery:

This letter confirme that my letter dated August 29, 2003 should have stated that the referenced case ware be continued from the September 4<sup>th</sup> docket to the October 23, 2003 docket.

traly yours

homas Kellahin

Cfx: William C. Olson, CCD Gail MacQuesten, Esc Attorney for the DCD Rick Strange, Esq. Attorney for Marcalo, Inc.



### NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Lori Wrotenbery Director Oil Conservation Division

September 9, 2003

David Sandoval Heard, Robins, Cloud, Lubel & Greenwood, LLP 300 Paseo de Peralta, Suite 200 Santa Fe, NM 87501

Re: 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

Dear Mr. Sandoval,

Enclosed is a copy of Maralo's motion to dismiss the above action, with the supporting brief. The motion and brief do not show a filing or service date. They were hand-delivered to me this afternoon, and division administrator Florene Davidson confirmed that the division also received the motion and brief today.

Please call me at 476-3451 once you have had a chance to review the motion and brief.

Sincerely, Man Trade

Gail MacQuesten Assistant General Counsel Oil Conservation Division

# EARD, ROBINS, CLOUD, LUBEL & GREENWOOD, LLP

ATTORNEYS AT LAW 300 Paseo de Peralta, Suite 200 Santa Fe, New Mexico 87501 Telephone: (505) 986-0600 Fax: (505) 986-0632

DAVID SANDOVAL LICENSED IN COLORADO, NEW MEXICO AND TEXAS E-MAIL: dsandoval@heardrobins.com

September 3, 2003

Gail MacQuesten Assistant General Counsel Energy, Minerals and Natural Resources Department of the State of New Mexico 1220 South St. Francis Drive Santa Fe, NM 87505 RECEIVED

SEP 0 5 2003

**EMNRD-LEGAL** 

Re: 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.

Dear Ms. MacQuesten:

As I mentioned in our telephone conversation of today, this law firm represents Jay Anthony, the owner of the land upon which the above-described abandoned well and battery site is located. Thank you for advising us that the September 4, 2003 OCD hearing was continued to October 9, 2003. We are interested in the foregoing action and welcome an opportunity to participate.

Thank you also for agreeing to provide us a copy of Maralo's motion to dismiss. We will call to discuss once we have received and reviewed it.

Sincerely,

David Sandoval

DS/lab



### KELLAHIN & KELLAHIN Attorney at Law

W. Thomas Kellahin New Mexico Board of Legal Specialization Recognized Specialist in the area of Natural resourcesoil and gas law

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P.O. Box 2265 Santa Fe, New Mexico 87504 117 North Guadalupe Santa Fe, New Mexico 87501

Telephone 505-982-4285 Facsimile 505-982-2047 kellahin@earthlink.com

August 29, 2003

#### VIA FACSIMILE

Ms. Lori Wrotenbery, Director Oil Conservation Division 1220 South Saint Francis Drive Santa Fe, New Mexico 87505

### RECEIVED

SEP . 9 2003

Oil Conservation Division

#### **Re: REQUEST FOR CONTINUANCE**

NMOCD Case No. 13142 Division application for order requiring Maralo, Inc. to remediate hydrocarbon contamination at an abandoned well and battery site at Jay Anthony site, Lea County, New Mexico.

Dear Ms. Wrotenbery:

Subject to the approval of the Hearing Examiner, counsel for Maralo, the Division, and having obtained the concurrence of Mr. Anthony, request that the hearing of this case be continued to the October 9, 2003 docket.

Thomas Kellahin

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cfx: William C. Olson, OCD Gail MacQuesten, Esq.for NMOCD Jay Anthony complainant Rick Strange, Esq, attorney for Maralo, Inc.

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

CASE 13142

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; (Jay Anthony Complaint) LEA COUNTY, NEW MEXICO

#### MOTION TO DISMISS MARALO, LLC FROM REMEDIATION OF HYDROCARBON CONTAMINATION

MARALO, LLC ("Maralo") files this Motion to Dismiss the Division's application for an order of remediation of hydrocarbon contamination and would show as follows:

I.

The Division is attempting to require Maralo, LCC to remediate alleged soil contamination alleging that "clean-up" should be accomplished in accordance with Division's current surface impoundment closure guidelines adopted by the Division in February, 1993. The Division does not claim that the alleged soil contamination has caused any fresh water pollution or does it pose a risk to fresh water.

II.

Maralo ceased all operations on the Humble State Site No. 3, Unit A, Section 36, T25S, R36E, Lea County, New Mexico, in 1988 and plugged the well and abandoned the site all in accordance with the Division rules applicable at that time.

Maralo operated the site, specifically all open receptacles, in accordance with New Mexico laws as written at the time of operation.

#### IV.

The Rule upon which this proceeding is based, New Mexico Administrative Code title 19 section 15.5.310A (2000) ("19.15.5.310A"), was originally adopted in 1982; Maralo did not operate an open pit on the Humble State Site No. 3 after the rule became effective. Consequently, Rule 19.15.5.310A is being enforced retroactively to the Humble State Site No. 3.

#### V.

Retroactive enforcement of Rule 19.15.5.310A is only permitted if there is clear legislative intent that such application was permitted by the enabling statute. *Coleman v. United Engineers and Constructors, Inc.*, 878 P.2d 996 (N.M. 1994).

#### VI.

Under New Mexico Statutes Annotated Section 70-2-12 (2003), the legislature granted power to the Oil Conservation Commission to regulate methods and devices of storage for oil and gas; to do all acts necessary to restore and remediate well sites using the oil and gas reclamation fund in accordance with provision of the Oil and Gas Act of 1978 and the Procurement Code of 1978; to regulate the disposition of nondomestic wastes resulting from oil and gas exploration; and to regulate the disposition of nondomestic waste resulting form the oil field service industry. This statute gives the Oil Conservation Commission authority to create rules such as 19.15.5.310A, but does not clearly state an intention that rule 19.15.5.310A be enforced retroactively. VII.

Therefore, the Oil Conservation Commission cannot retroactively enforce rule 19.15.5.310A to apply to open receptacles that were in compliance with all New Mexico rules and regulations at the time of their operation.

VIII.

Hence, Maralo has not violated rule 19.15.5.310A and thus is not responsible for the cleanup of

the site.

WHEREFORE, Maralo moves that the Division grant this motion and thereby dismiss Maralo

from the remediation of the hydrocarbon contamination due to open pits on Humble State Site No. 3.

Respectfully submitted,

approved and authorized by telephone By: Rick G. Strange, Esq. COTTON, BLEDSOE, TIGHE & DAWSON A Professional Corporation P. O. Box 2776 Midland, Texas 79702 (432) 684-5782 (432)-682-3672 (Fax) By: Thomas Kellahin, Esq. Kellahin & Kellahin P. O. Box 2265 Santa Fe, New Mexico 87504 (505) 982-4285 (505) 98202047 (Fax) ATTORNEYS FOR MARALO, LLC

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

CASE 13142

#### 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; (Jay Anthony Complaint) LEA COUNTY, NEW MEXICO

#### BRIEF IN SUPPORT OF MARALO, LLC'S MOTION TO DISMISS MARALO, LLC FROM REMEDIATION OF HYDROCARBON CONTAMINATION

Maralo, LLC ("Maralo") submits this brief in support of its motion to dismiss the New Mexico Oil Conversation Division's ("OCD") application for an order of remediation of hydrocarbon contamination and would show as follows:

#### BACKGROUND

Maralo ceased all operations on the Humble State Site No. 3, Unit A, Section 36, T25S, R36E, Lea County, New Mexico, in 1988, plugged the well and abandoned the site all in accordance with the Division's rules. Prior to abandonment, Maralo operated the site, including all open receptacles, in accordance with all New Mexico laws and administrative regulations. The Division initiated this proceeding in 2003, fifteen years after Maralo abandoned the site, contending Maralo violated the **New Mexico Administrative Code Title 19 Section 15.5.310A (2000)** ("Rule 313") and **Section 15.5.310A (2000)** ("Rule 310A") based upon conduct that occurred as far back as the 40s.

The Division's application is an impermissible attempt to apply its rules retroactively because the Division is, in effect, punishing Maralo for conduct that was legal and in accordance with all applicable Division rules and regulations at the time it was committed. This violates Maralo's constitutional rights to due process.

#### **DIVISION JURISDICTION**

The Oil Conservation Commission and the OCD of the Energy, Minerals, and Natural Resources Department have concurrent jurisdiction for matters such as the conservation of oil or gas and the prevention of waste. *New Mexico Statutes Annotated Section 70-2-6 and 7 (2003)*. The OCD's enumerated power is to regulate the methods and devices employed for storage; to control the oil and gas reclamation fund and do all acts necessary to properly plug and abandon oil and gas wells and to restore and remediate; and to regulate the disposition of nondomestic wastes resulting from the oil and gas industry. *Id. at 70-2-12 (2003)*.

#### OCD RULES

The OCD alleges two rule violations by Maralo. First, Rule 313 states wells should be produced in such a manner as will reduce as much as practicable the formation of emulsion and basic sediments. Secondly, Rule 310A which states, "Oil shall not be stored or retained in earthen reservoirs, or in open receptacles." The Division is attempting to require Maralo to clean this alleged soil contamination in accordance with the Division's surface impoundment closure guideline adopted by the Division after Maralo abandoned this site.

#### ARGUMENT

Maralo did not violate Rule 310A while operating the Humble Well, and the Division has never contended otherwise. Rather, it is attempting to retroactively enforce the current "clean-up" guidelines to the abandoned Maralo site by alleging soil contamination. Maralo believes there is no dispute that any pits on this site were at all times operated in accordance with all applicable New Mexico statutes, rules and regulations. Rule 310 was originally adopted in 1982. Maralo ceased using any open pits before then. Consequently, Maralo is liable today if, and only if, conduct that was legal in the 40s, 50s, 60s and 70s, can be subsequently be made illegal in the 80s and a valid remediation order issued in 2003. This is unconstitutional. Both federal and New Mexico law prohibit retroactive application of laws and administrative rules and regulations unless the Legislature clearly authorizes retroactive application. *See Bowen v. Georgetown University Hosp.*, 488 U.S. 204 (1988) and *Coleman v. United Eng'r and Constructors, Inc.*, 878 P.2d 996 (N.M. 1994).

The Supreme Court of the United States has repeatedly stated, "retroactivity is not favored in the law." *Bowen*, 488 U.S. at 208; *Green v. United States*, 378 U.S. 149, 160 (1964); and *Kaiser Aluminum and Chem. Corp. v. Bonjorno*, 494 U.S. 827, 837 (1990). In *Bowen*, the United States Supreme Court explained the meaning of "not favored in the law." *Id.* The court stated that congressional enactments and administrative rules should not have retroactive effect unless their language requires this result. *Id.* The court went further and held that, even when a statute's language gives it retroactive effect, courts should be reluctant to apply laws retroactively. *Id.* 

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The New Mexico Constitution too addresses the issue of retroactive application of laws in *Article II. Section 19*. It states, "no ex post fact law, bill or attainder nor law impairing the obligation of contracts shall be enacted by the legislature." *Id.* 

Appellate courts have consistently recognized New Mexico's presumption against retroactive enforcement of a statute or regulation. For example, in *Coleman v. United Engineers and Constructors, Inc.*, 878 P.2d 996, 1001 (N.M. 1994), the court had to decide whether to apply a statute retroactively to the Plaintiff's claims. The court stated that in New Mexico there is a presumption that a statue operates prospectively unless a clear intention from the legislature exists enabling retroactive application of a statute. *Id.* at 1001.

The United States Constitution, the New Mexico Constitution and applicable case law all make clear that retroactive application of regulations such as the Division's rules are not favored and will be allowed if, and only if, the underlying statute clearly permits retroactive application. The New Mexico enabling statutes, upon which the OCD draws its authority to enact rules such as 310A and 313, do not expressly give the Division the authority to impose its rules retroactively.

The OCD's powers are enumerated in *New Mexico Statutes Annotated section* 70-2-12 (2003). Four subsections address the issues of waste, conservation and storage of oil and gas. First, in subsection 13 the OCD is granted the power "to regulate the methods and devices employed for storage in this state of oil and natural gas or any product of either, including subsurface storage." *Id.* Second, in subsection 18 the OCD is given the power "to spend the oil and gas reclamation fund and do all acts necessary and proper to plug dry and abandoned oil and gas wells and to restore and remediate

abandoned well sites and associated production facilities in accordance with the provision of the Oil and Gas Act [Chapter 70, Article 2 NMSA 1978]...." *Id.* Neither subsection authorizes retroactive rule application.

The last two sections of New Mexico Annotated Statutes section 70-2-12 also do not allow the Division to apply rules retroactively. In subsection 21, the OCD is given the power "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." Finally in subsection 22, the OCD is given the power "to regulate the disposition of nondomestic wastes resulting from the oil field service industry, the transportation of crude oil or natural gas, the treatment of natural gas or the refinement of crude oil to protect public health and the environment including administering the Water Quality Act...." *Id.* 

Clearly, the OCD has the authority to enact rules such as 310A and 313. Once enacted, those rules are applicable to operators within the state. Just as clearly, however, the enabling statute provides absolutely no authority for retroactive application of these rules. To pass constitutional muster, such intent must be clearly stated within the legislation. The enabling statutes do not provide even a hint that retroactive application is permissible. Consequently, the Division's attempt to do so in this case violates Maralo's constitutional rights under both the United States and New Mexico Constitutions.

#### CONCLUSION

Both the United States and New Mexico Constitutions give companies such as Maralo a guaranty that it will be afforded due process. That important right is violated when the Division enacts a rule and then seeks to enforce it retroactively by punishing a company for conduct that was completely legal and in accordance with all applicable rules at the time it was committed. Because the Division's enabling statute does not clearly give the Division the authority to retroactively enforce a rule, its attempt to do so in this case is improper and unconstitutional. Maralo, therefore, respectfully prays that this application be dismissed. Maralo prays further for general relief.

Respectfully submitted,

By: \_\_\_\_\_approved by telephonically \_\_\_\_\_ Rick G. Strange, Esq. COTTON, BLEDSOE, TIGHE & DAWSON A Professional Corporation P. O. Box 2776 Midland, Texas 79702 (432) 684-5782 (432) 682-3612 (Fax) By:

W./ Thomas Kellahin, Esq. Kellahin & Kellahin P. O. Box 2265 Santa Fe, New Mexico 87504 (505) 982-4285 (505) 982-2047 (Fax)

ATTORNEYS FOR MARALO, LLC

### STATE OF NEW MEXICO AUG 1 1 2003 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION Division

#### 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.

CASE NO. 13142

#### **APPLICATION FOR ORDER DIRECTING REMEDIATION**

1. Maralo, LLC ("Maralo") was the operator 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.

2. On October 6, 1999, Mr. Jay Anthony, a surface owner, filed a complaint with the Oil Conservation Division ("the Division") concerning oil-contaminated soil on his property related to the former Humble State #3 tank battery. A Division investigation determined that the surface of the land around the former tank battery is contaminated with highly weathered asphaltic type oil and that several backfilled pits remain at the site. Asphaltic type oil is present at the surface of each pit. The pits appear to have been used for the disposal of emulsions, basic sediments and tank bottoms. Laboratory analyses of samples of contaminated soils from the site contain up to 25,400 parts per million (ppm) of total petroleum hydrocarbons (TPH); up to 0.179 ppm of benzene; up to 0.432 ppm of ethylbenzene; and, up to 0.921 ppm of xylene.

3. On April 11, 2001, the Division's Environmental Bureau notified Maralo that it would require an abatement plan pursuant to OCD Rule 19 [19.15.1.19 NMAC] to remedy fresh water contamination believed to exist at the referenced site.

4. By letter dated April 22, 2003, the Division notified Maralo that it was rescinding the requirement of an abatement plan because the Division had determined that there was insufficient evidence of water pollution to impose such a requirement at this time. The Division further notified Maralo, however, that Maralo should submit a work plan to remedy surface pollution resulting from tank bottoms at the referenced site in violation of OCD Rule 313 [19.15.5.313 NMAC].

5. By letter dated July 16, 2003 from legal counsel, Maralo declined to submit the required work plan, asserting that the Division has no legal authority for this requirement.

6. Division Rule 313 [19.15.5.313 NMAC] provides, in relevant part as follows:





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.

7. Division 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.

8. The investigation conducted by the Division indicates that the surface contamination at the Humble State No. 3 site resulted from Maralo's violation of Rules 313 and 310.A.

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

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

B. Upon approval of said work plan, to faithfully perform the same, and to fully remediate all hydrocarbon contamination at or proceeding from the said site.

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

#### RESPECTFULLY SUBMITTED,

Gail MacQuesten

Assistant General Counsel Energy, Minerals and Natural Resources Department of the State of New Mexico 1220 S. St. Francis Drive Santa Fe, NM 87505 (505) 476-3451

Attorney for The New Mexico Oil Conservation Division





Case No. <u>13142</u>: Application of the New Mexico Oil Conservation Division for an Order Requiring Maralo, LLC to Remediate Hydrocarbon Contamination at an Abandoned Well and Battery Site; Lea County, New Mexico. The Applicant seeks an order requiring Maralo, LLC to remediate contamination at the Humble State Well No. 3 site, located in Unit A, Sec. 36, T 25S, R36 E, Lea County, New Mexico.

	OTTON, BLEDSOE, TIGHE & DAWSON A PROFESSIONAL CORPORATION ATTORNEYS AT LAW	•
RICK G. STRANGE BOARD CERTIFIED CIVIL TRIAL LAW DARD CERTIFIED OIL GAS & MINERAL LAW Writer's Direct #: (432) 685-8574 Siturg Direct Fay #: (432) 884-3168	500 W. ILLINOIS SUITE 300 MIDLAND, TEXAS 79701-4337 P.O. BOX 2776 ZIP 79702-2776	1415 LOUISIANA SUITE 2100 ROUSTON, TEXAS 77002-7351 TELEPHONE (713) 759-9281 FAX (713) 759-0458
riter's Direct Fax #: (432) 684-3168 Email: rstrange@cbtd.com	TELEPHONE (432) 684-5782 FAX (432) 682-3672 WEB www.cbtd.com	
	July 16, 2003	

Mr. David K. Brooks Assistant General Counsel New Mexico Energy, Minerals and Natural **Resources** Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Dear Mr. Brooks:

BOAR BOARD CI

Writer's Em

> Thank you for your letter dated July 9th. I have reviewed that with my client and provide this response.

> Your letter references Rule 313 and indicates this rule was originally adopted in 1950. That rule has been amended, as recently as May 15, 2000. We ceased operations on this lease in 1988. Any subsequent changes to the rule would not apply to us. I do not have the exact text of the rule as it existed in 1988, but even looking at its most current version, I fail to see where this provides your agency with the authority to order us to remediate a site that has not been used for 15 years. Accordingly, we must respectfully decline your request to submit a work plan. If you have any legal authority allowing your agency to retroactively impose this proposed requirement, I would appreciate the opportunity to review the same.

> > Very truly yours,

 $[p_{i}, \gamma_{i}, \gamma_{i}] \in \{1, \dots, n\}$ 

COTTON, BLEDSOE, TIGHE & DAWSON Bv: Rick G. Strange

RGS/sm

\STRANGE\004802\000050\374718.1

Re: Humble State #3 Tank Battery Site Lea County, New Mexico



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Lori Wrotenbery Director Oil Conservation Division

July 9, 2003

Mr. Rick G. Strange Cotton, Bledsoe, Tighe & Dawson 500 W. Illinois, Suite 300 Midland, TX 79701-4337

Re: Maralo LLC Humble State #3 Tank Battery Site Lea County, New Mexico

Dear Mr. Strange:

On April 11, 2001, the Division notified Maralo LLC that it would require an abatement plan pursuant to OCD Rule 19 [19.15.1.19 NMAC] to remedy fresh water contamination believed to exist at the referenced site. By letter dated April 23, 2001, you, on behalf of Maralo, advised us of your contention that Rule 19 is inapplicable because it was adopted subsequent to Maralo's abandonment of the facility.

By letter dated April 22, 2003, the Division notified Maralo that we were rescinding the requirement of an abatement plan because we had determined that there was insufficient evidence of water pollution to impose such a requirement at this time. The Division further notified Maralo, however, that we were requiring a work plan to remedy surface pollution resulting from tank bottoms at the referenced site.

Maralo responded by letter of May 5, 2003 referencing your letter of April 23, 2001.

Although OCD does not agree with your position regarding the application of Rule 19, our rescinding the abatement plan requirement moots that issue. Rule 313 [19.15.5.313 NMAC], which is the basis for the demand set forth in our letter of April 22, 2003, was originally adopted in 1950.

We accordingly reiterate our requirement of a work plan to address the surface contamination issues. The plan should be filed not later than August 15, 2003.





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Please contact me at 505-476-3450 if you have questions or wish to discuss this matter further.

Very truly yours,

David K. Brooks Assistant General Counsel

cc. William C. Olson OCD Senior Hydrologist

#### <u>CERTIFIED MAIL</u> RETURN RECEIPT NO. 7001 1140 0002 4294 9923

May 5, 2003

Mr. Roger C. Anderson New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

# RECEIVED

#### MAY 0 8 2003

ENVIRONMENTAL BUREAU

Re: Humble State #3 Tank Battery Site Lea County, New Mexico

Dear Mr. Anderson:

Maralo, LLC is in receipt of your letter dated April 22, 2003, wherein you advise that the OCD is rescinding the April 11, 2001 abatement plan requirement although you request a work plan be submitted to eliminate surface damage at the captioned site.

We call your attention to letter dated April 23, 2001 from our attorney, Mr. Rick G. Strange with the Cotton, Bledsoe, Tighe & Dawson firm (copy enclosed), wherein he clearly states that Rule 19 is inapplicable.

Because we have had no response to our previous correspondence (4/23/01) and due to the significant passage of time, we believe you agree with our position on Rule 19, but if you have information that requires further review or discussion, I am certain Mr. Strange would be willing to discuss it further with your legal counsel.

Yours very truly,

Toe C. Pulido, CPL Manager

JCP/sg Enclosure

cc: Mr. Rick G. Strange Cotton, Bledsoe, Tighe & Dawson

> Maralo, LLC / P.O. Box 832 / Midland, Texas 79702-0832 / (915) 684-7441 Fax (915) 684-9836

#### **COTTON, BLEDSOE, TIGHE & DAWSON**

A PROFESSIONAL CORPORATION ATTORNEYS AT LAW

500 W. ILLINOIS

SUITE 300

MIDLAND, TEXAS 79701-4337 P.O. BOX 2776 ZIP 79702-2776

TELEPHONE (915) 684-5782 FAX (915) 682-3672 WEB www.cbtd.com 1415 LOUISIANA SUITE 2100 HOUSTON, TEXAS 77002-7351 TELEPHONE (713) 759-9281 FAX (713) 759-0458

APR 2 5 2001

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RICK G. STRANGE board certified civil trial law board certified oil, gas & mineral law

Writer's Direct #: (915) 685-8574 Writer's Direct Fax #: (915) 684-3168 Email: rstrange@cbtd.com

April 23, 2001

Mr. Roger Anderson
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Abatement Plan AP-26, Humble State #3 Tank Battery Site Jal, New Mexico

Dear Mr. Anderson:

Maralo, LLC has asked us to respond to your letter dated April 11, 2001. In that letter, you ask us to submit a plan to investigate the extent of contamination at the site of the former Maralo Humble State #3 Tank Battery Site located in Unit A, Section 36, Township 25 South, Range 36 East. In your correspondence, you indicate that Maralo is required to submit to the OCD by June 11, 2001 a Stage 1 investigation proposal pursuant to OCD Rule 19.E.1 and 19.E.3. As you are no doubt aware, Rule 19 of the New Mexico Oil and Gas Regulations was promulgated in February 1997. Maralo's wells in that area were plugged in 1988 and the battery was remediated in 1993. We have had no operations on the site since. Rule 19, therefore, is inapplicable, and any attempt to apply it retroactively now would, in my opinion, be unconstitutional. If you disagree, I would be happy to review any information you have or to discuss this matter with your legal counsel. If we have not heard from you within a reasonable period of time, we will assume that you agree with our assessment and will close our file.

RGS/sm



# NEW MEXICO ENERGY, MILERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary

April 22, 2003

Lori Wrotenbery Director Oil Conservation Division

Mr. Joe Pulido, Manager Maralo, LLC P.O. Box 832 Midland, Texas 79702-0832

# RE: HUMBLE STATE #3 TANK BATTERY SITE JAL, NEW MEXICO

Dear Mr. Pulido:

On April 11, 2001, the New Mexico Oil Conservation Division (OCD) informed Maralo, LLC (Maralo) that OCD investigations at the former Maralo Humble State #3 Tank Battery, located in Unit A, Section 36, Township 25 South, Range 36 East, have shown that ground water directly underlying Maralo's former Humble State #3 Tank Battery site is contaminated with chlorides and total dissolved solids (TDS) in concentrations in excess of the New Mexico Water Quality Control Commission standards. On that date, the OCD required that Maralo submit a Stage 1 Investigation Proposal to investigate and, if necessary, remediate ground water pollution at the site of the former tank battery. Subsequent soil investigations conducted by the OCD and recent investigations by the land owner, Mr. Jay Anthony, have not found appreciable concentrations of chlorides in soils at the site. Therefore, the OCD is rescinding the April 11, 2001 abatement plan requirement.

However, site inspections have shown that several backfilled pits remain at the surface of the site. Asphaltic type oil is present at the surface of each pit. These pits appear to have been used for disposal of emulsions, basic sediments and tank bottoms. According to 19.15.5.313 NMAC, "these substances and tank bottoms shall not be allowed to pollute fresh waters or cause surface damage". Since these pits are causing surface damage, the OCD requires that Maralo submit a work plan to eliminate surface damage at the site. The work plan shall be submitted to the OCD Santa Fe Office by May 22, 2003 with a copy provided to the OCD Hobbs District Office. If you have any questions, please contact Bill Olson at (505) 476-3491.

Sincerely,

Roger C. Anderson Environmental Bureau Chief

xc: Chris Williams, OCD Hobbs District Office Jay Anthony Jay Anthony Ranch

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North sample taken on north side of road approximately 43 yards north of on-site water well. The GPS coordinates of the north sample is 32 deg-05 min-26.815 sec N 105 deg-12 min-52.275 sec W

The water well location is 32-05-25.6 N 103-12-52.09 W

The second sample was taken in one of the SW pits GPS 32-05-24.8 N 103-12-54.7 W

16/02 J. ANTADNY RANCH OLO MARALO SITE SAMPLING - SOIL #1 32°05" 26.815" N 10.3° 12' 52.275" W WATER WELL 32° 05'25,600" N 103° /2' 52.090" W

EPI 9:15 AM 5-02 11-30-01 GROUNDWATER 2190' culton Ra NAREA - Looking (N) 8:15An Ita AC#1 Lookas(s) N AREA -PIC#2 SAMPLE LOCATION GASI MBy - And Confiton 9 km 43 XARD N of WWKL well #2 10:15 AL 201 # 1 (NA) NAREA - 2 win 324 Bi Star 306 149 15-17 cL 2 PÌ NCA, FEM + WP mg PA 3-19-02 2 -929 320-6989 9149 9-6-BI 10 AM 6-8 632-4148 10:17 AM 10-12 74 15.17 (0:42 AM 11:25 AM 20-22 25-27 12: 20 pm CC 320 K1 mg Pic # 3- (# 4 LOOK SWA SWA 5' |338 C1- 320 p 1359 10' 32°05'24.8 15' 1413 103° 12' 54.7' 20' 1453 #27'-28' 1557 480 ppm Cľ

This is only a summary. Please, refer to the complete report package for quality control data.

#### TraceAnalysis, Inc.

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N/A

Wayne Price OCD 1220 S. Saint Francis Dr. Santa Fe, NM 87505

Project Number: N/A Project Name: Maralo Project Location: Jay Anotheny Ranch

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
197262	North Area-2'	Soil	5/16/02	9:29	5/17/02
197263	North Area-4'-6'	Soil	5/16/02	9:49	5/17/02
197264	North Area-6-8'	Soil	5/16/02	10:00	5/17/02
197265	North Area-10-12'	Soil	5/16/02	10:17	5/17/02
197266	North Area-15'-17'	Soil	5/16/02	10:42	5/17/02
197267	North Area-20-22'	Soil	5/16/02	11:25	5/17/02
197268	North Area-25-27'	Soil	5/16/02	12:20	5/17/02
197269	SW Area 5'	Soil	5/16/02	13:38	5/17/02
197270	SW Area 10'	Soil	5/16/02	13:59	5/17/02
197271	SW Area 15'	Soil	5/16/02	14:13	5/17/02
197272	SW Area 20'	Soil	5/16/02	14:53	5/17/02
197273	SW Area 27'-28'	Soil	5/16/02	15:57	5/17/02

**Summary Report** 

0 This report consists of a total of 3 page(s) and is intended only as a summary of results for the sample(s) listed above.

	BTEX						
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	TRPHC	
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
197262 - North Area-2'	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	9040	
197263 - North Area-4'-6'	< 0.010	< 0.010	<0.010	0.016	0.016	8710	
197264 - North Area-6-8'	< 0.050	< 0.050	< 0.050	0.277	0.277	10900	
197265 - North Area-10-12'	< 0.100	< 0.100	0.22	0.583	0.803	12900	
197266 - North Area-15'-17'	0.0937	< 0.050	0.305	0.96	1.36	14900	
197267 - North Area-20-22'	0.0723	< 0.050	0.151	0.576	0.799	12700	
197268 - North Area-25-27'	< 0.100	< 0.100	0.274	0.921	1.20	12600	
197269 - SW Area 5'	0.111	< 0.050	0.402	0.741	1.25	18800	
197270 - SW Area 10'	0.179	< 0.100	0.38	0.792	1.35	25400	
197271 - SW Area 15'	0.12	< 0.100	0.432	0.672	1.22	13100	
197272 - SW Area 20'	<0.010	< 0.010	0.038	0.0155	0.0535	56.8	
197273 - SW Area 27'-28'	< 0.010	< 0.010	<0.010	<0.010	<0.010	143	

Report Date: June 5, 2002

9424-1515

Lubbock, T

Order ID Number: A02051716

Continued on next page ...

Page Number: 1 of 3 Jay Anotheny Ranch

(806) 794-1296

6701 erdeen Ave., Suite 9

Maralo

Report Date: June 5, 2002Order Number: A02051716

TraceAnalysis, Inc.	. 6701 erdeen Ave., Su	lite 9 Lubbock, T 9424-1515	(806) 794-1296
Report Date: June N/A	5, 2002Order Number: A02051716 Maralo	3	Page Number: 2 of Jay Anotheny Ranc
Sample 197262 con	tinued		
Param	Flag	Result	Units
Sample: 19726 Param	<b>52 - North Area-2'</b> Flag	Result	Units
Chloride	1 105	2.66	mg/Kg
Sample: 19726	63 - North Area-4'-6'		
Param	Flag	Result	Units
Chloride		3.12	mg/Kg
Sample: 19726	64 - North Area-6-8'		
Param	Flag	Result	Units
Chloride		7.56	mg/Kg
Sample: 19726 <sup>Param</sup>	5 - North Area-10-12'	Decult	The idea
Chloride	Flag	Result 5.87	Units mg/Kg
Sample: 19726 Param	6 - North Area-15'-17' Flag	Result	Units
Chloride		3.37	mg/Kg
Sample: 19726	7 - North Area-20-22'		
Param	Flag	Result	Units
Chloride		18.1	mg/Kg
Sample: 19726 Param	8 - North Area-25-27'	Popult	Unito
i alam	Flag	Result	Units
Chloride		66.9	mg/Kg

This is only a summary. Please, refer to the complete report package for quality control data.

TraceAnalysis, Inc. 6	701 verdeen Ave., Suite 9	erdeen Ave., Suite 9 Lubbock, T 9424-1515		
Report Date: June 5, 2002Order Number: A020517 N/A Maralo			Page Number: 3 of 3 Jay Anotheny Ranch	
Sample: 197269 - SW A	Area 5'			
Param	Flag	Result	Units	
Chloride		54.1	mg/Kg	
Sample: 197270 - SW A	Area 10'			
Param	Flag	Result	Units	
Chloride		5.83	mg/Kg	
Sample: 197271 - SW A	Area 15'			
Param	Flag	Result	Units	
Chloride		<10.0	mg/Kg	
Sample: 197272 - SW A	Area 20'			
Param	Flag	Result	Units	
Chloride		10.2	mg/Kg	
Sample: 197273 - SW A			<b></b>	
Param	Flag	Result	Units	

10.3

Chloride

mg/Kg

I.

This is only a summary. Please, refer to the complete report package for quality control data.

Lubbock, Texas 79424 800 • 378 • 1296 806 • 794 • 1296 FAX 806 • 794 • 1298 6701 Aberdeen Avenue, Suite 9

155 McCutcheon, Suite H

El Paso, Texas 79932 888 • 588 • 3443 E-Mail: lab@traceanalysis.com

915•585•3443

FAX 915•585•4944

### Analytical and Quality Control Report

Wayne Price OCD 1220 S. Saint Francis Dr. Santa Fe, NM 87505

Report Date:

June 5, 2002

Order ID Number: A02051716

Project Number: N/A **Project Name:** Maralo Project Location: Jay Anotheny Ranch

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
197262	North Area-2'	Soil	5/16/02	9:29	5/17/02
197263	North Area-4'-6'	Soil	5/16/02	9:49	5/17/02
197264	North Area-6-8'	Soil	5/16/02	10:00	5/17/02
197265	North Area-10-12'	Soil	5/16/02	10:17	5/17/02
197266	North Area-15'-17'	Soil	5/16/02	10:42	5/17/02
197267	North Area-20-22'	Soil	5/16/02	11:25	5/17/02
197268	North Area-25-27'	Soil	5/16/02	12:20	5/17/02
197269	SW Area 5'	Soil	5/16/02	13:38	5/17/02
197270	SW Area 10'	Soil	5/16/02	13:59	5/17/02
197271	SW Area 15'	Soil	5/16/02	14:13	5/17/02
197272	SW Area 20'	Soil	5/16/02	14:53	5/17/02
197273	SW Area 27'-28'	Soil	5/16/02	15:57	5/17/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 18 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Report Date: June 5, 2002 N/A	Order Number: A02051716 Maralo	Page Number: 2 of 18 Jay Anotheny Ranch

### **Analytical Report**

Sample: Analysis: Analyst:	<b>197262</b> BTEX CG	2 - North Area- Analytical Method Preparation Method	l: S 8021B	QC Batch: Prep Batch:	QC20528 PB19598	e e	5/17/02 5/17/02
Param		Flag	Result	Units		Dilution	RDL
Benzene	· · · · · · · · · · · · · · · · · · ·		< 0.010	mg/Kg		10	0.001
Toluene			< 0.010	mg/Kg		10	0.001
Ethylbenze	ne		< 0.010	mg/Kg		10	0.001
M,P,O-Xyl	ene		< 0.010	mg/Kg		10	0.001
Total BTE	X		< 0.010	mg/Kg		10	0.001
Surrogate TFT 4-BFB Sample: Analysis: Analyst:		Result 0.846 0.708 - North Area- hatography (IC) Ana Pre		•	Spike Amount 1 1 C Batch: rep Batch:	Percent Recovery 84 70 QC20761 Date Analy PB19790 Date Prepa	
Param	Flag	Result	Units	, Dilution	•		RDL
Chloride	Flag	2.66	mg/Kg	2			<u></u>
Sample: Analysis: Analyst:	TPH KM	- North Area- Analytical Method: Preparation Method	<b>2'</b> E 418.1 d: N/A	QC Batch: Prep Batch: Units	QC20561 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
Param	F	lag Res		Units	Dilu		RDL
TRPHC		9	040	mg/Kg	10	10	10

#### Sample: 197263 - North Area-4'-6'

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method		QC Batch: Prep Batch:	QC20519 PB19591	Date Analyzed: Date Prepared:	5/17/02 $5/17/02$
Param		Flag	Result	Units	Di	lution	RDL
Benzene			< 0.010	mg/Kg		10	0.001
Toluene			< 0.010	mg/Kg		10	0.001
Ethylbenze	ene		< 0.010	mg/Kg		10	0.001
M,P,O-Xyl	ene		0.016	mg/Kg		10	0.001
Total BTE	X		0.016	mg/Kg		10	0.001

Report Date: June 5, 2002 N/A			Order Number: A02051716 Maralo			Page Number: 3 of 18 Jay Anotheny Ranch	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
$\overline{\mathrm{TFT}}$ 4-BFB		0.897 0.749	mg/Kg mg/Kg	10 10	1 1	89 74	70 - 130 70 - 130
		0.749	mg/ Kg	10	<b>_</b>	/4	70 - 150
Sample:	197263	8 - North Area	-4'-6'				
Analysis: Analyst:	Ion Chromatography (IC) An JSW Pr		Analytical Method: E 300.0 QC Batch: Preparation Method: N/A Prep Batch:		QC20761 Date Analyzed: 6/5/02 PB19790 Date Prepared: 6/4/02		
Param	Flag	Result	Units	Dilution			RDL
Chloride		3.12	mg/Kg	2			1
Sample: Analysis: Analyst:	<b>197263</b> TPH KM	<b>3 - North Area</b> Analytical Method Preparation Metho	l: E 418.1	QC Batch: Prep Batch:	QC20561 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
Param	Flag R		esult	Units	Dilution		RDL
TRPHC			8710	mg/Kg	10	00 00	10
Sample: Analysis: Analyst:	<b>19726</b> 4 BTEX CG	- North Area Analytical Metho Preparation Meth	d: S 8021B	QC Batch: Prep Batch:	QC20528 PB19598	Date Analyzed: Date Prepared:	5/17/02 5/17/02
Param		Flag	Result	Units		Dilution	RDL
Benzene			< 0.050	mg/Kg		50	0.001
Foluene			< 0.050	m mg/Kg		50	0.001
Ethylbenzei			< 0.050	mg/Kg		50	0.001
M,P,O-Xyle			0.277	mg/Kg		50	0.001
Total BTEX			0.277	mg/Kg		50	0.001
	ents	1	*	mg/Kg		1	
Test Comm							
		_			Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Iest Comm Surrogate IFT	Flag	Result 0.747	Units mg/Kg	Dilution 50	-		
Surrogate IFT		0.747	mg/Kg		Amount	Recovery	Limits
Surrogate IFT Sample:	197264	0.747	mg/Kg -6-8'	50	Amount 1	Recovery 74	Limits 70 - 130
Surrogate	197264	0.747 - <b>North Area</b> natography (IC) Ar	mg/Kg -6-8'	50 I: E 300.0 QC	Amount 1 2 Batch:	Recovery	Limits 70 - 130 zed: 6/5/02

5.

Chloride

<sup>1</sup>Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0318 which is lower than the RDL but greater than the MDL of 0.01183.

mg/Kg

5

1

7.56

Report Date: June 5, 2002 N/A			Order Number: A02051716 Maralo			Page Number: 4 of 18 Jay Anotheny Ranch		
Sample: Analysis:	TPH	Analytic	th Area-6- al Method:	E 418.1	QC Batch:	QC20561	Date Analyzed:	5/24/02
Analyst:	KM	Preparat	ion Method:	N/A	Prep Batch:	PB19623	Date Prepared:	5/19/02
Param		Flag	Resul	lt	Units	Diluti	ion	RDL
TRPHC			1090	0	mg/Kg	30		10

#### Sample: 197265 - North Area-10-12'

Analysis: BTE	X Analytical Method:	S 8021B	QC Batch:	QC20528 Date Analyzed:	5/17/02
Analyst: CG	Preparation Method	: S 5035	Prep Batch:	PB19598 Date Prepared:	5/17/02
Param	Flag	Result	Units	Dilution	RDL
Benzene		< 0.100	mg/Kg	100	0.001
Toluene		< 0.100	mg/Kg	100	0.001
Ethylbenzene		0.22	mg/Kg	100	0.001
M,P,O-Xylene		0.583	mg/Kg	100	0.001
Total BTEX		0.803	mg/Kg	100	0.001
Test Comments	2	*	mg/Kg	1	

					Spike	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
TFT		0.963	mg/Kg	100	1	96	70 - 130
4-BFB	3	2.24	mg/Kg	50	11	224	70 - 130

#### Sample: 197265 - North Area-10-12'

Ion Chromatogr JSW		·	•	QC20761 Date Analyzed: 6/5/02 PB19790 Date Prepared: 6/4/02
Flag	Result	Units	Dilution	RDL
	5.87	mg/Kg	5	1
	JSW	JSW Flag Result	Flag Result Units	JSW Preparation Method: N/A Prep Batch: Flag Result Units Dilution

#### Sample: 197265 - North Area-10-12'

Analysis: Analyst:	TPH KM	•	al Method: tion Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC20561 PB19623	Date Analyzed: Date Prepared:	$5/24/02 \\ 5/19/02$
Param		Flag	Resul	t	Units	Diluti	on	RDL
TRPHC			12900	)	mg/Kg	30		10

Sample:	197266 -	North	Area-15'-17'
---------	----------	-------	--------------

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC20528	Date Analyzed:	5/17/02
Analyst:	CG	Preparation Method:	S 5035	Prep Batch:	PB19598	Date Prepared:	5/17/02

<sup>&</sup>lt;sup>2</sup>Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0202 which is lower than the RDL but greater than the MDL of 0.0237. <sup>3</sup>High surrogate recovery due to peak interference.

Order Number: A02051716	
Maralo	

Page Number: 5 of 18 Jay Anotheny Ranch

Param	Flag	Result	Units	Dilution	RDL
Benzene	<u></u>	0.0937	mg/Kg	50	0.001
Toluene		< 0.050	mg/Kg	50	0.001
Ethylbenzene		0.305	mg/Kg	50	0.001
M,P,O-Xylene		0.96	mg/Kg	50	0.001
Total BTEX		1.36	mg/Kg	50	0.001

					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
TFT		0.9	mg/Kg	50	1	90	70 - 130
4-BFB	4	3.32	mg/Kg	100	1	332	70 - 130

#### Sample: 197266 - North Area-15'-17'

Report Date: June 5, 2002

N/A

Analysis: Analyst:	Ion Chromato JSW	graphy (IC)	Analytical Method: Preparation Method:	E 300.0 QC Batch: N/A Prep Batch	QC20761 Date Analyzed: 6/5/02 PB19790 Date Prepared: 6/4/02
Param	Flag	Result	Units	Dilution	RDL
Chloride	•	3.37	mg/Kg	2	1

#### Sample: 197266 - North Area-15'-17'

Analysis: Analyst:	TPH KM		al Method: ion Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC20561 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
Param		Flag	Resul	t	Units	Diluti	on	RDL
TRPHC			1490	)	mg/Kg	30		10

#### Sample: 197267 - North Area-20-22'

Analysis: BTEX Analyst: CG		Analytical Method: S 8021B Preparation Method: S 5035		QC Batch: Prep Batch:	QC20528 PB19598	• •	
Param		Flag	Result	Units	D	ilution	RDL
Benzene			0.0723	mg/Kg		50	0.001
Toluene			< 0.050	mg/Kg		50	0.001
Ethylbenze	ne		0.151	mg/Kg		50	0.001
M,P,O-Xyl	ene		0.576	mg/Kg		50	0.001
Total BTE	Х		0.799	mg/Kg		50	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	5	0.506	mg/Kg	50	1	50	70 - 130
<u>4-BFB</u>	6	2.59	mg/Kg	50	1	259	70 - 130

<sup>4</sup>High surrogate recovery due to peak interference. <sup>5</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

<sup>6</sup>High surrogate recovery due to peak interference.

Report Date: June 5, 2002 N/A			Order N	umber: A020517 Maralo	Page Number: 6 of 18 Jay Anotheny Ranch		
Sample: Analysis: Analyst:		7 - North Area natography (IC) A Pr			QC20761 Date Analyzed: 6/5/02 PB19790 Date Prepared: 6/4/02		
Param	Flag	Result	Units	Dilution			RDL
Chloride		18.1	mg/Kg	2			1
Sample: Analysis:	<b>197267</b> TPH	7 - North Area Analytical Method		QC Batch:	QC20561	Date Analyzed:	5/24/02
Analysis: Analyst:	KM	Preparation Method		Prep Batch:	QC20501 PB19623	Date Prepared:	5/24/02 5/19/02
Param	F	<u> </u>	esult	Units	Dilu		RDL
TRPHC		1	2700	mg/Kg	3	0	10
Sample: Analysis:	<b>197268</b> BTEX CG	<b>3 - North Area</b> Analytical Metho	od: S 8021B	QC Batch:	QC20528	6	5/17/02
Analyst:	CG	Preparation Meth	nod: S 5035	Prep Batch:	PB19598	Date Prepared:	5/17/02
Param		Flag	Result	Units		Dilution	RDL
Benzene Toluene			< 0.100	mg/Kg	-	100	0.001
Ethylbenzer	٥		$< 0.100 \\ 0.274$	mg/Kg mg/Kg		100 100	0.001 0.001
M,P,O-Xyle			0.921	mg/Kg		100	0.001
Γotal BTEΣ			1.20	mg/Kg		100	0.001
Test Comm	ents	7	*	mg/K		1	
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
FFT I-BFB	8	$\begin{array}{c} 0.557\\ 3.19\end{array}$	mg/Kg mg/Kg	100 50	1 1	55 319	70 - 130 70 - 130
Sample: Analysis: Analyst:		<b>3 - North Area</b> natography (IC) Ar	-25-27'	d: E 300.0 Q		QC20761 Date Analyz PB19790 Date Prepa	zed: 6/5/02
Param	Flag	Result	Units	Dilution		-	RDL
Chloride		66.9	mg/Kg	5			1
Sample: Analysis:	<b>197268</b> ТРН	- North Area Analytical Method		QC Batch:	QC20561	Date Analyzed:	5/24/02

<sup>&</sup>lt;sup>7</sup>Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0801 which is lower than the RDL but greater than the MDL of 0.02366.

<sup>&</sup>lt;sup>8</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>9</sup>High surrogate recovery due to peak interference.

Report Date: June 5, 2002 N/A		Ord	er Number: A020517 Maralo	Page Number: 7 of 18 Jay Anotheny Ranch	
Param	Flag	Result	Units	Dilution	RDL
TRPHC		12600	mg/Kg	30	10

#### Sample: 197269 - SW Area 5'

Analysis:	BTEX	Analytical Metho	d: S 8021B	QC Batch:	QC20528	Date Analyzed:	5/17/02
Analyst:	CG	Preparation Meth	od: S 5035	Prep Batch:	PB19598	Date Prepared:	5/17/02
Param		Flag	Result	Units	I	Dilution	RDL
Benzene			0.111	mg/Kg	·····	50	0.001
Toluene			< 0.050	mg/Kg		50	0.001
Ethylbenze	ene		0.402	mg/Kg		50	0.001
M,P,O-Xyl	ene		0.741	mg/Kg		50	0.001
Total BTE	X		1.25	mg/Kg	<u> </u>	50	0.001
					<b>a</b>	-	_
					Spike	Percent	Recovery
Surrogate	Flag	g Result	$\mathbf{Units}$	Dilution	$\operatorname{Amount}$	Recovery	Limits
TFT	10	0.381	mg/Kg	50	1	38	70 - 130
4-BFB	11	3.07	mg/Kg	100	1	307	70 - 130

#### Sample: 197269 - SW Area 5'

Analysis: Analyst:	Ion Chromatog JSW	graphy (IC)	Analytical Method: Preparation Method:	E 300.0 QC Ba N/A Prep B	tch:QC20761 Date Analyzed: 6/5/02atch:PB19790 Date Prepared: 6/4/02
Param	Flag	Result	Units	Dilution	RDL
Chloride		54.1	mg/Kg	50	1

#### Sample: 197269 - SW Area 5'

Analysis: Analyst:	TPH KM	v	al Method: ion Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC20561 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
Param		Flag	Resul	t	Units	Diluti	on	RDL
TRPHC			1880	0	mg/Kg	30		10

#### Sample: 197270 - SW Area 10'

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method:	S 8021B S 5035	QC Batch: Prep Batch:	QC20528 Date Analyze PB19598 Date Prepared	· · ·
Param		Flag	Result	Units	Dilution	RDL
Benzene			0.179	mg/Kg	100	0.001
Toluene			< 0.100	mg/Kg	100	0.001
Ethylbenze	ne		0.38	mg/Kg	100	0.001
M,P,O-Xyle	ene		0.792	mg/Kg	100	0.001
Total BTE	X		1.35	mg/Kg	100	0.001

<sup>10</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>11</sup>High surrogate recovery due to peak interference.

N/A				Maralo			theny Ranc
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT 4-BFB	12 13	0.463 3.09	mg/Kg mg/Kg	100 50	1 1	46 309	70 - 130 70 - 130
		0.00					10 100
Sample:	197270	- SW Area 10	0'				
Analysis: Analyst:	Ion Chron JSW	natography (IC) Ar Pr	nalytical Metho reparation Meth		C Batch: ep Batch:	QC20761 Date Analy PB19790 Date Prepa	
Param	Flag	Result	Units	Dilution			RDL
Chloride		5.83	mg/Kg	5			1
Sample:	197270	- SW Area 1	<b>D'</b>				
Analysis:	TPH	Analytical Method		QC Batch:	QC20562	Date Analyzed:	5/24/02
Analyst:	KM	Preparation Metho	od: N/A	Prep Batch:	PB19623	Date Prepared:	5/19/02
Param	F	0	esult	Units	Dilu		RDI
TRPHC	····	2	5400	mg/Kg	3	0	10
~ .							
Sample:		- SW Area 1		OC Rotah	0000500	Doto Anolowed	E /17 /00
Analysis: Analyst:	$\operatorname{BTEX}$	Analytical Metho Preparation Meth		QC Batch: Prep Batch:	QC20528 PB19598	Date Analyzed: Date Prepared:	5/17/02 5/17/02
maryst.	00	T Teparation Meth	100. 5 0000	Ttep Daten.	1 D13030	Date I repared.	0/11/02
Param		Flag	Result	Units		Dilution	RDL
Benzene Foluene			0.12 <0.100	mg/Kg mg/Kg		100 100	0.001 0.001
Ethylbenzei	ne		0.432	mg/Kg		100	0.001
M,P,O-Xyle			0.432	mg/Kg		100	0.001
Total BTEX			1.22	mg/Kg		100	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
	14 15	0.661	mg/Kg	100	1	66	70 - 130
IFT 4-BFB	15	2.33	mg/Kg	100	1	233	70 - 130

Analyst: Prep Batch: PB19790 Date Prepared: 6/4/02 JSW Preparation Method: N/A Param Flag Dilution  $\mathbf{Result}$ Units RDLChloride <10.0 mg/Kg 10 1

<sup>12</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>13</sup>High surrogate recovery due to peak interference. <sup>14</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

<sup>15</sup>High surrogate recovery due to peak interference.

Report Date: June 5, 2002 N/A			Order N	lumber: A020517 Maralo	Page Number: 9 of 18 Jay Anotheny Ranch			
Sample: Analysis: Analyst:	<b>1972</b> TPH KM	71 - SW A Analytica Preparatio		E 418.1 N/A	QC Batch: Prep Batch:	QC20562 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
Param		Flag	Resul	t	Units	Diluti	ion	RDL
TRPHC			1310	0	mg/Kg	30	······································	10

#### Sample: 197272 - SW Area 20'

Analysis: Analyst:	BTEX CG	Analytical Met Preparation M		QC Batch: Prep Batch:	QC20528Date Analyzed:PB19598Date Prepared:	5/17/02 5/17/02
Param		Flag	Result	Units	Dilution	RDL
Benzene			< 0.010	mg/Kg	10	0.001
Toluene			< 0.010	mg/Kg	10	0.001
Ethylbenze	ene		0.038	mg/Kg	10	0.001
M,P,O-Xyl	ene		0.0155	mg/Kg	10	0.001
Total BTE	<u>X</u>		0.0535	mg/Kg	10	0.001

					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
TFT	16	0.405	mg/Kg	10	1	40	70 - 130
4-BFB	17	0.368	mg/Kg	100	1	36	70 - 130

#### Sample: 197272 - SW Area 20'

Analysis: Analyst:	Ion Chromato JSW	graphy (IC)	Analytical Method: Preparation Method:	E 300.0 QC Batch: N/A Prep Batch:		QC20760 Date Analyzed: $6/5/02$ PB19791 Date Prepared: $6/4/02$
Param	Flag	Result	Units	Diluti	on	RDL
Chloride	·	10.2	mg/Kg	10		1

#### Sample: 197272 - SW Area 20'

Analysis: Analyst:	TPH KM	v	al Method: ion Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC20562 PB19623	Date Analyzed: Date Prepared:	$5/24/02 \\ 5/19/02$
Param		Flag	Result		Units	Diluti	on	RDL
TRPHC			56.8		mg/Kg	1		10

#### Sample: 197273 - SW Area 27'-28'

Analysis: BTEX Analyst: CG		Analytical Me Preparation M	thod: S 8021B Iethod: S 5035	QC Batch: Prep Batch:	QC20528 PB19598	Date Analyzed Date Prepared	, ,
Param		Flag	Result	Units	I	Dilution	RDL
Benzene		. <u> </u>	< 0.010	mg/Kg		10	0.001
<u></u>							Continued

<sup>16</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>17</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

Report Date: Ju N/A	ine 5, 2002		nber: A02051716 Maralo	Page Number: 10 of 18 Jay Anotheny Ranch		
Continued	Sample: 197273	Analysis: BTEX				
Param	Flag	Result	Units	Dilution	RDL	
Toluene		< 0.010	mg/Kg	10	0.001	
Ethylbenzene		<0.010	mg/Kg	10	0.001	
M,P,O-Xylene		<0.010	mg/Kg	10	0.001	
Total BTEX		< 0.010	mg/Kg	10	0.001	

					Spike	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
TFT	18	0.562	mg/Kg	10	1	56	70 - 130
<u>4-BFB</u>	19	0.477	mg/Kg	10	1	47	70 - 130

reparation Method:	N/A Prep Batch:	QC20760 Date Analyzed: 6/5/ PB19791 Date Prepared: 6/4/		
Units	Dilution	RDL		
mg/Kg	10	·1		
	Units	Units Dilution		

Analysis:	TPH	•	al Method:	E 418.1	QC Batch:	QC20562	Date Analyzed:	5/24/02
Analyst:	KM	Preparat	ion Method:	N/A	Prep Batch:	PB19623	Date Prepared:	5/19/02
Param		Flag	Resul	t	Units	Diluti	on	RDL
TRPHC			143	3	mg/Kg	1	······································	10

<sup>18</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>19</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.



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N/A

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## Quality Control Report Method Blank

Method B	lank	QCBatch:	QC20519	)			
Dorom		Flor		Results	Unit	e	Reporting Limit
Param Benzene		Flag		<0.010	mg/K		0.001
Toluene				< 0.010	mg/K		0.001
Ethylbenzene				< 0.010	mg/K		0.001
M,P,O-Xylene				<0.010	mg/K		0.001
Total BTEX				<0.010	mg/K		0.001
						<u>.</u>	
-					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.923	mg/Kg	10	1	92	70 - 130
<u>4-BFB</u>	<u></u>	0.835	mg/Kg	10	1	83	70 - 130
Method Bl	ank	QCBatch:	QC20528	i			
Param		Flag		Results	Units	3	Reporting Limit
Benzene		1 105		<0.010	mg/K		0.001
Toluene				<0.010	mg/K		0.001
Ethylbenzene				<0.010	mg/K		0.001
M,P,O-Xylene				< 0.010	mg/K		0.001
Total BTEX			<u> </u>	<0.010	mg/K		0.001
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.948	mg/Kg	10	1	94	70 - 130
4-BFB		0.812	mg/Kg	10	1	81	70 - 130
Method Bl	ank	QCBatch:	QC20561				
Param		Flag	B	esults	Units		Reporting Limit
TRPHC Method Bl	ank	QCBatch:	QC20562	<25.0	mg/Kg		10
Param		Flag	R	esults	Units		Reporting Limit
TRPHC				<25.0	mg/Kg		10

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Method Blank	QCBatch:	QC20760		
Param	Flag	Results	Units	Reporting Limit
Chloride		12.82	mg/Kg	1
Method Blank	QCBatch:	QC20761		
Param	Flag	Results	Units	Reporting Limit
Chloride		<12.82	mg/Kg	1

## Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC20519

Param	LCS Result	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.966	0.958	mg/Kg	10	1	< 0.010	96	0	70 - 130	20
Benzene	0.966	0.966	mg/Kg	10	1	< 0.010	96	0	70 - 130	20
Toluene	0.958	0.957	mg/Kg	10	1	< 0.010	95	0	70 - 130	20
Ethylbenzene	0.932	0.945	mg/Kg	10	1	< 0.010	93	1	70 - 130	20
M,P,O-Xylene	2.91	2.83	mg/Kg	10	3	< 0.010	97	2	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.924	0.925	mg/Kg	10	1	92	92	70 - 130
4-BFB	0.889	0.816	mg/Kg	10	1	88	81	70 - 130

Laboratory Control Spikes

QCBatch: QC20528

					Spike					
	LCS	LCSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	$\mathbf{Result}$	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	Limit
MTBE	0.873	0.87	mg/Kg	10	1	< 0.010	87	0	70 - 130	20
Benzene	0.988	0.975	mg/Kg	10	1	< 0.010	98	1	70 - 130	20
Toluene	0.968	0.906	mg/Kg	120	1	< 0.010	96	6	70 - 130	20
Ethylbenzene	0.96	0.916	mg/Kg	10	1	< 0.010	96	4	70 - 130	20
M,P,O-Xylene	3.02	2.9	mg/Kg	10	3	< 0.010	100	4	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.903	0.89	mg/Kg	10	1	90	89	70 - 130
4-BFB	0.882	0.934	mg/Kg	10	1	88	93	70 - 130

Report Date: June 5, 2002 N/A Laboratory Control Spikes				Orde	r Number: A Maralo		Page Number: 13 of 18 Jay Anotheny Ranch			
				QCBatch	n: QC2056	31			_	
	X 00	T COD			Spike					200
LCS LCSD				Amount	Matrix	~ ~		% Rec	RPD	
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
TRPHC	268	305	mg/Kg	1	250	<25.0	107	$12^{-12}$	74 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spikes QCBatch: QC20562

					Spike					
	LCS	LCSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	$\mathbf{Result}$	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
TRPHC	268	305	mg/Kg	1	250	<25.0	107	12	74 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laborat	tory Cont	rol Spikes	G	QCBatch:	QC20760					
Param	LCS Result	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride Sulfate	$     \begin{array}{r}       20 \\       22 \\       25.58     \end{array}     $	21 23.88 23 25.59	mg/Kg mg/Kg	1 1	$12.50 \\ 12.50$	$\begin{array}{c} 12.82\\ 14.34\end{array}$	192 204	0 0	90 - 110 90 - 110	20 20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes QCBatch: QC20761

					Spike					
	LCS	LCSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	$\mathbf{Result}$	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	$\mathbf{Limit}$	Limit
Chloride	<sup>24</sup> 24.02	<sup>25</sup> 23.9	mg/Kg	1	12.50	<12.82	. 192	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Quality Control Report Matrix Spikes and Duplicate Spikes

**Matrix Spikes** 

QCBatch: QC20519

					Spike					
Param	${ m MS} { m Result}$	$\begin{array}{c} \mathrm{MSD} \\ \mathrm{Result} \end{array}$	Units	Dil.	Amount Added	Matrix Result	% Rec	RPD	$\% { m Rec} { m Limit}$	RPD Limit
Benzene	0.868	0.839	mg/Kg	10	1	< 0.010	86	3	70 - 130	20
	- <u></u>						·		Contin	nued

<sup>20</sup>The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{21}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{22}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{23}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{24}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{24}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{25}$ The Soil blank should be spikes; giving a %EA of 90  $^{25}$ The Soil blank should be spikes; giving a %EA of 90  $^{25}$ The Soil blank should be spikes; giving a %EA of 90  $^{25}$ The Soil blank should be spikes; giving a %EA of 90  $^{25}$ The Soil bl

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Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Toluene	0.839	0.854	mg/Kg	10	1	< 0.010	83	1	70 - 130	20
Ethylbenzene	0.857	0.849	mg/Kg	10	1	< 0.010	85	0	70 - 130	20
M,P,O-Xylene	2.74	2.69	mg/Kg	10	3	0.016	90	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	$egin{array}{c} \mathrm{MSD} \ \mathrm{Result} \end{array}$	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.834	26 0.549	mg/Kg	10	1	83	54	70 - 130
4-BFB	$^{27}$ 0.682	<sup>28</sup> 0.475	mg/Kg	10	1	68	47	70 - 130

#### Matrix Spikes

QCBatch: QC20528

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	$\% { m Rec}$	RPD	% Rec Limit	RPD Limit
Benzene	0.938	0.936	mg/Kg	10	1	< 0.010	93	0	70 - 130	$\overline{20}$
Toluene	0.92	0.915	mg/Kg	10	1	< 0.010	92	0	70 - 130	20
Ethylbenzene	0.908	0.92	mg/Kg	10	1	< 0.010	90	1	70 - 130	20
M,P,O-Xylene	2.92	2.76	mg/Kg	10	3	< 0.010	97	5	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.781	0.88	mg/Kg	10	1	78	88	70 - 130
4-BFB	0.714	0.725	mg/Kg	10	1	71	72	70 - 130

**Matrix Spikes** QCBatch: QC20561

					Spike					
	$\mathbf{MS}$	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	Limit
TRPHC	40200	40500	mg/Kg	1	250	44300	-1640	-7	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spikes** QCBatch: QC20562

 $<sup>^{26}</sup>$ Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.  $^{27}$ Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

 $<sup>^{28}\</sup>mathrm{Low}$  surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Report Da N/A	ate: June 5	, 2002		Orde	er Number: A Maralo				age Number: Jay Another	
	MS	MSD			Spike Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	Limit
TRPHC	399	337	mg/Kg	1	250	143	102	27	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix	Spikes	QCI	Batch:	QC20760						
	MS	MSD			Spike Amount	Matrix			% Rec	RPD
Param	Result	$\operatorname{Result}$	Units	Dil.	Added	Result	$\% { m Rec}$	$\operatorname{RPD}$	Limit	Limit
Chloride	30400	30377	mg/Kg	1	12500	19500	87	0	35 - 144	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes QCBatch: QC20761

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
$\mathbf{Param}$	Result	Result	Units	Dil.	Added	$\mathbf{Result}$	$\% { m Rec}$	RPD	$\mathbf{Limit}$	$\mathbf{Limit}$
Chloride	589.14	590.11	mg/Kg	1	625	54.1	85	0	35 - 144	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Quality Control Report Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC20519

			CCVs	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0979	97	85 - 115	5/17/02
Benzene		$\mathrm{mg/L}$	0.10	0.0905	90	85 - 115	5/17/02
Toluene		m mg/L	0.10	0.0926	92	85 - 115	5/17/02
Ethylbenzene		mg/L	0.10	0.0865	86	85 - 115	5/17/02
M,P,O-Xylene		mg/L	0.30	0.279	93	85 - 115	5/17/02

ICV (1)

QCBatch: QC20519

			$\mathrm{CCVs}$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0942	94	85 - 115	5/17/02
Benzene		mg/L	0.10	0.0965	96	85 - 115	5/17/02
Toluene		mg/L	0.10	0.0958	95	85 - 115	5/17/02
Ethylbenzene		mg/L	0.10	0.0899	89	85 - 115	5/17/02

Continued ...

Report Date: Jur N/A	ne 5, 2002		Order Nu	ımber: A02051 Maralo	.716	-	mber: 16 of 18 otheny Ranch
Continued							
			$\mathrm{CCVs}$	$\mathrm{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
M,P,O-Xylene		mg/L	0.30	0.293	97	85 - 115	5/17/02
CCV (1)	QCBa	tch: QC20	$\rm CCVs$	CCVs	CCVs	Percent	_
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		m mg/L	0.10	0.0925	92	85 - 115	5/17/02
Benzene		m mg/L	0.10	0.0939	93	85 - 115	5/17/02
Toluene		m mg/L	0.10	0.0936	93	85 - 115	5/17/02
Ethylbenzene		m mg/L	0.10	0.091	91	85 - 115	5/17/02
M,P,O-Xylene		m mg/L	0.30	0.285	95	85 - 115	5/17/02

# **CCV (2)** QCBatch: QC20528

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\mathbf{F}\mathbf{lag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0895	89	85 - 115	5/17/02
Benzene		mg/L	0.10	0.0952	95	85 - 115	5/17/02
Toluene		mg/L	0.10	0.0892	89	85 - 115	5/17/02
Ethylbenzene		mg/L	0.10	0.093	93	85 - 115	5/17/02
M,P,O-Xylene		mg/L	0.30	0.293	97	85 - 115	5/17/02

ICV (1) QCBatch:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0871	87	85 - 115	5/17/02
Benzene		mg/L	0.10	0.0929	92	85 - 115	5/17/02
Toluene		mg/L	0.10	0.0965	96	85 - 115	5/17/02
Ethylbenzene		mg/L	0.10	0.0961	96	85 - 115	5/17/02
M,P,O-Xylene		mg/L	0.30	0.307	102	85 - 115	5/17/02

CCV (1)

QCBatch: QC20561

QC20528

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
TRPHC	····.	mg/Kg	100	109	109	80 - 120	5/24/02

Report Date: N/A	June 5, 200	)2	Order	Number: A020 Maralo	51716		mber: 17 of 1 otheny Ranc
CCV (2)	Ç	CBatch: Q	C20561				
	•		CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzeo
TRPHC		mg/Kg	100	107	107	80 - 120	5/24/02
ICV (1)	Q	CBatch: QC	20561				
			CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzeo
TRPHC		mg/Kg	100	111	111	80 - 120	5/24/02
Param TRPHC	Flag	Units mg/Kg	CCVs True Conc. 100	CCVs Found Conc. 109	CCVs Percent Recovery 109	Percent Recovery Limits 80 - 120	Date Analyzeo 5/24/02
CCV (2)	0	CBatch: Q	C20562				
	પ	ODaton. Q	020002				
			$\mathrm{CCVs}$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
5	701	<b></b>	True	Found	Percent	Recovery	Date
Param FRPHC	Flag	Units mg/Kg	<u>Conc.</u> 100	Conc. 107	Recovery 107	Limits 80 - 120	Analyzed 5/24/02
							<u> </u>
ICV (1)	QC	Batch: QC	20562				
			$\mathbf{CCVs}$	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
TRPHC		mg/Kg	100	111	111	80 - 120	5/24/02
CCV (1)	Q	CBatch: Q	C20760				
			CCVs	CCVs	$\operatorname{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
					00		1 1 1 100
Chloride Sulfate		m mg/L $ m mg/L$	12.50 12.50	11.19 11.25	89 90	90 - 110 90 - 110	$\frac{6}{5}/02}{6}/5/02}$

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Report Date: N/A	June 5, 200	2	Order	Number: A020 Maralo	51716		mber: 18 of 18 10theny Ranch
ICV (1)	QC	Batch: QC	20760				
			CCVs	$\operatorname{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	12.50	11.19	89	90 - 110	6/5/02
Sulfate		mg/L	12.50	11.38	91	90 - 110	6/5/02
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recoverv	Limits	Analyzed
	Flag	Units mg/L	Conc. 12.50	Conc. 11.19	Recovery 89	Limits 90 - 110	Analyzed 6/5/02
Param Chloride ICV (1)		mg/L					
Chloride		mg/L	12.50				
Chloride		mg/L	12.50 220761	11.19	89	90 - 110	
Chloride		mg/L	12.50 220761 CCVs	11.19 CCVs	89 CCVs	90 - 110 Percent	6/5/02

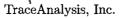
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6701 Aberdeen Avenue. Ste. 9 Lubbock. Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 Tax (806) 794-1298	eA	nal		iis,		<b>.</b>	10	55 McCutch Ei Paso, Tex Tet (915) 5 Fax (915) 5	155 McCutcheon,Suite H El Paso, Texas 79932 Tel (915) 585-3443 Fax (915) 585-4944			CHA	AIN-OF-CUS		stot	DV AN	AND ANAL	VI-1	CHAIN-OF-CUSTODY AND ANALYSIS REQUEST			
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6701 Aberdeen Avenue, Ste. Lubbock, Texas 79424	Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296	y Nar	Address: (Stree	Invoice to: (If different from above)	Project #:	Project Location: 3AV AUOTHENV		4	(LAB USE)	197aug Sw	" oL	× 12	:: e/	73 "	A DAY		1	-	4	F	Relinquished by:	VILLYIE PAICE	70	Relinquished by:

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6701 Ardeen Ave., Suite 9



(806) 794-1296

Page Number: 1 of 2 SEC 36-255-36E

## Summary Report

Wayne PriceReport Date:July 5, 2001OCD1220 S. Saint Francis Dr.Santa Fe, NM 87504Order ID Number:A01050432

Project Number:SEC36-255-36EProject Name:J. Anthony RanchProject Location:SEC 36-255-36E

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
170563	0105021700	Soil	5/2/01	17:00	5/4/01
170564	0105021710	Soil	5/2/01	17:00	5/4/01
170565	0105021720	Soil	5/2/01	17:00	5/4/01
170566	0105021800	Soil	5/2/01	17:00	5/4/01
170567	0105021830	Soil	5/2/01	17:00	5/4/01
170568	0105021900	Soil	5/2/01	17:00	5/4/01

This report consists of a total of 2 page(s) and is intended only as a summary of results for the sample(s) listed above.

	<del>_ ,</del> ,,		TPH			
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	TRPHC
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
170563 - 0105021700	< 0.013	< 0.013	< 0.013	0.685	0.685	35700
170564 - 0105021710	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	7500
170565 - 0105021720	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	23900
170566 - 0105021800	< 0.013	< 0.013	< 0.013	< 0.013	<0.013	<10.0
170567 - 0105021830	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	20900
170568 - 0105021900	1.06	2	< 0.1	<0.1	3.06	16500

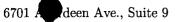
Sample: 17056	3 - 0105021700		
Param	Flag	$\mathbf{Result}$	Units
CL		<10	mg/Kg

#### Sample: 170564 - 0105021710

Param	Flag	Result	$\mathbf{Units}$
CL		<10	mg/Kg

Param	Flag	Result	Units
CL		<10	mg/Kg

TraceAnalysis, Inc.





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er Number: A0105043	32	Page Number: 2 of 2
		SEC 36-255-36E
021800		······································
Flag	Result	Units
	<50	mg/Kg
	J. Anthony Ranch	6021800 Flag Result

Sample: 17056	7 - 0105021830		
Param	Flag	$\mathbf{Result}$	Units
CL		<50	mg/Kg

Param	Flag	Result	Units
Hydroxide Alkalinity		<1.0	mg/Kg as CaCo3
Carbonate Alkalinity		<1.0	mg/Kg as $CaCo3$
Bicarbonate Alkalinity		138	mg/Kg as $CaCo3$
Total Alkalinity		138	mg/Kg as CaCo3
Specific Conductance		675	$\mu { m MHOS/cm}$
Total Mercury		<0.19	mg/Kg
$\operatorname{CL}$		<50	m mg/Kg
Fluoride		9.11	mg/Kg
Nitrate-N		$<\!\!5.0$	m mg/Kg
Sulfate		106	mg/Kg
Dissolved Calcium		14.3	mg/Kg
Dissolved Magnesium		8.30	m mg/Kg
Dissolved Potassium		9.47	mg/Kg
Dissolved Sodium		38.8	m mg/Kg
Total Dissolved Solids		27900	mg/Kg
Total Arsenic		<5	m mg/Kg
Total Barium		14.8	mg/Kg
Total Cadmium		<2	mg/Kg
Total Chromium		<5	mg/Kg
Total Lead		<5	mg/Kg
Total Selenium		<5	mg/Kg
Total Silver		<1	mg/Kg
pH		8.7	s.u.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 155 McCutcheon, Suite H El Paso, Texas 79932

800 • 378 • 1296 888•588•3443

806 • 794 • 1296 FAX 806 • 794 • 1298 915•585•3443 FAX 915•585•4944

E-Mail: lab@traceanalysis.com

## Analytical and Quality Control Report

Wayne Price OCD 1220 S. Saint Francis Dr. Santa Fe, NM 87504

Report Date: July 5, 2001

Order ID Number: A01050432

**Project Number:** SEC36-255-36E **Project Name:** J. Anthony Ranch Project Location: SEC 36-255-36E

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

		Date	Time	Date
Description	Matrix	Taken	Taken	Received
0105021700	Soil	5/2/01	17:00	5/4/01
0105021710	Soil	5/2/01	17:00	5/4/01
0105021720	Soil	5/2/01	17:00	5/4/01
0105021800	Soil	5/2/01	17:00	5/4/01
0105021830	Soil	5/2/01	17:00	5/4/01
0105021900	Soil	5/2/01	17:00	5/4/01
	$\begin{array}{c} 0105021700\\ 0105021710\\ 0105021720\\ 0105021800\\ 0105021830\\ \end{array}$	0105021700         Soil           0105021710         Soil           0105021720         Soil           0105021800         Soil           0105021830         Soil	DescriptionMatrixTaken0105021700Soil5/2/010105021710Soil5/2/010105021720Soil5/2/010105021800Soil5/2/010105021830Soil5/2/01	DescriptionMatrixTakenTaken0105021700Soil5/2/0117:000105021710Soil5/2/0117:000105021720Soil5/2/0117:000105021800Soil5/2/0117:000105021830Soil5/2/0117:00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 18 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director





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## **Analytical Report**

Sample:	170563 -	0105021700
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Analysis: Analyst:	BTEX JW	Analytical Meth Preparation Me		QC Batch: Prep Batch:	QC11133 PB09536	Date Analyzed: Date Prepared:	5/11/01 5/11/01
Param		Flag	Result	Units	Di	ilution	RDL
Benzene			< 0.013	mg/Kg		13	0.001
Toluene			< 0.013	mg/Kg		13	0.001
Ethylbenze	ene		< 0.013	mg/Kg		13	0.001
M,P,O-Xyl	ene		0.685	mg/Kg		13	0.001
Total BTE	Х		0.685	mg/Kg		13	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.11	mg/Kg	13	0.10	85	72 - 128
4-BFB		1.02	mg/Kg	13	0.10	78	72 - 128

#### Sample: 170563 - 0105021700

Analysis:	Ion Chromatog	raphy (IC	) Analytical Method:	E 300.	0 QC Batch:	QC11235 Date Analyzed: 5/15/01
Analyst:	JS		Preparation Method:	N/A	Prep Batch:	PB09622 Date Prepared: 5/9/01
D		<b>D</b>	TT	D11.41.		סת

Param	Flag	Result	Units	Dilution	 RDL
CL		<10	mg/Kg	1	 0.50

#### Sample: 170563 - 0105021700

Analysis: Analyst:	TPH JJ	v	al Method: ion Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC11015 PB09454	Date Analyzed: Date Prepared:	5/8/01 5/5/01
Param		Flag	Result	,	Units	Dilutio	1	RDL
TRPHC			35700		mg/Kg	1		10

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC11133	Date Analyzed:	5/11/01
Analyst:	$_{\rm JW}$	Preparation Method	E 5030B	Prep Batch:	PB09536	Date Prepared:	5/11/01
Param		Flag	Result	Units	D	ilution	RDL
Benzene			< 0.013	mg/Kg		13	0.001
Toluene			< 0.013	mg/Kg		13	0.001
Ethylbenze	ene		< 0.013	mg/Kg		13	0.001
M,P,O-Xyl	ene		< 0.013	mg/Kg		13	0.001
Total BTE	X		<0.013	mg/Kg		13	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	······································	1.36	mg/Kg	13	0.10	104	72 - 128
4-BFB		1.19	mg/Kg	13	0.10	91	72 - 128



Order Number: A01050432 J. Anthony Ranch

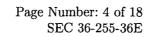


Analysis:       Ion Chromatography (IC) Analytical Method:       E 300.0 QC Batch:       QC11235 Date Analyzed: 5/18/01         Analysis:       JS       Preparation Method:       N/A       Prep Batch:       PB09622 Date Prepared:       5/9/01         Param       Flag       Result       Units       Dilution       RDL         CL       <10       mg/Kg       1       0.50         Sample:       170564 - 0105021710       Analysis:       TPH       Analysical Method:       E 418.1       QC Batch:       QC11015       Date Analyzed:       5/8/01         Analysi:       JJ       Preparation Method:       N/A       Prep Batch:       PB09454       Date Prepared:       5/5/01         Param       Flag       Result       Units       Dilution       RDL       TRPHC       7500       mg/Kg       1       10         Sample:       170565 - 0105021720       Analysis:       BTEX       Analytical Method:       S 8021B       Prep Batch:       PE09536       Date Prepared:       5/11/01         Param       Flag       Result       Units       Dilution       RDL       Prepared:       5/11/01         Analysis:       BTEX       Analytical Method:       E 300.0 QC Batch:       QC11123       Date Prepared:	Sample:	170564	4 - 010502171	0				
ParamFlagResultUnitsDilutionRDLCL<10	-				•			
CL       <10       mg/Kg       1       0.50         Sample:       170564 - 0105021710       Analytical Method:       E 418.1       QC Batch:       Clinits       Date Analyzed:       5/8/01         Analysis:       JJ       Preparation Method:       N/A       Prep Batch:       PB09454       Date Analyzed:       5/8/01         Param       Flag       Result       Units       Dilution       RDL         TRPHC       7500       mg/Kg       1       10         Sample:       170565 - 0105021720       Analytical Method:       S 8021B       QC Batch:       QC11133       Date Analyzed:       5/11/01         Analysis:       BTEX       Analytical Method:       E 5030B       Prep Batch:       PB09536       Date Analyzed:       5/11/01         Param       Flag       Result       Units       Dilution       RDL         Benzone $<0.013$ mg/Kg       13       0.001         Toluene $<0.013$ mg/Kg       13	Analyst:	JS	]	Preparation Meth	od: N/A Pre	ep Batch:	PB09622 Date Prepar	red: 5/9/01
CL       <10       mg/Kg       1       0.50         Sample:       170564 - 0105021710       Analytical Method:       E 418.1       QC Batch:       Clinits       Date Analyzed:       5/8/01         Analysis:       JJ       Preparation Method:       N/A       Prep Batch:       PB09454       Date Analyzed:       5/8/01         Param       Flag       Result       Units       Dilution       RDL         TRPHC       7500       mg/Kg       1       10         Sample:       170565 - 0105021720       Analytical Method:       S 8021B       QC Batch:       QC11133       Date Analyzed:       5/11/01         Analysis:       BTEX       Analytical Method:       E 5030B       Prep Batch:       PB09536       Date Analyzed:       5/11/01         Param       Flag       Result       Units       Dilution       RDL         Benzone $<0.013$ mg/Kg       13       0.001         Toluene $<0.013$ mg/Kg       13	Param	Flag	Result	Units	Dilution			RDL
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	CL		<10	mg/Kg	1			0.50
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Sampla	17056	010509171	0				
Analyst:JJPreparation Method:N/APrep Batch:PB09454Date Prepared: $5/5/01$ ParamFlagResultUnitsDilutionRDLTRPHC7500mg/Kg110Sample:170565 - 0105021720Analysis:BTEXAnalytical Method:S 8021BQC Batch:QC11133Date Analyzed: $5/11/01$ Analysi:JWPreparation Method:E 5030BPrep Batch:PB09536Date Prepared: $5/11/01$ ParamFlagResultUnitsDilutionRDLBenzene<0.013	-				OC Batch	0011015	Data Analyzadi	5 /8 /01
ParamFlagResultUnitsDilutionRDLTRPHC7500mg/Kg110Sample:170565 - 0105021720Analysis:BTEXAnalytical Method:S 8021BQC Batch:QC11133Date Analyzed: $5/11/01$ ParamFlagResultUnitsDilutionRDLBenzene<0.013			U		-	•	v	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0		r	· · · ·	1			-,-,
Sample: 170565 - 0105021720Analysis:BTEXAnalytical Method:S 8021BQC Batch:QC11133Date Analyzed: $5/11/01$ ParamFlagResultUnitsDilutionRDLBenzene<0.013		]	Flag			Dilt	ition	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	TRPHC			7500	mg/Kg		1	10
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Sample	17056	5 - 010509179	0				
Analyst:JWPreparation Method:E 5030BPrep Batch:PB09536Date Prepared: $5/11/01$ ParamFlagResultUnitsDilutionRDLBenzene<0.013	-				OC Batch	OC11133	B Date Analyzed	5/11/01
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	•		•		•	-	•	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	<i>j</i>							0// 01
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Param		Flag	Result	Units		Dilution	RDL
Ethylbenzene $< 0.013$ mg/Kg13 $0.001$ M,P,O-Xylene $< 0.013$ mg/Kg13 $0.001$ Total BTEX $< 0.013$ mg/Kg13 $0.001$ Spike Percent RecoverySurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTFT $1.26$ mg/Kg13 $0.10$ 9672 - 1284-BFB $1.08$ mg/Kg13 $0.10$ 9672 - 1284-BFB $1.08$ mg/Kg13 $0.10$ 8372 - 128Sample: 170565 - 0105021720Analysis:Ion Chromatography (IC) Analytical Method:E 300.0 QC Batch:QC11235 Date Analyzed: 5/15/01ParamFlagResultUnitsDilutionRDLCL $<10$ mg/Kg1 $0.50$ Sample: 170565 - 0105021720Analysis:TPHAnalytical Method:E 418.1QC Batch:QC11015Date Analyzed: $5/8/01$ Analysis:TPHAnalytical Method:K 418.1QC Batch:PC11015Date Analyzed: $5/8/01$ Analysis:TPHAnalytical Method:N/APrep Batch:PB09454Date Prepared: $5/5/01$ ParamFlagResultUnitsDilutionRDL	Benzene			< 0.013	mg/Kg		13	0.001
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Toluene			< 0.013	m mg/Kg		13	0.001
Total BTEX<0.013 $mg/Kg$ 130.001SpikePercentRecoverySurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTFT1.26 $mg/Kg$ 130.109672 - 1284-BFB1.08 $mg/Kg$ 130.108372 - 128Sample:170565 - 0105021720Analysis:Ion Chromatography (IC) Analytical Method:E 300.0 QC Batch:QC11235 Date Analyzed: 5/15/01Analyst:JSPreparation Method:N/APrep Batch:PB09622 Date Prepared: 5/9/01ParamFlagResultUnitsDilutionRDLCL $< 10$ $mg/Kg$ 10.50Sample:170565 - 0105021720Analysis:TPHAnalytical Method:E 418.1QC Batch:QC11015Date Analyzed:5/8/01Analysis:TPHAnalytical Method:N/APrep Batch:PB09454Date Prepared:5/5/01ParamFlagResultUnitsDilutionRDL	Ethylbenze	ne		< 0.013	m mg/Kg		13	0.001
Surrogate       Flag       Result       Units       Dilution       Amount       Recovery       Limits         TFT       1.26       mg/Kg       13       0.10       96       72 - 128         4-BFB       1.08       mg/Kg       13       0.10       83       72 - 128         Sample:       170565 - 0105021720       Analysis:       Ion Chromatography (IC) Analytical Method:       E 300.0 QC Batch:       QC11235 Date Analyzed: 5/15/01         Analyst:       JS       Preparation Method:       N/A       Prep Batch:       PB09622 Date Prepared: 5/9/01         Param       Flag       Result       Units       Dilution       RDL         CL       <10       mg/Kg       1       0.50         Sample:       170565 - 0105021720       RDL       RDL         Analysis:       TPH       Analytical Method:       E 418.1       QC Batch:       QC11015       Date Analyzed:       5/8/01         Analysis:       TPH       Analytical Method:       E 418.1       QC Batch:       PG1015       Date Analyzed:       5/8/01         Analysis:       JJ       Preparation Method:       N/A       Prep Batch:       PB09454       Date Prepared:       5/5/01         Param       Flag       <	M,P,O-Xyle	ene		< 0.013	mg/Kg		13	0.001
SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTFT1.26mg/Kg130.109672 - 1284-BFB1.08mg/Kg130.108372 - 128Sample: 170565 - 0105021720Analysis:Ion Chromatography (IC) Analytical Method:E 300.0 QC Batch:QC11235 Date Analyzed: 5/15/01Analysis:JSPreparation Method:N/APrep Batch:PB09622 Date Prepared: 5/9/01ParamFlagResultUnitsDilutionRDLCL<10	Total BTE	X		< 0.013	mg/Kg		13	0.001
SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTFT1.26mg/Kg130.109672 - 1284-BFB1.08mg/Kg130.108372 - 128Sample: 170565 - 0105021720Analysis:Ion Chromatography (IC) Analytical Method:E 300.0 QC Batch:QC11235 Date Analyzed: 5/15/01Analysis:JSPreparation Method:N/APrep Batch:PB09622 Date Prepared: 5/9/01ParamFlagResultUnitsDilutionRDLCL<10								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						Spike	Percent	Recovery
4-BFB1.08mg/Kg130.108372 - 128Sample:170565 - 0105021720Analysis:Ion Chromatography (IC) Analytical Method:E 300.0 QC Batch:QC11235 Date Analyzed: $5/15/01$ Analyst:JSPreparation Method:N/APrep Batch:PB09622 Date Prepared: $5/9/01$ ParamFlagResultUnitsDilutionRDLCL<10		Flag	Result	Units	Dilution	Amount	Recovery	
Sample:       170565 - 0105021720         Analysis:       Ion Chromatography (IC) Analytical Method:       E 300.0 QC Batch:       QC11235 Date Analyzed: 5/15/01         Analyst:       JS       Preparation Method:       N/A       Prep Batch:       PB09622 Date Prepared: 5/9/01         Param       Flag       Result       Units       Dilution       RDL         CL       <10								
Analysis:       Ion Chromatography (IC) Analytical Method:       E 300.0 QC Batch:       QC11235 Date Analyzed: 5/15/01         Analyst:       JS       Preparation Method:       N/A       Prep Batch:       PB09622 Date Prepared: 5/9/01         Param       Flag       Result       Units       Dilution       RDL         CL       <10	4-BFB		1.08	mg/Kg	13	0.10	83	72 - 128
Analysis:       Ion Chromatography (IC) Analytical Method:       E 300.0 QC Batch:       QC11235 Date Analyzed: 5/15/01         Analyst:       JS       Preparation Method:       N/A       Prep Batch:       PB09622 Date Prepared: 5/9/01         Param       Flag       Result       Units       Dilution       RDL         CL       <10								
Analysis:       Ion Chromatography (IC) Analytical Method:       E 300.0 QC Batch:       QC11235 Date Analyzed: 5/15/01         Analyst:       JS       Preparation Method:       N/A       Prep Batch:       PB09622 Date Prepared: 5/9/01         Param       Flag       Result       Units       Dilution       RDL         CL       <10	~ ·							
Analyst:       JS       Preparation Method:       N/A       Prep Batch:       PB09622 Date Prepared:       5/9/01         Param       Flag       Result       Units       Dilution       RDL         CL       <10       mg/Kg       1       0.50         Sample:       170565 - 0105021720       Analysis:       TPH       Analytical Method:       E 418.1       QC Batch:       QC11015       Date Analyzed:       5/8/01         Analysis:       TPH       Analytical Method:       E 418.1       QC Batch:       QC11015       Date Analyzed:       5/8/01         Analyst:       JJ       Preparation Method:       N/A       Prep Batch:       PB09454       Date Prepared:       5/5/01         Param       Flag       Result       Units       Dilution       RDL	-							
ParamFlagResultUnitsDilutionRDLCL<10	•		,	-	-			
CL<10mg/Kg10.50Sample:170565 - 0105021720Analysis:TPHAnalytical Method:E 418.1QC Batch:QC11015Date Analyzed:5/8/01Analyst:JJPreparation Method:N/APrep Batch:PB09454Date Prepared:5/5/01ParamFlagResultUnitsDilutionRDL	Analyst:	12	ł	reparation Metho	od: N/A Pre	ep Batch:	PB09622 Date Prepar	ed: 5/9/01
Sample:170565 - 0105021720Analysis:TPHAnalytical Method:E 418.1QC Batch:QC11015Date Analyzed:5/8/01Analyst:JJPreparation Method:N/APrep Batch:PB09454Date Prepared:5/5/01ParamFlagResultUnitsDilutionRDL	Param	Flag	Result	Units	Dilution			RDL
Analysis:TPH Analysis:Analytical Method:E 418.1 N/AQC Batch: Prep Batch:QC11015 PB09454Date Analyzed: Date Prepared:5/8/01 5/5/01ParamFlagResultUnitsDilutionRDL	CL	······································	<10	mg/Kg	1			0.50
Analysis:TPH Analysis:Analytical Method:E 418.1 N/AQC Batch: Prep Batch:QC11015 PB09454Date Analyzed: Date Prepared:5/8/01 5/5/01ParamFlagResultUnitsDilutionRDL								
Analysis:TPH Analysis:Analytical Method:E 418.1 N/AQC Batch: Prep Batch:QC11015 PB09454Date Analyzed: Date Prepared:5/8/01 5/5/01ParamFlagResultUnitsDilutionRDL								
Analysis:TPH Analysis:Analytical Method:E 418.1 N/AQC Batch: Prep Batch:QC11015 PB09454Date Analyzed: Date Prepared:5/8/01 5/5/01ParamFlagResultUnitsDilutionRDL	Sample:	170565	6 - 010502172	0				
Analyst:JJPreparation Method:N/APrep Batch:PB09454Date Prepared:5/5/01ParamFlagResultUnitsDilutionRDL	-				QC Batch:	QC11015	Date Analyzed:	5/8/01
Param Flag Result Units Dilution RDL	-		-		•	-		
	-		-		-		*	–
TRPHC         23900         mg/Kg         1         10		F						
	TRPHC			23900	mg/Kg		l	10

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Order Number: A01050432 J. Anthony Ranch



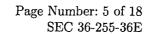
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Sample:	170566	6 - 010502180	0				
Analysis:	BTEX	Analytical Meth		QC Batch:	QC11133	Date Analyzed:	5/11/0
Analyst:	JW	Preparation Me		Prep Batch:	PB09536	Date Prepared:	5/11/0
maryst.	5 11	i reparation me		Trep Daten.	1 000000	Dute Prepared.	0/11/0
Param		Flag	Result	Units	]	Dilution	RDI
Benzene			< 0.013	mg/Kg		13	0.00
Toluene			< 0.013	mg/Kg		13	0.00
Ethylbenzer	ne		< 0.013	mg/Kg		13	0.00
M,P,O-Xyle			< 0.013	m mg/Kg		13	0.00
Total BTEX	X		< 0.013	mg/Kg		13	0.00
						_	_
Surrogate	Flag	Result	Units	Dilution	${f Spike} \ {f Amount}$	Percent Recovery	Recovery Limits
TFT	1 ng	1.3	mg/Kg	13	0.10	100	72 - 128
4-BFB		1.16	mg/Kg	13	0.10	89	72 - 128
Sample:	170566	6 - 010502180	0				
Analysis:	,	matography (IC) A	Analytical Metho	•	Batch: Q	C11235 Date Analyz	ed: 5/15/0
Analyst:	$\mathbf{JS}$	P	Preparation Meth	od: N/A Pre	p Batch: P	B09622 Date Prepare	ed: 5/9/01
Analyst.							
v			Units	Dilution			RDI
Param CL Sample:	Flag	Result <50	Units mg/Kg 0	Dilution 5			
Param CL Sample: Analysis:	Flag	Result <50 6 - 010502180 Analytical Metho	mg/Kg 0 od: E 418.1	5 QC Batch:	QC11015 PB09454	Date Analyzed: Date Prepared:	0.50
Param CL Sample: Analysis: Analyst:	Flag <b>170566</b> TPH JJ	Result <50 6 - 010502180 Analytical Metho Preparation Met	mg/Kg 0 od: E 418.1 .hod: N/A	5 QC Batch: Prep Batch:	PB09454	Date Prepared:	0.50 5/8/01 5/5/01
Param CL Sample: Analysis: Analyst: Param	Flag <b>170566</b> TPH JJ	Result <50 6 - 010502180 Analytical Metho Preparation Met	mg/Kg 0 od: E 418.1 .hod: N/A Result	5 QC Batch: Prep Batch: Units	PB09454 Diluti	Date Prepared:	0.50 5/8/01 5/5/01 RDI
Param CL	Flag <b>170566</b> TPH JJ	Result <50 6 - 010502180 Analytical Metho Preparation Met	mg/Kg 0 od: E 418.1 .hod: N/A	5 QC Batch: Prep Batch:	PB09454	Date Prepared:	RDI 0.50 5/8/01 5/5/01 RDI 10
Param CL Sample: Analysis: Analyst: Param TRPHC	Flag <b>170566</b> TPH JJ	Result <50 6 - 010502180 Analytical Metho Preparation Met Flag I	mg/Kg 0 od: E 418.1 hod: N/A Result <10.0	5 QC Batch: Prep Batch: Units	PB09454 Diluti	Date Prepared:	0.50 5/8/0 5/5/0 RDI
Param CL Sample: Analysis: Analyst: Param TRPHC Sample:	Flag 170566 TPH JJ 170567	Result         <50	mg/Kg 0 od: E 418.1 .hod: N/A Result <10.0	5 QC Batch: Prep Batch: Units mg/Kg	PB09454 Diluti 1	Date Prepared:	0.50 5/8/0 5/5/0 RDI 10
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis:	Flag 170566 TPH JJ H 170567 BTEX	Result         <50	mg/Kg 0 od: E 418.1 hod: N/A Result <10.0 0 nod: S 8021B	5 QC Batch: Prep Batch: Units mg/Kg QC Batch:	PB09454 Diluti 1 QC11133	Date Prepared: on Date Analyzed:	0.50 5/8/0 5/5/0 RDI 10 5/11/0
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis:	Flag 170566 TPH JJ 170567	Result         <50	mg/Kg 0 od: E 418.1 hod: N/A Result <10.0 0 nod: S 8021B	5 QC Batch: Prep Batch: Units mg/Kg	PB09454 Diluti 1	Date Prepared:	0.5 5/8/0 5/5/0 RDI 10 5/11/0
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analysis: Analysis: Param	Flag 170566 TPH JJ H 170567 BTEX	Result         <50	mg/Kg 0 od: E 418.1 hod: N/A Result <10.0 0 nod: S 8021B thod: E 5030B Result	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units	PB09454 Diluti 1 QC11133 PB09536	Date Prepared: on Date Analyzed: Date Prepared: Dilution	0.50 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene	Flag 170566 TPH JJ H 170567 BTEX	Result         <50	mg/Kg           0           od:         E 418.1           shod:         N/A           Result         <10.0	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg	PB09454 Diluti 1 QC11133 PB09536	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25	0.50 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI 0.00
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene	Flag 170566 TPH JJ H 170567 BTEX	Result         <50	mg/Kg           0           od:         E 418.1           .hod:         N/A           Result            <10.0	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units	PB09454 Diluti 1 QC11133 PB09536	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25 25	0.50 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI 0.00
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene Toluene	Flag 170566 TPH JJ H 170567 BTEX JW	Result         <50	mg/Kg           0           od:         E 418.1           shod:         N/A           Result         <10.0	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg	PB09454 Diluti 1 QC11133 PB09536	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25	0.50 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI 0.00 0.00
Param CL Sample: Analysis: Analysis: Param TRPHC Sample: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenzen	Flag <b>170566</b> TPH JJ H <b>170567</b> BTEX JW	Result         <50	mg/Kg           0           od:         E 418.1           .hod:         N/A           Result            <10.0	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	PB09454 Diluti 1 QC11133 PB09536	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25 25	0.50 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI 0.00 0.00 0.00
Param CL Sample: Analysis: Analyst: Param	Flag 170566 TPH JJ I 170567 BTEX JW	Result         <50	$\frac{mg/Kg}{0}$ od: E 418.1 hod: N/A Result <10.0 0 nod: S 8021B thod: E 5030B Result <0.025 <0.025 <0.025 <0.025	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	PB09454 Diluti 1 QC11133 PB09536	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25 25 25	0.50 5/8/01 5/5/01 RDI
Param CL Sample: Analysis: Analysis: Param TRPHC Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	Flag 170566 TPH JJ I 170567 BTEX JW	Result         <50	$\frac{mg/Kg}{0}$ od: E 418.1 shod: N/A Result <10.0 0 nod: S 8021B thod: E 5030B Result <0.025 <0.025 <0.025 <0.025 <0.025	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg	PB09454 Diluti 1 QC11133 PB09536 I	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25 25 25 25 25 25 25	0.5 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI 0.00 0.00 0.00 0.00 0.00
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTEX	Flag 170566 TPH JJ H 170567 BTEX JW	Result         <50	mg/Kg           0           od:         E 418.1           .hod:         N/A           Result            <10.0	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB09454 Diluti 1 QC11133 PB09536 I	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25 25 25 25 25 25 25 25 25	0.5 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI 0.00
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTEX	Flag 170566 TPH JJ I 170567 BTEX JW	Result         <50	$\frac{mg/Kg}{0}$ od: E 418.1 hod: N/A Result <10.0 0 nod: S 8021B thod: E 5030B Result <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <0.025 <	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB09454 Diluti 1 QC11133 PB09536 I Spike Amount	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25 25 25 25 25 25 25 25 25 25	0.5 5/8/0 5/5/0 RDJ 10 5/11/0 5/11/0 7/11/0 RDJ 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.
Param CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTEX	Flag 170566 TPH JJ H 170567 BTEX JW	Result         <50	mg/Kg           0           od:         E 418.1           .hod:         N/A           Result            <10.0	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB09454 Diluti 1 QC11133 PB09536 I	Date Prepared: on Date Analyzed: Date Prepared: Dilution 25 25 25 25 25 25 25 25 25	0.5 5/8/0 5/5/0 RDI 10 5/11/0 5/11/0 RDI 0.00

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Order Number: A01050432 J. Anthony Ranch



# Sample: 170567 - 0105021830 Analysis: Ion Chromatography (IC) An

Analysis:	Ion Chroma	tography (IC	) Analytical Method:	E 300.0	QC Batch:	QC11235 Date Analyzed: 5/15/01
Analyst:	JS		Preparation Method:	N/A	Prep Batch:	PB09622 Date Prepared: 5/9/01
Param	Flag	Result	Units	Dilutio	n	RDL
CL		<50	mg/Kg	5		0.50

#### Sample: 170567 - 0105021830

Analysis: Analyst:	$_{ m JJ}^{ m TPH}$	v	al Method: ion Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC11015 PB09454	Date Analyzed: Date Prepared:	5/8/01 5/5/01
Param		Flag	Result	t	Units	Dilution	1	RDL
TRPHC			20900	)	mg/Kg	1		10

### Sample: 170568 - 0105021900

Analysis: Alkalinity Analyst: RS	Analytical Metho Preparation Met		QC Batch: Prep Batch:	QC11295 PB09662	Date Analyzed: Date Prepared:	5/17/01 5/17/01
Param	$\mathbf{Flag}$	Result	Uni	its	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/Kg as	s CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/Kg as	s CaCo3	1	1
Bicarbonate Alkalinity		138	mg/Kg as	s CaCo3	1	1
Total Alkalinity		138	mg/Kg as	s CaCo3	1	1

Analysis: Analyst:	BTEX JW	Analytical Method: Preparation Method	S 8021B : E 5030B	QC Batch: Prep Batch:	QC11133 PB09536	Date Analyzed: Date Prepared:	5/11/01 5/11/01
Param		Flag	Result	Units	Di	lution	RDL
Benzene			1.06	mg/Kg		100	0.001
Toluene			2	mg/Kg		100	0.001
Ethylbenze	ne		< 0.1	mg/Kg		100	0.001
M,P,O-Xyle	ene		< 0.1	mg/Kg		100	0.001
Total BTE	X		3.06	mg/Kg		100	0.001

					$\mathbf{Spike}$	Percent	Recovery
Surrogate	Flag	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
TFT		9.63	mg/Kg	100	0.10	96	72 - 128
4-BFB		11.1	mg/Kg	100	0.10	111	72 - 128

Sample:	170568 - 0	105021900					
Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC11189	Date Analyzed:	5/9/01
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB09552	Date Prepared:	5/9/01
Param		Flag I	Result	Units		Dilution	RDL
Specific Cor	nductance		675	µMHOS/ci	n	1	

.



Order Number: A01050432 J. Anthony Ranch Page Number: 6 of 18 SEC 36-255-36E

Sample:	170568 -	0105021	900					
Analysis:	Hg, Total	Analytical	Method:	S 7471A	QC Batch:	QC11082	Date Analyzed:	5/10/01
Analyst:	SSC	Preparatio	n Method:	N/A	Prep Batch:	PB09503	Date Prepared:	5/10/01
Param		Flag	Resu	lt	Units	$\operatorname{Dilut}$	ion	RDL
Total Mercu	ıry		<0.1	19	mg/Kg	1		0.19

#### Sample: 170568 - 0105021900

Analysis: Ion Chromatography (IC) Analytical Method: Analyst: JS Preparation Method:

Analytical Method: E 300.0 QC Batch: QC11178 Date Analyzed: 5/10/01 Preparation Method: N/A Prep Batch: PB09567 Date Prepared: 5/9/01

Param	Flag	Result	Units	Dilution	RDL
CL		<50	mg/Kg	5	0.50
Fluoride		9.11	mg/Kg	5	0.20
Nitrate-N		<5.0	mg/Kg	5	0.20
Sulfate		106	mg/Kg	5	0.50

#### Sample: 170568 - 0105021900

Analysis: Analyst:	Salts LB	Analytical Method: Preparation Method:	S 6010B E 3005 A	QC Batch: Prep Batch:	QC12373 PB10481	Date Analyzed: Date Prepared:	6/27/01 6/27/01
Param		Flag	Result	τ	Jnits	Dilution	RDL
Dissolved (	Calcium	***************************************	14.3	m	g/Kg	1	0.50
Dissolved N	Magnesiun	n	8.30	m	g/Kg	1	0.50
Dissolved H	Potassium		9.47	m	g/Kg	1	0.50
Dissolved S	Sodium		38.8	m	g/Kg	1	0.50

#### Sample: 170568 - 0105021900

Analysis: Analyst:	$TDS \\ JS$	Analytical Method: Preparation Method:	E 160.1 N/A	QC Batch: Prep Batch:	QC11259 PB09621	Date Analyzed: Date Prepared:	5/16/01 5/15/01
Param		Flag	Result		Units	Dilution	RDL
Total Disso	olved Solid	S	27900	r	ng/Kg	20	10

Analysis: Analyst:	TPH JJ	•	al Method: tion Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC11015 PB09454	Date Analyzed: Date Prepared:	$5/8/01 \\ 5/5/01$
Param		Flag	Result		Units	Dilution	L	RDL
TRPHC			16500		mg/Kg	1		10

Sample:	170568 - (	0105021900					
Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC11123	Date Analyzed:	5/12/01
Analyst:	$\mathbf{RR}$	Preparation Method:	E 3010A	Prep Batch:	PB09414	Date Prepared:	5/7/01
						Com	timerad

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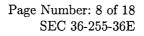
#### Order Number: A01050432 J. Anthony Ranch

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Continued Sample	: 170568 Analy	ysis: Total Metals			
Param	Flag	Result	Units	Dilution	RDL
Param	Flag	Result	Units	Dilution	RDL
Total Arsenic		<5	mg/Kg	1	5
Total Barium		14.8	mg/Kg	1	5
Total Cadmium		<2	mg/Kg	1	2
Total Chromium		<5	mg/Kg	1	5
Total Lead		<5	mg/Kg	1	5
Total Selenium		<5	mg/Kg	1	5
Total Silver		<1	mg/Kg	1	1

Sampton	1.00	oo orooomitot					
Analysis:	$_{\rm pH}$	Analytical Metho	od: E 150.1	QC Batch:	QC11251	Date Analyzed:	5/9/01
Analyst:	$\mathbf{RS}$	Preparation Met	hod: N/A	Prep Batch:	PB09627	Date Prepared:	5/9/01
Param		Flag	Result	Units	Dilution		RDL
pН			8.7	s.u.	1		1





### Quality Control Report Method Blank

Flag QCBatch: Flag QCBatch: Flag		Results <0.19	mg U mg	nits /Kg nits g/Kg	Reporting Limit 10 Reporting Limit 0.19 Reporting Limit 5
Flag QCBatch:	QC11082	Results <0.19 Results <5	Ur mg U mg	nits /Kg nits g/Kg	Reporting Limit 0.19 Reporting Limit 5
Flag QCBatch:		Results <0.19 Results <5	mg U mg	/Kg nits g/Kg	Limit 0.19 Reporting Limit 5
Flag QCBatch:		Results <0.19 Results <5	mg U mg	/Kg nits g/Kg	Limit 0.19 Reporting Limit 5
QCBatch:	QC11123	<0.19 Results <5	mg U mg	/Kg nits g/Kg	Limit 0.19 Reporting Limit 5
QCBatch:	QC11123	<0.19 Results <5	mg U mg	/Kg nits g/Kg	0.19 Reporting Limit 5
-	QC11123	Results <5	U me	nits	Reporting Limit 5
-	QC11123	Results <5	mg	g/Kg	Limit 5
Flag		<5	mg	g/Kg	Limit 5
Flag		<5	mg	g/Kg	5
				•	
		<5	ma	/ T Z	
				g/Kg	5
		<2		g/Kg	2
		<5	mg	g/Kg	5
		<5	mg	g/Kg	5
		<5	mg	g/Kg	5
	·	<1	mg	g/Kg	1
QCBatch:	QC11133				
					Reporting
Flag		Results	Un	nits	Limit
~		< 0.013	mg	/Kg	0.001
		< 0.013			0.001
			mg	/Kg	0.001
					0.001
		<0.013			0.001
			Spike	Parcont	Recovery
Result	Units	Dilution			Limits
					72 - 128
					72 - 128
-	-	Flag Result Units 1.27 mg/Kg	Flag         Results           <0.013	Flag         Results         Ur           <0.013	Flag         Results         Units           <0.013

Method Blank

QCBatch: QC11178

Report Date: July 5, 200 SEC36-255-36E	01	Order Number: A0108 J. Anthony Rance		Page Number: 9 of 18 SEC 36-255-36E
_			<b>77</b>	Reporting
Param	Flag	Results	Units	Limit
CL		2.91	mg/Kg	0.50
Fluoride		<1.0	mg/Kg	0.20
Nitrate-N		<1.0	mg/Kg	0.20
Sulfate		7.89	mg/Kg	0.50
Method Blank	QCBatch:	QC11189		
Param	Flag	Results	Units	Reporting Limit
Specific Conductance		6.77	$\mu$ MHOS/cm	
Method Blank	QCBatch:	QC11235		
<b>D</b>	1.1		<b>TT 1</b>	Reporting
Param CL	Flag	Results 2.99	Units mg/Kg	Limit 0.50
Method Blank	QCBatch:	QC11259		
Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids	1 105	<10	mg/Kg	10
Method Blank	QCBatch:	QC11295		
Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/Kg as CaCo3	1
Carbonate Alkalinity		<1.0	mg/Kg as CaCo3	1
Bicarbonate Alkalinity		$<\!\!4.0$	mg/Kg as CaCo3	1
Fotal Alkalinity	<u></u>	<4.0	mg/Kg as CaCo3	1
Method Blank	QCBatch:	QC12373		
Domono	וכו	Deceli	¥ T * 4	Reporting
Param Dissolved Calcium	Flag	Results	Units	Limit
		<0.5	mg/L	0.50
Dissolved Magnesium		<0.5	mg/L	0.50
Dissolved Potassium Dissolved Sodium		< 0.5 < 0.5	m mg/L $ m mg/L$	$\begin{array}{c} 0.50\\ 0.50\end{array}$

Quality Control Report Duplicate Samples

**Total Alkalinity** 



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Duplicate	QCBatch:	QC11189						
Param Specific Conductance	Flag	Duplicate Result 2875	Sample Result 2870	Un µMHC	iits DS/cm	Dilution 1	RPD 0	RPD Limit 6.1
Duplicate	QCBatch:	QC11251						
	Duplicat		-			-		RPD
Param Flag	Result			Units	Dilution	1 I	RPD	Limit
pH	7.5	7.	5	s.u.	1		0	0.85
Duplicate	QCBatch:	QC11295						
		Duplicate	Sample					RPD
Param	Flag	Result	Result	Ui	nits	Dilutio	n RPD	
Hydroxide Alkalinity		<1.0	<1.0	mg/Kg	as CaCo3	1	0	7
Carbonate Alkalinity		<1.0	<1.0	mg/Kg a	as CaCo3	1	0	7
Bicarbonate Alkalinity	1	22	16	mg/Kg a	as CaCo3	1	31	7

# Quality Control Report Lab Control Spikes and Duplicate Spikes

mg/Kg as CaCo3

1

16

Laborat	Laboratory Control Spikes				: QC1101	.5				
					Spike					
	LCS	LCSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	$\mathbf{Result}$	$\mathbf{Result}$	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	Limit
TRPHC	276	252	mg/Kg	1	250	<10.0	110	9	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Laboratory Control Spikes

QCBatch: QC11082

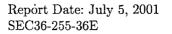
					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	$\mathbf{Result}$	% Rec	RPD	Limit	Limit
Total Mercury	2.55	2.55	mg/Kg	1	2.50	<0.19	102	0	83 - 124	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes QCBatch:

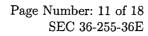
QC11123

<sup>1</sup>Sample RPD was above acceptable control limits





#### Order Number: A01050432 J. Anthony Ranch



					Spike					
	LCS	LCSD			Amount	Matrix			$\% \mathrm{Rec}$	RPD
Param	Result	Result	$\mathbf{Units}$	Dil.	Added	$\mathbf{Result}$	$\% \mathrm{Rec}$	RPD	$\mathbf{Limit}$	Limit
Total Arsenic	60.60	61.20	mg/Kg	1	50	<5	121	0	80 - 120	20
Total Barium	110	111	mg/Kg	1	100	$<\!\!5$	110	0	80 - 120	20
Total Cadmium	27.3	27.40	mg/Kg	1	25	<2	109	0	80 - 120	20
Total Chromium	11	11	mg/Kg	1	10	$<\!\!5$	110	0	80 - 120	20
Total Lead	55.4	55.1	mg/Kg	1	50	<5	110	0	80 - 120	20
Total Selenium	48.50	48.3	mg/Kg	1	50	<5	97	0	80 - 120	<b>20</b>
Total Silver	$^{2}$ 4.57	4.64	mg/Kg	1	12.50	<1	36	1	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spikes QCBatch:

					Spike					
	LCS	LCSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% \mathrm{Rec}$	RPD	Limit	Limit
MTBE	1.28	1.19	mg/Kg	13	0.10	< 0.013	98	7	80 - 120	20
Benzene	1.33	1.29	mg/Kg	13	0.10	< 0.013	102	3	80 - 120	20
Toluene	1.25	1.23	mg/Kg	13	0.10	< 0.013	96	1	80 - 120	20
Ethylbenzene	1.22	1.2	mg/Kg	13	0.10	< 0.013	93	1	80 - 120	20
M,P,O-Xylene	3.7	3.62	mg/Kg	13	0.30	< 0.013	94	2	80 - 120	20

QC11133

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	1.3	1.25	mg/Kg	13	0.10	100	96	72 - 128
4-BFB	1.23	1.19	mg/Kg	13	0.10	94	91	72 - 128

#### Laboratory Control Spikes

QCBatch: QC11178

Param	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dil.	Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Bromide	2.59	2.61	mg/Kg	1	2.50	<1.0	103	0	90 - 110	20
$\mathbf{CL}$	$^{3}$ 14.16	$^{4}$ 14.21	mg/Kg	1	12.50	2.91	113	0	90 - 110	20
Fluoride	$^{5}$ 2.73	<sup>6</sup> 2.73	mg/Kg	1	2.50	<1.0	109	0	90 - 110	20
Nitrate-N	<sup>7</sup> 2.56	<sup>8</sup> 2.55	mg/Kg	1	2.50	<1.0	102	0	90 - 110	20
Sulfate	<sup>9</sup> 19.71	10 20.02	mg/Kg	1	12.50	7.89	157	1	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC11235

<sup>2</sup>Matrix spike and LCS recoveries were low on Ag due to the Ag falling out of solutions.

- <sup>5</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 109. <sup>6</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 109.
- <sup>7</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 102.

<sup>&</sup>lt;sup>3</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 90.

<sup>&</sup>lt;sup>4</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 90.

<sup>&</sup>lt;sup>8</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 102.

<sup>&</sup>lt;sup>9</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 95.

<sup>&</sup>lt;sup>10</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 97.



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					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
$\overline{\mathrm{CL}}$	<sup>11</sup> 14.41	<sup>12</sup> 14.40	mg/Kg	1	12.50	2.99	115	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC12373

					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Dissolved Calcium	100	102	mg/L	1	100	< 0.5	100	1	75 - 125	20
Dissolved Magnesium	95.9	99.3	mg/L	1	100	< 0.5	95	3	75 - 125	20
Dissolved Potassium	97.4	99.4	mg/L	1	100	< 0.5	97	2	75 - 125	20
Dissolved Sodium	94.9	99.1	mg/L	1	100	< 0.5	94	4	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

### **Quality Control Report** Matrix Spikes and Duplicate Spikes

Matrix	Spikes	QC.	Batch:	QC11015						
Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
TRPHC	255	271	mg/Kg	1	250	<10.0	102	6	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Matrix Spikes QCBatch: QC11082

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	$\mathbf{Limit}$	$\operatorname{Limit}$
Total Mercury	2.43	2.55	mg/Kg	1	2.50	< 0.19	97	4	83 - 124	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### **Matrix Spikes** QCBatch: QC11123

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	$\mathbf{Limit}$
Total Arsenic	57.5	58.3	mg/Kg	1	50	<5	115	1	75 - 125	20
Total Barium	211	196	mg/Kg	1	100	88.6	122	13	75 - 125	20
Total Cadmium	26.4	26.4	mg/Kg	1	25	<2	105	0	75 - 125	20

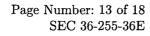
Continued ...

 $^{11}\mathrm{Sample}$  master doesn't subtract the blank from the spikes. The correct %EA = 91.

 $^{12}$ Sample master doesn't subtract the blank from the spikes. The correct %EA = 91.



#### Order Number: A01050432 J. Anthony Ranch



... Continued

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Total Chromium	<sup>13</sup> 24.3	$^{14}$ 23	mg/Kg	1	10	11	133	10	75 - 125	20
Total Lead	74.3	78.5	mg/Kg	1	50	29.3	90	8	75 - 125	20
Total Selenium	39	40.6	mg/Kg	1	50	<5	78	4	75 - 125	20
Total Silver	$^{15}$ 4.67	4.67	mg/Kg	1	12.50	<1	37	0	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### **Matrix Spikes** QCBatch: QC11133

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Benzene	0.744	0.968	mg/Kg	13	0.10	< 0.013	57	177	80 - 120	20
Toluene	0.729	0.969	mg/Kg	13	0.10	< 0.013	56	178	80 - 120	20
Ethylbenzene	0.682	0.918	mg/Kg	13	0.10	< 0.013	52	178	80 - 120	20
M,P,O-Xylene	2	2.696	mg/Kg	13	0.30	< 0.013	51	178	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	${ m MS} { m Result}$	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.976	1.254	mg/Kg	13	0.10	75	96	72 - 128
4-BFB	1.05	1.261	mg/Kg	13	0.10	80	97	72 - 128

Matrix Spikes QCBatch: QC11178

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	$\operatorname{Result}$	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	$\mathbf{Limit}$	$\mathbf{Limit}$
$\overline{\mathrm{CL}}$	1435.61	1437.97	mg/Kg	1	625	863	91	0	70 - 115	20
Fluoride	$^{16}$ 122.26	$^{17}$ 126.20	mg/Kg	1	125	< 5.0	97	3	77 - 111	20
Nitrate-N	$^{18}$ 126.15	<sup>19</sup> 127.18	mg/Kg	1	125	< 5.0	100	0	80 - 112	20
Sulfate	<sup>20</sup> 675.59	$^{21}$ 682.15	mg/Kg	1	625	53.5	99	1	74 - 118	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spikes** QCBatch: QC11235

<sup>&</sup>lt;sup>13</sup>Poor spike recovery due to matrix difficulties. LCS/LCSD show analysis in control.

 $<sup>^{14}\</sup>mathrm{Poor}$  spike recovery due to matrix difficulties. LCS/LCSD show analysis in control.

<sup>&</sup>lt;sup>15</sup>Matrix spike and LCS recoveries were low on Ag due to the Ag falling out of solutions.

<sup>&</sup>lt;sup>16</sup>I spike and 200 recoveres not on 12 spike and 200 recoveres interport of 12 spike the \* 50 dilution for 170574, but reported the \*5 dilution. The correct %EA = 92. <sup>17</sup>I spiked the \* 50 dilution for 170574, but reported the \*5 dilution.

 $<sup>^{18}\</sup>mathrm{I}$  spiked the \* 50 dilution for 170574, but reported the \*5 dilution.

<sup>&</sup>lt;sup>19</sup>I spiked the \* 50 dilution for 170574, but reported the \*5 dilution.

 $<sup>^{20}</sup>$ I spiked the \* 50 dilution for 170574, but reported the \*5 dilution. The correct %EA = 96.  $^{21}$ I spiked the \* 50 dilution for 170574, but reported the \*5 dilution.



Order Number: A01050432 J. Anthony Ranch Page Number: 14 of 18 SEC 36-255-36E

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	$\operatorname{Result}$	$\% { m Rec}$	RPD	Limit	Limit
$\overline{\mathrm{CL}}$	773.57	771.37	mg/Kg	1	250	520	101	0	70 - 115	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Matrix Spikes QCBatch: QC12373

					Spike					
	MS	MSD			$\operatorname{Amount}$	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	$\operatorname{RPD}$	$\mathbf{Limit}$	$\operatorname{Limit}$
Dissolved Calcium	111	109	mg/L	1	100	14.3	96	2	75 - 125	20
<b>Dissolved Magnesium</b>	99.6	97.6	mg/L	1	100	8.30	91	2	75 - 125	20
Dissolved Potassium	103	100	mg/L	1	100	9.47	93	3	75 - 125	<b>20</b>
Dissolved Sodium	132	127	mg/L	1	100	38.8	93	5	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

### Quality Control Report Continuing Calibration Verification Standards

CCV(1)	ፍ	CBatch:	QC11015				
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
TRPHC		mg/Kg	100	98.1	98	75 - 125	5/8/01
CCV (2)	Ç	CBatch:	QC11015				
			CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
TRPHC		mg/Kg	100	104	104	75 - 125	5/8/01
ICV (1)	Q	CBatch:	QC11015				
ICV (1)	Q	CBatch: (	QC11015 CCVs	CCVs	CCVs	Percent	
ICV (1)	Q	CBatch: (	-	CCVs Found	CCVs Percent	Percent Recovery	Date
ICV (1) Param	QC	CBatch: ( Units	CCVs				Date Analyzed

CCV (1) QCBatch: QC11082



#### Order Number: A01050432 J. Anthony Ranch

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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Mercury		mg/Kg	0.005	0.00492	98	80 - 120	5/10/01

## ICV (1) QCBatch: QC11082

			$\mathrm{CCVs}$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Total Mercury		mg/Kg	0.005	0.00513	102	80 - 120	5/10/01

# CCV (1) QCBatch: QC11123

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Arsenic		mg/L	1	1.07	107	90 - 110	5/12/01
Total Barium		mg/L	2	2.09	104	90 - 110	5/12/01
Total Cadmium		mg/L	0.50	0.531	106	90 - 110	5/12/01
Total Chromium		mg/L	0.20	0.209	104	90 - 110	5/12/01
Total Lead		mg/L	1	1.05	105	90 - 110	5/12/01
Total Selenium		mg/L	1	1.04	104	90 - 110	5/12/01
Total Silver		mg/L	0.25	0.251	100	90 - 110	5/12/01

## ICV (1)

QCBatch: QC11123

			$\mathrm{CCVs}$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Total Arsenic		mg/L	1	1.03	103	90 - 110	5/12/01
Total Barium		m mg/L	2	2	100	90 - 110	5/12/01
Total Cadmium		mg/L	0.50	0.501	100	90 - 110	5/12/01
Total Chromium		m mg/L	0.20	0.20	100	90 - 110	5/12/01
Total Lead		m mg/L	1	1	100	90 - 110	5/12/01
Total Selenium		m mg/L	1	1	100	90 - 110	5/12/01
Total Silver		mg/L	0.25	0.249	99	90 - 110	5/12/01

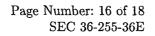
CCV (1)

QCBatch: QC11133

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/Kg	0.10	0.106	106	85 - 115	5/11/01
Benzene		mg/Kg	0.10	0.103	103	85 - 115	5/11/01
Toluene		mg/Kg	0.10	0.0977	97	85 - 115	5/11/01
Ethylbenzene		mg/Kg	0.10	0.0921	92	85 - 115	5/11/01
M,P,O-Xylene		mg/Kg	0.30	0.272	90	85 - 115	5/11/01



#### Order Number: A01050432 J. Anthony Ranch



**CCV (2)** QCBatch: QC11133

			CCVs True	$\operatorname{CCVs}$ Found	$\begin{array}{c} \mathrm{CCVs} \\ \mathrm{Percent} \end{array}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/Kg	0.10	0.0985	98	85 - 115	5/11/01
Benzene		mg/Kg	0.10	0.0988	98	85 - 115	5/11/01
Toluene		mg/Kg	0.10	0.0916	91	85 - 115	5/11/01
Ethylbenzene		m mg/Kg	0.10	0.0884	88	85 - 115	5/11/01
M,P,O-Xylene		mg/Kg	0.30	0.265	88	85 - 115	5/11/01

## ICV (1) QCBatch: QC11133

			CCVs True	$\operatorname{CCVs}$ Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/Kg	0.10	0.102	102	85 - 115	5/11/01
Benzene		mg/Kg	0.10	0.103	103	85 - 115	5/11/01
Toluene		mg/Kg	0.10	0.0985	98	85 - 115	5/11/01
Ethylbenzene		mg/Kg	0.10	0.0972	97	85 - 115	5/11/01
M,P,O-Xylene		mg/Kg	0.30	0.29	96	85 - 115	5/11/01

CCV (1)

QCBatch: QC11178

			$\mathrm{CCVs}$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Bromide		mg/L	2.50	2.61	104	90 - 110	5/10/01
$\mathbf{CL}$		mg/L	12.50	11.71	93	90 - 110	5/10/01
Fluoride		mg/L	2.50	2.41	96	90 - 110	5/10/01
Nitrate-N		mg/L	2.50	2.43	97	90 - 110	5/10/01
Sulfate		$\mathrm{mg/L}$	12.50	12.02	96	90 - 110	5/10/01

ICV (1)

QCBatch: QC11178

			$\mathrm{CCVs}$	$\mathrm{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Bromide		mg/L	2.50	2.52	100	90 - 110	5/10/01
$\operatorname{CL}$		m mg/L	12.50	11.82	94	90 - 110	5/10/01
Fluoride		mg/L	2.50	2.56	102	90 - 110	5/10/01
Nitrate-N		mg/L	2.50	2.43	97	90 - 110	5/10/01
Sulfate		mg/L	12.50	12.24	97	90 - 110	5/10/01

CCV (1) QCBatch: QC11189

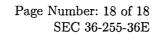
SEC36-255-3	: July 5, 6E	2001	Or	der Number: A J. Anthony I				ber: 17 of 18 C 36-255-36E
Param		Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Cond	uctance		$\mu$ MHOS/cm	1412	1388	98	90 - 110	5/9/01
ICV (1)		QCBatch:	QC11189	CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param		Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Specific Cond	luctance		$\mu$ MHOS/cm	1411	1397	99	90 - 110	5/9/01
CCV (1)		QCBatch:	QC11235 CCVs True	CCVs Found		CVs ercent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.		covery	Limits	Analyzed
CL		mg/L	12.50	11.96		95	90 - 110	5/15/01
ICV (1)	Flag	QCBatch: Units	QC11235 CCVs True Conc.	CCVs Found Conc.	Pe Rec	CVs rcent covery	Percent Recovery Limits	Date Analyzed
CL CCV (1)		mg/L QCBatch:	12.50 QC11251	12.47		99	90 - 110	5/15/01
	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Re	Percent ecovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	-0.1 s.u	+0.1 s.u.	5/9/01
ICV(1)		QCBatch:	QC11251 CCVs	CCVs	CCVs Percent		'ercent ecovery	Date
ICV (1) Param	Flag	Units	True Conc.	Found Conc.	Recovery		Limits	Analyzed

CCV (1) QCBatch: QC11295

Report Date: July 5, 2001 SEC36-255-36E



#### Order Number: A01050432 J. Anthony Ranch



Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity	riag	mg/Kg as CaCo3	0	<1.0	0	90 - 110	5/17/01
Carbonate Alkalinity		mg/Kg as CaCo3	0	236	0	90 - 110	5/17/01
Bicarbonate Alkalinity		mg/Kg as CaCo3	0	10	0	90 - 110	5/17/01
Total Alkalinity		mg/Kg as CaCo3	250	246	98	90 - 110	5/17/01

## **ICV (1)** QCBatch: QC11295

			$\mathrm{CCVs}$	$\mathrm{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity		mg/Kg as CaCo3	0	<1.0	0	90 - 110	5/17/01
Carbonate Alkalinity		mg/Kg as CaCo3	0	228	0	90 - 110	5/17/01
Bicarbonate Alkalinity		mg/Kg as CaCo3	0	18	0	90 - 110	5/17/01
Total Alkalinity		mg/Kg as CaCo3	250	246	98	90 - 110	5/17/01

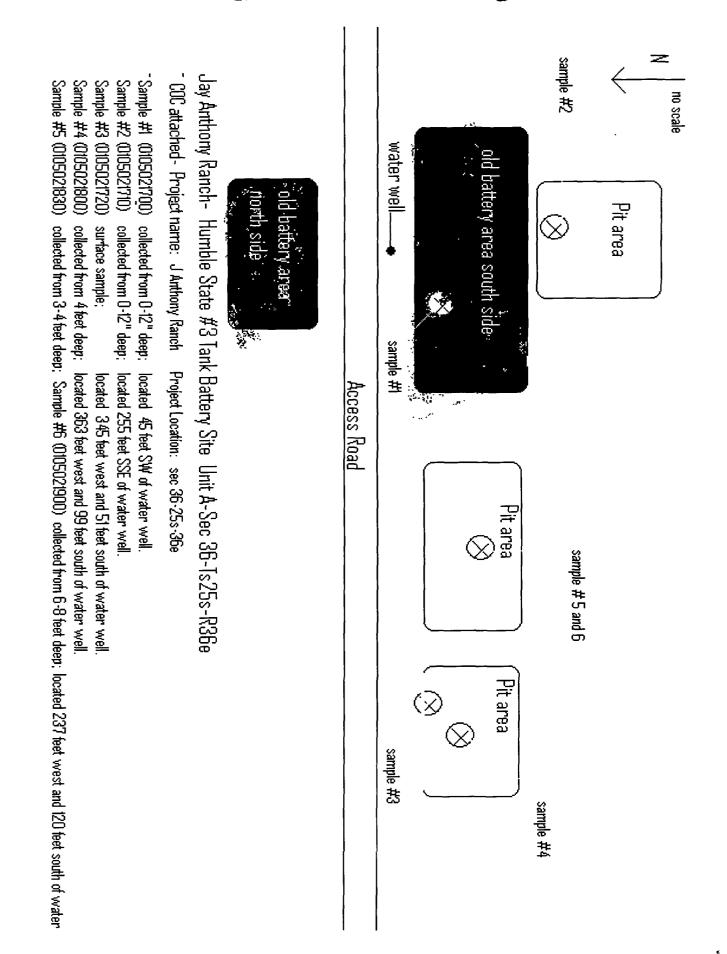
## **CCV (1)** QCBatch: QC12373

			$\mathrm{CCVs}$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	25	25.4	101	90 - 110	6/27/01
Dissolved Magnesium		m mg/L	25	24.9	99	90 - 110	6/27/01
Dissolved Potassium		mg/L	25	24.4	97	90 - 110	6/27/01
Dissolved Sodium		mg/L	25	24.5	98	90 - 110	6/27/01

## ICV (1) QCBatch: QC12373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25	25.2	100	95 - 105	6/27/01
Dissolved Magnesium		mg/L	25	25.4	101	95 - 105	6/27/01
Dissolved Potassium		mg/L	25	24.7	98	95 - 105	6/27/01
Dissolved Sodium		mg/L	25	24.8	99	95 - 105	6/27/01

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# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON Governor Jennifer A. Salisbury Cabinet Secretary Lori Wrotenbery Director Oil Conservation Division

April 11, 2001

#### CERTIFIED MAIL RETURN RECEIPT NO: 5051-4294

Mr. Joe Pulido Maralo, LLC P.O. Box 832 Midland, Texas 79702-0832

## RE: ABATEMENT PLAN AP-26 HUMBLE STATE #3 TANK BATTERY SITE JAL, NEW MEXICO

Dear Mr. Pulido:

The New Mexico Oil Conservation Division (OCD) has reviewed Maralo, LLC's (Maralo) December 15, 2000 correspondence titled "HUMBLE STATE #3 TANK BATTERY SITE, LEA COUNTY, NEW MEXICO". This document declines to submit a plan to investigate the extent of contamination at the site of the former Maralo Humble State #3 Tank Battery located in Unit A, Section 36, Township 25 South, Range 36 East as required in the OCD's November 22, 2000 correspondence with Maralo.

OCD investigations at the site have shown that ground water directly underlying Maralo's former Humble State #3 Tank Battery site is contaminated with chlorides and total dissolved solids (TDS) in concentrations in excess of the New Mexico Water Quality Control Commission standards. Chlorides and TDS are constituents of oilfield wastes and OCD inspections have shown that 3 unlined pits were used to dispose of oilfield wastes at the site. Therefore, the OCD requires that Maralo submit an abatement plan for the Humble State #3 Tank Battery site to investigate and, if necessary, remediate ground water pollution pursuant to OCD Rule 19.C.1. To initiate the abatement plan process, the OCD requires that Maralo submit to the OCD by June 11, 2001 a Stage 1 Investigation Proposal pursuant to OCD Rule 19.E.1. and 19.E.3. The Stage 1 Investigation Proposal shall be submitted to the OCD Santa Fe Office with a copy provided to the OCD Hobbs District Office. Failure to submit an abatement plan will result in further enforcement actions. If you have any questions, please contact Bill Olson at (505) 827-7154.

Sincerely,

Roger C. Anderson Environmental Bureau Chief

xc: Chris Williams, OCD Hobbs District Office Jay Anthony



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON Governor Jennifer A. Salisbury Cabinet Secretary Lori Wrotenbery Director Oil Conservation Division

November 22, 2000

Mr. Jay Anthony P.O. Box 398 Jal, New Mexico 88252

#### **RE: WATER WELL SAMPLE ANALYSES**

Dear Mr. Anthony:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your water well southwest of Jal, New Mexico on September 28, 2000. The sample analyses did not detect any petroleum hydrocarbon contaminants in the well water. However, elevated levels of chloride and total dissolved solids were found to be present in the water. Chloride was present at a concentration of 460 mg/l which is above the New Mexico Water Quality Control Commission (WQCC) drinking water standard of 250 mg/l. Total dissolved solids were found to be present at a concentration of 1400 mg/l which is above the WQCC standard of 1000 mg/l for drinking water. It is possible that these salts are a result of oilfield activities due to the proximity of this water well to adjacent former oilfield waste pits.

The OCD is continuing to investigate the possibility that your wells are contaminated as a result of adjacent oilfield disposal activities and the OCD will copy you on all correspondence that they send out regarding this matter. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

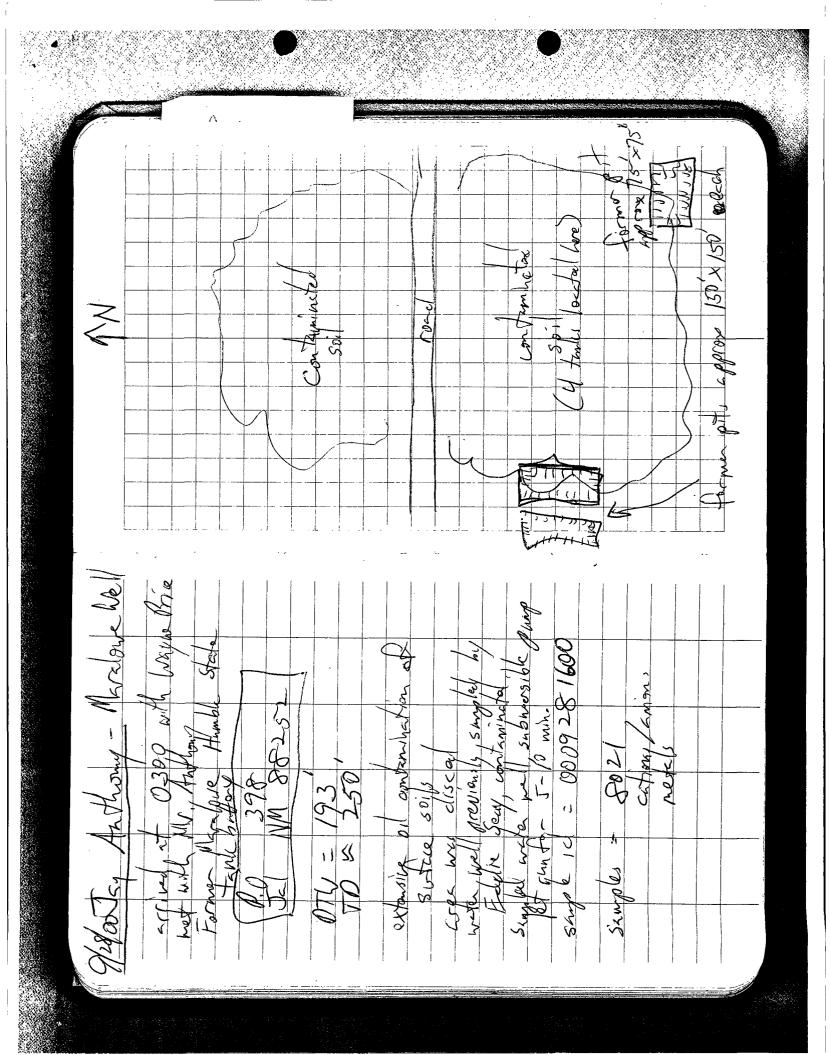
Sincerely,

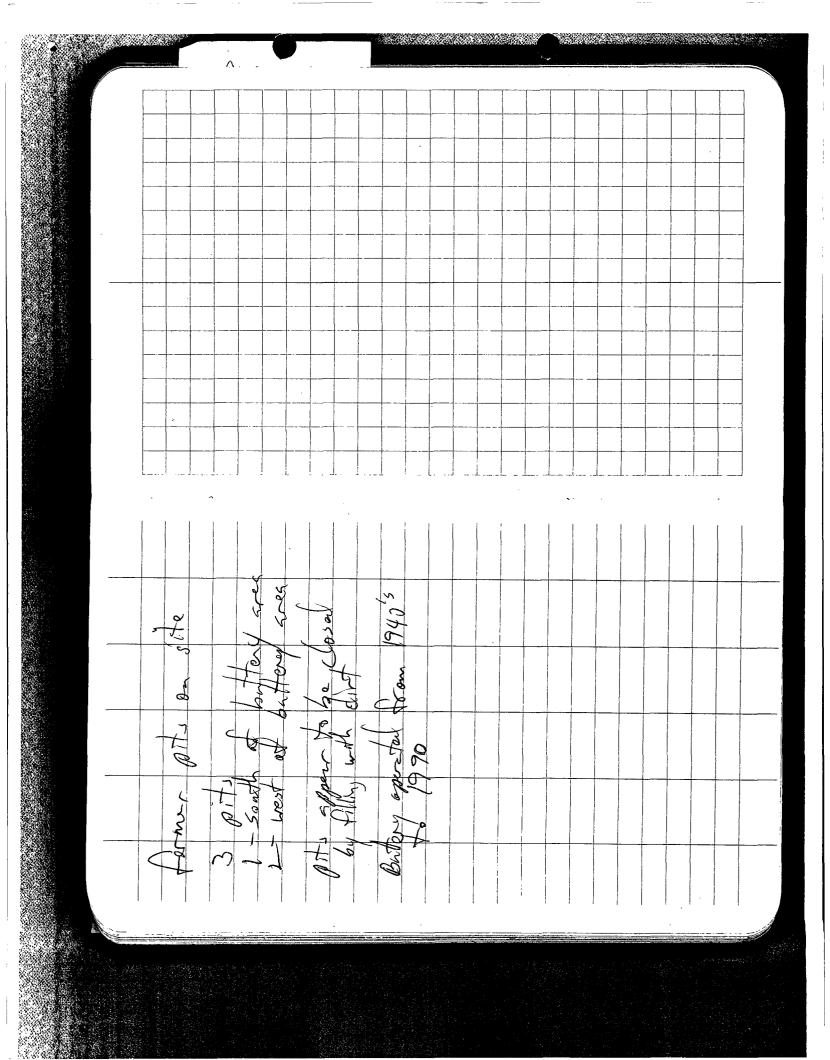
William C. Olson Hydrologist Environmental Bureau

Enclosure

xc w/enclosure:

Chris Williams, OCD Hobbs District Supervisor Phillip Smith, Maralo, LLC





FAX 806 • 794 • 1298

6701 Aberdeen Avenue, Suite 9 4725 Ripley Avenue, Suite A

N/A

Jay Anthony

Maralo #2

Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79922 888•588•3443 E-Mail: lab@traceanalysis.com 806•794•1296 915•585•3443 FAX 915 • 585 • 4944

## Analytical and Quality Control Report

# Bill Olson

RECEIVED

Report Date:

Order ID Number: A00100222

October 18, 2000

OCD 2040 S. Pacheco Santa Fe, NM 87505

Project Number:

Project Location:

Project Name:

OCT 2 3 2000

**ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION** 

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
154674	0009281600 Anthony	Water	9/28/00	16:00	9/30/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

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## Analytical and Quality Control Report

#### Sample: 154674 - 0009281600 Anthony

Analysis: Analyst:	Alkalinity RS	Analytical Method: Preparation Method:	E 310.1 N/A	QC Batch: Prep Batch:	QC05424 PB04729	Date Analyzed: Date Prepared:	10/6/00 10/6/00
Param		Flag	Result	Uni	its	Dilution	RDL
Hydroxide	Alkalinity		<1.0	mg/L as	CaCo3	1	1
Carbonate	Alkalinity		<1.0	mg/L as	CaCo3	1	1
Bicarbonat	e Alkalinity		298	mg/L as	CaCo3	1	1
Total Alkal	inity		298	mg/L as	CaCo3	1	1

#### Sample: 154674 - 0009281600 Anthony

Analysis: Analyst:	BTEX RC	Analytical Method: Preparation Method	S 8021B : 5035	QC Batch: Prep Batch:	QC05603 PB04891	Date Analyzed: Date Prepared:	10/11/00 10/11/00
Param		Flag	Result	Units	Dil	ution	RDL
MTBE			<0.001	mg/L		1	0.001
Benzene			<0.001	mg/L		1	0.001
Toluene			<0.001	mg/L		1	0.001
Ethylbenzei	ne		<0.001	mg/L		1	0.001
M,P,O-Xyle	ene		<0.001	mg/L		1	0.001
Total BTE	X		<0.001	mg/L		1	0.001

					Spike	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
TFT		0.055	mg/L	1	0.10	55	72 - 128
4-BFB		0.053	mg/L	1	0.10	53	72 - 128

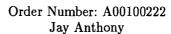
#### Sample: 154674 - 0009281600 Anthony

Analysis: Analyst:	Conductivity JS	Analytical Method: Preparation Method:		QC Batch: Prep Batch:	•	Date Analyzed: Date Prepared:	, ,
Param		Flag H	Result	Units		Dilution	RDL
Specific Co	nductance		2300	uMHOS/ci	m	1	

#### Sample: 154674 - 0009281600 Anthony

Analysis: Analyst:	Dissolved Metals RR	Analytical Preparation		E 200.7 E 3005 A	QC Batch: Prep Batch:	•	Date Analyzed: Date Prepared:	10/4/00 10/2/00
Allalyst.	1111	Тератано	n method.	E JUUIA	Trep Daten.	1 D04990	Date 1 Tepated.	10/2/00
Param		Flag	Result	t	Units	Dilution		RDL
Dissolved C	Calcium		112	2	mg/L	1		1
Dissolved M	<b>A</b> agnesium		91	L	mg/L	1		1
Dissolved F	Potassium		24	ł	mg/L	1		1
Dissolved S	odium		297	7	mg/L	1		1

'n				
Report	Date:	October	18,	2000
N/A				



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Sample:	154674	- 0009281600	Anthony
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Analysis: Analyst:	Hg, Total MS	Analytical Method: Preparation Method:	S 7470A	QC Batch: Prep Batch:	QC05673 PB04964	Date Analyzed: Date Prepared:	10/13/00 10/2/00
Param		Flag R	esult	Units	Dilu	tion	RDL
Total Merci	ury	<0.	0002	mg/L	1		0.0002

#### Sample: 154674 - 0009281600 Anthony

Analysis:Ion Chromatography (IC) Analytical Method:E 300.0 QC Batch:QC05456 Date Analyzed: 10/2/00Analyst:JSPreparation Method:N/APrep Batch:PB04739 Date Prepared: 10/2/00

Param	Flag	Result	Units	Dilution	RDL
$\overline{\mathrm{CL}}$		460	mg/L	1	0.50
Fluoride		2.5	mg/L	1	0.20
Nitrate-N	1	<1.0	mg/L	1	0.20
Sulfate		250	mg/L	1	0.50

#### Sample: 154674 - 0009281600 Anthony

Analysis: Analyst:	TDS RS	Analytical Method: Preparation Method:	E 160.1 N/A	QC Batch: Prep Batch:	QC05422 PB04731	Date Analyzed: Date Prepared:	10/5/00 10/4/00
Param		Flag	Resul		Units	Dilution	RDL
Total Disso	olved Solids		1400	)	mg/L	1	10

#### Sample: 154674 - 0009281600 Anthony

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC05669	Date Analyzed:	10/6/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB04649	Date Prepared:	10/5/00
Param		Flag Res	ult	Units	Diluti	on	RDL
Total Alun	ninum		1.9	mg/L	1		0.50
Total Arsei	nic	<0	.05	m mg/L	1		0.05
Total Bariu	ım	<0	.10	m mg/L	1		0.10
Total Boro	n	0	.61	mg/L	1		0.50
Total Cadr	nium	<0	.01	mg/L	1		0.01
Total Chro	mium	<0	.01	mg/L	1		0.01
Total Coba	lt	<0	.05	mg/L	1		0.05
Total Copp	ber	<0	.10	mg/L	1		0.10
Total Iron			1.8	mg/L	1		0.10
Total Lead		<0	.01	mg/L	1		0.01
Total Mang	ganese	0	.42	mg/L	1		0.01
Total Moly	bdenum	<0.01		mg/L	1		0.01
Total Nicke	el	<0.01		mg/L	1		0.01
Total Selen	ium	< 0.05		mg/L	1		0.05
Total Silver	ſ	<0.01		mg/L	1		0.01
Total Zinc		<0	.10	mg/L	1		0.10

 $^1 {\rm Sample}$  came in already out of holding time for NO3.

Report Date: October 18, 2000 N/A		Ord	er Number: A001 Jay Anthony	.00222	Page Nu	mber: 4 of 16 Maralo #2		
Sample: Analysis: Analyst:	1546 pH RS	•	<b>281600 A</b> l Method: on Method:	E 150.1	QC Batch: Prep Batch:	QC05321 PB04641	Date Analyzed: Date Prepared:	10/2/00 10/2/00
Param		Flag	Resu	lt	Units	Dilution	1	RDL
pН		2	7.	.4	s.u.	1		1

## Quality Control Report Method Blank

QCBatch:	QC05257		
Flag	Results	Units	Reporting Limit
	3.4	uMHOS/cm	
QCBatch:	QC05422		
		<b>TT</b> 1.	Reporting
Flag	Results	Units	Limit
	<10	mg/L	10
	Flag	Flag Results 3.4 QCBatch: QC05422 Flag Results	FlagResultsUnits3.4uMHOS/cmQCBatch:QC05422FlagResultsUnits

Sample: Method Blank QCBatch: QC05424

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank

QCBatch: QC05456

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		< 0.2	mg/L	0.20
Nitrate-N		<0.5	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

<sup>2</sup>The sample was received out of holding time.

Order Number: A00100222 Jay Anthony

Sample: Method Blank

QCBatch: QC05603

Param	Flag	Results	Units	Reporting Limit
MTBE		<0.001	mg/L	0.001
Benzene		< 0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		< 0.001	mg/L	0.001
M,P,O-Xylene		< 0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

				Spike	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	Units	Amount	Recovery	Limit
TFT	<u> </u>	0.088	mg/L	0.10	88	72 - 128
4-BFB		0.092	mg/L	0.10	92	72 - 128

## Sample: Method Blank

QCBatch: QC05668

				Reporting
Param	Flag	Results	Units	Limit
Dissolved Calcium		<1.0	mg/L	1
Dissolved Magnesium		<1.0	m mg/L	1
Dissolved Potassium		<1.0	m mg/L	1
Dissolved Sodium		<1.0	mg/L	1

Sample: Method Blank

QCBatch:

QC05669

				Reporting
Param	Flag	Results	Units	Limit
Total Aluminum		<0.50	mg/L	0.50
Total Arsenic		< 0.05	mg/L	0.05
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.50	mg/L	0.50
Total Cadmium		< 0.01	mg/L	0.01
Total Chromium		< 0.01	mg/L	0.01
Total Cobalt		< 0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	$\mathrm{mg/L}$	0.10
Total Lead		<0.01	mg/L	0.01
Total Manganese		<0.01	mg/L	0.01
Total Molybdenum		< 0.01	mg/L	0.01
Total Nickel		< 0.01	mg/L	0.01
Total Selenium		< 0.05	m mg/L	0.05
Total Silver		<0.01	mg/L	0.01
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank

QCBatch:

QC05673

Report Date: October N/A	18, 2000	Order Number: A00100222 Jay Anthony		Page Number: 6 of 16 Maralo #2
Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

## Quality Control Report Lab Control Spikes and Duplicate Spikes

## Sample: LCS

QC Batch: QC05603

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE	1 145	0.093	mg/L	1	0.10	<0.001	93		80 - 120	20
Benzene		0.092	mg/L	1	0.10	< 0.001	92		80 - 120	20
Toluene		0.092	mg/L	1	0.10	< 0.001	92		80 - 120	20
Ethylbenzene		0.093	mg/L	1	0.10	< 0.001	93		80 - 120	20
M,P,O-Xylene		0.279	mg/L	1	0.30	< 0.001	93		80 - 120	20

					Spike	%	% Rec.
Surrogate	Flag	Result	Units	Dil.	Amount	Rec.	Limit
TFT		0.089	mg/L	1	0.10	89	72 - 128
4-BFB		0.09	mg/L	1	0.10	90	72 - 128

Sample: LCSD

QC Batch: QC05603

				Spike					
	Sample			Amount	Matrix	%		% Rec.	RPD
Flag	$\mathbf{Result}$	Units	Dil.	Added	$\mathbf{Result}$	Rec.	RPD	$\mathbf{Limit}$	Limit
	0.102	mg/L	1	0.10	< 0.001	102	9	80 - 120	20
	0.101	mg/L	1	0.10	<0.001	101	9	80 - 120	20
	0.101	mg/L	1	0.10	<0.001	101	9	80 - 120	20
	0.104	mg/L	1	0.10	<0.001	104	11	80 - 120	20
	0.309	mg/L	1	0.30	< 0.001	103	10	80 - 120	20
						Spike		07	% Rec.
Flag	Res	ult	Units	Dil		Amount			76 Rec. Limit
Ŭ	0.0	98	mg/L	1	_	0.10		98	72 - 128
	0.	1	mg/L	1		0.10	_1	00	72 - 128
	Flag Flag	Flag         Result           0.102         0.101           0.101         0.101           0.104         0.309           Flag         Res           0.0         0.0	Flag         Result         Units           0.102         mg/L           0.101         mg/L           0.101         mg/L           0.104         mg/L           0.309         mg/L	Flag         Result         Units         Dil.           0.102         mg/L         1           0.101         mg/L         1           0.101         mg/L         1           0.101         mg/L         1           0.104         mg/L         1           0.309         mg/L         1           Flag         Result         Units           0.098         mg/L         1	Sample         Amount           Flag         Result         Units         Dil.         Added           0.102         mg/L         1         0.10           0.101         mg/L         1         0.10           0.101         mg/L         1         0.10           0.101         mg/L         1         0.10           0.104         mg/L         1         0.10           0.309         mg/L         1         0.30           Flag         Result         Units         Dil           0.098         mg/L         1         1	Sample         Amount         Matrix           Flag         Result         Units         Dil.         Added         Result           0.102         mg/L         1         0.10         <0.001	Sample         Amount         Matrix         %           Flag         Result         Units         Dil.         Added         Result         Rec.           0.102         mg/L         1         0.10         <0.001	Sample         Amount         Matrix         %           Flag         Result         Units         Dil.         Added         Result         Rec.         RPD           0.102         mg/L         1         0.10         <0.001	Sample         Amount         Matrix         %         % Rec.           Flag         Result         Units         Dil.         Added         Result         Rec.         RPD         Limit           0.102         mg/L         1         0.10         <0.001

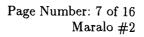
Sample: LCS QC B

QC Batch: QC05668

Report Date: October 18, 2000 N/A



#### Order Number: A00100222 Jay Anthony



					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Dissolved Calcium		1069	mg/L	1	1000	<1.0	106		75 - 125	20
<b>Dissolved Magnesium</b>		1062	mg/L	1	1000	<1.0	106		75 - 125	<b>20</b>
Dissolved Potassium		1062	mg/L	1	1000	<1.0	106		75 - 125	20
Dissolved Sodium		1033	mg/L	1	1000	<1.0	103		75 - 125	20

## Sample: LCSD

QC Batch: QC05668

					Spike					
		$\mathbf{Sample}$			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	$\mathbf{Result}$	Rec.	RPD	Limit	Limit
Dissolved Calcium		1079	mg/L	1	1000	<1.0	107	1	75 - 125	20
Dissolved Magnesium		1036	mg/L	1	1000	<1.0	103	2	75 - 125	<b>20</b>
Dissolved Potassium		1095	mg/L	1	1000	<1.0	109	3	75 - 125	<b>20</b>
Dissolved Sodium		1013	mg/L	1	1000	<1.0	101	2	75 - 125	20

## Sample: LCS

QC Batch: QC05669

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum	Tiag	1.98	mg/L	1	2	<0.50	99	101 D	75 - 125	20
Total Arsenic		0.96	mg/L	1	1	<0.05	96		75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Boron		1.08	mg/L	1	1	< 0.50	101		75 - 125	20
Total Cadmium		0.20	mg/L	1	0.20	< 0.01	100		75 - 125	$20^{-0}$
Total Chromium		0.42	mg/L	1	0.40	< 0.01	105		75 - 125	20
Total Cobalt		1.02	mg/L	1	1	< 0.05	102		75 - 125	20
Total Copper		0.40	mg/L	1	0.40	<0.10	100		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		1.01	mg/L	1	1	< 0.01	101		75 - 125	20
Total Manganese		0.21	mg/L	1	0.20	< 0.01	105		75 - 125	20
Total Molybdenum		1.06	mg/L	1	1	<0.01	106		75 - 125	20
Total Nickel		0.98	mg/L	1	1	<0.01	98		75 - 125	20
Total Selenium		0.87	mg/L	1	1	< 0.05	87		75 - 125	20
Total Silver		0.20	mg/L	1	0.20	< 0.01	100		75 - 125	20
Total Zinc		0.23	mg/L	1	0.20	<0.10	115		75 - 125	20

## Sample: LCSD

QC Batch: QC05669

		Sample			Spike Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	$\mathbf{Result}$	Rec.	RPD	Limit	Limit
Total Aluminum		2.01	mg/L	1	2	<0.50	100	2	75 - 125	20
Total Arsenic		0.94	mg/L	1	1	< 0.05	94	2	75 - 125	20
	<u> </u>								Cantin	and

Report Date: October 18, 2000

Order Number: A00100222 Jay Anthony

Page Number: 8 of 16 Maralo #2

... Continued

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	$\mathbf{Limit}$	Limit
Total Barium		2.04	mg/L	1	2	<0.10	102	2	75 - 125	20
Total Boron		1.17	mg/L	1	1	<0.50	117	8	75 - 125	20
Total Cadmium		0.20	mg/L	1	0.20	<0.01	100	0	75 - 125	20
Total Chromium		0.41	mg/L	1	0.40	<0.01	102	2	75 - 125	20
Total Cobalt		1.01	mg/L	1	1	< 0.05	101	1	75 - 125	20
Total Copper		0.40	mg/L	1	0.40	<0.10	100	0	75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102	2	75 - 125	20
Total Lead		0.98	mg/L	1	1	<0.01	98	3	75 - 125	20
Total Manganese		0.20	mg/L	1	0.20	<0.01	100	5	75 - 125	20
Total Molybdenum		1.03	mg/L	1	1	<0.01	103	3	75 - 125	<b>20</b>
Total Nickel		0.97	mg/L	1	1	<0.01	97	1	75 - 125	20
Total Selenium		0.86	mg/L	1	1	< 0.05	86	1	75 - 125	20
Total Silver		0.20	mg/L	1	0.20	< 0.01	100	0	75 - 125	20
Total Zinc		0.24	mg/L	1	0.20	<0.10	120	4	75 - 125	20

Sample: LCS

QC Batch: QC05673

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	$\mathbf{Result}$	Units	Dil.	Added	$\mathbf{Result}$	Rec.	RPD	Limit	Limit
Total Mercury		0.00081	mg/L	1	0.001	< 0.0002	81		80 - 120	20

Sample: LCSD QC Batch: QC05673

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Total Mercury		0.00085	mg/L	1	0.001	< 0.0002	85	5	80 - 120	20

# Quality Control Report Matrix Spikes and Duplicate Spikes

#### Sample: MS

QC Batch: QC05456

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	$\mathbf{Result}$	Units	Dil.	Added	$\mathbf{Result}$	Rec.	$\mathbf{RPD}$	Limit	Limit
$\overline{\mathrm{CL}}$	· · · · · · · · · · · ·	987.91	mg/L	1	625	460	84		80 - 120	20
Fluoride		123.62	mg/L	1	125	<b>2.5</b>	96		80 - 120	20
Nitrate-N		122.13	mg/L	1	125	<1.0	97		80 - 120	<b>20</b>
Sulfate		846.21	mg/L	1	625	250	95		80 - 120	20

## Sample: MSD

QC Batch: QC05456

		Sample			Spike Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	$\mathbf{Result}$	Rec.	RPD	Limit	Limit
$\overline{\mathrm{CL}}$		991.26	mg/L	1	625	460	85	1	80 - 120	20
Fluoride		123.68	mg/L	1	125	<b>2.5</b>	96	0	80 - 120	20
Nitrate-N		120.50	mg/L	1	125	<1.0	96	1	80 - 120	20
Sulfate		834.07	mg/L	1	625	250	93	2	80 - 120	20

## Sample: MS QC Batch: QC05668

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Dissolved Calcium		1128	mg/L	1	1000	63	106		75 - 125	$\overline{20}$
Dissolved Magnesium		1071	mg/L	1	1000	14	105		75 - 125	20
Dissolved Potassium		1128	mg/L	1	1000	11	111		75 - 125	20
Dissolved Sodium		1085	_mg/L	1	1000	37	104		75 - 125	20

## Sample: MSD

QC Batch: QC05668

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Dissolved Calcium		1127	mg/L	1	1000	63	106	0	75 - 125	20
Dissolved Magnesium		1058	mg/L	1	1000	14	104	1	75 - 125	20
Dissolved Potassium		1117	mg/L	1	1000	11	110	1	75 - 125	20
Dissolved Sodium		1078	mg/L	1	1000	37	104	1	75 - 125	20

#### Sample: MS

QC Batch: QC05669

					$\mathbf{Spike}$					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	$\mathbf{Result}$	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Total Aluminum		2.14	mg/L	1	2	< 0.50	107		75 - 125	20
Total Arsenic		0.89	mg/L	1	1	< 0.05	89		75 - 125	<b>20</b>
Total Barium		1.92	mg/L	1	2	0.16	88		75 - 125	20
Total Boron		1.37	mg/L	1	1	0.57	80		75 - 125	20
Total Cadmium		0.17	mg/L	1	0.20	<0.01	85		75 - 125	20
Total Chromium		0.35	mg/L	1	0.40	< 0.01	87		75 - 125	20
Total Cobalt		0.83	mg/L	1	1	< 0.05	83		75 - 125	20
Total Copper		0.36	mg/L	1	0.40	<0.10	90		75 - 125	20
Total Iron		1.77	mg/L	1	2	<0.10	88		75 - 125	20
Total Lead		0.81	mg/L	1	1	<0.01	81		75 - 125	20
Total Manganese		0.17	mg/L	1	0.20	<0.01	85		75 - 125	20
Total Molybdenum		0.90	mg/L	1	1	< 0.01	90		75 - 125	20
									Contar	nued

Report Date: October 18, 2000

Order Number: A00100222 Jay Anthony

Page Number: 10 of 16 Maralo #2

... Continued

					$\mathbf{Spike}$					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dil.	Added	$\mathbf{Result}$	Rec.	RPD	Limit	Limit
Total Nickel		0.85	mg/L	1	1	< 0.01	85		75 - 125	20
Total Selenium		0.82	mg/L	1	1	< 0.05	82		75 - 125	20
Total Silver		0.18	mg/L	1	0.20	< 0.01	90		75 - 125	20
Total Zinc		0.19	mg/L	1	0.20	<0.10	95		75 - 125	20

## Sample: MSD

QC Batch: QC05669

		Sample	<b>TT 1</b> .	51	Spike Amount	Matrix	%	5555	% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Total Aluminum		2.15	mg/L	1	<b>2</b>	< 0.50	107	0	75 - 125	20
Total Arsenic		0.90	m mg/L	1	1	<0.05	90	1	75 - 125	20
Total Barium		1.95	mg/L	1	2	0.16	89	2	75 - 125	<b>20</b>
Total Boron		1.40	mg/L	1	1	0.57	83	4	75 - 125	20
Total Cadmium		0.17	mg/L	1	0.20	< 0.01	85	0	75 - 125	20
Total Chromium		0.35	mg/L	1	0.40	< 0.01	87	0	75 - 125	20
Total Cobalt		0.84	mg/L	1	1	< 0.05	84	1	75 - 125	20
Total Copper		0.36	mg/L	1	0.40	<0.10	90	0	75 - 125	20
Total Iron		1.80	mg/L	1	<b>2</b>	<0.10	90	<b>2</b>	75 - 125	<b>20</b>
Total Lead		0.83	mg/L	1	1	<0.01	83	2	75 - 125	20
Total Manganese		0.17	mg/L	1	0.20	<0.01	85	0	75 - 125	20
Total Molybdenum		0.91	mg/L	1	1	< 0.01	91	1	75 - 125	20
Total Nickel		0.85	mg/L	1	1	< 0.01	85	0	75 - 125	20
Total Selenium		0.83	mg/L	1	1	<0.05	83	1	75 - 125	20
Total Silver		0.18	mg/L	1	0.20	< 0.01	90	0	75 - 125	20
Total Zinc		0.20	mg/L	1	0.20	<0.10	100	5	75 - 125	20

## $\mathbf{Sample:}\ \mathbf{MS}$

QC Batch: QC05673

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Total Mercury		0.00086	mg/L	1	0.001	< 0.0002	86		80 - 120	20

## Sample: MSD

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QC Batch: QC05673

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
Total Mercury		0.00097	mg/L	1	0.001	<0.0002	97	12	80 - 120	20

N/A

Report Date: October 18, 2000 N/A

## Quality Control Report Duplicate Samples

Sample: Duplicate		QC Batch: QC	05257				
		Duplicate	Sample				RPD
Param	Flag	Result	Result	Units	Dilution	RPD	Limit
Specific Conductance		2286		uMHOS/cm	1	1	20
Specific Conductance		2286	2300	uMHOS/cm	1	1	20
Sample: Duplicate		OC Bataly OC	105 201				
Sample: Duplicate		QC Batch: QC	/03321				
	Duplic	cate Sar	nple				RPD
Param Flag	Resu		-	Units Dilut	ion H	RPD	Limit
pH	7.6		.6	s.u. 1		0	20
Sample: Duplicate	Flag	QC Batch: QC Duplicate Result	Sampl Result	t Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1326	1400	mg/L	1	5	20
Sample: Duplicate		QC Batch: QC Duplicate	Sample				RPD
Param	Flag	Result	Result	Units	Dilutior	n RPD	Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity		212	214	mg/L as CaCo3	1	1	20
Total Alkalinity	=	212	214	mg/L as CaCo3	1	1	20

## Quality Control Report Continuing Calibration Verification Standards

Sample: CCV (1)	(	QC Batch: QC05257									
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date				
P	<b>E</b> 1	TT :4 -	-		_	÷					
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed				
Specific Conductance		uMHOS/cm	1413	1399	99	80 - 120	10/2/00				

Report	Date:	October	18,	2000	
N/A					

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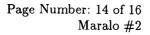
Order Number: A00100222 Jay Anthony

Sample:	ICV (1)	QC	Batch: QC052	257					
D		El	T1-:4-	CCVs True	CCV Foun	d P	CCVs ercent	Percent Recovery	Date
Param		Flag	Units	Conc.	Conc		ecovery	Limits	Analyzed
Specific Co	nductance		uMHOS/cm	1413	1413	i	100	80 - 120	10/2/00
Sample:	CCV (1)	Q	C Batch: QC05	321					
			CCVs True	CCV Foun		CCVs Percent		Percent Recovery	Date
Param	Flag	Units	Conc.	Cone		Recovery	/	Limits	Analyzed
pH		s.u.	7	7.0		100		80 - 120	10/2/00
Sample:	ICV (1)	QC	Batch: QC053	321					
			CCVs True	CCV Foun		CCVs Percent		Percent Recovery	Date
Param	Flag	Units	Conc.	Cone		Recovery		Limits	Analyzed
pН		s.u.	7	7.0		100		80 - 120	10/2/00
Param		Flag	Units	CCVs True Conc.	CCVs Found Conc.	Per Rece	CVs cent overy	Percent Recovery Limits	Date Analyzed
Total Disso	lved Solids		mg/L	1000	972	(	)7	80 - 120	10/5/00
Sample:	ICV (1)	QC	Batch: QC054	22					
				CCVs True	CCVs Found		CVs cent	Percent Recovery	Date
Param		Flag	Units	Conc.	Conc.	Rec	overy	Limits	Analyzed
Total Disso	lved Solids		mg/L	1000	953	ę	)5	80 - 120	10/5/00
Sample:	CCV (1)	Q	C Batch: QC05	424					
				CCV True			CCVs Percent	Percent Recovery	Date
Param		Flag	Units	Cone			Recovery	Limits	Analyzed
Hydroxide .			mg/L as CaC		8		0	80 - 120	10/6/00
Carbonate			mg/L as CaC		22		0	80 - 120	10/6/00
Bicarbonate	e Alkalinity		mg/L as CaC	<u>o3 0</u>	<	.0	0	80 - 120	10/6/00

Report Date: ( N/A	October 18,	2000	Orde	r Number: A Jay Antho			Page Num	ber: 13 of 16 Maralo #2
Continued		Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Alkalinity			/L as CaCo3	250	228	<u>91</u>	80 - 120	
	<b>y</b>	IIIg,		200	220	91	80 - 120	10/6/00
Sample: IC	<b>V</b> (1)	QC Bate	h: QC05424					
D			TT '4	CCVs True Conc.	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	12.24	Flag			Conc.	Recovery	Limits	Analyzed
Hydroxide Alka	-	0,	/L as CaCo3 /L as CaCo3	0	<1.0	0	80 - 120	10/6/00
Carbonate Alka	-		L as CaCo3	0	240	0	80 - 120	10/6/00
Bicarbonate Al Total Alkalinity	-		/L as CaCo3 /L as CaCo3	0 250	$< 1.0 \\ 240$	0 96	80 - 120 80 - 120	10/6/00 10/6/00
Sample: CO	$\mathbf{CV}(1)$	ሰር ይፈ	ch: QC05456					
Sample: CC	JV (1)	QC Bai	CCVs	CCVs	C	CVs	Percent	
			True	Found		cent	Recovery	Date
Param	Flag	Units	Conc.	Conc.		overy	Limits	Analyzed
$\frac{1}{CL}$	1 145	mg/L	12.50	11.43		91	80 - 120	<u>10/2/00</u>
Fluoride		mg/L	2.50	2.40		96	80 - 120	10/2/00 10/2/00
Nitrate-N		mg/L	2.50	2.30		)2	80 - 120	10/2/00 10/2/00
Sulfate		mg/L	12.50	11.71		93	80 - 120	10/2/00
Sample: IC	V (1)	QC Bate	h: QC05456					
			CCVs	CCVs	CC	CVs	Percent	
			True	Found		cent	Recovery	Date
Param	Flag	Units	Conc.	Conc.		overy	Limits	Analyzed
CL	Y	mg/L	12.50	11.53		)2	80 - 120	10/2/00
Fluoride		mg/L	2.50	2.40		96	80 - 120	10/2/00
Nitrate-N		mg/L	2.50	2.30	9	)2	80 - 120	10/2/00
Sulfate		mg/L	12.50	11.73	9	)3	80 - 120	10/2/00
Sample: CC	CV (1)	QC Bat	ch: QC05603					
			$\mathrm{CCVs}$	CCVs	C	CVs	Percent	
			True	Found	Pe	ercent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Re	covery	Limits	Analyzed
MTBE		mg/L	0.10	0.088		88	80 - 120	10/11/00
Benzene		mg/L	0.10	0.09		90	80 - 120	10/11/00
Toluene		mg/L	0.10	0.09		90	80 - 120	10/11/00
Ethylbenzene		mg/L	0.10	0.089		89	80 - 120	10/11/00

Report	Date:	October	18,	2000
N/A				

Order Number: A00100222 Jay Anthony



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			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
M,P,O-Xylene		mg/L	0.30	0.267	89	80 - 120	10/11/00

#### Sample: CCV (2)

QC Batch: QC05603

			CCVs	CCVs	$\mathbf{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	<u> </u>	mg/L	0.10	0.093	93	80 - 120	10/11/00
Benzene		mg/L	0.10	0.097	97	80 - 120	10/11/00
Toluene		mg/L	0.10	0.094	94	80 - 120	10/11/00
Ethylbenzene		mg/L	0.10	0.096	96	80 - 120	10/11/00
M,P,O-Xylene		mg/L	0.30	0.276	92	80 - 120	10/11/00

## Sample: ICV (1) QC Ba

QC Batch: QC05603

			$\mathrm{CCVs}$	$\mathbf{CCVs}$	$\mathbf{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.106	106	80 - 120	10/11/00
Benzene		mg/L	0.10	0.105	105	80 - 120	10/11/00
Toluene		mg/L	0.10	0.106	106	80 - 120	10/11/00
Ethylbenzene		mg/L	0.10	0.11	110	80 - 120	10/11/00
M,P,O-Xylene		mg/L	0.30	0.333	111	80 - 120	10/11/00

## Sample: CCV (1)

QC Batch: QC05668

			$\mathbf{CCVs}$	CCVs	$\mathbf{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	10	135	1350	75 - 125	10/4/00
Dissolved Magnesium		mg/L	10	133	1330	75 - 125	10/4/00
Dissolved Potassium		mg/L	10	134	1340	75 - 125	10/4/00
Dissolved Sodium		mg/L	10	126	1260	75 - 125	10/4/00

## Sample: ICV (1)

QC Batch: QC05668

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	10	126	1260	75 - 125	10/4/00
Dissolved Magnesium		mg/L	10	125	1250	75 - 125	10/4/00

Report Date: October 18, 200	00
N/A	

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Potassium		mg/L	10	133	1330	75 - 125	10/4/00
Dissolved Sodium		mg/L	10	123	1230	75 - 125	10/4/00

## Sample: CCV (1)

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QC Batch: QC05669

			$\mathbf{CCVs}$	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Total Aluminum		mg/L	5	4.75	95	75 - 125	10/6/00
Total Arsenic		m mg/L	2.50	2.43	97	75 - 125	10/6/00
Total Barium		mg/L	5	4.92	98	75 - 125	10/6/00
Total Boron		mg/L	2.50	2.41	96	75 - 125	10/6/00
Total Cadmium		mg/L	0.50	0.49	98	75 - 125	10/6/00
Total Chromium		m mg/L	1	0.98	98	75 - 125	10/6/00
Total Cobalt		mg/L	2.50	2.45	98	75 - 125	10/6/00
Total Copper		mg/L	1	0.96	96	75 - 125	10/6/00
Total Iron		m mg/L	5	4.92	98	75 - 125	10/6/00
Total Lead		m mg/L	2.50	2.46	98	75 - 125	10/6/00
Total Manganese		m mg/L	0.50	0.49	98	75 - 125	10/6/00
Total Molybdenum		mg/L	2.50	2.45	98	75 - 125	10/6/00
Total Nickel		mg/L	2.50	2.43	97	75 - 125	10/6/00
Total Selenium		mg/L	2.50	2.43	97	75 - 125	10/6/00
Total Silver		mg/L	0.50	0.49	98	75 - 125	10/6/00
Total Zinc		mg/L	0.50	0.50	100	75 - 125	10/6/00

## Sample: ICV (1)

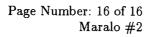
QC Batch: QC05669

_			CCVs	$\mathbf{CCVs}$	CCVs	Percent	
*			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Aluminum		mg/L	5	4.97	99	75 - 125	10/6/00
Total Arsenic		mg/L	2.50	2.49	99	75 - 125	10/6/00
Total Barium		mg/L	5	5.05	101	75 - 125	10/6/00
Total Boron		mg/L	2.50	2.54	101	75 - 125	10/6/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	10/6/00
Total Chromium		mg/L	1	1.00	100	75 - 125	10/6/00
Total Cobalt		mg/L	2.50	2.51	100	75 - 125	10/6/00
Total Copper		mg/L	1	1.00	100	75 - 125	10/6/00
Total Iron		mg/L	5	5.05	101	75 - 125	10/6/00
Total Lead		mg/L	2.50	2.51	100	75 - 125	10/6/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	10/6/00
Total Molybdenum		mg/L	2.50	2.52	100	75 - 125	10/6/00
Total Nickel		mg/L	2.50	2.52	100	75 - 125	10/6/00
Total Selenium		mg/L	2.50	2.52	100	75 - 125	10/6/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	10/6/00
Total Zinc		mg/L	0.50	0.50	100	75 - 125	10/6/00

Report Date: October 18, 2000 N/A

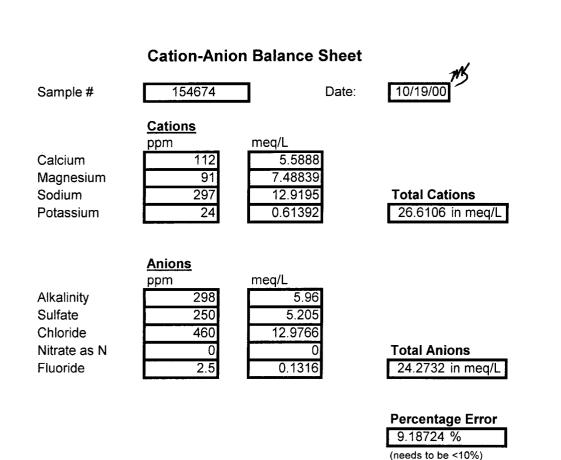
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Sample: CCV (1) QC Batch: QC05673

Param Total Mercury	Flag	Units mg/L	CCVs True Conc. 0.001	CCVs Found Conc. 0.00082	CCVs Percent Recovery 82	Percent Recovery Limits 80 - 120	Date Analyzed 10/13/00
Sample: ICV	V (1)	QC Batch:	QC05673				
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Mercury		mg/L	0.001	0.00090	90	80 - 120	10/13/00



#### OTHER INFORMATION

TDS	
EC	

Measure EC and Cation Sums Measure EC and Anion Sums Calculated TDS/Conductivity Measure TDS and Cation Sums Measure TDS and Anion Sums

0

2661.061 Range should be:	0	to	0
2427.32 Range should be:	0	to	0
#DIV/0! Range should be:	0.55	to	0.77
0 Range should be:	0.55	to	0.77
0 Range should be:	0.55	to	0.77

July 13, 2000

RECEIVED

JUL 18 2000

NMOCD Environmental Bureau 2040 South Pacheco St. Santa Fe, NM 87505

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

RE: Maralo Site - Jal, NM

Bill Olson:

This information was obtained from the abandoned site owned by Maralo Oil Co. I have photos and analytical for this site.

The Jal water system is laying a new water line and the proposed line will go through the middle of this area, they are concerned as is the rancher, Mr. Anthony.

Your help in this matter would be appreciated.

Eddin w.A.

Eddie W. Seay, Agent 601 W. Illinois Hobbs, NM 88242 (505)392-2236



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR EDDIE SEAY CONSULTING ATTN: EDDIE W. SEAY 601 W. ILLINOIS HOBBS, NM, 88242 FAX TO: (505) 392-6949

Receiving Date: 07/07/00 Reporting Date: 07/10/00 Project Owner: ANTHONY Project Name: MARALO SHELL-HUMBLE SITE Project Location: JAL, NM

Analysis Date: 07/10/00 Sampling Date: 07/07/00 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

#### LAB NUMBER SAMPLE ID

TPH (mg/Kg)

H4982-1	MARALO #1	37000
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	1	
	· · · · · · · · · · · · · · · · · · ·	
Quality Contro		244
True Value Q	C	240
% Recovery		102
<b>Relative Perce</b>	ent Difference	2.4

METHOD: EPA 600/4-79-020 418.1

Buyert floole

7/1000 Date

H4982XLS PLEASE NOTE: Ltability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, the service is not event shall cardinal be liable for incidental or consequential damages. affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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ANALYTICAL RESULTS FOR EDDIE SEAY CONSULTING ATTN: EDDIE SEAY 601 W. ILLINOIS HOBBS, NM. 88242 FAX TO:

Receiving Date: 02/08/00 Reporting Date: 02/14/00 Project Owner: JAY ANTHONY Project Name: MARALO WATER WELL Project Location: JAL, NM

Analysis Date: 02/12/00 Sampling Date: 02/07/00 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: BC

#### LAB NUMBER SAMPLE ID

TPH (mg/L)

H4633-2	MARALO WW #2	<1.0
	<u> </u>	
• 1		
· · ·	2	
<b>Quality Control</b>	bl	3.94
True Value Q	C	4.00
% Recovery	······································	98.5
<b>Relative Perc</b>	ent Difference	1.8

METHOD: EPA 600/4-79-020 418.1

to not Date

#### H4633-2.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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ANALYTICAL RESULTS FOR EDDIE SEAY CONSULTING ATTN: EDDIE SEAY 601 W. ILLINOIS HOBBS, NM. 88242 FAX TO:

Receiving Date: 02/08/00 Reporting Date: 02/14/00 Project Owner: JAY ANTHONY Project Name: MARALO WATER WELL Project Location: JAL, NM Sampling Date: 02/07/00 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: AH

H4633-1       MARALO WW #1       0       288       592       432       208       7.2         Market Control       NR       NR       NR       1040       48.63       7.0         Quality Control       NR       NR       NR       1040       48.63       7.0         True Value QC       NR       NR       NR       1000       50.00       7.00         % Recovery       NR       NR       NR       1044       97       100	LAB NO.	SAMPLE ID	P-Alkalinity (mg/L)	T-Alkalinity (mg/L)	Hardness (mg/L)	Chloride (mg/L)	Sulfates (mg/L)	рН (s.u.)
Quality Control         NR         NR         NR         NR         1040         48.63         7.0°           True Value QC         NR         NR         NR         NR         1040         48.63         7.0°           True Value QC         NR         NR         NR         NR         1040         48.63         7.0°           Relative Percent Difference         NR         NR         NR         NR         104         97         100           METHODS: EPA 600/4-79-020, -         -         -         130.2         325.3         375.4         150.1           Standard Methods         2320 B         2320 B         -         <	ANALYSIS	DATE	02/10/00	02/10/00	02/10/00	02/10/00	02/10/00	02/10/00
True Value QC         NR         NR         NR         NR         1000         50.00         7.00           % Recovery         NR         NR         NR         NR         NR         104         97         100           % Recovery         NR         NR         NR         NR         NR         104         97         100           Relative Percent Difference         NR         NR         NR         NR         8.7         2.9         0           METHODS:         EPA 600/4-79-020, -         -         -         130.2         325.3         375.4         150.1           Standard Methods         2320 B         2320 B         -         <	H4633-1	MARALO WW #1	0	288	592	432	208	7.27
True Value QC         NR         NR         NR         NR         1000         50.00         7.00           % Recovery         NR         NR         NR         NR         NR         104         97         100           % Recovery         NR         NR         NR         NR         NR         104         97         100           Relative Percent Difference         NR         NR         NR         NR         8.7         2.9         0           METHODS:         EPA 600/4-79-020, -         -         -         130.2         325.3         375.4         150.1           Standard Methods         2320 B         2320 B         -         <		······································						
True Value QC         NR         NR         NR         NR         NR         1000         50.00         7.00           % Recovery         NR         NR         NR         NR         NR         104         97         100           Relative Percent Difference         NR         NR         NR         NR         NR         104         97         100           METHODS:         EPA 600/4-79-020,         -         -         130.2         325.3         375.4         150.1           Standard Methods         2320 B         2320 B         -	Quality Con	trol	NR	NR	NR	1040	48.63	7.01
Relative Percent Difference         NR         NR         NR         NR         8.7         2.9         0           METHODS: EPA 600/4-79-020, Standard Methods         -         -         130.2         325.3         375.4         150.1           Standard Methods         2320 B         2320 B         -         -         -         -         -           LAB NO.         SAMPLE ID         Hydroxides (mg/L)         Carbonates (mg/L)         Bicarbonates (mg/L)         Conductivity (umhos/cm)         TDS (mg/L)           ANALYSIS DATE         02/10/00         02/10/00         02/10/00         02/10/00         02/10/00           H4633-1         MARALO WW #1         0         0         351         2100         1468           Quality Control         NR         NR         971         1392         NR           True Value QC         NR         NR         1000         1413         NR           % Recovery         NR         NR         97         99         NR           % Recovery         NR         NR         3.0         0.2         NR			NR	NR	NR	1000	50.00	7.00
METHODS:         EPA 600/4-79-020, Standard Methods         -         -         130.2         325.3         375.4         150.1           Standard Methods         2320 B         2320 B         - <td>% Recovery</td> <td>/</td> <td>NR</td> <td>NR</td> <td>NR</td> <td>104</td> <td>97</td> <td>100</td>	% Recovery	/	NR	NR	NR	104	97	100
Standard Methods         2320 B         2320 B         - </td <td><b>Relative Per</b></td> <td>rcent Difference</td> <td>NR</td> <td>NR</td> <td>NR</td> <td>8.7</td> <td>2.9</td> <td>0</td>	<b>Relative Per</b>	rcent Difference	NR	NR	NR	8.7	2.9	0
Standard Methods         2320 B         2320 B         - </td <td>MET LODO</td> <td>ED4 00011 70 000</td> <td></td> <td>· ·</td> <td></td> <td></td> <td>075.4</td> <td>150.4</td>	MET LODO	ED4 00011 70 000		· ·			075.4	150.4
LAB NO.         SAMPLE ID         Hydroxides (mg/L)         Carbonates (mg/L)         Bicarbonates (mg/L)         Conductivity (umhos/cm)         TDS (mg/L)           ANALYSIS DATE         02/10/00         02/10/00         02/10/00         02/10/00         02/10/00         02/10/00           H4633-1         MARALO WW #1         0         0         351         2100         1468	METHODS:				130.2	325.5	3/5.4	150.1
LAB NO.       SAMPLE ID       (mg/L)       (mg/L)       (mg/L)       (mg/L)       (umhos/cm)       (mg/L)         ANALYSIS DATE       02/10/00       02/10/00       02/10/00       02/10/00       02/10/00       02/10/00         H4633-1       MARALO WW #1       0       0       351       2100       1468         Image: Control state       Image: Control st		Standard Methods	2320 B	2320 B	-	1		
LAB NO.       SAMPLE ID       (mg/L)       (mg/L)       (mg/L)       (umhos/cm)       (mg/L)         ANALYSIS DATE       02/10/00       02/10/00       02/10/00       02/10/00       02/10/00       02/10/00         H4633-1       MARALO WW #1       0       0       351       2100       1468			Hydroxides	Carbonates	Bicarbonates	Conductivity	TDS	
H4633-1       MARALO WW #1       0       0       351       2100       1468         Quality Control       NR       NR       971       1392       NR         True Value QC       NR       NR       1000       1413       NR         % Recovery       NR       NR       977       99       NR         Relative Percent Difference       NR       NR       3.0       0.2       NR	LAB NO.		•	(mg/L)	(mg/L)		(mg/L)	
Quality Control       NR       NR       971       1392       NR         True Value QC       NR       NR       1000       1413       NR         % Recovery       NR       NR       97       99       NR         Relative Percent Difference       NR       NR       3.0       0.2       NR	ANALYSIS	DATE	02/10/00	02/10/00	02/10/00	02/10/00	02/10/00	
True Value QCNRNR10001413NR% RecoveryNRNR9799NRRelative Percent DifferenceNRNR3.00.2NR	H4633-1	MARALO WW #1	0	. 0	351	2100	1468	
True Value QCNRNR10001413NR% RecoveryNRNR9799NRRelative Percent DifferenceNRNR3.00.2NR								
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 METHODS:
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 Standard Methods
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2/14/00 Date

PLEASE ACCE: A labeling and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



December 15, 2000

Mr. William C. Olson, Hydrologist New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505

Re: Humble State #3 Tank Battery Site Lea County, New Mexico

Dear Mr. Olson:

Maralo is in receipt of your letter dated November 22, 2000, advising us that water samples from a water well owned by Mr. Jay Anthony contain chlorides and TDS in concentrations in excess of the New Mexico Water Quality Control Commission standards.

While Maralo acknowledges that it has operated two (2) wells in the immediate area, which as you may know were plugged in September and October of 1988, and the battery remediated by discing in 1993, we find no reason to believe that any of our actions contributed to the concentration of chlorides and TDS found through your analysis. As your report shows, no B-Tex or Toluene (Hydrocarbons) were noted, therefore eliminating the probability of oilfield contamination. Further, the chlorides noted in your analysis could be naturally occurring and in our opinion the water is still suitable for consumption by livestock which should be the primary consumer in the remote area of Mr. Anthony's ranch.

Finally, any application by your department of Rule 19 of the New Mexico Oil and Gas Regulations promulgated in February, 1997 would be considered, in our opinion, retroactively applied and therefore not enforceable.

If no response to our letter is received prior to January 22, 2001, we will assume this matter has been resolved to your satisfaction.

Yours very truly,

MARALO, LLC-Joe C. Pulido, CPL

Manager

CHUCONSERVATION DUISPLUA OFLICONSERVATION DUISPLUA \_\_\_\_\_EXHIDIT NO.\_\_Z

JCP/jl

:humble state #3 tank battery site - nm emnr



## NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON Governor Jennifer A. Salisbury Cabinet Secretary Lori Wrotenbery Director Oil Conservation Division

November 22, 2000

#### CERTIFIED MAIL RETURN RECEIPT NO: 5051-3877

Mr. Phillip Smith Maralo, LLC P.O. Box 832 Midland, Texas 79702

#### RE: HUMBLE STATE #3 TANK BATTERY SITE JAL, NEW MEXICO

Dear Mr. Smith:

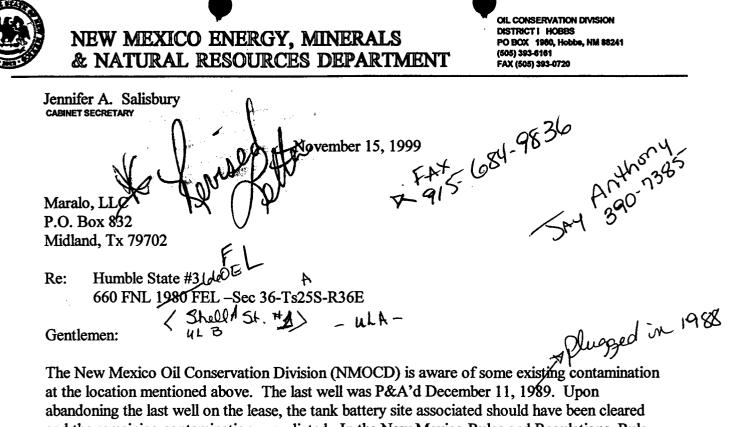
The New Mexico Oil Conservation Division (OCD) recently sampled a water well owned by Mr. Jay Anthony of Jal, New Mexico. The results of these analyses show that the water contains chlorides and total dissolved solids (TDS) in concentrations in excess of the New Mexico Water Quality Control Commission standards. The water well is located on the site of the former Maralo, LLC (Maralo) Humble State #3 Tank Battery located in Unit A, Section 36, Township 25 South, Range 36 East. Adjacent to Mr. Anthony's water well is an area containing contaminated soils at the surface where, according to Mr. Anthony, 4 surface storage tanks were formerly located. Also on the site are 3 former pits containing hydrocarbon materials. Since the contaminants in Mr. Anthony's well may be a result of operation of Maralo's tank battery, the OCD requires that Maralo submit a work plan to determine the extent of contamination related to the Humble State #3 Tank Battery. The plan shall be submitted to the OCD Santa Fe Office by January 22, 2001 with a copy provided to the OCD Hobbs District Office.

If you have any questions or comments, please contact me at (505) 827-7154.

Sincerely.

William C. Olson Hydrologist Environmental Bureau

xc: Chris Williams, OCD Hobbs District Office Jay Anthony



and the remaining contamination remediated. In the New Mexico Rules and Regulations, Rule 202.B (d) states after the completion of plugging operations the operator shall: take such other measures as are necessary or required by the Division to restore the location to a safe and clean condition. Also in Rule 19.B, Abatement Standards and Requirements states that the vadose zone shall be abated so that water contaminants in the vadose zone will not with reasonable probability contaminate ground water or surface water, in excess of the standards through leaching, percolation, or other transport mechanisms, or as the water table elevation fluctuates.

# Due to the contamination at the above referenced location the NMOCD hereby requests for the following:

- 1. Maralo perform vertical and horizontal extent at the above referenced location.
- 2. Maralo perform a site assessment and determine cleanup standards, using the guidelines for assistance.
- 3. Maralo submit to the NMOCD a site assessment and/or a remediation plan by December 1 1999 for approval.
- 4. Provide to NMOCD a verification of the legals of tank battery locations involved. (UL -S-Ts-R)

If you have any further questions, or need any assistance please do not hesitate to write or call me at (505)393-6161 ext...113. Sincerely,

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Donna Williams Environmental Engineer Specialist Cc: Wayne Price; Chris Williams;

Porthea Logan 915-684-7441 Caeled on NOU 17th Caeled will set w

Dec. 19

Turn west off of Jal-Benet - North of Cooper Ranch house --go about I mile - west -Opte - combination is 1301 -Keep going west until hit a T in the road & take a left - then it will take you night to it. -Jory Anthony <sup>Hm##</sup> 395-3264 Landowner - 7 000# 390-7385 \* Humble Water station Southwest Royalties owned by Maralo Southwest Royalties owne it now) There is no sign on unit Sec 36-7255-R36E

MILEAGE

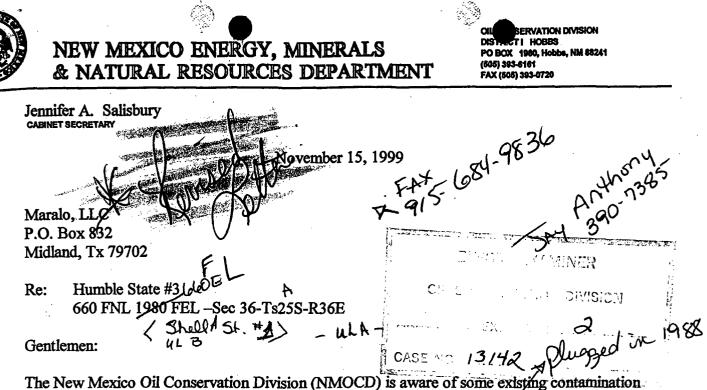
UIC:	
OTHER:	· ·

#### OIL CONSERVATION DIVISION COMPLAINT FORM

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PERSON COMPLAINING: NAME: <u>Say</u> Anthony ADDRESS:	INFORMATION TAKEN BY:         TAKEN BY:       DOMA         DATE: $D0000$ DATE: $D0000$ TIME:          IN PERSON:          BY PHONE:
PHONE: <u>390-7385</u> COMPLAINT: <u>Historical</u> <u>Maralo's</u> COMMENTS: <u>Went to Jal</u> 4	Contamination - Old Lease Locations to pulpum Inspection .
INVESTIGATOR: DONNA Williams DATE: 10-06-99 TIME: 21:00 p.M. DESCRIBE INVESTIGATION AND FINDINGS: <u>That Covered a Largo</u> Standing (Abandoned) pe Old Rusty Tank "IRotted <u>All over Location / Lec</u> <u>Humble state # 9 ColdENEL</u> <u>Humble State # 9 ColdENEL</u> <u>Follows FLOWLINES Running</u> <u>Old MARALO Lecse Plugged</u>	Greas - There is an ssible - Water Flood station (system) Bottoms. Asphalty Material use For = 12 mile. Wells - Sec 36-T= 25S-R3LOE - Contomination To Lease. Also Shell "A' State # 1 & Abandoned in 1988 Contomination
DATE: November 15, 1999 TIME: ACTION TAKEN: Sent Letter Vertical & Horizontal of Co Assessment be performed. 2 Dec. 1 <sup>st</sup> , 1999 held Smith, Dorthea Logan all 3 GARY WINK. Maralo So	requesting a remediation plant- matamination. Requesting a site Received a call From Macolo A conference w/ Joe Pulido - Phillip w/ macolo - myself (Deana williams) will macolo - myself (Deana williams) will macolo - myself (Deana williams) will macolo - myself (Deana williams) will macolo - myself (Deana williams) will macolo - myself (Deana williams) will macolo - myself (Deana williams) will macolo - myself (Deana williams) will macolo - myself (Deana williams)

MILEAGE DEFONSE FORMINER UIC: OL CONSEL . TION DIMISION OTHER: OIL CONSERVATION DIVISION COMPLAINT FORM EXTENT NO. SE NC. 13142 PERSON COMPLAINING: CASE NO. INFORMATION TAKEN BY: TAKEN BY: DONNA Williams Anthony NAME: SAU DATE: 10-06-99 ADDRESS: TIME: IN PERSON: 🗸 🗸 BY PHONE: PHONE: 390 - 7385 Contamination Historical COMPLAINT: maralo's - OH Lease Locations Dont to oulam Inspection COMMENTS: - INVESTIGATION -INVESTIGATOR: DONNA Williams DATE: 10-06-99 TIME:  $\simeq 1!00 \rho. M$ . DESCRIBE INVESTIGATION AND FINDINGS: Old Historical Contamination that cauered a Laroo Orreas 07 Flood Station (System) Dossible - 4 Jater Standing (Abandoned) "IRotted Bottoms, Asobalty MAterial Kustv\_ TANK FAR 2 DIJEC Lease ocation Humble State LOLD FNEI Sac 36 - 73 255-836E ontomination FLOWLINES RUDDING TO Shell "A' State Follows Lease. Also Old MARALO Lease Plugged & Abandoned : N 1988 Contamination Around Well (Historical Contamination) - FOLLOW-UP -DATE: November 15 1999 TIME: -Sont Letter requesting a remediation plan. ACTION TAKEN: Vertical & Horizontal & Contamination. Reguesting Assessment be performed. A CALL From Maralo Received held a conference w/ Joe Pulido  $\approx$ - Dh 1999 Dorthea Looan all WI Maralo - Myself (Donna Williams Smith Said Rule was Not in effect maralo need to have to do anything - The They didn't the is Not Retroactive. - AFter discussion I said I would get back \*ATTACH ADDITIONAL SHEETS, IF NECESSARY W/ them, waiting For Sama Fe w/ them. WAITING FOI SAMA FE



The New Mexico Oil Conservation Division (NMOCD) is aware of some existing contamination at the location mentioned above. The last well was P&A'd December 11, 1989. Upon abandoning the last well on the lease, the tank battery site associated should have been cleared and the remaining contamination remediated. In the New Mexico Rules and Regulations, Rule 202.B (d) states after the completion of plugging operations the operator shall: take such other measures as are necessary or required by the Division to restore the location to a safe and clean condition. Also in Rule 19.B, Abatement Standards and Requirements states that the vadose zone shall be abated so that water contaminants in the vadose zone will not with reasonable probability contaminate ground water or surface water, in excess of the standards through leaching, percolation, or other transport mechanisms, or as the water table elevation fluctuates.

# Due to the contamination at the above referenced location the NMOCD hereby requests for the following:

-Dec. 199.

HOBYLED Logan 915-1084-7441 Caeled on NOU 1774 Will set w

- 1. Maralo perform vertical and horizontal extent at the above referenced location.
- 2. Maralo perform a site assessment and determine cleanup standards, using the guidelines for assistance.
- 3. Maralo submit to the NMOCD a site assessment and/or a remediation plan by December 14, 1999 for approval.
- 4. Provide to NMOCD a verification of the legals of tank battery locations involved. (UL -S-Ts-R)

If you have any further questions, or need any assistance please do not hesitate to write or call me at (505)393-6161 ext...113.

Sincerely,

onna villiamo

Donna Williams Environmental Engineer Specialist Cc: Wayne Price; Chris Williams; OIL CONSERVATION DIVISION

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Hobbs P.O. Box 1980 Hobbs, N.M. 88240	Artesia P.O. Drawer DD Artesia, N.M. 88210	Aztec 1000 Rio Brazos Aztec, N.M. 87410
NOTICE OF GAS WELL: CONNECT	TION RECONNECTION	DISCONNECTION
This to notify the Oil Conse	ervation Division of the fol	lowing:
Connection	First Delivery Date	Initial Potential
Reconnection	First Delivery Date	Initial Potential
Disconnection X		
for delivery of gas from the	MARALO INCORP Operator	PORATED
	HUMBLE STATE # Lease	1,2,3
63-698-01 63698 Meter Code Site Code	01 G Well No. Unit Letter	36–25S–36E S–T–R
	JALMAT-YATES 7 RIVE Pool	IR Illmit inter 7 Rives
was made on December 14, 198 Date AOF	39. (e-)	4964 (U-) see 7 265 71E
Choke       5900       5         ************************************	Robert N. Systems C Representati	7- Rivers (E)
Submit in duplicate to the a Ray McClure Ted Sawyer- Operator James Midki John Somerh Joe Warren-	Production Control M/O Gas Purchases M/O	RECEIVED

	S DEPARTMENT			190:
NO. W COMME ACCES		OIL CONSERVA	TION DIVISION	AFT 30.025-098: Fora C-103 Revised 10-1
SANTA FE		SANTA FE, NEW		AT- Revised 10-1
F1L2				Su. Indicate Type of Lease
LAND OFFICE				State Fee
OPERATOR				
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Name of Operator Address of Cherator	14007			8. Form or Lease Name 1.UMOLE SUATO 6343 9. Well No.
	Nidland, 21 79	<b>7</b> ^2		3. 10.
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EMPORATLY ABANDON		CHANGE PLANS	COMMENCE GHILLING GPHS.	PLUG AND ARANGONMENT
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work) SEE HULE IN		l <mark>learly state all pertinent det</mark>	ails, and give pertinent dutes, incl	uding estimated date of starting any propos
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L.

	Frim C-123 Supersedes Old
NEW MEXICO OIL CONSERVATION COMMISSION	C-102 and C-103 Eliective 1-1-65
s	Sc. Indicate Type of Lease State X Fee
AT DR	S. Stole Oll & Gas Leose No.
SUNDRY NOTICES AND REPORTS ON WELLS	
USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PHOPOSALS.)	7. Unit Agreement Name
LL X GAS OTHER-	8, Farm or Leuse Name
Maralo, Inc.	Humble State
P. O. Box 832, Midland, Texas 79702 0832	3
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	Lea
Check Appropriate Box To Indicate Nature of Notice, Report of Ol NOTICE OF INTENTION TO:	ther Data
M REMEDIAL WORK	ALTERING CASING
TARILY ABANDON COMMENCE DRILLING OPHS.	PLUG AND ABANDOVMENT
ALTER CASING CPANCE PLANS CASING TEST AND CEMENT JOB	
cribe Proposed or Completed Operations (Clearly state all pertinent datails, and give pertinent dates, includin b) SEE RULE 1103.	s estimated date of starting any proposed
1. Set CIBP @ 2700'+ (within 100' of top perforation) w/35' cement on	top to 2680'
<ol> <li>Load hole w/10#/gal mud-laden fluid using 25# gel/bbl.</li> <li>Determine free-point of 7" casing. Cut and pull free casing.</li> </ol>	•
4. If free-point is below 1190', place 100' cement plug across casing 1190', perf 7" casing @ 1240' and squeeze 100' cement outside casi:	cut. If free-point is abo ng & leave 100' cement
inside casing. 5. Set 100' cement plug across 8 5/8" casing shoe. (1240-1140')	
<ul> <li>6. Determine free-point of 8 5/8" casing. Cut and pull free casing.</li> <li>7. If free-point of 8 5/8" casing is below 405', place 100' cement plus</li> </ul>	
If free-point is above 405', perf @455' and squeeze 100' cement ou	ug across casing cut. tside casing & leave
100' cement inside casing. 8. Set 100' cement plug across 10 3/4" surface casing shoe from 355'	
9. Using 10 sacks cement, set surface plug.	
<ol> <li>Remove wellhead, cut off casing &amp; weld plate on casing.</li> <li>Clean up location.</li> </ol>	
2. Place a metal dry hole marker at location, per NMOCC requirements.	
	N MART DE MORTES D'EDALERE FORM R <b>ORK</b>
eby certify that the information above is true and complete to the best of my knowledge and helief.	
Brenda Coloman	DATE 10-16-87
Eddie W. Seav	<b>OCT 2</b> 0 1987
• • • • • • • • • • • • • • • • • • •	DATE

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0, 07 107325 #1111710	Form C-103
DISTRIBUTION	Supersedes Old • C-102 and C-103
NTA FE	Effective 1-1-65
_Ε	
j.G.S.	Sa. Indicate Type of Lease
ND OFFICE	State X Fee,
ERATOR	5. State Oll & Gas Leose No.
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROFOSALS TO CRILL OR TO DELPEN OR PLUC BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)	7. Unit Agreement Name
OIL X GAS CTHER-	
ane of Ciperator	8. Fam or Leuse Name
Maralo, Inc.	Humble State
diress of Operator	9. Well No.
P. O. Box 832, Midland, Texas 79702 0832	3
OCCLION OF Well WHIT LETTER A 660 FEET FROM THE NORTH LINE AND 660 FEET FROM THE	10. Field and Pool, or Wildcat Jalmat Yates 7 Riv.Tan
East 36 25-S 36-E	<i>MANNAN CANA</i>
, [[] [] [] [] [] [] [] [] [] [] [] [] []	12. County
3000' GL	Lea
Check Appropriate Box To Indicate Nature of Notice, Report or Oth NOTICE OF INTENTION TO:	REPORT OF:
FORM REMEDIAL WORK	ALTERING CASING -
IPORARILY ABANDON	PLUG AND ABANDONMENT
L OR ALTER CASING	
CTHER	(
<ul> <li>Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including work) SET ROLE 1103.</li> <li>SITUATION: 7 bad collars. Uneconomical to repair</li> <li>PROPOSAL: Plug and abandon:</li> <li>PROCEDURE: <ol> <li>Notify O.C.C.</li> <li>Set 100' (15sx) cement plug across 7" casing shoe from 2850' to 2950'.</li> <li>Load hole with 10#/gal mud-laden fluid using 25# gel/bbl.</li> <li>Set 100' (15sx) plug across top of Yates from 2686' to 2786'.</li> <li>Set 100' (15sx) cement plug across top of Tansill from 2523' to 2623'.</li> <li>Set 100' (15sx) cement plug across top of salt from 1160' to 1260'.</li> </ol> </li> <li>Set 100' (15sx) cement plug across 10 3/4" surface casing shoe from 358. Using 10 sacks cement, set surface plug.</li> <li>Remove wellhead, cut off casing and weld plate on casing.</li> <li>Using</li> <li>Place a metal dry hole marker at location signifying operators' name, well footage from section boundary.</li> </ul>	WILL NEED TO PERFORMER S9-BIZE NEED TO PERF TURY STRINGS OF PIPE Well location and
hereby certify that the information above is true and complete to the best of my knowledge and belief.	
Brenda Caffman Agent	DATE <u>10-9-86</u>
The second second west and the second	
sice by encycled a time	DATE OF A DEC

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION HOBBS DISTRICT OFFICE



TONEY ANAYA

August 13, 1986

POST OFFICE BOX 1980 HOBBS, NEW MEXICO 88240 (505) 393-6161

Maralo, Inc. Box 832 Midland, TX 79702

Re: Humble State #3-A 36-25-36 Sholes B #2-P 25-25-36 Jalmat Pool

Gentlemen:

You have reported the above-referenced wells as being converted to water supply wells on your C-116, Gas/Oil Ratio Test. Our records do not confirm this.

We show the Sholes B #2 has had an intention to convert to water supply, but no subsequent report has been filed. If this report has been filed with the BLM, please send us a copy.

Also, we have no record of an intention to convert the Humble State #3 to a water supply well. Since this is a state lease this form should be filed with the Oil Conservation. Please file necessary C-103 showing any work done on this well to convert it to a water supply well.

Thank you for your cooperation in keeping our records up-to-date.

Very truly yours,

OIL CONSERVATION DIVISION

Jerry Sexton Supervisor, District I

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NO. OF COPIES RECEIVED		Form C-103
DISTRIBUTION		Supersedes Old .
ANTAFE	NEW MEXICO OIL CONSERVATION COMMISSION	C-102 and C-103 Effective 1-1-65
ILE		
7.5.G.S.		Su. Indicate Type of Lease
AND OFFICE		State X Fee,
PERATOR	· ·	5. State Oll & Gas Leose No.
		A 36 25 36
SUNDRY N (DO NOT USE THIS FORM FOR PROPOSA	OTICES AND REPORTS ON WELLS	
USE "APPLICATION F	OR PERMIT _** (FORM C-101) FOR SUCH PHOPOSALS.)	7. Unit Agreement Name
OIL X CAS C	ОТИ <b>с</b> и-	
Name of Operator		8. Fam or Leuse Name
Maralo, Inc.		Humble State
Address of Operator		9. Well No.
P. O. Box 832, Midland, Te	exas 79702 0832	10. Field and Pool, or Wildcat
<b>C</b>	FEET FROM THE NORTH LINE AND 660 FEET F	
UNIT LETTER,	FEET FROM THE LINE AND FEET F	
THE East LINE SECTION	36 25-5 36-E NN	
	•	
//////////////////////////////////////	15. Elevation (Show whether DF, RT, GR, etc.)	12. County
'IIIIIIIIIIIIIIIII	3000' GL	Lea
Check Appi NOTICE OF INTER	ropriate Box To Indicate Nature of Notice, Report or NTION TO: SUBSEQUE	Other Data
RFORM REMEDIAL WORK	PLUG AND ABANDON REMEDIAL WORK	ALTERING CASING -
MPORARILY ABANDON	COMMENCE DRILLING OPNS.	PLUG AND ABANDONMENT
ILL OR ALTER CASING	CHANGE PLANS CASING TEST AND CEMENT JOB	
	OTHER	
OTHER		
Describe Proposed or Completed Operation work) SEE RULE 1103.	ons (Clearly state all pertinent details, and give pertinent dates, includ	ling estimated date of starting any propos
9-18-81 Ran RBP & RTTS pac dressed for 23# pi Pld. up to 2073'. & went down to 213 & pld. up to 1886'	<ul> <li>top to bottom - found hole @ 2046'. Pld. ou ker on 67 jts. 2 3/8" to 2115'. Stopped. Pl pe on 89 jts. 2 3/8" tbg. Set RBP @ 2807' - Set RTTS packer. Pmpd into formation @ 250</li> <li>6'. Set packer &amp; pressured csg. to 500 psi</li> <li>. Set packer &amp; pressured backside to 500 psi</li> <li>. Set packer &amp; pressured backside to 500 psi</li> <li>. V200 sx Class "C" neat cement w/800 psi.</li> <li>. Job complete.</li> </ul>	d. out of hole. Reran tool tested to 1500 psi - o.k psi 2.5 BPM. Unseated pac - held ok. Released packe . Broke formation down @
Jested casi	ng to 1500 poi for 30 minutes	
-		
I hereby certify that the information above	e is true and complete to the best of my knowledge and belief.	
		0.00.01
10 Inenda Loff	ma Production Clerk	9-22-81
Orig. Signed by		
Jerry Sexton		10.4 T
over av Dist 1 SuDE		

	<i></i> ) =	
OVED BY	Dist 1. S	Sups.
DITIONS OF A	PPPOVAI	

TITLE • •

NO. OF COPIES AFCLIVED			•		Form C-103	
DSTHIBUTION		•		•	Supersedes (	
ANTAFE	NEW MEX	ICO OIL CONSER	VATION COMMISSION	L	C-J02 and C- Effective 1-1	•
ILE						05
.s.g.s.	-1			L. L. L. L. L. L. L. L. L. L. L. L. L. L	a. Indicate Typ	e of Lease
AND OFFICE	-1 .			1	State XX	Fee.
	<sup>1</sup> .	•			S. State Oil & C	as Leose No.
PERATOR	<b>J</b>				A 36 25	
		· · · · · · · · · · · · · · · · · · ·		k	mm	mmm
CO NOT USE THIS FORM FOR USE "APPLI	DRY NOTICES AND R PROPOSALS TO DRILL OR TO C CATION FOR PERMIT - " (FOR	EPORTS ON WI	LLS TO A DIFFERENT RESERVO HOPOSALS.	b		
OIL X GAS				ĺ	7. Unit Agreeme	nt Nam <del>e</del>
Name of Operator	OTHER				B. Farm or Leus	e Nome
Maralo, Inc.	•				Humble Humble	State
Address of Operator				· · ·	a. wen No.	
P. O. Box 832, Midlan	d, Texas 79702	0832	**		3	
Location of Well					10. Field and Pa	-
UNIT LETTERA	660 FEET FROM T	North	LINE AND 660	FEET FROM	<u>almat Yate</u>	s 7 Riv. Tar
				8		MIIIIII
THE LINE, SE	CTION 36	25-S	BANGE 36-E	ныры.		
anna an an an an an an an an an an an an	15. Elevatio	n (Show whether DF	. RT. CR. cic.)		12. County	411111112°
		3000' GL			Lea	
						- annu.
	k Appropriate Box T INTENTION TO:	o Indicate Nati	-		r Dat <mark>a</mark> REPORT OF:	•
<b>—</b>			•	<b>C</b> -1		•
RFORM REMEDIAL WORK	PLUG AT	ND ABANDON	ENEDIAL WORK		ALTER	ING CASING
MPCRARILY ABANDON			OMMENCE DRILLING OPHS.	Ц	PLUG	ND ABANDONMENT
LL OR ALTER CASING	CHANGE	PLANS C	ASING TEST AND CEMENT JO			
			07HER			[
01HER						
						<u>-</u>
Describe Proposed or Completed work) SEE RULE 1103.	Operations (Crearly state)	ali perlinent actaits,	, and give pertisent onles	s, inclucing es	timatea aate oj	starting any propos
PROPOSED OPERATION: E	VALUATE YATES FOR	GAS				
Set RBP near 2838', s RU perforators w/4" c 2739' to 2824' (22 ho Run tbg. w/7" csg. pa	arrier gun, premi bles). ucker to set near	um charges a	nd shoot Top to id treat Yates p	Bottom w	∕one ½" JS	PF from
acid in 5 - 500 gal s	tages w/10 ball s	ealers betwe	en stages.			
Shut in, record press	ures and evaluate	<b>!•</b>				
	5				<i>.</i> .	
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				•		· .
						•
I hereby certify that the informati	on above is true and compl	ete to the best of my	knowledge and belief.	χ.		
	<u>۵</u>					
co Idrenda (	optima-	TITLE Pro	oduction Clerk		DATE <u>9-22</u>	-81
			· · · · · · · · · · · · · · · · · · ·			
	g. Signed by			-		001
07ED BY T.	s Clements	TITLE			DATE	<u> </u>
DITIONS OF APPROVAL, IF						

TraceAnalysis, Inc.	6701	an Ave., S	Suite 9	Lubbock, T	494-1515	(806) 794-1296
Report Date: July SEC36-255-36E		oer: A0105043 ony Ranch	2			Number: 1 of SEC 36-255-36
		Sum	amary Rep	ort		
	L'ECTREMPTOR	Real-				
Wayne Price OCD		BEFORE	EXAMINER		Report Date:	July 5, 2001
220 S. Saint Franc Santa Fe, NM 87504		DIL CONSER	VATION DIVISIO	N à	Order ID Number:	A01050432
Project Number:	SEC36-255 36E		BIT NO. <u>3</u>	i i i i i i i i i i i i i i i i i i i		
Project Name:	J. Anthony Banch SEC 36-255-36E	NO	3142			
				Date	Time	Date
ample	Description	Matri		Taken	Taken	Received
70563	0105021700	Soil		$\frac{1}{2}$ /01	17:00	5/4/01
70564	0105021700	Soil		/2/01	17:00	5/4/01
70565	0105021720	Soil		/2/01	17:00	5/4/01
70566	0105021800	Soil		/2/01	17:00	5/4/01
70567	0105021830	Soil	,	/2/01	17:00	5/4/01
70568	0105021900	Soil	,	/2/01	17:00	5/4/01
				immary of result	ts for the sample(s)	
	Benzene	Toluene	BTEX Ethylbenzene	M,P,O-Xylene	Total BTEX	TPH TRPHC
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	M,P,O-Xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH TRPHC (mg/Kg)
Sample - Field Code 170563 - 0105021700	Benzene (mg/Kg) ) <0.013	Toluene	BTEX Ethylbenzene	M,P,O-Xylene	Total BTEX	TPH TRPHC
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013	Toluene (mg/Kg) <0.013 <0.013 <0.013	BTEX Ethylbenzene (mg/Kg) <0.013	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013	Total BTEX (mg/Kg) 0.685 <0.013 <0.013	TPH TRPHC (mg/Kg) 35700 7500 23900
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021800	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.013	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013	• Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021800 170566 - 0105021830	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021800 170567 - 0105021830	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.013	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013	• Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021800 170567 - 0105021830	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021800 170567 - 0105021830	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021830 170568 - 0105021900 170568 - 0105021900 ample: 170563	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025 1.06 3 - 0105021700	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021830 170568 - 0105021830 170568 - 0105021900 ample: 170563 ample: 170563	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025 1.06	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1 Result	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021830 170568 - 0105021830 170568 - 0105021900 ample: 170563 ample: 170563	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025 1.06 3 - 0105021700	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021830 170568 - 0105021830 170568 - 0105021900 ample: 170563 aram	Benzene (mg/Kg) ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.013 ) <0.025 1.06 3 - 0105021700	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1 Result	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021800 170566 - 0105021800 170568 - 0105021900 ample: 170563 ample: 170563 ample: 170564	Benzene (mg/Kg) ) <0.013 (0.013) (0.013) (0.013) (0.013) (0.025) 1.06 3 - 0105021700 Flag	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1 Result <10	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500 16500
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Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021720 170566 - 0105021800 170568 - 0105021800 170568 - 0105021900 ample: 170563 aram	Benzene (mg/Kg) ) <0.013 (0.013) (0.013) (0.013) (0.013) (0.025) 1.06 3 - 0105021700 Flag	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1 Result <10	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500 16500
Sample - Field Code 170563 - 0105021700 170564 - 0105021720 170565 - 0105021800 170567 - 0105021800 170568 - 0105021900 ample: 170568 aram L ample: 170564 aram L	Benzene (mg/Kg) (0.013 (0.013) (0.013) (0.013) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.013) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.013) (0.025) (0.025) (0.025) (0.025) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025)	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1 Result <10	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500 16500
Sample - Field Code 170563 - 0105021700 170564 - 0105021710 170565 - 0105021800 170567 - 0105021830 170568 - 0105021900 ample: 170563 ample: 170564 aram L ample: 170564 ample: 170564	Benzene (mg/Kg) (0.013 (0.013) (0.013) (0.013) (0.025)	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1 Result <10	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500 Jnits g/Kg
Sample - Field Code 170563 - 0105021700 170564 - 0105021720 170565 - 0105021800 170567 - 0105021800 170568 - 0105021900 ample: 170563 aram L ample: 170564 aram L	Benzene (mg/Kg) (0.013 (0.013) (0.013) (0.013) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.013) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.025) (0.013) (0.025) (0.025) (0.025) (0.025) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025) (0.013) (0.025)	Toluene (mg/Kg) <0.013 <0.013 <0.013 <0.025 2	BTEX Ethylbenzene (mg/Kg) <0.013 <0.013 <0.013 <0.025 <0.1 Result <10	M,P,O-Xylene (mg/Kg) 0.685 <0.013 <0.013 <0.013 <0.025	Total BTEX (mg/Kg) 0.685 <0.013 <0.013 <0.025 3.06	TPH TRPHC (mg/Kg) 35700 7500 23900 <10.0 20900 16500 Jnits g/Kg

TraceAnalysis, Inc.	6701 Acceleen Ave., Suite 9	Lubbock, TX 24-1515	(806) 794-1296
SEC36-255-36E	01Order Number: A01050432 J. Anthony Ranch		Page Number: 2 of 2 SEC 36-255-36E
Sample: 170566 -			
Param	Flag	Result	Units
CL		<50	mg/Kg
Sample: 170567 -	0105021830		
Param	Flag	Result	Units
CL		<50	mg/Kg

Sample: 170568 - 0105021900

Dample, 170000 - 010002	1300		
Param	Flag	Result	Units
Hydroxide Alkalinity	· · · · · · · · · · · · · · · · · · ·	<1.0	mg/Kg as CaCo3
Carbonate Alkalinity		<1.0	mg/Kg as CaCo3
<b>Bicarbonate Alkalinity</b>		138	mg/Kg as CaCo3
Total Alkalinity		138	mg/Kg as CaCo3
Specific Conductance		675	$\mu$ MHOS/cm
Total Mercury		<0.19	mg/Kg
CL		<50	mg/Kg
Fluoride		9.11	mg/Kg
Nitrate-N		<5.0	mg/Kg
Sulfate	•	106	mg/Kg
Dissolved Calcium		14.3	mg/Kg
Dissolved Magnesium		8.30	mg/Kg
Dissolved Potassium	· .	9.47	mg/Kg
Dissolved Sodium		38.8	mg/Kg
Total Dissolved Solids		27900	mg/Kg
Total Arsenic		<5	mg/Kg
Total Barium		14.8	mg/Kg
Total Cadmium		<2	mg/Kg
Total Chromium		<5	mg/Kg
Total Lead		<5	mg/Kg
Total Selenium		<5	mg/Kg
Total Silver	. ·	<1	mg/Kg
pH	•	. 8.7	s.u.

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6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H

Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79932 888 • 588 • 3443 E-Mail: lab@traceanalysis.com

806 • 794 • 1296 FAX 806 • 794 • 1298 915•585•3443

FAX 915•585•4944

### Analytical and Quality Control Report

Wayne Price OCD 1220 S. Saint Francis Dr. Santa Fe, NM 87504

Report Date:

July 5, 2001

Order ID Number: A01050432

SEC36-255-36E **Project Number:** Project Name: J. Anthony Ranch Project Location: SEC 36-255-36E

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

-			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
170563	0105021700	Soil	5/2/01	17:00	5/4/01
170564	0105021710	Soil	5/2/01	17:00	5/4/01
170565	0105021720	Soil	5/2/01	17:00	5/4/01
170566	0105021800	Soil	5/2/01	17:00	5/4/01
170567	0105021830	Soil	5/2/01	17:00	5/4/01
170568	0105021900	Soil	5/2/01	17:00	5/4/01

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 18 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director



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## **Analytical Report**

Sample:	17056	3 - 0105021700					
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC11133	Date Analyzed:	5/11/01
Analyst:	JW	Preparation Method	: E 5030B	Prep Batch:	PB09536	Date Prepared:	5/11/01
Param		Flag	Result	Units		Dilution	RDL
Benzene			<0.013	mg/Kg		13	0.001
Toluene			<0.013	mg/Kg		13	0.001
Ethylbenze	ne		<0.013	mg/Kg		13	0.001
M,P,O-Xyle	ene		0.685	mg/Kg		13	0.001
Total BTE	X	·	0.685	mg/Kg		13	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	0		ng/Kg	13	0.10	85	72 - 128
4-BFB	"– <del>.</del> .		ng/Kg	13	0.10	78	72 - 128
					•		
Sample:	170563	3 - 0105021700					
Analysis:		matography (IC) Analyt				QC11235 Date Analyz	
Analyst:	JS	Prepar	ation Metho	od: N/A Pre	p Batch: 1	PB09622 Date Prepar	ed: 5/9/01
Param	Flag	Result	Units	Dilution		·	RDL
CL		<10	mg/Kg	1			0.50
Sample: Analysis: Analyst:	<b>170563</b> ТРН ЈЈ	<b>3 - 0105021700</b> Analytical Method: Preparation Method:	E 418.1 N/A	QC Batch: Prep Batch:	QC11015 PB09454	Date Analyzed: Date Prepared:	5/8/01 5/5/01
Param	F	Flag Result		Units	Dilut	ion	RDL
<b>FRPHC</b>		35700		mg/Kg	1		10
						<u></u>	** <del>**</del> ***
Sample:	170564	- 0105021710			•		5. 
Analysis:		Analytical Method:	0 00010	OC Databa	0011122	Data Analyzadi	E /11 /01
Analysis:	BTEX JW	Preparation Method:	S 8021B E 5030B	QC Batch: Prep Batch:	QC11133 PB09536	Date Analyzed: Date Prepared:	5/11/01 5/11/01
aram		Flag I	Result	Units		Dilution	RDL
Benzene			(0.013	mg/Kg		13	0.001
loluene			0.013	mg/Kg		13	0.001
thylbenzen	e		:0.013	mg/Kg		13	0.001
I,P,O-Xyler			:0.013	mg/Kg		13	0.001
otal BTEX			0.013	mg/Kg		13	0.001
					<b>a</b> .:		5
					Spike	Percent	Recovery
L 4			T	70 13 . · ·	A .		
urrogate	Flag		Jnits	Dilution	Amount	Recovery	Limits
urrogate FT -BFB	Flag	1.36 m	Jnits g/Kg g/Kg	Dilution 13 13	Amount 0.10 0.10	Recovery 104 91	Limits 72 - 128 72 - 128

te: July 5, 2 -36E	2001	<b>i</b> .	umber: A010504 nthony Ranch	32		mber: 3 of 18 C 36-255-36E
	natography (IC) Ana	-			QC11235 Date Analy PB09622 Date Prepar	
Flag	Result	Units	Dilution			RDL
	<10	mg/Kg	1		· · · · · · · · · · · · · · · · · · ·	0.50
<b>170564</b> ТРН ЈЈ	Analytical Method:		QC Batch: Prep Batch:	QC11015 PB09454	Date Analyzed: Date Prepared:	5/8/01 5/5/01
F	lag Res	ult	Units	Dilu	ition	RDL
		500	mg/Kg		1	10
<b>170565</b> BTEX JW	Analytical Method		QC Batch: Prep Batch:	•		5/11/01 5/11/01
	Flag	Result	Units		Dilution	RDL
		<0.013	mg/Kg		13	0.001
			mg/Kg		13	0.001
e						0.001
						$\begin{array}{c} 0.001 \\ 0.001 \end{array}$
Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
						72 - 128 72 - 128
	- 0105021720 atography (IC) Anal	ytical Method:	E 300.0 QC	Batch: (	QC11235 Date Analyze	ed: 5/15/01
Flag	Result	Units	Dilution		. •	$\mathbf{RDL}$
<u>_</u>	<10	mg/Kg	1			0.50
	170564 Ion Chron JS Flag 170564 TPH JJ F 170565 BTEX JW e he Flag 170565 Ion Chrom JS	170564 - 0105021710Inor Chromatography (IC) AnallyJS PresidentFlag ResultFlag Result170564 - 0105021710TPH Analytical Method:JJ Preparation Method:JJ Preparation Method:Flag ResultTotofo5 - 0105021720BTEX Analytical MethodJW Preparation MethodJW Preparation MethodFlage170565 - 0105021720BTEX Analytical MethodJW Preparation MethodFlagPrep170565 - 0105021720Inon Chromatography (IC) AnallyJS Prep	IT0564 - 0105021710Ion Chromatography (IC) Analytical MethodJSPreparation MethodFlagResultUnits $<10$ mg/Kg170564 - 0105021710TPHTPHAnalytical Method:E 418.1JJPreparation Method:N/AFlagResult75007500I70565 - 0105021720BTEXAnalytical Method:S 8021BJWPreparation Method:E 5030BFlagResult<0.013	IT0564 - 0105021710         Inor Chromatography (IC) Analytical Method: E 300.0 QQ         JS       Preparation Method: N/A       Preparation Method: N/A       Preparation Method: N/A       Preparation         IT0564 - 0105021710         TPH       Analytical Method: E 418.1       QC Batch:         JJ       Preparation Method: N/A       Prep Batch:         Flag       Result       Units         T70565 - 0105021720         BTEX       Analytical Method: S 8021B       QC Batch:         JW       Preparation Method: E 5030B       Prep Batch:         JW       Preparation Method: E 5030B       Prep Batch:               ge       <0.013	170564 - 0105021710Inor Chromatography (IC) Analytical Method: E 300.0 QC Batch:JSPreparation Method: N/APrep Batch:FlagResultUnitsDilution<10	170564 - 0105021710         In Chromatography (IC) Analytical Method: N/A Prep Batch: PB09622 Date Preparation Method: N/A Prep Batch: PB09622 Date Preparation Method: N/A Prep Batch: PB09622 Date Preparation Method: N/A Prep Batch: PB09622 Date Preparation Method: E 418.1 QC Batch: QC11015 Date Analyzed: JJ Preparation Method: N/A Prep Batch: PB09454 Date Prepared:         Flag       Result       Units       Dilution         170564 - 0105021710       TPH Analytical Method: E 418.1 QC Batch: QC11015 Date Analyzed: JJ Preparation Method: N/A Prep Batch: PB09454 Date Prepared:       Tate Analyzed: Date Prepared: Date Prepared: PIag         Result       Units       Dilution         7500       mg/Kg       1         170565 - 0105021720         BTEX       Analytical Method: S 8021B       QC Batch: PB09536 Date Analyzed: JW Preparation Method: E 5030B         JW       Preparation Method: S 001B       Prep Batch: PB09536 Date Prepared: Piag          <0.013

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Report D SEC36-25	ate: July 5, 5-36E	2001		umber: A010504 nthony Ranch	32		nber: 4 of 18 C 36-255-36E
Sample		6 - 0105021800	) <sup>.</sup> .				
Analysis: Analyst:	BTEX JW	Analytical Mether Preparation Met		QC Batch: Prep Batch:	QC11133 PB09536	•	5/11/01 5/11/01
Param		Flag	Result	Units		Dilution	RDL
Benzene			< 0.013	mg/Kg		13	0.001
Toluene			<0.013	mg/Kg		13	0.001
Ethylbenz			<0.013	mg/Kg		13	0.001
M,P,O-Xy			< 0.013	mg/Kg		13	0.001
Total BTE		<b></b>	<0.013	mg/Kg	· · · · · · · · · · · · · · · · · · ·	13	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		1.3	mg/Kg	13	0.10	100	72 - 128
4-BFB		1.16	mg/Kg	13	0.10	89	72 - 128
Sample: Analysis: Analyst:		<b>5 - 0105021800</b> natography (IC) Ar Pr				QC11235 Date Analyz PB09622 Date Prepar	• •
Param	Flag	Result	Units	Dilution			RDL
	1.195		Units	1 7 1 1 1 1 1 1 1 1 1 1 1			
	Flag	<50	mg/Kg	5			0.50
CL Sample: Analysis: Analyst:	170566 TPH JJ	<50 - 0105021800 Analytical Method Preparation Method	mg/Kg d: E 418.1 od: N/A	5 QC Batch: Prep Batch:	QC11015 PB09454 Dilut	Date Analyzed: Date Prepared: ion	0.50 5/8/01 5/5/01
CL Sample: Analysis: Analyst: Param	170566 TPH JJ	<50 - 0105021800 Analytical Method Preparation Method lag Re	mg/Kg l: E 418.1	5 QC Batch: Prep Batch: Units	•	Date Prepared:	0.50
Sample: Analysis: Analyst: Param TRPHC Sample: Analysis:	170566 TPH JJ	<50 - 0105021800 Analytical Method Preparation Method lag Re	mg/Kg d: E 418.1 od: N/A esult 10.0 d: S 8021B	5 QC Batch: Prep Batch:	PB09454 Dilut	Date Prepared:	0.50 5/8/01 5/5/01 RDL
Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analysis: Analysis:	170566 TPH JJ F 170567 BTEX	<50 Analytical Method Preparation Method "lag Reference of the second	mg/Kg d: E 418.1 od: N/A esult 10.0 d: S 8021B od: E 5030B	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch:	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared:	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01
Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analysis: Analysis: Analyst: Param	170566 TPH JJ F 170567 BTEX	<50 Analytical Method Preparation Method Nethod	mg/Kg d: E 418.1 od: N/A esult 10.0 d: S 8021B od: E 5030B Result	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared: Dilution	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01 RDL
Sample: Analysis: Analyst: Param TRPHC Sample: Analysis:	170566 TPH JJ F 170567 BTEX	<50 Analytical Method Preparation Method "lag Reference of the second	mg/Kg d: E 418.1 od: N/A esult 10.0 d: S 8021B od: E 5030B	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared:	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01
Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analysis: Analysis: Analyst: Param Benzene Coluene	170566 TPH JJ F 170567 BTEX JW	<50 Analytical Method Preparation Method "lag Reference of the second	mg/Kg d: E 418.1 od: N/A esult 10.0 d: S 8021B od: E 5030B Result <0.025	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared: <u>Dilution</u> 25	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01 RDL 0.001
CL Sample: Analysis: Analysis: Analyst: Param CRPHC Sample: Analysis: Analys	170566 TPH JJ F 170567 BTEX JW	<50 Analytical Method Preparation Method "lag Reference of the second	mg/Kg           d:         E 418.1           od:         N/A           esult         10.0           d:         S 8021B           od:         E 5030B           Result         <0.025	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared: Dilution 25 25	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01 8.DL 0.001 0.001
CL Sample: Analysis: Analysis: Analyst: Param CRPHC Sample: Analysis: Analys	170566 TPH JJ F 170567 BTEX JW	<50 Analytical Method Preparation Method "lag Reference of the second	mg/Kg           d:         E 418.1           od:         N/A           esult         10.0           d:         S 8021B           od:         E 5030B           Result         <0.025	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared: Dilution 25 25 25	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01 RDL 0.001 0.001 0.001
CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene Foluene Ethylbenzen (,P,O-Xyle Total BTE)	170566 TPH JJ F 170567 BTEX JW	<50 Analytical Method Preparation Method lag Re - 0105021830 Analytical Method Preparation Meth Flag	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared: Dilution 25 25 25 25 25 25 25 25 25	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01 5/11/01 8.001 0.001 0.001 0.001 0.001 0.001 0.001 8.covery
CL Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analysis: Analysis: Analyst: Param Benzene Coluene Chylbenzen (J,P,O-Xyle Cotal BTEX Uurrogate	170566 TPH JJ F 170567 BTEX JW	<50 Analytical Method Preparation Method	mg/Kg         d:       E 418.1         pd:       N/A         esult       10.0         d:       S 8021B         od:       E 5030B         Result       <0.025	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB09454 Dilut 1 QC11133 PB09536 Spike Amount	Date Prepared: ion Date Analyzed: Date Prepared: Dilution 25 25 25 25 25 25 25 25 25	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01 5/11/01 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 8.ecovery Limits
Sample: Analysis: Analysis: Analyst: Param TRPHC Sample: Analysis:	170566 TPH JJ F 170567 BTEX JW	<50 Analytical Method Preparation Method lag Re - 0105021830 Analytical Method Preparation Meth Flag	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB09454 Dilut 1 QC11133 PB09536	Date Prepared: ion Date Analyzed: Date Prepared: Dilution 25 25 25 25 25 25 25 25 25	0.50 5/8/01 5/5/01 RDL 10 5/11/01 5/11/01 5/11/01 8.RDL 0.001 0.001 0.001 0.001 0.001 0.001 0.001

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Report Da SEC36-25	ate: July 5, 2 5-36E	2001		umber: A0105043 uthony Ranch	32	_	nber: 5 of 1 36-255-361
Sample: Analysis: Analyst:		<b>- 0105021830</b> natography (IC) An Pr			•	C11235 Date Analyz 309622 Date Prepar	
Param	Flag	Result	Units	Dilution			RDL
CL		<50	mg/Kg	5			0.50
Sample: Analysis: Analyst:	170567 TPH JJ	– 0105021830 Analytical Method Preparation Metho		QC Batch: Prep Batch:	QC11015 PB09454	Date Analyzed: Date Prepared:	5/8/01 5/5/01
Param	F	0	esult	Units	Dilutio	n	RDL
TRPHC		2(	0900	mg/Kg	1		10
Sample: Analysis: Analyst:	<b>170568</b> Alkalinity RS	- 0105021900 Analytical Met Preparation Me		QC Batch: Prep Batch:	QC11295 PB09662	Date Analyzed: Date Prepared:	5/17/01 5/17/01
Param		Flag	Result	Un		Dilution	RDL
Iydroxide	-		<1.0	mg/Kg a		1	1
Carbonate Bicarbonat	e Alkalinity		<1.0 138	mg/Kg a mg/Kg a		1 1	1
Total Alkal	-		138	mg/Kg a		1	1
Sample: Analysis: Analyst:	<b>170568</b> BTEX JW	- 0105021900 Analytical Method Preparation Meth		QC Batch: Prep Batch:	QC11133 PB09536	Date Analyzed: Date Prepared:	5/11/01 5/11/01
Param		Flag	Result	Units		ution	RDL
Benzene Foluene			1.06	mg/Kg		00	0.001
Ethylbenze	ne		2 < 0.1	mg/Kg mg/Kg		00 00	$0.001 \\ 0.001$
A,P,O-Xyle			<0.1	mg/Kg		00	0.001
otal BTE	Κ		3.06	mg/Kg	. 1	00	0.001
				·	0.1	<b>D</b> /	۰. ۲
urrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
FT	* 1008	9.63	mg/Kg	100	0.10	<u>96</u>	72 - 128
-BFB		11.1	mg/Kg	100	0.10	111	72 - 128
ample:	170568	- 0105021900					
nalysis: nalyst:	Conductivit JS			10B QC Batch Prep Batc	-	•	5/9/01 5/9/01
				•			
aram		Flag	Result	Unit	s	Dilution	RDL

Report D SEC36-25	ate: July 5, 2 55-36E	2001		mber: A010504 thony Ranch	132		nber: 6 of 12 36-255-361
Sample Analysis: Analyst:	: 170568 Hg, Total SSC	- 0105021900 Analytical Meth Preparation Met		QC Batch Prep Batc	-	•	5/10/01 5/10/01
Param		Flag	Result	Units	Dil	ution	RDL
Total Mer	cury		<0.19	mg/Kg		1	0.19
Sample: Analysis: Analyst:		- 0105021900 hatography (IC) Ana Prep	lytical Method paration Metho			C11178 Date Analyz B09567 Date Prepar	
Param	Flag	Result	Units	Dilution			RDL
CL		<50	mg/Kg	5	-		0.50
Fluoride		9.11	mg/Kg	5			0.20
Vitrate-N Sulfate		< 5.0 106	mg/Kg mg/Kg	5 5			0.20 0.50
Sample: Analysis: Analyst:	Salts A	- 0105021900 Analytical Method: Preparation Method:	S 6010B E 3005 A	QC Batch: Prep Batch:	QC12373 PB10481	Date Analyzed: Date Prepared:	6/27/01 6/27/01
aram		Flag	Result	τ	Units	Dilution	RDL
issolved (		<u> </u>	14.3		g/Kg	1	0.50
issolved N issolved F	Magnesium		8.30 9.47		g/Kg m/Km	1 1	0.50 0.50
issolved F			38.8		g/Kg g/Kg	1	0.50
ample: .nalysis: .nalyst:	TDS A	- 0105021900 Analytical Method: Preparation Method:	· · ·	QC Batch: Prep Batch:	QC11259 PB09621	Date Analyzed: Date Prepared:	5/16/01 5/15/01
aram otal Disso	lved Solids	Flag	Result 27900		Jnits g/Kg	Dilution 20	RDL 10
			21300		6/118	20	<u>ू</u> हेर्नु
	170500	0105001000			•		થ. રાવ્યું -
ample: nalysis:		- 0105021900 Analytical Method:	E 418.1	QC Batch:	QC11015	Date Analyzed:	5/8/01
nalyst:		Preparation Method		Prep Batch:	PB09454	Date Prepared:	5/5/01
aram	Fla	ng Resu	lt	Units	Dilutio	n	RDL
RPHC		1650	00	mg/Kg	1		10
ample:	170568 -	- 0105021900		3 QC Batch	: QC11123	Date Analyzed:	5/12/01

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Report Date: July 5, 2001 SEC36-255-36E			Order Number: A01050432 J. Anthony Ranch		Page Number: 7 of 18 SEC 36-255-36E
Continued Sampl Param	e: 170568 Analy Flag	vsis: Total Metals Result	Units	Dilution	RDL
Param	Flag	Result	Units	Dilution	RDL
Total Arsenic		<5	mg/Kg	1	5
Total Barium		14.8	mg/Kg	1	5
Total Cadmium		<2	mg/Kg	1	2
Total Chromium		<5	mg/Kg	1	5
Total Lead		<5	mg/Kg	1	5
Total Selenium		<5	mg/Kg	1	5
Total Silver		<1	mg/Kg	1	1

### Sample: 170568 - 0105021900

Analysis: Analyst:	pH RS		al Method: ion Method:	E 150.1 N/A	QC Batch: Prep Batch:	QC11251 PB09627	Date Analyzed: Date Prepared:	5/9/01 5/9/01
Param		Flag	Resul	t	Units	Dilution		RDL
pH			8.	7	s.u.	1	-	1

Report Date: July 5, 2001 SEC36-255-36E



# Quality Control Report Method Blank

Method Blank	QCBatch:	QC11015	, ·	
Param	Flag	Results	Units	Reporting Limit
TRPHC		<10.0	mg/Kg	10
Mothod Blank	OCPatab	0011000		

#### Method Blank QCBatch: QC11082

				Reporting
Param	Flag	Results	Units	Limit
Total Mercury		<0.19	mg/Kg	0.19

#### Method Blank QC

			· · ·	Reporting
Param	Flag	Results	$\dot{\mathbf{U}}\mathbf{nits}$	Limit
Total Arsenic	· · · · · · · · · · · · · · · · · · ·	<5	mg/Kg	5
Total Barium		<5	mg/Kg	5
Total Cadmium		<2	mg/Kg	2
Total Chromium	•	<5	mg/Kg	5
Total Lead		<5	mg/Kg	5
Total Selenium		<5	mg/Kg	5
Total Silver		<1	mg/Kg	1
		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·

### Method Blank

QCBatch: QC11133

Param	Flag	Results	Units	Reporting Limit
Benzene	······································	<0.013	mg/Kg	0.001
Toluene		<0.013	mg/Kg	0.001
Ethylbenzene	·	<0.013	mg/Kg	0.001
M,P,O-Xylene		<0.013	mg/Kg	0.001
Total BTEX		<0.013	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.27	mg/Kg	13	0.10	97	72 - 128
4-BFB		1.11	mg/Kg	13	0.10	85	72 - 128

### Method Blank

QC11178

QCBatch:

Report Date: July 5, 2001 SEC36-255-36E			Number: A0105043 Anthony Ranch	2	Page Number: 9 of 18 SEC 36-255-36E
					Reporting
Param	Flag	R	esults	Units	Limit
CL			2.91	mg/Kg	0.50
Fluoride			<1.0	mg/Kg	0.20
Nitrate-N			<1.0	mg/Kg	0.20
Sulfate			7.89	mg/Kg	0.50
Method Blank	QCBatch:	QC11189			
Param	Flag		Results	Units	Reporting Limit
Specific Conductance	1106		6.77	μMHOS/cm	
specific Conductance					
Method Blank	QCBatch:	QC11235			
					Reporting
	Flag	Res		Units	Limit
			2.99	mg/Kg	0.50
	· .				
		0.011050			
Method Blank	QCBatch:	QC11259			
D	Flag		Results	Units	Reporting
Param Total Dissolved Solids	Flag		<10	mg/Kg	Limit 10
				M6/116	
		O CHAONE			
Method Blank	QCBatch:	QC11295			,
					Reporting
aram	Flag	F	lesults	Units	Limit
Iydroxide Alkalinity			<1.0	mg/Kg as CaCo3	1
Carbonate Alkalinity			<1.0	mg/Kg as CaCo3	1
Bicarbonate Alkalinity			<4.0	mg/Kg as CaCo3	1
otal Alkalinity			<4.0	mg/Kg as CaCo3	1
			<u></u>	<u></u>	<u></u>
Mothod Plank		0/110070			
Method Blank	QCBatch:	QC12373			
					Reporting
aram	Flag		Results	Units	Limit
issolved Calcium			<0.5	mg/L	0.50
issolved Magnesium			<0.5	m mg/L	0.50
issolved Potassium			<0.5	mg/L	0.50
issolved Sodium		•	<0.5	m mg/L	0.50

Duplicate Samples

	Report Date: July 5, 2001		्रेड्) ( —	Order Numb J. Antho	er: A01050 ony Ranch			Page Number: 10 of 12 SEC 36-255-36		
Duplic	ate	QCBatch:	QC11189							
Param		Flag	Duplicate Result	Sample Result	U	nits	Dilution	RPD	RPD Limit	
Specific C	onductance		2875	2870	$\mu MH$	OS/cm	1	0	6.1	
									×	
Duplic	ate	QCBatch:	QC11251	•						
n		Duplicate		mple	TT •/	Dila	<b>т</b>	מתי	RPD Limit	
Param	Flag	Result		sult	Units	Dilut	ion F	PD	Limit	
pH		7.5		<u>.5</u>	s.u.	I		0	0.85	

Duplicate	QCBatch:	QC11295					
		Duplicate	Sample				RPD
Param	Flag	$\mathbf{Result}$	Result	Units	Dilution	RPD	Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/Kg as CaCo3	1	0	7
Carbonate Alkalinity		<1.0	<1.0	mg/Kg as CaCo3	1	0	7
Bicarbonate Alkalinity	1	22	16	mg/Kg as CaCo3	1	31	7
Total Alkalinity		22	16	mg/Kg as CaCo3	1	31	7

# Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC11015

					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	$\mathbf{Limit}$
TRPHC	276	252	mg/Kg	1	250	<10.0	110	9	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC11082

					Spike					
	LCS	LCSD			Amount	Matrix		•	% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Total Mercury	2.55	2.55	mg/Kg	1	2.50	<0.19	102	0	83 - 124	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC11123

<sup>1</sup>Sample RPD was above acceptable control limits

Report Date: Ju SEC36-255-36E					mber: A010 hthony Ranc			Pa	ge Number: SEC 36-	11 of 18 255-36E
Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Total Arsenic	60.60	61.20	mg/Kg	1	50	<5	121	0	80 - 120	20
Total Barium	110	111	mg/Kg	1	100	<5	110	0	80 - 120	20
Total Cadmium	27.3	27.40	mg/Kg	1	25	<2	109	0	80 - 120	20
Total Chromium	11 <sup>-</sup>	11	mg/Kg	1	10	<5	110	0	80 - 120	20
Total Lead	55.4	55.1	mg/Kg	1	50	<5	110	0	80 - 120	20
Total Selenium	48.50	48.3	mg/Kg	1	50	<5	97	0	80 - 120	20
Total Silver	<sup>2</sup> 4.57	4.64	mg/Kg	1	12.50	<1	36	1	80 - 120	20

Laboratory Control Spikes QCBatch: QC11133

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.28	1.19	mg/Kg	13	0.10	< 0.013	98	7	80 - 120	20
Benzene	1.33	1.29	mg/Kg	13	0.10	<0.013	102	3	80 - 120	20
Toluene	1.25	1.23	mg/Kg	13	0.10	<0.013	96	1	80 - 120	20
Ethylbenzene	1.22	1.2	mg/Kg	13	0.10	<0.013	93	1	80 - 120	20
M,P,O-Xylene	3.7	3.62	mg/Kg	13	0.30	< 0.013	94	2	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	1.3	1.25	mg/Kg	13	0.10	100	96	72 - 128
4-BFB	1.23	1.19	mg/Kg	13	0.10	94	91	72 - 128

Laboratory Control Spikes

QCBatch: QC11178

					Spike				,	
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Bromide	2.59	2.61	mg/Kg	1	2.50	<1.0	103	0	90 - 110	20
$\mathbf{CL}$	<sup>3</sup> 14.16	<sup>4</sup> 14.21	mg/Kg	1	12.50	2.91	113	0	90 - 110	20
Fluoride	<sup>5</sup> 2.73	<sup>6</sup> 2.73	mg/Kg	1	2.50	<1.0	109	0	90 - 110	20
Nitrate-N	<sup>7</sup> 2.56	<sup>8</sup> 2.55	mg/Kg	1	2.50	<1.0	102	. 0	90 - 110	. 20
Sulfate	<sup>9</sup> 19.71	10 20.02	mg/Kg	1	12.50	7.89	157	1	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

- <sup>4</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 90.
- <sup>5</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 109.  $^{6}$ Sample master doesn't subtract the blank from the spikes. The correct %EA = 109.
- <sup>7</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 102.
- <sup>8</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 102.
- <sup>9</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 95.
- <sup>10</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 97.

<sup>&</sup>lt;sup>2</sup>Matrix spike and LCS recoveries were low on Ag due to the Ag falling out of solutions.

<sup>&</sup>lt;sup>3</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 90.

÷ .	Date: July 5. 255-36E			Date: July 5, 2001Order Number: A0105043255-36EJ. Anthony Ranch					Page Number: 12 of 18 SEC 36-255-36E		
Param	LCS Result	LCSD Result	Units mg/Kg	Dil.	Spike Amount Added 12.50	Matrix Result 2.99	% Rec 115	RPD 0	% Rec Limit 90 - 110	RPD Limit 20	

Laboratory Con	Laboratory Control Spikes		QCBa	tch:	QC12373					
	LCS	LCSD			Spike Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Dissolved Calcium	100	102	mg/L	1	100	< 0.5	100	1	75 - 125	20
Dissolved Magnesium	95.9	99.3	mg/L	1	100	< 0.5	95	3	75 - 125	20
Dissolved Potassium	97.4	99.4	mg/L	1	100	<0.5	97	2	75 - 125	20
Dissolved Sodium	<b>94.9</b>	99.1	mg/L	1	100	<0.5	94	4	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

### Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix	Spikes	QC	Batch:	QC11015						
					Spike				· ~ _	
	$\mathbf{MS}$	MSD			$\operatorname{Amount}$	Matrix			$\% \mathrm{Rec}$	$\operatorname{RPD}$
Param	Result	Result	Units	Dil.	Added	$\mathbf{Result}$	% Rec	RPD	Limit	Limit
TRPHC	255	271	mg/Kg	1	250	<10.0	102	6	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes QCBatch: QC11082

• •					$\mathbf{Spike}$					
	MS	MSD			Amount	Matrix			$\% \mathrm{Rec}$	$\mathbf{RPD}$
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Total Mercury	2.43	2.55	mg/Kg	1 .	2.50	<0.19	97	4	83 - 124	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes QCBatch: QC11123

					Spike					
	MS	MSD			Amount	Matrix			$\% \mathrm{Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Total Arsenic	57.5	58.3	mg/Kg	1	50	<5	115	1	75 - 125	20
Total Barium	211	196	mg/Kg	1	100	88.6	122	13	75 - 125	20
Total Cadmium	26.4	26.4	mg/Kg	1	25	<2	105	0	75 - 125	20
	· · ·								Contin	nued

<sup>11</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 91.

<sup>12</sup>Sample master doesn't subtract the blank from the spikes. The correct %EA = 91.

Report Date: July SEC36-255-36E	y 5, 2001		Or	Order Number: A01050432 J. Anthony Ranch				Pa	13 of 18 -255-36E	
Continued					Spike		-			
	MS	MSD	•		Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% \mathrm{Rec}$	RPD	Limit	Limit
Total Chromium	<sup>13</sup> 24.3	<sup>14</sup> 23	mg/Kg	1	10	11	133	10	75 - 125	20
Total Lead	74.3	78.5	mg/Kg	1	50	29.3	90	8	75 - 125	20
Total Selenium	39	40.6	mg/Kg	1	50	<5	78	4	75 - 125	20
Total Silver	<sup>15</sup> 4.67	4.67	mg/Kg	1	12.50	<1	37	0	75 - 125	20

#### Matrix Spikes QCBatch: QC11133

					Spike					
	MS	MSD			Amount	Matrix			$\% \mathrm{Rec}$	RPD
Param	Result	Result	$\mathbf{Units}$	Dil.	Added	Result	% Rec	RPD	Limit	$\mathbf{Limit}$
Benzene	0.744	0.968	mg/Kg	13	0.10	< 0.013	57	177	80 - 120	20
Toluene	0.729	0.969	mg/Kg	13	0.10	< 0.013	56	178	80 - 120	20
Ethylbenzene	0.682	0.918	mg/Kg	13	0.10	< 0.013	52	178	80 - 120	20
M,P,O-Xylene	2	2.696	mg/Kg	13	0.30	< 0.013	51	178	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	$\% { m Rec}$	$\% \mathrm{Rec}$	Limits
TFT	0.976	1.254	mg/Kg	13	0.10	75	96	72 - 128
4-BFB	1.05	1.261	mg/Kg	13	0.10	80	97	72 - 128

#### **Matrix Spikes** QCBatch: QC11178

					Spike					
	MS	MSD			Amount	Matrix			% Rec	RPD
Param	Result	$\mathbf{Result}$	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
CL	1435.61	1437.97	mg/Kg	1	625	863	91	Ō	70 - 115	20
Fluoride	$^{16}$ 122.26	$^{17}$ 126.20	mg/Kg	1	125	<5.0	97	3	77 - 111	20
Nitrate-N	<sup>18</sup> 126.15	<sup>19</sup> 127.18	mg/Kg	1	125	<5.0	100	0	80 - 112	20
Sulfate	<sup>20</sup> 675.59	<sup>21</sup> 682.15	mg/Kg	1	625	53.5	99	1	74 - 118	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes QCBatch: QC11235

<sup>13</sup>Poor spike recovery due to matrix difficulties. LCS/LCSD show analysis in control.

- <sup>14</sup>Poor spike recovery due to matrix difficulties. LCS/LCSD show analysis in control.
- <sup>15</sup>Matrix spike and LCS recoveries were low on Ag due to the Ag falling out of solutions. <sup>16</sup>I spiked the \* 50 dilution for 170574, but reported the \*5 dilution. The correct %EA = 92. <sup>17</sup>I spiked the \* 50 dilution for 170574, but reported the \*5 dilution. <sup>18</sup>I spiked the \* 50 dilution for 170574, but reported the \*5 dilution.

- <sup>19</sup>I spiked the \* 50 dilution for 170574, but reported the \*5 dilution.
- $^{20}$ I spiked the \* 50 dilution for 170574, but reported the \*5 dilution. The correct %EA = 96.

<sup>21</sup>I spiked the \* 50 dilution for 170574, but reported the \*5 dilution.

Report i SEC36-2	Date: July 255-36E	5, 2001		Orc	ler Number: A J. Anthony			F	age Number: SEC 36	14 of 18 -255-36E	
Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit	
CL	773.57	771.37	mg/Kg	1	250	520	101	0	70 - 115	20	

### Matrix Spikes QCBatch: QC12373

					Spike					
	MS	MSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Dissolved Calcium	111	109	mg/L	1	100	14.3	96	2	75 - 125	20
Dissolved Magnesium	99.6	97.6	mg/L	1	100	8.30	91	2	75 - 125	20
Dissolved Potassium	103	100	mg/L	1	100	9.47	93	3	75 - 125	20
Dissolved Sodium	132	127	mg/L	1	100	38.8	93	5	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

### Quality Control Report Continuing Calibration Verification Standards

CCV (1)		QCBatch:	QC11015			,	• •
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	98.1	98	75 - 125	5/8/01
CCV (2)		QCBatch:	QC11015				
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	104	104	75 - 125	5/8/01
ICV (1)	Q	CBatch: (	QC11015		· .		4
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	98.6	98	75 - 125	5/8/01

CCV(1)

Report Date: Jul SEC36-255-36E	y 5, 2001			mber: A010504 hthony Ranch	432		mber: 15 of 18 C 36-255-36E
			CCVs	CCVs	CCVs	Percent	
•			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Mercury		mg/Kg	0.005	0.00492	98	80 - 120	5/10/01
ICV (1)	QCBat	ch: QC110	CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Mercury		mg/Kg	0.005	0.00513	102	80 - 120	5/10/01

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	1	1.07	107	90 - 110	5/12/01
Total Barium		m mg/L	2	2.09	104	90 - 110	5/12/01
Total Cadmium		mg/L	0.50	0.531	106	90 - 110	5/12/01
Total Chromium		mg/L	0.20	0.209	104	90 - 110	5/12/01
Total Lead		mg/L	1	1.05	105	90 - 110	5/12/01
Total Selenium		mg/L	1	1.04	104	90 - 110	5/12/01
Total Silver		mg/L	0.25	0.251	100	90 - 110	5/12/01

ICV (1)

QCBatch: QC11123

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic	· ·	mg/L	1	1.03	103	90 - 110	5/12/01
Total Barium		mg/L	2	2	100	90 - 110	5/12/01
Total Cadmium		mg/L	0.50	0.501	· 100	90 - 110	5/12/01
Total Chromium		mg/L	0.20	0.20	100	90 - 110	5/12/01
Total Lead		mg/L	1	1	100	90 - 110	5/12/01
Total Selenium		mg/L	1	1	100	90 - 110	5/12/01
Total Silver		mg/L	0.25	0.249	99	90 - 110	5/12/01

CCV (1)

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE	<u></u>	mg/Kg	0.10	0.106	106	85 - 115	5/11/01
Benzene		mg/Kg	0.10	0.103	103	85 - 115	5/11/01
Toluene		mg/Kg	0.10	0.0977	97	85 - 115	5/11/01
Ethylbenzene		mg/Kg	0.10	0.0921	92	85 - 115	5/11/01
M,P,O-Xylene		mg/Kg	0.30	0.272	90	85 - 115	5/11/01

Report Date: Jul SEC36-255-36E	y 5, 2001			mber: A010504 thony Ranch	132		mber: 16 of 18 C 36-255-36E
CCV (2)	QCBa	tch: QC11	133				
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/Kg	0.10	0.0985	98	85 - 115	5/11/01
Benzene		mg/Kg	0.10	0.0988	98	85 - 115	5/11/01
Toluene		mg/Kg	0.10	0.0916	91	85 - 115	5/11/01
Ethylbenzene		mg/Kg	0.10	0.0884	88	85 - 115	5/11/01
M,P,O-Xylene		mg/Kg	0.30	0.265	. 88	85 - 115	5/11/01
						· ·	

# ICV (1) QCBatch: QC11133

			CCVs	CCVs	CCVs	Percent	<b>T</b>
			True	Found	Percent	Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/Kg	0.10	0.102	102	85 - 115	5/11/01
Benzene		mg/Kg	0.10	0.103	103	85 - 115	5/11/01
Toluene		mg/Kg	0.10	0.0985	98	85 - 115	5/11/01
Ethylbenzene		mg/Kg	0.10	0.0972	97	85 - 115	5/11/01
M,P,O-Xylene		mg/Kg	0.30	0.29	96	85 - 115	5/11/01

# CCV (1)

### QCBatch: QC11178

		· ·	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Bromide		mg/L	2.50	2.61	104	90 - 110	5/10/01
$\mathbf{CL}$		mg/L	12.50	11.71	93	90 - 110	5/10/01
Fluoride		mg/L	2.50	2.41	96	90 - 110	5/10/01
Nitrate-N		mg/L	2.50	2.43	97	90 - 110	5/10/01
Sulfate		mg/L	12.50	12.02	96	90 - 110	5/10/01

# ICV (1)

QCBatch: QC11178

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bromide		mg/L	2.50	2.52	100	90 - 110	5/10/01
$\mathbf{CL}$		mg/L	12.50	11.82	94	90 - 110	5/10/01
Fluoride		mg/L	2.50	2.56	102	90 - 110	5/10/01
Nitrate-N		mg/L	2.50	2.43	97	90 - 110	5/10/01
Sulfate		mg/L	12.50	12.24	97	90 - 110	5/10/01

CCV (1)

Report Da SEC36-25		, 2001		rder Number: A J. Anthony J				nber: 17 of 18 C 36-255-36E
, ,	· ·	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param Specific Co	nductance		µMHOS/cm	1412	1388	98	90 - 110	5/9/01
Specific Co			<u> </u>					
ICV (1)	)	QCBatch:	QC11189					
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Specific Co	nductance	<u>)</u>	$\mu$ MHOS/cm	1411	1397	99	90 - 110	5/9/01
CCV (1	1)	QCBatch:	QC11235					
			CCVs True	CCVs Found		CVs cent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.		overy	Limits	Analyzed
CL	<u>~</u>	mg/L	12.50	11.96		5	90 - 110	5/15/01
ICV (1)	)	QCBatch:	QC11235					
			CCVs True	CCVs Found		CVs cent	Percent Recovery	Date
	Flag	Units	CCVs True Conc.	CCVs Found Conc.	Per		Percent Recovery Limits	Date Analyzed
Param	Flag	Units mg/L	True	Found	Per Reco	cent	Recovery	
Param			True Conc.	Found Conc.	Per Reco	cent overy	Recovery Limits	Analyzed
Param CL		mg/L	True Conc. 12.50 QC11251 CCVs	Found Conc. 12.47 CCVs	Per Recc 9 CCVs	cent overy 9 Pe	Recovery Limits 90 - 110	Analyzed 5/15/01
Param CL CCV (1	)	mg/L	True Conc. 12.50 QC11251	Found Conc. 12.47	Per Recc 9	cent overy 9 Pe Rec	Recovery Limits 90 - 110	Analyzed 5/15/01 Date
Param CL CCV (1 Param		mg/L QCBatch:	True Conc. 12.50 QC11251 CCVs True	Found Conc. 12.47 CCVs Found	Per Recc 9 CCVs Percent	cent overy 9 Pe Rec Li	Recovery Limits 90 - 110	Analyzed 5/15/01
Param CL CCV (1 Param	)	mg/L QCBatch: Units	True Conc. 12.50 QC11251 CCVs True Conc.	Found Conc. 12.47 CCVs Found Conc.	Per Recc 9 CCVs Percent Recovery	cent overy 9 Pe Rec Li	Recovery Limits 90 - 110	Analyzed 5/15/01 Date Analyzed
Param CL CCV (1 Param	) Flag	mg/L QCBatch: Units	True Conc. 12.50 QC11251 CCVs True Conc.	Found Conc. 12.47 CCVs Found Conc.	Per Recc 9 CCVs Percent Recovery	cent overy 9 Pe Rec Li	Recovery Limits 90 - 110	Analyzed 5/15/01 Date Analyzed 5/9/01
Param CL	) Flag	mg/L QCBatch: Units s.u.	True Conc. 12.50 QC11251 CCVs True Conc. 7	Found Conc. 12.47 CCVs Found Conc.	Per Recc 9 CCVs Percent Recovery	cent overy 9 Pe Rec Li -0.1 s.u. Pe	Recovery Limits 90 - 110	Analyzed 5/15/01 Date Analyzed 5/9/01
Param CL CCV (1 Param pH	) Flag	mg/L QCBatch: Units s.u.	True Conc. 12.50 QC11251 CCVs True Conc. 7 QC11251 QC11251 CCVs	Found Conc. 12.47 CCVs Found Conc. 7.0 CCVs Found	Per Recc 9 CCVs Percent Recovery 100 CCVs	cent overy 9 Pe Rec Li -0.1 s.u. Pe Rec Li	Recovery Limits 90 - 110 ercent covery mits - +0.1 s.u.	Analyzed 5/15/01 Date Analyzed 5/9/01

CCV (1) QCBatch: QC11295

Report Date: July 5, 2001 SEC36-255-36E	N. 3*	umber: A01 Inthony Rai			•	ber: 18 of 18 C 36-255-36E	
		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date	
Param Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Hydroxide Alkalinity	mg/Kg as CaCo3	0	<1.0	0	90 - 110	5/17/01	
Carbonate Alkalinity	mg/Kg as CaCo3	0	236	0	90 - 110	5/17/01	
Bicarbonate Alkalinity	mg/Kg as CaCo3	0	10	0	90 - 110	5/17/01	
Total Alkalinity	mg/Kg as CaCo3	250	246	98	90 - 110	5/17/01	

# ICV (1) QCBatch: QC11295

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity		mg/Kg as CaCo3	0	<1.0	0	90 - 110	5/17/01
Carbonate Alkalinity		mg/Kg as CaCo3	0	228	0	90 - 110	5/17/01
Bicarbonate Alkalinity		mg/Kg as CaCo3	0	18	0	90 - 110	5/17/01
Total Alkalinity		mg/Kg as CaCo3	250	246	98	90 - 110	5/17/01

# CCV (1) QCBatch: QC12373

			CCVs	$\mathrm{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	25	25.4	101	90 - 110	6/27/01
Dissolved Magnesium		mg/L	25	24.9	99	90 - 110	6/27/01
Dissolved Potassium		mg/L	25 ·	<b>24.4</b>	97	90 - 110	6/27/01
Dissolved Sodium		$_{\rm mg/L}$	25	24.5	98	90 - 110	6/27/01

ICV (1)

		· ·	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L ·	25	25.2	100	95 - 105	6/27/01
Dissolved Magnesium		mg/L	25	25.4	101	95 - 105	6/27/01
Dissolved Potassium		mg/L	25	24.7	98	95 - 105	6/27/01
Dissolved Sodium		mg/L	25	24.8	99	95 - 105	6/27/01

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#### TraceAnalysis , Inc. General Terms and Conditions

#### Article 1: General

1.1 The words "we", "us", and "our" refer to TraceAnalysis. You will deliver samples to us for analysis, accompanied, or preceded by, a signed Chain of Custody/Analysis Request defining the scope and timing of our work and stating either the testing criteria you require or identifying the agency to which the results will be submitted.

#### Article 2: Our General Responsibilities

2.1 We agree to provide the professional services described in this agreement. We will provide you with written reports containing analytical results. In performing our service, we will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of our profession practicing in the same locality.

2.2 Test and observations will be conducted using test procedures and laboratory protocols as specified in accepted Chain of Custody/Analysis Request. If you direct a manner of making tests that varies from our standard or recommended procedures, you agree to hold us harmless from all claims, damages, and expenses ansing out of your direction.

2.3 We will not release information regarding our services for you or any information that we receive from you, except for information that is in the public domain and except as we are required by law.

#### Article 3: Your General Responsibilities

3.1 On each Chain of Custody/Analysis Request you will designate a representative who has authority to transmit instructions, receive information, and make decisions relative to our work. 3.2 You will respond in a reasonable time to our request for decisions, authorization for changes, additional compensation, or schedule extensions.

3.3 For each Chain of Cuslody/Analysis Request you will either provide us with the exact methods for analysis of each fraction or you will identify the regulations and agency under which or for which the analysis are to be prepared. If permits, consent orders, work plans, quality assurance plans, or correspondence with regulatory agencies address laboratory requirements, you will provide us with copies of the relevant provisions prior to cur initiation of the analyses.

#### Article 4: Reports and Records

4.1 We will furnish copies of each report to you as specified in the Chain of Custody and Analysis Request. We will retain analytical data for seven years and financial data for three years relating to the services performed following transmittal of our final report.

4.2 If you do not pay for our services as agreed, you agree that we may retain all reports and work not yet delivered to you. You also agree that our work will not be used by you for any purpose unless paid for.

#### Article 5: Delivery and Acceptance of Samples

5.1 Until we accept delivery of samples by notation on chain of custody documents or otherwise in writing accept the samples, you are responsible for loss of or damage to samples. Until so accepted, we have no responsibility as to samples.

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5.2 As to any samples that are suspected of containing hazardous substances or radioactive material, such that would make special handling required, you will specify the suspected or known substances and level and type of radioactive activity. This information will be given to us in writing as a part of the Chain of Custody/Analysis Request and will precede or accompany samples suspected of containing hazardous substances. 5.3 Samples accepted by us remain your property while in our custody. We will retain samples for a period of 14 days following the date of submission or our report. We will extend the retention period if you so direct.

Following the retention period we will dispose of non-hazardous samples. We may teturn highly bazardous, acutely toxic, or radioactive samples and samples containers and residues to you. You agree to accept them. 5.4 Regardless of a prior acceptance, we may refuse acceptance or revoke acceptance of samples if we determine that the samples present a risk to health, safety, or the environment, or that we are not authorized to accept them. If we revoke acceptance of any sample, you will have it removed from our facilities promptly.

#### Article 6: Changes to Task Orders

6.1 No persons other than the designated representatives for each Chain of Custody/Analysis Request are authorized to act regarding changes to a Chain of Custody/Analysis Request. We will notify you promptly, if we identify any activity that we regard as a change to the terms and conditions of a Chain of Custody/Analysis Request. Our notice will include the date, nature, circumstance, and cause of the activity regarded as a change. We will specify the particular elements of project performance for which we may seek an equitable adjustment.

6.2 You will respond to the notice provided for in paragraph 6.1 promptly. Changes may be made to a Chain of Custody/Analysis Request through issuance of an amendment. The amendment will specify the reason for the change and, as appropriate, include any modified budgets, schedules, scope of work, and other necessary provisions.

6.3 Until agreement is reached concerning the proposed change, we may regard the situation as a suspension directed by you.

#### Article 7: Compensation

7.1 Our pricing for the work is predicated upon your acceptance of the conditions and allocations of risks and responsibilities described in this agreement. You agree to pay for services as stated in our proposal and accepted by you or according to our then current standard pricing documents if there is no other written agreement as to price. An estimate or statement of probable cost is not a firm figure unless stated as such. 7.2 Unless otherwise agreed to elsewhere, you agree to pay invoices within 30 days of receipt unless, within 15 days from receipt of the invoice, you notify us in writing of a particular item that is alleged to be incorrect.

You agree to pay the uncontested portions of the invoices within 30 days of receipt. You agree to pay interest on unpaid balances beginning 60 days after receipt of invoice at the rate of 1.5% per month, but not to exceed the maximum rate allowed by law.

7.3 If you direct us to invoice another, we will do so, but you agree to be ultimately responsible for our compensation until you provide us with that third party's written acceptance of all terms of our agreement and until we agree to the substitution.

7.4 You agree to compensate us for our services and expenses if we are required to respond to legal process related to our services for you. Compensable services include hourly charges for all personnel involved in the response and attorney tees reasonably incurred in obtaining advice concerning the response, the preparation of the testifier, and appearances related to the legal process.

7.5 If we are delayed by, or the period of performance is materially extended because of, factors beyond our control, or if project condition or the scope or amount of work change, or if the standards or methods of testing change, we will give you timely notice of the change and we will receive an equitable adjustment of our compensation.

#### Article 8: Risk Allocation, Disputes, and Damages

3.1 Neither we nor you will be liable to the other for special, incidental, consequential or punitive losses or damages, including but not limited to those arising from delay, loss of use, loss of profits or revenue, or the cost

<sup>4</sup> 8.2 We will not be liable to you for damages unless suit is commenced within two years of injury or loss or within two years of the date of the completion of our services, whichever is earlier. In no event will we be liable to you unless you have notified us of the discovery of the negligent act, error, omission or breach within 30 days of the date of its discovery and unless you have given us an opportunity to investigate and to recommend ways of mitigating your damages.

8.3 In the event you fail to pay us within 90 days following the invoice date, we may consider the default a total breach of our agreement and we may, at our option, terminate all of our duties without liability to you or to others.

8.4 If it is claimed by a third party that we did not complete an acceptable analysis, at your request will seek further review and acceptance of the completed work by the third party and use your best efforts to obtain that acceptance. We will assist you as directed.

8.5 You and we agree that disputes will be submitted to "Alternative Dispute Resolution" (ADR) as a condition precedent to litigation and other remedies provided by law. Each of us agrees to exercise good faith efforts to resolve disputes through mediation unless we both agree upon another ADR procedure. All disputes will be governed by the law of the place where our services are rendered, or if our services are rendered in more than one state, you and we agree that the law of the place that services were first rendered will govern.

8.6 If either of us makes a claim against the other as to issues out of the performance of this agreement, the prevailing party will be entitled to recover its reasonable expenses of litigation, including reasonable attorney's fees. If we bring lawsuit against you to collect our invoiced fees and expenses, you agree to pay our reasonable collection expenses including attorney fees.

#### Article 9: Indemnities

9.1 We will indemnify and hold you harmless from and against demands, damages, and expenses caused by our negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom we are legally responsible. You will indemnify and hold us harmless from and against demands, damages, and expenses caused by your negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom you are legally responsible. These indemnities are subject to specific limitations provided for in this agreement.

#### Article 10: Miscellaneous Provisions

10.1 This agreement constitutes the entire agreement between you and us, and it supersedes all prior agreements. Any term, condition, prior course of dealing, course of performance, usage of trade, understanding, purchase order conditions, or other agreement purporting to modify, vary, supplement, or explain any provision of this agreement is of no effect until placed in writing and signed by both parties subsequent to the date of this agreement. In no event will the printed terms or conditions stated in a purchase or work order, other than an agreed upon Chain of Custody/Analysis Request, be considered a part of this agreement, even if the document is signed by both of us.

10.2 Neither party will assign this agreement without the express written approval of the other, but we may subcontract laboratory procedures with your approval as we deem necessary to meet our obligations to you. 10.3 If any of the provisions of this agreement are held to be invalid or unenforceable in any respect, the remaining terms will be in full effect and the agreement will be construed as if the invalid or unenforceable matters were never included in it. No waiver of any default will be waiver of any future default.

10.4 Neither you or we will have any liability for nonperformance caused in whole or in part by causes beyond our reasonable control. Such causes include but are not limited to Acts of God, civil unrest and war, labor unrest and strikes, equipment failures, matrix interference, acts of authorities, and failures of subcontractors that could not be reasonably anticipated.

10.5 You may stop our work by giving a written suspension or termination directive, but once work has been suspended, we need not resume work until we agree to change in scope, schedule, and compensation. Upon suspension or termination, we will use reasonable care to preserve samples provided that you agree to compensate us for any additional effort, but we will have no responsibility for meeting holding time limitations after the effective time of a suspension or termination directive. We will be compensated for service rendered and expenses incurred prior to termination; the canability for meeting holding time limitations after the effective time of a suspension or termination directive. We will be compensated for service rendered and expenses incurred prior to termination; thet cannot reasonably be avoided.



TraceAnalysis, Inc.     Inc. <t< th=""><th>010 - Phone #: 505- 2</th><th>Fax #:</th><th>OR (5F) M 87505 SANTA FC</th><th>3/200</th><th></th><th>NUTTONN DANK</th><th></th><th>1, 1 0,000,005,005,000,000,000,000,000,000,0</th><th>MATRIX PRESERVATIVE SAMPLING SOB/62 S</th><th><ul> <li>ЧОІЦТОВІ</li> <li>ЧОІЦТОВІ</li> <li>ЧОІЦТОВІ</li> <li>КОІЦТОВІ</li> <li>КОІЦТОВІ</li> <li>КОІЦТОВІ</li> <li>КІТОВІ</li> <li< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>neceived by: Date: IIme: REMARKS:</th><th>Received by: Date: Time:</th><th></th></li<></ul></th></t<>	010 - Phone #: 505- 2	Fax #:	OR (5F) M 87505 SANTA FC	3/200		NUTTONN DANK		1, 1 0,000,005,005,000,000,000,000,000,000,0	MATRIX PRESERVATIVE SAMPLING SOB/62 S	<ul> <li>ЧОІЦТОВІ</li> <li>ЧОІЦТОВІ</li> <li>ЧОІЦТОВІ</li> <li>КОІЦТОВІ</li> <li>КОІЦТОВІ</li> <li>КОІЦТОВІ</li> <li>КІТОВІ</li> <li< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>neceived by: Date: IIme: REMARKS:</th><th>Received by: Date: Time:</th><th></th></li<></ul>											neceived by: Date: IIme: REMARKS:	Received by: Date: Time:	
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#### TraceAnalysis , Inc. General Terms and Conditions



#### Article 1: General

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2.2 Test and observations with be conducted using test procedures and laboratory protocols as specified in accepted Chain of Custody/Analysis Request. If you direct a manner of making tests that varies from our standard or recommended procedures, you agree to hold us harmless from all claims, damages, and expenses arising out of your direction.

2.3 We will not release information regarding our services for you or any information that we receive from you, except for information that is in the public domain and except as we are required by law.

#### Article 3: Your General Responsibilities

3.1 On each Chain of Custody/Analysis Request you will designate a representative who has authority to transmit instructions, receive information, and make decisions relative to our work.

3.2 You will respond in a reasonable time to our request for decisions, authorization for changes, additional compensation, or schedule extensions.

3.3 Fcr each Chain of Custody/Analysis Request you will either provide us with the exact methods for analysis of each fraction or you will identify the regulations and agency under which or for which the analysis are to be prepared. If permits, consent orders, work plans, quality assurance plans, or correspondence with regulatory agencies address laboratory requirements, you will provide us with copies of the relevant provisions prior to our initiation of the analyses.

#### Article 4: Reports and Records

4.1 We will furnish copies of each report to you as specified in the Chain of Custody and Analysis Request. We will retain analytical data for seven years and financial data for three years relating to the services performed following transmittal of our final report.

4.2 If you do not pay for our services as agreed, you agree that we may retain all reports and work not yet delivered to you. You also agree that our work will not be used by you for any purpose unless paid for.

#### Article 5: Delivery and Acceptance of Samples

5.1 Until we accept delivery of samples by notation on chain of custody documents or otherwise in writing accept the samples, you are responsible for loss of or damage to samples. Until so accepted, we have no responsibility as to samples.

5.2 As to any samples that are suspected of containing hazardous substances or radioactive material, such that would make special handling required, you will specify the suspected or known substances and level and type of radioactive activity. This information will be given to us in writing as a part of the Chain of Custody/Analysis Request and will precede or accompany samples suspected of containing hazardous substances. 5.3 Samples accepted by us remain your property while in our custody. We will retain samples for a period of 14 days following the date of submission or our report. We will extend the retention period if you so direct. Following the retention period we will dispose of non-hazardous samples. We may return highly hazardous, acutely toxic, or radioactive samples and samples containers and residues to you. You agree to accept them. 5.4 Regardlass of a prior acceptance, we may retures acceptance or revoke acceptance of samples if we determine that the samples present a risk to health, safety, or the environment, or that we are not authorized to accept them. If we revoke acceptance of any sample, you will have it removed from our facilities promptiy.

#### Article 6: Changes to Task Orders

6.1 No persons other than the designated representatives for each Chain of Custody/Analysis Request are authorized to act regarding changes to a Chain of Custody/Analysis Request. We will notify you promptly if we identify any activity that we regard as a change to the terms and conditions of a Chain of Custody/Analysis Request. Our notice will include the date, nature, circumstance, and cause of the activity regarded as a change. We will specify the particular elements of project performance for which we may seek an equitable adjustment.

6.2 You will respond to the notice provided for in paragraph 6.1 promptly. Changes may be made to a Chain of Custody/Analysis Request through issuance of an amendment. The amendment will specify the reason for the change and, as appropriate, include any modified budgets, schedules, scope of work, and other necessary provisions.

6.3 Until agreement is reached concerning the proposed change, we may regard the situation as a suspension directed by you.

#### Article 7: Compensation

7.1 Our pricing for the work is predicated upon your acceptance of the conditions and allocations of risks and responsibilities described in this agreement. You agree to pay for services as stated in our proposal and accepted by you or according to our then current standard pricing documents if there is no other written agreement as to price. An estimate or statement of probable cost is not a firm figure unless stated as such.

7.2 Unless otherwise agreed to elsewhere, you agree to pay invoices within 30 days of receipt unless, within 15 days from receipt of the invoice, you notify us in writing of a particular item that is alleged to be incorrect. You agree to pay the uncontested portions of the invoices within 30 days of receipt. You agree to pay interest on unpaid balances beginning 60 days after receipt of invoice at the rate of 1.5% per month, but not to exceed the maximum rate allowed by law.

7.3 If you direct us to invoice another, we will do so, but you agree to be ultimately responsible for our compensation until you provide us with that third party's written acceptance of all terms of our agreement and until we agree to the substitution.

7.4 You agree to compensate us for our services and expenses if we are required to respond to legal process related to our services for you. Compensable services include hourly charges for all personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, the preparation of the testifier, and appearances related to the legal process.

7.5 If we are delayed by, or the period of performance is materially extended because of, factors beyond our control, or if project condition or the scope or amount of work change, or if the standards or methods of testing change, we will give you timely notice of the change and we will receive an equitable adjustment of our compensation.

#### Article 8: Risk Allocation, Disputes, and Damages

8.1 Neither we nor you will be liable to the other for special, incidental, consequential or punitive losses or damages, including but not limited to those arising from delay, loss of use, loss of profits or revenue, or the cost of capital.

8.2 We will not be liable to you for damages unless sult is commenced within two years of injury or loss or within two years of the date of the completion of our services, whichever is earlier. In no event will we be liable to you unless you have notified us of the discovery of the negligent act, error, omission or breach within 30 days of the date of its discovery and unless you have given us an opportunity to investigate and to recommend ways of mitigating your damages.

8.3 In the event you fail to pay us within 90 days following the invoice date, we may consider the default a total breach of our agreement and we may, at our option, terminate all of our duties without liability to you or to others.

8.4 If it is claimed by a third party that we did not complete an acceptable analysis, at your request will seek further review and acceptance of the completed work by the third party and use your best efforts to obtain that acceptance. We will assist you as directed.

8.5 You and we agree that disputes will be submitted to "Alternative Dispute Resolution" (ADR) as a condition precedent to litigation and other remedies provided by law. Each of us agrees to exercise good faith efforts to resolve disputes through mediation unless we both agree upon another ADR procedure. All disputes will be governed by the law of the place where our services are rendered, or if our services are rendered in more than one state, you and we agree that the law of the place that services were instructed over.

8.6 If either of us makes a claim against the other as to issues out of the performance of this agreement, the prevailing party will be entitled to recover its reasonable expenses of litigation, including reasonable attorney's fees. If we bring lawsuit against you to collect our invoiced fees and expenses, you agree to pay our reasonable collection expenses including attorney fees.

#### Article 9: Indemnities

9.1 We will indemnify and hold you harmless from and against demands, damages, and expenses caused by our negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom we are legally responsible. You will indemnify and hold us harmless from and against demands, damages, and expenses caused by your negligent act and omissions and breach of contract and by the negligent acts and omissions and breach of contract and by the negligent acts and omissions for whom you are legally responsible. These indemnities are subject to specific limitations provided for in this agreement.

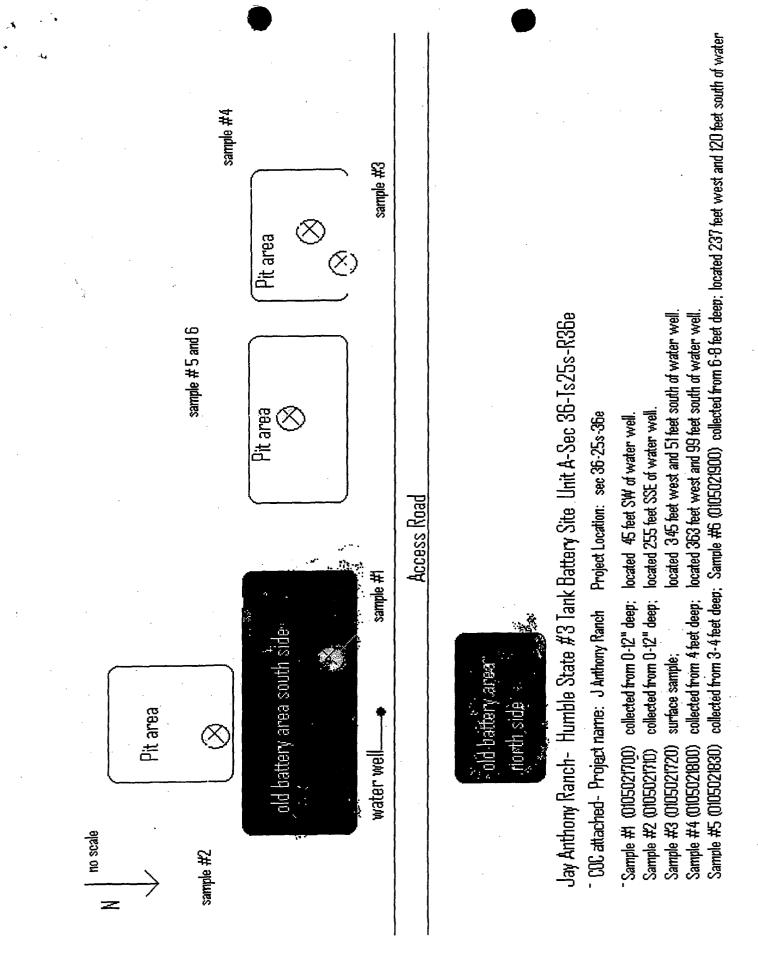
#### Article 10: Miscellaneous Provisions

10.1 This agreement constitutes the entire agreement between you and us, and it supersedes all prior agreements. Any term, condition, prior course of dealing, course of performance, usage of trade, understanding, purchase order conditions, or other agreement purporting to modify, vary, supplement, or explain any provision of this agreement is of no effect until placed in writing and signed by both parties subsequent to the date of this agreement. In no event will the printed terms or conditions stated in a purchase or work order, other than an agreed upon Chain of Custody/Analysis Request, be considered a part of this agreement, even if the document is signed by both of us.

10.2 Neither party will assign this agreement without the express written approval of the other, but we may subcontract laboratory procedures with your approval as we deem necessary to meet our obligations to you. 10.3 If any of the provisions of this agreement are held to be invalid or unenforceable in any respect, the remaining terms will be in full effect and the agreement will be construed as if the invalid or unenforceable matters were never included in it. No waiver of any default will be waiver of any future default.

10.4 Neither you or we will have any liability for nonperformance caused in whole or in part by causes beyond our reasonable control. Such causes include but are not limited to Acts of God, civil unrest and war, labor unrest and strikes, equipment failures, matrix interference, acts of authorities, and failures of subcontractors that could not be reasonably anticipated.

10.5 You may stop our work by giving a written suspension or termination directive, but once work has been suspended, we need not resume work until we agree to change in scope, schedule, and compensation. Upon suspension or termination, we will use reasonable care to preserve samples provided that you agree to compensate us for any additional effort, but we will have no responsibility for meeting holding time limitations after he effective time of a suspension or termination directive. We will be compensated for service rendered and expenses incurred prior to termination that cannot reasonably be avoided.



TraceAnalysis, In	.c. 6701 erd	een Ave., Suite 9	Lubbock, T	9424-1515	(806) 794-1296
Report Date: Jun N/A	e 5, 2002Order Number Mara	A02051716 alo	· .	. –	e Number: 1 of 3 Anotheny Ranch
		Summary I	Report		
Wayne Price OCD		BEFORE EXAM	-	Report Date:	June 5, 2002
1220 S. Saint Fran Santa Fe, NM 875		EXHIBIT NO.		Order ID Number:	A02051716
Project Number: Project Name: Project Location:	N/A Maralo CASE Jay Anothen <mark>y Ranch</mark>	NO. 1314		2	
			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
197262	North Area-2'	Soil	5/16/02	9:29	5/17/02
197263	North Area-4'-6'	Soil	5/16/02	9:49	5/17/02
197264	North Area-6-8'	Soil	5/16/02	10:00	5/17/02
197265	North Area-10-12'	Soil	5/16/02	10:17	5/17/02
197266	North Area-15'-17'	Soil	5/16/02	10:42	5/17/02
197267	North Area-20-22'	Soil	5/16/02	11:25	5/17/02
97268	North Area-25-27'	Soil	5/16/02	12:20	5/17/02
197269	SW Area 5'	Soil	5/16/02	13:38	5/17/02
197270	SW Area 10'	Soil	5/16/02	13:59	5/17/02
197271	SW Area 15'	Soil	5/16/02	14:13	5/17/02
197272 197273	SW Area 20' SW Area 27'-28'	Soil Soil	5/16/02 5/16/02	14:53 15:57	5/17/02
191410	DW Alea 21-20	100	0/10/02	10.07	5/17/02

0 This report consists of a total of 3 page(s) and is intended only as a summary of results for the sample(s) listed above.

			BTEX			TPH
:	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	TRPHC
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
197262 - North Area-2'	< 0.010	< 0.010	<0.010	<0.010	< 0.010	9040
197263 - North Area-4'-6'	<0.010	<0.010	<0.010	0.016	0.016	8710
197264 - North Area-6-8'	< 0.050	< 0.050	< 0.050	0.277	0.277	10900
197265 - North Area-10-12'	<0.100	<0.100	0.22	0.583	0.803	12900
197266 - North Area-15'-17'	0.0937	< 0.050	0.305	0.96	1.36	14900
197267 - North Area-20-22'	0.0723	< 0.050	0.151	0.576	0.799	12700
197268 - North Area-25-27'	< 0.100	<0.100	0.274	0.921	1.20	12600
197269 - SW Area 5'	0.111	<0.050	0.402	0.741	1.25	18800
197270 - SW Area 10'	0.179	<0.100	0.38	0.792	1.35	25400
197271 - SW Area 15'	0.12	<0.100	0.432	0.672	1.22	13100
197272 - SW Area 20'	<0.010	<0.010	0.038	0.0155	0.0535	56.8
197273 - SW Area 27'-28'	< 0.010	<0.010	<0.010	<0.010	<0.010	143

Continued on next page ...

This is only a summary. Please, refer to the complete report package for quality control data.

TraceAnalys	is, Inc. 6701 Serdeen Ave., S	Suite 9 Lubbock, T	9424-1515	(806) 794-1296
Report Date N/A	: June 5, 2002Order Nutter: A0205171 Maralo	16		Page Number: 2 of 3 Jay Anotheny Ranch
Sample 1972	62 continued			······································
Param	Flag	Result		Units
Sample: 1	.97262 - North Area-2'		•	
Param	Flag	Result		Units
Chloride		2.66	· · · · · · · · · · · · · · · · · · ·	mg/Kg
	······································			
		· · ·		
Gammlas 1	07969 North Area 1262			
	97263 - North Area-4'-6'	Describ		TTuite
Param	Flag	Result		Units
Chloride		3.12		mg/Kg
		· · ·		· · ·
			· · ·	
Sample: 19	97264 - North Area-6-8'			
Param	Flag	Result		Units
Chloride	· · · · · · · · · · · · · · · · · · ·	7.56		mg/Kg
			· .	
	97265 - North Area-10-12'			
Param	Flag	Result		Units
Chloride		5.87		mg/Kg
			, *	
Sample: 19	)7266 - North Area-15'-17'			
Sample: 19 Param	97266 - North Area-15'-17' Flag	Result		Units
	97266 - North Area-15'-17' Flag	Result 3.37		Units mg/Kg
Param	97266 - North Area-15'-17' Flag			
Param	97266 - North Area-15'-17' Flag			
Param	97266 - North Area-15'-17' Flag			
Param Chloride	Flag			
Param Chloride Sample: 19	Flag 07267 - North Area-20-22'	3.37		mg/Kg
Param Chloride Sample: 19 Param	Flag	3.37 Result		mg/Kg
Param Chloride Sample: 19	Flag 07267 - North Area-20-22'	3.37		mg/Kg
Param Chloride Sample: 19 Param	Flag 07267 - North Area-20-22'	3.37 Result		mg/Kg
Param Chloride Sample: 19 Param	Flag 07267 - North Area-20-22'	3.37 Result		mg/Kg
Param Chloride Sample: 19 Param	Flag 07267 - North Area-20-22'	3.37 Result		mg/Kg
Param Chloride Sample: 19 Param Chloride	Flag 97267 - North Area-20-22' Flag	3.37 Result		mg/Kg
Param Chloride Sample: 19 Param Chloride	Flag 97267 - North Area-20-22' Flag 97268 - North Area-25-27'	3.37 Result		mg/Kg
Param Chloride Sample: 19 Param Chloride Sample: 19	Flag 97267 - North Area-20-22' Flag	3.37 Result 18.1		mg/Kg Units mg/Kg

This is only a summary. Please, refer to the complete report package for quality control data.

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TraceAnalysis, Inc	. 6701 erdeen Ave.,	Suite 9 Lubbock, T 9424-151	.5 (806) 794-1296
Report Date: June N/A	e 5, 2002Order Number 020517 Maralo		Page Number: 3 of 3 Jay Anotheny Ranch
Sample: 19726	69 - SW Area 5'		••••••••••••••••••••••••••••••••••••••
Param	Flag	Result	Units
Chloride		54.1	mg/Kg
		•	
	70 - SW Area 10'		
Param	Flag	Result	Units
Chloride		5.83	mg/Kg
	· · ·		
Sample: 19727	'1 - SW Area 15'		
Param	Flag	Result	Units
Chloride		<10.0	mg/Kg
Samala 10727	2 - SW Area 20'	- 	
Param	Z - SVV Area 20 Flag	Result	Units
Chloride	1. 1ag	10.2	mg/Kg
Sample: 19727	3 - SW Area 27'-28' <sub>Flag</sub>	Result	Units
Chloride		10.3	mg/Kg
			* •
••			: 
		· .	
		· · · ·	

This is only a summary. Please, refer to the complete report package for quality control data.

6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79932 888•588•3443 E-Mail: lab@traceanalysis.com 806 • 794 • 1296 FAX 806 • 794 • 1298 915 • 585 • 3443 FAX 915 • 585 • 4944

## Analytical and Quality Control Report

Wayne Price OCD 1220 S. Saint Francis Dr. Santa Fe, NM 87505 Report Date:

June 5, 2002

Order ID Number: A02051716

Project Number:N/AProject Name:MaraloProject Location:Jay Anotheny Ranch

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
.97262	North Area-2'	Soil	5/16/02	9:29	5/17/02
.97263	North Area-4'-6'	Soil	5/16/02	9:49	5/17/02
.97264	North Area-6-8'	Soil	5/16/02	10:00	5/17/02
.97265	North Area-10-12'	Soil	5/16/02	10:17	5/17/02
.97266	North Area-15'-17'	Soil	5/16/02	10:42	5/17/02
97267	North Area-20-22'	Soil	5/16/02	11:25	5/17/02
97268	North Area-25-27'	Soil	5/16/02	12:20	5/17/02
97269	SW Area 5'	Soil	5/16/02	13:38	5/17/02
97270	SW Area 10'	Soil	5/16/02	13:59	5/17/02
97271	SW Area 15'	Soil	5/16/02	14:13	5/17/02
97272	SW Area 20'	Soil	5/16/02	14:53	5/17/02
97273	SW Area 27'-28'	Soil	5/16/02	15:57	5/17/02

'hese results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch asis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. lote: the RDL is equal to MQL for all organic analytes including TPH.

'he test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

his report consists of a total of 18 pages and shall not be reproduced except in its entirety including the chain of custody COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Report Date: June 5, 2002 N/A



Order Number: A02051716 Maralo Page Number: 2 of 18 Jay Anotheny Ranch

30 - A 10 1 A.

## **Analytical Report**

			<b>ე</b> 1				· ·
Sample:	19726	2 - North Area-2	4			• •	
Analysis:	BTEX	Analytical Method	: S 8021B	QC Batch:	QC20528	Date Analyzed:	5/17/02
Analyst:	CG	Preparation Metho	od: S 5035	Prep Batch	: PB19598	Date Prepared:	5/17/02
Param		Flag	Result	Units	· ,	Dilution	RDL
Benzene			<0.010	mg/Kg		10	0.001
Toluene	*	Ň	<0.010	mg/Kg		10	0.001
Ethylbenzer			<0.010	mg/Kg		10	0.001
M,P,O-Xyle			<0.010	mg/Kg		10	0.001
Total BTE	X		<0.010	mg/Kg		10	0.001
					~	_	
<b>•</b> .	-		** .		Spike	Percent	Recovery
Surrogate	Flag		Units	Dilution	Amount	Recovery	Limits
TFT		0.846	mg/Kg	10	1	84	70 - 130
4-BFB		0.708	mg/Kg	10	1	70	70 - 130
						••	
Sample:	197262	2 - North Area-2	27			,	
Analysis:		natography (IC) Anal	-			QC20761 Date Analyz	
Analyst:	JSW	Prep	aration Metho	od: N/A Pr	ep Batch:	PB19790 Date Prepar	ed: 6/4/02
Analyst: Param	· .	Prep Result	eration Metho Units		ep Batch:	PB19790 Date Prepar	ed: 6/4/02 RDL
Analyst: Param Chloride	JSW Flag	-		od: N/A Pr Dilution 2	ep Batch:	PB19790 Date Prepar	
Param	· .	Result	Units	Dilution	ep Batch:	PB19790 Date Prepar	RDL
Param	· .	Result	Units	Dilution	ep Batch:	PB19790 Date Prepar	RDL
Param Chloride	Flag	Result 2.66	Units mg/Kg	Dilution	ep Batch:	PB19790 Date Prepar	RDL
Param Chloride Sample:	Flag 197262	Result 2.66 - North Area-2	Units mg/Kg	Dilution 2			RDL 1
Param Chloride Sample: Analysis:	Flag 197262 TPH	Result 2.66 - North Area-2 Analytical Method:	Units mg/Kg E 418.1	Dilution 2 QC Batch:	QC20561	Date Analyzed:	RDL 1 5/24/02
Param Chloride Sample: Analysis:	Flag 197262	Result 2.66 - North Area-2	Units mg/Kg E 418.1	Dilution 2			RDL 1
Param Chloride Sample: Analysis: Analyst: Param	Flag 197262 TPH KM	Result 2.66 - North Area-2 Analytical Method:	Units mg/Kg E 418.1 N/A	Dilution 2 QC Batch: Prep Batch: Units	QC20561	Date Analyzed: Date Prepared:	RDL 1 5/24/02
Param Chloride Sample: Analysis: Analyst: Param	Flag 197262 TPH KM	Result 2.66 - North Area-2 Analytical Method: Preparation Method:	Units mg/Kg E 418.1 N/A	Dilution 2 QC Batch: Prep Batch:	QC20561 PB19623	Date Analyzed: Date Prepared: ion	RDL 1 5/24/02 5/19/02
Param Chloride Sample: Analysis: Analyst: Param	Flag 197262 TPH KM	Result 2.66 - North Area-2 Analytical Method: Preparation Method: 'lag Resu	Units mg/Kg E 418.1 N/A	Dilution 2 QC Batch: Prep Batch: Units	QC20561 PB19623 Diluti	Date Analyzed: Date Prepared: ion	RDL 1 5/24/02 5/19/02 RDL
Param Chloride Sample: Analysis: Analyst: Param	Flag 197262 TPH KM	Result 2.66 - North Area-2 Analytical Method: Preparation Method: 'lag Resu	Units mg/Kg E 418.1 N/A	Dilution 2 QC Batch: Prep Batch: Units	QC20561 PB19623 Diluti	Date Analyzed: Date Prepared: ion	RDL 1 5/24/02 5/19/02 RDL
Param Chloride Sample: Analysis: Analyst: Param TRPHC	Flag 197262 TPH KM F	Result 2.66 2 - North Area-2 Analytical Method: Preparation Method: 'lag Resu 904	Units mg/Kg E 418.1 N/A alt	Dilution 2 QC Batch: Prep Batch: Units	QC20561 PB19623 Diluti	Date Analyzed: Date Prepared: ion	RDL 1 5/24/02 5/19/02 RDL
Param Chloride Sample: Analysis: Analyst: Param TRPHC Sample:	Flag 197262 TPH KM F 197263	Result 2.66 2 - North Area-2 Analytical Method: Preparation Method: lag Resu 904 - North Area-4	Units mg/Kg E 418.1 N/A ult 40	Dilution 2 QC Batch: Prep Batch: Units mg/Kg	QC20561 PB19623 Diluti 100	Date Analyzed: Date Prepared: ion	RDL 1 5/24/02 5/19/02 RDL 10
Param Chloride Sample: Analysis: Analyst: Param TRPHC Sample: Analysis:	Flag 197262 TPH KM F	Result 2.66 2 - North Area-2 Analytical Method: Preparation Method: 'lag Resu 904 - North Area-4 Analytical Method:	Units mg/Kg E 418.1 N/A llt 40 '-6' S 8021B	Dilution 2 QC Batch: Prep Batch: Units mg/Kg QC Batch:	QC20561 PB19623 Diluti 100 QC20519	Date Analyzed: Date Prepared: ion	RDL 1 5/24/02 5/19/02 RDL 10 5/17/02
Param Chloride Sample: Analysis: Analyst: Param TRPHC Sample: Analysis:	Flag 197262 TPH KM F 197263 BTEX	Result 2.66 2 - North Area-2 Analytical Method: Preparation Method: lag Resu 904 - North Area-4	Units mg/Kg E 418.1 N/A llt 40 '-6' S 8021B	Dilution 2 QC Batch: Prep Batch: Units mg/Kg	QC20561 PB19623 Diluti 100	Date Analyzed: Date Prepared: ion ) Date Analyzed:	RDL 1 5/24/02 5/19/02 RDL 10
Param Chloride Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analysis:	Flag 197262 TPH KM F 197263 BTEX	Result 2.66 2 - North Area-2 Analytical Method: Preparation Method: 'lag Resu 904 - North Area-4 Analytical Method:	Units mg/Kg E 418.1 N/A llt 40 '-6' S 8021B	Dilution 2 QC Batch: Prep Batch: Units mg/Kg QC Batch:	QC20561 PB19623 Diluti 100 QC20519 PB19591	Date Analyzed: Date Prepared: ion ) Date Analyzed:	RDL 1 5/24/02 5/19/02 RDL 10 5/17/02 5/17/02 RDL
Param Chloride Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene	Flag 197262 TPH KM F 197263 BTEX	Result 2.66 - North Area-2 Analytical Method: Preparation Method: 'lag Resu 904 - North Area-4 Analytical Method: Preparation Method	Units mg/Kg E 418.1 N/A dlt 40 '-6' S 8021B E: S 5035	Dilution 2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch:	QC20561 PB19623 Diluti 100 QC20519 PB19591	Date Analyzed: Date Prepared: ion Date Analyzed: Date Prepared:	RDL 5/24/02 5/19/02 RDL 10 5/17/02 5/17/02
Param Chloride Sample: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene Toluene	Flag 197262 TPH KM F 197263 BTEX CG	Result 2.66 - North Area-2 Analytical Method: Preparation Method: 'lag Resu 904 - North Area-4 Analytical Method: Preparation Method	Units mg/Kg E 418.1 N/A ult 40 '-6' S 8021B I: S 5035 Result	Dilution 2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units	QC20561 PB19623 Diluti 100 QC20519 PB19591	Date Analyzed: Date Prepared: ion ) Date Analyzed: Date Prepared: Dilution	RDL 1 5/24/02 5/19/02 RDL 10 5/17/02 5/17/02 S/17/02 RDL 0.001 0.001
Param Chloride Sample: Analysis: Analysis: Analyst: Param TRPHC Sample: Analysis: Analyst: Param Benzene Toluene	Flag 197262 TPH KM F 197263 BTEX CG	Result 2.66 - North Area-2 Analytical Method: Preparation Method: 'lag Resu 904 - North Area-4 Analytical Method: Preparation Method	Units mg/Kg E 418.1 N/A ult 40 '-6' S 8021B I: S 5035 Result <0.010	Dilution 2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg	QC20561 PB19623 Diluti 100 QC20519 PB19591	Date Analyzed: Date Prepared: ion ) Date Analyzed: Date Prepared: Dilution 10	RDL 1 5/24/02 5/19/02 RDL 10 5/17/02 5/17/02 5/17/02 RDL 0.001
Param Chloride Sample: Analysis: Analyst: Param TRPHC Sample:	Flag 197262 TPH KM F 197263 BTEX CG e	Result 2.66 - North Area-2 Analytical Method: Preparation Method: 'lag Resu 904 - North Area-4 Analytical Method: Preparation Method	Units mg/Kg E 418.1 N/A alt 40 '-6' S 8021B I: S 5035 Result <0.010 <0.010	Dilution 2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg	QC20561 PB19623 Diluti 100 QC20519 PB19591	Date Analyzed: Date Prepared: ion ) Date Analyzed: Date Prepared: Dilution 10 10	RDL 1 5/24/02 5/19/02 RDL 10 5/17/02 5/17/02 S/17/02 RDL 0.001 0.001

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Report Da N/A	ate: June 5,	2002	Order Nu	mber: A020517 Maralo	16	•	mber: 3 of 1 otheny Ranc
	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Surrogate	r lag	0.897	mg/Kg	10	1	<u></u>	70 - 130
<b>FFT</b>		0.749	mg/Kg	10	1	89 74	70 - 130
-BFB		0.149	mg/ Rg		<b>1</b>		10-130
Sample:		B - North Are					
Analysis: Analyst:	Ion Chron JSW	matography (IC) A H	Analytical Method Preparation Metho		C Batch: ep Batch:	QC20761 Date Analy PB19790 Date Prepa	
Param	Flag		Units	Dilution			RDL
Chloride		3.12	mg/Kg	2		· · · · · · · · · · · · · · · · · · ·	1
Sample:	197263	3 - North Are	a-4'-6'				
Analysis:	TPH	Analytical Metho		QC Batch:	QC20561	Date Analyzed:	5/24/02
nalyst:	KM	Preparation Metl		Prep Batch:	PB19623	Date Prepared:	5/19/02
			<b>.</b> .	TT	Dilu	tion	RDL
aram	Ē	Flag F	Result	Units			
Param FRPHC	<u> </u>	Flag I	8710	mg/Kg	10		10
CRPHC Sample:		Flag Flag Flag Flag Flag Flag Flag Flag	8710 <b>a-6-8'</b> od: S 8021B				
CRPHC Sample: analysis: analyst:	<b>19726</b> 4 BTEX	4 - North Are: Analytical Meth Preparation Met	8710 <b>a-6-8'</b> od: S 8021B	mg/Kg QC Batch:	10 QC20528	0 Date Analyzed:	10
ample: nalysis: nalyst: aram	<b>19726</b> 4 BTEX	- North Area Analytical Meth	8710 a-6-8' od: S 8021B thod: S 5035	mg/Kg QC Batch: Prep Batch: Units	10 QC20528 PB19598	0 Date Analyzed: Date Prepared:	10 5/17/02 5/17/02
ample: nalysis: nalyst: aram enzene	<b>19726</b> 4 BTEX	4 - North Are: Analytical Meth Preparation Met	8710 a-6-8' od: S 8021B thod: S 5035 Result	mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg	10 QC20528 PB19598	0 Date Analyzed: Date Prepared: Dilution	10 5/17/02 5/17/02 RDL
CRPHC Sample: Inalysis: Inalyst: aram enzene oluene	<b>19726</b> 4 BTEX CG	4 - North Are: Analytical Meth Preparation Met	8710 <b>a-6-8'</b> od: S 8021B thod: S 5035 <u>Result</u> <0.050 <0.050 <0.050	mg/Kg QC Batch: Prep Batch: Units mg/Kg	10 QC20528 PB19598	0 Date Analyzed: Date Prepared: Dilution 50 50 50	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001
CRPHC Sample: Inalysis: Inalyst: Param Senzene Soluene thylbenze: I,P,O-Xyle	197264 BTEX CG ne ene	4 - North Are: Analytical Meth Preparation Met	8710 a-6-8' od: S 8021B thod: S 5035 <u>Result</u> <0.050 <0.050 0.277	mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598	0 Date Analyzed: Date Prepared: Dilution 50 50 50 50 50	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001
CRPHC Sample: Inalysis: Inalysis: aram enzene oluene thylbenze: f,P,O-Xyle otal BTE2	197264 BTEX CG ne ene X	4 - North Are: Analytical Meth Preparation Met Flag	8710 a-6-8' od: S 8021B thod: S 5035 <u>Result</u> <0.050 <0.050 0.277 0.277	mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598	0 Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 50 50	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001
CRPHC Sample: Analysis: Analysis: Param Benzene Coluene Chylbenze: A,P,O-Xyle otal BTE2	197264 BTEX CG ne ene X	4 - North Are: Analytical Meth Preparation Met	8710 a-6-8' od: S 8021B thod: S 5035 <u>Result</u> <0.050 <0.050 0.277	mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598	0 Date Analyzed: Date Prepared: Dilution 50 50 50 50 50	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001
	197264 BTEX CG ne ene X	4 - North Are: Analytical Meth Preparation Met Flag	8710 a-6-8' od: S 8021B thod: S 5035 <u>Result</u> <0.050 <0.050 0.277 0.277	mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598	0 Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 50 1	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001
CRPHC Sample: Inalysis: Inalyst: Param Jenzene Joluene Soluene	197264 BTEX CG ne ene X vents	I - North Area Analytical Meth Preparation Met Flag	8710 <b>a-6-8'</b> od: S 8021B chod: S 5035 <u>Result</u> <0.050 <0.050 <0.050 0.277 0.277 *	mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598 Spike	0 Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 50 50 1 Percent	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovéry
RPHC ample: nalysis: nalyst: aram enzene oluene thylbenze: L,P,O-Xyle otal BTE2 est Comm	197264 BTEX CG ne ene X	I - North Are: Analytical Meth Preparation Met Flag 1 Result	8710 a-6-8' od: S 8021B thod: S 5035 Result <0.050 <0.050 <0.050 0.277 0.277 *	mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598 Spike Amount	Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 50 1 Percent Recovery	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits
CRPHC Sample: Inalysis: Inalysis: Inalysis: Varam Jenzene Joluene Inalysis: Inalysis: Inalysis: Comm	197264 BTEX CG ne ene X ients Flag 197264	<ul> <li>I - North Area Analytical Meth Preparation Met Flag</li> <li>1</li> <li>Result 0.747</li> <li>North Area natography (IC) A</li> </ul>	8710 a-6-8' od: S 8021B shod: S 5035 Result <0.050 <0.050 <0.050 0.277 0.277 * Units mg/Kg	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598 Spike Amount 1 Batch:	0 Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 1 Percent Recovery 74 QC20761 Date Analyz	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130
<b>Sample:</b> Analysis: Analysis: Param Benzene Coluene Chylbenze: A,P,O-Xyle otal BTE2	197264 BTEX CG ne ene X kents Flag 197264 Ion Chrom	<ul> <li>I - North Area Analytical Meth Preparation Met Flag</li> <li>1</li> <li>Result 0.747</li> <li>North Area natography (IC) A</li> </ul>	8710 a-6-8' od: S 8021B chod: S 5035 Result <0.050 <0.050 <0.050 0.277 0.277 * Units mg/Kg a-6-8' nalytical Method:	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	10 QC20528 PB19598 Spike Amount 1 Batch:	0 Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 1 Percent Recovery 74	10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130

<sup>1</sup>Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0318 which is lower than the RDL but :eater than the MDL of 0.01183.

			N N				
Report Da N/A	ate: June 5,	2002	Order N	umber: A020517 Maralo		Page Number: 4 of 18 Jay Anotheny Ranch	
Sample:	19726	4 - North Are	ea-6-8'				
Analysis: Analyst:	TPH KM	Analytical Meth Preparation Met		QC Batch: Prep Batch:	QC20561 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
Param	· ]	Flag	Result	Units	Dilut	tion	RDL
TRPHC			10900	mg/Kg	30	)	10
Sample:	197265	5 - North Are	a-10-12'				
Analysis:	BTEX	Analytical Metl	nod: S 8021B	QC Batch:	QC20528	Date Analyzed:	5/17/02
Analyst:	CG	Preparation Me	thod: S 5035	Prep Batch:	PB19598	Date Prepared:	5/17/02
Param		Flag	Result	Units		Dilution	RDL
Benzene			<0.100	mg/Kg		100	0.001
Foluene			<0.100	mg/Kg		100	0.001
Ethylbenze			0.22	mg/Kg		100	0.001
M,P,O-Xyle			0.583	mg/Kg		100	0.001
fotal BTE		2	0.803	mg/Kg		100	0.001
est Comm	ients			mg/Kg	· · · · · · · · · · · · · · · · · · ·	1	
· .			•				
		~ •			Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
rft DDD	3	0.963	mg/Kg	100	1	96	70 - 130
-BFB		2.24	mg/Kg	50	1	224	70 - 130
						·	
			· . ·	·			
			· · · ·				• • •
-		- North Area					
nalysis:		atography (IC) A				QC20761 Date Analyz PB19790 Date Prepar	
nalysis: nalyst:	Ion Chrom JSW	aatography (IC) A P	nalytical Method reparation Metho	od: N/A Pre			ed: 6/4/02
Analysis: Analyst: Param	Ion Chrom	natography (IC) A P Result	nalytical Method reparation Metho Units	od: N/A Pre Dilution			
Analysis: Analyst: Param	Ion Chrom JSW	aatography (IC) A P	nalytical Method reparation Metho	od: N/A Pre			ed: 6/4/02
Analysis: Analyst: Param	Ion Chrom JSW	natography (IC) A P Result	nalytical Method reparation Metho Units	od: N/A Pre Dilution			ed: 6/4/02
Analysis: Analyst: Param Zhloride	Ion Chrom JSW Flag	natography (IC) A P Result	nalytical Method reparation Metho Units mg/Kg	od: N/A Pre Dilution			ed: 6/4/02
Analysis: Analyst: Param Chloride	Ion Chrom JSW Flag 197265 TPH	Analytical Method	nalytical Method reparation Method Units mg/Kg a-10-12' d: E 418.1	od: N/A Pre Dilution 5			ed: 6/4/02
analysis: nalyst: aram chloride ample: nalysis:	Ion Chrom JSW Flag 197265 TPH	natography (IC) A P Result 5.87 - North Area	nalytical Method reparation Method Units mg/Kg a-10-12' d: E 418.1	od: N/A Pre Dilution 5 QC Batch: (	p Batch: I	B19790 Date Prepar	ed: 6/4/02 RDL 1
analysis: nalyst: aram hloride ample: nalysis: nalyst: aram	Ion Chrom JSW Flag 197265 TPH KM	Analytical Metho P	nalytical Method reparation Method Units mg/Kg a-10-12' d: E 418.1	od: N/A Pre Dilution 5 QC Batch: (	p Batch: H	B19790 Date Prepar Date Analyzed: Date Prepared:	ed: 6/4/02 RDL 1 5/24/02
Analysis: Analyst: Param Chloride Sample: analysis: analyst: Param	Ion Chrom JSW Flag 197265 TPH KM	Analytical Metho P Result 5.87 - North Area Analytical Metho Preparation Metho ag R	nalytical Method reparation Method Units mg/Kg a-10-12' d: E 418.1 od: N/A	od: N/A Pre Dilution 5 QC Batch: QC Batch: G Prep Batch: H	p Batch: I QC20561 PB19623	B19790 Date Prepar Date Analyzed: Date Prepared:	ed: 6/4/02 RDL 1 5/24/02 5/19/02
Sample: Analysis: Param Chloride Sample: analysis: analyst: Param RPHC	Ion Chrom JSW Flag 197265 TPH KM	Analytical Metho P Result 5.87 - North Area Analytical Metho Preparation Metho ag R	nalytical Method reparation Method <u>Units</u> mg/Kg a-10-12' d: E 418.1 od: N/A esult	od: N/A Pre Dilution 5 QC Batch: C Prep Batch: H Units	p Batch: I QC20561 PB19623 Dilutio	B19790 Date Prepar Date Analyzed: Date Prepared:	ed: 6/4/02 RDL 1 5/24/02 5/19/02 RDL
Analysis: Analysis: Param Chloride Analysis: Analysis: Analysis: Aram RPHC	Ion Chrom JSW Flag 197265 TPH KM Fl	Analytical Metho P Result 5.87 - North Area Analytical Metho Preparation Metho ag R	nalytical Method reparation Method Units mg/Kg a-10-12' d: E 418.1 od: N/A esult 2900	od: N/A Pre Dilution 5 QC Batch: C Prep Batch: H Units	p Batch: I QC20561 PB19623 Dilutio	B19790 Date Prepar Date Analyzed: Date Prepared:	ed: 6/4/02 RDL 1 5/24/02 5/19/02 RDL
Analysis: Analyst: Param Chloride Sample: analysis: analyst: Param	Ion Chrom JSW Flag 197265 TPH KM Fl	hatography (IC) A P Result 5.87 - North Area Analytical Metho Preparation Meth lag R 1	nalytical Method reparation Method Units mg/Kg a-10-12' d: E 418.1 od: N/A esult 2900	od: N/A Pre Dilution 5 QC Batch: QC Batch: QC Batch: QC Batch: Dilutis QC Batch: Dilutis	p Batch: I QC20561 PB19623 Dilutio	B19790 Date Prepar Date Analyzed: Date Prepared:	ed: 6/4/02 RDL 1 5/24/02 5/19/02 RDL

 $^{2}$ Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0202 which is lower than the RDL but greater than the MDL of 0.0237.  $^{3}$ High surrogate recovery due to peak interference.

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Report Dat N/A	be: June 5,	2002	Order N	umber: A020513 Maralo	716	Page Number: 5 of 18 Jay Anotheny Ranch		
Param		Flag	Result	Units	· · · · ·	Dilution	RDI	
Benzene	· ·		0.0937	mg/Kg		50	0.00	
Foluene			< 0.050	mg/Kg		50	0.00	
Ethylbenzer	ne		0.305	mg/Kg		50	0.00	
A,P,O-Xyle			0.96	mg/Kg		50	0.00	
Cotal BTEX			1.36	mg/Kg		50	0.00	
OUL DIDI		<u></u>				i		
					Spike	Percent	Recovery	
Surrogate	Flag	Result	Units	Dilution	$\operatorname{Amount}$	Recovery	Limits	
<b>FT</b>		0.9	mg/Kg	50	. 1	90	70 - 130	
-BFB	4	3.32	mg/Kg	100	1	332	70 - 130	
ample: nalysis: nalyst:			e <b>a-15'-17'</b> Analytical Metho Preparation Meth			QC20761 Date Analy PB19790 Date Prepa		
aram	Flag	Result	Units	Dilution			RDI	
		ICOULU	Umis					
ample:	197266	3.37 5 - North Are	mg/Kg ea-15'-17'	2	0020561	Data Analyzadi	5 /24 /02	
ample:	******	3.37	mg/Kg e <b>a-15'-17'</b> od: E 418.1		QC20561 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02	
ample: nalysis: nalyst:	<b>197266</b> ТРН КМ	3.37 5 - North Are Analytical Meth Preparation Met	mg/Kg e <b>a-15'-17'</b> od: E 418.1	QC Batch:	•	Date Prepared:	5/19/02	
ample: .nalysis: .nalyst: aram	<b>197266</b> ТРН КМ	3.37 5 - North Are Analytical Meth Preparation Met	mg/Kg ea-15'-17' od: E 418.1 chod: N/A	2 QC Batch: Prep Batch:	PB19623	Date Prepared: tion	5/19/02 RDL	
ample: nalysis: nalyst: aram RPHC	<b>197266</b> ТРН КМ	3.37 5 - North Are Analytical Meth Preparation Met	mg/Kg ea-15'-17' od: E 418.1 shod: N/A Result 14900	QC Batch: Prep Batch: Units	PB19623 Dilut	Date Prepared: tion	5/19/02 RDL	
ample: nalysis: nalyst: aram RPHC ample:	<b>197266</b> ТРН КМ F	3.37 - North Are Analytical Meth Preparation Met	mg/Kg ea-15'-17' od: E 418.1 .hod: N/A Result 14900 ea-20-22'	QC Batch: Prep Batch: Units	PB19623 Dilut	Date Prepared:	5/19/02 	
ample: nalysis: nalyst: aram RPHC ample: nalysis:	197266 ТРН КМ F 197267	3.37 - North Are Analytical Meth Preparation Met 'lag - North Are	mg/Kg ea-15'-17' od: E 418.1 .hod: N/A Result 14900 ea-20-22' hod: S 8021B	2 QC Batch: Prep Batch: Units mg/Kg	PB19623 Dilut 30	Date Prepared: tion	5/19/02 RDL 10 5/17/02	
ample: nalysis: nalyst: aram RPHC ample: nalysis: nalysis:	197266 ТРН КМ <b>F</b> 197267 ВТЕХ	3.37 <b>5 - North Are</b> Analytical Meth Preparation Met `lag <b>- North Are</b> Analytical Meth Preparation Me	mg/Kg ea-15'-17' od: E 418.1 shod: N/A Result 14900 ea-20-22' hod: S 8021B sthod: S 5035	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch:	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion ) Date Analyzed: Date Prepared:	5/19/02 RDL 10 5/17/02 5/17/02	
ample: nalysis: nalyst: aram RPHC ample: nalysis: nalysis: nalyst: aram	197266 ТРН КМ <b>F</b> 197267 ВТЕХ	3.37 5 - North Are Analytical Meth Preparation Met <sup>'lag</sup> - North Are Analytical Meth	mg/Kg ea-15'-17' od: E 418.1 shod: N/A Result 14900 ea-20-22' hod: S 8021B sthod: S 5035 Result	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion Date Analyzed: Date Prepared: Dilution	5/19/02 RDL 10 5/17/02 5/17/02 RDL	
ample: .nalysis: .nalyst: aram RPHC ample: nalysis: nalyst: aram enzene	197266 ТРН КМ <b>F</b> 197267 ВТЕХ	3.37 <b>5 - North Are</b> Analytical Meth Preparation Met `lag <b>- North Are</b> Analytical Meth Preparation Me	mg/Kg ea-15'-17' od: E 418.1 shod: N/A Result 14900 ea-20-22' hod: S 8021B sthod: S 5035 Result 0.0723	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50	5/19/02 RDL 10 5/17/02 5/17/02 RDL 0.001	
Sample: Inalysis: Inalyst: Param RPHC Ample: nalysis: nalyst: aram enzene oluene	197266 ТРН КМ F 197267 ВТЕХ CG	3.37 <b>5 - North Are</b> Analytical Meth Preparation Met `lag <b>- North Are</b> Analytical Meth Preparation Me	mg/Kg ea-15'-17' od: E 418.1 shod: N/A Result 14900 ea-20-22' hod: S 8021B sthod: S 5035 Result 0.0723 <0.050	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50 50 50	5/19/02 RDL 10 5/17/02 5/17/02 RDL 0.001 0.001	
ample: nalysis: nalyst: aram RPHC ample: nalysis: nalyst: aram enzene oluene thylbenzene	197266 TPH KM F 197267 BTEX CG e	3.37 <b>5 - North Are</b> Analytical Meth Preparation Met `lag <b>- North Are</b> Analytical Meth Preparation Me	mg/Kg ea-15'-17' od: E 418.1 chod: N/A Result 14900 ea-20-22' hod: S 8021B thod: S 5035 Result 0.0723 <0.050 0.151	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50 50 50 50	5/19/02 RDL 10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001	
ample: nalysis: nalyst: aram RPHC ample: nalysis: nalyst: aram enzene bluene .hylbenzene ,P,O-Xylen	197266 TPH KM F 197267 BTEX CG e ne	3.37 <b>5 - North Are</b> Analytical Meth Preparation Met `lag <b>- North Are</b> Analytical Meth Preparation Me	mg/Kg ea-15'-17' od: E 418.1 chod: N/A Result 14900 ea-20-22' hod: S 8021B cthod: S 5035 Result 0.0723 <0.050 0.151 0.576	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50 50 50 50 50	5/19/02 RDL 10 5/17/02 5/17/02 S/17/02 RDL 0.001 0.001 0.001 0.001	
ample: nalysis: nalyst: aram RPHC ample: nalysis: nalyst: aram enzene bluene thylbenzene ,P,O-Xylen	197266 TPH KM F 197267 BTEX CG e ne	3.37 <b>5 - North Are</b> Analytical Meth Preparation Met `lag <b>- North Are</b> Analytical Meth Preparation Me	mg/Kg ea-15'-17' od: E 418.1 chod: N/A Result 14900 ea-20-22' hod: S 8021B thod: S 5035 Result 0.0723 <0.050 0.151	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50 50 50 50	5/19/02 <u>RDI</u> 10 5/17/02 5/17/02 5/17/02 <u>RDL</u> 0.001 0.001 0.001 0.001 0.001	
ample: nalysis: nalyst: aram RPHC ample: nalysis: nalyst: aram enzene oluene thylbenzene thylbenzene thylbenzene chylbenzene	197266 TPH KM F 197267 BTEX CG e he	3.37 5 - North Are Analytical Meth Preparation Met <sup>'lag</sup> - North Are Analytical Meth Preparation Me Flag	$\frac{mg/Kg}{ea-15'-17'}$ od: E 418.1 shod: N/A Result 14900 ea-20-22' hod: S 8021B sthod: S 5035 Result 0.0723 <0.050 0.151 0.576 0.799	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB19623 Dilut 30 QC20528 PB19598 Spike	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 50 50 50 50 50	5/19/02 RDL 10 5/17/02 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001 0.001 0.001 Recovery	
nalyst: aram enzene oluene thylbenzene I,P,O-Xylen otal BTEX urrogate	197266 TPH KM F 197267 BTEX CG e he Flag	3.37 <b>5 - North Are</b> Analytical Meth Preparation Met <sup>1</sup> lag <b>- North Are</b> Analytical Meth Preparation Me Flag Result	mg/Kg ea-15'-17' od: E 418.1 thod: N/A Result 14900 ea-20-22' hod: S 8021B thod: S 8021B thod: S 5035 Result 0.0723 <0.050 0.151 0.576 0.799 Units	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB19623 Dilut 30 QC20528 PB19598	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 50 50 50 50 50	5/19/02 RDL 10 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001 0.001	
Sample: Inalysis: Inalyst: Param RPHC ample: nalysis: nalyst: aram enzene oluene thylbenzene thylbenzene thylbenzene thylbenzene thylbenzene	197266 TPH KM F 197267 BTEX CG e he	3.37 5 - North Are Analytical Meth Preparation Met <sup>'lag</sup> - North Are Analytical Meth Preparation Me Flag	$\frac{mg/Kg}{ea-15'-17'}$ od: E 418.1 shod: N/A Result 14900 ea-20-22' hod: S 8021B sthod: S 5035 Result 0.0723 <0.050 0.151 0.576 0.799	2 QC Batch: Prep Batch: Units mg/Kg QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	PB19623 Dilut 30 QC20528 PB19598 Spike	Date Prepared: tion Date Analyzed: Date Prepared: Dilution 50 50 50 50 50 50 50 50 50 50	5/19/02 RDL 10 5/17/02 5/17/02 5/17/02 RDL 0.001 0.001 0.001 0.001 0.001 0.001 Recovery	

<sup>4</sup>High surrogate recovery due to peak interference. <sup>5</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>6</sup>High surrogate recovery due to peak interference.

Sample: Analysis: Analyst: Param Chloride		7 - North Ar natography (IC)	ea-20-22' Analytical Meth				
	Flag		Preparation Me		QC Batch: Prep Batch:	QC20761 Date Anal PB19790 Date Prep	
Chloride		Result	Units	Dilutio	n		RDL
		18.1	mg/Kg	2		· ·	1
						· · ·	
Sample:	197267	' - North Ar	ea-20-22'				
Analysis:	TPH	Analytical Meth		QC Batch:	QC20561	Date Analyzed:	5/24/02
Analyst:	KM	Preparation Me	thod: N/A	Prep Batch	: PB19623	Date Prepared:	5/19/02
Param	म	`lag	Result	Units	Dilt	ition	RDL
TRPHC			12700	mg/Kg		80	10
				<u> </u>	······································		
		а 					
Sample	107969	- North Are	00 95 971	· .		. · · ·	
Sample: Analysis:	197208 BTEX	- North An Analytical Met		QC Batch	: QC20528	Date Analyzed:	5/17/02
Analysis.	CG	Preparation Me		Prep Batch	•	-	5/17/02
Allouy SU.	00	I Teparation M		TTCP Date	II. I D10000	Duto I Topulou	0/11/01
Param		Flag	Result	Uni	ts	Dilution	RDL
Benzene		°	< 0.100	mg/l	Kg	100	0.001
Toluene			<0.100	mg/l		100	0.001
Ethylbenzer			0.274	mg/l		100	0.001
M,P,O-Xyle			0.921	mg/l		. 100	0.001
Total BTE		7	1.20 *	mg/l		100	0.001
Test Comm	ents	•		mg/l	٨g	1	-
				· · ·			
•			· · ·		Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	8	0.557	mg/Kg	100	1	55	70 - 130
4-BFB		3.19	mg/Kg	. 50	1	319	70 - 130
		.'	÷ .			·	,
				:			
Sample:	197268	- North Are	ea-25-27'	·			
Analysis:			Analytical Metho		QC Batch:	QC20761 Date Analy	
Analyst:	JSW	. ]	Preparation Metl	nod: N/A I	Prep Batch:	PB19790 Date Prepar	red: $6/4/02$
Param	Flag	Result	Units	Dilution	L		RDL
	0	66.9		5			1
Chloride Sample:			mg/Kg				

Analysis:	TPH	Analytical Method:	E 418.1	QC Batch:	QC20561	Date Analyzed:	5/24/02
Analyst:	KM	Preparation Method:	N/A	Prep Batch:	PB19623	Date Prepared:	5/19/02

<sup>&</sup>lt;sup>7</sup>Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0801 which is lower than the RDL but greater than the MDL of 0.02366. <sup>8</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>9</sup>High surrogate recovery due to peak interference.

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Report Date: June 5, 2002 N/A	·	•	Order Number: A02051716 Maralo	Page Number: 7 of 18 Jay Anotheny Ranch

Param	Flag	Result	Units	Dilution	RDL
TRPHC		12600	mg/Kg	30	10

Sample:	197269	-	$\mathbf{SW}$	Area	5'
-					

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method	S 8021B I: S 5035	QC Batch: Prep Batch:	QC20528 PB19598	Date Analyzed: Date Prepared:	5/17/02 5/17/02
Param	•	Flag	Result	Units	Di	lution	RDL
Benzene		<u></u>	0.111	mg/Kg		50	0.001
Toluene			<0.050	mg/Kg		50	0.001
Ethylbenze	ne		0.402	mg/Kg		50	0.001
M,P,O-Xyle	ene		0.741	mg/Kg		50	0.001
Total BTE			1.25	mg/Kg		50	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	10	0.381	mg/Kg	50	1	38	70 - 130
4-BFB	11	3.07	mg/Kg	100	1	307	70 - 130

#### 197269 - SW Area 5' Sample:

Analysis:	Ion Chromatography (IC	) Analytical Method:	E 300.	0 QC Batch:	QC20761 Date Analyzed: 6/5/02
Analyst:	JSW	Preparation Method:	N/A	Prep Batch:	PB19790 Date Prepared: 6/4/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		54.1	mg/Kg	50	1

Sample: Analysis: Analyst:	<b>1972</b> TPH KM	•		E 418.1 N/A	QC Batch: Prep Batch:	QC20561 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
aram		Flag	Result		Units	Dilutio	n ·	RDL
<b>TRPHC</b>			18800		mg/Kg	30		10

÷.

Sample: Analysis: Analyst:	<b>197270</b> BTEX CG	- SW Area 10' Analytical Method: Preparation Method:	S 8021B S 5035	QC Batch: Prep Batch:	QC20528 Date Analyzed: PB19598 Date Prepared:	5/17/02 5/17/02
'aram		Flag	Result	Units	Dilution	RDL
Benzene			0.179	mg/Kg	100	0.001
bluene		<	<0.100	mg/Kg	100	0.001
thylbenzer	ne		0.38	mg/Kg	100	0.001
1,P,O-Xyle	ne		0.792	mg/Kg	100	0.001
otal BTEX	K j		1.35	mg/Kg	100	0.001

<sup>10</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>11</sup>High surrogate recovery due to peak interference.

				<i>.</i>	· · · ·		
Report Da N/A	te: June 5,	2002	Order	Number: A02051 Maralo	.716		mber: 8 of 1 otheny Ranc
0	Flor	Denult	TT-:t-	D:1-4'	Spike	Percent	Recovery
Surrogate TFT	Flag	Result 0.463	Units mg/Kg	Dilution 100	Amount 1	Recovery 46	Limits 70 - 130
4-BFB	13	3.09	mg/Kg	50	1	40 309	70 - 130
4-DFD	<u>.                                    </u>		ing/ing	00		003	10-130
							•
~ .	108080		101				
Sample:		-SWAre					
Analysis:	JSW	natograpny (IC	) Analytical Meth Preparation Me		QC Batch: Prep Batch:	QC20761 Date Anal PB19790 Date Prep	
Analyst:	1210		r reparation Me	uliou: N/A r	Tep Daten:	r Dialao Dale Lieb	$a_1e_1, 0/4/02$
Param	Flag	Result	Units	Dilution			RDL
Chloride		5.83	mg/Kg	5	<u></u>		1
				······································	· · · ·	•	
				с	· .	. •	
Sample:	107270	- SW Area	10'				
Analysis:	TPH	Analytical Me		QC Batch:	QC20562	Date Analyzed:	5/24/02
Analyst:	KM	Preparation M		Prep Batch:	PB19623	Date Prepared:	5/19/02
				T top Datom.	1 010000		0, 20, 02
Param	F	lag	Result	Units	Dilu	tion	RDL
TRPHC			25400	mg/Kg	3	0 .	10
							–
		·				1997 (B)	
Sample:	197271	- SW Area	15'				
Analysis:	BTEX	Analytical Me		QC Batch:	QC20528	Date Analyzed:	5/17/02
Analyst:	CG	Preparation M		Prep Batch	•	Date Prepared:	5/17/02
•		-		-		-	
Param		Flag	Result	Units		Dilution	RDL
Benzene			0.12	mg/Kg		100	0.001
Toluene		· · ·	<0.100	mg/Kg	1. State 1.	100	0.001
Ethylbenzen			0.432	mg/Kg		100	0.001
M,P,O-Xyler Fotal BTEX			0.672	mg/Kg		100	0.001
	<u> </u>	<u></u>	1.22	mg/Kg		100	0.001
				•			
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
<b>FT</b>	14	0.661	mg/Kg	100	1	66	70 - 130
-BFB	15	2.33	mg/Kg	100	· 1	233	70 - 130
·							
• <u> </u>							
·							
ample.	197971	- SW Area	15'		· ·		
-		- SW Area		od E 300.0 O	C Batch	OC20761 Date Analy	zed: 6/5/02
nalysis:	Ion Chrom		Analytical Metho			QC20761 Date Analy PB19790 Date Prepa	
nalysis:						QC20761 Date Analy PB19790 Date Prepa	
	Ion Chrom		Analytical Metho			-	

<sup>12</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>13</sup>High surrogate recovery due to peak interference. <sup>14</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>15</sup>High surrogate recovery due to peak interference.

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Report Date: June 5, 2002			Order Number: A02051716 Maralo				Page Number: 9 of 18 Jay Anotheny Ranch	
Sample:	19727	1 - SW Area	a 15'			· · ·		
Analysis:	TPH	Analytical Met		E 418.1	QC Batch:	QC20562	Date Analyzed:	5/24/02
	KM	Preparation M		N/A	Prep Batch:	PB19623	Date Prepared:	5/19/02
Analyst:	IXIVI	1 reparation M	cunou.	N/A	riep baten.	1 D13020	Date I Teparcu.	0/19/02
Param		Flag	Result		Units	Dilu	tion	RDL
TRPHC		1 3005	13100		mg/Kg	3		10
			10200		6/ 116		·	
Sample:	19727	2 - SW Area	20'					
Analysis:	BTEX	Analytical Me	thod:	S 8021B	QC Batch:	QC20528	Date Analyzed:	5/17/02
Analyst:	ĊĠ	Preparation M		S 5035	Prep Batch:	•	-	5/17/02
•		-			-			
Param		Flag		esult	Units	<u>.</u>	Dilution	RDL
Benzene				).010	mg/Kg		10	0.001
Foluene				).010	mg/Kg		10	0.001
Ethylbenze	ne		. (	).038	mg/Kg		10	0.001
M,P,O-Xyle	ene		0.	0155	mg/Kg		10	0.001
Total BTE			0.	0535	mg/Kg		10	0.001
<u></u>	<u></u>							
		· · ·				G 11	D	D
						Spike	Percent	Recovery
1	T71	. D	T T-	-:+n		A	<b>D</b>	T · · · /
	Flag			nits	Dilution	Amount	Recovery	Limits
<b>TFT</b>	16	0.405	mg	/Kg	10	1	40	70 - 130
Surrogate TFT 4-BFB			mg					
TFT	16 17 19727:	0.405	mg mg 20' Analytic	/Kg /Kg	10 100 : E 300.0 QC	1 1 C Batch:	40 36 QC20760 Date Analy	70 - 130 70 - 130 rzed: 6/5/02
IFT 4-BFB Sample: Analysis: Analyst:	16 17 <b>19727</b> Ion Chron JSW	0.405 0.368 2 - SW Area matography (IC)	mg mg <b>20'</b> Analytic Preparat	/Kg /Kg al Method: ion Metho	10 100 : E 300.0 QC d: N/A Pro	1 1 C Batch:	40 36	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02
FFT 4-BFB Sample: Analysis: Analyst: Param	16 17 <b>19727</b> Ion Chron	0.405 0.368 2 - SW Area matography (IC) Result	mg mg <b>20'</b> Analytic Preparat	/Kg /Kg al Method: ion Metho Units	10 100 : E 300.0 QC d: N/A Pro Dilution	1 1 C Batch:	40 36 QC20760 Date Analy	70 - 130 70 - 130 rzed: 6/5/02
FFT 4-BFB Sample: Analysis: Analyst: Param	16 17 <b>19727</b> Ion Chron JSW	0.405 0.368 2 - SW Area matography (IC)	mg mg <b>20'</b> Analytic Preparat	/Kg /Kg al Method: ion Metho	10 100 : E 300.0 QC d: N/A Pro	1 1 C Batch:	40 36 QC20760 Date Analy	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02
FFT 4-BFB Sample: Analysis: Analyst: Param	16 17 <b>19727</b> Ion Chron JSW	0.405 0.368 2 - SW Area matography (IC) Result	mg mg <b>20'</b> Analytic Preparat	/Kg /Kg al Method: ion Metho Units	10 100 : E 300.0 QC d: N/A Pro Dilution	1 1 C Batch:	40 36 QC20760 Date Analy	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02
FFT 4-BFB Sample: Analysis: Analyst: Param Chloride	16 17 <b>19727</b> Ion Chron JSW Flag	0.405 0.368 2 - SW Area matography (IC) <u>Result</u> 10.2	mg mg 20' Analytic Preparat	/Kg /Kg al Method: ion Metho Units	10 100 : E 300.0 QC d: N/A Pro Dilution	1 1 C Batch:	40 36 QC20760 Date Analy	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02
EFT 4-BFB Analysis: Analysis: Analyst: Param Chloride	16 17 197272 Ion Chron JSW Flag 197272	0.405 0.368 2 - SW Area matography (IC) ; Result 10.2 2 - SW Area	mg mg 20' Analytic Preparat	/Kg /Kg al Method: ion Metho Units ng/Kg	10 100 : E 300.0 QC d: N/A Pro Dilution 10	1 1 C Batch: ep Batch:	40 36 QC20760 Date Analy PB19791 Date Prepa	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1
Sample: Analysis: Analyst: Param Chloride Sample: Analysis:	16 17 197272 Ion Chron JSW Flag 197272 TPH	0.405 0.368 2 - SW Area matography (IC) ; Result 10.2 2 - SW Area Analytical Meth	mg mg 20' Analytic Preparat	/Kg al Method: ion Method Units ng/Kg 418.1	10 100 : E 300.0 QC d: N/A Pro Dilution 10 QC Batch:	1 1 C Batch: ep Batch: QC20562	40 36 QC20760 Date Analy PB19791 Date Prepa Date Analyzed:	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1 5/24/02
FFT 4-BFB Sample: Analysis:	16 17 197272 Ion Chron JSW Flag 197272	0.405 0.368 2 - SW Area matography (IC) ; Result 10.2 2 - SW Area	mg mg 20' Analytic Preparat	/Kg /Kg al Method: ion Metho Units ng/Kg	10 100 : E 300.0 QC d: N/A Pro Dilution 10 QC Batch:	1 1 C Batch: ep Batch:	40 36 QC20760 Date Analy PB19791 Date Prepa	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1
FFT 4-BFB Sample: Analysis: Analyst: Param Chloride Sample: Analysis:	16 17 19727: Ion Chron JSW Flag 19727: TPH KM	0.405 0.368 2 - SW Area matography (IC) ; Result 10.2 2 - SW Area Analytical Meth	mg mg 20' Analytic Preparat 20' nod: E thod: N Result	/Kg al Method: ion Method Units ng/Kg 418.1	10 100 : E 300.0 QC d: N/A Pro Dilution 10 QC Batch: Prep Batch: Units	1 1 C Batch: ep Batch: QC20562	40 36 QC20760 Date Analy PB19791 Date Prepa Date Analyzed: Date Prepared:	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1 5/24/02
Sample: Analysis: Analysis: Analyst: Param Chloride Sample: Analysis: Analys	16 17 19727: Ion Chron JSW Flag 19727: TPH KM	0.405 0.368 2 - SW Area matography (IC) Result 10.2 2 - SW Area Analytical Meth Preparation Me	mg mg 20' Analytic Preparat 20' nod: E thod: N	/Kg al Method: ion Method Units ng/Kg 418.1	10 100 E E 300.0 QC d: N/A Pro Dilution 10 QC Batch: Prep Batch:	1 1 C Batch: ep Batch: QC20562 PB19623	40 36 QC20760 Date Analy PB19791 Date Prepa Date Analyzed: Date Prepared:	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1 5/24/02 5/19/02
Sample: Analysis: Analysis: Analysis: Analyst: Param Chloride Sample: analysis: Analys	19727: Ion Chron JSW Flag 19727: TPH KM I 197273 BTEX	0.405 0.368 2 - SW Area matography (IC) Result 10.2 2 - SW Area Analytical Meth Preparation Me Flag 3 - SW Area Analytical Meth	mg mg 20' Analytic Preparat 20' nod: E thod: N Result 56.8 27'-28' hod: S	/Kg /Kg al Method: ion Metho Units ng/Kg 418.1 /A	10 100 E E 300.0 QC d: N/A Pro Dilution 10 QC Batch: Prep Batch: Units mg/Kg QC Batch:	1 1 C Batch: ep Batch: QC20562 PB19623 Dilutt 1 QC20528	40 36 QC20760 Date Analy PB19791 Date Prepa Date Analyzed: Date Prepared: ion Date Analyzed:	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1 5/24/02 5/19/02 RDL 10 5/17/02
FFT 4-BFB Sample: Analysis: Analyst: Param Chloride Sample: Analysis: Analysis: Analysis:	16 17 197272 Ion Chron JSW Flag 197272 TPH KM I 197273	0.405 0.368 2 - SW Area matography (IC) Result 10.2 2 - SW Area Analytical Meth Preparation Me Flag 3 - SW Area	mg mg 20' Analytic Preparat 20' nod: E thod: N Result 56.8 27'-28' hod: S	/Kg /Kg al Method: ion Metho Units ng/Kg 418.1 /A	10 100 : E 300.0 QC d: N/A Pro Dilution 10 QC Batch: Prep Batch: Units mg/Kg	1 1 C Batch: ep Batch: QC20562 PB19623 Dilutt	40 36 QC20760 Date Analy PB19791 Date Prepa Date Analyzed: Date Prepared: ion	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1 5/24/02 5/19/02 RDL 10
Sample: Analysis: Analysis: Analyst: Param Chloride Sample: Analysis:	19727: Ion Chron JSW Flag 19727: TPH KM I 197273 BTEX	0.405 0.368 2 - SW Area matography (IC) Result 10.2 2 - SW Area Analytical Meth Preparation Me Flag 3 - SW Area Analytical Meth	mg mg 20' Analytic Preparat 20' nod: E thod: N Result 56.8 27'-28' hod: S ethod: S	/Kg /Kg al Method: ion Metho Units ng/Kg 418.1 /A 5 8021B 5 5035 sult	10 100 E E 300.0 QC d: N/A Pro Dilution 10 QC Batch: Prep Batch: Units mg/Kg QC Batch:	1 1 2 Batch: ep Batch: QC20562 PB19623 Dilut: 1 QC20528 PB19598	40 36 QC20760 Date Analy PB19791 Date Prepa Date Analyzed: Date Prepared: ion Date Analyzed:	70 - 130 70 - 130 rzed: 6/5/02 rred: 6/4/02 RDL 1 5/24/02 5/19/02 RDL 10 5/17/02

<sup>16</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>17</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

Report Date: June 5, 2002 N/A



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Param	Flag	Result	Units	Dilution	RDL
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	18	0.562	mg/Kg	10	1	56	70 - 130
4-BFB	19	0.477	mg/Kg	10	11	47	70 - 130

### Sample: 197273 - SW Area 27'-28'

Analysis: Analyst:	Ion Chromatog JSW		Analytical Method: Preparation Method:	E 300.0 QC Batch: N/A Prep Batch	QC20760 Date Analyzed: 6, PB19791 Date Prepared: 6,	
Param	Flag	Result	Units	Dilution		RDL
Chloride		10.3	mg/Kg	10		1

## Sample: 197273 - SW Area 27'-28'

Analysis: Analyst:	U	l Method: E 418.1 on Method: N/A	QC Batch: Prep Batch:	QC20562 PB19623	Date Analyzed: Date Prepared:	5/24/02 5/19/02
Param	Flag	Result	Units	Dilutio	n	RDL
TRPHC		143	mg/Kg	1		10

<sup>18</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. <sup>19</sup>Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. Report Date: June 5, 2002 N/A .



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## Quality Control Report Method Blank

Method Blank	QCBatch:	QC20519

				Reporting
Param	Flag	Results	Units	Limit
Benzene	<u> </u>	<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.923	mg/Kg	10	1	92	70 - 130
4-BFB		0.835	mg/Kg	10	1	83	70 - 130

## Method Blank QCBatch: QC20528

Param	Flag	Results	Units	Reporting Limit
Benzene	· · · · · · · · · · · · · · · · · · ·	<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Iotal BTEX	·	<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
<b>TFT</b>		0.948	mg/Kg	10	1	94	70 - 130
I-BFB		0.812	mg/Kg	10	1	81	70 - 130
····	:			· · · · · · · · · · · · · · · · · · ·	·······		

## Method Blank QCBatch:

ch: (	QC20561
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`aram	Flag	Results	Units	Reporting Limit
<b>TRPHC</b>		<25.0	mg/Kg	10

## Method Blank QCBatch: QC20562

				Reporting
'aram	Flag	Results	Units	Limit
RPHC		<25.0	mg/Kg	10

		······································		· ·		
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Method Blank	QCBatch:	QC20760		······································		
Param	Flag	Results	Units	Reporting Limit		
Chloride	······	12.82	mg/Kg	1		
Method Blank	QCBatch:	QC20761				
Param	Flag	Results	Units	Reporting Limit		
Chloride		<12.82	mg/Kg	1		

## Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes		QCBatch: QC20519								
Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.966	0.958	mg/Kg	10	1	< 0.010	96	0	70 - 130	20
Benzene	0.966	0.966	mg/Kg	10	1	<0.010	96	0	70 - 130	20
Toluene	0.958	0.957	mg/Kg	10	1	<0.010	95	0	70 - 130	20
Ethylbenzene	0.932	0.945	mg/Kg	10	1	<0.010	93	· 1	70 - 130	20
M,P,O-Xylene	2.91	2.83	mg/Kg	10	3	<0.010	97	2	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.924	0.925	mg/Kg	10	1	92	92	70 - 130
4-BFB	0.889	0.816	mg/Kg	10	1	88	81	70 - 130

Laboratory Control Spikes

QCBatch: QC20528

Spike LCS LCSD Amount Matrix % Rec RPD Param Result Result Units Dil. Added Result % Rec RPD Limit Limit MTBE 70 - 130 20 0.873 0.87 mg/Kg 10 < 0.010 87 0 1 Benzene 70 - 130 20 0.988 0.975 mg/Kg 10 < 0.010 98 1 1 Toluene 70 - 130 20 0.968 0.906 mg/Kg 120 1 < 0.010 96 6 Ethylbenzene 0.916 96 70 - 130 20 0.96 mg/Kg 10 1 < 0.010 4 M,P,O-Xylene 70 - 130 3.02 2.9 10 < 0.010 100 4 20 mg/Kg 3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.903	0.89	mg/Kg	10	1	90	89	70 - 130
4-BFB	0.882	0.934	mg/Kg	10	1	88	93	70 - 130

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QC20561

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Laboratory Control Spikes

	LCS	LCSD			Spike Amount	Matrix			% Rec	RPD '
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
TRPHC	268	305	mg/Kg	1	250	<25.0	107	12	74 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

QCBatch:

Laboratory Control Spikes QCBatch: QC20562

					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
TRPHC	268	305	mg/Kg	1	250	<25.0	107	12	74 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spil	ces QCBatch: QC20760
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					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Chloride	20 24.02	21 23.88	mg/Kg	1	12.50	12.82	192	0	90 - 110	20
Sulfate	<sup>22</sup> 25.58	<sup>23</sup> 25.59	mg/Kg	1	12.50	14.34	204	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20761

			•		Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Chloride	<sup>24</sup> 24.02	<sup>25</sup> 23.9	mg/Kg	1	12.50	<12.82	. 192	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix	Spikes

QCBatch: QC20519

					Spike					
	MS	MSD			Amount	Matrix			$\% \ { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	$\operatorname{Result}$	$\% \mathrm{Rec}$	RPD	Limit	$\operatorname{Limit}$
Benzene	0.868	0.839	mg/Kg	10	1	< 0.010	86	3	70 - 130	20
			_						Contir	nued

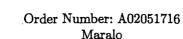
 $^{20}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{21}$ The Soil blank should be subracted from the spikes; giving a %EA of 90  $^{22}$ The Soil blank should be subracted from the spikes; giving a %EA of 90

<sup>23</sup>The Soil blank should be subtracted from the spikes; giving a %EA of 90

<sup>24</sup>The Soil blank should be subracted from the spikes; giving a %EA of 90

<sup>25</sup>The Soil blank should be subtracted from the spikes; giving a %EA of 90

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... Continued

			· ·	:	Spike	• •				_
	MS	MSD			Amount	Matrix			$\% \mathrm{Rec}$	$\operatorname{RPD}$
Param	Result	Result	Units	Dil.	Added	$\mathbf{Result}$	% Rec	RPD	Limit	Limit
Toluene	0.839	0.854	mg/Kg	10	1	< 0.010	83	1	70 - 130	20
Ethylbenzene	0.857	0.849	mg/Kg	10	1	< 0.010	85	0	70 - 130	20
M,P,O-Xylene	2.74	2.69	mg/Kg	10	3	0.016	90	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	${f MSD}$ Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT 4 PFP	0.834	<sup>26</sup> 0.549 <sup>28</sup> 0.475	mg/Kg	10	1	83	54 47	70 - 130 70 - 130
4-BFB	<sup>27</sup> 0.682	28 0.475	mg/Kg	10	1	68	41	70 - 130

Matrix Spikes QCBatch: QC20528

					Spike					
	$\mathbf{MS}$	MSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Benzene	0.938	0.936	mg/Kg	10	1	< 0.010	93	0	70 - 130	20
Toluene	0.92	0.915	mg/Kg	10	1	<0.010	92	0	70 - 130	20
Ethylbenzene	0.908	0.92	mg/Kg	10	1	<0.010	90	1	70 - 130	20
M,P,O-Xylene	2.92	2.76	mg/Kg	10	3	< 0.010	97	5	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
$\overline{\mathrm{TFT}}$	0.781	0.88	mg/Kg	10	1	78	88	70 - 130
4-BFB	0.714	0.725	mg/Kg	10	1	71	72	70 - 130

Matrix	Spikes	QC	Batch:	QC20561		· ·	· . •	•		
Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
TRPHC	40200	40500	mg/Kg	1	250	44300	-1640	-7	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes QCBatch: QC20562

<sup>&</sup>lt;sup>26</sup> Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
<sup>27</sup> Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
<sup>28</sup> Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

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					Spike					
	MS	MSD			Amount	Matrix	~ -		% Rec	RPD
aram	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limi
RPHC	399	337	mg/Kg	1	250	143	102	27	70 - 130	20
ercent re	covery is t	ased on the	spike resu	lt. RPD is	based on the	e spike and	l spike dup.	licate resul	lt.	
latrix	Spikes	QC	Batch:	QC20760						
					Spike					
	MS	MSD	** •		Amount	Matrix	~ -		% Rec	RPD
aram	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
hloride	30400	30377	mg/Kg	1	12500	19500	87	0	35 - 144	20
latrix !	MS	MSD	Batch:	QC20761	Spike Amount	Matrix			% Rec	RPD
aram		$\mathbf{Result}$	$\mathbf{Units}$	Dil.	Added	Result	% Rec	RPD	Limit	Limit
n suu	$\mathbf{Result}$	nesuit	O III OD							
hloride	589.14	590.11 ased on the	mg/Kg spike resul Q	uality	625 based on the Control tion Ver	Repor	۔ •t		<u>35 - 144</u> t.	20
lloride rcent rec	589.14 overy is b	590.11 ased on the Contin	mg/Kg spike resul Q uuing Č	t. RPD is uality alibrat	based on the Control	spike and Repor	spike dupl	icate result		20
nloride ercent rec	589.14 overy is b	590.11 ased on the	mg/Kg spike resul Q uuing Č	t. RPD is <b>uality</b> Salibrat	based on the Control tion Ver	spike and Repor ificatio	spike dupli t n Stan	icate result dards	t.	20
lloride rcent rec	589.14 overy is b	590.11 ased on the Contin	mg/Kg spike resul Q uuing Č	t. RPD is <b>uality</b> <b>CCV</b> s	based on the Control tion Ver	spike and Repor ificatio	spike dupli t n Stan	icate result dards Percer	t. nt	
lloride rcent rec CV (1	589.14 overy is b	590.11 ased on the <b>Contin</b> QCBatch	mg/Kg spike resul auing C : QC20	t. RPD is uality alibrat 519 CCVs True	based on the Control tion Ver CCVs Found	spike and Repor ificatio	spike dupli t on Stan CCVs ercent	icate result dards Percer Recove	t. nt 2ry	Date
iloride rcent rec CV (1 ram	589.14 overy is b	590.11 ased on the Contin	mg/Kg spike resul nuing C : QC20 Units	t. RPD is uality Calibrat 519 CCVs True Conc.	based on the Control tion Ver CCVs Found Conc.	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery	icate result dards Percer Recove Limit	nt ery s A	Date
rcent rec CV (1 ram	589.14 overy is b	590.11 ased on the <b>Contin</b> QCBatch	mg/Kg spike resul nuing C : QC20 Units mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10	based on the Control tion Ver CCVs Found Conc. 0.0979	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97	icate result dards Percer Recove Limit 85 - 1	nt ery 15 {	Date nalyzed
rcent rec CCV (1 ram FBE nzene	589.14 overy is b	590.11 ased on the <b>Contin</b> QCBatch	mg/Kg spike result uning C : QC20 Units mg/L mg/L	t. RPD is <b>uality</b> <b>alibra</b> 519 CCVs True Conc. 0.10 0.10	based on the Control tion Ver Found Conc. 0.0979 0.0905	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90	Percer Recove Limit 85 - 11 85 - 11	nt 2ry 15 { 15 {	Date nalyzed 5/17/02 5/17/02
iloride rcent rec CCV (1 ram TBE nzene luene	589.14 overy is b	590.11 ased on the <b>Contin</b> QCBatch	mg/Kg spike result <b>Q</b> uning C QC20 Units mg/L mg/L mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92	Percer Recove Limit 85 - 11 85 - 11 85 - 11	nt ery 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02 5/17/02
cent rec cent rec CV (1 ram BE nzene uene nylbenzen	589.14 overy is b )	590.11 ased on the <b>Contin</b> QCBatch	mg/Kg spike result uning C : QC20 Units mg/L mg/L	t. RPD is <b>uality</b> <b>alibra</b> 519 CCVs True Conc. 0.10 0.10	based on the Control tion Ver Found Conc. 0.0979 0.0905	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90	Percer Recove Limit 85 - 11 85 - 11	nt Ery 15 { 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02
nloride	589.14 overy is b )	590.11 ased on the <b>Contin</b> QCBatch	mg/Kg spike result <b>Q</b> uuing C : QC20 Units mg/L mg/L mg/L mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926 0.0865	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86	Percer Recove Limit 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11	nt Ery 15 { 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02
lloride rcent rec CCV (1 ram FBE nzene luene hylbenzen P,O-Xyle	589.14 covery is b ) ) ne ene	590.11 ased on the <b>Contin</b> QCBatch	mg/Kg spike result <b>Q</b> uuing C : QC20 Units mg/L mg/L mg/L mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10 0.30	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926 0.0865	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86	Percer Recove Limit 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11	nt Ery 15 { 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02
rcent rec CCV (1 ram FBE nzene luene hylbenzen	589.14 covery is b ) ) ne ene	590.11 ased on the <b>Contin</b> QCBatch Flag	mg/Kg spike result uing C uing C : QC20 Units mg/L mg/L mg/L mg/L mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10 0.10 0.30	based on the Control tion Ver CCVs Found Conc. 0.0979 0.0905 0.0926 0.0865 0.279	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86 93	Percer Recove Limit 85 - 12 85 - 12 85 - 13 85 - 13 85 - 13 85 - 13	nt ery 15 { 15 { 15 { 15 { 15 { 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02
lloride rcent rec CCV (1 ram FBE nzene luene hylbenzen P,O-Xyle CV (1)	589.14 overy is b )	590.11 ased on the <b>Contin</b> QCBatch Flag	mg/Kg spike result auing C uing C : QC20 Units mg/L mg/L mg/L mg/L mg/L mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10 0.10 0.30	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926 0.0865 0.279 CCVs Found	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86 93	Percer Recove Limit 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11	nt ery 15 { 15 { 15 { 15 { 15 { 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 Date
lloride rcent rec CCV (1 ram TBE nzene luene hylbenzen P,O-Xyle CV (1)	589.14 overy is b )	590.11 ased on the <b>Contin</b> QCBatch Flag QCBatch: Flag	mg/Kg spike result uning C QC20 Units mg/L mg/L mg/L mg/L QC205 Units	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10 0.10 0.30	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926 0.0865 0.279 CCVs Found Conc.	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86 93 22 86 93	Percer Recove Limit 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11	nt ery 15 { 15 { 15 { 15 { 15 { 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 Date nalyzed
lloride rcent rec CCV (1 ram TBE nzene luene hylbenzer P,O-Xyle CV (1) ram TBE	589.14 overy is b )	590.11 ased on the <b>Contin</b> QCBatch Flag QCBatch: Flag	mg/Kg spike result auing C : QC20 Units mg/L mg/L mg/L QC205: Units mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926 0.0865 0.279 CCVs Found Conc. 0.279	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86 93 22 86 93 22 86 93	Percer Recove Limit 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11 85 - 11	nt Pry 15 { 15 { 15 { 15 { 15 { 15 { 15 { 15 {	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 0/17/02 Date nalyzed 717/02
cv (1)	589.14 overy is b )	590.11 ased on the <b>Contin</b> QCBatch Flag QCBatch: Flag	mg/Kg spike result uning C uning C units mg/L mg/L mg/L mg/L gC205 QC205 Units mg/L mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10 0.10 0.30 19 CCVs True Conc. 0.10 0.1	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926 0.0865 0.279 CCVs Found Conc. 0.279	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86 93 22 86 93 22 86 93 22 86 93	Percer Recove Limit 85 - 11 85 - 11	t. rt ry	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 17/02
am am CV (1) am BE CV (1) am BE Izene uene	589.14 overy is b ) ) ne me	590.11 ased on the <b>Contin</b> QCBatch Flag QCBatch: Flag	mg/Kg spike result uing C uing C uing C QC20 Units mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	t. RPD is uality calibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10 0.30 19 CCVs True Conc. 0.10 0.30	based on the Control tion Ver CCVs Found Conc. 0.0979 0.0905 0.0926 0.0865 0.279 CCVs Found Conc. 0.0942 0.0965 0.0958	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86 93 CCVs ercent covery 94 96 95	Percer Recove Limit 85 - 11 85 - 11	nt ery 15 4 15 5 15 5 15 5 15 5 15 5 15 5 15 5	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 117/02 /17/02 /17/02
cv (1)	589.14 overy is b )	590.11 ased on the <b>Contin</b> QCBatch Flag QCBatch: Flag	mg/Kg spike result uning C uning C units mg/L mg/L mg/L mg/L gC205 QC205 Units mg/L mg/L	t. RPD is uality alibrat 519 CCVs True Conc. 0.10 0.10 0.10 0.10 0.10 0.30 19 CCVs True Conc. 0.10 0.1	based on the Control tion Ver Found Conc. 0.0979 0.0905 0.0926 0.0865 0.279 CCVs Found Conc. 0.279	spike and Repor ificatio	spike dupli t on Stan CCVs ercent ecovery 97 90 92 86 93 22 86 93 22 86 93 22 86 93	Percer Recove Limit 85 - 11 85 - 11	t. nt ery s A $15 \xi$ $15 \xi$	Date nalyzed 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 5/17/02 17/02 17/02

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N/A

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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
M,P,O-Xylene		mg/L	0.30	0.293	97	85 - 115	5/17/02

CCV (1)

QCBatch: QC20528

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	······································	mg/L	0.10	0.0925	92	85 - 115	5/17/02
Benzene		mg/L	0.10	0.0939	93	85 - 115	5/17/02
Toluene		mg/L	0.10	0.0936	93	85 - 115	5/17/02
Ethylbenzene		mg/L	0.10	0.091	. 91	85 - 115	5/17/02
M,P,O-Xylene		mg/L	0.30	0.285	95	85 - 115	5/17/02

## CCV (2) QCBatch: QC20528

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0895	89	85 - 115	5/17/02
Benzene		mg/L	0.10	0.0952	95	85 - 115	5/17/02
Toluene		mg/L	0.10	0.0892	89	85 - 115	5/17/02
Ethylbenzene	•	mg/L	0.10	0.093	93	85 - 115	5/17/02
M,P,O-Xylene		mg/L	0.30	0.293	97	85 - 115	5/17/02

ICV (1)

QC20528

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0871	87	85 - 115	5/17/02
Benzene		mg/L	0.10	0.0929	92	85 - 115	5/17/02
Toluene		mg/L	0.10	0.0965	96	85 - 115	5/17/02
Ethylbenzene		mg/L	0.10	0.0961	96	85 - 115	5/17/02
M,P,O-Xylene		mg/L	0.30	0.307	102	85 - 115	5/17/02

## CCV (1) QCBatch: QC20561

QCBatch:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/Kg	100	109	109	80 - 120	5/24/02

Report Date: N/A	June 5, 20	)02	Order	Number: A020 Maralo	)51716		Page Number: 17 of 18 Jay Anotheny Ranch						
CCV (2)	(	QCBatch: C	2C20561										
	•		CCVs	CCVs	CCVs	Percent							
	· · · ·		True	Found	Percent	Recovery	Date						
aram	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed						
TRPHC	X	mg/Kg	100	107	107	80 - 120	5/24/02						
						· .							
	· .												
ICV (1)	Q	CBatch: QC	C20561		· .								
			CCVs	CCVs	CCVs	Percent	•						
			True	Found	Percent	Recovery	Date						
aram	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed						
RPHC		mg/Kg	100	111	111	80 - 120	5/24/02						
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CCV (1)	· (	QCBatch: Q	C20562										
			$\mathrm{CCVs}$	$\rm CCVs$	CCVs	Percent							
			True	Found	Percent	Recovery	Date						
aram	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed						
RPHC		mg/Kg	100	109	109	80 - 120	5/24/02						
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CCV (2)	· (,	CBatch: Q	C20562										
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			True	Found	Percent	Recovery	Date						
aram	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed						
RPHC		mg/Kg	100	107	107	80 - 120	5/24/02						
			005.00										
CV (1)	Q	CBatch: QC	20562		•	•	·						
			CCVs	CCVs	CCVs	Percent	· *,						
			True	Found	Percent	Recovery	Date						
aram	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed						
RPHC		mg/Kg	100	111	111	80 - 120	5/24/02						
CCV (1)	~	OBatch Of	790760										
(1)	Q	CBatch: Q0	220760			•							
		·	$\mathrm{CCVs}$	$\mathbf{CCVs}$	CCVs	Percent							
			True	Found	Percent	Recovery	Date						
ram	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed						
loride		mg/L	12.50	11.19	89	90 - 110	6/5/02						
lfate		mg/L	12.50	11.25	90	90 - 110	6/5/02						

Report Date: June 5, 2002	Order Number: A02051716 Maralo	
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Page Number: 18 of 18<sup>•</sup> Jay Anotheny Ranch

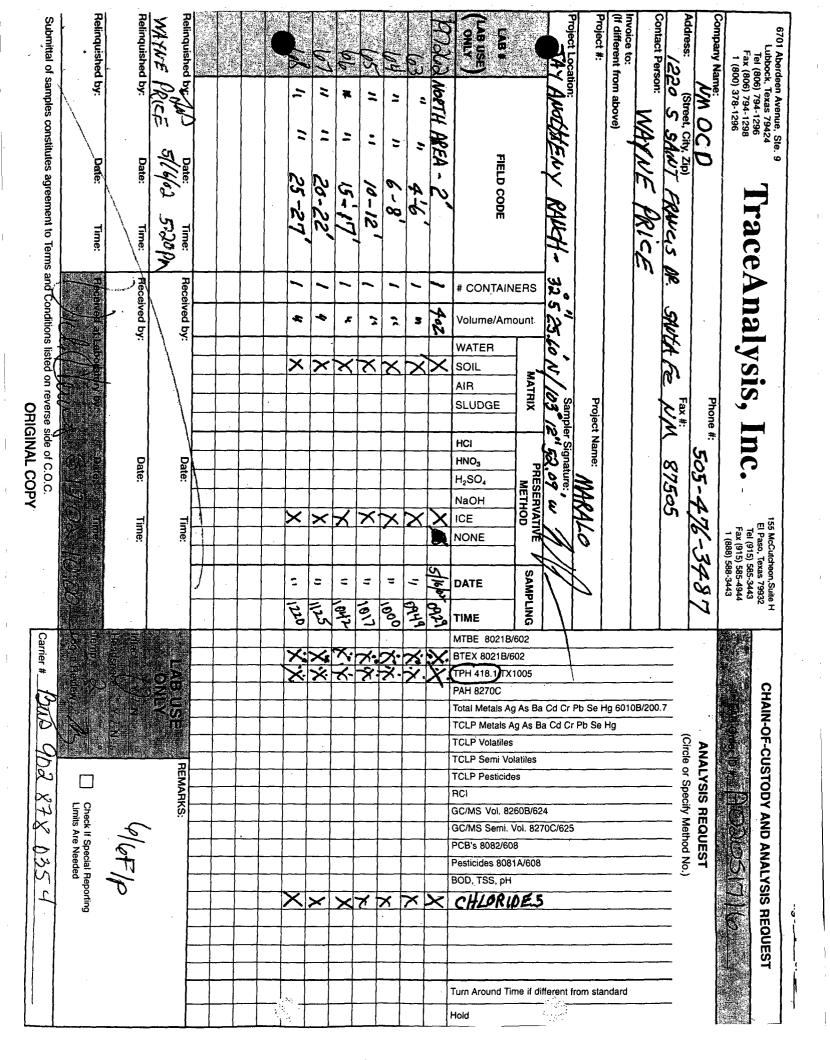
ICV (1)	QCBatch: QC20760										
		·	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date				
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed				
Chloride		mg/L	12.50	11.19	89	90 - 110	6/5/02				
Sulfate		mg/L	12.50	11.38	91	90 - 110	6/5/02				

## **CCV (1)** QCBatch: QC20761

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.19	89	90 - 110	6/5/02

## ICV (1) QCBatch: QC20761

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Taram	1 lag	Onits	Conc.	Conc.	recovery	Dimita	Analyzeu
Chloride		mg/L	12.50	11.59	92	90 - 110	6/5/02



#### Article 1: General

1 The words "we", "us", and our refer to TraceAnalysis. You will deriver samples to us for analysis, accompanied, or preceded by a signed Chain of Custody/Analysis Request defining the scope and timing of bur work and stating either the testing criteria you require or identifying the agency to which the results will be submitted.

#### Article 2: Our General Responsibilities

2.1, We agree to provide the professional services described in this agreement. We will provide you with written reports containing analytical results. In performing our service, we will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of our profession practicing in the same locality.

2.2 Test and observations will be conducted using test procedures and laboratory protocols as specified in accepted Chain of Custody/Analysis Request. If you direct a manner of making tests that varies from our distantiated or recommended procedures, you agree to hold us harmless from all claims, damages, and expenses arising out of your direction.

2.3 We will not release information regarding our services for you or any information that we receive from you, except for information that is in the public domain and except as we are required by law. • 

#### Article 3: Your General Responsibilities

3.1 On each Chain of Custody/Analysis Request you will designate a representative who has authority to transmit instructions, receive information, and make decisions relative to our work.

3.2 You will respond in a reasonable time to our request for decisions, authorization for changes, additional compensation, or schedule extensions,

3.3 For each Chain of Custody/Analysis Request you will either provide us with the exact methods for analysis of each fraction or you will Identify the regulations and agency under which or for which the analysis are to be prepared. If permits, consent orders, work plans, quality assurance plans, or correspondence with regulatory agencies address laboratory requirements, you will provide us with copies of the relevant provisions prior to our initiation of the analyses.

#### Article 4: Reports and Records

4 1 We will furnish copies of each report to you as specified in the Chain of Custody and Analysis Request. We will retain analytical data for seven years and financial data for three years relating to the services performed following transmittal of our final report.

4.2 If you do not pay for our services as agreed, you agree that we may retain all reports and work not yet delivered to you. You also agree that our work will not be used by you for any purpose unless paid for.

#### Article 5: Delivery and Acceptance of Samples

5.1 Until we accept delivery of samples by notation on chain of custody documents or otherwise in writing accept the samples, you are responsible for loss of or damage to samples. Until so accepted, we have no responsibility as to samples.

5 2 As to any samples that are suspected of containing hazardous substances or radioactive material, such that would make special handling required, you will specify the suspected or known substances and level and type of radioactive activity. This information will be given to us in writing as a part of the Chain of Custody/Analysis Request and will precede or accompany samples suspected of containing hazardous substances. 5.3 Samples accested by us remain your property while in our custody. We will retain samples for a period of 14 days following the date of submission of our report. We will extend the retention period if you so direct. Following the retention period we will dispose of non-hazardous samples. We may return highly hazardous, acutely toxic, or radioactive samples and samples containers and residues to you. You agree to accept them,

5.4 Regardless of a prior acceptance, we may refuse acceptance or revoke acceptance of samples if we determine that the samples present a risk to health, safety, or the environment, or that we are not authorized to accept them. If we revoke acceptance of any sample, you will have it removed from our facilities promptly.

Article 6: Changes to Task Orders identify any activity that we regard as a change to the terms and conditions of a Chain of Custody/Analysis Request. Our notice will include the date, nature, circumstance, and cause of the activity regarded as a change. We will specify the perticular elements of project performance for which we may seek an equitable adjustment.

6.2 You will respond to the notice provided for in paragraph 6.1 promptly. Changes may be made to a Chain of Custody/Analysis Request through issuance of an amendment. The amendment will specify the reason for the change and, as appropriate, include any modified budgets, schedules, scope of work, and other necessary provisions,

6.3 Until agreement is reached concerning the proposed change, we may regard the situation as a suspension directed by you.

#### Article 7: Compensation

7.1 Our pricing tor the work is predicated upon your acceptance of the conditions and allocations of risks and responsibilities described in this egreement. You agree to pay for services as stated in our proposal and accepted by you or according to our then current standard pricing documents it there is no other written agreement as to price. An estimate or statement of probable cost is not a firm figure unless stated as such.

7.2 Unless otherwise agreed to elsewhere, you agree to pay invoices within 30 days of receipt unless, within 15 days from receipt of the invoice, you notify us in writing of a particular item that is alleged to be incorrect. You agree to pay the uncontested portions of the invoices within 30 days of receipt. You agree to pay interest an unpaid balances beginning 60 days after receipt of invoice at the rate of 1.5% per month, but not to exceed the maximum rate allowed by law. 14

7.31f, you direct us to invoice another, we will do so, but you agree to be ultimately responsible for our compensation until you provide us with that third party's written acceptance of all terms of our agreement and until we agree to the substitution.

7.4 You agree to compensate us for our services and expenses if we are required to respond to legal process related to our services for you. Compensation services include hourly charges for all personnel involved in the response and attorney tees reasonably incurred in obtaining advice concerning the response, the preparation of the testifier, and appearances related to the legal process. 19 **I** 

7.5 If we are delayed by, or the period of performance is materially extended because of, factors beyond our control, or if project condition or the scope or amount of work change, or if the signdards or methods of testing change, we will give you timely notice of the change and we will receive an equitable adjustment of our compensation.

#### Article 8: Risk Allocation, Disputes, and Damages

8.1 Neither we nor you will be liable to the other for special, incidental, consequential or punitive losses or damages, including but not limited to those arising from delay, loss of use, loss of profits or revenue, or the cost of capital.

8.2 We will not be liable to you for damages unless suit is commenced within two years of injury or loss or within two years of the date of the completion of our services, whichever is earlier. In no event will we be liable to you unless you have notified us of the discovery of the negligent act, error, omission or breach within 30 days of the date of its discovery and unless you have given us an opportunity to investigate and to recommend ways of mitigating your damages.

8.3 In the event you fail to pay us within 90 days following the invoice date, we may consider the default a total breach of our agreement and we may at our option, terminate all of our duties without liability to you or to others

8.4 If it is claimed by a third party that we did not complete an acceptable analysis, at your request we will seek further review and acceptance of the completed work by the third party and use your best efforts to obtain that acceptance. We will assist you as directed.

8.5 You and we agree that disputes will be submitted to "Alternative Dispute Resolution" (ADR) as a condition precedent to litigation and other remedies provided by law. Each of us agrees to exercise good faith efforts to resolve disputes through mediation unless we both agree upon another ADR-procedure. All disputes will be governed by the law of the place where our services are rendered; or if our services are rendered in more . than one state, you and we agree that the law of the place that services were first rendered will govern. ÷.,

8.6 If either of us makes a claim against the other as to issues out of the performance of this agreement, the prevailing party will be entitled to recover its reasonable expenses of litigation, including reasonable attorney's tees. If we bring lawsuit against you to collect our invoiced fees and expenses, you agree to pay our reasonable collection expenses including attorney fees.

#### Article 9: Indemnities

9.1 We will indemnity and hold you harmless from and against demands, damages, and expenses caused by our negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom we are legally responsible. You will indemnify and hold us harmless from and against demands, damages, and expenses caused by your negligent act and omissions and breach of contract and by the nogligent acts and omissions and breach of contract of persons for whom you are legally responsible. These indemnities are subject to specific limitations provided for in this agreement. 1.5

2 10

#### Article 10: Miscellaneous Provisional

10.1 This agreement constitutes the entire agreement between you and us, and it suppreseds all prov agreements. Any term, condition, prior course of dealing, course of performance, usage of trade, understanding, purchase order conditions, or other agreement purporting to modify vary, supplement, or explain any provision of this agreement is of no effect until placed in writing and signed by both parties subsequent to the date of this agreement. In no event will the printed terms or conditions stated in a purchase of work order othar than an agreed upon Chain of Custody/Analysis Request, be considered a part of this agreement, even if the document is signed by both of us.

10.2 Neither party will assign this agreement without the express written approval of the other, but we may subcontract laboratory procedures with your approval as we deem necessary to meet our obligations to you. 10.3 If any of the provisions of this agreement are held to be invalid or unenforceable in any respect, the remaining terms will be in full effect and the agreement will be construed es, if the invalid or unenforceable matters were never included in it. No waiver of any default will be waiver of any future default.

10.4 Neither you or we will have any liability for nonperformance caused in whole or in part by causes beyond our reasonable control. Such causes include but are not limited to Acts of God, civil unrest and war, labor unrest and strikes, equipment failures, matrix interference, acts of authorities, and failures of subcontractors that could not be reasonably anticipated.

10 5 You may step our work by giving a written suspension or termination directive, but once work has been suspended, we need not resume work whill we agree to change in scope, schedule, and compensation. Updu suspension or termination, we will use reasonable care to preserve samples provided that you agree to compensate us for any additional effort, but we will have no responsibility for meeting holding time limitations after the effective time of a dispension or termination directive. We will be compensated for service rendered and expenses incurred prior to termination that cannot reasonably be avoided. 1.2



~ ~	Submittal of samples co	-	Relinquished by:	23	Relinquished by:	VILLYNE PRICE	Relinquished by:											1 N		SX				AV ANO	Prinert I creation.	Project #:	(If different from above)	WAX	1220	Address: (Street of	Company Name:	Fax (806) 794-1298 1 (800) 378-1296	Lubbock, Texas 79424	
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#### Article 1: General

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#### Article 3: Your General Responsibilities

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#### Article 5: Delivery and Acceptance of Samples

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5.2 As to any samples that are suspected of containing hazardous substances or radioactive material, such that would make special handling required, you will specify the suspected or known substances and level and type of radioactive activity. This information will be given to us in writing as a part of the Chain of Custody/Analysis Request and will precede or accompany samples suspected of containing hazardous substances. 5.3 Samples accepted by us remain your property while in our custody. We will retain samples for a period of 14 days following the date of submission of our report. We will extend the retention period if you so direct. Following the retention period we will dispose of non-hezardous samples. We may return highly hazardous, acutely toxic, or radioactive samples and samples containers and residues to you. You agree to accept them, 5.4 Regardless of a prior acceptance, we may refuse acceptance or revoke acceptance of samples if we determine that the samples present a risk to health, safety, or the environment, or that we are not authorized to

accept them. If we revoke acceptance of any sample, you will have it removed from our facilities promptly. . . . . . .

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#### Article 6: Changes to Task Orders

6.1 No persons other than the designated representatives for each Chain of Custody/Analysis Request are authorized to act regarding changes to a Chain of Custody/Analysis Request. We will notify you promptly if we identify any activity that we regard as a change to the terms and conditions of a Chain of Custody/Analysis Request. Our notice will include the date, nature, circumstance, and cause of the activity regarded as a change. We will specify the particular elements of project performance for which we may seek an equitable adjustment.

6.2 You will respond to the notice provided for in paragraph 6.1 promptly. Changes may be made to a Chain of Custody/Analysis Request through issuance of an amendment. The amendment will specify the reason tor the change and, as appropriate, include any modified budgets, schedules, scope pl/work, and other necessary provisions.

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#### 6.3 Until agreement is reached concerning the proposed change, we may regard the situation as a suspension directed by you.

-Article 7: Compensation . . . • : •

7.1 Our pricing for the work is predicated upon your acceptance of the conditions and allocations of risks and responsibilities described in this agreement. You agree to pay tog services as stated in our proposal and accepted by you or according to our then current standard pricing documents if there is no other written agreement as to price. An estimate or statement of probable cost is not aritmenting figure unless stated as such. 7.2 Unless otherwise agreed to elsewhere, you agree to pay invoices within 30 days of receipt unless, within 15 days from receipt of the invoice, you notify us in writing of a particular itempinat is alleged to be incorrect. You agree to pay the uncontested portions of the invoices within 30 days of receipt. You agree to pay interest on unpaid balances beginning 60 days after receipt of invoice at the rate of 1.5% per month, but not to exceed the maximum rate allowed by law. exceed the maximum rate allowed by law.

7.3 If you direct us to invoice another, we will do so, but you agree to be ultimately responsible for our compensation until you provide us with that third party's written acceptance of all terms of our agreement and until we agree to the substitution.

7.4 You agree to compensate us for our services and expenses if we are required to respond to legal process related to our services for you. Compensable services include hourly charges for all personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, the preparation of the testifier, and eppearances related to the legal process.

7.5 If we are delayed by, or the period of performance is materially extended because of, factors beyond our cohtrol, or if project condition or the scope or amount of work change, or if the standards or methods of testing change, we will give you timely notice of the change and we will receive an equitable adjustment of our compensation.

#### Article 8: Risk Allocation, Disputes, and Damages

8.1 Neither we nor you will be liable to the other for special, incidental, consequential or punitive losses or damages, including but not limited to those arising from delay, loss of use, loss of profits or revenue, or the cost of capital.

8.2 We will not be liable to you for damages unless suit is commerced within two years of injury or loss or within two years of the date of the completion of our services, whichever is equier. In no event will we be liable to you unless you have notified us of the discovery of the negligent act, error, omission or breach within 30 days of the date of its discovery and unless you have given us an opportunity to investigate and to recommend ways of mitigating your damages.

8.3 In the event you fail to pay us within 90 days following the invoice date, we may consider the default a total breach of our agreement and we may, at our option, terminate aft of our duties without liability to you or to others

8.4 If it is claimed by a third party that we did not complete an acceptable analysis, at your request we will seek further review and acceptance of the completed work by the third party and use your best efforts to obtain that acceptance. We will assist you as directed.

8.5 You and we agree that disputes will be submitted to "Alternative Dispute Resolution" (ADR) as a condition precedent to litigation and other remedies provided by law. Each of us agrees to exercise good faith effonts to resolve disputes through mediation unless we both agree upon another ADR procedure. All disputes will be governed by the law of the place where our services are rendered, or if our services are rendered in more than one state, you and we agree that the law of the place that services were first rendered will govern.

8.6 If either of us makes a claim against the other as to issues out of the performance of this agreement, the prevailing party will be entitled to recover its reasonable expenses of higgetion, including reasonable attorneys fees. If we bring lawsuit against you to collect our invoiced fees and expenses, you agree to pay our reasonable collection expenses including attorney fees.

#### Article 9: Indemnities

-9.1 We will indemnify and hold you harmless from and against demands, damages, and expenses caused by our negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach "21 Contract of persons for whom we are legally responsible". You will indemnify and field us harmless from and against demands, damages, and expenses caused by your negligent act and emissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom you are legally responsible. These indemnities are subject to specific limitations ployided for in this agreement. Ĩ. ;,

#### Article 10: Miscellaneous Provisions

¥ 54 10.1 This agreement constitutes the entire agreement between you and us, and it suppredes all prior agreements. Any term, condition, prior course of dealing, course of performance, usage of trade, understanding, purchase order conditions, or other agreement purporting to modify, vary, supplement, br explain any provision of this agreement is of no effect until placed in writing and signed by both periors subsequent to the date of this agreement. In no event will the printed terms or conditions stated in a purchase order, other then an agreed upon Chain of Custody/Analysis Request, be considered a part of this agreement, even if the document is signed by both of us.

10.2 Neither party will assign this agreement without the express writter: approval of the other, but we may subcontract laboratory procedures with your approval as we deem necessary to meet our obligations to you. 10.3 If any of the provisions of this agreement are held to be invalid or unenforceable in any respect, the remaining terms will be in full effect and the agreement will be construed as if the invalid or unenforceable matters were never included in it. No waiver of any default will be waiver of any future default.\*

10.4 Neither you or we will have any liability for nonperformance caused in whole or in part by causes beyond our reasonable control. Such causes include but are not limited to Acts of God, civil unrest and war, labor unrest and strikes, equipment failures, matrix interference, acts of authorities, and failures of subcontractors that could not be reasonably anticipated.

10.5 You may stop our work by giving a written suspension or termination directive, but once work has been suspended, we need not resume work until we agree to change in scope, schedule, and compensation. Upon suspension or termination, we will use reasonable care to preserve samples provided that you agree to compensate us for any additional effort, but we will have no responsibility for meeting holding time limitations after the effective time of a suspension or termination directive. We will be compensated for service rendered and expenses incurred prior to termination that cannot reasonably be avoided.

## RECEIVED

## MAR 24 2003

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

## MARALO SITE

# SECTION 36, TWS. 25 S., RNG. 36 E.

## JAL, NM

## **MARCH 2003**

Sector services	BEFORE EXAMINER
NEW DATE	OIL CONSERVATION DIMISION
SEGUEZCES:	EXHIBIT NO. 5
Non-section of the section of the se	CASE NO. 13142

March 14, 2003

William Olson NMOCD Environmental Box 6429 1220 S. Saint Francis Drive Santa Fe, NM 87504

RE: Maralo site Anthony Ranch

Mr. Olson:

I was requested by Mr. Jay Anthony to conduct a preliminary site investigation of an abandoned tank battery site, which belonged to Maralo Oil Co.

The request was to drill soil borings at the site to determine the extent of contamination. This investigation was not to delineate the extent of the contamination, but to investigate if contamination existed above OCD guidelines. Two soil borings were advanced at the site, one up gradient and one down gradient of an existing water well.

Within is information obtained. If you have any questions, please call.

Sincerely,

Eddin w Ara

Eddie W. Seay, Agent 601 W. Illinois Hobbs, NM 88242 (505)392-2236

## Maralo Site Anthony Ranch Jal, New Mexico

The site is an abandoned oil and gas production facility which was taken out of service and all equipment removed. The site was not remediated, the facility covered approximately three acres of surface and the remains of pits and hydrocarbon soil are visible. On the lease road adjacent to this site is an abandoned water well, the analytical from the water sample taken from this well shows elevated chloride.

The investigation consisted of installing two soil borings, one up gradient and one down gradient and testing the soil for BTEX, TPH and chloride. Both borings were advanced to 80', taking samples at various depths. The two borings were identified by MA 1 and MA 2, attached are logs, analytical, photos and maps.

### Investigation

A rotary rig was used and operated by Phoenix Environmental. Samples were taken with split spoon sampling tool, deconing equipment between samples. After sampling was completed, the borings were plugged with bentonite and holes were marked for future reference.

Sampling:

MA 1-1	8 to 10 ft. oily strong odor
MA 1-2	20 ft. oily strong odor
MA 1-3	40 ft. strong odor, discolored caliche
MA 1-4	60 ft. slight odor, staining
MA 1-5	80 ft. slight odor
TD 80 ft.	· · · · · · · · · · · · · · · · · · ·

0'-10' top soil rock, very oily 10'-35' sand, rock, oily 35'-50' caliche, rock, oil stained 50'-65' sand, small gravel 65'-80' sand, clay

8' to 10' black oily, strong odor
20' oily, strong odor
40' stained caliche, slight odor
60' slight odor
80' slight odor

0'-15' black very oily top soil

15'-26' sand, rock, oily, strong odor

26'-32' caliche, charcoal gray, strong odor

32'-38' caliche white in color, odor

38'-48' caliche, sand, rock, odor

48'-57' sand, caliche, rock

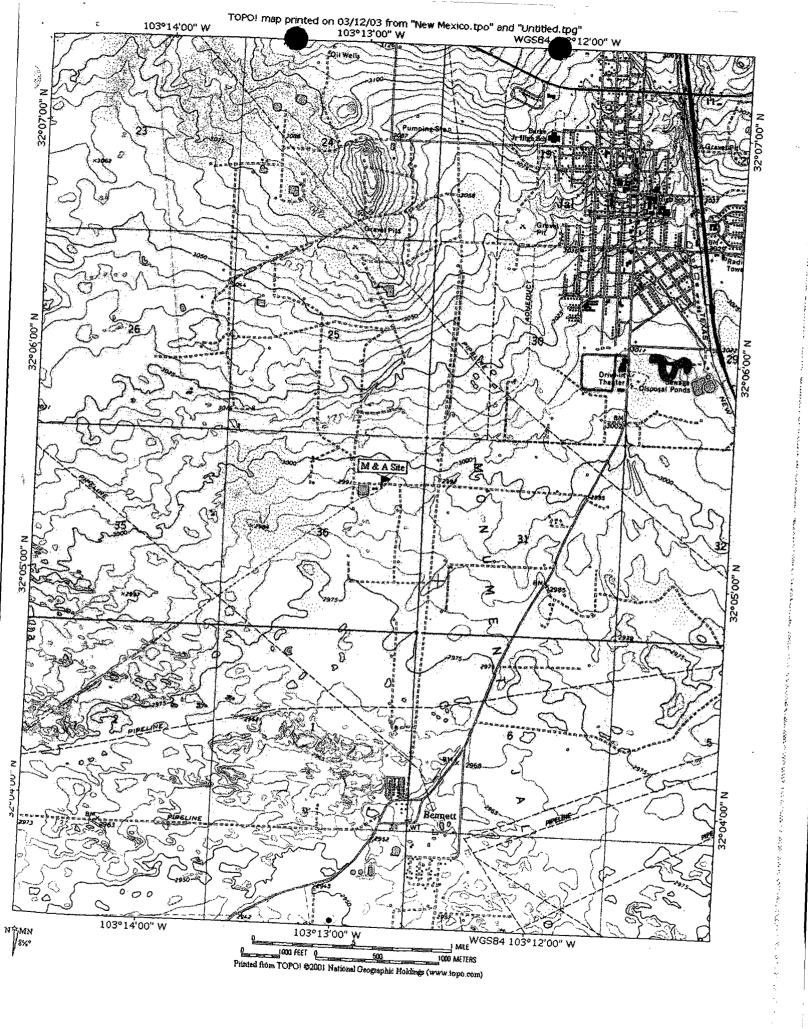
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57'-80' sand, clay, rock

TD 80 ft.

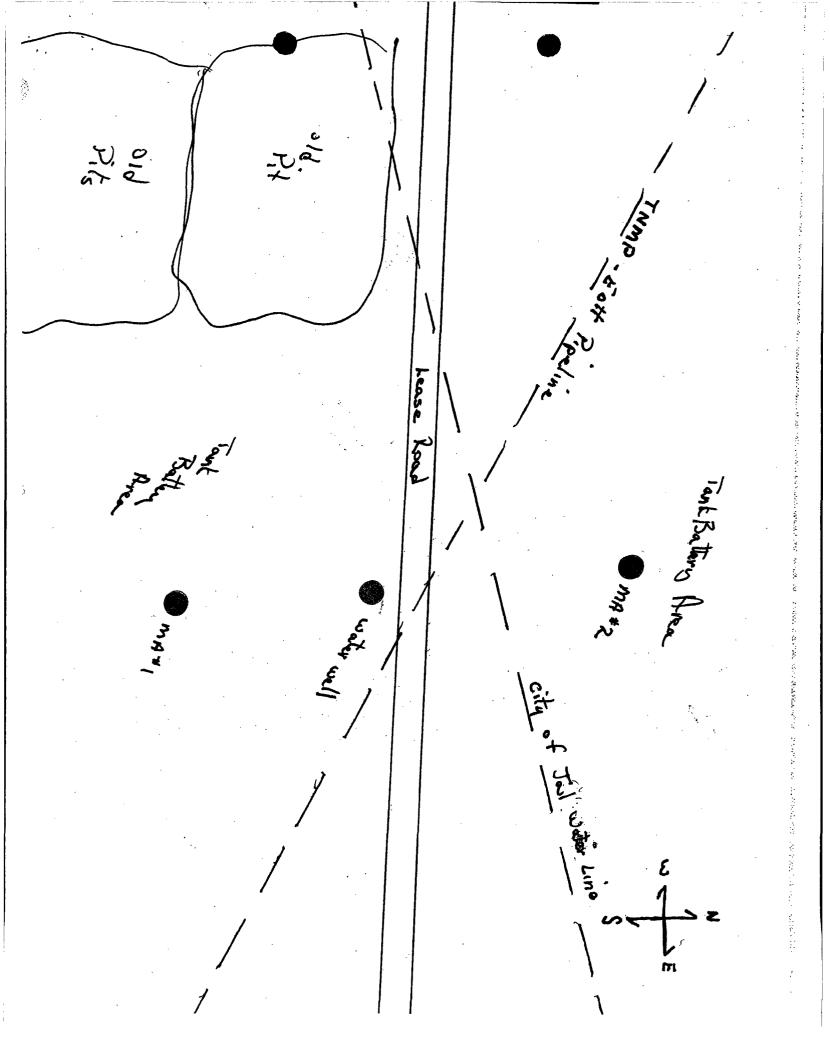
### Conclusion

From the analytical data provided on the soil borings, it is obvious that an extensive investigation and remediation plan needs to be undertaken by the responsible party. The analytical exceeds the guidelines set forth by the NMOCD for cleanup and remediation. Given the depth of contamination in the soil borings, it will just be a matter of time before we have major impact to the groundwater.



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PHONE (915) 673-7001 • 2111 B HWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS. NM 88240

ANALYTICAL RESULTS FOR EDDIE SEAY CONSULTING ATTN: EDDIE SEAY 601 W. ILLINOIS HOBBS, NM 88242 FAX TO: (505) 392-6949

Receiving Date: 03/05/03 Reporting Date: 03/10/03 Project Owner: J. ANTHONY Project Name: MARALO-ANTHONY Project Location: JAL, NM Sampling Date: 03/04/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

LAB NUMBER SAMPLE ID	TPH (mg/Kg)	Cl* (mg/Kg)
	(mg/r(g)	
ANALYSIS DATE:	03/06/03	03/06/03
H7515-1 MA 1-1	5480	160
H7515-2 MA 1-2	5670	80
	8250	80
H7515-4 MA 1-4	2580	80
H7515-5 MA 1-5	2860	144
H7515-6 MA 2-1	16600	48
H7515-7 MA 2-2	1700	48
H7515-8 MA 2-3	5690	112
H7515-9 MA 2-4	999	80
H7515-10 MA 2-5	1370	48
Quality Control	241	1080
True Value QC	240	1000
% Recovery	100	108
Relative Percent Difference	1.1	8.0

METHODS: TPH-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B \*Analyses performed on 1:4 w:v aqueous extracts.

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### H7515A.XLS

PLEASE NOTE: Llability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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LAB NUMBER SA	MPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE	·····	03/07/03	03/07/03	03/07/03	03/07/03
H7515-1 M/	1-1	< 0.005	<0.005	<0.005	<0.015
H7515-5 MA	1-5	< 0.005	< 0.005	< 0.005	<0.015
H7515-6 MA	2-1	< 0.005	<0.005	< 0.005	<0.015
H7515-10 MA	2-5	<0.005	<0.005	<0.005	<0.015
Quality Control	·····	0.094	0.092	0.090	0.268
True Value QC		0.100	0.100	0.100	0.300
% Recovery		94.3	91.6	90.3	89.3
<b>Relative Percent D</b>	ifference	3.8	6.8	8.2	5.4

METHOD: EPA SW-846 8260

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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. Is no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or subceders when go ut of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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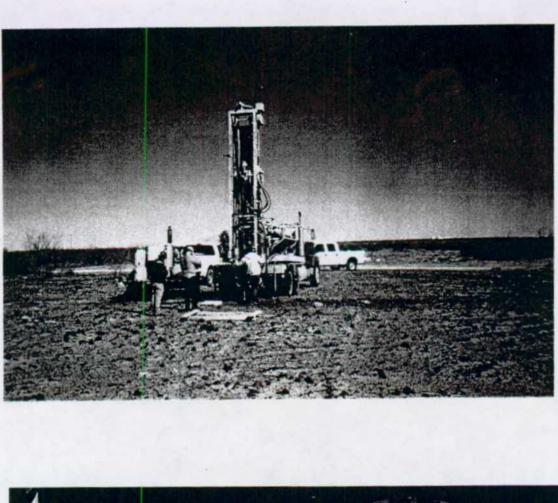
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Anthony Maralo 3/4/2003

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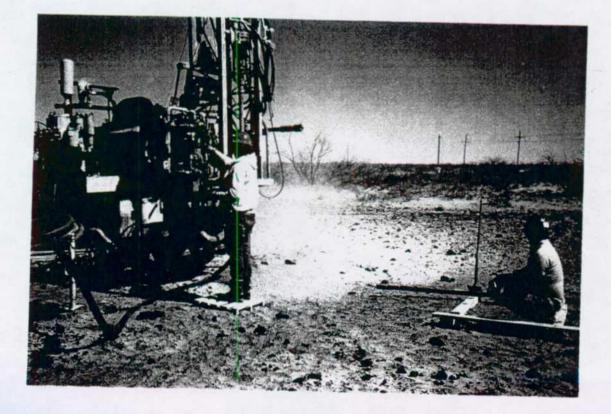








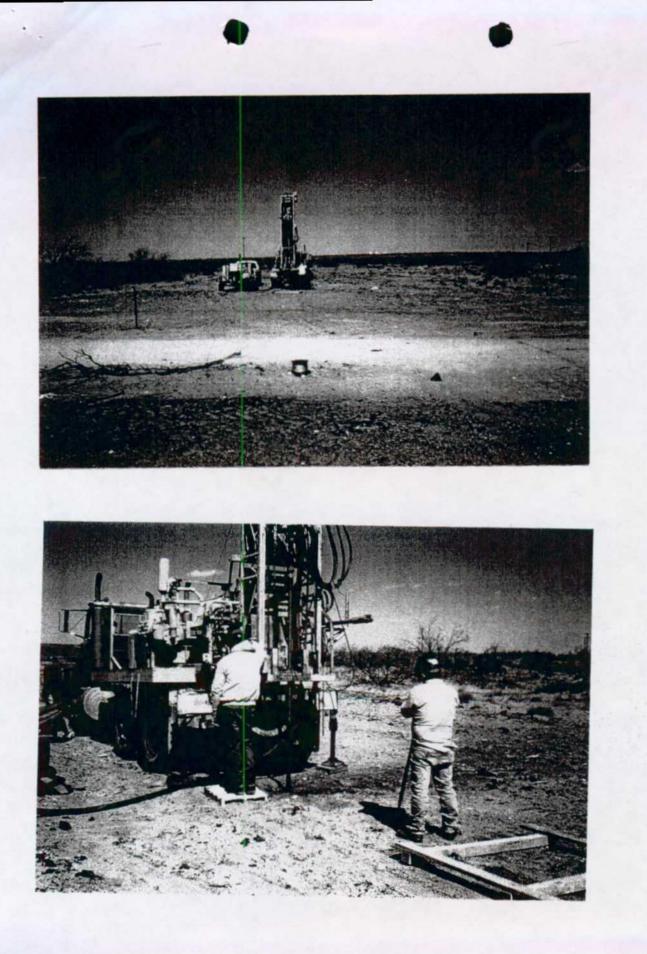
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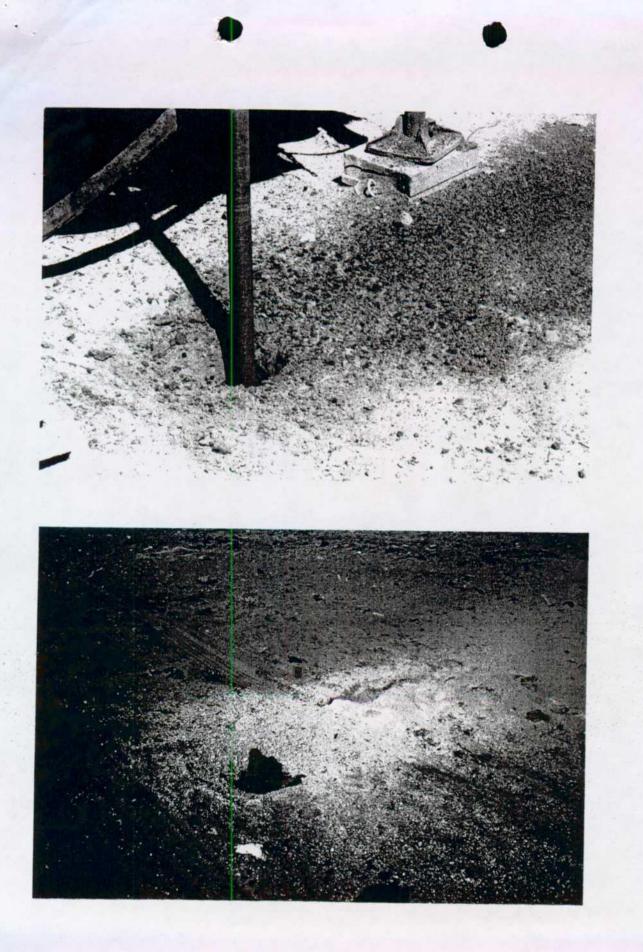


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BEI	FORE EXAMINER
CIL COM	ISERVATION DIVISION
	EXHIBIT NO6
CASE NO	13142

December 15, 2000

DEC 2.27 DEC 2.27 CERTIFIED MAIL/RETURN RECEIPT 7099 3220 0005 1182 7970

Mr. William C. Olson, Hydrologist New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505

Re:

Humble State #3 Tank Battery Site Lea County, New Mexico

Dear Mr. Olson:

Maralo is in receipt of your letter dated November 22, 2000, advising us that water samples from a water well owned by Mr. Jay Anthony contain chlorides and TDS in concentrations in excess of the New Mexico Water Quality Control Commission standards.

While Maralo acknowledges that it has operated two (2) wells in the immediate area, which as you may know were plugged in September and October of 1988, and the battery remediated by discing in 1993, we find no reason to believe that any of our actions contributed to the concentration of chlorides and TDS found through your analysis. As your report shows, no B-Tex or Toluene (Hydrocarbons) were noted, therefore eliminating the probability of oilfield contamination. Further, the chlorides noted in your analysis could be naturally occurring and in our opinion the water is still suitable for consumption by livestock which should be the primary consumer in the remote area of Mr. Anthony's ranch.

Finally, any application by your department of Rule 19 of the New Mexico Oil and Gas Regulations promulgated in February, 1997 would be considered, in our opinion, retroactively applied and therefore not enforceable.

If no response to our letter is received prior to January 22, 2001, we will assume this matter has been resolved to your satisfaction.

Yours very truly,

MARALO, LLC Joe C. Pulido, CPL

Manager

BEFORE EXAMINER OIL CONSERVATION DIVISION EXHIBIT NO. Z

:humble state #3 tank battery site - nm emnr

JCP/il

Maralo, LLC / P.O. Box 832 / Midland, Texas 79702-0832 / {915}-684-7441

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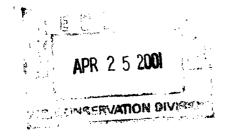
### COTTON, BLEDSOE, TIGHE & DAWSON

A PROFESSIONAL CORPORATION ATTORNEYS AT LAW

500 W. ILLINOIS SUITE 300 MIDLAND, TEXAS 79701-4337

P.O. BOX 2776 ZIP 79702-2776

TELEPHONE (915) 684-5782 FAX (915) 682-3672 WEB www.cbtd.com 1415 LOUISTANA SUITE 2100 HOUSTON, TEXAS 77002-7351 TELEPHONE (713) 759-9281 FAX (713) 759-0458



April 23, 2001

Mr. Roger Anderson New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Abatement Plan AP-26, Humble State #3 Tank Battery Site Jal, New Mexico

Dear Mr. Anderson:

RICK G. STRANGE

BOARD CERTIFIED CIVIL TRIAL LAW BOARD CERTIFIED OIL, GAS & MINERAL LAW

Writer's Direct #: (915) 685-8574 Writer's Direct Fax #: (915) 684-3168

Email: rstrange@cbtd.com

Maralo, LLC has asked us to respond to your letter dated April 11, 2001. In that letter, you ask us to submit a plan to investigate the extent of contamination at the site of the former Maralo Humble State #3 Tank Battery Site located in Unit A, Section 36, Township 25 South, Range 36 East. In your correspondence, you indicate that Maralo is required to submit to the OCD by June 11, 2001 a Stage 1 investigation proposal pursuant to OCD Rule 19.E.1 and 19.E.3. As you are no doubt aware, Rule 19 of the New Mexico Oil and Gas Regulations was promulgated in February 1997. Maralo's wells in that area were plugged in 1988 and the battery was remediated in 1993. We have had no operations on the site since. Rule 19, therefore, is inapplicable, and any attempt to apply it retroactively now would, in my opinion, be unconstitutional. If you disagree, I would be happy to review any information you have or to discuss this matter with your legal counsel. If we have not heard from you within a reasonable period of time, we will assume that you agree with our assessment and will close our file.

Very truly yours,
COPTON, BLEPSOE, TIGHE & DAWSON
By: By:
Rick G. Strange
BEFORE EXAMINER
OIL CONSERVATION DIVISION
EXHIBIT NO.
CASE NO. 13142

RGS/sm

/id: RSTRANGE\004802\000050\284434.1



### NEW M **MICO ENERGY**, MII **MALS** and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop **Cabinet** Secretary

April 22, 2003

Lori Wrotenbery Director **Oil Conservation Division** 

Mr. Joe Pulido, Manager Maralo, LLC P.O. Box 832 Midland, Texas 79702-0832

#### **HUMBLE STATE #3 TANK BATTERY SITE** RE: **JAL, NEW MEXICO**

Dear Mr. Pulido:

On April 11, 2001, the New Mexico Oil Conservation Division (OCD) informed Maralo, LLC (Maralo) that OCD investigations at the former Maralo Humble State #3 Tank Battery, located in Unit A, Section 36, Township 25 South, Range 36 East, have shown that ground water directly underlying Maralo's former Humble State #3 Tank Battery site is contaminated with chlorides and total dissolved solids (TDS) in concentrations in excess of the New Mexico Water Quality Control Commission standards. On that date, the OCD required that Maralo submit a Stage 1 Investigation Proposal to investigate and, if necessary, remediate ground water pollution at the site of the former tank battery. Subsequent soil investigations conducted by the OCD and recent investigations by the land owner, Mr. Jay Anthony, have not found appreciable concentrations of chlorides in soils at the site. Therefore, the OCD is rescinding the April 11, 2001 abatement plan requirement.

However, site inspections have shown that several backfilled pits remain at the surface of the site. Asphaltic type oil is present at the surface of each pit. These pits appear to have been used for disposal of emulsions, basic sediments and tank bottoms. According to 19.15.5.313 NMAC, "these substances and tank bottoms shall not be allowed to pollute fresh waters or cause surface damage". Since these pits are causing surface damage, the OCD requires that Maralo submit a work plan to eliminate surface damage at the site. The work plan shall be submitted to the OCD Santa Fe Office by May 22, 2003 with a copy provided to the OCD Hobbs District Office. If you have any questions, please contact Bill Olson at (505) 476-3491.

Sincerely,

Roger C. Anderson Environmental Bureau Chief

Chris Williams, OCD Hobbs District Office xc: Jay Anthony

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Oil Conservation Division \* 1220 South St. Francis Drive \* Santa Fe, New Mexico 87505 Phone: (505) 476-3440 \* Fax (505) 476-3462 \* http://www.emnrd.state.nm.us



### CERTIFIED MAIL RETURN RECEIPT NO. 7001 1140 0002 4294 9923

May 5, 2003

Mr. Roger C. Anderson New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

### Re: Humble State #3 Tank Battery Site Lea County, New Mexico

Dear Mr. Anderson:

# Maralo, LLC is in receipt of your letter dated April 22, 2003, wherein you advise that the OCD is rescinding the April 11, 2001 abatement plan requirement although you request a work plan be submitted to eliminate surface damage at the captioned site.

We call your attention to letter dated April 23, 2001 from our attorney, Mr. Rick G. Strange with the Cotton, Bledsoe, Tighe & Dawson firm (copy enclosed), wherein he clearly states that Rule 19 is inapplicable.

Because we have had no response to our previous correspondence (4/23/01) and due to the significant passage of time, we believe you agree with our position on Rule 19, but if you have information that requires further review or discussion, I am certain Mr. Strange would be willing to discuss it further with your legal counsel.

Yours very truly,

Joe C. Pulido, CPL Manager

JCP/sg Enclosure

cc: Mr. Rick G. Strange Cotton, Bledsoe, Tighe & Dawson

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CONCINCIAN DE	OIL CONSERVATION DIVISION	
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Maralo, LLC / P.O. Box 832 / Midland, Texas 79702-0832 / (915) 684-7441 Fax (915) 684-9836

## RECEIVED

MAY 0 8 2003

ENVIRONMENTAL BUREAU

#### COTTON, BLEDSOE, TIGHE & DAWSON A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

500 W. ILLINOIS SUITE 300 MIDLAND, TEXAS 79701-4337 P.O. BOX 2776 ZIP 79702-2776

1415 LOUISIANA SUITE 2100 HOUSTON, TENAS 77002-7351 TELEPHONE (713) 759-9281 FAX (713) 759-9458

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TELEPHONE (915) 684-5782 FAX (915) 682-3672 WEB www.cbtd.com

April 23, 2001

Mr. Roger Anderson New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Abatement Plan AP-26, Humble State #3 Tank Battery Site Jal, New Mexico

Dear Mr. Anderson:

RICK G. STRANGE

BOARD CERTIFIED CIVIL TRIAL LAW BOARD CERTIFIED OIL, GAS & MINERAL LAW

Writer's Direct #: (915) 685-8574 Writer's Direct Fax #: (915) 684-3168

Email: rstrange@cbtd.com

Maralo, LLC has asked us to respond to your letter dated April 11, 2001. In that letter, you ask us to submit a plan to investigate the extent of contamination at the site of the former Maralo Humble State #3 Tank Battery Site located in Unit A, Section 36, Township 25 South, Range 36 East. In your correspondence, you indicate that Maralo is required to submit to the OCD by June 11, 2001 a Stage 1 investigation proposal pursuant to OCD Rule 19.E.1 and 19.E.3. As you are no doubt aware, Rule 19 of the New Mexico Oil and Gas Regulations was promulgated in February 1997. Maralo's wells in that area were plugged in 1988 and the battery was remediated in 1993. We have had no operations on the site since. Rule 19, therefore, is inapplicable, and any attempt to apply it retroactively now would, in my opinion, be unconstitutional. If you disagree, I would be happy to review any information you have or to discuss this matter with your legal counsel. If we have not heard from you within a reasonable period of time, we will assume that you agree with our assessment and will close our file.

Very truly yours, COPTON, BLED OE, TIGHE & DAWSON By: Rick G. Strange

RGS/sm

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### NEW MAXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Lori Wrotenbery Director Oil Conservation Division

July 9, 2003

Mr. Rick G. Strange Cotton, Bledsoe, Tighe & Dawson 500 W. Illinois, Suite 300 Midland, TX 79701-4337

Re: Maralo LLC Humble State #3 Tank Battery Site Lea County, New Mexico

Dear Mr. Strange:

On April 11, 2001, the Division notified Maralo LLC that it would require an abatement plan pursuant to OCD Rule 19 [19.15.1.19 NMAC] to remedy fresh water contamination believed to exist at the referenced site. By letter dated April 23, 2001, you, on behalf of Maralo, advised us of your contention that Rule 19 is inapplicable because it was adopted subsequent to Maralo's abandonment of the facility.

By letter dated April 22, 2003, the Division notified Maralo that we were rescinding the requirement of an abatement plan because we had determined that there was insufficient evidence of water pollution to impose such a requirement at this time. The Division further notified Maralo, however, that we were requiring a work plan to remedy surface pollution resulting from tank bottoms at the referenced site.

Maralo responded by letter of May 5, 2003 referencing your letter of April 23, 2001.

Although OCD does not agree with your position regarding the application of Rule 19, our rescinding the abatement plan requirement moots that issue. Rule 313 [19.15.5.313 NMAC], which is the basis for the demand set forth in our letter of April 22, 2003, was originally adopted in 1950.

We accordingly reiterate our requirement of a work plan to address the surface contamination issues. The plan should be filed not later than August 15, 2003.

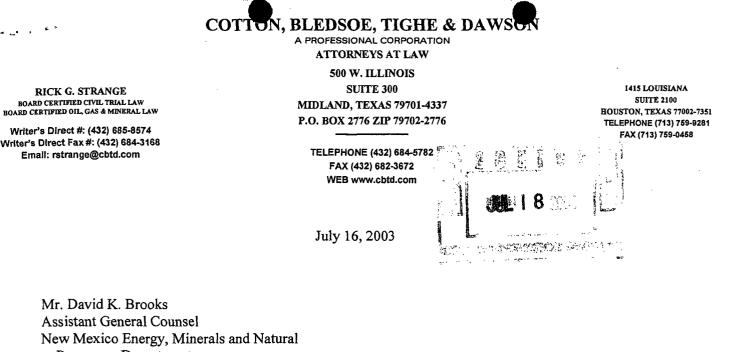
Please contact me at 505-476-3450 if you have questions or wish to discuss this matter further.

÷.,

Very truly yours,

David K. Brooks Assistant General Counsel

cc. William C. Olson OCD Senior Hydrologist



Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

> Re: Humble State #3 Tank Battery Site Lea County, New Mexico

Dear Mr. Brooks:

Thank you for your letter dated July 9<sup>th</sup>. I have reviewed that with my client and provide this response.

· . · ·

Your letter references Rule 313 and indicates this rule was originally adopted in 1950. That rule has been amended, as recently as May 15, 2000. We ceased operations on this lease in 1988. Any subsequent changes to the rule would not apply to us. I do not have the exact text of the rule as it existed in 1988, but even looking at its most current version, I fail to see where this provides your agency with the authority to order us to remediate a site that has not been used for 15 years. Accordingly, we must respectfully decline your request to submit a work plan. If you have any legal authority allowing your agency to retroactively impose this proposed requirement, I would appreciate the opportunity to review the same.

Very truly yours,

COTTON, BLEDSOE, TIGHE & DAWSON By: Rick G. Strange

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RGS/sm

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FORM C-101



KICO OIL CONSERVATION CC

Santa Fe, New Mexico

**ISSION** 

### NOTICE OF INTENTION TO DRILL

Notice must be given to the Oil Conservation Commission or its proper agent and approval obtained before drilling begins. If changes in the proposed plan are considered advisable, a copy of this notice showing such changes will be returned to the sender. Submit this notice in triplicate. One copy will be returned following approval. See additional instructions in Rules and Regulations of the Commission.

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OIL CONSERVATION Santa Fe, New Mexic	V COMMISSION,	FLACE	DATE
Gentlemen:			
	Ralph Lowe	Humble State	illing of a well to be known as
of Sec	25 R 36	LEASE , N. M. P. M., Jal	Field, LeaCounty
<u>N</u>	The well is	660 feet ( <b>XR9</b> (S.) of the	North line and 660 feet
AREA 640 ACRE	(Give lo directions.) If state land If patented la Address The lessee is Address B	the oil and gas lease is No	al subdivision lines. Cross out wrong 34Assignment No

mission is as follows: \$10,000.00 Blanket Bond Form 39-A1

We propose to use the following strings of casing and to land or cement them as indicated:

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LON	8#	28#	2n <b>e</b>	1500	Commented	200
5 3/4"	7 n	22#	Rêv	<b>305</b> 0	Cemented	200

By.

Address

Sincerely yours,

OF. CONSERVATION DPTD. COMPANY OR OP

DEFORE EXAMINER

OIL CONSER Titl

Position......Owner

Send communications regarding well to

Name Ralph Lowe

Box 1767. Midland

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LAND OFFICE				
GAS	-			
OPERATOR				
PRORATION OFFICE				
MARALO, INC.		<u></u>		
P. O. Box 832,	Midland, Texas 79701	·		
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Texas-New Mexico Pipe Name of Authorized Transporter of Co		Box 1510, Midland, Te Address (Give address to which appr	xas 79701 oved copy of this form is to be sent)	
El Paso Natural Gas	-		88252 Attn: D. B. Gill:	
If well produces oil or liquids,	Unit Sec. Twp. Rge.		hen	
give location of tanks.	36 25 36	Yes		
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GAS WELL			**************************************	
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above is true and complete to t	he best of my knowledge and belief.	BY	Dist. I, Supv.	
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Agent		tests taken on the well in acc	ordance with RULE 111.	
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April 19, 1974	+		II. and VI only for changes of own	

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Maralo, Inc.			Humble State
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