AP - 67

STAGE 1 & 2 REPORTS

DATE:

JAN. 5, 2005

RICE Operating Company
122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

CERTIFIED MAIL
RETURN RECEIPT NO. 7002 2410 0000 4940 1640

January 5, 2005

Mr. Roger Anderson
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: NOTIFICATION OF GROUNDWATER IMPACT
EME jct. D-1 Leak
Unit 'D', Sec. 1, T20S, R36E

NEAP
AP

Mr. Anderson:

Rice Operating Company (ROC) takes this opportunity to notify the Director of the NMOCD, Environmental Bureau of groundwater impact in accordance with NM Rule 116. The remediation of this site may fall under NM Rule 19 procedures.

The EME jct. D-1 Leak site experienced two accidental discharges on 11/19/2004 and 10/25/2004 during the upgrade of the junction box D-1. A delineation soil bore was initiated on 12/8/2004 where groundwater was encountered at 31 feet and a 2-inch monitoring well was installed to a depth of 40 feet as chloride impact was indicated by field tests. The well was sampled pursuant to NMOCD guidelines by ARCADIS G&M, Inc. (Arcadis) of Midland, Texas on 12/21/2004. Environmental Lab of Texas performed the analysis. Arcadis will continue to sample the well quarterly in 2005. ROC will assign this project to a consultant and NMOCD may expect the submission of a Investigation & Characterization Plan (ICP) soon.

ROC is the service provider (operator) for the EME Salt Water Disposal System and has no ownership of any portion of the pipelines, wells, or facilities. The EME System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental remediation projects of this magnitude require System Partner AFE approval and work begins as funds are received.

Please accept this notification for the above-referenced site. Should you have any questions or concerns regarding this site, please do not hesitate to contact me.

RICE OPERATING COMPANY

Kristin Farris Pope

Kristin Farris Pope
Project Scientist

cc: LBG, CDH, file

Mr. Chris Williams
NMOCD, District 1 Office
1625 N. French Drive
Hobbs, NM 88240

enclosures: water analysis, well log, map

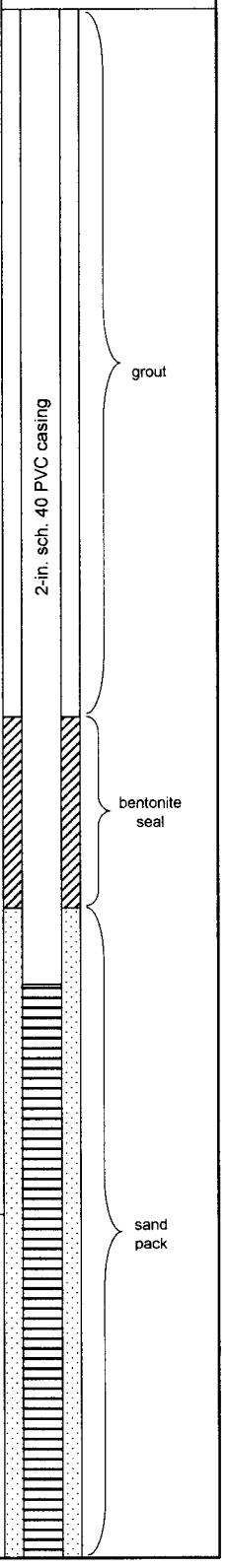
LOG OF BORING
K. Farris Pope
RICE Operating Company

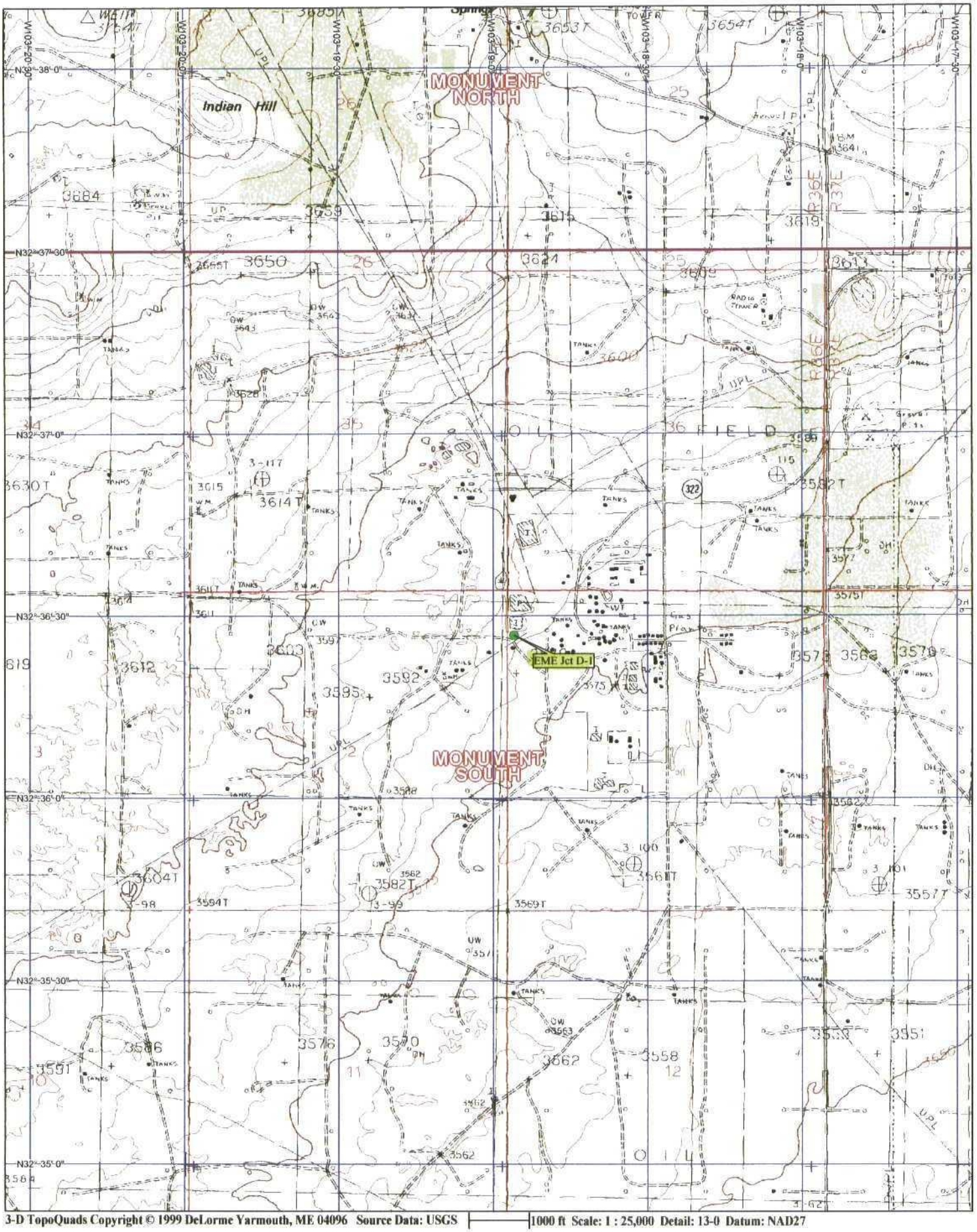
Logger:	Israel Juarez; Mort Bates	**Client:**	**Well ID:**
Driller:	Atkins Engineering Associates, Inc.	RICE Operating Company	
Drilling Method:	4.25 in. Hollow Stem Auger	**Project Name:**	
Start Date:	12/8/2004	jct. D-1 leak	**MW-1**
End Date:	12/8/2004	**Location:**	
Notes:	20 ft southwest of former junction box site TD = 40 ft Groundwater = 31 ft	EME SWD System unit 'D', Sec. 1, T20S, R36E Lea County, NM	

Depth (feet)	Split Spoon chloride	Split Spoon PID	Description
0.0	113	1.6	0 - 4 ft CLAYEY SAND loose, light tan, damp
5.0	146	5.2	4 - 11 ft SILTY SAND w/CALICHE reddish tan, damp
10.0	484	0.9	
15.0	8865	0.5	11 - 22 ft CLAYEY SAND w/CALICHE loose, tan, moist
20.0	4842	4.1	
25.0	3876	0.9	22 - 31 ft SILTY SAND w/BROKEN SANDSTONE reddish tan, damp
30.0	1196	2.1	
35.0	1113	0.9	31 - 40 ft POORLY-GRADED SAND soft, tan, wet

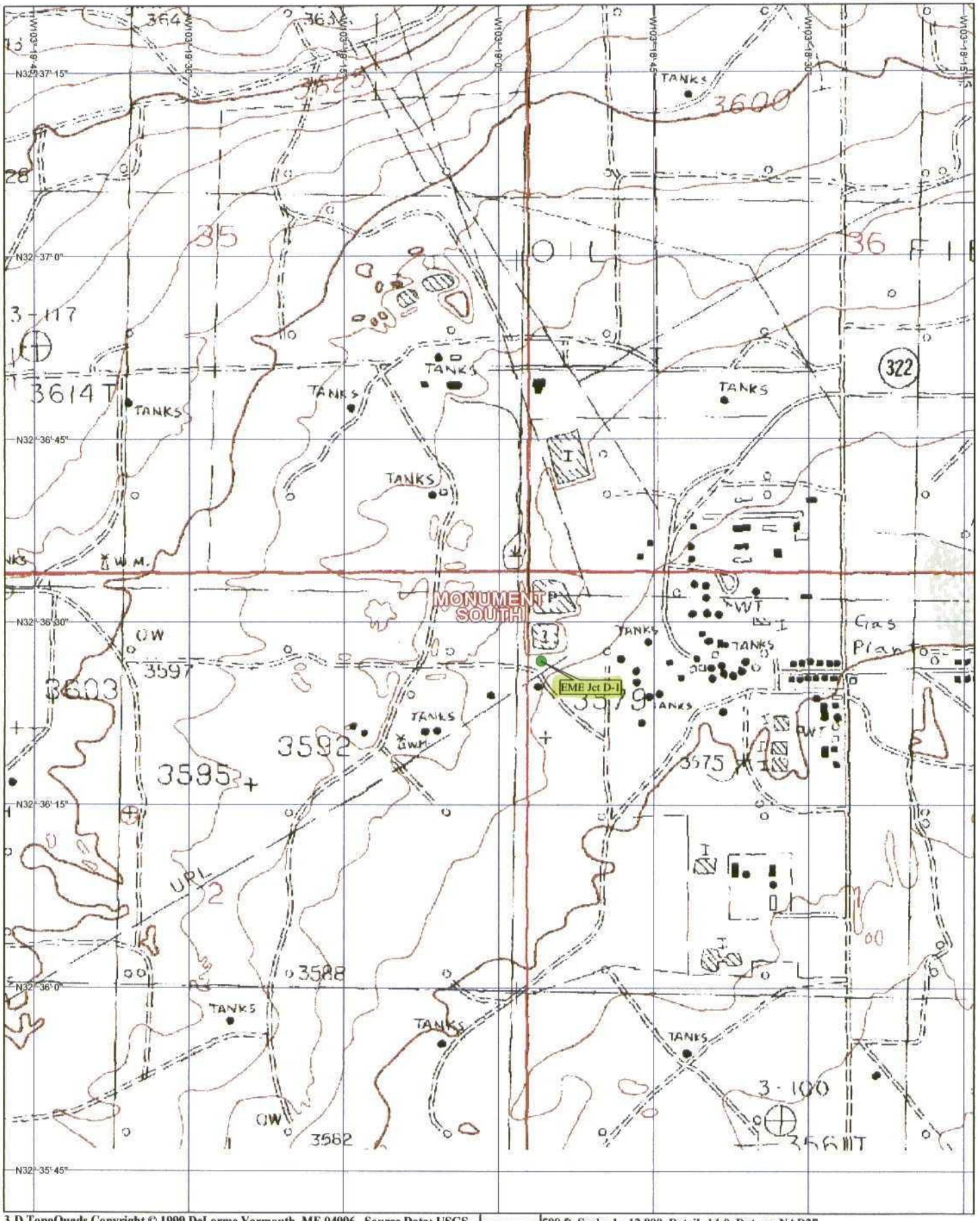
Lithology

Well Construction





1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: NAD27



 500 ft Scale: 1 : 12,800 Detail: 14-0 Datum: NAD27

LEAK

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Sharon Hall

ARCADIS

1004 N. Big Spring Street

Midland, TX 79701

Project: Jct. D-1

Project Number: Jct. D-1

Location: Rice Operating/ EME

Lab Order Number: 4L22005

Report Date: 12/30/04

ARCADIS	Project: Jct. D-1	Fax: (432) 687-5401
1004 N. Big Spring Street	Project Number: Jct. D-1	**Reported:**
Midland TX, 79701	Project Manager: Sharon Hall	12/30/04 15:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4L22005-01	Water	12/21/04 08:00	12/21/04 18:00
Trip Blank	4L22005-02	Water	12/21/04 00:00	12/21/04 18:00

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

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4L22005-01) Water									
Benzene	ND	0.00100	mg/L	1	EL43006	12/29/04	12/29/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*102 %*		*80-120*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*109 %*		*80-120*	"	"	"	"	
Trip Blank (4L22005-02) Water									
Benzene	ND	0.00100	mg/L	1	EL43006	12/29/04	12/29/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*102 %*		*80-120*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.1 %*		*80-120*	"	"	"	"	

ARCADIS	Project: Jct. D-1	Fax: (432) 687-5401
1004 N. Big Spring Street	Project Number: Jct. D-1	**Reported:**
Midland TX, 79701	Project Manager: Sharon Hall	12/30/04 15:51

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4L22005-01) Water									
Total Alkalinity	**190**	2.00	mg/L	1	EL42907	12/29/04	12/29/04	EPA 310.2M	
Chloride	**29400**	5.00	"	"	EL42908	12/29/04	12/29/04	EPA 325.3M	
Total Dissolved Solids	**56800**	5.00	"	"	EL42301	12/22/04	12/23/04	EPA 160.1	
Sulfate	**3000**	25.0	"	50	EL42909	12/29/04	12/29/04	EPA 375.4	

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1004 N. Big Spring Street	Project Number: Jct. D-1	**Reported:**
Midland TX, 79701	Project Manager: Sharon Hall	12/30/04 15:51

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4L22005-01) Water									
Calcium	**1800**	10.0	mg/L	1000	EL42212	12/22/04	12/22/04	EPA 6010B	
Magnesium	**1060**	1.00	"	"	"	"	"	"	
Potassium	**330**	50.0	"	"	"	"	"	"	
Sodium	**16900**	100	"	10000	"	"	"	"	

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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 EL43006 - EPA 5030C (GC)										
Blank (EL43006-BLK1)				Prepared & Analyzed: 12/29/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*100*		*ug/l*	*100*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*91.9*		"	*100*		*91.9*	*80-120*			
LCS (EL43006-BS1)				Prepared & Analyzed: 12/29/04						
Benzene	86.8		ug/l	100		86.8	80-120			
Toluene	85.1		"	100		85.1	80-120			
Ethylbenzene	86.6		"	100		86.6	80-120			
Xylene (p/m)	191		"	200		95.5	80-120			
Xylene (o)	92.9		"	100		92.9	80-120			
Surrogate: a,a,a-Trifluorotoluene	*117*		"	*100*		*117*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*95.1*		"	*100*		*95.1*	*80-120*			
Calibration Check (EL43006-CCV1)				Prepared & Analyzed: 12/29/04						
Benzene	89.5		ug/l	100		89.5	80-120			
Toluene	89.6		"	100		89.6	80-120			
Ethylbenzene	91.8		"	100		91.8	80-120			
Xylene (p/m)	201		"	200		100	80-120			
Xylene (o)	99.5		"	100		99.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	*115*		"	*100*		*115*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*95.0*		"	*100*		*95.0*	*80-120*			
Matrix Spike (EL43006-MS1)	**Source: 4L22001-05**			Prepared & Analyzed: 12/29/04						
Benzene	90.0		ug/l	100	ND	90.0	80-120			
Toluene	91.6		"	100	ND	91.6	80-120			
Ethylbenzene	91.4		"	100	ND	91.4	80-120			
Xylene (p/m)	201		"	200	ND	100	80-120			
Xylene (o)	95.8		"	100	ND	95.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*118*		"	*100*		*118*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*102*		"	*100*		*102*	*80-120*			

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 EL43006 - EPA 5030C (GC)										
Matrix Spike Dup (EL43006-MSD1)	**Source: 4L22001-05**		Prepared & Analyzed: 12/29/04							
Benzene	93.0		ug/l	100	ND	93.0	80-120	3.28	20	
Toluene	94.6		"	100	ND	94.6	80-120	3.22	20	
Ethylbenzene	92.4		"	100	ND	92.4	80-120	1.09	20	
Xylene (p/m)	201		"	200	ND	100	80-120	0.00	20	
Xylene (o)	95.6		"	100	ND	95.6	80-120	0.209	20	
Surrogate: a,a,a-Trifluorotoluene	*118*		"	*100*		*118*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*102*		"	*100*		*102*	*80-120*			

General Chemistry Parameters 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 EL42301 - 413.1										
Blank (EL42301-BLK1)				Prepared: 12/22/04 Analyzed: 12/23/04						
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EL42301-DUP1)	**Source: 4L21010-01**			Prepared: 12/22/04 Analyzed: 12/23/04						
Total Dissolved Solids	590	5.00	mg/L		567			3.98	20	
Batch EL42907 - General Preparation (WetChem)										
Blank (EL42907-BLK1)				Prepared & Analyzed: 12/29/04						
Total Alkalinity	ND	2.00	mg/L							
Duplicate (EL42907-DUP1)	**Source: 4L22002-01**			Prepared & Analyzed: 12/29/04						
Total Alkalinity	181	2.00	mg/L		182			0.551	20	
Reference (EL42907-SRM1)				Prepared & Analyzed: 12/29/04						
Carbonate Alkalinity	0.0501		mg/L	0.0500		100	80-120			
Batch EL42908 - General Preparation (WetChem)										
Blank (EL42908-BLK1)				Prepared & Analyzed: 12/29/04						
Chloride	ND	5.00	mg/L							
Matrix Spike (EL42908-MS1)	**Source: 4L21010-01**			Prepared & Analyzed: 12/29/04						
Chloride	390	5.00	mg/L	250	155	94.0	80-120			
Matrix Spike Dup (EL42908-MSD1)	**Source: 4L21010-01**			Prepared & Analyzed: 12/29/04						
Chloride	394	5.00	mg/L	250	155	95.6	80-120	1.02	20	

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General Chemistry Parameters 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 EL42908 - General Preparation (WetChem)										
Reference (EL42908-SRM1)				Prepared & Analyzed: 12/29/04						
Chloride	4960		mg/L	5000		99.2	80-120			
Batch EL42909 - General Preparation (WetChem)										
Blank (EL42909-BLK1)				Prepared & Analyzed: 12/29/04						
Sulfate	ND	0.500	mg/L							
Calibration Check (EL42909-CCV1)				Prepared & Analyzed: 12/29/04						
Sulfate	48.9		mg/L	50.0		97.8	80-120			
Duplicate (EL42909-DUP1)	**Source: 4L21010-01**			Prepared & Analyzed: 12/29/04						
Sulfate	96.6	1.00	mg/L		99.8			3.26	20	

ARCADIS	Project: Jct. D-1	Fax: (432) 687-5401
1004 N. Big Spring Street	Project Number: Jct. D-1	**Reported:**
Midland TX, 79701	Project Manager: Sharon Hall	12/30/04 15:51

Total Metals 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 EL42212 - 6010B/No Digestion										
Blank (EL42212-BLK1)				Prepared & Analyzed: 12/22/04						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EL42212-CCV1)				Prepared & Analyzed: 12/22/04						
Calcium	2.10		mg/L	2.00		105	85-115			
Magnesium	2.12		"	2.00		106	85-115			
Potassium	2.03		"	2.00		102	85-115			
Sodium	1.82		"	2.00		91.0	85-115			
Duplicate (EL42212-DUP1)	**Source: 4L21010-01**			Prepared & Analyzed: 12/22/04						
Calcium	55.1	0.100	mg/L		57.3			3.91	20	
Magnesium	13.2	0.0100	"		13.0			1.53	20	
Potassium	12.5	0.500	"		13.2			5.45	20	
Sodium	105	1.00	"		112			6.45	20	

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Notes and Definitions

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

Report Approved By: Celey D Keene Date: 12/30/2004

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.

ARCADIS GERAGHTY & MILLER

Laboratory Task Order No./P.O. No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number/Name JCT, D-1

Project Location Rice Operating / EME

Laboratory Environmental Lab of Texas

Project Manager Kristin Farris Pope e-mail Janice Rice

Sampler(s)/Affiliation GC/ARCADIS

Sample ID/Location	Matrix	Date/Time Sampled	Time Lab ID	ANALYSIS / METHOD / SIZE: (2)40ml VOA BTEX 8021B HCl	(1) L plastic major anions/cations TDS Neat					Remarks	Total
MW-1	L	12.21.04	0800	2	1					4L22005-01	3
Trip Blank	L	12.21.04	—	2						↓ -02	2

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 5

Relinquished by: David Cubbo	Organization: ARCADIS	Date 12/21/04	Time 1800	Seal Intact? Yes No (N/A)
Received by: Joanne Mcmurry	Organization: Env. Lab of Tx	Date 12/21/04	Time 1800	
Relinquished by: _____	Organization: _____	Date / /	Time _____	Seal Intact? Yes No N/A
Received by: _____	Organization: _____	Date / /	Time _____	

Special Instructions/Remarks: 1.0°C on ice

Delivery Method: ☒ In Person ☐ Common Carrier _____ (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

AG 05 0597

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

Client: Arcadis

Date/Time: 12-21-04 @ 1800

Order #: 4L 22005

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	1.0 C
Shipping container/cooler in good condition?	(Yes)	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?	(Yes)	No	
Chain of Custody signed when relinquished and received?	(Yes)	No	
Chain of custody agrees with sample label(s)	(Yes)	No	
Container labels legible and intact?	(Yes)	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in proper container/bottle?	(Yes)	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?	(Yes)	No	
Sufficient sample amount for indicated test?	(Yes)	No	
All samples received within sufficient hold time?	(Yes)	No	
VOC samples have zero headspace?	(Yes)	No	Not Applicable

Other observations:

_____

_____

_____

Variance Documentation:

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

Regarding:

_____

_____

_____

Corrective Action Taken:

_____

_____

_____

_____

_____

_____

_____

_____