



A Waters Company

Thekkekalathil Chandrasekhar
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SOIL-77



Final Report

Soil/Hazardous Waste Proficiency Testing

Soil Study

Open Date: 01/23/12

Close Date: 03/08/12

Report Issued Date: 03/29/12



A Waters Company

March 29, 2012

Thekkekalathil Chandrasekhar
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Enclosed is your final report for ERA's SOIL-77 Proficiency Testing (PT) study. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All analytes in ERA's SOIL-77 Proficiency Testing study have been evaluated using the following tiered approach. If the analyte is listed in the current TNI Fields of Proficiency Testing (FoPT) tables, the evaluation was completed by comparing the reported result to the acceptance limits generated using the criteria contained in the current TNI FoPT tables. If the analyte is not included in the TNI FoPT tables, the reported result has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260).

Please note the following changes to our final reports:

- At the request of the TNI Accreditation Council, we have included a Laboratory Exception Report that includes a list of all analytes reported with less than qualifiers when the assigned value was greater than "0." In addition, because we have received many requests from laboratories, this report also includes a list of all analytes with "Not Acceptable" evaluations.
- Some states have elected not to convert to the 2009 TNI Standards at this time. If you have released your results to a state that has retained the 2003 NELAC Evaluation Criteria, your final report will include a section that evaluates the results according to the 2003 Standard in addition to the 2009 TNI Standards.

Corrective Action Help: As part of your accreditation(s), you may be required to identify the root cause of any "Not Acceptable" results, implement the necessary corrective actions, and then satisfy your PT requirements by participating in a Supplemental (Quik™Response) or future ERA PT study. ERA's technical staff is available to help your laboratory resolve any technical issues that may be impairing your PT performance and possibly affecting your routine data quality. Our laboratory and technical staff have well over three hundred years of collective experience in performing the full range of environmental analyses. As part of our technical support, ERA offers QC samples that can be helpful in helping you work through your technical issues.

Thank you for your participation in ERA's SOIL-77 Proficiency Testing study. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122.

Sincerely,

Jay R. McBurney
Quality Program Manager

attachments
jrm



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Report Recipient	Contact/Phone Number	Reporting Type	Evaluation Type
Florida	Steve Arms / 904-791-1502	All Analytes	2009 TNI



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SOIL-77 Definitions & Study Discussion

Study Dates: 01/23/12 - 03/08/12

Report Issued: 03/29/12

SOIL Study Definitions

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Value for the Organic Proficiency Testing Standards is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation as applicable. The ERA assigned value for the Inorganic Proficiency Testing Standards, with the exception of the TCLP Metals in Soil, is equal to the maximum amount of the parameter available in the standard by applicable EPA methodologies. The ERA assigned value for the TCLP metals is equal to the mean of ERA's internal analytical analyses. All parameters not added to the standard are given an Assigned Value of "< PTRL", per the guidelines contained in the 2009 TNI Standards. The assigned values are directly traceable to the commercially prepared starting materials used to manufacture the PT standards.

The Acceptance Limits are established per the criteria contained in the most current TNI Fields of Proficiency Testing (FoPT) tables, or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable.

The Performance Evaluation:

Acceptable = Reported Value falls within the Acceptance Limits.

Not Acceptable = Reported Value falls outside the Acceptance Limits.

No Evaluation = Reported Value cannot be evaluated.

Not Reported = No Value reported.

The Method Description is the method the laboratory reported to ERA.

SOIL Study Discussion

ERA's SOIL-77 Proficiency Testing (PT) study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI PT Standard and the criteria contained in the most current TNI Fields of Proficiency Testing (FoPT) tables.

ERA's SOIL-77 study standards were examined for any anomalies. A full review of all homogeneity, stability and accuracy verification data was completed. All analytical verification data for all analytes in the standards met the acceptance criteria contained in the 2009 TNI PT Standard and the criteria contained in the most current TNI FoPT tables.

The data submitted by participating laboratories was also examined for study anomalies. There were no anomalies observed during the statistical review of the data.

ERA's SOIL-77 Proficiency Testing study reports shall not be reproduced except in its entirety and not without the permission of the participating laboratory. The report must not be used by the participating laboratories to claim product endorsement any agency of the U. S. government.

The data contained herein are confidential and intended for your use only.

If you have any questions or concerns regarding your assessment in ERA's SOIL Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122.





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SOIL-77 Laboratory Exception Report

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There are no values reported with < where the assigned value was greater than 0.

2009 TNI Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
<i>SOIL Volatiles in Soil (cat# 623)</i>							
5260	Xylenes, total	µg/kg	489	252	124 - 370	Not Acceptable	EPA 8260C 2006



Final Report Results For Laboratory State of Florida DEP Chemistry Laboratory



2009 TNI Evaluation Report

Study: **SOIL-77**

ERA Customer Number: **S744803**

Laboratory Name: **State of Florida DEP
Chemistry Laboratory**

Inorganic Results



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SOIL-77 2009 TNI Evaluation Final Complete Report

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TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
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SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg	12200	10100	4030 - 14600	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.19	9310	2420	LUTZ_E
1005	Antimony	mg/kg	108	250	25.0 - 303	Acceptable	EPA 6010C 3 2/1/2007	2/21/2012	-0.17	120	71.4	LUTZ_E
1010	Arsenic	mg/kg	191	184	119 - 218	Acceptable	EPA 6010C 3 2/1/2007	2/21/2012	1.69	169	13.2	LUTZ_E
1015	Barium	mg/kg	228	218	156 - 270	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.821	213	18.2	LUTZ_E
1020	Beryllium	mg/kg	117	119	82.6 - 138	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.746	110	8.76	LUTZ_E
1025	Boron	mg/kg	93.1	102	51.0 - 119	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.855	85.0	9.45	LUTZ_E
1030	Cadmium	mg/kg	105	112	75.2 - 130	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.290	103	8.25	LUTZ_E
1035	Calcium	mg/kg	7960	6940	5110 - 8640	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.85	6870	588	LUTZ_E
1040	Chromium	mg/kg	129	128	82.9 - 154	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.21	119	8.51	LUTZ_E
1050	Cobalt	mg/kg	142	138	97.4 - 164	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.02	131	10.8	LUTZ_E
1055	Copper	mg/kg	127	129	88.0 - 147	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.873	118	10.6	LUTZ_E
1070	Iron	mg/kg	16200	15000	4190 - 21800	Acceptable	EPA 6010C 3 2/1/2007	2/21/2012	1.57	13000	2060	LUTZ_E
1075	Lead	mg/kg	90.4	82.5	52.8 - 101	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.88	76.9	7.20	LUTZ_E
1085	Magnesium	mg/kg	3350	2860	1810 - 3760	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.70	2780	335	LUTZ_E
1090	Manganese	mg/kg	363	335	255 - 423	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.877	339	27.4	LUTZ_E
1095	Mercury	mg/kg		26.5	12.9 - 37.2	Not Reported				25.1	3.25	
1100	Molybdenum	mg/kg	65.7	77.1	41.6 - 84.8	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.697	61.5	6.04	LUTZ_E
1105	Nickel	mg/kg	75.5	78.0	49.6 - 90.3	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.863	70.0	6.39	LUTZ_E



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





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SOIL Metals in Soil (cat# 620) (Continued)

1125	Potassium	mg/kg	3770	3250	1970 - 4280	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.51	3120	428	LUTZ_E
1140	Selenium	mg/kg	134	140	84.1 - 169	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.639	126	11.8	LUTZ_E
1150	Silver	mg/kg	43.4	44.9	28.0 - 56.7	Acceptable	EPA 6010C 3 2/1/2007	2/28/2012	0.261	42.4	4.00	LUTZ_E
1155	Sodium	mg/kg	350	352	150 - 549	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.00934	350	42.9	LUTZ_E
1160	Strontium	mg/kg	146	136	93.7 - 172	Acceptable	EPA 6010C 3 2/1/2007	2/21/2012	1.30	133	10.1	LUTZ_E
1165	Thallium	mg/kg	222	228	144 - 272	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.843	208	16.7	LUTZ_E
1175	Tin	mg/kg	153	144	84.6 - 200	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.780	142	13.9	LUTZ_E
1180	Titanium	mg/kg	340	253	0.00 - 492	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.33	219	90.8	LUTZ_E
1185	Vanadium	mg/kg	99.4	95.5	55.0 - 119	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	1.26	87.1	9.77	LUTZ_E
1190	Zinc	mg/kg	291	295	197 - 355	Acceptable	EPA 6010C 3 2/1/2007	1/30/2012	0.620	276	24.0	LUTZ_E



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SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		10100	4030 - 14600	Not Reported				9310	2420	
1005	Antimony	mg/kg	119	250	25.0 - 303	Acceptable	EPA 6020A 1 2/1/2007	2/20/2012	-0.0163	120	71.4	PETERSON_C
1010	Arsenic	mg/kg	200	184	119 - 218	Acceptable	EPA 6020A 1 2/1/2007	2/20/2012	2.37	169	13.2	PETERSON_C
1015	Barium	mg/kg	222	218	156 - 270	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.492	213	18.2	PETERSON_C
1020	Beryllium	mg/kg	115	119	82.6 - 138	Acceptable	EPA 6020A 1 2/1/2007	2/2/2012	0.518	110	8.76	PETERSON_C
1025	Boron	mg/kg		102	51.0 - 119	Not Reported				85.0	9.45	
1030	Cadmium	mg/kg	105	112	75.2 - 130	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.290	103	8.25	PETERSON_C
1035	Calcium	mg/kg		6940	5110 - 8640	Not Reported				6870	588	
1040	Chromium	mg/kg	127	128	82.9 - 154	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.977	119	8.51	PETERSON_C
1050	Cobalt	mg/kg	138	138	97.4 - 164	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.648	131	10.8	PETERSON_C
1055	Copper	mg/kg	119	129	88.0 - 147	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.122	118	10.6	PETERSON_C
1070	Iron	mg/kg		15000	4190 - 21800	Not Reported				13000	2060	
1075	Lead	mg/kg	87.7	82.5	52.8 - 101	Acceptable	EPA 6020A 1 2/1/2007	2/20/2012	1.50	76.9	7.20	PETERSON_C
1085	Magnesium	mg/kg		2860	1810 - 3760	Not Reported				2780	335	
1090	Manganese	mg/kg	366	335	255 - 423	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.987	339	27.4	PETERSON_C
1095	Mercury	mg/kg		26.5	12.9 - 37.2	Not Reported				25.1	3.25	
1100	Molybdenum	mg/kg	63.1	77.1	41.6 - 84.8	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.267	61.5	6.04	PETERSON_C
1105	Nickel	mg/kg	73.6	78.0	49.6 - 90.3	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.566	70.0	6.39	PETERSON_C
1125	Potassium	mg/kg		3250	1970 - 4280	Not Reported				3120	428	



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





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SOIL Metals in Soil (cat# 620) (Continued)

1140	Selenium	mg/kg	134	140	84.1 - 169	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.639	126	11.8	PETERSON_C
1150	Silver	mg/kg	49.5	44.9	28.0 - 56.7	Acceptable	EPA 6020A 1 2/1/2007	2/20/2012	1.79	42.4	4.00	PETERSON_C
1155	Sodium	mg/kg		352	150 - 549	Not Reported				350	42.9	
1160	Strontium	mg/kg		136	93.7 - 172	Not Reported				133	10.1	
1165	Thallium	mg/kg	227	228	144 - 272	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	1.14	208	16.7	PETERSON_C
1175	Tin	mg/kg		144	84.6 - 200	Not Reported				142	13.9	
1180	Titanium	mg/kg		253	0.00 - 492	Not Reported				219	90.8	
1185	Vanadium	mg/kg		95.5	55.0 - 119	Not Reported				87.1	9.77	
1190	Zinc	mg/kg	293	295	197 - 355	Acceptable	EPA 6020A 1 2/1/2007	1/30/2012	0.704	276	24.0	PETERSON_C



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SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		10100	4030 - 14600	Not Reported				9310	2420	
1005	Antimony	mg/kg		250	25.0 - 303	Not Reported				120	71.4	
1010	Arsenic	mg/kg		184	119 - 218	Not Reported				169	13.2	
1015	Barium	mg/kg		218	156 - 270	Not Reported				213	18.2	
1020	Beryllium	mg/kg		119	82.6 - 138	Not Reported				110	8.76	
1025	Boron	mg/kg		102	51.0 - 119	Not Reported				85.0	9.45	
1030	Cadmium	mg/kg		112	75.2 - 130	Not Reported				103	8.25	
1035	Calcium	mg/kg		6940	5110 - 8640	Not Reported				6870	588	
1040	Chromium	mg/kg		128	82.9 - 154	Not Reported				119	8.51	
1050	Cobalt	mg/kg		138	97.4 - 164	Not Reported				131	10.8	
1055	Copper	mg/kg		129	88.0 - 147	Not Reported				118	10.6	
1070	Iron	mg/kg		15000	4190 - 21800	Not Reported				13000	2060	
1075	Lead	mg/kg		82.5	52.8 - 101	Not Reported				76.9	7.20	
1085	Magnesium	mg/kg		2860	1810 - 3760	Not Reported				2780	335	
1090	Manganese	mg/kg		335	255 - 423	Not Reported				339	27.4	
1095	Mercury	mg/kg	22.2	26.5	12.9 - 37.2	Acceptable	DEPSOP:HG-008-3	2/9/2012	-0.886	25.1	3.25	ACOSTA_M
1100	Molybdenum	mg/kg		77.1	41.6 - 84.8	Not Reported				61.5	6.04	
1105	Nickel	mg/kg		78.0	49.6 - 90.3	Not Reported				70.0	6.39	
1125	Potassium	mg/kg		3250	1970 - 4280	Not Reported				3120	428	
1140	Selenium	mg/kg		140	84.1 - 169	Not Reported				126	11.8	



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SOIL Metals in Soil (cat# 620) (Continued)

1150	Silver	mg/kg		44.9	28.0 - 56.7	Not Reported				42.4	4.00	
1155	Sodium	mg/kg		352	150 - 549	Not Reported				350	42.9	
1160	Strontium	mg/kg		136	93.7 - 172	Not Reported				133	10.1	
1165	Thallium	mg/kg		228	144 - 272	Not Reported				208	16.7	
1175	Tin	mg/kg		144	84.6 - 200	Not Reported				142	13.9	
1180	Titanium	mg/kg		253	0.00 - 492	Not Reported				219	90.8	
1185	Vanadium	mg/kg		95.5	55.0 - 119	Not Reported				87.1	9.77	
1190	Zinc	mg/kg		295	197 - 355	Not Reported				276	24.0	

SOIL Nutrients in Soil (cat# 869)

1515	Ammonia as N	mg/kg		1250	664 - 1500	Not Reported				1080	218	
1795	Total Kjeldahl Nitrogen	mg/kg		1700	913 - 2390	Not Reported				1650	290	
2040	Total Organic Carbon (TOC)	mg/kg	3370	3320	532 - 7200	Acceptable	DEPSOP:NU-076-1	2/10/2012	-0.447	3870	1110	HUA_P
1910	Total Phosphorus	mg/kg		1330	330 - 2160	Not Reported				1240	160	



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2009 TNI Evaluation Report

Study: **SOIL-77**

ERA Customer Number: **S744803**

Laboratory Name: **State of Florida DEP
Chemistry Laboratory**

Organic Results

SOIL-77 2009 TNI Evaluation Final Complete Report

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SOIL Volatiles in Soil (cat# 623)

4315	Acetone	µg/kg	260	626	62.6 - 978	Acceptable	EPA 8260C 2006	2/23/2012	-2.0	547	144	BOOESHAG_F
4320	Acetonitrile	µg/kg		220	67.4 - 417	Not Reported				242	58.2	
4325	Acrolein	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4375	Benzene	µg/kg	155	153	92.5 - 209	Acceptable	EPA 8260C 2006	2/23/2012	0.104	153	16.1	BOOESHAG_F
4385	Bromobenzene	µg/kg		< 40.0	0.00 - 40.0	Not Reported						
4395	Bromodichloromethane	µg/kg	161	164	108 - 226	Acceptable	EPA 8260C 2006	2/23/2012	-0.343	168	19.2	BOOESHAG_F
4400	Bromoform	µg/kg	60.0	57.9	28.8 - 86.1	Acceptable	EPA 8260C 2006	2/23/2012	0.167	58.7	7.57	BOOESHAG_F
4950	Bromomethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4410	2-Butanone (MEK)	µg/kg	159	316	95.8 - 491	Acceptable	EPA 8260C 2006	2/23/2012	-2.44	283	50.7	BOOESHAG_F
5000	tert-Butyl methyl ether (MTBE)	µg/kg	214	197	83.4 - 287	Acceptable	EPA 8260C 2006	2/23/2012	0.582	198	27.6	BOOESHAG_F
4450	Carbon disulfide	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4455	Carbon tetrachloride	µg/kg	< 2.00	< 9.90	0.00 - 9.90	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4475	Chlorobenzene	µg/kg	40.3	39.9	21.4 - 54.8	Acceptable	EPA 8260C 2006	2/23/2012	0.124	39.8	4.11	BOOESHAG_F
4575	Chlorodibromomethane	µg/kg	160	170	104 - 233	Acceptable	EPA 8260C 2006	2/23/2012	-0.748	176	22.0	BOOESHAG_F
4485	Chloroethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4500	2-Chloroethylvinylether	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4505	Chloroform	µg/kg	60.0	60.5	36.1 - 85.2	Acceptable	EPA 8260C 2006	2/23/2012	-0.177	61.4	7.75	BOOESHAG_F
4960	Chloromethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4570	1,2-Dibromo-3-chloropropane (DBCP)	µg/kg		< 4.00	0.00 - 4.00	Not Reported						
4585	1,2-Dibromoethane (EDB)	µg/kg		43.1	25.9 - 61.8	Not Reported				43.6	3.76	



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SOIL Volatiles in Soil (cat# 623) (Continued)

4595	Dibromomethane	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4610	1,2-Dichlorobenzene	µg/kg	136	111	53.5 - 157	Acceptable	EPA 8260C 2006	2/23/2012	1.26	119	13.6	BOOESHAG_F
4615	1,3-Dichlorobenzene	µg/kg	< 2.00	< 5.10	0.00 - 5.10	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4620	1,4-Dichlorobenzene	µg/kg	113	101	34.8 - 143	Acceptable	EPA 8260C 2006	2/23/2012	0.827	102	13.0	BOOESHAG_F
4625	Dichlorodifluoromethane (Freon 12)	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4630	1,1-Dichloroethane	µg/kg	< 2.00	< 11.0	0.00 - 11.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4635	1,2-Dichloroethane	µg/kg	114	116	67.3 - 161	Acceptable	EPA 8260C 2006	2/23/2012	-0.0328	114	13.0	BOOESHAG_F
4640	1,1-Dichloroethylene	µg/kg	64.5	64.3	28.5 - 100	Acceptable	EPA 8260C 2006	2/23/2012	-0.459	69.2	10.2	BOOESHAG_F
4645	cis-1,2-Dichloroethylene	µg/kg	< 2.00	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4700	trans-1,2-Dichloroethylene	µg/kg	95.5	90.8	56.3 - 130	Acceptable	EPA 8260C 2006	2/23/2012	0.220	92.9	12.0	BOOESHAG_F
4655	1,2-Dichloropropane	µg/kg	43.5	49.4	29.3 - 67.6	Acceptable	EPA 8260C 2006	2/23/2012	-1.28	48.8	4.13	BOOESHAG_F
4680	cis-1,3-Dichloropropylene	µg/kg	< 2.00	< 40.0	0.00 - 40.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4685	trans-1,3-Dichloropropylene	µg/kg	< 2.00	< 40.0	0.00 - 40.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4765	Ethylbenzene	µg/kg	190	166	93.2 - 236	Acceptable	EPA 8260C 2006	2/23/2012	0.924	168	23.6	BOOESHAG_F
4860	2-Hexanone	µg/kg	< 2.00	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
4900	Isopropylbenzene	µg/kg		< 40.0	0.00 - 40.0	Not Reported						
4975	Methylene chloride	µg/kg	21.2	23.1	10.4 - 37.1	Acceptable	EPA 8260C 2006	2/23/2012	-0.57	22.8	2.77	BOOESHAG_F
4995	4-Methyl-2-pentanone (MIBK)	µg/kg	210	244	108 - 354	Acceptable	EPA 8260C 2006	2/23/2012	-0.909	239	31.6	BOOESHAG_F
5005	Naphthalene	µg/kg		132	61.3 - 199	Not Reported				134	26.8	
5100	Styrene	µg/kg	< 2.00	< 24.0	0.00 - 24.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F



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SOIL Volatiles in Soil (cat# 623) (Continued)

5105	1,1,1,2-Tetrachloroethane	µg/kg		161	105 - 217	Not Reported				166	19.2	
5110	1,1,2,2-Tetrachloroethane	µg/kg	70.8	65.7	33.2 - 97.2	Acceptable	EPA 8260C 2006	2/23/2012	0.537	68.1	5.07	BOOESHAG_F
5115	Tetrachloroethylene	µg/kg	55.0	59.7	26.4 - 86.0	Acceptable	EPA 8260C 2006	2/23/2012	-0.181	56.8	10.1	BOOESHAG_F
5140	Toluene	µg/kg	28.7	32.8	18.2 - 46.7	Acceptable	EPA 8260C 2006	2/23/2012	-1.04	32.0	3.15	BOOESHAG_F
5155	1,2,4-Trichlorobenzene	µg/kg		99.8	39.9 - 160	Not Reported				96.6	21.4	
5160	1,1,1-Trichloroethane	µg/kg	88.1	97.5	54.8 - 139	Acceptable	EPA 8260C 2006	2/23/2012	-0.703	97.7	13.7	BOOESHAG_F
5165	1,1,2-Trichloroethane	µg/kg	< 2.00	< 13.0	0.00 - 13.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
5170	Trichloroethylene	µg/kg	71.6	75.1	38.3 - 107	Acceptable	EPA 8260C 2006	2/23/2012	-0.622	76.6	8.00	BOOESHAG_F
5175	Trichlorofluoromethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
5180	1,2,3-Trichloropropane (TCP)	µg/kg		112	41.0 - 173	Not Reported				107	18.3	
5225	Vinyl acetate	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
5235	Vinyl chloride	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/23/2012				BOOESHAG_F
5260	Xylenes, total	µg/kg	489	252	124 - 370	Not Acceptable	EPA 8260C 2006	2/23/2012	8.20	250	29.1	BOOESHAG_F



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SOIL Base/Neutrals and Acids in Soil (cat# 467)

5500	Acenaphthene	µg/kg	2010	2350	500 - 3070	Acceptable	EPA 8270D 3	2/15/2012	0.663	1780	343	GHAFFARI_M
5505	Acenaphthylene	µg/kg	2850	3150	696 - 4090	Acceptable	EPA 8270D 3	2/15/2012	0.832	2390	550	GHAFFARI_M
5145	2-Amino-1-methylbenzene (o-toluidine)	µg/kg		< 1000	0.00 - 1000	Not Reported						
5545	Aniline	µg/kg		< 1000	0.00 - 1000	Not Reported						
5555	Anthracene	µg/kg	7400	7890	1980 - 9860	Acceptable	EPA 8270D 3	2/15/2012	1.21	5920	1220	GHAFFARI_M
5595	Benzidine	µg/kg		< 1000	0.00 - 1000	Not Reported						
5610	Benzoic acid	µg/kg		< 1000	0.00 - 1000	Not Reported						
5575	Benzo(a)anthracene	µg/kg	4080	4160	1380 - 5430	Acceptable	EPA 8270D 3	2/15/2012	1.03	3400	656	GHAFFARI_M
5585	Benzo(b)fluoranthene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
5600	Benzo(k)fluoranthene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
5590	Benzo(g,h,i)perylene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
5580	Benzo(a)pyrene	µg/kg	3700	4350	1040 - 5800	Acceptable	EPA 8270D 3	2/15/2012	0.402	3420	688	GHAFFARI_M
5630	Benzyl alcohol	µg/kg		< 1000	0.00 - 1000	Not Reported						
5760	bis(2-Chloroethoxy)methane	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
5765	bis(2-Chloroethyl)ether	µg/kg	1200	2380	238 - 3150	Acceptable	EPA 8270D 3	2/15/2012	-0.879	1600	450	GHAFFARI_M
5780	bis(2-Chloroisopropyl)ether	µg/kg	6620	10200	1380 - 11900	Acceptable	EPA 8270D 3	2/15/2012	-0.00887	6640	1810	GHAFFARI_M
5660	4-Bromophenyl-phenylether	µg/kg	10700	10800	3180 - 13100	Acceptable	EPA 8270D 3	2/15/2012	1.48	8150	1720	GHAFFARI_M
5670	Butylbenzylphthalate	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
5680	Carbazole	µg/kg		< 1000	0.00 - 1000	Not Reported						
5745	4-Chloroaniline	µg/kg		< 1000	0.00 - 1000	Not Reported						



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SOIL Base/Neutrals and Acids in Soil (cat# 467) (Continued)

5700	4-Chloro-3-methylphenol	µg/kg	10600	12400	3460 - 13600	Acceptable	EPA 8270D 3	2/15/2012	1.17	8500	1800	GHAFFARI_M
5790	1-Chloronaphthalene	µg/kg		< 1000	0.00 - 1000	Not Reported						
5795	2-Chloronaphthalene	µg/kg	8080	9350	2090 - 10900	Acceptable	EPA 8270D 3	2/15/2012	1.23	6480	1300	GHAFFARI_M
5800	2-Chlorophenol	µg/kg	1650	2540	254 - 3070	Acceptable	EPA 8270D 3	2/15/2012	0.0665	1620	418	GHAFFARI_M
5825	4-Chlorophenyl-phenylether	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
5855	Chrysene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
5895	Dibenz(a,h)anthracene	µg/kg	1800	1820	263 - 2800	Acceptable	EPA 8270D 3	2/15/2012	0.616	1530	431	GHAFFARI_M
5905	Dibenzofuran	µg/kg	5980	6650	1790 - 8240	Acceptable	EPA 8270D 3	2/15/2012	0.923	5010	1050	GHAFFARI_M
5925	Di-n-butylphthalate	µg/kg	11500	11400	2750 - 14500	Acceptable	EPA 8270D 3	2/15/2012	1.57	8640	1820	GHAFFARI_M
4610	1,2-Dichlorobenzene	µg/kg		< 150	0.00 - 150	Not Reported						
4615	1,3-Dichlorobenzene	µg/kg		< 150	0.00 - 150	Not Reported						
4620	1,4-Dichlorobenzene	µg/kg		6630	663 - 7640	Not Reported				3820	1300	
5945	3,3'-Dichlorobenzidine	µg/kg		< 1000	0.00 - 1000	Not Reported						
6000	2,4-Dichlorophenol	µg/kg	3430	4500	594 - 5420	Acceptable	EPA 8270D 3	2/15/2012	0.608	3010	692	GHAFFARI_M
6005	2,6-Dichlorophenol	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6070	Diethylphthalate	µg/kg	12700	13000	2820 - 16300	Acceptable	EPA 8270D 3	2/15/2012	1.54	9570	2030	GHAFFARI_M
6130	2,4-Dimethylphenol	µg/kg	< 360	< 3000	0.00 - 3000	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6135	Dimethylphthalate	µg/kg	2620	2820	618 - 3820	Acceptable	EPA 8270D 3	2/15/2012	0.905	2220	441	GHAFFARI_M
6175	2,4-Dinitrophenol	µg/kg	< 360	< 3000	0.00 - 3000	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6185	2,4-Dinitrotoluene	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M



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6190	2,6-Dinitrotoluene	µg/kg	12700	13400	4270 - 15500	Acceptable	EPA 8270D 3	2/15/2012	1.20	9870	2360	GHAFFARI_M
6200	Di-n-octylphthalate	µg/kg	5670	5770	912 - 8780	Acceptable	EPA 8270D 3	2/15/2012	0.770	4850	1070	GHAFFARI_M
6065	bis(2-Ethylhexyl)phthalate	µg/kg	10600	8500	2230 - 11500	Acceptable	EPA 8270D 3	2/15/2012	2.64	6880	1400	GHAFFARI_M
6265	Fluoranthene	µg/kg	8700	9010	2900 - 11000	Acceptable	EPA 8270D 3	2/15/2012	1.37	6970	1260	GHAFFARI_M
6270	Fluorene	µg/kg	1780	1940	498 - 2820	Acceptable	EPA 8270D 3	2/15/2012	0.299	1660	398	GHAFFARI_M
6275	Hexachlorobenzene	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
4835	Hexachlorobutadiene	µg/kg	< 180	< 150	0.00 - 150	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6285	Hexachlorocyclopentadiene	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
4840	Hexachloroethane	µg/kg	5960	9520	952 - 10700	Acceptable	EPA 8270D 3	2/15/2012	0.350	5330	1810	GHAFFARI_M
6315	Indeno(1,2,3-cd)pyrene	µg/kg	2040	2420	242 - 3750	Acceptable	EPA 8270D 3	2/15/2012	0.168	1950	519	GHAFFARI_M
6320	Isophorone	µg/kg	5040	6220	1570 - 7840	Acceptable	EPA 8270D 3	2/15/2012	0.311	4710	1070	GHAFFARI_M
6360	4,6-Dinitro-2-methylphenol	µg/kg	< 60.0	< 3000	0.00 - 3000	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6385	2-Methylnaphthalene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6400	2-Methylphenol	µg/kg	4380	10100	1010 - 11100	Acceptable	EPA 8270D 3	2/15/2012	0.730	3610	1050	GHAFFARI_M
6410	3&4-Methylphenol	µg/kg	3910	6800	680 - 7480	Acceptable	EPA 8270D 3	2/15/2012	0.955	3120	832	GHAFFARI_M
5005	Naphthalene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6460	2-Nitroaniline	µg/kg		< 1000	0.00 - 1000	Not Reported						
6465	3-Nitroaniline	µg/kg		< 1000	0.00 - 1000	Not Reported						
6470	4-Nitroaniline	µg/kg		< 1000	0.00 - 1000	Not Reported						
5015	Nitrobenzene	µg/kg	4290	5760	886 - 6950	Acceptable	EPA 8270D 3	2/15/2012	0.381	3920	974	GHAFFARI_M



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SOIL Base/Neutrals and Acids in Soil (cat# 467) (Continued)

6490	2-Nitrophenol	µg/kg	6050	9550	1020 - 10600	Acceptable	EPA 8270D 3	2/15/2012	0.146	5810	1660	GHAFFARI_M
6500	4-Nitrophenol	µg/kg	7070	12600	1260 - 15400	Acceptable	EPA 8270D 3	2/15/2012	-0.0218	7130	2710	GHAFFARI_M
6525	N-Nitrosodiethylamine	µg/kg		< 1000	0.00 - 1000	Not Reported						
6530	N-Nitrosodimethylamine	µg/kg	< 360	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6535	N-Nitrosodiphenylamine	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6545	N-Nitroso-di-n-propylamine	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3	2/15/2012				GHAFFARI_M
6590	Pentachlorobenzene	µg/kg		< 1000	0.00 - 1000	Not Reported						
6605	Pentachlorophenol	µg/kg	3860	6980	698 - 7680	Acceptable	EPA 8270D 3	2/15/2012	0.480	3210	1350	GHAFFARI_M
6615	Phenanthrene	µg/kg	7730	8000	2590 - 9700	Acceptable	EPA 8270D 3	2/15/2012	1.35	6140	1180	GHAFFARI_M
6625	Phenol	µg/kg	7940	11800	1180 - 13400	Acceptable	EPA 8270D 3	2/15/2012	0.364	7250	1890	GHAFFARI_M
6665	Pyrene	µg/kg	10100	9590	2910 - 12100	Acceptable	EPA 8270D 3	2/15/2012	1.83	7520	1410	GHAFFARI_M
5095	Pyridine	µg/kg		< 1000	0.00 - 1000	Not Reported						
6715	1,2,4,5-Tetrachlorobenzene	µg/kg		< 1000	0.00 - 1000	Not Reported						
6735	2,3,4,6-Tetrachlorophenol	µg/kg		< 1000	0.00 - 1000	Not Reported						
5155	1,2,4-Trichlorobenzene	µg/kg	3780	5270	845 - 5950	Acceptable	EPA 8270D 3	2/15/2012	0.471	3400	810	GHAFFARI_M
6835	2,4,5-Trichlorophenol	µg/kg	5090	5950	889 - 7390	Acceptable	EPA 8270D 3	2/15/2012	0.952	4140	998	GHAFFARI_M
6840	2,4,6-Trichlorophenol	µg/kg	9770	11200	2260 - 12300	Acceptable	EPA 8270D 3	2/15/2012	1.58	7270	1580	GHAFFARI_M



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01/23/12 - 03/08/12

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
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SOIL Chlorinated Acid Herbicides in Soil (cat# 626)

8505	Acifluorfen	µg/kg		113	0.00 - 131	Not Reported				61.5	23.1	
8530	Bentazon	µg/kg		798	197 - 910	Not Reported				554	119	
8540	Chloramben	µg/kg		780	0.00 - 858	Not Reported				284	153	
8545	2,4-D	µg/kg	267	352	35.2 - 465	Acceptable	DEPSOP:LC-001-2	2/20/2012	0.503	227	79.3	REDDY_S
8560	2,4-DB	µg/kg	657	974	97.4 - 1360	Acceptable	DEPSOP:LC-001-2	2/20/2012	0.454	531	276	REDDY_S
8550	Dacthal diacid (DCPA)	µg/kg		< 100	0.00 - 100	Not Reported						
8555	Dalapon	µg/kg		< 100	0.00 - 100	Not Reported						
8595	Dicamba	µg/kg	521	810	81.0 - 965	Acceptable	DEPSOP:LC-001-2	2/20/2012	0.113	504	154	REDDY_S
8600	3,5-Dichlorobenzoic acid	µg/kg		457	73.2 - 533	Not Reported				303	76.7	
8605	Dichlorprop	µg/kg		707	0.00 - 938	Not Reported				406	178	
8620	Dinoseb	µg/kg	391	542	54.2 - 661	Acceptable	DEPSOP:LC-001-2	2/20/2012	1.20	211	150	REDDY_S
7775	MCPA	µg/kg		< 1000	0.00 - 1000	Not Reported						
7780	MCPP	µg/kg		< 1000	0.00 - 1000	Not Reported						
6500	4-Nitrophenol	µg/kg		455	0.00 - 624	Not Reported				302	107	
6605	Pentachlorophenol	µg/kg		682	68.2 - 825	Not Reported				395	143	
8645	Picloram	µg/kg		840	0.00 - 1040	Not Reported				343	232	
8655	2,4,5-T	µg/kg	480	586	58.6 - 752	Acceptable	DEPSOP:LC-001-2	2/20/2012	0.924	359	131	REDDY_S
8650	2,4,5-TP (Silvex)	µg/kg	305	232	23.2 - 327	Acceptable	DEPSOP:LC-001-2	2/20/2012	2.61	157	56.7	REDDY_S



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01

