



A Waters Company

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USA

SOIL-89



Final Report

Soil/Hazardous Waste Proficiency Testing

Soil Study

Open Date: 01/19/15

Close Date: 03/05/15

Report Issued Date: 03/09/15



A Waters Company

March 9, 2015

Thekkekalathil Chandrasekhar
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Enclosed is your final report for ERA's SOIL-89 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-89 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).

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 many 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 useful in helping you work through your technical issues.

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.

Thank you for your participation in ERA's SOIL-89 Proficiency Testing study. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122.

Sincerely,

Kristina Sanchez
Quality Officer

attachments



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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-89 Definitions & Study Discussion

Study Dates: 01/19/15 - 03/05/15

Report Issued: 03/09/15

SOIL Study Definitions

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

The ERA Assigned Values for the Organic Proficiency Testing Standards, with the exception of Acetonitrile in the Volatiles in Soil sample, are 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 Acetonitrile is equal to the mean of the study data, after the removal of outliers. The ERA assigned values for the Inorganic Proficiency Testing Standards, with the exception of the TCLP Metals in Soil and Total Organic Carbon (TOC) in the Nutrients in Soil sample, are equal to the maximum amount of the parameter available in the standard by applicable EPA methodologies. The ERA assigned values for the TCLP metals and TOC are equal to the mean of the study data, after the removal of outliers. 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-89 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-89 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-89 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-89 Laboratory Exception Report

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2009 TNI Evaluation Checks

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
SOIL Metals in Soil (cat# 620)							
1050	Cobalt	mg/kg	256	214	148 - 249	Not Acceptable	EPA 6020A 1 2007
1105	Nickel	mg/kg	230	208	131 - 229	Not Acceptable	EPA 6020A 1 2007



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

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Final Report Results For Laboratory State of Florida DEP Chemistry Laboratory

2009 TNI Evaluation Report

Study: **SOIL-89**

ERA Customer Number: **S744803**

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

Inorganic Results



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SOIL-89 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	7290	9830	3280 - 13100	Acceptable	EPA 6010C 3 2007	2/3/2015	-0.519	8200	1750	AYRES_J
1005	Antimony	mg/kg	92.0	206	20.6 - 267	Acceptable	EPA 6010C 3 2007	2/3/2015	-0.219	105	57.3	AYRES_J
1010	Arsenic	mg/kg	202	268	157 - 295	Acceptable	EPA 6010C 3 2007	2/3/2015	-1.14	221	16.7	AYRES_J
1015	Barium	mg/kg	377	468	318 - 537	Acceptable	EPA 6010C 3 2007	2/3/2015	-1.32	428	38.2	AYRES_J
1020	Beryllium	mg/kg	114	122	84.0 - 140	Acceptable	EPA 6010C 3 2007	2/3/2015	0.173	112	10.3	AYRES_J
1025	Boron	mg/kg	94.1	104	47.7 - 114	Acceptable	EPA 6010C 3 2007	2/24/2015	1.11	79.5	13.2	AYRES_J
1030	Cadmium	mg/kg	136	142	92.3 - 159	Acceptable	EPA 6010C 3 2007	2/3/2015	0.941	126	10.8	AYRES_J
1035	Calcium	mg/kg	7120	7050	4550 - 7770	Acceptable	EPA 6010C 3 2007	2/3/2015	1.58	6160	606	AYRES_J
1040	Chromium	mg/kg	69.3	87.1	51.2 - 98.1	Acceptable	EPA 6010C 3 2007	2/3/2015	-0.701	74.7	7.68	AYRES_J
1050	Cobalt	mg/kg	239	214	148 - 249	Acceptable	EPA 6010C 3 2007	2/3/2015	2.12	198	19.3	AYRES_J
1055	Copper	mg/kg	79.1	99.5	61.5 - 109	Acceptable	EPA 6010C 3 2007	2/3/2015	-0.640	83.3	6.58	AYRES_J
1070	Iron	mg/kg	12700	16300	5270 - 23900	Acceptable	EPA 6010C 3 2007	2/3/2015	-0.559	14600	3400	AYRES_J
1075	Lead	mg/kg	72.0	88.8	52.9 - 101	Acceptable	EPA 6010C 3 2007	2/3/2015	-0.626	76.9	7.86	AYRES_J
1085	Magnesium	mg/kg	3270	3520	2130 - 4240	Acceptable	EPA 6010C 3 2007	2/3/2015	0.267	3180	322	AYRES_J
1090	Manganese	mg/kg	500	495	346 - 558	Acceptable	EPA 6010C 3 2007	2/3/2015	1.36	452	35.3	AYRES_J
1095	Mercury	mg/kg		21.2	7.10 - 23.3	Not Reported				13.8	2.39	
1100	Molybdenum	mg/kg	66.6	73.1	42.1 - 82.2	Acceptable	EPA 6010C 3 2007	2/3/2015	0.597	62.1	7.48	AYRES_J
1105	Nickel	mg/kg	214	208	131 - 229	Acceptable	EPA 6010C 3 2007	2/3/2015	1.95	178	18.6	AYRES_J
1125	Potassium	mg/kg	2880	3080	1750 - 3890	Acceptable	EPA 6010C 3 2007	2/3/2015	0.192	2820	334	AYRES_J
1140	Selenium	mg/kg	113	124	72.9 - 149	Acceptable	EPA 6010C 3 2007	2/26/2015	0.182	111	11.6	AYRES_J



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

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

1150	Silver	mg/kg	55.4	66.7	39.8 - 79.3	Acceptable	EPA 6010C 3 2007	2/3/2015	-0.716	59.6	5.80	AYRES_J
1155	Sodium	mg/kg	730	707	353 - 933	Acceptable	EPA 6010C 3 2007	2/3/2015	1.15	643	75.8	AYRES_J
1160	Strontium	mg/kg	168	170	107 - 197	Acceptable	EPA 6010C 3 2007	2/3/2015	1.04	152	15.4	AYRES_J
1165	Thallium	mg/kg	153	170	103 - 198	Acceptable	EPA 6010C 3 2007	2/3/2015	0.170	151	13.5	AYRES_J
1175	Tin	mg/kg	95.2	99.2	49.2 - 128	Acceptable	EPA 6010C 3 2007	2/3/2015	0.666	88.5	10.0	AYRES_J
1180	Titanium	mg/kg	324	401	40.1 - 642	Acceptable	EPA 6010C 3 2007	2/26/2015	-0.0817	332	103	AYRES_J
3055	Uranium	mg/kg		102	57.7 - 132	Not Reported				95.1	12.5	
1185	Vanadium	mg/kg	152	170	106 - 194	Acceptable	EPA 6010C 3 2007	2/3/2015	0.157	150	14.2	AYRES_J
1190	Zinc	mg/kg	379	369	243 - 432	Acceptable	EPA 6010C 3 2007	2/3/2015	1.13	338	36.6	AYRES_J



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SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		9830	3280 - 13100	Not Reported				8200	1750	
1005	Antimony	mg/kg		206	20.6 - 267	Not Reported				105	57.3	
1010	Arsenic	mg/kg		268	157 - 295	Not Reported				221	16.7	
1015	Barium	mg/kg		468	318 - 537	Not Reported				428	38.2	
1020	Beryllium	mg/kg	109	122	84.0 - 140	Acceptable	EPA 6020A 1 2007	2/17/2015	-0.314	112	10.3	KPALMER_R
1025	Boron	mg/kg		104	47.7 - 114	Not Reported				79.5	13.2	
1030	Cadmium	mg/kg		142	92.3 - 159	Not Reported				126	10.8	
1035	Calcium	mg/kg		7050	4550 - 7770	Not Reported				6160	606	
1040	Chromium	mg/kg		87.1	51.2 - 98.1	Not Reported				74.7	7.68	
1050	Cobalt	mg/kg		214	148 - 249	Not Reported				198	19.3	
1055	Copper	mg/kg		99.5	61.5 - 109	Not Reported				83.3	6.58	
1070	Iron	mg/kg		16300	5270 - 23900	Not Reported				14600	3400	
1075	Lead	mg/kg		88.8	52.9 - 101	Not Reported				76.9	7.86	
1085	Magnesium	mg/kg		3520	2130 - 4240	Not Reported				3180	322	
1090	Manganese	mg/kg		495	346 - 558	Not Reported				452	35.3	
1095	Mercury	mg/kg		21.2	7.10 - 23.3	Not Reported				13.8	2.39	
1100	Molybdenum	mg/kg		73.1	42.1 - 82.2	Not Reported				62.1	7.48	
1105	Nickel	mg/kg		208	131 - 229	Not Reported				178	18.6	
1125	Potassium	mg/kg		3080	1750 - 3890	Not Reported				2820	334	
1140	Selenium	mg/kg		124	72.9 - 149	Not Reported				111	11.6	



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

1150	Silver	mg/kg		66.7	39.8 - 79.3	Not Reported				59.6	5.80	
1155	Sodium	mg/kg		707	353 - 933	Not Reported				643	75.8	
1160	Strontium	mg/kg		170	107 - 197	Not Reported				152	15.4	
1165	Thallium	mg/kg		170	103 - 198	Not Reported				151	13.5	
1175	Tin	mg/kg		99.2	49.2 - 128	Not Reported				88.5	10.0	
1180	Titanium	mg/kg		401	40.1 - 642	Not Reported				332	103	
3055	Uranium	mg/kg		102	57.7 - 132	Not Reported				95.1	12.5	
1185	Vanadium	mg/kg		170	106 - 194	Not Reported				150	14.2	
1190	Zinc	mg/kg		369	243 - 432	Not Reported				338	36.6	





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SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		9830	3280 - 13100	Not Reported				8200	1750	
1005	Antimony	mg/kg	87.3	206	20.6 - 267	Acceptable	EPA 6020A 1 2007	2/6/2015	-0.301	105	57.3	PETERSON_C
1010	Arsenic	mg/kg	211	268	157 - 295	Acceptable	EPA 6020A 1 2007	2/6/2015	-0.603	221	16.7	PETERSON_C
1015	Barium	mg/kg	404	468	318 - 537	Acceptable	EPA 6020A 1 2007	2/6/2015	-0.616	428	38.2	PETERSON_C
1020	Beryllium	mg/kg		122	84.0 - 140	Not Reported				112	10.3	
1025	Boron	mg/kg		104	47.7 - 114	Not Reported				79.5	13.2	
1030	Cadmium	mg/kg	151	142	92.3 - 159	Acceptable	EPA 6020A 1 2007	2/6/2015	2.33	126	10.8	PETERSON_C
1035	Calcium	mg/kg		7050	4550 - 7770	Not Reported				6160	606	
1040	Chromium	mg/kg	73.5	87.1	51.2 - 98.1	Acceptable	EPA 6020A 1 2007	2/6/2015	-0.154	74.7	7.68	PETERSON_C
1050	Cobalt	mg/kg	256	214	148 - 249	Not Acceptable	EPA 6020A 1 2007	2/6/2015	3.00	198	19.3	PETERSON_C
1055	Copper	mg/kg	82.2	99.5	61.5 - 109	Acceptable	EPA 6020A 1 2007	2/6/2015	-0.169	83.3	6.58	PETERSON_C
1070	Iron	mg/kg		16300	5270 - 23900	Not Reported				14600	3400	
1075	Lead	mg/kg	69.3	88.8	52.9 - 101	Acceptable	EPA 6020A 1 2007	2/6/2015	-0.970	76.9	7.86	PETERSON_C
1085	Magnesium	mg/kg		3520	2130 - 4240	Not Reported				3180	322	
1090	Manganese	mg/kg	533	495	346 - 558	Acceptable	EPA 6020A 1 2007	2/6/2015	2.29	452	35.3	PETERSON_C
1095	Mercury	mg/kg		21.2	7.10 - 23.3	Not Reported				13.8	2.39	
1100	Molybdenum	mg/kg	71.7	73.1	42.1 - 82.2	Acceptable	EPA 6020A 1 2007	2/6/2015	1.28	62.1	7.48	PETERSON_C
1105	Nickel	mg/kg	230	208	131 - 229	Not Acceptable	EPA 6020A 1 2007	2/6/2015	2.81	178	18.6	PETERSON_C
1125	Potassium	mg/kg		3080	1750 - 3890	Not Reported				2820	334	
1140	Selenium	mg/kg	121	124	72.9 - 149	Acceptable	EPA 6020A 1 2007	2/6/2015	0.870	111	11.6	PETERSON_C



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

1150	Silver	mg/kg	57.9	66.7	39.8 - 79.3	Acceptable	EPA 6020A 1 2007	2/6/2015	-0.285	59.6	5.80	PETERSON_C
1155	Sodium	mg/kg		707	353 - 933	Not Reported				643	75.8	
1160	Strontium	mg/kg		170	107 - 197	Not Reported				152	15.4	
1165	Thallium	mg/kg	163	170	103 - 198	Acceptable	EPA 6020A 1 2007	2/6/2015	0.911	151	13.5	PETERSON_C
1175	Tin	mg/kg		99.2	49.2 - 128	Not Reported				88.5	10.0	
1180	Titanium	mg/kg		401	40.1 - 642	Not Reported				332	103	
3055	Uranium	mg/kg		102	57.7 - 132	Not Reported				95.1	12.5	
1185	Vanadium	mg/kg		170	106 - 194	Not Reported				150	14.2	
1190	Zinc	mg/kg	410	369	243 - 432	Acceptable	EPA 6020A 1 2007	2/6/2015	1.98	338	36.6	PETERSON_C



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1000	Aluminum	mg/kg		9830	3280 - 13100	Not Reported				8200	1750	
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1010	Arsenic	mg/kg		268	157 - 295	Not Reported				221	16.7	
1015	Barium	mg/kg		468	318 - 537	Not Reported				428	38.2	
1020	Beryllium	mg/kg		122	84.0 - 140	Not Reported				112	10.3	
1025	Boron	mg/kg		104	47.7 - 114	Not Reported				79.5	13.2	
1030	Cadmium	mg/kg		142	92.3 - 159	Not Reported				126	10.8	
1035	Calcium	mg/kg		7050	4550 - 7770	Not Reported				6160	606	
1040	Chromium	mg/kg		87.1	51.2 - 98.1	Not Reported				74.7	7.68	
1050	Cobalt	mg/kg		214	148 - 249	Not Reported				198	19.3	
1055	Copper	mg/kg		99.5	61.5 - 109	Not Reported				83.3	6.58	
1070	Iron	mg/kg		16300	5270 - 23900	Not Reported				14600	3400	
1075	Lead	mg/kg		88.8	52.9 - 101	Not Reported				76.9	7.86	
1085	Magnesium	mg/kg		3520	2130 - 4240	Not Reported				3180	322	
1090	Manganese	mg/kg		495	346 - 558	Not Reported				452	35.3	
1095	Mercury	mg/kg	16.1	21.2	7.10 - 23.3	Acceptable	EPA 7473 1998	1/28/2015	0.953	13.8	2.39	TOPOLSKI_B
1100	Molybdenum	mg/kg		73.1	42.1 - 82.2	Not Reported				62.1	7.48	
1105	Nickel	mg/kg		208	131 - 229	Not Reported				178	18.6	
1125	Potassium	mg/kg		3080	1750 - 3890	Not Reported				2820	334	
1140	Selenium	mg/kg		124	72.9 - 149	Not Reported				111	11.6	



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

1150	Silver	mg/kg		66.7	39.8 - 79.3	Not Reported				59.6	5.80	
1155	Sodium	mg/kg		707	353 - 933	Not Reported				643	75.8	
1160	Strontium	mg/kg		170	107 - 197	Not Reported				152	15.4	
1165	Thallium	mg/kg		170	103 - 198	Not Reported				151	13.5	
1175	Tin	mg/kg		99.2	49.2 - 128	Not Reported				88.5	10.0	
1180	Titanium	mg/kg		401	40.1 - 642	Not Reported				332	103	
3055	Uranium	mg/kg		102	57.7 - 132	Not Reported				95.1	12.5	
1185	Vanadium	mg/kg		170	106 - 194	Not Reported				150	14.2	
1190	Zinc	mg/kg		369	243 - 432	Not Reported				338	36.6	



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SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		9830	3280 - 13100	Not Reported				8200	1750	
1005	Antimony	mg/kg		206	20.6 - 267	Not Reported				105	57.3	
1010	Arsenic	mg/kg		268	157 - 295	Not Reported				221	16.7	
1015	Barium	mg/kg		468	318 - 537	Not Reported				428	38.2	
1020	Beryllium	mg/kg		122	84.0 - 140	Not Reported				112	10.3	
1025	Boron	mg/kg		104	47.7 - 114	Not Reported				79.5	13.2	
1030	Cadmium	mg/kg		142	92.3 - 159	Not Reported				126	10.8	
1035	Calcium	mg/kg		7050	4550 - 7770	Not Reported				6160	606	
1040	Chromium	mg/kg		87.1	51.2 - 98.1	Not Reported				74.7	7.68	
1050	Cobalt	mg/kg		214	148 - 249	Not Reported				198	19.3	
1055	Copper	mg/kg		99.5	61.5 - 109	Not Reported				83.3	6.58	
1070	Iron	mg/kg		16300	5270 - 23900	Not Reported				14600	3400	
1075	Lead	mg/kg		88.8	52.9 - 101	Not Reported				76.9	7.86	
1085	Magnesium	mg/kg		3520	2130 - 4240	Not Reported				3180	322	
1090	Manganese	mg/kg		495	346 - 558	Not Reported				452	35.3	
1095	Mercury	mg/kg	15.5	21.2	7.10 - 23.3	Acceptable	DEPSOP:HG-008-3	1/29/2015	0.701	13.8	2.39	TOPOLSKI_B
1100	Molybdenum	mg/kg		73.1	42.1 - 82.2	Not Reported				62.1	7.48	
1105	Nickel	mg/kg		208	131 - 229	Not Reported				178	18.6	
1125	Potassium	mg/kg		3080	1750 - 3890	Not Reported				2820	334	
1140	Selenium	mg/kg		124	72.9 - 149	Not Reported				111	11.6	



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

1150	Silver	mg/kg		66.7	39.8 - 79.3	Not Reported				59.6	5.80	
1155	Sodium	mg/kg		707	353 - 933	Not Reported				643	75.8	
1160	Strontium	mg/kg		170	107 - 197	Not Reported				152	15.4	
1165	Thallium	mg/kg		170	103 - 198	Not Reported				151	13.5	
1175	Tin	mg/kg		99.2	49.2 - 128	Not Reported				88.5	10.0	
1180	Titanium	mg/kg		401	40.1 - 642	Not Reported				332	103	
3055	Uranium	mg/kg		102	57.7 - 132	Not Reported				95.1	12.5	
1185	Vanadium	mg/kg		170	106 - 194	Not Reported				150	14.2	
1190	Zinc	mg/kg		369	243 - 432	Not Reported				338	36.6	

SOIL Nutrients in Soil (cat# 869)

1515	Ammonia as N	mg/kg		526	253 - 775	Not Reported				514	89.6	
1795	Total Kjeldahl Nitrogen	mg/kg		1150	597 - 1640	Not Reported				1120	190	
2040	Total Organic Carbon (TOC)	mg/kg	6450	5610	2060 - 9150	Acceptable	DEPSOP:NU-076-1	1/29/2015	0.715	5610	1180	HUA_P
1910	Total Phosphorus	mg/kg		883	216 - 1600	Not Reported				907	175	



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ERA Customer Number: **S744803**

Laboratory Name: **State of Florida DEP
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Organic Results



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SOIL Volatiles in Soil (cat# 623)

4315	Acetone	µg/kg	280	348	34.8 - 566	Acceptable	EPA 8260C 2006	2/24/2015	-0.0909	289	94.3	BOOESHAG_F
4320	Acetonitrile	µg/kg		337	0.00 - 848	Not Reported				337	170	
4325	Acrolein	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4375	Benzene	µg/kg	107	116	69.5 - 159	Acceptable	EPA 8260C 2006	2/24/2015	-0.770	116	11.7	BOOESHAG_F
4385	Bromobenzene	µg/kg		< 40.0	0.00 - 40.0	Not Reported						
4390	Bromochloromethane	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4395	Bromodichloromethane	µg/kg	121	123	80.2 - 170	Acceptable	EPA 8260C 2006	2/24/2015	-0.528	128	13.6	BOOESHAG_F
4400	Bromoform	µg/kg	79.1	71.9	36.0 - 107	Acceptable	EPA 8260C 2006	2/24/2015	0.824	71.4	9.30	BOOESHAG_F
4950	Bromomethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4410	2-Butanone (MEK)	µg/kg	181	209	53.4 - 331	Acceptable	EPA 8260C 2006	2/24/2015	-0.0990	185	39.2	BOOESHAG_F
4435	n-Butylbenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4440	sec-Butylbenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4445	tert-Butylbenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
5000	tert-Butyl methyl ether (MTBE)	µg/kg	165	158	66.8 - 232	Acceptable	EPA 8260C 2006	2/24/2015	0.200	162	13.0	BOOESHAG_F
4450	Carbon disulfide	µg/kg	< 2.00	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4455	Carbon tetrachloride	µg/kg	41.9	42.3	20.7 - 62.8	Acceptable	EPA 8260C 2006	2/24/2015	-0.659	45.0	4.67	BOOESHAG_F
4475	Chlorobenzene	µg/kg	57.3	57.2	31.4 - 78.8	Acceptable	EPA 8260C 2006	2/24/2015	-0.0127	57.4	5.70	BOOESHAG_F
4575	Chlorodibromomethane	µg/kg	69.2	66.7	39.3 - 93.0	Acceptable	EPA 8260C 2006	2/24/2015	0.330	67.1	6.51	BOOESHAG_F
4485	Chloroethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4500	2-Chloroethylvinylether	µg/kg		< 20.0	0.00 - 20.0	Not Reported						



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

4505	Chloroform	µg/kg	46.8	48.4	28.7 - 68.5	Acceptable	EPA 8260C 2006	2/24/2015	-0.437	48.7	4.29	BOOESHAG_F
4960	Chloromethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4535	2-Chlorotoluene	µg/kg	< 2.00	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4540	4-Chlorotoluene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4570	1,2-Dibromo-3-chloropropane (DBCP)	µg/kg		< 4.00	0.00 - 4.00	Not Reported						
4585	1,2-Dibromoethane (EDB)	µg/kg		85.7	48.2 - 119	Not Reported				84.8	10.3	
4595	Dibromomethane	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4610	1,2-Dichlorobenzene	µg/kg	75.2	75.2	35.9 - 107	Acceptable	EPA 8260C 2006	2/24/2015	0.332	71.8	10.2	BOOESHAG_F
4615	1,3-Dichlorobenzene	µg/kg	58.4	61.4	22.1 - 90.8	Acceptable	EPA 8260C 2006	2/24/2015	0.212	56.7	7.82	BOOESHAG_F
4620	1,4-Dichlorobenzene	µg/kg	84.6	86.2	29.8 - 122	Acceptable	EPA 8260C 2006	2/24/2015	0.139	83.2	10.2	BOOESHAG_F
4625	Dichlorodifluoromethane (Freon 12)	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4630	1,1-Dichloroethane	µg/kg	91.1	92.6	52.3 - 134	Acceptable	EPA 8260C 2006	2/24/2015	-0.588	96.6	9.35	BOOESHAG_F
4635	1,2-Dichloroethane	µg/kg	179	176	102 - 243	Acceptable	EPA 8260C 2006	2/24/2015	-0.0273	180	19.2	BOOESHAG_F
4640	1,1-Dichloroethylene	µg/kg	< 2.00	< 13.0	0.00 - 13.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4645	cis-1,2-Dichloroethylene	µg/kg	< 2.00	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4700	trans-1,2-Dichloroethylene	µg/kg	95.2	96.5	60.0 - 138	Acceptable	EPA 8260C 2006	2/24/2015	-0.651	103	11.5	BOOESHAG_F
4655	1,2-Dichloropropane	µg/kg	< 2.00	< 12.0	0.00 - 12.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4660	1,3-Dichloropropane	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4665	2,2-Dichloropropane	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4670	1,1-Dichloropropene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						



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

4680	cis-1,3-Dichloropropylene	µg/kg	< 2.00	< 40.0	0.00 - 40.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4685	trans-1,3-Dichloropropylene	µg/kg	< 2.00	< 40.0	0.00 - 40.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
4765	Ethylbenzene	µg/kg	104	108	59.9 - 155	Acceptable	EPA 8260C 2006	2/24/2015	-0.374	109	13.1	BOOESHAG_F
4835	Hexachlorobutadiene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4840	Hexachloroethane	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4860	2-Hexanone	µg/kg	178	148	53.8 - 227	Acceptable	EPA 8260C 2006	2/24/2015	1.72	146	18.8	BOOESHAG_F
4900	Isopropylbenzene	µg/kg		< 40.0	0.00 - 40.0	Not Reported						
4910	4-Isopropyltoluene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4975	Methylene chloride	µg/kg	123	126	58.9 - 183	Acceptable	EPA 8260C 2006	2/24/2015	-0.150	125	15.9	BOOESHAG_F
4995	4-Methyl-2-pentanone (MIBK)	µg/kg	159	131	55.6 - 194	Acceptable	EPA 8260C 2006	2/24/2015	1.45	131	19.2	BOOESHAG_F
5005	Naphthalene	µg/kg		< 6.00	0.00 - 6.00	Not Reported						
5015	Nitrobenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
5090	n-Propylbenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
5100	Styrene	µg/kg	127	142	95.1 - 197	Acceptable	EPA 8260C 2006	2/24/2015	-0.456	133	13.7	BOOESHAG_F
5105	1,1,1,2-Tetrachloroethane	µg/kg		< 12.0	0.00 - 12.0	Not Reported						
5110	1,1,2,2-Tetrachloroethane	µg/kg	75.8	68.3	34.6 - 101	Acceptable	EPA 8260C 2006	2/24/2015	1.05	66.0	9.25	BOOESHAG_F
5115	Tetrachloroethylene	µg/kg	135	147	66.2 - 213	Acceptable	EPA 8260C 2006	2/24/2015	-0.202	139	20.6	BOOESHAG_F
5140	Toluene	µg/kg	83.9	88.3	50.6 - 124	Acceptable	EPA 8260C 2006	2/24/2015	-0.611	88.8	8.10	BOOESHAG_F
5150	1,2,3-Trichlorobenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
5155	1,2,4-Trichlorobenzene	µg/kg		174	69.6 - 278	Not Reported				147	47.3	



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

5160	1,1,1-Trichloroethane	µg/kg	< 2.00	< 9.00	0.00 - 9.00	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
5165	1,1,2-Trichloroethane	µg/kg	100	98.1	57.8 - 136	Acceptable	EPA 8260C 2006	2/24/2015	0.127	98.7	9.94	BOOESHAG_F
5170	Trichloroethylene	µg/kg	85.9	85.8	43.9 - 122	Acceptable	EPA 8260C 2006	2/24/2015	-0.426	89.5	8.48	BOOESHAG_F
5175	Trichlorofluoromethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/24/2015				BOOESHAG_F
5180	1,2,3-Trichloropropane (TCP)	µg/kg		< 8.30	0.00 - 8.30	Not Reported						
5210	1,2,4-Trimethylbenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
5215	1,3,5-Trimethylbenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
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	2/24/2015				BOOESHAG_F
5240	m&p-Xylene	µg/kg	149	157	76.6 - 232	Acceptable	EPA 8260C 2006	2/24/2015	-0.471	158	18.7	BOOESHAG_F
5250	o-Xylene	µg/kg	91.8	98.4	47.1 - 147	Acceptable	EPA 8260C 2006	2/24/2015	-0.666	98.5	10.1	BOOESHAG_F
5260	Xylenes, total	µg/kg	241	255	126 - 374	Acceptable	EPA 8260C 2006	2/24/2015	-0.594	257	27.3	BOOESHAG_F





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

5500	Acenaphthene	µg/kg	5110	6350	1690 - 7570	Acceptable	EPA 8270D 2007	2/2/2015	0.457	4630	1050	GHAFFARI_M
5505	Acenaphthylene	µg/kg	3540	4350	980 - 5400	Acceptable	EPA 8270D 2007	2/2/2015	0.464	3190	755	GHAFFARI_M
5145	2-Amino-1-methylbenzene (o-toluidine)	µg/kg	< 180	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5545	Aniline	µg/kg	< 360	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5555	Anthracene	µg/kg	5730	6750	1660 - 8370	Acceptable	EPA 8270D 2007	2/2/2015	0.618	5010	1160	GHAFFARI_M
5595	Benzidine	µg/kg	< 1300	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5610	Benzoic acid	µg/kg		< 1000	0.00 - 1000	Not Reported						
5575	Benzo(a)anthracene	µg/kg	1630	2040	547 - 2530	Acceptable	EPA 8270D 2007	2/2/2015	0.259	1540	350	GHAFFARI_M
5585	Benzo(b)fluoranthene	µg/kg	5080	6180	1740 - 8250	Acceptable	EPA 8270D 2007	2/2/2015	0.0654	4990	1300	GHAFFARI_M
5600	Benzo(k)fluoranthene	µg/kg	3800	4520	1210 - 5800	Acceptable	EPA 8270D 2007	2/2/2015	0.318	3510	916	GHAFFARI_M
5590	Benzo(g,h,i)perylene	µg/kg	4020	4570	992 - 6130	Acceptable	EPA 8270D 2007	2/2/2015	0.482	3560	956	GHAFFARI_M
5580	Benzo(a)pyrene	µg/kg	5190	6480	1560 - 8620	Acceptable	EPA 8270D 2007	2/2/2015	0.0801	5090	1230	GHAFFARI_M
5630	Benzyl alcohol	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5760	bis(2-Chloroethoxy)methane	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5765	bis(2-Chloroethyl)ether	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5780	bis(2-Chloroisopropyl)ether	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5660	4-Bromophenyl-phenylether	µg/kg	5450	6190	1830 - 7620	Acceptable	EPA 8270D 2007	2/2/2015	0.714	4720	1020	GHAFFARI_M
5670	Butylbenzylphthalate	µg/kg	9140	11900	2590 - 15900	Acceptable	EPA 8270D 2007	2/2/2015	-0.0372	9230	2530	GHAFFARI_M
5680	Carbazole	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
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	6840	8840	2220 - 9720	Acceptable	EPA 8270D 2007	2/2/2015	0.731	5880	1310	GHAFFARI_M
5790	1-Chloronaphthalene	µg/kg		< 1000	0.00 - 1000	Not Reported						
5795	2-Chloronaphthalene	µg/kg	< 60.0	< 100	0.00 - 100	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5800	2-Chlorophenol	µg/kg	7320	10100	1610 - 11100	Acceptable	EPA 8270D 2007	2/2/2015	0.754	6160	1540	GHAFFARI_M
5825	4-Chlorophenyl-phenylether	µg/kg	10100	12400	3290 - 15300	Acceptable	EPA 8270D 2007	2/2/2015	0.324	9300	2470	GHAFFARI_M
5855	Chrysene	µg/kg	2800	3380	939 - 4250	Acceptable	EPA 8270D 2007	2/2/2015	0.418	2590	495	GHAFFARI_M
5895	Dibenz(a,h)anthracene	µg/kg	4000	4990	1200 - 6020	Acceptable	EPA 8270D 2007	2/2/2015	0.412	3610	943	GHAFFARI_M
5905	Dibenzofuran	µg/kg	5350	6290	1660 - 7650	Acceptable	EPA 8270D 2007	2/2/2015	0.667	4650	1050	GHAFFARI_M
5925	Di-n-butylphthalate	µg/kg	3250	3380	576 - 4620	Acceptable	EPA 8270D 2007	2/2/2015	1.07	2600	607	GHAFFARI_M
4610	1,2-Dichlorobenzene	µg/kg		8170	817 - 8990	Not Reported				4610	1570	
4615	1,3-Dichlorobenzene	µg/kg		< 150	0.00 - 150	Not Reported						
4620	1,4-Dichlorobenzene	µg/kg		9800	980 - 10800	Not Reported				5300	1940	
5945	3,3'-Dichlorobenzidine	µg/kg	< 3600	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6000	2,4-Dichlorophenol	µg/kg	7890	10200	1740 - 11300	Acceptable	EPA 8270D 2007	2/2/2015	0.905	6520	1520	GHAFFARI_M
6005	2,6-Dichlorophenol	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6070	Diethylphthalate	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6130	2,4-Dimethylphenol	µg/kg	< 360	< 3000	0.00 - 3000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6135	Dimethylphthalate	µg/kg	6710	8440	2220 - 9710	Acceptable	EPA 8270D 2007	2/2/2015	0.447	5970	1660	GHAFFARI_M
6175	2,4-Dinitrophenol	µg/kg	< 360	< 3000	0.00 - 3000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6185	2,4-Dinitrotoluene	µg/kg	2410	3460	389 - 4660	Acceptable	EPA 8270D 2007	2/2/2015	-0.186	2520	612	GHAFFARI_M



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

6190	2,6-Dinitrotoluene	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6200	Di-n-octylphthalate	µg/kg	12600	14800	2220 - 21100	Acceptable	EPA 8270D 2007	2/2/2015	0.263	11700	3600	GHAFFARI_M
6065	bis(2-Ethylhexyl)phthalate	µg/kg	6830	8500	2150 - 11200	Acceptable	EPA 8270D 2007	2/2/2015	0.0923	6680	1630	GHAFFARI_M
6265	Fluoranthene	µg/kg	4780	5230	1660 - 6500	Acceptable	EPA 8270D 2007	2/2/2015	0.680	4080	1030	GHAFFARI_M
6270	Fluorene	µg/kg	7320	8740	2770 - 10200	Acceptable	EPA 8270D 2007	2/2/2015	0.488	6500	1680	GHAFFARI_M
6275	Hexachlorobenzene	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
4835	Hexachlorobutadiene	µg/kg	2300	2990	338 - 3550	Acceptable	EPA 8270D 2007	2/2/2015	0.724	1940	493	GHAFFARI_M
6285	Hexachlorocyclopentadiene	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
4840	Hexachloroethane	µg/kg	3590	5560	556 - 6120	Acceptable	EPA 8270D 2007	2/2/2015	0.604	3010	959	GHAFFARI_M
6315	Indeno(1,2,3-cd)pyrene	µg/kg	3220	3670	367 - 5680	Acceptable	EPA 8270D 2007	2/2/2015	0.315	2980	754	GHAFFARI_M
6320	Isophorone	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6360	4,6-Dinitro-2-methylphenol	µg/kg	< 60.0	< 3000	0.00 - 3000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6385	2-Methylnaphthalene	µg/kg	3080	3750	936 - 4280	Acceptable	EPA 8270D 2007	2/2/2015	0.850	2610	554	GHAFFARI_M
6400	2-Methylphenol	µg/kg	4600	9600	960 - 10600	Acceptable	EPA 8270D 2007	2/2/2015	1.12	3450	1030	GHAFFARI_M
6410	4-Methylphenol	µg/kg	7330	11900	1190 - 13100	Acceptable	EPA 8270D 2007	2/2/2015	1.29	5380	1510	GHAFFARI_M
5005	Naphthalene	µg/kg	7080	9300	1860 - 10200	Acceptable	EPA 8270D 2007	2/2/2015	0.680	6020	1560	GHAFFARI_M
6460	2-Nitroaniline	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
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	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M



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

6490	2-Nitrophenol	µg/kg	6820	8990	899 - 9890	Acceptable	EPA 8270D 2007	2/2/2015	1.05	5200	1540	GHAFFARI_M
6500	4-Nitrophenol	µg/kg	3310	6910	691 - 8120	Acceptable	EPA 8270D 2007	2/2/2015	-0.239	3640	1370	GHAFFARI_M
6525	N-Nitrosodiethylamine	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6530	N-Nitrosodimethylamine	µg/kg	< 360	< 1500	0.00 - 1500	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6535	N-Nitrosodiphenylamine	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6545	N-Nitroso-di-n-propylamine	µg/kg	5190	6280	628 - 7700	Acceptable	EPA 8270D 2007	2/2/2015	0.839	4140	1250	GHAFFARI_M
6590	Pentachlorobenzene	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6605	Pentachlorophenol	µg/kg	2230	5930	593 - 6520	Acceptable	EPA 8270D 2007	2/2/2015	-0.153	2380	962	GHAFFARI_M
6615	Phenanthrene	µg/kg	5010	5860	1790 - 7040	Acceptable	EPA 8270D 2007	2/2/2015	0.589	4420	1010	GHAFFARI_M
6625	Phenol	µg/kg	5870	7690	769 - 8880	Acceptable	EPA 8270D 2007	2/2/2015	0.923	4780	1180	GHAFFARI_M
6665	Pyrene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5095	Pyridine	µg/kg	< 360	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6715	1,2,4,5-Tetrachlorobenzene	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
6735	2,3,4,6-Tetrachlorophenol	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 2007	2/2/2015				GHAFFARI_M
5155	1,2,4-Trichlorobenzene	µg/kg	4160	5270	860 - 6030	Acceptable	EPA 8270D 2007	2/2/2015	0.872	3450	818	GHAFFARI_M
6835	2,4,5-Trichlorophenol	µg/kg	8530	10900	1570 - 12300	Acceptable	EPA 8270D 2007	2/2/2015	0.745	6950	2120	GHAFFARI_M
6840	2,4,6-Trichlorophenol	µg/kg	3530	4580	668 - 5210	Acceptable	EPA 8270D 2007	2/2/2015	0.773	2940	765	GHAFFARI_M



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SOIL Chlorinated Acid Herbicides in Soil (cat# 626)

8505	Acifluorfen	µg/kg	129	154	0.00 - 290	Acceptable	EPA 8321B 1998	2/25/2015	0.260	114	58.6	KIM_J
8530	Bentazon	µg/kg	673	639	101 - 932	Acceptable	EPA 8321B 1998	2/25/2015	1.13	516	138	KIM_J
8540	Chloramben	µg/kg		477	0.00 - 525	Not Reported				119	45.6	
8545	2,4-D	µg/kg	390	374	37.4 - 733	Acceptable	EPA 8321B 1998	2/25/2015	0.774	271	154	KIM_J
8560	2,4-DB	µg/kg	653	668	66.8 - 1070	Acceptable	EPA 8321B 1998	2/25/2015	1.05	430	213	KIM_J
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	337	335	33.5 - 496	Acceptable	EPA 8321B 1998	2/25/2015	1.25	224	90.5	KIM_J
8600	3,5-Dichlorobenzoic acid	µg/kg		831	0.00 - 1170	Not Reported				506	220	
8605	Dichlorprop	µg/kg	860	792	0.00 - 1360	Acceptable	EPA 8321B 1998	2/25/2015	1.15	550	270	KIM_J
8620	Dinoseb	µg/kg	547	690	69.0 - 1130	Acceptable	EPA 8321B 1998	2/25/2015	0.751	352	259	KIM_J
7775	MCPA	µg/kg	< 13.0	< 1000	0.00 - 1000	Acceptable	EPA 8321B 1998	2/25/2015				KIM_J
7780	MCPP	µg/kg	< 13.0	< 1000	0.00 - 1000	Acceptable	EPA 8321B 1998	2/25/2015				KIM_J
6500	4-Nitrophenol	µg/kg		283	0.00 - 323	Not Reported				158	54.8	
6605	Pentachlorophenol	µg/kg		665	66.5 - 964	Not Reported				435	176	
8645	Picloram	µg/kg	527	763	0.00 - 1120	Acceptable	EPA 8321B 1998	2/25/2015	0.320	456	222	KIM_J
8655	2,4,5-T	µg/kg	350	368	36.8 - 634	Acceptable	EPA 8321B 1998	2/25/2015	0.779	250	128	KIM_J
8650	2,4,5-TP (Silvex)	µg/kg	593	656	65.6 - 1010	Acceptable	EPA 8321B 1998	2/25/2015	0.751	452	187	KIM_J



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CERTIFICATE OF RECOGNITION

ERA congratulates

State of Florida DEP Chemistry Laboratory

SOIL-89

For your participation and successful evaluation, we recognize the performance of this laboratory for achieving acceptable evaluation in the following standards.

Base/Neutrals and Acids in Soil

Chlorinated Acid Herbicides in
Soil

Nutrients in Soil

Volatiles in Soil



Kristina Sanchez
Quality Officer