



A Waters Company

Thekkekalathil Chandrasekhar
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400

SOIL-85



Final Report

Soil/Hazardous Waste Proficiency Testing

Soil Study

Open Date: 01/20/14

Close Date: 03/06/14

Report Issued Date: 03/10/14



A Waters Company

March 10, 2014

Thekkekalathil Chandrasekhar
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400

Enclosed is your final report for ERA's SOIL-85 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-85 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.

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.

Thank you for your participation in ERA's SOIL-85 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



A Waters Company

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



A Waters Company

SOIL-85 Definitions & Study Discussion

Study Dates: 01/20/14 - 03/06/14

Report Issued: 03/10/14

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 and Total Organic Carbon (TOC) in the Nutrients in Soil sample, 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 and TOC is 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-85 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-85 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-85 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.

ISO/IEC 17043:2010





A Waters Company

SOIL-85 Laboratory Exception Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
<i>SOIL Chlorinated Acid Herbicides in Soil (cat# 626)</i>							
8530	Bentazon	µg/kg	467	359	163 - 421	Not Acceptable	EPA 8321B 1998



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



Final Report Results For Laboratory State of Florida DEP Chemistry Laboratory

2009 TNI Evaluation Report

Study: **SOIL-85**

ERA Customer Number: **S744803**

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

Inorganic Results





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg	8570	9830	3180 - 12900	Acceptable	EPA 6010C 3 2007	2/7/2014	0.305	8060	1670	AYRES_J
1005	Antimony	mg/kg	59.7	214	21.4 - 242	Acceptable	EPA 6010C 3 2007	2/3/2014	-0.610	94.0	56.3	AYRES_J
1010	Arsenic	mg/kg	104	146	78.8 - 161	Acceptable	EPA 6010C 3 2007	2/11/2014	-0.834	113	10.9	AYRES_J
1015	Barium	mg/kg	154	175	113 - 197	Acceptable	EPA 6010C 3 2007	2/7/2014	-0.0503	155	14.5	AYRES_J
1020	Beryllium	mg/kg	111	114	81.4 - 136	Acceptable	EPA 6010C 3 2007	2/7/2014	0.202	109	10.3	AYRES_J
1025	Boron	mg/kg	107	130	59.4 - 143	Acceptable	EPA 6010C 3 2007	2/11/2014	0.572	99.1	13.9	AYRES_J
1030	Cadmium	mg/kg	67.9	76.0	49.4 - 85.6	Acceptable	EPA 6010C 3 2007	2/7/2014	0.0692	67.5	6.04	AYRES_J
1035	Calcium	mg/kg	5930	6480	4310 - 7400	Acceptable	EPA 6010C 3 2007	2/7/2014	0.133	5850	585	AYRES_J
1040	Chromium	mg/kg	167	188	116 - 213	Acceptable	EPA 6010C 3 2007	2/7/2014	0.195	164	14.9	AYRES_J
1050	Cobalt	mg/kg	103	109	74.4 - 126	Acceptable	EPA 6010C 3 2007	2/7/2014	0.342	100	8.81	AYRES_J
1055	Copper	mg/kg	139	146	96.2 - 161	Acceptable	EPA 6010C 3 2007	2/7/2014	1.00	128	10.5	AYRES_J
1070	Iron	mg/kg	14100	16300	5680 - 24700	Acceptable	EPA 6010C 3 2007	2/7/2014	-0.354	15200	3120	AYRES_J
1075	Lead	mg/kg	77.7	99.5	63.2 - 117	Acceptable	EPA 6010C 3 2007	2/7/2014	-1.54	90.1	8.09	AYRES_J
1085	Magnesium	mg/kg	2970	3200	1820 - 3770	Acceptable	EPA 6010C 3 2007	2/7/2014	0.576	2790	307	AYRES_J
1090	Manganese	mg/kg	368	394	275 - 452	Acceptable	EPA 6010C 3 2007	2/7/2014	0.135	363	34.3	AYRES_J
1095	Mercury	mg/kg		8.22	4.29 - 12.4	Not Reported				8.37	0.973	
1100	Molybdenum	mg/kg	74.6	87.0	50.7 - 97.0	Acceptable	EPA 6010C 3 2007	2/7/2014	0.0975	73.8	8.06	AYRES_J
1105	Nickel	mg/kg	94.1	103	64.3 - 114	Acceptable	EPA 6010C 3 2007	2/7/2014	0.553	89.3	8.61	AYRES_J
1125	Potassium	mg/kg	3210	3150	1710 - 3830	Acceptable	EPA 6010C 3 2007	2/7/2014	1.25	2770	354	AYRES_J
1140	Selenium	mg/kg	160	174	105 - 206	Acceptable	EPA 6010C 3 2007	2/11/2014	0.271	156	16.3	AYRES_J



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

Page 3 of 18



SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
 QA Officer
 State of Florida DEP Chemistry Laboratory
 2600 Blair Stone Road
 Room A416D, MS6512
 Tallahassee, FL 32399-2400
 (850) 245-8075

EPA ID:
 ERA Customer Number:
 Report Issued:
 Study Dates:

FL01181
 S744803
 03/10/14
 01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

1150	Silver	mg/kg	52.2	58.4	35.1 - 70.2	Acceptable	EPA 6010C 3 2007	2/7/2014	-0.0793	52.6	5.54	AYRES_J
1155	Sodium	mg/kg	799	777	383 - 989	Acceptable	EPA 6010C 3 2007	2/7/2014	1.45	686	77.7	AYRES_J
1160	Strontium	mg/kg	92.5	91.4	60.6 - 112	Acceptable	EPA 6010C 3 2007	2/7/2014	0.611	86.3	10.2	AYRES_J
1165	Thallium	mg/kg	117	132	78.2 - 153	Acceptable	EPA 6010C 3 2007	2/11/2014	0.0931	116	12.8	AYRES_J
1175	Tin	mg/kg	92.9	113	57.0 - 144	Acceptable	EPA 6010C 3 2007	2/11/2014	-0.678	100	11.0	AYRES_J
1180	Titanium	mg/kg	321	361	12.7 - 596	Acceptable	EPA 6010C 3 2007	2/7/2014	0.173	304	97.2	AYRES_J
1185	Vanadium	mg/kg	74.4	84.1	43.6 - 102	Acceptable	EPA 6010C 3 2007	2/11/2014	0.157	73.0	9.05	AYRES_J
1190	Zinc	mg/kg	169	170	116 - 221	Acceptable	EPA 6010C 3 2007	2/11/2014	0.0551	168	16.3	AYRES_J





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		9830	3180 - 12900	Not Reported				8060	1670	
1005	Antimony	mg/kg	60.5	214	21.4 - 242	Acceptable	EPA 6020A 1 2007	2/7/2014	-0.595	94.0	56.3	PETERSON_C
1010	Arsenic	mg/kg	107	146	78.8 - 161	Acceptable	EPA 6020A 1 2007	2/7/2014	-0.557	113	10.9	PETERSON_C
1015	Barium	mg/kg	152	175	113 - 197	Acceptable	EPA 6020A 1 2007	2/7/2014	-0.188	155	14.5	PETERSON_C
1020	Beryllium	mg/kg	111	114	81.4 - 136	Acceptable	EPA 6020A 1 2007	2/13/2014	0.202	109	10.3	PETERSON_C
1025	Boron	mg/kg		130	59.4 - 143	Not Reported				99.1	13.9	
1030	Cadmium	mg/kg	69.8	76.0	49.4 - 85.6	Acceptable	EPA 6020A 1 2007	2/7/2014	0.384	67.5	6.04	PETERSON_C
1035	Calcium	mg/kg		6480	4310 - 7400	Not Reported				5850	585	
1040	Chromium	mg/kg	171	188	116 - 213	Acceptable	EPA 6020A 1 2007	2/7/2014	0.462	164	14.9	PETERSON_C
1050	Cobalt	mg/kg	108	109	74.4 - 126	Acceptable	EPA 6020A 1 2007	2/7/2014	0.909	100	8.81	PETERSON_C
1055	Copper	mg/kg	131	146	96.2 - 161	Acceptable	EPA 6020A 1 2007	2/7/2014	0.244	128	10.5	PETERSON_C
1070	Iron	mg/kg		16300	5680 - 24700	Not Reported				15200	3120	
1075	Lead	mg/kg	83.7	99.5	63.2 - 117	Acceptable	EPA 6020A 1 2007	2/7/2014	-0.794	90.1	8.09	PETERSON_C
1085	Magnesium	mg/kg		3200	1820 - 3770	Not Reported				2790	307	
1090	Manganese	mg/kg	377	394	275 - 452	Acceptable	EPA 6020A 1 2007	2/7/2014	0.397	363	34.3	PETERSON_C
1095	Mercury	mg/kg		8.22	4.29 - 12.4	Not Reported				8.37	0.973	
1100	Molybdenum	mg/kg	78.2	87.0	50.7 - 97.0	Acceptable	EPA 6020A 1 2007	2/7/2014	0.544	73.8	8.06	PETERSON_C
1105	Nickel	mg/kg	97.4	103	64.3 - 114	Acceptable	EPA 6020A 1 2007	2/7/2014	0.937	89.3	8.61	PETERSON_C
1125	Potassium	mg/kg		3150	1710 - 3830	Not Reported				2770	354	
1140	Selenium	mg/kg	161	174	105 - 206	Acceptable	EPA 6020A 1 2007	2/7/2014	0.332	156	16.3	PETERSON_C



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

Page 5 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

1150	Silver	mg/kg	49.6	58.4	35.1 - 70.2	Acceptable	EPA 6020A 1 2007	2/7/2014	-0.549	52.6	5.54	PETERSON_C
1155	Sodium	mg/kg		777	383 - 989	Not Reported				686	77.7	
1160	Strontium	mg/kg		91.4	60.6 - 112	Not Reported				86.3	10.2	
1165	Thallium	mg/kg	126	132	78.2 - 153	Acceptable	EPA 6020A 1 2007	2/13/2014	0.797	116	12.8	PETERSON_C
1175	Tin	mg/kg		113	57.0 - 144	Not Reported				100	11.0	
1180	Titanium	mg/kg		361	12.7 - 596	Not Reported				304	97.2	
1185	Vanadium	mg/kg		84.1	43.6 - 102	Not Reported				73.0	9.05	
1190	Zinc	mg/kg	176	170	116 - 221	Acceptable	EPA 6020A 1 2007	2/7/2014	0.484	168	16.3	PETERSON_C



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





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		9830	3180 - 12900	Not Reported				8060	1670	
1005	Antimony	mg/kg		214	21.4 - 242	Not Reported				94.0	56.3	
1010	Arsenic	mg/kg		146	78.8 - 161	Not Reported				113	10.9	
1015	Barium	mg/kg		175	113 - 197	Not Reported				155	14.5	
1020	Beryllium	mg/kg		114	81.4 - 136	Not Reported				109	10.3	
1025	Boron	mg/kg		130	59.4 - 143	Not Reported				99.1	13.9	
1030	Cadmium	mg/kg		76.0	49.4 - 85.6	Not Reported				67.5	6.04	
1035	Calcium	mg/kg		6480	4310 - 7400	Not Reported				5850	585	
1040	Chromium	mg/kg		188	116 - 213	Not Reported				164	14.9	
1050	Cobalt	mg/kg		109	74.4 - 126	Not Reported				100	8.81	
1055	Copper	mg/kg		146	96.2 - 161	Not Reported				128	10.5	
1070	Iron	mg/kg		16300	5680 - 24700	Not Reported				15200	3120	
1075	Lead	mg/kg		99.5	63.2 - 117	Not Reported				90.1	8.09	
1085	Magnesium	mg/kg		3200	1820 - 3770	Not Reported				2790	307	
1090	Manganese	mg/kg		394	275 - 452	Not Reported				363	34.3	
1095	Mercury	mg/kg	8.03	8.22	4.29 - 12.4	Acceptable	DEPSOP:HG-008-3	1/30/2014	-0.351	8.37	0.973	ACOSTA_M
1100	Molybdenum	mg/kg		87.0	50.7 - 97.0	Not Reported				73.8	8.06	
1105	Nickel	mg/kg		103	64.3 - 114	Not Reported				89.3	8.61	
1125	Potassium	mg/kg		3150	1710 - 3830	Not Reported				2770	354	
1140	Selenium	mg/kg		174	105 - 206	Not Reported				156	16.3	



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

Page 7 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

1150	Silver	mg/kg		58.4	35.1 - 70.2	Not Reported				52.6	5.54	
1155	Sodium	mg/kg		777	383 - 989	Not Reported				686	77.7	
1160	Strontium	mg/kg		91.4	60.6 - 112	Not Reported				86.3	10.2	
1165	Thallium	mg/kg		132	78.2 - 153	Not Reported				116	12.8	
1175	Tin	mg/kg		113	57.0 - 144	Not Reported				100	11.0	
1180	Titanium	mg/kg		361	12.7 - 596	Not Reported				304	97.2	
1185	Vanadium	mg/kg		84.1	43.6 - 102	Not Reported				73.0	9.05	
1190	Zinc	mg/kg		170	116 - 221	Not Reported				168	16.3	

SOIL Nutrients in Soil (cat# 869)

1515	Ammonia as N	mg/kg		401	174 - 634	Not Reported				404	69.5	
1795	Total Kjeldahl Nitrogen	mg/kg		895	458 - 1300	Not Reported				881	148	
2040	Total Organic Carbon (TOC)	mg/kg	5440	5290	1400 - 9170	Acceptable	DEPSOP:NU-076-1	2/11/2014	0.117	5290	1290	HUA_P
1910	Total Phosphorus	mg/kg		780	207 - 1550	Not Reported				879	123	



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

Page 8 of 18



2009 TNI Evaluation Report

Study: **SOIL-85**

ERA Customer Number: **S744803**

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

Organic Results



A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

SOIL Volatiles in Soil (cat# 623)

4315	Acetone	µg/kg	97.0	243	24.3 - 411	Acceptable	EPA 8260C 2006	2/12/2014	-2.19	277	82.4	BOOESHAG_F
4320	Acetonitrile	µg/kg		214	0.00 - 930	Not Reported				330	200	
4325	Acrolein	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4375	Benzene	µg/kg	134	124	74.5 - 170	Acceptable	EPA 8260C 2006	2/12/2014	0.465	128	13.0	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	75.6	72.4	45.8 - 101	Acceptable	EPA 8260C 2006	2/12/2014	0.358	72.0	10.1	BOOESHAG_F
4400	Bromoform	µg/kg	70.7	75.0	37.6 - 111	Acceptable	EPA 8260C 2006	2/12/2014	-0.0753	71.6	12.3	BOOESHAG_F
4950	Bromomethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4410	2-Butanone (MEK)	µg/kg	75.0	123	19.4 - 202	Acceptable	EPA 8260C 2006	2/12/2014	-1.38	118	31.0	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	33.3	32.3	13.0 - 55.3	Acceptable	EPA 8260C 2006	2/12/2014	-0.0281	33.4	4.88	BOOESHAG_F
4450	Carbon disulfide	µg/kg	< 2.00	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4455	Carbon tetrachloride	µg/kg	< 2.00	< 9.90	0.00 - 9.90	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4475	Chlorobenzene	µg/kg	175	168	95.3 - 233	Acceptable	EPA 8260C 2006	2/12/2014	0.392	167	20.1	BOOESHAG_F
4575	Chlorodibromomethane	µg/kg	150	150	91.9 - 206	Acceptable	EPA 8260C 2006	2/12/2014	0.0615	149	22.9	BOOESHAG_F
4485	Chloroethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4500	2-Chloroethylvinylether	µg/kg		< 20.0	0.00 - 20.0	Not Reported						



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

Page 10 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

4505	Chloroform	µg/kg	38.9	37.9	22.2 - 54.0	Acceptable	EPA 8260C 2006	2/12/2014	-0.0469	39.1	4.36	BOOESHAG_F
4960	Chloromethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4535	2-Chlorotoluene	µg/kg	< 2.00	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4540	4-Chlorotoluene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4570	1,2-Dibromo-3-chloropropane (DBCP)	µg/kg		108	55.9 - 164	Not Reported				99.0	16.1	
4585	1,2-Dibromoethane (EDB)	µg/kg		58.5	34.0 - 82.5	Not Reported				56.5	6.26	
4595	Dibromomethane	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
4610	1,2-Dichlorobenzene	µg/kg	< 2.00	< 8.90	0.00 - 8.90	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4615	1,3-Dichlorobenzene	µg/kg	93.9	87.2	32.7 - 129	Acceptable	EPA 8260C 2006	2/12/2014	0.744	83.0	14.6	BOOESHAG_F
4620	1,4-Dichlorobenzene	µg/kg	< 2.00	< 7.00	0.00 - 7.00	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4625	Dichlorodifluoromethane (Freon 12)	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4630	1,1-Dichloroethane	µg/kg	199	178	101 - 256	Acceptable	EPA 8260C 2006	2/12/2014	0.752	183	20.7	BOOESHAG_F
4635	1,2-Dichloroethane	µg/kg	30.0	29.8	18.0 - 43.1	Acceptable	EPA 8260C 2006	2/12/2014	-0.327	31.5	4.71	BOOESHAG_F
4640	1,1-Dichloroethylene	µg/kg	< 2.00	< 13.0	0.00 - 13.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4645	cis-1,2-Dichloroethylene	µg/kg	110	98.5	61.2 - 139	Acceptable	EPA 8260C 2006	2/12/2014	0.508	102	16.1	BOOESHAG_F
4700	trans-1,2-Dichloroethylene	µg/kg	144	126	79.5 - 180	Acceptable	EPA 8260C 2006	2/12/2014	0.493	135	18.7	BOOESHAG_F
4655	1,2-Dichloropropane	µg/kg	169	157	91.8 - 210	Acceptable	EPA 8260C 2006	2/12/2014	0.443	161	17.7	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						



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

Page 11 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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	2/12/2014				BOOESHAG_F
4685	trans-1,3-Dichloropropylene	µg/kg	< 2.00	< 40.0	0.00 - 40.0	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
4765	Ethylbenzene	µg/kg	50.2	49.6	26.4 - 73.2	Acceptable	EPA 8260C 2006	2/12/2014	-0.0507	50.5	5.21	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	< 10.0	< 20.0	0.00 - 20.0	Acceptable	EPA 8260C 2006	2/12/2014				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	74.0	74.4	34.6 - 110	Acceptable	EPA 8260C 2006	2/12/2014	0.302	71.6	7.81	BOOESHAG_F
4995	4-Methyl-2-pentanone (MIBK)	µg/kg	140	130	55.1 - 192	Acceptable	EPA 8260C 2006	2/12/2014	0.671	123	25.4	BOOESHAG_F
5005	Naphthalene	µg/kg		63.2	20.0 - 94.9	Not Reported				54.2	16.4	
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	< 2.00	< 24.0	0.00 - 24.0	Acceptable	EPA 8260C 2006	2/12/2014				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	< 2.00	< 8.90	0.00 - 8.90	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
5115	Tetrachloroethylene	µg/kg	< 2.00	< 8.30	0.00 - 8.30	Acceptable	EPA 8260C 2006	2/12/2014				BOOESHAG_F
5140	Toluene	µg/kg	111	107	61.5 - 150	Acceptable	EPA 8260C 2006	2/12/2014	0.102	110	12.2	BOOESHAG_F
5150	1,2,3-Trichlorobenzene	µg/kg		< 20.0	0.00 - 20.0	Not Reported						
5155	1,2,4-Trichlorobenzene	µg/kg		185	74.0 - 296	Not Reported				146	56.8	



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

Page 12 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

5160	1,1,1-Trichloroethane	µg/kg	60.5	60.8	33.1 - 86.5	Acceptable	EPA 8260C 2006	2/12/2014	0.0716	59.8	9.48	BOOESHAG_F
5165	1,1,2-Trichloroethane	µg/kg	154	145	84.7 - 199	Acceptable	EPA 8260C 2006	2/12/2014	0.618	144	16.1	BOOESHAG_F
5170	Trichloroethylene	µg/kg	93.7	96.9	49.6 - 138	Acceptable	EPA 8260C 2006	2/12/2014	-0.193	96.1	12.7	BOOESHAG_F
5175	Trichlorofluoromethane	µg/kg	< 2.00	< 80.0	0.00 - 80.0	Acceptable	EPA 8260C 2006	2/12/2014				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	2/12/2014				BOOESHAG_F
5240	m&p-Xylene	µg/kg	103	102	48.9 - 152	Acceptable	EPA 8260C 2006	2/12/2014	-0.00600	103	15.3	BOOESHAG_F
5250	o-Xylene	µg/kg	101	98.4	47.1 - 147	Acceptable	EPA 8260C 2006	2/12/2014	0.209	98.1	13.8	BOOESHAG_F
5260	Xylenes, total	µg/kg	204	200	98.3 - 294	Acceptable	EPA 8260C 2006	2/12/2014	0.119	201	28.8	BOOESHAG_F



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

Page 13 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

5500	Acenaphthene	µg/kg	3820	4640	1200 - 5700	Acceptable	EPA 8270D 3 2007	1/28/2014	0.554	3450	669	GHAFFARI_M
5505	Acenaphthylene	µg/kg	5080	6380	1470 - 7650	Acceptable	EPA 8270D 3 2007	1/28/2014	0.494	4560	1060	GHAFFARI_M
5145	2-Amino-1-methylbenzene (o-toluidine)	µg/kg	< 180	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5545	Aniline	µg/kg	< 360	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5555	Anthracene	µg/kg	3660	4110	1010 - 5440	Acceptable	EPA 8270D 3 2007	1/28/2014	0.905	3230	479	GHAFFARI_M
5595	Benidine	µg/kg	< 1300	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5610	Benzoic acid	µg/kg		< 1000	0.00 - 1000	Not Reported						
5575	Benzo(a)anthracene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5585	Benzo(b)fluoranthene	µg/kg	4770	5100	1480 - 7150	Acceptable	EPA 8270D 3 2007	1/28/2014	0.627	4320	725	GHAFFARI_M
5600	Benzo(k)fluoranthene	µg/kg	7840	8390	2450 - 11600	Acceptable	EPA 8270D 3 2007	1/28/2014	0.673	7000	1240	GHAFFARI_M
5590	Benzo(g,h,i)perylene	µg/kg	1840	2060	378 - 2900	Acceptable	EPA 8270D 3 2007	1/28/2014	0.811	1640	247	GHAFFARI_M
5580	Benzo(a)pyrene	µg/kg	3210	3730	934 - 5200	Acceptable	EPA 8270D 3 2007	1/28/2014	0.336	3070	429	GHAFFARI_M
5630	Benzyl alcohol	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5760	bis(2-Chloroethoxy)methane	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5765	bis(2-Chloroethyl)ether	µg/kg	5990	8720	1540 - 10200	Acceptable	EPA 8270D 3 2007	1/28/2014	0.0848	5850	1660	GHAFFARI_M
5780	bis(2-Chloroisopropyl)ether	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5660	4-Bromophenyl-phenylether	µg/kg	8980	9340	2960 - 12200	Acceptable	EPA 8270D 3 2007	1/28/2014	0.923	7590	1500	GHAFFARI_M
5670	Butylbenzylphthalate	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5680	Carbazole	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5745	4-Chloroaniline	µg/kg		< 1000	0.00 - 1000	Not Reported						



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

Page 14 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

5700	4-Chloro-3-methylphenol	µg/kg	1860	2180	218 - 2930	Acceptable	EPA 8270D 3 2007	1/28/2014	1.04	1550	303	GHAFFARI_M
5790	1-Chloronaphthalene	µg/kg		< 1000	0.00 - 1000	Not Reported						
5795	2-Chloronaphthalene	µg/kg	4310	5170	1160 - 6430	Acceptable	EPA 8270D 3 2007	1/28/2014	0.745	3790	693	GHAFFARI_M
5800	2-Chlorophenol	µg/kg	2110	2740	274 - 3300	Acceptable	EPA 8270D 3 2007	1/28/2014	0.810	1760	436	GHAFFARI_M
5825	4-Chlorophenyl-phenylether	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5855	Chrysene	µg/kg	2150	2110	656 - 3000	Acceptable	EPA 8270D 3 2007	1/28/2014	1.23	1830	261	GHAFFARI_M
5895	Dibenz(a,h)anthracene	µg/kg	3020	3640	948 - 5150	Acceptable	EPA 8270D 3 2007	1/28/2014	-0.0564	3050	512	GHAFFARI_M
5905	Dibenzofuran	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5925	Di-n-butylphthalate	µg/kg	2620	2400	368 - 3670	Acceptable	EPA 8270D 3 2007	1/28/2014	1.49	2020	402	GHAFFARI_M
4610	1,2-Dichlorobenzene	µg/kg		4920	492 - 5720	Not Reported				2980	916	
4615	1,3-Dichlorobenzene	µg/kg		7360	736 - 8430	Not Reported				4130	1420	
4620	1,4-Dichlorobenzene	µg/kg		< 150	0.00 - 150	Not Reported						
5945	3,3'-Dichlorobenzidine	µg/kg	< 3600	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6000	2,4-Dichlorophenol	µg/kg	3010	4000	508 - 4980	Acceptable	EPA 8270D 3 2007	1/28/2014	0.507	2740	526	GHAFFARI_M
6005	2,6-Dichlorophenol	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6070	Diethylphthalate	µg/kg	6010	6410	1360 - 8590	Acceptable	EPA 8270D 3 2007	1/28/2014	0.960	4980	1080	GHAFFARI_M
6130	2,4-Dimethylphenol	µg/kg	< 360	< 3000	0.00 - 3000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6135	Dimethylphthalate	µg/kg	2490	2810	596 - 3740	Acceptable	EPA 8270D 3 2007	1/28/2014	0.706	2170	454	GHAFFARI_M
6175	2,4-Dinitrophenol	µg/kg	< 360	< 3000	0.00 - 3000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6185	2,4-Dinitrotoluene	µg/kg	3600	4990	802 - 6730	Acceptable	EPA 8270D 3 2007	1/28/2014	-0.242	3770	693	GHAFFARI_M



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

Page 15 of 18





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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 3 2007	1/28/2014				GHAFFARI_M
6200	Di-n-octylphthalate	µg/kg	9210	9300	1490 - 14200	Acceptable	EPA 8270D 3 2007	1/28/2014	0.830	7870	1620	GHAFFARI_M
6065	bis(2-Ethylhexyl)phthalate	µg/kg	2370	2670	531 - 4010	Acceptable	EPA 8270D 3 2007	1/28/2014	0.260	2270	390	GHAFFARI_M
6265	Fluoranthene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6270	Fluorene	µg/kg	3410	4130	1240 - 5240	Acceptable	EPA 8270D 3 2007	1/28/2014	0.311	3240	551	GHAFFARI_M
6275	Hexachlorobenzene	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
4835	Hexachlorobutadiene	µg/kg	< 180	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6285	Hexachlorocyclopentadiene	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
4840	Hexachloroethane	µg/kg	6960	9330	933 - 10500	Acceptable	EPA 8270D 3 2007	1/28/2014	0.991	5230	1750	GHAFFARI_M
6315	Indeno(1,2,3-cd)pyrene	µg/kg	2890	3200	320 - 5310	Acceptable	EPA 8270D 3 2007	1/28/2014	0.241	2780	452	GHAFFARI_M
6320	Isophorone	µg/kg	< 60.0	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6360	4,6-Dinitro-2-methylphenol	µg/kg	< 60.0	< 3000	0.00 - 3000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6385	2-Methylnaphthalene	µg/kg	5750	7210	1980 - 8550	Acceptable	EPA 8270D 3 2007	1/28/2014	0.409	5270	1180	GHAFFARI_M
6400	2-Methylphenol	µg/kg	3500	6570	657 - 7230	Acceptable	EPA 8270D 3 2007	1/28/2014	1.31	2700	615	GHAFFARI_M
6410	4-Methylphenol	µg/kg	4110	5490	614 - 6040	Acceptable	EPA 8270D 3 2007	1/28/2014	1.84	2780	723	GHAFFARI_M
5005	Naphthalene	µg/kg	1410	1820	241 - 2280	Acceptable	EPA 8270D 3 2007	1/28/2014	0.624	1260	240	GHAFFARI_M
6460	2-Nitroaniline	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				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 3 2007	1/28/2014				GHAFFARI_M



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





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

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

6490	2-Nitrophenol	µg/kg	4540	6820	716 - 8280	Acceptable	EPA 8270D 3 2007	1/28/2014	0.0369	4500	1080	GHAFFARI_M
6500	4-Nitrophenol	µg/kg	597	3110	311 - 4410	Acceptable	EPA 8270D 3 2007	1/28/2014	-1.89	1860	669	GHAFFARI_M
6525	N-Nitrosodiethylamine	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6530	N-Nitrosodimethylamine	µg/kg	< 360	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6535	N-Nitrosodiphenylamine	µg/kg	< 60.0	< 1500	0.00 - 1500	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6545	N-Nitroso-di-n-propylamine	µg/kg	2820	3390	339 - 4690	Acceptable	EPA 8270D 3 2007	1/28/2014	0.668	2430	579	GHAFFARI_M
6590	Pentachlorobenzene	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6605	Pentachlorophenol	µg/kg	2410	4070	407 - 4480	Acceptable	EPA 8270D 3 2007	1/28/2014	0.944	1790	657	GHAFFARI_M
6615	Phenanthrene	µg/kg	2860	3190	971 - 4320	Acceptable	EPA 8270D 3 2007	1/28/2014	0.591	2650	362	GHAFFARI_M
6625	Phenol	µg/kg	5430	6920	692 - 8570	Acceptable	EPA 8270D 3 2007	1/28/2014	0.749	4610	1090	GHAFFARI_M
6665	Pyrene	µg/kg	< 6.70	< 100	0.00 - 100	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5095	Pyridine	µg/kg	< 360	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6715	1,2,4,5-Tetrachlorobenzene	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6735	2,3,4,6-Tetrachlorophenol	µg/kg	< 60.0	< 1000	0.00 - 1000	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
5155	1,2,4-Trichlorobenzene	µg/kg	< 180	< 150	0.00 - 150	Acceptable	EPA 8270D 3 2007	1/28/2014				GHAFFARI_M
6835	2,4,5-Trichlorophenol	µg/kg	8110	10300	1610 - 12700	Acceptable	EPA 8270D 3 2007	1/28/2014	0.537	7150	1790	GHAFFARI_M
6840	2,4,6-Trichlorophenol	µg/kg	3850	5320	940 - 6420	Acceptable	EPA 8270D 3 2007	1/28/2014	0.212	3680	800	GHAFFARI_M





A Waters Company

SOIL-85 2009 TNI Evaluation Final Complete Report

Thekkekalathil Chandrasekhar
QA Officer
State of Florida DEP Chemistry Laboratory
2600 Blair Stone Road
Room A416D, MS6512
Tallahassee, FL 32399-2400
(850) 245-8075

EPA ID:
ERA Customer Number:
Report Issued:
Study Dates:

FL01181
S744803
03/10/14
01/20/14 - 03/06/14

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
------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

SOIL Chlorinated Acid Herbicides in Soil (cat# 626)

8505	Acifluorfen	µg/kg	490	577	182 - 696	Acceptable	EPA 8321B 1998	2/6/2014	0.597	439	85.7	REDDY_S
8530	Bentazon	µg/kg	467	359	163 - 421	Not Acceptable	EPA 8321B 1998	2/6/2014	4.08	292	43.0	REDDY_S
8540	Chloramben	µg/kg		795	0.00 - 880	Not Reported				300	193	
8545	2,4-D	µg/kg	620	688	68.8 - 1170	Acceptable	EPA 8321B 1998	2/6/2014	0.781	425	249	REDDY_S
8560	2,4-DB	µg/kg	710	734	73.4 - 1130	Acceptable	EPA 8321B 1998	2/6/2014	1.13	456	225	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	453	469	46.9 - 734	Acceptable	EPA 8321B 1998	2/6/2014	1.11	288	149	REDDY_S
8600	3,5-Dichlorobenzoic acid	µg/kg		803	0.00 - 997	Not Reported				490	169	
8605	Dichlorprop	µg/kg	957	973	0.00 - 1410	Acceptable	EPA 8321B 1998	2/6/2014	1.41	556	284	REDDY_S
8620	Dinoseb	µg/kg	373	457	45.7 - 658	Acceptable	EPA 8321B 1998	2/6/2014	1.04	222	146	REDDY_S
7775	MCPA	µg/kg	< 13.0	< 1000	0.00 - 1000	Acceptable	EPA 8321B 1998	2/6/2014				REDDY_S
7780	MCPP	µg/kg	< 13.0	< 1000	0.00 - 1000	Acceptable	EPA 8321B 1998	2/6/2014				REDDY_S
6500	4-Nitrophenol	µg/kg		433	259 - 538	Not Reported				398	46.6	
6605	Pentachlorophenol	µg/kg		798	79.8 - 982	Not Reported				513	156	
8645	Picloram	µg/kg	227	336	0.00 - 520	Acceptable	EPA 8321B 1998	2/6/2014	0.172	209	104	REDDY_S
8655	2,4,5-T	µg/kg	337	368	36.8 - 616	Acceptable	EPA 8321B 1998	2/6/2014	0.875	222	131	REDDY_S
8650	2,4,5-TP (Silvex)	µg/kg	292	302	30.2 - 451	Acceptable	EPA 8321B 1998	2/6/2014	1.22	182	89.7	REDDY_S



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

Page 18 of 18

