



A Waters Company

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

SOIL-76



Final Report

Soil/Hazardous Waste Proficiency Testing

Soil Study

Open Date: 10/21/11

Close Date: 12/05/11

Report Issued Date: 12/21/11



A Waters Company

December 21, 2011

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-76 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-76 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-76 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-76 Definitions & Study Discussion

Study Dates: 10/21/11 - 12/05/11

Report Issued: 12/21/11

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. The assigned values are directly traceable to the commercially prepared starting materials used to manufacture the PT standards. 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-76 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-76 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-76 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-76 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

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2009 TNI Evaluation Check: There are no values reported with < where the assigned value was greater than 0.

2009 TNI Not Acceptable Evaluations: There were no Not Acceptable evaluations for this study.



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-76**

ERA Customer Number: **S744803**

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

Inorganic Results



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SOIL-76 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

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NELAC 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 Cyanide in Soil (cat# 621)

1635	Cyanide, total	mg/kg	50.4	70.0	7.00 - 110	Acceptable	EPA 9012B	11/3/2011	0.404	41.2	22.8	BRYANT_V
1923	Reactive Cyanide	mg/kg		< 25.0	0.00 - 25.0	Not Reported						

SOIL Ignitability/Flashpoint (cat# 874)

1780	Ignitability/Flashpoint	°F	146	145	128 - 162	Acceptable	EPA 1010A 2002	11/2/2011	0.309	144	7.12	KAUS_P
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01



2009 TNI Evaluation Report

Study: **SOIL-76**

ERA Customer Number: **S744803**

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

Organic Results



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SOIL-76 2009 TNI Evaluation Final Complete Report

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NELAC 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 Nitroaromatics & Nitramines in Soil (cat# 871)												
9306	4-Amino-2,6-dinitrotoluene	µg/kg		2170	1110 - 2650	Not Reported				1880	257	
9303	2-Amino-4,6-dinitrotoluene	µg/kg		1690	1060 - 2050	Not Reported				1550	165	
6160	1,3-Dinitrobenzene	µg/kg	3640	3770	2150 - 4880	Acceptable	EPA 8270D 3	10/27/2011	0.266	3520	455	GHAFFARI_M
6185	2,4-Dinitrotoluene	µg/kg		2340	240 - 3910	Not Reported				2080	235	
6190	2,6-Dinitrotoluene	µg/kg		2190	654 - 3570	Not Reported				2110	215	
9522	HMX	µg/kg		1600	936 - 2160	Not Reported				1550	204	
5015	Nitrobenzene	µg/kg		3580	678 - 5880	Not Reported				3280	413	
9507	2-Nitrotoluene	µg/kg		5310	3980 - 6070	Not Reported				5030	348	
9510	3-Nitrotoluene	µg/kg		6340	4340 - 7000	Not Reported				5670	445	
9513	4-Nitrotoluene	µg/kg		2560	1390 - 3320	Not Reported				2360	320	
9432	RDX	µg/kg		2960	1880 - 3640	Not Reported				2760	294	
6415	Tetryl	µg/kg		< 300	0.00 - 300	Not Reported				0.00	0.00	
6885	1,3,5-Trinitrobenzene	µg/kg	5500	5180	3040 - 6060	Acceptable	EPA 8270D 3	10/27/2011	1.89	4550	504	GHAFFARI_M
9651	2,4,6-Trinitrotoluene	µg/kg		2400	1190 - 2640	Not Reported				1790	200	



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SOIL Organochlorine Pesticides in Soil (cat# 468)

7025	Aldrin	µg/kg	221	304	81.1 - 360	Acceptable	EPA 8081B	11/15/2011	0.00845	221	45.0	NAGAR_V
7110	alpha-BHC	µg/kg	265	391	103 - 461	Acceptable	EPA 8081B	11/15/2011	-0.259	282	65.8	NAGAR_V
7115	beta-BHC	µg/kg	238	321	59.5 - 432	Acceptable	EPA 8081B	11/15/2011	-0.125	246	60.4	NAGAR_V
7105	delta-BHC	µg/kg	145	208	45.2 - 284	Acceptable	EPA 8081B	11/15/2011	-0.646	165	30.8	NAGAR_V
7120	gamma-BHC(Lindane)	µg/kg	80.5	118	18.9 - 160	Acceptable	EPA 8081B	11/15/2011	-0.519	89.4	17.1	NAGAR_V
7240	alpha-Chlordane	µg/kg	184	240	74.4 - 296	Acceptable	EPA 8081B	11/15/2011	-0.0307	185	34.2	NAGAR_V
7245	gamma-Chlordane	µg/kg	338	424	166 - 502	Acceptable	EPA 8081B	11/15/2011	0.0744	334	55.9	NAGAR_V
7355	4,4'-DDD	µg/kg	284	362	121 - 472	Acceptable	EPA 8081B	11/15/2011	-0.216	297	59.4	NAGAR_V
7360	4,4'-DDE	µg/kg	140	181	51.7 - 234	Acceptable	EPA 8081B	11/15/2011	-0.12	143	25.3	NAGAR_V
7365	4,4'-DDT	µg/kg	97.8	124	23.8 - 170	Acceptable	EPA 8081B	11/15/2011	0.0377	97.0	20.0	NAGAR_V
7470	Dieldrin	µg/kg	251	329	110 - 410	Acceptable	EPA 8081B	11/15/2011	-0.197	260	44.8	NAGAR_V
7540	Endrin	µg/kg	159	177	62.0 - 231	Acceptable	EPA 8081B	11/15/2011	0.414	147	29.6	NAGAR_V
7530	Endrin aldehyde	µg/kg	122	184	18.4 - 222	Acceptable	EPA 8081B	11/15/2011	0.321	113	28.1	NAGAR_V
7535	Endrin ketone	µg/kg	282	351	84.8 - 457	Acceptable	EPA 8081B	11/15/2011	0.206	271	53.7	NAGAR_V
7510	Endosulfan I	µg/kg	115	232	36.9 - 255	Acceptable	EPA 8081B	11/15/2011	-0.00441	115	30.6	NAGAR_V
7515	Endosulfan II	µg/kg	218	429	75.4 - 472	Acceptable	EPA 8081B	11/15/2011	0.0184	217	61.9	NAGAR_V
7520	Endosulfan sulfate	µg/kg	115	150	27.7 - 214	Acceptable	EPA 8081B	11/15/2011	-0.237	121	24.8	NAGAR_V
7685	Heptachlor	µg/kg	152	215	58.4 - 271	Acceptable	EPA 8081B	11/15/2011	-0.43	165	29.5	NAGAR_V
7690	Heptachlor epoxide	µg/kg	135	183	57.7 - 228	Acceptable	EPA 8081B	11/15/2011	-0.304	143	26.1	NAGAR_V
7810	Methoxychlor	µg/kg	177	183	18.3 - 315	Acceptable	EPA 8081B	11/15/2011	0.379	164	33.5	NAGAR_V

SOIL Chlordane in Soil (cat# 628)

7250	Chlordane, technical	µg/kg	286	402	74.2 - 518	Acceptable	EPA 8081B	11/15/2011	-0.127	296	78.6	NAGAR_V
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SOIL Toxaphene in Soil (cat# 627)

8250	Toxaphene	µg/kg	684	691	69.1 - 1070	Acceptable	EPA 8081B	11/15/2011	0.684	570	167	NAGAR_V
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





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SOIL Organophosphorus Pesticides in Soil (cat# 878)

7075	Azinphos-methyl (Guthion)	µg/kg	138	171	59.6 - 200	Acceptable	EPA 8141B	11/10/2011	0.361	130	23.3	CARBONE_I
7300	Chlorpyrifos	µg/kg	< 17.0	< 100	0.00 - 100	Acceptable	EPA 8141B	11/10/2011		163	0.00	CARBONE_I
7395	Demeton-O	µg/kg		< 100	0.00 - 100	Not Reported				0.00	0.00	
7385	Demeton-S	µg/kg		< 100	0.00 - 100	Not Reported				0.00	0.00	
7410	Diazinon	µg/kg	332	443	41.5 - 529	Acceptable	EPA 8141B	11/10/2011	0.576	285	81.2	CARBONE_I
8610	Dichlorvos (DDVP)	µg/kg		< 100	0.00 - 100	Not Reported				0.00	0.00	
8625	Disulfoton	µg/kg	719	872	98.2 - 959	Acceptable	EPA 8141B	11/10/2011	2.13	461	121	CARBONE_I
7955	Ethyl Parathion	µg/kg	282	321	102 - 399	Acceptable	EPA 8141B	11/10/2011	0.632	251	49.5	CARBONE_I
7770	Malathion	µg/kg	311	407	59.6 - 552	Acceptable	EPA 8141B	11/10/2011	0.0609	306	82.1	CARBONE_I
7825	Methyl Parathion	µg/kg	222	321	38.5 - 353	Acceptable	EPA 8141B	11/10/2011	0.572	193	51.4	CARBONE_I
7985	Phorate	µg/kg	271	346	119 - 381	Acceptable	EPA 8141B	11/10/2011	1.10	230	37.1	CARBONE_I
8110	Ronnel	µg/kg		939	216 - 1030	Not Reported				494	92.9	
8200	Stirophos (tetrachlorovinphos)	µg/kg		499	59.9 - 549	Not Reported				127	22.4	
8185	Terbufos	µg/kg	< 17.0	< 100	0.00 - 100	Acceptable	EPA 8141B	11/10/2011		0.00	0.00	CARBONE_I

SOIL PCBs in Soil (cat# 624)

8880	Aroclor 1016	mg/kg	< 0.0033	< 0.200	0.00 - 0.200	Acceptable	EPA 8082A	11/15/2011		1.30	1.10	NAGAR_V
8885	Aroclor 1221	mg/kg	< 0.0067	< 0.200	0.00 - 0.200	Acceptable	EPA 8082A	11/15/2011		0.00	0.00	NAGAR_V
8890	Aroclor 1232	mg/kg	1.52	1.75	0.200 - 2.76	Acceptable	EPA 8082A	11/15/2011	0.217	1.44	0.381	NAGAR_V
8895	Aroclor 1242	mg/kg	< 0.0033	< 0.200	0.00 - 0.200	Acceptable	EPA 8082A	11/15/2011		1.01	0.220	NAGAR_V
8900	Aroclor 1248	mg/kg	< 0.0033	< 0.200	0.00 - 0.200	Acceptable	EPA 8082A	11/15/2011		0.883	0.00	NAGAR_V
8905	Aroclor 1254	mg/kg	< 0.0050	< 0.200	0.00 - 0.200	Acceptable	EPA 8082A	11/15/2011		10.2	0.00	NAGAR_V
8910	Aroclor 1260	mg/kg	< 0.0033	< 0.200	0.00 - 0.200	Acceptable	EPA 8082A	11/15/2011		0.00	0.00	NAGAR_V



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

