



A Waters Company

Thekkekalathil Chandrasekhar
State of Florida DEP Chemistry Laboratory
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SOIL-82



Final Report

Soil/Hazardous Waste Proficiency Testing

Soil Study

Open Date: 04/22/13

Close Date: 06/06/13

Report Issued Date: 06/27/13



A Waters Company

June 27, 2013

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Enclosed is your final report for ERA's SOIL-82 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-82 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-82 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-82 Definitions & Study Discussion

Study Dates: 04/22/13 - 06/06/13

Report Issued: 06/27/13

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-82 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-82 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-82 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-82 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

There were no Not Acceptable evaluations for this study.



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-82**

ERA Customer Number: **S744803**

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

Inorganic Results



SOIL-82 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 Cyanide in Soil (cat# 621)

1635	Cyanide, total	mg/kg	49.8	46.7	8.94 - 53.1	Acceptable	EPA 9012B	5/16/2013	1.40	31.0	13.5	BRYANT_V
1923	Reactive Cyanide	mg/kg		< 25.0	0.00 - 25.0	Not Reported						
1510	Amenable Cyanide	mg/kg		< 25.0	0.00 - 25.0	Not Reported						

SOIL Ignitability/Flashpoint (cat# 874)

1780	Ignitability/Flashpoint	°F	115	111	94.0 - 128	Acceptable	EPA 1010A	5/6/2013	0.405	112	7.82	TOPOLSKI_B
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2009 TNI Evaluation Report

Study: **SOIL-82**

ERA Customer Number: **S744803**

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

Organic Results





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SOIL-82 2009 TNI Evaluation Final Complete Report

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SOIL Nitroaromatics & Nitramines in Soil (cat# 871)

9306	4-Amino-2,6-dinitrotoluene	µg/kg		< 1500	0.00 - 1500	Not Reported						
9303	2-Amino-4,6-dinitrotoluene	µg/kg		4540	2650 - 4990	Not Reported				3370	238	
6160	1,3-Dinitrobenzene	µg/kg	2820	3630	1940 - 3990	Acceptable	EPA 8270D 3	4/29/2013	-0.417	2960	340	GHAFFARI_M
6185	2,4-Dinitrotoluene	µg/kg		7090	1400 - 9770	Not Reported				5590	606	
6190	2,6-Dinitrotoluene	µg/kg		1760	318 - 2470	Not Reported				1390	190	
9522	HMX	µg/kg		2560	787 - 3240	Not Reported				2010	409	
5015	Nitrobenzene	µg/kg		9720	2060 - 13000	Not Reported				7520	1080	
9507	2-Nitrotoluene	µg/kg		2810	1740 - 3090	Not Reported				2390	217	
9510	3-Nitrotoluene	µg/kg		< 1500	0.00 - 1500	Not Reported						
9513	4-Nitrotoluene	µg/kg		8220	5240 - 9040	Not Reported				6690	481	
9432	RDX	µg/kg		2240	641 - 2650	Not Reported				1640	334	
6415	Tetryl	µg/kg		< 1500	0.00 - 1500	Not Reported						
6885	1,3,5-Trinitrobenzene	µg/kg	3980	4800	2250 - 5340	Acceptable	EPA 8270D 3	4/29/2013	0.356	3800	515	GHAFFARI_M
9651	2,4,6-Trinitrotoluene	µg/kg		6670	3290 - 7340	Not Reported				4410	375	



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

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SOIL-82 2009 TNI Evaluation Final Complete Report

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SOIL Organochlorine Pesticides in Soil (cat# 468)

7025	Aldrin	µg/kg	134	177	40.1 - 195	Acceptable	EPA 8081B 2	5/8/2013	0.762	116	23.4	NAGAR_V
7110	alpha-BHC	µg/kg	97.6	122	25.3 - 149	Acceptable	EPA 8081B 2	5/8/2013	0.516	87.4	19.8	NAGAR_V
7115	beta-BHC	µg/kg	99.3	124	14.5 - 170	Acceptable	EPA 8081B 2	5/8/2013	0.318	92.5	21.4	NAGAR_V
7105	delta-BHC	µg/kg	238	254	58.2 - 343	Acceptable	EPA 8081B 2	5/8/2013	0.922	200	40.6	NAGAR_V
7120	gamma-BHC(Lindane)	µg/kg	171	232	52.7 - 289	Acceptable	EPA 8081B 2	5/8/2013	0.0000850	171	37.8	NAGAR_V
7240	alpha-Chlordane	µg/kg	201	238	73.8 - 293	Acceptable	EPA 8081B 2	5/8/2013	0.481	184	36.3	NAGAR_V
7245	gamma-Chlordane	µg/kg	288	367	133 - 411	Acceptable	EPA 8081B 2	5/8/2013	0.270	272	59.6	NAGAR_V
7355	4,4'-DDD	µg/kg	177	199	52.9 - 262	Acceptable	EPA 8081B 2	5/8/2013	0.613	158	31.4	NAGAR_V
7360	4,4'-DDE	µg/kg	266	333	105 - 416	Acceptable	EPA 8081B 2	5/8/2013	0.0958	261	56.0	NAGAR_V
7365	4,4'-DDT	µg/kg	120	143	27.3 - 188	Acceptable	EPA 8081B 2	5/8/2013	0.488	108	24.9	NAGAR_V
7470	Dieldrin	µg/kg	154	190	51.4 - 232	Acceptable	EPA 8081B 2	5/8/2013	0.431	142	28.7	NAGAR_V
7540	Endrin	µg/kg	141	157	48.6 - 198	Acceptable	EPA 8081B 2	5/8/2013	0.665	123	26.9	NAGAR_V
7530	Endrin aldehyde	µg/kg	205	258	25.8 - 284	Acceptable	EPA 8081B 2	5/8/2013	1.15	148	49.2	NAGAR_V
7535	Endrin ketone	µg/kg	191	259	44.6 - 285	Acceptable	EPA 8081B 2	5/8/2013	1.22	154	30.3	NAGAR_V
7510	Endosulfan I	µg/kg	< 0.330	< 5.00	0.00 - 5.00	Acceptable	EPA 8081B 2	5/8/2013				NAGAR_V
7515	Endosulfan II	µg/kg	< 0.330	< 5.00	0.00 - 5.00	Acceptable	EPA 8081B 2	5/8/2013				NAGAR_V
7520	Endosulfan sulfate	µg/kg	271	313	58.8 - 396	Acceptable	EPA 8081B 2	5/8/2013	0.775	228	55.9	NAGAR_V
7685	Heptachlor	µg/kg	170	200	55.6 - 259	Acceptable	EPA 8081B 2	5/8/2013	0.357	157	35.8	NAGAR_V
7690	Heptachlor epoxide	µg/kg	136	155	47.1 - 190	Acceptable	EPA 8081B 2	5/8/2013	0.746	118	23.6	NAGAR_V
7810	Methoxychlor	µg/kg	210	224	22.4 - 332	Acceptable	EPA 8081B 2	5/8/2013	0.783	173	46.9	NAGAR_V



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

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SOIL Chlordane in Soil (cat# 628)

7250	Chlordane, technical	µg/kg	225	245	41.2 - 314	Acceptable	EPA 8081B 2	5/8/2013	0.981	178	48.1	NAGAR_V
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SOIL Toxaphene in Soil (cat# 627)

8250	Toxaphene	µg/kg	1210	1160	186 - 1760	Acceptable	EPA 8081B 2	5/8/2013	0.898	974	262	NAGAR_V
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SOIL Organophosphorus Pesticides in Soil (cat# 878)

7075	Azinphos-methyl (Guthion)	µg/kg	572	697	253 - 767	Acceptable	EPA 8141B	5/7/2013	1.18	482	76.2	CARBONE_I
7300	Chlorpyrifos	µg/kg	< 1.70	< 100	0.00 - 100	Acceptable	EPA 8141B	5/7/2013				CARBONE_I
7395	Demeton-O	µg/kg		< 100	0.00 - 100	Not Reported						
7385	Demeton-S	µg/kg		< 100	0.00 - 100	Not Reported						
7410	Diazinon	µg/kg	< 1.70	< 100	0.00 - 100	Acceptable	EPA 8141B	5/7/2013				CARBONE_I
8610	Dichlorvos (DDVP)	µg/kg		< 100	0.00 - 100	Not Reported						
8625	Disulfoton	µg/kg	666	837	142 - 921	Acceptable	EPA 8141B	5/7/2013	1.46	494	118	CARBONE_I
7955	Ethyl Parathion	µg/kg	553	678	297 - 746	Acceptable	EPA 8141B	5/7/2013	1.23	479	60.6	CARBONE_I
7770	Malathion	µg/kg	421	630	196 - 693	Acceptable	EPA 8141B	5/7/2013	0.832	372	58.7	CARBONE_I
7825	Methyl Parathion	µg/kg	376	534	0.00 - 606	Acceptable	EPA 8141B	5/7/2013	0.743	300	102	CARBONE_I
7985	Phorate	µg/kg	693	933	198 - 1040	Acceptable	EPA 8141B	5/7/2013	0.518	620	141	CARBONE_I
8110	Ronnel	µg/kg		< 100	0.00 - 100	Not Reported						
8200	Stirophos (tetrachlorovinphos)	µg/kg		< 100	0.00 - 100	Not Reported						
8185	Terbufos	µg/kg	482	543	192 - 744	Acceptable	EPA 8141B	5/7/2013	0.884	467	17.4	CARBONE_I



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

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SOIL PCBs in Soil (cat# 624)

8880	Aroclor 1016	mg/kg	< 0.00330	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	5/8/2013				NAGAR_V
8885	Aroclor 1221	mg/kg	< 0.00670	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	5/8/2013				NAGAR_V
8890	Aroclor 1232	mg/kg	< 0.00330	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	5/8/2013				NAGAR_V
8895	Aroclor 1242	mg/kg	< 0.00330	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	5/8/2013				NAGAR_V
8900	Aroclor 1248	mg/kg	6.60	5.97	1.32 - 8.93	Acceptable	EPA 8082A	5/8/2013	0.987	5.13	1.49	NAGAR_V
8905	Aroclor 1254	mg/kg	< 0.00500	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	5/8/2013				NAGAR_V
8910	Aroclor 1260	mg/kg	< 0.00330	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	5/8/2013				NAGAR_V

