



A Waters Company

Thekkekalathil Chandrasekhar
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USA

SOIL-88



Final Report

Soil/Hazardous Waste Proficiency Testing

Soil Study

Open Date: 10/20/14

Close Date: 12/04/14

Report Issued Date: 12/08/14



A Waters Company

December 8, 2014

Thekkekalathil Chandrasekhar
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Enclosed is your final report for ERA's SOIL-88 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-88 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-88 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



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SOIL-88 Definitions & Study Discussion

Study Dates: 10/20/14 - 12/04/14

Report Issued: 12/08/14

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-88 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-88 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-88 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-88 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-88**

ERA Customer Number: **S744803**

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

Inorganic Results



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SOIL-88 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	86.4	105	23.1 - 116	Acceptable	EPA 9012B	11/13/2014	0.895	59.9	29.6	BROWN_V
1923	Reactive Cyanide	mg/kg		< 200	0.00 - 200	Not Reported						
1510	Amenable Cyanide	mg/kg		< 200	0.00 - 200	Not Reported						

SOIL Ignitability/Flashpoint (cat# 874)

1780	Ignitability/Flashpoint	°F	145	145	128 - 162	Acceptable	EPA 1010A	11/5/2014	0.192	144	4.95	PETERSON_C
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Study # : SOIL-88



2009 TNI Evaluation Report

Study: **SOIL-88**

ERA Customer Number: **S744803**

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Organic Results



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SOIL-88 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		2330	469 - 3370	Not Reported				1920	483	
9303	2-Amino-4,6-dinitrotoluene	µg/kg		2230	1310 - 2450	Not Reported				1750	148	
6160	1,3-Dinitrobenzene	µg/kg	3190	3630	2190 - 4660	Acceptable	EPA 8270D 3	10/29/2014	-0.580	3430	412	GHAFFARI_M
6185	2,4-Dinitrotoluene	µg/kg		7730	1850 - 12000	Not Reported				6920	903	
6190	2,6-Dinitrotoluene	µg/kg		3560	1240 - 5500	Not Reported				3370	442	
9522	HMX	µg/kg		1760	1100 - 2070	Not Reported				1590	161	
5015	Nitrobenzene	µg/kg		4340	928 - 7170	Not Reported				4050	411	
9507	2-Nitrotoluene	µg/kg		6000	4580 - 6670	Not Reported				5620	348	
9510	3-Nitrotoluene	µg/kg		3250	2390 - 3980	Not Reported				3180	264	
9513	4-Nitrotoluene	µg/kg		8670	6910 - 9830	Not Reported				8370	487	
9432	RDX	µg/kg		2610	1580 - 2950	Not Reported				2270	229	
6415	Tetryl	µg/kg		< 1500	0.00 - 1500	Not Reported						
6885	1,3,5-Trinitrobenzene	µg/kg	3870	4090	2320 - 4990	Acceptable	EPA 8270D 3	10/29/2014	0.482	3660	445	GHAFFARI_M
9651	2,4,6-Trinitrotoluene	µg/kg		7470	2470 - 8220	Not Reported				4780	770	



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SOIL Organochlorine Pesticides in Soil (cat# 468)

7025	Aldrin	µg/kg	202	236	71.7 - 322	Acceptable	EPA 8270D 3	10/31/2014	0.152	197	35.4	TOPOLSKI_M
7110	alpha-BHC	µg/kg	172	201	61.4 - 294	Acceptable	EPA 8270D 3	10/31/2014	-0.174	178	33.3	TOPOLSKI_M
7115	beta-BHC	µg/kg	186	197	37.7 - 305	Acceptable	EPA 8270D 3	10/31/2014	0.436	171	33.4	TOPOLSKI_M
7105	delta-BHC	µg/kg	239	236	65.0 - 374	Acceptable	EPA 8270D 3	10/31/2014	0.399	219	49.3	TOPOLSKI_M
7120	gamma-BHC(Lindane)	µg/kg	101	103	20.7 - 166	Acceptable	EPA 8270D 3	10/31/2014	0.433	93.5	17.2	TOPOLSKI_M
7240	alpha-Chlordane	µg/kg	211	206	73.0 - 290	Acceptable	EPA 8270D 3	10/31/2014	0.916	182	32.1	TOPOLSKI_M
7245	gamma-Chlordane	µg/kg	114	117	42.5 - 159	Acceptable	EPA 8270D 3	10/31/2014	0.793	101	16.8	TOPOLSKI_M
7355	4,4'-DDD	µg/kg	187	184	55.7 - 271	Acceptable	EPA 8270D 3	10/31/2014	0.673	163	35.1	TOPOLSKI_M
7360	4,4'-DDE	µg/kg	218	214	75.0 - 314	Acceptable	EPA 8270D 3	10/31/2014	0.578	194	40.9	TOPOLSKI_M
7365	4,4'-DDT	µg/kg	158	136	32.3 - 214	Acceptable	EPA 8270D 3	10/31/2014	1.13	123	30.9	TOPOLSKI_M
7470	Dieldrin	µg/kg	275	253	91.7 - 354	Acceptable	EPA 8270D 3	10/31/2014	1.23	223	42.2	TOPOLSKI_M
7540	Endrin	µg/kg	164	138	52.1 - 206	Acceptable	EPA 8270D 3	10/31/2014	1.50	129	23.1	TOPOLSKI_M
7530	Endrin aldehyde	µg/kg	81.2	147	14.7 - 184	Acceptable	EPA 8270D 3	10/31/2014	-0.323	90.6	29.2	TOPOLSKI_M
7535	Endrin ketone	µg/kg	174	177	42.9 - 255	Acceptable	EPA 8270D 3	10/31/2014	0.697	149	35.9	TOPOLSKI_M
7510	Endosulfan I	µg/kg	351	358	119 - 474	Acceptable	EPA 8270D 3	10/31/2014	1.01	296	54.2	TOPOLSKI_M
7515	Endosulfan II	µg/kg	294	297	78.9 - 373	Acceptable	EPA 8270D 3	10/31/2014	1.29	226	52.7	TOPOLSKI_M
7520	Endosulfan sulfate	µg/kg	273	255	57.8 - 390	Acceptable	EPA 8270D 3	10/31/2014	0.796	224	61.7	TOPOLSKI_M
7685	Heptachlor	µg/kg	143	167	50.5 - 237	Acceptable	EPA 8270D 3	10/31/2014	-0.0303	144	29.1	TOPOLSKI_M
7690	Heptachlor epoxide	µg/kg	238	239	88.3 - 339	Acceptable	EPA 8270D 3	10/31/2014	0.631	214	38.4	TOPOLSKI_M
7810	Methoxychlor	µg/kg	280	264	26.4 - 435	Acceptable	EPA 8270D 3	10/31/2014	0.848	230	58.4	TOPOLSKI_M



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SOIL Chlordane in Soil (cat# 628)

7250	Chlordane, technical	µg/kg	675	624	128 - 847	Acceptable	EPA 8276	11/1/2014	1.54	487	122	TOPOLSKI_M
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SOIL Toxaphene in Soil (cat# 627)

8250	Toxaphene	µg/kg	957	1470	147 - 1880	Acceptable	EPA 8276	11/1/2014	-0.133	996	296	TOPOLSKI_M
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SOIL Organophosphorus Pesticides in Soil (cat# 878)

7075	Azinphos-methyl (Guthion)	µg/kg	621	734	30.3 - 1180	Acceptable	EPA 8141B	11/15/2014	0.697	522	143	BURGOS_J
7300	Chlorpyrifos	µg/kg	< 1.70	< 100	0.00 - 100	Acceptable	EPA 8141B	11/15/2014				BURGOS_J
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	11/15/2014				BURGOS_J
8610	Dichlorvos (DDVP)	µg/kg		< 100	0.00 - 100	Not Reported						
8625	Disulfoton	µg/kg	609	750	14.2 - 883	Acceptable	EPA 8141B	11/15/2014	5.21	389	42.2	BURGOS_J
7955	Ethyl Parathion	µg/kg	890	964	124 - 1460	Acceptable	EPA 8141B	11/15/2014	0.981	729	164	BURGOS_J
7770	Malathion	µg/kg	694	798	88.8 - 1100	Acceptable	EPA 8141B	11/15/2014	1.37	523	124	BURGOS_J
7825	Methyl Parathion	µg/kg	704	822	98.6 - 1090	Acceptable	EPA 8141B	11/15/2014	1.21	544	132	BURGOS_J
7985	Phorate	µg/kg	504	598	76.5 - 687	Acceptable	EPA 8141B	11/15/2014	1.13	396	94.9	BURGOS_J
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	659	726	257 - 994	Acceptable	EPA 8141B	11/15/2014	0.707	598	86.3	BURGOS_J



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SOIL PCBs in Soil (cat# 624)

8880	Aroclor 1016	mg/kg	< 0.000670	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	11/1/2014				TOPOLSKI_M
8885	Aroclor 1221	mg/kg	< 0.000670	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	11/1/2014				TOPOLSKI_M
8890	Aroclor 1232	mg/kg	< 0.000670	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	11/1/2014				TOPOLSKI_M
8895	Aroclor 1242	mg/kg	< 0.000670	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	11/1/2014				TOPOLSKI_M
8900	Aroclor 1248	mg/kg	3.26	3.27	0.709 - 5.79	Acceptable	EPA 8082A	11/4/2014	0.0117	3.25	0.718	TOPOLSKI_M
8905	Aroclor 1254	mg/kg	< 0.000670	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	11/1/2014				TOPOLSKI_M
8910	Aroclor 1260	mg/kg	< 0.000670	< 0.100	0.00 - 0.100	Acceptable	EPA 8082A	11/1/2014				TOPOLSKI_M



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CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for
SOIL-88

State of Florida DEP Chemistry Laboratory

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 252 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Chlordane in Soil

Ignitability/Flashpoint

Organochlorine Pesticides in
Soil

PCBs in Soil

Cyanide in Soil

Nitroaromatics & Nitramines in
Soil

Organophosphorus Pesticides
in Soil

Toxaphene in Soil



Kristina Sanchez
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