

Pam M. Varner
Analytical Services Inc
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Norcross, GA 30092

SOIL-71  **Final Report**

Soil/Hazardous Waste Proficiency Testing

Soil Study

Open Date: 07/19/10

Close Date: 09/02/10

Report Issued Date: 09/23/10

September 23, 2010

Pam M. Varner
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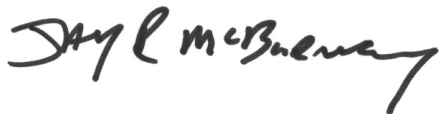
Enclosed is your final report for ERA's SOIL-71 Proficiency Testing (PT) study. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All analytes in ERA's SOIL-71 Proficiency Testing (PT) study have been evaluated using the following tiered approach. If the analyte is listed in the most current National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing tables, the evaluation was completed by comparing the reported result to the acceptance limits generated using the criteria contained in the NELAC FoPT tables. If the analyte is not included in the NELAC 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 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-71 Proficiency Testing study. If you have any questions, please contact the proficiency testing department or myself at 1-800-372-0122.

Sincerely,



Jay R. McBurney
Quality Program Manager

attachments
jrm

Report Recipient	Contact/Phone Number	Reporting Type
Florida	Steve Arms / 904-791-1502	All Analytes
Louisiana	Paul Bergeron / 225-219-1244	All Analytes
North Carolina (WP)	Dana Satterwhite / 919-733-3908 x 243	Custom Reporting
Texas	Frank Jamison / (512) 239-3754	All Analytes

SOIL-71 Definitions & Study Discussion

Study Dates: 07/19/10 - 09/02/10

Report Issued: 09/23/10

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. All NELAC parameters not added to a standard are given an assigned Value of "0", per the guidance issued by the NELAC Board of Directors, on December 14, 2000. Non-NELAC parameters not added to a standard may be given an assigned value of less than a minimum verified concentration as determined in the background soil for applicable EPA methodologies.

The Acceptance Limits are established per the NELAC PT program criteria 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-71 Proficiency Testing (PT) study has been reviewed by ERA senior management and certified compliant with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC), Proficiency Testing Program Standards, Chapter 2, July 2003.

Per the requirements of the NELAC Proficiency Testing Program, a full review of all homogeneity, stability and accuracy verification data was completed. All analytical verification data for all analytes in the Soil study standards met the acceptance criteria contained in the NELAC Proficiency Testing Program Standards, Chapter 2, July 2003. If the analyte is included in the NELAC Fields of Testing list, the acceptance limits were calculated based on the NELAC Proficiency Testing Program Standards, Chapter 2, July 2003. If the analyte is not included in the NELAC Fields of Testing list, the acceptance limits were calculated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0).

The data submitted by participating laboratories was also examined for study anomalies. There was one anomaly observed during the statistical review of the data. If your laboratory received the Ready-to-Use VOAs standard, catalog #870, this anomaly is addressed on the following page.

ERA's SOIL-71 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 Jay McBurney, Quality Program Manager, or the proficiency testing department at 1-800-372-0122.



Study: **SOIL-71**

ERA Customer Number: **A520001**

Laboratory Name: **Analytical Services Inc**

Inorganic Results



SOIL-71 Final Complete Report

Pam M. Varner
 PT Manager
 Analytical Services Inc
 110 Technology Pkwy
 Norcross, GA 30092
 770-734-4200

EPA ID: GA00051
 ERA Customer Number: A520001
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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
SOIL Metals in Soil (cat# 620)							
1000	Aluminum	mg/kg	6220	10100	3800 - 14200	Acceptable	EPA 6010C
1005	Antimony	mg/kg	72.1	244	24.4 - 308	Acceptable	EPA 6010C
1010	Arsenic	mg/kg	102	110	64.0 - 121	Acceptable	EPA 6010C
1015	Barium	mg/kg	167	176	123 - 215	Acceptable	EPA 6010C
1020	Beryllium	mg/kg	68.2	67.8	45.8 - 79.0	Acceptable	EPA 6010C
1025	Boron	mg/kg	94.1	132	62.4 - 150	Acceptable	EPA 6010C
1030	Cadmium	mg/kg	68.3	67.9	45.2 - 78.4	Acceptable	EPA 6010C
1035	Calcium	mg/kg	6620	6380	4540 - 7760	Acceptable	EPA 6010C
1040	Chromium	mg/kg	74.6	76.9	48.8 - 93.8	Acceptable	EPA 6010C
1050	Cobalt	mg/kg	109	113	76.9 - 130	Acceptable	EPA 6010C
1055	Copper	mg/kg	86.3	91.1	59.9 - 102	Acceptable	EPA 6010C
1070	Iron	mg/kg	11900	15000	4080 - 21600	Acceptable	EPA 6010C
1075	Lead	mg/kg	106	100	65.0 - 120	Acceptable	EPA 6010C
1085	Magnesium	mg/kg	2610	2760	1700 - 3600	Acceptable	EPA 6010C
1090	Manganese	mg/kg	334	278	213 - 360	Acceptable	EPA 6010C
1095	Mercury	mg/kg		3.78	1.92 - 5.62	Not Reported	
1100	Molybdenum	mg/kg	41.2	54.8	27.8 - 60.3	Acceptable	EPA 6010C
1105	Nickel	mg/kg	62.1	66.1	41.5 - 76.8	Acceptable	EPA 6010C
1125	Potassium	mg/kg	2330	2690	1550 - 3530	Acceptable	EPA 6010C
1140	Selenium	mg/kg	95.0	99.4	57.5 - 121	Acceptable	EPA 6010C
1150	Silver	mg/kg	38.1	37.2	22.6 - 46.2	Acceptable	EPA 6010C
1155	Sodium	mg/kg	175	222	61.1 - 380	Acceptable	EPA 6010C
1160	Strontium	mg/kg	64.6	71.0	50.4 - 93.7	Acceptable	EPA 6010C
1165	Thallium	mg/kg	140	135	83.1 - 162	Acceptable	EPA 6010C
1175	Tin	mg/kg	108	118	61.3 - 152	Acceptable	EPA 6010C
1180	Titanium	mg/kg	104	208	0.00 - 427	Acceptable	EPA 6010C
1185	Vanadium	mg/kg	58.6	64.3	32.4 - 85.9	Acceptable	EPA 6010C
1190	Zinc	mg/kg	154	147	94.9 - 186	Acceptable	EPA 6010C



SOIL-71 Final Complete Report

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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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SOIL Metals in Soil (cat# 620)

1000	Aluminum	mg/kg		10100	3800 - 14200	Not Reported	
1005	Antimony	mg/kg		244	24.4 - 308	Not Reported	
1010	Arsenic	mg/kg		110	64.0 - 121	Not Reported	
1015	Barium	mg/kg		176	123 - 215	Not Reported	
1020	Beryllium	mg/kg		67.8	45.8 - 79.0	Not Reported	
1025	Boron	mg/kg		132	62.4 - 150	Not Reported	
1030	Cadmium	mg/kg		67.9	45.2 - 78.4	Not Reported	
1035	Calcium	mg/kg		6380	4540 - 7760	Not Reported	
1040	Chromium	mg/kg		76.9	48.8 - 93.8	Not Reported	
1050	Cobalt	mg/kg		113	76.9 - 130	Not Reported	
1055	Copper	mg/kg		91.1	59.9 - 102	Not Reported	
1070	Iron	mg/kg		15000	4080 - 21600	Not Reported	
1075	Lead	mg/kg		100	65.0 - 120	Not Reported	
1085	Magnesium	mg/kg		2760	1700 - 3600	Not Reported	
1090	Manganese	mg/kg		278	213 - 360	Not Reported	
1095	Mercury	mg/kg	3.89	3.78	1.92 - 5.62	Acceptable	EPA 7471B
1100	Molybdenum	mg/kg		54.8	27.8 - 60.3	Not Reported	
1105	Nickel	mg/kg		66.1	41.5 - 76.8	Not Reported	
1125	Potassium	mg/kg		2690	1550 - 3530	Not Reported	
1140	Selenium	mg/kg		99.4	57.5 - 121	Not Reported	
1150	Silver	mg/kg		37.2	22.6 - 46.2	Not Reported	
1155	Sodium	mg/kg		222	61.1 - 380	Not Reported	
1160	Strontium	mg/kg		71.0	50.4 - 93.7	Not Reported	
1165	Thallium	mg/kg		135	83.1 - 162	Not Reported	
1175	Tin	mg/kg		118	61.3 - 152	Not Reported	
1180	Titanium	mg/kg		208	0.00 - 427	Not Reported	
1185	Vanadium	mg/kg		64.3	32.4 - 85.9	Not Reported	
1190	Zinc	mg/kg		147	94.9 - 186	Not Reported	

SOIL Hexavalent Chromium in Soil (cat# 876)

1045	Chromium VI	mg/kg	58.9	87.4	8.74 - 120	Acceptable	EPA 7196A
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 770-734-4200

EPA ID: GA00051
 ERA Customer Number: A520001
 Report Issued: 09/23/10
 Study Dates: 07/19/10 - 09/02/10

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
SOIL TCLP Metals in Soil (cat# 629)							
1005	Antimony	mg/L	3.73	4.12	2.14 - 5.01	Acceptable	EPA 6010C
1010	Arsenic	mg/L	3.24	2.51	1.36 - 4.12	Acceptable	EPA 6010C
1015	Barium	mg/L	1.75	2.03	1.14 - 2.72	Acceptable	EPA 6010C
1020	Beryllium	mg/L	1.65	1.66	0.247 - 2.64	Acceptable	EPA 6010C
1030	Cadmium	mg/L	2.74	2.72	1.59 - 3.51	Acceptable	EPA 6010C
1040	Chromium	mg/L	2.73	2.84	1.31 - 3.66	Acceptable	EPA 6010C
1075	Lead	mg/L	20.6	18.4	7.39 - 26.2	Acceptable	EPA 6010C
1095	Mercury	mg/L		0.816	0.0948 - 1.94	Not Reported	
1105	Nickel	mg/L	2.40	2.21	1.16 - 2.63	Acceptable	EPA 6010C
1140	Selenium	mg/L	2.43	2.74	1.47 - 3.29	Acceptable	EPA 6010C
1150	Silver	mg/L	2.78	3.67	0.826 - 6.62	Acceptable	EPA 6010C
1190	Zinc	mg/L	3.41	3.50	1.79 - 4.18	Acceptable	EPA 6010C

SOIL TCLP Metals in Soil (cat# 629)							
1005	Antimony	mg/L		4.12	2.14 - 5.01	Not Reported	
1010	Arsenic	mg/L		2.51	1.36 - 4.12	Not Reported	
1015	Barium	mg/L		2.03	1.14 - 2.72	Not Reported	
1020	Beryllium	mg/L		1.66	0.247 - 2.64	Not Reported	
1030	Cadmium	mg/L		2.72	1.59 - 3.51	Not Reported	
1040	Chromium	mg/L		2.84	1.31 - 3.66	Not Reported	
1075	Lead	mg/L		18.4	7.39 - 26.2	Not Reported	
1095	Mercury	mg/L	1.05	0.816	0.0948 - 1.94	Acceptable	EPA 7470A
1105	Nickel	mg/L		2.21	1.16 - 2.63	Not Reported	
1140	Selenium	mg/L		2.74	1.47 - 3.29	Not Reported	
1150	Silver	mg/L		3.67	0.826 - 6.62	Not Reported	
1190	Zinc	mg/L		3.50	1.79 - 4.18	Not Reported	

SOIL Anions in Soil (cat# 873)							
1540	Bromide	mg/kg		44.1	29.9 - 48.5	Not Reported	
1575	Chloride	mg/kg		149	104 - 172	Not Reported	
1730	Fluoride	mg/kg		294	29.4 - 323	Not Reported	
1810	Nitrate as N	mg/kg	126	204	122 - 224	Acceptable	EPA 353.2
1870	Phosphate as P	mg/kg		195	20.0 - 214	Not Reported	
2000	Sulfate	mg/kg		289	160 - 328	Not Reported	

SOIL Anions in Soil (cat# 873)							
1540	Bromide	mg/kg	37.6	44.1	29.9 - 48.5	Acceptable	EPA 9056A
1575	Chloride	mg/kg	155	149	104 - 172	Acceptable	EPA 9056A
1730	Fluoride	mg/kg	57.1	294	29.4 - 323	Acceptable	EPA 9056A
1810	Nitrate as N	mg/kg	146	204	122 - 224	Acceptable	EPA 9056A
1870	Phosphate as P	mg/kg		195	20.0 - 214	Not Reported	
2000	Sulfate	mg/kg	223	289	160 - 328	Acceptable	EPA 9056A



SOIL-71 Final Complete Report

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 ERA Customer Number: A520001
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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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SOIL Cyanide in Soil (cat# 621)

1635	Cyanide, total	mg/kg	15.0	33.1	16.0 - 40.4	Not Acceptable	EPA 9010C/9014
1640	Reactive Cyanide	mg/kg		< 25.0		Not Reported	

SOIL Nutrients in Soil (cat# 869)

1515	Ammonia as N	mg/kg	720	847	380 - 1010	Acceptable	EPA 350.1
1795	Total Kjeldahl Nitrogen	mg/kg	1270	1400	297 - 2020	Acceptable	EPA 351.2
2040	Total Organic Carbon (TOC)	mg/kg		2420	242 - 4500	Not Reported	
1910	Total Phosphorus	mg/kg		398	179 - 600	Not Reported	

SOIL Nutrients in Soil (cat# 869)

1515	Ammonia as N	mg/kg		847	380 - 1010	Not Reported	
1795	Total Kjeldahl Nitrogen	mg/kg		1400	297 - 2020	Not Reported	
2040	Total Organic Carbon (TOC)	mg/kg		2420	242 - 4500	Not Reported	
1910	Total Phosphorus	mg/kg	356	398	179 - 600	Acceptable	EPA 6010C

SOIL Corrosivity/pH in Soil (cat# 875)

1625	Corrosivity (pH)	S.U.	7.45	7.51	6.91 - 8.11	Acceptable	EPA 9045D
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SOIL Ignitability/Flashpoint (cat# 874)

1780	Ignitability/Flashpoint	°F	110	109	92.0 - 126	Acceptable	EPA 1010A
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Study: **SOIL-71**

ERA Customer Number: **A520001**

Laboratory Name: **Analytical Services Inc**

Organic Results



SOIL-71 Final Complete Report

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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
SOIL Volatiles in Soil (cat# 623)							
4315	Acetone	µg/kg	167	253	32.8 - 412	Acceptable	EPA 8260B
4320	Acetonitrile	µg/kg	709	902	419 - 1190	Acceptable	EPA 8260B
4325	Acrolein	µg/kg	< 50	0.00		Acceptable	EPA 8260B
4375	Benzene	µg/kg	26.4	28.4	15.2 - 40.6	Acceptable	EPA 8260B
4385	Bromobenzene	µg/kg	< 10	0.00		Acceptable	EPA 8260B
4395	Bromodichloromethane	µg/kg	< 10	0.00		Acceptable	EPA 8260B
4400	Bromoform	µg/kg	175	161	81.8 - 239	Acceptable	EPA 8260B
4950	Bromomethane	µg/kg	157	125	20.0 - 203	Acceptable	EPA 8260B
4410	2-Butanone (MEK)	µg/kg	362	367	136 - 556	Acceptable	EPA 8260B
5000	tert-Butyl methyl ether (MTBE)	µg/kg	< 7.8	0.00		Acceptable	EPA 8260B
4450	Carbon disulfide	µg/kg	< 10	0.00		Acceptable	EPA 8260B
4455	Carbon tetrachloride	µg/kg	85.6	86.0	42.0 - 127	Acceptable	EPA 8260B
4475	Chlorobenzene	µg/kg	127	156	88.4 - 216	Acceptable	EPA 8260B
4575	Chlorodibromomethane	µg/kg	135	124	75.5 - 171	Acceptable	EPA 8260B
4485	Chloroethane	µg/kg	< 20	0.00		Acceptable	EPA 8260B
4500	2-Chloroethylvinylether	µg/kg	< 10	0.00		Acceptable	EPA 8260B
4505	Chloroform	µg/kg	67.0	72.2	43.3 - 101	Acceptable	EPA 8260B
4960	Chloromethane	µg/kg	< 20	0.00		Acceptable	EPA 8260B
4570	1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	169	140	74.0 - 214	Acceptable	EPA 8260B
4585	1,2-Dibromoethane (EDB)	µg/kg	94.0	84.8	54.4 - 120	Acceptable	EPA 8260B
4595	Dibromomethane	µg/kg	< 10	0.00		Acceptable	EPA 8260B
4610	1,2-Dichlorobenzene	µg/kg	< 9	0.00		Acceptable	EPA 8260B
4615	1,3-Dichlorobenzene	µg/kg	149	167	65.5 - 246	Acceptable	EPA 8260B
4620	1,4-Dichlorobenzene	µg/kg	186	193	66.4 - 273	Acceptable	EPA 8260B
4625	Dichlorodifluoromethane (Freon 12)	µg/kg	< 20	0.00		Acceptable	EPA 8260B
4630	1,1-Dichloroethane	µg/kg	59.3	61.2	34.3 - 88.8	Acceptable	EPA 8260B
4635	1,2-Dichloroethane	µg/kg	194	191	110 - 264	Acceptable	EPA 8260B
4640	1,1-Dichloroethylene	µg/kg	< 10	0.00		Acceptable	EPA 8260B
4645	cis-1,2-Dichloroethylene	µg/kg	119	120	66.2 - 181	Acceptable	EPA 8260B
4700	trans-1,2-Dichloroethylene	µg/kg	< 10	0.00		Acceptable	EPA 8260B
4655	1,2-Dichloropropane	µg/kg	184	194	113 - 258	Acceptable	EPA 8260B
4680	cis-1,3-Dichloropropylene	µg/kg	< 10	0.00		Acceptable	EPA 8260B



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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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SOIL Volatiles in Soil (cat# 623) (Continued)

4685	trans-1,3-Dichloropropylene	µg/kg	36.2	43.8	22.1 - 57.0	Acceptable	EPA 8260B
4765	Ethylbenzene	µg/kg	36.1	46.1	24.4 - 68.3	Acceptable	EPA 8260B
4860	2-Hexanone	µg/kg	319	356	145 - 549	Acceptable	EPA 8260B
4900	Isopropylbenzene	µg/kg	38.1	46.6	27.8 - 70.1	Acceptable	EPA 8260B
4975	Methylene chloride	µg/kg	78.4	90.4	42.1 - 132	Acceptable	EPA 8260B
4995	4-Methyl-2-pentanone (MIBK)	µg/kg	377	376	168 - 541	Acceptable	EPA 8260B
5005	Naphthalene	µg/kg	81.2	102	48.9 - 153	Acceptable	EPA 8260B
5100	Styrene	µg/kg	57.1	65.8	43.1 - 91.4	Acceptable	EPA 8260B
5105	1,1,1,2-Tetrachloroethane	µg/kg	48.5	49.8	31.9 - 70.1	Acceptable	EPA 8260B
5110	1,1,2,2-Tetrachloroethane	µg/kg	< 8.9	0.00		Acceptable	EPA 8260B
5115	Tetrachloroethylene	µg/kg	85.8	91.8	41.0 - 133	Acceptable	EPA 8260B
5140	Toluene	µg/kg	133	148	85.3 - 208	Acceptable	EPA 8260B
5155	1,2,4-Trichlorobenzene	µg/kg	109	142	68.6 - 232	Acceptable	EPA 8260B
5160	1,1,1-Trichloroethane	µg/kg	< 9	0.00		Acceptable	EPA 8260B
5165	1,1,2-Trichloroethane	µg/kg	54.4	53.9	32.5 - 76.3	Acceptable	EPA 8260B
5170	Trichloroethylene	µg/kg	33.4	34.6	17.3 - 49.6	Acceptable	EPA 8260B
5175	Trichlorofluoromethane	µg/kg	< 20	0.00		Acceptable	EPA 8260B
5180	1,2,3-Trichloropropane (TCP)	µg/kg	109	176	82.0 - 262	Acceptable	EPA 8260B
5225	Vinyl acetate	µg/kg	< 10	0.00		Acceptable	EPA 8260B
5235	Vinyl chloride	µg/kg	124	112	35.2 - 217	Acceptable	EPA 8260B
5260	Xylenes, total	µg/kg	182	228	112 - 335	Acceptable	EPA 8260B

SOIL Low-Level PAHs in Soil (cat# 625)

5500	Acenaphthene	µg/kg	490	646	87.2 - 728	Acceptable	EPA 8310
5505	Acenaphthylene	µg/kg	300	384	38.4 - 492	Acceptable	EPA 8310
5555	Anthracene	µg/kg	83	116	20.0 - 146	Acceptable	EPA 8310
5575	Benzo(a)anthracene	µg/kg	60	419	128 - 509	Not Acceptable	EPA 8310
5585	Benzo(b)fluoranthene	µg/kg	56	70.5	16.3 - 90.8	Acceptable	EPA 8310
5600	Benzo(k)fluoranthene	µg/kg	340	439	129 - 530	Acceptable	EPA 8310
5590	Benzo(g,h,i)perylene	µg/kg	330	433	43.3 - 592	Acceptable	EPA 8310
5580	Benzo(a)pyrene	µg/kg	300	422	79.6 - 520	Acceptable	EPA 8310
5855	Chrysene	µg/kg	330	75.7	15.3 - 102	Not Acceptable	EPA 8310
5895	Dibenz(a,h)anthracene	µg/kg	160	215	42.7 - 259	Acceptable	EPA 8310
6265	Fluoranthene	µg/kg	610	780	219 - 961	Acceptable	EPA 8310
6270	Fluorene	µg/kg	230	307	48.5 - 356	Acceptable	EPA 8310
6315	Indeno(1,2,3-cd)pyrene	µg/kg	160	186	31.9 - 264	Acceptable	EPA 8310
5005	Naphthalene	µg/kg	530	712	71.2 - 818	Acceptable	EPA 8310
6615	Phenanthrene	µg/kg	310	351	96.3 - 450	Acceptable	EPA 8310
6665	Pyrene	µg/kg	310	404	104 - 492	Acceptable	EPA 8310



SOIL-71 Final Complete Report

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EPA ID: GA00051
 ERA Customer Number: A520001
 Report Issued: 09/23/10
 Study Dates: 07/19/10 - 09/02/10

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
SOIL Base/Neutrals and Acids in Soil (cat# 467)							
5500	Acenaphthene	µg/kg	6230	8640	2260 - 9740	Acceptable	EPA 8270D
5505	Acenaphthylene	µg/kg	4130	6060	1420 - 7410	Acceptable	EPA 8270D
5145	2-Amino-1-methylbenzene (o-toluidine)	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5545	Aniline	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5555	Anthracene	µg/kg	5630	7590	1860 - 9280	Acceptable	EPA 8270D
5595	Benzidine	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5610	Benzoic acid	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5575	Benzo(a)anthracene	µg/kg	3100	4090	1300 - 5150	Acceptable	EPA 8270D
5585	Benzo(b)fluoranthene	µg/kg	4070	6210	1680 - 8000	Acceptable	EPA 8270D
5600	Benzo(k)fluoranthene	µg/kg	2950	4200	1130 - 5420	Acceptable	EPA 8270D
5590	Benzo(g,h,i)perylene	µg/kg	3270	3720	756 - 4890	Acceptable	EPA 8270D
5580	Benzo(a)pyrene	µg/kg	6520	9230	2140 - 11800	Acceptable	EPA 8270D
5630	Benzyl alcohol	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5760	bis(2-Chloroethoxy)methane	µg/kg	1740	2720	393 - 3280	Acceptable	EPA 8270D
5765	bis(2-Chloroethyl)ether	µg/kg	3960	7120	219 - 8350	Acceptable	EPA 8270D
5780	bis(2-Chloroisopropyl)ether	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5660	4-Bromophenyl-phenylether	µg/kg	10600	13900	4150 - 17000	Acceptable	EPA 8270D
5670	Butylbenzylphthalate	µg/kg	8400	11000	2510 - 15400	Acceptable	EPA 8270D
5680	Carbazole	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5745	4-Chloroaniline	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5700	4-Chloro-3-methylphenol	µg/kg	8080	12100	3260 - 13300	Acceptable	EPA 8270D
5790	1-Chloronaphthalene	µg/kg		0.00		Not Reported	
5795	2-Chloronaphthalene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5800	2-Chlorophenol	µg/kg	6960	13700	2200 - 15100	Acceptable	EPA 8270D
5825	4-Chlorophenyl-phenylether	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5855	Chrysene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5895	Dibenz(a,h)anthracene	µg/kg	3020	3740	870 - 4880	Acceptable	EPA 8270D
5905	Dibenzofuran	µg/kg	9510	12700	3240 - 14900	Acceptable	EPA 8270D
5925	Di-n-butylphthalate	µg/kg	7270	8460	2060 - 11400	Acceptable	EPA 8270D
4610	1,2-Dichlorobenzene	µg/kg	4360	11600	1160 - 12800	Acceptable	EPA 8270D
4615	1,3-Dichlorobenzene	µg/kg	654	2040	300 - 2510	Acceptable	EPA 8270D
4620	1,4-Dichlorobenzene	µg/kg	2800	8180	818 - 9460	Acceptable	EPA 8270D



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

5945	3,3'-Dichlorobenzidine	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6000	2,4-Dichlorophenol	µg/kg	5110	8510	1320 - 9360	Acceptable	EPA 8270D
6005	2,6-Dichlorophenol	µg/kg	2930	5480	342 - 6370	Acceptable	EPA 8270D
6070	Diethylphthalate	µg/kg	7370	9900	2160 - 12800	Acceptable	EPA 8270D
6130	2,4-Dimethylphenol	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6135	Dimethylphthalate	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6175	2,4-Dinitrophenol	µg/kg	695	5200	0.00 - 5720	Acceptable	EPA 8270D
6185	2,4-Dinitrotoluene	µg/kg	9470	12200	2510 - 15300	Acceptable	EPA 8270D
6190	2,6-Dinitrotoluene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6200	Di-n-octylphthalate	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6065	bis(2-Ethylhexyl)phthalate	µg/kg	10200	13500	3620 - 17800	Acceptable	EPA 8270D
6265	Fluoranthene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6270	Fluorene	µg/kg	5340	7200	2280 - 8620	Acceptable	EPA 8270D
6275	Hexachlorobenzene	µg/kg	11000	14200	4380 - 17300	Acceptable	EPA 8270D
4835	Hexachlorobutadiene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6285	Hexachlorocyclopentadiene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
4840	Hexachloroethane	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6315	Indeno(1,2,3-cd)pyrene	µg/kg	2500	2910	291 - 4480	Acceptable	EPA 8270D
6320	Isophorone	µg/kg	7030	10100	1630 - 12400	Acceptable	EPA 8270D
6360	4,6-Dinitro-2-methylphenol	µg/kg	2920	6490	0.00 - 7140	Acceptable	EPA 8270D
6385	2-Methylnaphthalene	µg/kg	979	1490	367 - 1790	Acceptable	EPA 8270D
6400	2-Methylphenol	µg/kg	2780	9540	954 - 10500	Acceptable	EPA 8270D
6410	3&4-Methylphenol	µg/kg	1140	3320	128 - 3650	Acceptable	EPA 8270D
5005	Naphthalene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6460	2-Nitroaniline	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6465	3-Nitroaniline	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6470	4-Nitroaniline	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5015	Nitrobenzene	µg/kg	6930	12000	2050 - 13200	Acceptable	EPA 8270D
6490	2-Nitrophenol	µg/kg	2610	4520	600 - 5100	Acceptable	EPA 8270D
6500	4-Nitrophenol	µg/kg	3020	4340	600 - 6400	Acceptable	EPA 8270D
6525	N-Nitrosodiethylamine	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6530	N-Nitrosodimethylamine	µg/kg	0.00	0.00		Acceptable	EPA 8270D



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

6535	N-Nitrosodiphenylamine	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6545	N-Nitroso-di-n-propylamine	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6590	Pentachlorobenzene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6605	Pentachlorophenol	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6615	Phenanthrene	µg/kg	7900	10200	3300 - 12000	Acceptable	EPA 8270D
6625	Phenol	µg/kg	3820	6420	642 - 7470	Acceptable	EPA 8270D
6665	Pyrene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5095	Pyridine	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6715	1,2,4,5-Tetrachlorobenzene	µg/kg	0.00	0.00		Acceptable	EPA 8270D
6735	2,3,4,6-Tetrachlorophenol	µg/kg	0.00	0.00		Acceptable	EPA 8270D
5155	1,2,4-Trichlorobenzene	µg/kg	1920	3830	519 - 4210	Acceptable	EPA 8270D
6835	2,4,5-Trichlorophenol	µg/kg	2480	3560	493 - 4500	Acceptable	EPA 8270D
6840	2,4,6-Trichlorophenol	µg/kg	6530	9960	1960 - 11000	Acceptable	EPA 8270D

SOIL Organochlorine Pesticides in Soil (cat# 468)

7025	Aldrin	µg/kg	220	361	91.8 - 404	Acceptable	EPA 8081B
7110	alpha-BHC	µg/kg	170	287	69.4 - 326	Acceptable	EPA 8081B
7115	beta-BHC	µg/kg	200	309	51.6 - 386	Acceptable	EPA 8081B
7105	delta-BHC	µg/kg	230	368	82.2 - 451	Acceptable	EPA 8081B
7120	gamma-BHC(Lindane)	µg/kg	42	70.0	7.00 - 98.0	Acceptable	EPA 8081B
7240	alpha-Chlordane	µg/kg	150	238	71.3 - 284	Acceptable	EPA 8081B
7245	gamma-Chlordane	µg/kg	150	217	75.5 - 251	Acceptable	EPA 8081B
7355	4,4'-DDD	µg/kg	53	73.7	7.37 - 117	Acceptable	EPA 8081B
7360	4,4'-DDE	µg/kg	130	187	54.5 - 244	Acceptable	EPA 8081B
7365	4,4'-DDT	µg/kg	100	177	34.5 - 225	Acceptable	EPA 8081B
7470	Dieldrin	µg/kg	200	315	96.6 - 369	Acceptable	EPA 8081B
7540	Endrin	µg/kg	170	176	58.9 - 224	Acceptable	EPA 8081B
7530	Endrin aldehyde	µg/kg	98	173	17.3 - 190	Acceptable	EPA 8081B
7535	Endrin ketone	µg/kg	72	164	31.9 - 202	Acceptable	EPA 8081B
7510	Endosulfan I	µg/kg	110	359	47.0 - 395	Acceptable	EPA 8081B
7515	Endosulfan II	µg/kg	83	293	35.2 - 322	Acceptable	EPA 8081B
7520	Endosulfan sulfate	µg/kg	63	97.6	13.6 - 131	Acceptable	EPA 8081B
7685	Heptachlor	µg/kg	88	139	34.3 - 167	Acceptable	EPA 8081B
7690	Heptachlor epoxide	µg/kg	110	164	47.6 - 192	Acceptable	EPA 8081B
7810	Methoxychlor	µg/kg	74	101	10.1 - 165	Acceptable	EPA 8081B

SOIL Chlordane in Soil (cat# 628)

7250	Chlordane, technical	µg/kg	920	940	190 - 1230	Acceptable	EPA 8081B
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SOIL Toxaphene in Soil (cat# 627)

8250	Toxaphene	µg/kg	1500	1250	125 - 1910	Acceptable	EPA 8081B
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SOIL Chlorinated Acid Herbicides in Soil (cat# 626)

8505	Acifluorfen	µg/kg		734	0.00 - 807	Not Reported	
8530	Bentazon	µg/kg		0.00		Not Reported	
8540	Chloramben	µg/kg		575	0.00 - 632	Not Reported	
8545	2,4-D	µg/kg	140	576	57.6 - 834	Acceptable	EPA 8151A
8560	2,4-DB	µg/kg	170	621	0.00 - 748	Acceptable	EPA 8151A
8550	Dacthal diacid (DCPA)	µg/kg		0.00		Not Reported	
8555	Dalapon	µg/kg	0.00	0.00		Acceptable	EPA 8151A
8595	Dicamba	µg/kg	68	312	31.2 - 417	Acceptable	EPA 8151A
8600	3,5-Dichlorobenzoic acid	µg/kg		0.00		Not Reported	
8605	Dichlorprop	µg/kg	150	362	0.00 - 493	Acceptable	EPA 8151A
8620	Dinoseb	µg/kg	39	369	0.00 - 579	Acceptable	EPA 8151A
7775	MCPA	µg/kg	0.00	0.00		Acceptable	EPA 8151A
7780	MCPP	µg/kg	0.00	0.00		Acceptable	EPA 8151A
6500	4-Nitrophenol	µg/kg		371	0.00 - 498	Not Reported	
6605	Pentachlorophenol	µg/kg		784	0.00 - 1020	Not Reported	
8645	Picloram	µg/kg		0.00		Not Reported	
8655	2,4,5-T	µg/kg	76	476	47.6 - 684	Acceptable	EPA 8151A
8650	2,4,5-TP (Silvex)	µg/kg	17	111	20.0 - 188	Not Acceptable	EPA 8151A

SOIL PCBs in Soil (cat# 624)

8880	Aroclor 1016	mg/kg	0.00	0.00		Acceptable	EPA 8082A
8885	Aroclor 1221	mg/kg	0.00	0.00		Acceptable	EPA 8082A
8890	Aroclor 1232	mg/kg	0.00	0.00		Acceptable	EPA 8082A
8895	Aroclor 1242	mg/kg	0.00	0.00		Acceptable	EPA 8082A
8900	Aroclor 1248	mg/kg	0.00	0.00		Acceptable	EPA 8082A
8905	Aroclor 1254	mg/kg	0.00	0.00		Acceptable	EPA 8082A
8910	Aroclor 1260	mg/kg	13	13.8	3.44 - 19.7	Acceptable	EPA 8082A

SOIL Oil and Grease (O&G) in Soil (cat# 867)

1860	n-Hexane Extractable Material(O&G)(Gravimet)	mg/kg	960	1230	357 - 1990	Acceptable	EPA 9071M
1860	n-Hexane Extractable Material(O&G)(IR)	mg/kg		1510	151 - 1660	Not Reported	

SOIL Gasoline Range Organics (GRO) in Soil (cat# 630)

9408	Gasoline Range Organics (GRO)	mg/kg	471	632	63.2 - 1020	Acceptable	EPA 8015C
4375	Benzene in GRO	mg/kg		6.75	0.00 - 8.18	Not Reported	
4765	Ethylbenzene in GRO	mg/kg		20.3	16.0 - 24.3	Not Reported	
5140	Toluene in GRO	mg/kg		58.8	7.54 - 64.7	Not Reported	
5260	Xylenes, total in GRO	mg/kg		59.6	31.0 - 91.0	Not Reported	

SOIL Diesel Range Organics (DRO) in Soil (cat# 631)

9369	Diesel Range Organics (DRO)	mg/kg	1100	1140	559 - 2220	Acceptable	EPA 8015C
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