

September 14, 2023

Ms. Anne Antin
Hawaii Analytical Laboratory, LLC
3615 Harding Ave Ste 308
Honolulu, HI 96816
USA

Dear Anne,

Thank you for participating in the HW0723 Soil / Hazardous Waste PT Study. Enclosed is your final report, which has been carefully reviewed by the PT specialists at Phenova. This report presents some additional sections and features which will give you more information on the study data for the standards that were reported by your laboratory and more information regarding the overall performance of your laboratory in relation to other study participants.

The enclosed report is in two sections, the "Evaluation Report" and the "Statistical Report". The "Evaluation Report" contains the evaluation of your reported data as well the reported method, analysis date and analyst. The "Evaluation Report" is an updated and enhanced version of the reports you previously received at the conclusion of our PT studies. The "Statistical Report" contains your passing percentage as well as statistics from the study for the analytes reported by your laboratory.

For any analyte falling outside the established acceptance limits, our PT management staff would like to assist you in determining the most appropriate course of corrective action for your facility. Please contact us at any time if we may be of service to you.

Thank you again for participating in the HW0723 Soil / Hazardous Waste PT Study. We appreciate working with you and look forward to our next study. If you have any questions, please call us at 866-942-2978.

Report Definitions:

Assigned Value

The Assigned Value is determined from the study mean, gravimetric and volumetric true concentration of an analyte to be analyzed, calculation and/or an appropriate reference value as stipulated in the EPA National Standards for Water Proficiency Testing Studies Criteria Document (current version), the National Environmental Laboratory Accreditation Conference Institute (TNI) criteria (ref: TNI FOT tables, TNI PT Committee) and other documents distributed by accrediting agencies as applicable.

Evaluation Limits

Acceptance Limits are derived from fixed limits, coefficients, constants and calculations stipulated in the EPA National Standards for Water Proficiency Testing Studies Criteria Documents (current version), the National Environmental Laboratory Accreditation Conference Institute (TNI) criteria (ref: TNI FOT tables, TNI PT Committee) and other documents distributed by accrediting agencies as applicable.

Evaluation

Acceptable

The reported value falls within the Acceptance Limits.

Not Acceptable

The reported value falls outside the Acceptance Limits.

No Evaluation

The reported value is non-numeric and can not be evaluated.

NR

As required by the TNI standards and requested by state authorities, any analyte purchased but not reported by your facility is listed as NR (Not Reported).

Study Mean and Standard Deviation

The mean and standard deviation are calculated from the study data using robust statistical calculations when possible. Other statistical calculations may be used if robust statistical calculations are not possible. The displayed values are independent of any statistical calculations required for the calculation of the analyte evaluation limits.

This report must not be reproduced except in full, without the written approval of Phenova.

Various aspects of Phenova's proficiency testing schemes can from time to time be subcontracted. If subcontracting occurs, it is placed with a competent and qualified subcontractor and Phenova is responsible for all work performed.

This report must not be used to claim product certification, approval, or endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the federal government.



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State Regulatory Agency Request(s):

No requests were made to send a copy of your HW0723 final results to a state agency.

Other Regulatory Agency Request(s):

No requests were made to send a copy of your HW0723 final results to an agency.

Third Party Request(s):

No requests were made to send a copy of your HW0723 final results to a third party.

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Final Report - Soil / Hazardous Waste PT

Study: HW0723

Opening Date: July 24, 2023 - Closing Date: September 7, 2023

Laboratory: Hawaii Analytical Laboratory, LLC
3615 Harding Ave Ste 308
Honolulu, HI 96816
USA

Contact: Ms. Anne Antin
8087350422

EPA Lab ID:

Pesticides (PT-PEST-SOIL)

Lot #: 7093-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	57.4	43.9	13.5 - 83.6	Acceptable
7110	alpha-BHC	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	368	314.4	101 - 453	Acceptable
7115	beta-BHC	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	483	417.7	145 - 602	Acceptable
7105	delta-BHC	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	262	188.8	61.1 - 341	Acceptable
7120	gamma-BHC (Lindane)	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	259	190.9	60.0 - 317	Acceptable
7240	alpha-Chlordane	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	268	219.2	95.6 - 351	Acceptable
7245	gamma-Chlordane	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	323	287.5	129 - 411	Acceptable
7355	4,4'-DDD	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	410	368.3	135 - 514	Acceptable
7360	4,4'-DDE	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	431	382.3	147 - 559	Acceptable
7365	4,4'-DDT	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	103	73.7	20.1 - 151	Acceptable
7470	Dieldrin	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	378	324.5	138 - 465	Acceptable
7510	Endosulfan I	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	454	275.0	105 - 499	Acceptable
7515	Endosulfan II	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	453	339.8	124 - 558	Acceptable
7520	Endosulfan sulfate	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	59.4	36.6	6.38 - 89.1	Acceptable
7540	Endrin	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	99.4	167.5	25.8 - 140	Not Acceptable
7530	Endrin aldehyde	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	347	61.2	34.7 - 381	Acceptable
7535	Endrin ketone	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	433	352.8	106 - 559	Acceptable

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EPA Lab ID:

Pesticides (PT-PEST-SOIL) cont'd										Lot #: 7093-14
NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7685	Heptachlor	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	128	92.1	34.0 - 161	Acceptable
7690	Heptachlor epoxide	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	441	389.8	157 - 552	Acceptable
7810	Methoxychlor	8/28/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	355	247.6	35.5 - 510	Acceptable
Chlordane (PT-CHLR-SOIL)										Lot #: 7093-15
NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane	8/29/2023	es	10178811	EPA 8081B Rev.Update IV 2007	µg/kg	560	648.2	134 - 803	Acceptable
PCBs (PT-PCB-SOIL)										Lot #: 7093-17
NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	<0.1	0.3661		Not Acceptable
8885	Aroclor 1221	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	<0.1	<0.2		Acceptable
8890	Aroclor 1232	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	<0.1	<0.2		Acceptable
8895	Aroclor 1242	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	<0.1	<0.2		Acceptable
8900	Aroclor 1248	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	<0.1	<0.2		Acceptable
8905	Aroclor 1254	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	<0.1	<0.2		Acceptable
8910	Aroclor 1260	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	35.3	19.784	7.70 - 41.4	Acceptable
Additional State Specific Analytes										
8870	Total PCBs	8/28/2023	es	1017358	EPA 8082A Rev.Update IV 2007	mg/kg	35.3	20.1501	7.94 - 42.6	Acceptable

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Opening Date: July 24, 2023 - Closing Date: September 7, 2023

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EPA Lab ID:

TCLP Metals (PT-TCLPMET-SOIL)										Lot #: 7093-52
NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes										
1005	Antimony					mg/L	2.54		1.92 - 3.03	NR
1010	Arsenic	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	3.39	3.34	2.71 - 4.22	Acceptable
1015	Barium	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	2.92	3.40	2.29 - 3.44	Acceptable
1020	Beryllium					mg/L	3.05		2.23 - 3.65	NR
1025	Boron					mg/L	2.85		2.05 - 3.55	NR
1030	Cadmium	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	2.78	2.68	2.20 - 3.27	Acceptable
1040	Chromium	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	3.38	3.49	2.66 - 3.87	Acceptable
1050	Cobalt					mg/L	3.08		2.30 - 3.58	NR
1055	Copper					mg/L	3.23		2.38 - 3.92	NR
1075	Lead	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	2.74	2.59	2.08 - 3.17	Acceptable
1095	Mercury	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	1.53	1.070	0.607 - 1.74	Acceptable
1105	Nickel					mg/L	3.40		2.65 - 4.00	NR
1140	Selenium	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	2.90	2.62	2.23 - 3.57	Acceptable
1150	Silver	8/15/2023	sh	10118806	EPA 1311 Rev.Update I 1992	mg/L	2.72	2.38	1.65 - 3.43	Acceptable
1165	Thallium					mg/L	3.15		2.00 - 3.75	NR
1190	Zinc					mg/L	3.11		2.36 - 3.86	NR



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PT Study Score Report

EPA ID:
 Laboratory: Hawaii Analytical Laboratory, LLC
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Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
HW0723	37	35	94.6%

Report Definitions:

- Number of Reported Results** The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.
- Number of Passing Results** The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".
- Percent Passing** The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Statistical Summary Report - Soil / Hazardous Waste PT

Opening Date: July 24, 2023 - Closing Date: September 7, 2023

Laboratory: Hawaii Analytical Laboratory, LLC
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USA

Contact: Ms. Anne Antin
8087350422

EPA Lab ID:

Pesticides (PT-PEST-SOIL) Lot #: 7093-14						
NELAC Code	Analyte	Units	Study Mean	Study Standard Deviation	Low Acceptance Limit %	High Acceptance Limit %
7025	Aldrin	µg/kg	48.5	9.04	23.5	146
7110	alpha-BHC	µg/kg	277	47.4	27.4	123
7115	beta-BHC	µg/kg	374	72.0	30.0	125
7105	delta-BHC	µg/kg	201	38.6	23.3	130
7120	gamma-BHC (Lindane)	µg/kg	189	33.4	23.2	122
7240	alpha-Chlordane	µg/kg	223	35.3	35.7	131
7245	gamma-Chlordane	µg/kg	270	58.1	39.9	127
7355	4,4'-DDD	µg/kg	324	64.1	32.9	125
7360	4,4'-DDE	µg/kg	353	74.6	34.1	130
7365	4,4'-DDT	µg/kg	85.6	20.1	19.5	147
7470	Dieldrin	µg/kg	301	55.5	36.5	123
7510	Endosulfan I	µg/kg	267	43.9	23.1	110
7515	Endosulfan II	µg/kg	341	75.7	27.4	123
7520	Endosulfan sulfate	µg/kg	47.7	11.3	10.7	150
7540	Endrin	µg/kg	83.1	14.5	26.0	141
7530	Endrin aldehyde	µg/kg	163	59.5	10.0	110
7535	Endrin ketone	µg/kg	333	72.0	24.5	129
7685	Heptachlor	µg/kg	97.7	13.6	26.6	126
7690	Heptachlor epoxide	µg/kg	355	67.5	35.6	125
7810	Methoxychlor	µg/kg	272	78.0	10.0	144
Chlordane (PT-CHLR-SOIL) Lot #: 7093-15						
NELAC Code	Analyte	Units	Study Mean	Study Standard Deviation	Low Acceptance Limit %	High Acceptance Limit %
7250	Chlordane	µg/kg	468	126	23.9	143
PCBs (PT-PCB-SOIL) Lot #: 7093-17						
NELAC Code	Analyte	Units	Study Mean	Study Standard Deviation	Low Acceptance Limit %	High Acceptance Limit %
8880	Aroclor 1016	mg/kg	N/A	N/A	N/A	N/A
8885	Aroclor 1221	mg/kg	N/A	N/A	N/A	N/A
8890	Aroclor 1232	mg/kg	N/A	N/A	N/A	N/A
8895	Aroclor 1242	mg/kg	N/A	N/A	N/A	N/A
8900	Aroclor 1248	mg/kg	N/A	N/A	N/A	N/A
8905	Aroclor 1254	mg/kg	N/A	N/A	N/A	N/A
8910	Aroclor 1260	mg/kg	24.5	5.70	21.8	117
Additional State Specific Analytes						
8870	Total PCBs	mg/kg	25.3	5.78	22.5	121

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Contact: Ms. Anne Antin
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EPA Lab ID:

TCLP Metals (PT-TCLPMET-SOIL) Lot #: 7093-52

NELAC Code	Analyte	Units	Study Mean	Study Standard Deviation	Low Acceptance Limit %	High Acceptance Limit %
Additional State Specific Analytes						
1005	Antimony	mg/L	2.55	0.179	75.6	119
1010	Arsenic	mg/L	3.42	0.278	79.9	124
1015	Barium	mg/L	3.09	0.212	78.4	118
1020	Beryllium	mg/L	3.02	0.247	73.1	120
1025	Boron	mg/L	2.98	0.302	71.9	125
1030	Cadmium	mg/L	2.78	0.230	79.1	118
1040	Chromium	mg/L	3.37	0.193	78.7	114
1050	Cobalt	mg/L	3.08	0.211	74.7	116
1055	Copper	mg/L	3.21	0.292	73.7	121
1075	Lead	mg/L	2.64	0.177	75.9	116
1095	Mercury	mg/L	1.42	0.275	39.7	114
1105	Nickel	mg/L	3.39	0.240	77.9	118
1140	Selenium	mg/L	2.93	0.249	76.9	123
1150	Silver	mg/L	2.68	0.237	60.7	126
1165	Thallium	mg/L	2.96	0.226	63.5	119
1190	Zinc	mg/L	3.15	0.281	75.9	124