

SGS

AXYS

2045 Mills Road West

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SGS AXYS Client No.: 4972

Client Address: AECOM
1111 Third Avenue, Suite 1600
Seattle, WA, US, 98101

The SGS AXYS contact for these data is Sean Campbell.

BATCH SUMMARY

Batch ID: WG67275	Date: 15-Apr-2019									
Analysis Type: E1 Pesticide	Matrix Type: Filter									
BATCH MAKEUP										
Contract: 4972 Samples: L30771-1 PDI-RB-XF-190127 L30771-2 PDI-WS-T04-1902 L30771-3 PDI-WS-T05-1902 L30771-4 PDI-WS-T06-1901 L30771-5 PDI-WS-T07-1901 L30771-6 PDI-WS-T01-1902 L30771-7 PDI-WS-T02-1902 L30771-8 PDI-WS-T03-1902	Blank: WG67275-101 Reference or Spike: WG67275-102 Duplicate: WG67275-103									
Comments: <ol style="list-style-type: none"> Data are considered final. Data are not blank corrected. Blank data should be taken into consideration when evaluating sample data. Blank data should be evaluated against specifications using the same blank sample size as the size of the client samples. A disturbance of the mass ion used to monitor instrument performance (lock-mass) greater than the method specification was observed near the retention time corresponding to oxychlordane and ¹³C-oxychlordane in the samples named 'PDI-WS-T07-1901' and 'PDI-WS-T03-1902' (AXYS IDs: L30771-5 and -8, respectively), and the OPR WG67275-102. The affected analytes have been flagged with a 'G'. The percent recoveries of some ¹³C-labeled pesticide surrogates were slightly below the method lower control limits in the samples tabulated below. The affected surrogates have been flagged with a 'V'. As the isotope dilution method of quantification produces data that are recovery corrected, the slight variances from the method acceptance criteria are deemed not to affect the quantification of these analytes. Percent surrogate recoveries are used as general method performance indicator only. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>CLIENT ID</th> <th>AXYS ID</th> <th>Surrogate V-Flagged</th> </tr> </thead> <tbody> <tr> <td>OPR</td> <td>WG67275-102</td> <td>¹³C-Oxychlordane</td> </tr> <tr> <td>PDI-WS-T01-1902</td> <td>L30771-6</td> <td>¹³C-4,4'-DDT</td> </tr> </tbody> </table>		CLIENT ID	AXYS ID	Surrogate V-Flagged	OPR	WG67275-102	¹³ C-Oxychlordane	PDI-WS-T01-1902	L30771-6	¹³ C-4,4'-DDT
CLIENT ID	AXYS ID	Surrogate V-Flagged								
OPR	WG67275-102	¹³ C-Oxychlordane								
PDI-WS-T01-1902	L30771-6	¹³ C-4,4'-DDT								

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February 2017

FQA-006 Rev. 4. 20-Sep-2013

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORTCLIENT SAMPLE NO.
PDI-RB-XF-190127
Sample Collection:
27-Jan-2019 15:50

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972

Matrix: FILTER

Sample Receipt Date: 22-Feb-2019

Extraction Date: 12-Mar-2019

Analysis Date: 11-Apr-2019 Time: 11:44:09

Extract Volume (uL): 40

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: ng/sample

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

PORTLAND HARBOR PDI AND
BASELINE WATER
L30771-1

0.2 sample

10-Apr-2019

HR GC/MS

DB5

CL92_036B S: 31

CL92_036B S: 30

CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	0.146	0.145 (Q)	1.13	1.000
Aldrin	309-00-2	U		0.290 (Q)		
Chlordane, oxy-	27304-13-8	U		0.290 (Q)		
Chlordane, gamma (trans)	5103-74-2	U		0.290 (Q)		
Chlordane, alpha (cis)	5103-71-9	U		0.290 (Q)		
Nonachlor, trans-	39765-80-5	K J	0.303	0.290 (Q)	0.21	1.001
Nonachlor, cis-	5103-73-1	K J	0.415	0.290 (Q)	0.60	1.001
2,4'-DDD	53-19-0	U		0.316 (S)		
4,4'-DDD	72-54-8	U		0.399 (S)		
2,4'-DDE	3424-82-6	U		0.290 (Q)		
4,4'-DDE	72-55-9	U		0.290 (Q)		
2,4'-DDT	789-02-6	U		0.634 (S)		
4,4'-DDT	50-29-3	U		0.734 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-1_Form1A_CL92_036BS31_SJ2545020.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-RB-XF-190127
Sample Collection:
27-Jan-2019 15:50

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-1
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 11:44:09	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 31
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
Concentration Units:	ng absolute	Cal. Ver. Data Filename:	CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	17.0	69.8	1.36	0.790
13C-Aldrin		24.0	14.0	58.3	1.66	1.030
13C-Chlordane, oxy		24.0	14.6	60.9	1.45	1.109
13C-Chlordane, gamma (trans)		24.0	19.7	82.2	1.24	0.838
13C-Nonachlor, trans-		24.0	18.6	77.7	1.26	0.868
13C-Nonachlor, cis-		24.5	21.8	89.3	1.28	0.956
13C-2,4'-DDE		24.0	21.4	89.2	1.56	0.846
13C-4,4'-DDE		24.6	23.4	95.0	1.57	0.890
13C-4,4'-DDD		24.2	20.0	82.7	1.65	0.950
13C-2,4'-DDT		24.0	18.3	76.2	1.56	0.955
13C-4,4'-DDT		24.2	18.4	76.4	1.56	0.995

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

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Report Filename: Pest_PEST_HI_E1HI_L30771-1_Form2_CL92_036BS31_SJ2545020.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T04-1902
Sample Collection:
17-Feb-2019 19:35

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-2
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 12:21:31	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 32
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
		Cal. Ver. Data Filename:	CL92_036B S: 25
Concentration Units:	ng/sample		

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COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	2.80	0.142 (Q)	1.25	1.000
Aldrin	309-00-2	K J	0.330	0.284 (Q)	2.50	1.001
Chlordane, oxy-	27304-13-8	U		0.310 (S)		
Chlordane, gamma (trans)	5103-74-2	K J	2.29	0.284 (Q)	0.92	1.000
Chlordane, alpha (cis)	5103-71-9	J	2.51	0.284 (Q)	1.06	1.026
Nonachlor, trans-	39765-80-5	K J	2.62	0.284 (Q)	0.88	1.001
Nonachlor, cis-	5103-73-1	K J	1.26	0.284 (Q)	0.43	1.001
2,4'-DDD	53-19-0	J	10.2	0.351 (S)	1.54	0.951
4,4'-DDD	72-54-8		18.1	0.444 (S)	1.55	1.001
2,4'-DDE	3424-82-6	J	1.56	0.284 (Q)	1.36	1.001
4,4'-DDE	72-55-9		40.9	0.284 (Q)	1.50	1.000
2,4'-DDT	789-02-6	J	9.19	0.745 (S)	1.50	1.000
4,4'-DDT	50-29-3		44.2	0.782 (S)	1.53	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

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Report Filename: Pest_PEST_HI_E1HI_L30771-2_Form1A_CL92_036BS32_SJ2545021.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T04-1902
Sample Collection:
17-Feb-2019 19:35

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-2
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 12:21:31	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 32
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
Concentration Units:	ng absolute	Cal. Ver. Data Filename:	CL92_036B S: 25

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	11.6	47.9	1.37	0.790
13C-Aldrin		24.0	9.71	40.5	1.59	1.031
13C-Chlordane, oxy		24.0	10.2	42.5	1.48	1.110
13C-Chlordane, gamma (trans)		24.0	15.2	63.4	1.23	0.839
13C-Nonachlor, trans-		24.0	13.6	56.8	1.23	0.868
13C-Nonachlor, cis-		24.5	16.5	67.7	1.27	0.956
13C-2,4'-DDE		24.0	16.0	66.5	1.59	0.846
13C-4,4'-DDE		24.6	17.0	69.0	1.59	0.891
13C-4,4'-DDD		24.2	15.1	62.6	1.59	0.950
13C-2,4'-DDT		24.0	14.2	59.3	1.59	0.955
13C-4,4'-DDT		24.2	15.1	62.7	1.61	0.996

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

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Report Filename: Pest_PEST_HI_E1HI_L30771-2_Form2_CL92_036BS32_SJ2545021.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T05-1902
Sample Collection:
17-Feb-2019 19:17

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-3
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 12:58:52	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 33
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
		Cal. Ver. Data Filename:	CL92_036B S: 25
Concentration Units:	ng/sample		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	2.99	0.150 (Q)	1.22	1.000
Aldrin	309-00-2	J	0.475	0.301 (Q)	1.24	1.000
Chlordane, oxy-	27304-13-8	J	0.420	0.301 (Q)	1.68	1.000
Chlordane, gamma (trans)	5103-74-2	K J	2.60	0.301 (Q)	0.92	1.000
Chlordane, alpha (cis)	5103-71-9	J	2.31	0.301 (Q)	1.17	1.026
Nonachlor, trans-	39765-80-5	K J	2.79	0.301 (Q)	0.93	1.000
Nonachlor, cis-	5103-73-1	J	2.13	0.301 (Q)	1.06	1.001
2,4'-DDD	53-19-0	J	2.61	0.315 (S)	1.68	0.951
4,4'-DDD	72-54-8	J	9.51	0.398 (S)	1.51	1.000
2,4'-DDE	3424-82-6	J	0.863	0.301 (Q)	1.49	1.000
4,4'-DDE	72-55-9	J	38.0	0.301 (Q)	1.49	1.000
2,4'-DDT	789-02-6	J	6.76	0.645 (S)	1.54	1.001
4,4'-DDT	50-29-3	J	88.6	0.690 (S)	1.47	1.001

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

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Report Filename: Pest_PEST_HI_E1HI_L30771-3_Form1A_CL92_036BS33_SJ2545022.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T05-1902
Sample Collection:
17-Feb-2019 19:17

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972
Matrix: FILTER
Sample Receipt Date: 22-Feb-2019
Extraction Date: 12-Mar-2019
Analysis Date: 11-Apr-2019 **Time:** 12:58:52
Extract Volume (uL): 40
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: ng absolute

Project No. PORTLAND HARBOR PDI AND
BASELINE WATER
Lab Sample I.D.: L30771-3
Sample Size: 0.2 sample
Initial Calibration Date: 10-Apr-2019
Instrument ID: HR GC/MS
GC Column ID: DB5
Sample Data Filename: CL92_036B S: 33
Blank Data Filename: CL92_036B S: 30
Cal. Ver. Data Filename: CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	15.1	62.3	1.34	0.789
13C-Aldrin		24.0	15.2	63.3	1.61	1.031
13C-Chlordane, oxy		24.0	18.0	75.1	1.75	1.111
13C-Chlordane, gamma (trans)		24.0	21.8	90.8	1.27	0.839
13C-Nonachlor, trans-		24.0	21.0	87.5	1.20	0.868
13C-Nonachlor, cis-		24.5	22.4	91.5	1.15	0.956
13C-2,4'-DDE		24.0	23.8	99.2	1.61	0.847
13C-4,4'-DDE		24.6	24.6	99.9	1.61	0.891
13C-4,4'-DDD		24.2	23.0	95.3	1.57	0.950
13C-2,4'-DDT		24.0	21.2	88.4	1.61	0.955
13C-4,4'-DDT		24.2	23.2	96.1	1.64	0.996

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-3_Form2_CL92_036BS33_SJ2545022.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T06-1901
Sample Collection:
27-Jan-2019 10:40

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-4 (A)
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 13:36:12	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 34
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
		Cal. Ver. Data Filename:	CL92_036B S: 25
Concentration Units:	ng/sample		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	1.97	0.143 (Q)	1.26	1.000
Aldrin	309-00-2	U		0.286 (Q)		
Chlordane, oxy-	27304-13-8	U		0.442 (S)		
Chlordane, gamma (trans)	5103-74-2	J	1.72	0.286 (Q)	1.06	1.001
Chlordane, alpha (cis)	5103-71-9	K J	1.38	0.286 (Q)	1.79	1.027
Nonachlor, trans-	39765-80-5	K J	1.58	0.286 (Q)	0.76	1.000
Nonachlor, cis-	5103-73-1	K J	0.722	0.286 (Q)	0.35	1.000
2,4'-DDD	53-19-0	J	1.97	0.380 (S)	1.45	0.951
4,4'-DDD	72-54-8	J	5.68	0.480 (S)	1.53	1.001
2,4'-DDE	3424-82-6	J	0.509	0.286 (Q)	1.80	1.000
4,4'-DDE	72-55-9		20.0	0.286 (Q)	1.53	1.001
2,4'-DDT	789-02-6	J	4.49	0.799 (S)	1.72	1.000
4,4'-DDT	50-29-3		24.3	0.831 (S)	1.55	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

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Report Filename: Pest_PEST_HI_E1HI_L30771-4_Form1A_CL92_036BS34_SJ2545023.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T06-1901
Sample Collection:
27-Jan-2019 10:40

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972
Matrix: FILTER
Sample Receipt Date: 22-Feb-2019
Extraction Date: 12-Mar-2019
Analysis Date: 11-Apr-2019 **Time:** 13:36:12
Extract Volume (uL): 40
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: ng absolute

Project No. PORTLAND HARBOR PDI AND
Lab Sample I.D.: BASELINE WATER
L30771-4 (A)
Sample Size: 0.2 sample
Initial Calibration Date: 10-Apr-2019
Instrument ID: HR GC/MS
GC Column ID: DB5
Sample Data Filename: CL92_036B S: 34
Blank Data Filename: CL92_036B S: 30
Cal. Ver. Data Filename: CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	11.6	47.6	1.32	0.790
13C-Aldrin		24.0	10.6	44.3	1.64	1.031
13C-Chlordane, oxy		24.0	9.93	41.4	1.51	1.110
13C-Chlordane, gamma (trans)		24.0	16.7	69.6	1.23	0.839
13C-Nonachlor, trans-		24.0	15.0	62.3	1.34	0.868
13C-Nonachlor, cis-		24.5	18.8	77.0	1.18	0.956
13C-2,4'-DDE		24.0	17.8	74.3	1.60	0.847
13C-4,4'-DDE		24.6	19.0	77.3	1.59	0.891
13C-4,4'-DDD		24.2	18.0	74.4	1.60	0.950
13C-2,4'-DDT		24.0	17.2	71.5	1.61	0.955
13C-4,4'-DDT		24.2	18.8	78.0	1.62	0.996

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-4_Form2_CL92_036BS34_SJ2545023.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T06-1901 (Duplicate)
Sample Collection:
27-Jan-2019 10:40

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	WG67275-103 (DUP L30771-4)
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 14:13:37	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 35
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
		Cal. Ver. Data Filename:	CL92_036B S: 25
Concentration Units:	ng/sample		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	2.23	0.155 (Q)	1.42	1.000
Aldrin	309-00-2	K J	0.403	0.310 (Q)	0.98	1.001
Chlordane, oxy-	27304-13-8	U		0.310 (Q)		
Chlordane, gamma (trans)	5103-74-2	K J	1.97	0.310 (Q)	0.78	1.001
Chlordane, alpha (cis)	5103-71-9	J	1.35	0.310 (Q)	1.15	1.026
Nonachlor, trans-	39765-80-5	K J	1.73	0.310 (Q)	0.88	1.001
Nonachlor, cis-	5103-73-1	K J	0.948	0.310 (Q)	0.54	1.001
2,4'-DDD	53-19-0	J	1.93	0.340 (S)	1.64	0.951
4,4'-DDD	72-54-8	J	6.01	0.431 (S)	1.53	1.000
2,4'-DDE	3424-82-6	K J	0.548	0.310 (Q)	1.90	1.000
4,4'-DDE	72-55-9		20.8	0.310 (Q)	1.45	1.000
2,4'-DDT	789-02-6	J	4.79	0.669 (S)	1.65	1.001
4,4'-DDT	50-29-3		25.0	0.769 (S)	1.47	1.001

- (1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_WG67275-103_Form1A_CL92_036BS35_SJ2545024.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T06-1901 (Duplicate)
Sample Collection:
27-Jan-2019 10:40

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972
Matrix: FILTER
Sample Receipt Date: 22-Feb-2019
Extraction Date: 12-Mar-2019
Analysis Date: 11-Apr-2019 **Time:** 14:13:37
Extract Volume (uL): 40
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: ng absolute

Project No. PORTLAND HARBOR PDI AND
BASELINE WATER
Lab Sample I.D.: WG67275-103 (DUP L30771-4)
Sample Size: 0.2 sample
Initial Calibration Date: 10-Apr-2019
Instrument ID: HR GC/MS
GC Column ID: DB5
Sample Data Filename: CL92_036B S: 35
Blank Data Filename: CL92_036B S: 30
Cal. Ver. Data Filename: CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	11.6	47.8	1.39	0.789
13C-Aldrin		24.0	11.7	48.8	1.68	1.029
13C-Chlordane, oxy		24.0	14.5	60.6	1.70	1.109
13C-Chlordane, gamma (trans)		24.0	19.0	79.1	1.24	0.839
13C-Nonachlor, trans-		24.0	18.2	76.0	1.22	0.868
13C-Nonachlor, cis-		24.5	21.1	86.3	1.20	0.956
13C-2,4'-DDE		24.0	20.9	87.2	1.57	0.847
13C-4,4'-DDE		24.6	21.7	88.3	1.63	0.891
13C-4,4'-DDD		24.2	20.7	85.6	1.64	0.950
13C-2,4'-DDT		24.0	19.9	83.1	1.59	0.955
13C-4,4'-DDT		24.2	20.2	83.8	1.57	0.996

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_WG67275-103_Form2_CL92_036BS35_SJ2545024.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

PESTICIDE ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.

PORTLAND HARBOR PDI AND
BASELINE WATER

Contract No.: 4972

Client ID: PDI-WS-T06-1901

Concentration Units: ng/sample

COMPOUND	L30771-4 (A)		WG67275-103		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG ¹	CONC. FOUND	LAB FLAG ¹	CONC. FOUND		
Hexachlorobenzene	J	1.97	J	2.23	2.10	12.4
Aldrin	U		K J	0.403		
Chlordane, oxy-	U		U			
Chlordane, gamma (trans)	J	1.72	K J	1.97		
Chlordane, alpha (cis)	K J	1.38	J	1.35		
Nonachlor, trans-	K J	1.58	K J	1.73		
Nonachlor, cis-	K J	0.722	K J	0.948		
2,4'-DDD	J	1.97	J	1.93	1.95	2.38
4,4'-DDD	J	5.68	J	6.01	5.84	5.64
2,4'-DDE	J	0.509	K J	0.548		
4,4'-DDE		20.0		20.8	20.4	3.86
2,4'-DDT	J	4.49	J	4.79	4.64	6.56
4,4'-DDT		24.3		25.0	24.7	2.78

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: RPD.xml; Created: 15-Apr-2019 14:36:46; Application: XMLTransformer-1.17.7;
Report Filename: RPD_PEST_HI_E1HI-RPD_WG67275-103_L30771-4_.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T07-1901
Sample Collection:
26-Jan-2019 09:46

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-5
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 14:51:00	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 36
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
		Cal. Ver. Data Filename:	CL92_036B S: 25
Concentration Units:	ng/sample		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	2.72	0.148 (Q)	1.31	1.000
Aldrin	309-00-2	J	0.404	0.295 (Q)	1.71	1.001
Chlordane, oxy-	27304-13-8	U G		0.295 (Q)		
Chlordane, gamma (trans)	5103-74-2	J	4.60	0.295 (Q)	1.08	1.001
Chlordane, alpha (cis)	5103-71-9	J	3.07	0.295 (Q)	1.35	1.026
Nonachlor, trans-	39765-80-5	K J	3.09	0.295 (Q)	0.85	1.001
Nonachlor, cis-	5103-73-1	J	1.75	0.295 (Q)	1.12	1.001
2,4'-DDD	53-19-0	J	5.35	0.295 (Q)	1.49	0.951
4,4'-DDD	72-54-8	J	15.0	0.295 (Q)	1.53	1.000
2,4'-DDE	3424-82-6	J	1.45	0.295 (Q)	1.54	1.000
4,4'-DDE	72-55-9		50.0	0.295 (Q)	1.50	1.000
2,4'-DDT	789-02-6	J	14.2	0.433 (S)	1.52	1.001
4,4'-DDT	50-29-3		67.2	0.498 (S)	1.53	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-5_Form1A_CL92_036BS36_SJ2545025.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T07-1901
Sample Collection:
26-Jan-2019 09:46

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-5
Sample Receipt Date:	22-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 14:51:00	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 36
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
Concentration Units:	ng absolute	Cal. Ver. Data Filename:	CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	14.9	61.2	1.29	0.789
13C-Aldrin		24.0	12.6	52.3	1.55	1.030
13C-Chlordane, oxy	G	24.0	15.7	65.5	1.49	1.110
13C-Chlordane, gamma (trans)		24.0	20.6	86.0	1.27	0.840
13C-Nonachlor, trans-		24.0	19.2	80.2	1.32	0.868
13C-Nonachlor, cis-		24.5	21.2	86.8	1.24	0.956
13C-2,4'-DDE		24.0	21.9	91.2	1.59	0.847
13C-4,4'-DDE		24.6	22.6	92.0	1.60	0.891
13C-4,4'-DDD		24.2	21.2	87.8	1.61	0.951
13C-2,4'-DDT		24.0	19.5	81.3	1.64	0.955
13C-4,4'-DDT		24.2	18.7	77.6	1.62	0.996

(1) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.

(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-5_Form2_CL92_036BS36_SJ2545025.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORTCLIENT SAMPLE NO.
PDI-WS-T01-1902
Sample Collection:
18-Feb-2019 20:15

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972

Matrix: FILTER

Sample Receipt Date: 21-Feb-2019

Extraction Date: 12-Mar-2019

Analysis Date: 11-Apr-2019 Time: 15:28:22

Extract Volume (uL): 40

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: ng/sample

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

PORTLAND HARBOR PDI AND
BASELINE WATER
L30771-6

0.2 sample

10-Apr-2019

HR GC/MS

DB5

CL92_036B S: 37

CL92_036B S: 30

CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	2.47	0.151 (Q)	1.31	1.000
Aldrin	309-00-2	K J	0.438	0.302 (Q)	0.83	1.001
Chlordane, oxy-	27304-13-8	K J	0.479	0.396 (S)	0.89	1.000
Chlordane, gamma (trans)	5103-74-2	K J	3.26	0.302 (Q)	0.88	1.000
Chlordane, alpha (cis)	5103-71-9	K J	2.76	0.302 (Q)	2.14	1.026
Nonachlor, trans-	39765-80-5	J	3.94	0.302 (Q)	1.12	1.001
Nonachlor, cis-	5103-73-1	K J	1.26	0.302 (Q)	1.61	1.001
2,4'-DDD	53-19-0	J	3.44	0.694 (S)	1.66	0.952
4,4'-DDD	72-54-8	J	10.4	0.878 (S)	1.59	1.000
2,4'-DDE	3424-82-6	J	0.982	0.302 (Q)	1.41	1.001
4,4'-DDE	72-55-9		42.3	0.302 (Q)	1.53	1.001
2,4'-DDT	789-02-6	J	9.46	1.49 (S)	1.66	1.000
4,4'-DDT	50-29-3		53.5	1.67 (S)	1.56	1.000

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-6_Form1A_CL92_036BS37_SJ2545026.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T01-1902
Sample Collection:
18-Feb-2019 20:15

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972
Matrix: FILTER
Sample Receipt Date: 21-Feb-2019
Extraction Date: 12-Mar-2019
Analysis Date: 11-Apr-2019 **Time:** 15:28:22
Extract Volume (uL): 40
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: ng absolute

Project No. PORTLAND HARBOR PDI AND
BASELINE WATER
Lab Sample I.D.: L30771-6
Sample Size: 0.2 sample
Initial Calibration Date: 10-Apr-2019
Instrument ID: HR GC/MS
GC Column ID: DB5
Sample Data Filename: CL92_036B S: 37
Blank Data Filename: CL92_036B S: 30
Cal. Ver. Data Filename: CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	9.19	37.8	1.31	0.789
13C-Aldrin		24.0	7.42	30.9	1.50	1.030
13C-Chlordane, oxy		24.0	9.38	39.1	1.69	1.110
13C-Chlordane, gamma (trans)		24.0	10.3	42.8	1.21	0.840
13C-Nonachlor, trans-		24.0	10.3	43.0	1.15	0.868
13C-Nonachlor, cis-		24.5	11.1	45.4	1.17	0.956
13C-2,4'-DDE		24.0	11.1	46.1	1.58	0.847
13C-4,4'-DDE		24.6	11.3	45.8	1.59	0.891
13C-4,4'-DDD		24.2	10.2	42.1	1.62	0.950
13C-2,4'-DDT		24.0	9.78	40.7	1.62	0.955
13C-4,4'-DDT	V	24.2	9.46	39.2	1.61	0.996

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-6_Form2_CL92_036BS37_SJ2545026.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORTCLIENT SAMPLE NO.
PDI-WS-T02-1902
Sample Collection:
18-Feb-2019 21:36

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972

Matrix: FILTER

Sample Receipt Date: 21-Feb-2019

Extraction Date: 12-Mar-2019

Analysis Date: 11-Apr-2019 Time: 16:05:45

Extract Volume (uL): 40

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: ng/sample

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

PORTLAND HARBOR PDI AND
BASELINE WATER
L30771-7

0.2 sample

10-Apr-2019

HR GC/MS

DB5

CL92_036B S: 38

CL92_036B S: 30

CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	3.12	0.146 (Q)	1.13	0.999
Aldrin	309-00-2	J	0.495	0.292 (Q)	1.31	1.001
Chlordane, oxy-	27304-13-8	K J	0.436	0.323 (S)	2.39	1.002
Chlordane, gamma (trans)	5103-74-2	J	4.11	0.292 (Q)	1.45	1.001
Chlordane, alpha (cis)	5103-71-9	J	3.94	0.292 (Q)	1.22	1.026
Nonachlor, trans-	39765-80-5	J	4.04	0.292 (Q)	1.18	1.001
Nonachlor, cis-	5103-73-1	J	1.66	0.292 (Q)	1.12	1.001
2,4'-DDD	53-19-0	J	4.47	0.424 (S)	1.55	0.952
4,4'-DDD	72-54-8	J	14.0	0.537 (S)	1.46	1.000
2,4'-DDE	3424-82-6	J	1.33	0.292 (Q)	1.79	1.001
4,4'-DDE	72-55-9	J	56.3	0.292 (Q)	1.48	1.000
2,4'-DDT	789-02-6	J	12.4	0.910 (S)	1.61	1.001
4,4'-DDT	50-29-3	J	68.1	1.04 (S)	1.52	1.000

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-7_Form1A_CL92_036BS38_SJ2545027.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T02-1902
Sample Collection:
18-Feb-2019 21:36

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972
Matrix: FILTER
Sample Receipt Date: 21-Feb-2019
Extraction Date: 12-Mar-2019
Analysis Date: 11-Apr-2019 **Time:** 16:05:45
Extract Volume (uL): 40
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: ng absolute

Project No. PORTLAND HARBOR PDI AND
BASELINE WATER
Lab Sample I.D.: L30771-7
Sample Size: 0.2 sample
Initial Calibration Date: 10-Apr-2019
Instrument ID: HR GC/MS
GC Column ID: DB5
Sample Data Filename: CL92_036B S: 38
Blank Data Filename: CL92_036B S: 30
Cal. Ver. Data Filename: CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	11.5	47.2	1.33	0.790
13C-Aldrin		24.0	9.71	40.4	1.62	1.030
13C-Chlordane, oxy		24.0	11.1	46.3	1.53	1.109
13C-Chlordane, gamma (trans)		24.0	15.5	64.6	1.34	0.840
13C-Nonachlor, trans-		24.0	13.9	57.8	1.19	0.869
13C-Nonachlor, cis-		24.5	17.5	71.6	1.32	0.956
13C-2,4'-DDE		24.0	16.7	69.7	1.59	0.847
13C-4,4'-DDE		24.6	17.8	72.3	1.57	0.891
13C-4,4'-DDD		24.2	16.6	68.8	1.64	0.951
13C-2,4'-DDT		24.0	15.6	64.8	1.54	0.955
13C-4,4'-DDT		24.2	15.1	62.7	1.52	0.996

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-7_Form2_CL92_036BS38_SJ2545027.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T03-1902
Sample Collection:
18-Feb-2019 11:31

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Project No.	PORTLAND HARBOR PDI AND BASELINE WATER
Matrix:	FILTER	Lab Sample I.D.:	L30771-8
Sample Receipt Date:	21-Feb-2019	Sample Size:	0.2 sample
Extraction Date:	12-Mar-2019	Initial Calibration Date:	10-Apr-2019
Analysis Date:	11-Apr-2019 Time: 16:43:19	Instrument ID:	HR GC/MS
Extract Volume (uL):	40	GC Column ID:	DB5
Injection Volume (uL):	1.0	Sample Data Filename:	CL92_036B S: 39
Dilution Factor:	N/A	Blank Data Filename:	CL92_036B S: 30
		Cal. Ver. Data Filename:	CL92_036B S: 25
Concentration Units:	ng/sample		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	3.52	0.150 (Q)	1.30	1.000
Aldrin	309-00-2	K J	0.492	0.301 (Q)	0.68	1.000
Chlordane, oxy-	27304-13-8	U G		0.301 (Q)		
Chlordane, gamma (trans)	5103-74-2	K J	3.92	0.301 (Q)	0.87	1.001
Chlordane, alpha (cis)	5103-71-9	J	3.10	0.301 (Q)	1.02	1.026
Nonachlor, trans-	39765-80-5	K J	4.79	0.301 (Q)	0.93	1.001
Nonachlor, cis-	5103-73-1	K J	2.06	0.301 (Q)	0.80	1.000
2,4'-DDD	53-19-0	J	3.82	0.395 (S)	1.42	0.951
4,4'-DDD	72-54-8	J	14.8	0.500 (S)	1.56	1.000
2,4'-DDE	3424-82-6	J	1.21	0.301 (Q)	1.70	1.000
4,4'-DDE	72-55-9		51.9	0.301 (Q)	1.49	1.001
2,4'-DDT	789-02-6	J	9.03	0.858 (S)	1.52	1.001
4,4'-DDT	50-29-3		94.3	0.948 (S)	1.56	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-8_Form1A_CL92_036BS39_SJ2545028.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 2
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T03-1902
Sample Collection:
18-Feb-2019 11:31

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972
Matrix: FILTER
Sample Receipt Date: 21-Feb-2019
Extraction Date: 12-Mar-2019
Analysis Date: 11-Apr-2019 **Time:** 16:43:19
Extract Volume (uL): 40
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: ng absolute

Project No. PORTLAND HARBOR PDI AND
BASELINE WATER
Lab Sample I.D.: L30771-8
Sample Size: 0.2 sample
Initial Calibration Date: 10-Apr-2019
Instrument ID: HR GC/MS
GC Column ID: DB5
Sample Data Filename: CL92_036B S: 39
Blank Data Filename: CL92_036B S: 30
Cal. Ver. Data Filename: CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		48.6	31.2	64.3	1.36	0.790
13C-Aldrin		48.0	28.6	59.5	1.55	1.031
13C-Chlordane, oxy	G	48.0	32.0	66.6	1.66	1.111
13C-Chlordane, gamma (trans)		48.0	41.6	86.6	1.20	0.839
13C-Nonachlor, trans-		48.0	39.3	82.0	1.21	0.868
13C-Nonachlor, cis-		48.9	42.3	86.4	1.38	0.956
13C-2,4'-DDE		48.0	43.5	90.6	1.60	0.847
13C-4,4'-DDE		49.2	45.4	92.3	1.61	0.891
13C-4,4'-DDD		48.3	43.0	88.9	1.63	0.950
13C-2,4'-DDT		48.0	40.1	83.6	1.63	0.955
13C-4,4'-DDT		48.3	40.1	82.9	1.61	0.996

(1) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.

(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_L30771-8_Form2_CL92_036BS39_SJ2545028.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 1A
PESTICIDE ANALYSIS REPORTCLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972

Matrix: FILTER

Sample Receipt Date: N/A

Extraction Date: 12-Mar-2019

Analysis Date: 11-Apr-2019 Time: 11:06:47

Extract Volume (uL): 40

Injection Volume (uL): 1.0

Dilution Factor: N/A

Project No. N/A

Lab Sample I.D.: WG67275-101

Sample Size: 0.2 sample

Initial Calibration Date: 10-Apr-2019

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: CL92_036B S: 30

Blank Data Filename: CL92_036B S: 30

Cal. Ver. Data Filename: CL92_036B S: 25

Concentration Units: ng/sample

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT (RL) ²	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	J	0.276	0.147 (Q)	1.35	0.999
Aldrin	309-00-2	U		0.293 (Q)		
Chlordane, oxy-	27304-13-8	U		0.433 (S)		
Chlordane, gamma (trans)	5103-74-2	U		0.293 (Q)		
Chlordane, alpha (cis)	5103-71-9	U		0.293 (Q)		
Nonachlor, trans-	39765-80-5	K J	0.372	0.293 (Q)	0.67	1.001
Nonachlor, cis-	5103-73-1	K J	0.568	0.293 (Q)	0.24	1.000
2,4'-DDD	53-19-0	U		0.349 (S)		
4,4'-DDD	72-54-8	U		0.442 (S)		
2,4'-DDE	3424-82-6	U		0.293 (Q)		
4,4'-DDE	72-55-9	U		0.293 (Q)		
2,4'-DDT	789-02-6	U		0.786 (S)		
4,4'-DDT	50-29-3	U		0.834 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_WG67275-101_Form1A_CL92_036BS30_SJ2545019.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2
PESTICIDE ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972

Matrix: FILTER

Sample Receipt Date: N/A

Extraction Date: 12-Mar-2019

Analysis Date: 11-Apr-2019 Time: 11:06:47

Extract Volume (uL): 40

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No.

N/A

Lab Sample I.D.:

WG67275-101

Sample Size:

0.2 sample

Initial Calibration Date:

10-Apr-2019

Instrument ID:

HR GC/MS

GC Column ID:

DB5

Sample Data Filename:

CL92_036B S: 30

Blank Data Filename:

CL92_036B S: 30

Cal. Ver. Data Filename:

CL92_036B S: 25

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		24.3	17.0	69.8	1.30	0.791
13C-Aldrin		24.0	14.3	59.5	1.58	1.029
13C-Chlordane, oxy		24.0	11.8	49.3	1.44	1.108
13C-Chlordane, gamma (trans)		24.0	17.5	72.9	1.30	0.840
13C-Nonachlor, trans-		24.0	15.4	64.2	1.19	0.868
13C-Nonachlor, cis-		24.5	18.2	74.6	1.20	0.956
13C-2,4'-DDE		24.0	18.5	77.2	1.59	0.847
13C-4,4'-DDE		24.6	20.0	81.4	1.59	0.891
13C-4,4'-DDD		24.2	16.5	68.1	1.57	0.950
13C-2,4'-DDT		24.0	14.8	61.5	1.67	0.955
13C-4,4'-DDT		24.2	15.9	65.9	1.67	0.996

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

For Axy Internal Use Only [XSL Template: Pest2.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: Pest_PEST_HI_E1HI_WG67275-101_Form2_CL92_036BS30_SJ2545019.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 8A

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972

OPR Data Filename: CL92_036B S: 27

Matrix: FILTER

Lab Sample I.D.: WG67275-102

Extraction Date: 12-Mar-2019

Analysis Date: 11-Apr-2019 Time: 09:14:36

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Hexachlorobenzene	118-74-1		1.32	120	122	84.0 - 156	102
Aldrin	309-00-2		1.42	312	320	218 - 405	103
Chlordane, oxy-	27304-13-8	G	1.42	240	231	168 - 312	96.3
Chlordane, gamma (trans)	5103-74-2		1.27	240	237	168 - 312	98.7
Chlordane, alpha (cis)	5103-71-9		1.28	241	272	168 - 313	113
Nonachlor, trans-	39765-80-5		1.12	204	209	143 - 265	102
Nonachlor, cis-	5103-73-1		1.25	240	249	168 - 312	104
2,4'-DDD	53-19-0		1.56	121	118	84.6 - 157	97.5
4,4'-DDD	72-54-8		1.50	145	149	102 - 189	102
2,4'-DDE	3424-82-6		1.50	121	126	84.8 - 158	104
4,4'-DDE	72-55-9		1.51	147	149	103 - 191	102
2,4'-DDT	789-02-6		1.57	120	123	83.8 - 156	102
4,4'-DDT	50-29-3		1.50	121	122	84.8 - 158	101

(1) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Ting Chen_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7; Report Filename: Pest_PEST_HI_E1HI_WG67275-102_Form8A_SJ2545015.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 8B

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4972

OPR Data Filename:

CL92_036B S: 27

Matrix: FILTER

Lab Sample I.D.:

WG67275-102

Extraction Date: 12-Mar-2019

Analysis Date:

11-Apr-2019 Time: 09:14:36

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELLED COMPOUND	CAS NO.	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C-Hexachlorobenzene	93952-14-8		1.32	243	181	48.6-365	74.6
13C-Aldrin			1.67	240	130	72.0-360	54.2
13C-Chlordane, oxy		G V	1.75	240	63.8	72.0-480	26.6
13C-Chlordane, gamma (trans)			1.18	240	161	72.0-480	67.3
13C-Nonachlor, trans-			1.28	240	122	72.0-360	51.0
13C-Nonachlor, cis-			1.22	245	189	73.4-367	77.4
13C-2,4'-DDE			1.60	240	184	96.0-360	76.6
13C-4,4'-DDE	201612-50-2		1.60	246	207	98.4-369	84.0
13C-4,4'-DDD			1.62	242	148	96.6-362	61.2
13C-2,4'-DDT			1.70	240	121	96.0-360	50.2
13C-4,4'-DDT	104215-84-1		1.57	242	137	96.6-362	56.9

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits; G = lock mass interference present.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Ting Chen _____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7; Report Filename: Pest_PEST_HI_E1HI_WG67275-102_Form8B_SJ2545015.html; Workgroup: WG67275; Design ID: 3361]

Form 3A
INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Apr-2019

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: CL92_036B S: 3

CS2 Data Filename: CL92_036B S: 4

CS3 Data Filename: CL92_036B S: 9

CS4 Data Filename: CL92_036B S: 6

CS5 Data Filename: CL92_036B S: 5

CS6 Data Filename: N/A

COMPOUND	LAB FLAG ¹	RELATIVE RESPONSE (RR)						MEAN RR	CV (%RSD) ²
		CS0	CS1	CS2	CS3	CS4	CS5		
Hexachlorobenzene			1.24	1.15	1.10	1.13	1.14	1.15	4.58
Aldrin			1.15	1.16	1.09	1.13	1.10	1.12	2.63
Chlordane, oxy-			1.08	1.01	1.05	1.10	0.97	1.04	4.81
Chlordane, gamma (trans)			1.09	1.06	1.03	1.06	1.01	1.05	3.25
Chlordane, alpha (cis)			1.05	1.03	0.99	1.03	0.96	1.01	3.64
Nonachlor, trans-			1.11	1.04	1.03	1.04	0.95	1.04	5.27
Nonachlor, cis-			1.15	1.09	1.02	1.05	0.94	1.05	7.66
2,4'-DDD			1.57	1.42	1.40	1.37	1.27	1.40	7.71
4,4'-DDD			1.11	1.10	1.07	1.13	1.13	1.11	2.08
2,4'-DDE			1.12	1.06	1.07	1.08	1.08	1.08	2.06
4,4'-DDE			1.13	1.08	1.06	1.07	1.06	1.08	2.59
2,4'-DDT			1.14	1.09	1.05	1.06	1.10	1.09	3.29
4,4'-DDT			1.33	1.33	1.25	1.30	1.33	1.31	2.67

(1) Where applicable, custom lab flags have been used on this report.

(2) QC limit is 20% for native compounds with a labeled analog, 35% for those without a labeled analog.

(3) Hexachlorobutadiene is not present in the calibration standards. Reported RRF is a weighted value of 1,2,3-Trichlorobenzene based on the analysis of an external standard.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Bjorn Arvi _____

SGS AXYS METHOD MLA-028 Rev 06

Form 3B
INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Apr-2019

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: CL92_036B S: 3

CS2 Data Filename: CL92_036B S: 4

CS3 Data Filename: CL92_036B S: 9

CS4 Data Filename: CL92_036B S: 6

CS5 Data Filename: CL92_036B S: 5

CS6 Data Filename: N/A

LABELED COMPOUND	LAB FLAG ¹	RELATIVE RESPONSE (RR)						MEAN RR	CV (%RSD) ²
		CS0	CS1	CS2	CS3	CS4	CS5		
13C-Hexachlorobenzene			1.76	1.68	1.73	1.84	1.87	1.78	4.33
13C-beta-HCH			0.62	0.59	0.62	0.77	0.84	0.69	15.7
13C-gamma-HCH			0.74	0.71	0.74	0.91	0.99	0.82	15.0
13C-delta-HCH			0.62	0.59	0.62	0.80	0.84	0.70	17.1
13C-Heptachlor			0.23	0.23	0.23	0.25	0.30	0.24	12.3
13C-Aldrin			0.53	0.50	0.51	0.58	0.63	0.55	9.62
13C-Chlordane, oxy			0.10	0.10	0.10	0.11	0.15	0.11	18.9
13C-Chlordane, gamma (trans)			0.21	0.20	0.22	0.24	0.27	0.23	12.1
13C-Nonachlor, trans-			0.16	0.16	0.17	0.18	0.21	0.18	12.1
13C-Nonachlor, cis-			0.13	0.12	0.13	0.14	0.15	0.13	9.58
13C-2,4'-DDE			2.61	2.54	2.64	2.80	3.00	2.72	6.82
13C-4,4'-DDE			2.04	1.98	2.04	2.12	2.34	2.10	6.65
13C-4,4'-DDD			1.21	1.26	1.33	1.58	2.02	1.48	22.5
13C-2,4'-DDT			0.81	0.81	0.88	1.05	1.30	0.97	21.5
13C-4,4'-DDT			0.51	0.52	0.51	0.65	0.88	0.62	26.1
13C-Mirex			1.20	1.18	1.24	1.30	1.45	1.28	8.47

(1) Where applicable, custom lab flags have been used on this report.

(2) QC limit is 35% for labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Bjorn Arvi _____

For Axys Internal Use Only [XSL Template: Form3B.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: PestHR_E1_Pest_10-Apr-2019_CL92__Form3B_GS81242.html; Workgroup: WG67275; Design ID: 3361]

Form 3C
INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Apr-2019

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: CL92_036B S: 3

CS2 Data Filename: CL92_036B S: 4

CS3 Data Filename: CL92_036B S: 9

CS4 Data Filename: CL92_036B S: 6

CS5 Data Filename: CL92_036B S: 5

CS6 Data Filename: N/A

COMPOUND	LAB FLAG ¹	M/Z's FORMING RATIO	ION ABUNDANCE RATIO						QC LIMITS ²
			CS0	CS1	CS2	CS3	CS4	CS5	
Hexachlorobenzene		284/286		1.27	1.29	1.28	1.28	1.28	1.00-1.50
Aldrin		263/265		1.38	1.43	1.46	1.42	1.43	1.24-1.86
Chlordane, oxy-		263/265		1.44	1.37	1.42	1.42	1.45	1.24-1.86
Chlordane, gamma (trans)		272/274		1.20	1.20	1.26	1.24	1.24	0.99-1.49
Chlordane, alpha (cis)		272/274		1.24	1.23	1.23	1.24	1.24	0.99-1.49
Nonachlor, trans-		272/274		1.17	1.26	1.22	1.23	1.24	0.99-1.49
Nonachlor, cis-		272/274		1.30	1.23	1.26	1.25	1.24	0.99-1.49
2,4'-DDD		235/237		1.53	1.54	1.52	1.52	1.51	1.25-1.87
4,4'-DDD		235/237		1.57	1.55	1.52	1.53	1.51	1.25-1.87
2,4'-DDE		246/248		1.47	1.48	1.51	1.50	1.49	1.25-1.87
4,4'-DDE		246/248		1.50	1.50	1.50	1.50	1.50	1.25-1.87
2,4'-DDT		235/237		1.45	1.41	1.52	1.48	1.45	1.25-1.87
4,4'-DDT		235/237		1.63	1.52	1.51	1.50	1.49	1.25-1.87

(1) Where applicable, custom lab flags have been used on this report.

(2) QC limits are +/- 20%.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Bjorn Arvi _____

Form 3D
INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811
Initial Calibration Date: 10-Apr-2019

Instrument ID: HR GC/MS**GC Column ID:** DB5

CS0 Data Filename: N/A
CS1 Data Filename: CL92_036B S: 3
CS2 Data Filename: CL92_036B S: 4
CS3 Data Filename: CL92_036B S: 9
CS4 Data Filename: CL92_036B S: 6
CS5 Data Filename: CL92_036B S: 5
CS6 Data Filename: N/A

LABELED COMPOUND	LAB FLAG ¹	M/Z's FORMING RATIO	ION ABUNDANCE RATIO						QC LIMITS ²
			CS0	CS1	CS2	CS3	CS4	CS5	
13C-Hexachlorobenzene		290/292		1.34	1.35	1.29	1.35	1.34	1.00-1.50
13C-beta-HCH		223/225		0.76	0.79	0.76	0.74	0.79	0.62-0.94
13C-gamma-HCH		223/225		0.80	0.77	0.75	0.76	0.78	0.62-0.94
13C-delta-HCH		223/225		0.77	0.75	0.75	0.78	0.79	0.62-0.94
13C-Heptachlor		277/279		1.24	1.39	1.27	1.32	1.31	0.99-1.49
13C-Aldrin		270/272		1.58	1.61	1.60	1.72	1.67	1.24-1.86
13C-Chlordane, oxy		270/272		1.52	1.72	1.70	1.72	1.63	1.09-2.02
13C-Chlordane, gamma (trans)		277/279		1.29	1.21	1.28	1.22	1.28	0.99-1.49
13C-Nonachlor, trans-		277/279		1.25	1.21	1.27	1.29	1.34	0.99-1.49
13C-Nonachlor, cis-		277/279		1.30	1.21	1.25	1.33	1.43	0.99-1.49
13C-2,4'-DDE		258/260		1.59	1.58	1.60	1.61	1.60	1.25-1.87
13C-4,4'-DDE		258/260		1.59	1.59	1.59	1.59	1.59	1.25-1.87
13C-4,4'-DDD		247/249		1.60	1.57	1.60	1.59	1.59	1.25-1.87
13C-2,4'-DDT		247/249		1.64	1.64	1.63	1.58	1.60	1.25-1.87
13C-4,4'-DDT		247/249		1.61	1.63	1.60	1.60	1.61	1.25-1.87
13C-Mirex		277/279		1.28	1.28	1.27	1.27	1.34	1.00-1.50

(1) Where applicable, custom lab flags have been used on this report.

(2) QC limits are +/- 20% (+/- 30% for labeled oxychlordane).

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Bjorn Arvi _____

SGS AXYS METHOD MLA-028 Rev 06

Form 4A
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Apr-2019 VER Data Filename: CL92_036B S: 25
 Instrument ID: HR GC/MS Analysis Date: 11-Apr-2019
 GC Column ID: DB5 Analysis Time: 07:59:51

COMPOUND	CAS NO.	LAB FLAG ¹	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Hexachlorobenzene	118-74-1		284/286	1.28	1.00-1.50	79.8	64.0-96.0
Aldrin	309-00-2		263/265	1.41	1.24-1.86	201	166-249
Chlordane, oxy-	27304-13-8		263/265	1.45	1.24-1.86	158	128-192
Chlordane, gamma (trans)	5103-74-2		272/274	1.23	0.99-1.49	160	128-192
Chlordane, alpha (cis)	5103-71-9		272/274	1.28	0.99-1.49	164	104-217
Nonachlor, trans-	39765-80-5		272/274	1.26	0.99-1.49	135	109-163
Nonachlor, cis-	5103-73-1		272/274	1.20	0.99-1.49	148	128-192
2,4'-DDD	53-19-0		235/237	1.54	1.25-1.87	82.3	52.4-109
4,4'-DDD	72-54-8		235/237	1.52	1.25-1.87	94.7	77.6-116
2,4'-DDE	3424-82-6		246/248	1.51	1.25-1.87	79.5	64.6-97.0
4,4'-DDE	72-55-9		246/248	1.50	1.25-1.87	96.7	78.4-118
2,4'-DDT	789-02-6		235/237	1.41	1.25-1.87	77.6	63.8-95.8
4,4'-DDT	50-29-3		235/237	1.51	1.25-1.87	78.0	64.6-97.0

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Amal Mudalige _____

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 Report Filename: PestHR_E1_Pest_CL92_036BS25_Form4A_SJ2545012.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 4B
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Apr-2019 VER Data Filename: CL92_036B S: 25
Instrument ID: HR GC/MS Analysis Date: 11-Apr-2019
GC Column ID: DB5 Analysis Time: 07:59:51

LABELLED COMPOUND	CAS NO.	LAB FLAG ¹	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)
13C-Hexachlorobenzene	93952-14-8		290/292	1.33	1.00-1.50	74.3
13C-beta-HCH	222966-68-9		223/225	0.74	0.62-0.94	71.4
13C-gamma-HCH	104215-85-2		223/225	0.76	0.62-0.94	68.9
13C-delta-HCH			223/225	0.78	0.62-0.94	72.2
13C-Heptachlor			277/279	1.38	0.99-1.49	57.8
13C-Aldrin			270/272	1.56	1.24-1.86	76.1
13C-Chlordane, oxy			270/272	1.44	1.09-2.02	64.0
13C-Chlordane, gamma (trans)			277/279	1.25	0.99-1.49	71.2
13C-Nonachlor, trans-			277/279	1.25	0.99-1.49	69.7
13C-Nonachlor, cis-			277/279	1.32	0.99-1.49	75.6
13C-2,4'-DDE			258/260	1.60	1.25-1.87	73.9
13C-4,4'-DDE	201612-50-2		258/260	1.60	1.25-1.87	78.3
13C-4,4'-DDD			247/249	1.62	1.25-1.87	66.0
13C-2,4'-DDT			247/249	1.64	1.25-1.87	56.8
13C-4,4'-DDT	104215-84-1		247/249	1.54	1.25-1.87	58.1
13C-Mirex			277/279	1.26	1.00-1.50	66.6

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Amal Mudalige _____

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Report Filename: PestHR_E1_Pest_CL92_036BS25__Form4B_SJ2545012.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 4A
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Apr-2019 VER Data Filename: CL92_036B S: 40
Instrument ID: HR GC/MS Analysis Date: 11-Apr-2019
GC Column ID: DB5 Analysis Time: 17:20:42

COMPOUND	CAS NO.	LAB FLAG ¹	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Hexachlorobenzene	118-74-1		284/286	1.30	1.00-1.50	78.3	64.0-96.0
Aldrin	309-00-2		263/265	1.46	1.24-1.86	201	166-249
Chlordane, oxy-	27304-13-8		263/265	1.42	1.24-1.86	159	128-192
Chlordane, gamma (trans)	5103-74-2		272/274	1.23	0.99-1.49	154	128-192
Chlordane, alpha (cis)	5103-71-9		272/274	1.23	0.99-1.49	161	104-217
Nonachlor, trans-	39765-80-5		272/274	1.24	0.99-1.49	134	109-163
Nonachlor, cis-	5103-73-1		272/274	1.26	0.99-1.49	150	128-192
2,4'-DDD	53-19-0		235/237	1.55	1.25-1.87	82.2	52.4-109
4,4'-DDD	72-54-8		235/237	1.51	1.25-1.87	94.5	77.6-116
2,4'-DDE	3424-82-6		246/248	1.47	1.25-1.87	77.8	64.6-97.0
4,4'-DDE	72-55-9		246/248	1.50	1.25-1.87	96.0	78.4-118
2,4'-DDT	789-02-6		235/237	1.52	1.25-1.87	79.1	63.8-95.8
4,4'-DDT	50-29-3		235/237	1.51	1.25-1.87	79.4	64.6-97.0

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Amal Mudalige _____

For Axys Internal Use Only [XSL Template: Pest4A.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: PestHR_E1_Pest_CL92_036BS40_Form4A_SJ2545029.html; Workgroup: WG67275; Design ID: 3361]

SGS AXYS METHOD MLA-028 Rev 06

Form 4B
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Apr-2019 VER Data Filename: CL92_036B S: 40
Instrument ID: HR GC/MS Analysis Date: 11-Apr-2019
GC Column ID: DB5 Analysis Time: 17:20:42

LABELLED COMPOUND	CAS NO.	LAB FLAG ¹	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)
13C-Hexachlorobenzene	93952-14-8		290/292	1.35	1.00-1.50	76.6
13C-beta-HCH	222966-68-9		223/225	0.76	0.62-0.94	66.8
13C-gamma-HCH	104215-85-2		223/225	0.77	0.62-0.94	69.3
13C-delta-HCH			223/225	0.77	0.62-0.94	66.4
13C-Heptachlor			277/279	1.27	0.99-1.49	67.4
13C-Aldrin			270/272	1.59	1.24-1.86	74.3
13C-Chlordane, oxy			270/272	1.71	1.09-2.02	67.0
13C-Chlordane, gamma (trans)			277/279	1.25	0.99-1.49	75.7
13C-Nonachlor, trans-			277/279	1.33	0.99-1.49	78.0
13C-Nonachlor, cis-			277/279	1.28	0.99-1.49	84.3
13C-2,4'-DDE			258/260	1.60	1.25-1.87	78.1
13C-4,4'-DDE	201612-50-2		258/260	1.58	1.25-1.87	78.2
13C-4,4'-DDD			247/249	1.61	1.25-1.87	71.2
13C-2,4'-DDT			247/249	1.62	1.25-1.87	69.4
13C-4,4'-DDT	104215-84-1		247/249	1.64	1.25-1.87	46.3
13C-Mirex			277/279	1.28	1.00-1.50	72.0

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____ Amal Mudalige _____

For Axys Internal Use Only [XSL Template: Pest4B.xsl; Created: 15-Apr-2019 14:35:25; Application: XMLTransformer-1.17.7;
Report Filename: PestHR_E1_Pest_CL92_036BS40_Form4B_SJ2545029.html; Workgroup: WG67275; Design ID: 3361]

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 41

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum		Solids		Tissue		Urine		Water		Water, Non-Potable	
				CALA		CALA		CALA		CALA		CALA		CALA	
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	deoxycholic acid	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	docosaheptaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001					Y							
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001					Y							
	Dodecanediolcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Dopamine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001					Y							
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001					Y							
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001					Y							
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Glutamate	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Glutamine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Glutaryl carnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Glycine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	glycocholic acid	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001					Y							
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001					Y							
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hexanoylcarnitine (Fumaryl carnitine)	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Histamine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Histidine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxybutyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxyproline	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxy sphingomyeline C14:1	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxy sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxy sphingomyeline C22:1	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxy sphingomyeline C22:2	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxy sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Hydroxyvaleryl carnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Isoleucine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Kynurenine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Leucine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lithocholic acid	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	Lysine	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001	Y				Y		Y					
	lysoPhosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001	Y				Y		Y					

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 41

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum		Solids		Tissue		Urine		Water		Water, Non-Potable		
				CALA		CALA		CALA		CALA		CALA		CALA		CALA
	lysophosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001	Y												
	lysophosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001	Y												
	lysophosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001	Y												
	lysophosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001	Y												
	Methionine	SGS AXYS MLM-001	MLM-001	Y												
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001	Y												
	Methylglutaryl carnitine	SGS AXYS MLM-001	MLM-001	Y												
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001	Y												
	Nonyl carnitine	SGS AXYS MLM-001	MLM-001	Y												
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													
	Octadecadienyl carnitine	SGS AXYS MLM-001	MLM-001	Y												
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													
	Octadecanoyl carnitine	SGS AXYS MLM-001	MLM-001	Y												
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													
	Octadecenoyl carnitine	SGS AXYS MLM-001	MLM-001	Y												
	Octanoyl carnitine	SGS AXYS MLM-001	MLM-001	Y												
	Ornithine	SGS AXYS MLM-001	MLM-001	Y												
	Phenylalanine	SGS AXYS MLM-001	MLM-001	Y												
	Phenylethylamine	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001	Y												
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001	Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 41

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum		Solids		Tissue		Urine	Water	Water, Non-Potable
				CALA		CALA		CALA		CALA		
						California DPH						
						Florida DOH						
						Minnesota DOH						
						New Jersey DEP						
						New York DOH						
						Virginia DGS						
						Washington DE						
						Maine DOH						
						ANAB ISO 17025						
						ANAB DoD **						
						CALA						
						Florida DOH						
						Minnesota DOH						
						New Jersey DEP						
						Virginia DGS						
						ANAB ISO 17025						
						CALA						
						CALA						
						California DPH						
						Florida DOH						
						Minnesota DOH						
						New Jersey DEP						
						New York DOH						
						Virginia DGS						
						Washington DE *						
						Maine DOH						
						Pennsylvania DEP						
						ANAB ISO 17025						
						ANAB DoD **						
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001	Y				Y				
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001	Y				Y				
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Proline	SGS AXYS MLM-001	MLM-001	Y				Y				
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Putrescine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sarcosine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Serine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Serotonin	SGS AXYS MLM-001	MLM-001	Y				Y				
	Spermidine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Spermine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001	Y				Y				
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001	Y				Y				
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y				Y				
	Taurine	SGS AXYS MLM-001	MLM-001	Y				Y				

Legend

Y	Accreditation scope
BFR	Brominated flame retardants (non-PBDPE)
BPA and mPE	Bisphenol A and mono-Phthalate Esters
HBCDD	Hexabromocyclododecane
OC Pesticides	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PBDPE	Polybrominated diphenylethers
PCB	Polychlorinated Biphenyls
PCDDF	Polychlorinated dibenzodioxins/furans
PFAS	Per- and Polyfluoroalkyl Substances
PPCP	Pharmaceutical and Personal Care Products
TBBPA	Tetrabromobisphenol A
TOP	Total Oxidizable Precursors
California DPH	California Department of Public Health, Lab ID 2911
Florida DOH	Florida Department of Health, Lab ID E871007, (NELAC Standard)
Pennsylvania DEP	Pennsylvania Department of Environmental Protection
Minnesota DOH	Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
New Jersey DEP	New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
New York DOH	New York Department of Health, Lab ID 11674, (NELAC Standard)
Washington DE	Washington Department of Ecology, Lab ID C404
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003

ANAB DoD ANSI-ASQ National Accreditation Board, certificate ADE-1861, (US DoD QSM 5.1 Standard)



CALA Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2005 Standard)



CALA

Testing Accreditation No. A 2637



ANAB ISO 17025 ANSI-ASQ National Accreditation Board, certificate ADE-1861.01, (ISO/IEC 17025:2005 Standard)

