SGS AXYS

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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:*** 18-Apr-2019
Analysis Type: PCB Congener	***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:

1. Data are considered final.
2. Data are not blank corrected. Blank data should be taken into consideration when evaluating sample data.
3. Blank data should be evaluated against specifications using the same blank sample size as the size of the client samples.
4. For sample V (Axys ID L30771-6), a mishap occurred in the spiking of the recovery standard (the internal standard added to the final extract prior to instrumental analysis), resulting in apparent over-recoveries of the surrogates. The quantification of the native analytes is not affected by this variance.
5. Some congeners are flagged G for the presence of lock mass interference.
6. In the duplication analysis, the relative differences for many of the mono-, di-, and trichlorinated congeners were well over 40%. The duplication was better for most of the tetra- to decachlorinated congeners.

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February 2017

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-1
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 17:16:55	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_043A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1
Concentration Units:	pg/sample		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		X				
3-MoCB	2		X				
4-MoCB	3		X				
2,2'-DiCB	4		U		277 (S)		
2,3-DiCB	5		U		211 (S)		
2,3'-DiCB	6		U		191 (S)		
2,4-DiCB	7		U		197 (S)		
2,4'-DiCB	8		U		175 (S)		
2,5-DiCB	9		U		190 (S)		
2,6-DiCB	10		U		191 (S)		
3,3'-DiCB	11		U		212 (S)		
3,4-DiCB	12	12 + 13	C U		205 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		195 (S)		
4,4'-DiCB	15		U		224 (S)		
2,2',3-TriCB	16			46.3	30.3 (S)	1.20	1.164
2,2',4-TriCB	17		K	53.8	23.6 (S)	1.35	1.137
2,2',5-TriCB	18	18 + 30	C	96.1	20.4 (S)	1.07	1.112
2,2',6-TriCB	19		U		24.5 (S)		
2,3,3'-TriCB	20	20 + 28	C	133	8.97 (S)	0.99	0.849
2,3,4-TriCB	21	21 + 33	C	74.6	9.07 (S)	1.13	0.858
2,3,4'-TriCB	22			39.8	9.84 (S)	1.04	0.873
2,3,5-TriCB	23		U		9.62 (S)		
2,3,6-TriCB	24		U		17.4 (S)		
2,3',4-TriCB	25		K J	13.8	7.98 (S)	1.27	0.826
2,3',5-TriCB	26	26 + 29	C J	27.3	9.12 (S)	1.07	1.299
2,3',6-TriCB	27		U		17.3 (S)		
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			111	8.45 (S)	1.03	0.837
2,4',6-TriCB	32		J	30.4	8.57 (S)	1.07	1.196
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		9.26 (S)		
3,3',4-TriCB	35		U		9.99 (S)		
3,3',5-TriCB	36		U		9.11 (S)		
3,4,4'-TriCB	37		J	32.5	11.2 (S)	1.14	1.001
3,4,5-TriCB	38		U		9.36 (S)		
3,4',5-TriCB	39		U		9.16 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C K J	32.7	11.3 (S)	0.92	1.334
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		K J	14.4	11.5 (S)	0.61	1.309
2,2',3,5-TeCB	43		U		12.3 (S)		
2,2',3,5'-TeCB	44	44 + 47 + 65	C	111	9.97 (S)	0.71	1.284
2,2',3,6-TeCB	45	45 + 51	C	88.9	10.7 (S)	0.86	1.147
2,2',3,6'-TeCB	46		U		12.3 (S)		
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		K J	12.1	11.1 (S)	0.53	1.271
2,2',4,5'-TeCB	49	49 + 69	C	40.6	9.41 (S)	0.73	1.257
2,2',4,6-TeCB	50	50 + 53	C U		10.4 (S)		
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			56.4	9.86 (S)	0.79	1.232
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		6.81 (S)		
2,3,3',4-TeCB	55		U		6.54 (S)		
2,3,3',4'-TeCB	56		K J	9.35	6.99 (S)	0.41	0.905
2,3,3',5-TeCB	57		U		6.26 (S)		
2,3,3',5'-TeCB	58		U		6.72 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C U		8.07 (S)		
2,3,4,4'-TeCB	60		U		6.67 (S)		
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	49.4	6.36 (S)	0.68	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		6.08 (S)		
2,3,4',6-TeCB	64		J	24.7	8.11 (S)	0.87	1.346
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		J	15.3	6.21 (S)	0.72	0.885
2,3',4,5-TeCB	67		U		5.56 (S)		
2,3',4,5'-TeCB	68			83.7	6.22 (S)	0.67	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		U		6.03 (S)		
2,3',5',6-TeCB	73		U		8.53 (S)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		U		7.15 (S)		
3,3',4,5-TeCB	78		U		6.62 (S)		
3,3',4,5'-TeCB	79		U		5.67 (S)		
3,3',5,5'-TeCB	80		U		6.04 (S)		
3,4,4',5-TeCB	81		U		7.25 (S)		
2,2',3,3',4-PeCB	82		U		6.39 (S)		
2,2',3,3',5-PeCB	83	83 + 99	C K J	22.7	5.90 (S)	1.00	0.886
2,2',3,3',6-PeCB	84		J	12.8	6.40 (S)	1.57	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C K J	5.69	4.76 (S)	1.11	0.921
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C K	36.5	5.04 (S)	0.91	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C U		5.70 (S)		
2,2',3,4,6'-PeCB	89		U		5.95 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C K J	30.0	5.08 (S)	1.10	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		U		5.84 (S)		
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C J	30.9	5.51 (S)	1.38	1.120
2,2',3,5,6'-PeCB	94		U		6.12 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		6.33 (S)		
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		U		4.99 (S)		
2,2',4,6,6'-PeCB	104		U		6.40 (S)		
2,3,3',4,4'-PeCB	105		J	18.5	4.92 (S)	1.59	1.000
2,3,3',4,5-PeCB	106		U		4.89 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C U		5.56 (S)		
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		U		4.72 (S)		
2,3,3',4',6-PeCB	110	110 + 115	C	38.0	4.36 (S)	1.40	0.925
2,3,3',5,5'-PeCB	111		U		4.45 (S)		
2,3,3',5,6-PeCB	112		U		4.35 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		U		4.98 (S)		
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			43.8	5.42 (S)	1.48	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		4.17 (Q)		
2,3',4,5',6-PeCB	121		U		4.33 (S)		
2',3,3',4,5-PeCB	122		U		5.53 (S)		
2',3,4,4',5-PeCB	123		U		5.64 (S)		
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		6.10 (S)		
3,3',4,5,5'-PeCB	127		U		5.40 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C U		7.11 (S)		
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	49.5	7.01 (S)	1.10	0.929
2,2',3,3',4,5'-HxCB	130		U		8.47 (S)		
2,2',3,3',4,6-HxCB	131		U		8.65 (S)		
2,2',3,3',4,6'-HxCB	132		K J	16.6	8.30 (S)	2.05	1.174
2,2',3,3',5,5'-HxCB	133		U		7.67 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C U		8.19 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C J	10.5	6.06 (S)	1.28	1.105
2,2',3,3',6,6'-HxCB	136		U		4.68 (S)		
2,2',3,4,4',5-HxCB	137		U		8.02 (S)		
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C U		7.34 (S)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		U		7.21 (S)		
2,2',3,4,5,6-HxCB	142		U		7.99 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		U		6.06 (S)		
2,2',3,4,6,6'-HxCB	145		U		4.90 (S)		
2,2',3,4',5,5'-HxCB	146		U		6.69 (S)		
2,2',3,4',5,6-HxCB	147	147 + 149	C K J	25.1	7.36 (S)	0.99	1.133
2,2',3,4',5,6'-HxCB	148		U		6.15 (S)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.61 (S)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.32 (S)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	40.3	6.08 (S)	1.34	0.900
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		4.17 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C K J	8.55	7.27 (S)	0.33	0.999
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		K J	6.89	5.38 (S)	1.46	0.938
2,3,3',4,5,5'-HxCB	159		U		5.99 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		5.47 (S)		
2,3,3',4',5,5'-HxCB	162		U		5.78 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		U		5.88 (S)		
2,3,3',5,5',6-HxCB	165		U		6.29 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		U		5.86 (S)		
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		6.20 (S)		
2,2',3,3',4,4',5-HpCB	170		U		9.48 (S)		
2,2',3,3',4,4',6-HpCB	171	171 + 173	C U		9.20 (S)		
2,2',3,3',4,5,5'-HpCB	172		U		9.28 (S)		
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		U		8.62 (S)		
2,2',3,3',4,5',6-HpCB	175		U		8.12 (S)		
2,2',3,3',4,6,6'-HpCB	176		U		6.14 (S)		
2,2',3,3',4',5,6-HpCB	177		U		8.14 (S)		
2,2',3,3',5,5',6-HpCB	178		U		8.63 (S)		
2,2',3,3',5,6,6'-HpCB	179		U		5.92 (S)		
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C J	24.4	9.45 (S)	0.93	1.000
2,2',3,4,4',5,6-HpCB	181		U		8.44 (S)		
2,2',3,4,4',5,6'-HpCB	182		U		8.10 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C U		8.33 (S)		
2,2',3,4,4',6,6'-HpCB	184		U		5.76 (S)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		6.42 (S)		
2,2',3,4',5,5',6-HpCB	187		U		8.08 (S)		
2,2',3,4',5,6,6'-HpCB	188		U		6.13 (S)		
2,3,3',4,4',5,5'-HpCB	189		U		4.17 (Q)		
2,3,3',4,4',5,6-HpCB	190		U		6.99 (S)		
2,3,3',4,4',5',6-HpCB	191		U		7.01 (S)		
2,3,3',4,5,5',6-HpCB	192		U		7.55 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		U		5.73 (S)		
2,2',3,3',4,4',5,6-OcCB	195		U		6.17 (S)		
2,2',3,3',4,4',5,6'-OcCB	196		U		12.8 (S)		
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C U		8.79 (S)		
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C U		13.3 (S)		
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		U		8.70 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		U		9.91 (S)		
2,2',3,4,4',5,5',6-OcCB	203		U		12.2 (S)		
2,2',3,4,4',5,6,6'-OcCB	204		U		8.77 (S)		
2,3,3',4,4',5,5',6-OcCB	205		U		4.68 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		U		12.7 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		U		9.91 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		11.1 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	19.4	6.52 (S)	1.57	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; C = co-eluting congener; X = result reported separately.
(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: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 18-Apr-2019 17:10:23; Application: XMLTransformer-1.17.7;
Report Filename: 1668_PCB1668_PCBTF_L30771-1_Form1A_PB9B_043AS8_SJ2546913.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-1
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 17:16:55	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_043A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1
Concentration Units:	pg absolute		

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	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L		X					
13C12-2,2'-DiCB	4L			4000	2340	58.6	1.64	0.876
13C12-4,4'-DiCB	15L			4000	2360	58.9	1.66	1.248
13C12-2,2',6-TriCB	19L			4000	2250	56.3	1.08	1.070
13C12-3,4,4'-TriCB	37L			4000	2710	67.6	1.00	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2910	72.9	0.80	0.812
13C12-3,3',4,4'-TeCB	77L			4000	2520	63.1	0.81	1.394
13C12-3,4,4',5-TeCB	81L			4000	2470	61.7	0.79	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	2710	67.8	1.54	0.809
13C12-2,3,3',4,4'-PeCB	105L			4000	3020	75.6	1.50	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2900	72.4	1.58	1.179
13C12-2,3',4,4',5-PeCB	118L			4000	2690	67.4	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	2650	66.3	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2610	65.2	1.49	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2900	72.6	1.29	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5400	67.5	1.33	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2550	63.9	1.29	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2670	66.9	1.32	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3230	80.6	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2960	74.0	1.09	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2600	65.0	1.07	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3190	79.7	1.08	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2440	61.0	0.92	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	2900	72.6	0.93	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2730	68.2	0.80	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	2480	62.1	0.83	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2560	64.1	1.17	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	3010	75.3	1.00	0.925
13C12-2,3,3',5,5'-PeCB	111L			4000	2800	69.9	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	2670	66.8	1.12	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of 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: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 18-Apr-2019 17:10:23; Application: XMLTransformer-1.17.7;
Report Filename: 1668_PCB1668_PCBTF_L30771-1_Form2_PB9B_043AS8_SJ2546913.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-1 W
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Apr-2019 **Time:** 01:33:34	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB9B_046 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1
Concentration Units:	pg/sample		

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		D J	114	23.8 (S)	2.93	1.003
3-MoCB	2		K D J	37.7	25.4 (S)	3.75	0.988
4-MoCB	3		K D J	129	27.1 (S)	5.72	1.000
2,2'-DiCB	4		X				
2,3-DiCB	5		X				
2,3'-DiCB	6		X				
2,4-DiCB	7		X				
2,4'-DiCB	8		X				
2,5-DiCB	9		X				
2,6-DiCB	10		X				
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TriCB	16		X				
2,2',4-TriCB	17		X				
2,2',5-TriCB	18	18 + 30	C X				
2,2',6-TriCB	19		X				
2,3,3'-TriCB	20	20 + 28	C X				
2,3,4-TriCB	21	21 + 33	C X				
2,3,4'-TriCB	22		X				
2,3,5-TriCB	23		X				
2,3,6-TriCB	24		X				
2,3',4-TriCB	25		X				
2,3',5-TriCB	26	26 + 29	C X				
2,3',6-TriCB	27		X				
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31		X				
2,4',6-TriCB	32		X				
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		X				
3,3',4-TriCB	35		X				
3,3',5-TriCB	36		X				
3,4,4'-TriCB	37		X				
3,4,5-TriCB	38		X				
3,4',5-TriCB	39		X				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C X				
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		X				
2,2',3,5-TeCB	43		X				
2,2',3,5'-TeCB	44	44 + 47 + 65	C X				
2,2',3,6-TeCB	45	45 + 51	C X				
2,2',3,6'-TeCB	46		X				
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		X				
2,2',4,5'-TeCB	49	49 + 69	C X				
2,2',4,6-TeCB	50	50 + 53	C X				
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		X				
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		X				
2,3,3',4-TeCB	55		X				
2,3,3',4'-TeCB	56		X				
2,3,3',5-TeCB	57		X				
2,3,3',5'-TeCB	58		X				
2,3,3',6-TeCB	59	59 + 62 + 75	C X				
2,3,4,4'-TeCB	60		X				
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C X				
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		X				
2,3,4',6-TeCB	64		X				
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		X				
2,3',4,5-TeCB	67		X				
2,3',4,5'-TeCB	68		X				
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		X				
2,3',5',6-TeCB	73		X				
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		X				
3,3',4,5'-TeCB	79		X				
3,3',5,5'-TeCB	80		X				
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82		X				
2,2',3,3',5-PeCB	83	83 + 99	C X				
2,2',3,3',6-PeCB	84		X				
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C X				
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C X				
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C X				
2,2',3,4,6'-PeCB	89		X				
2,2',3,4',5-PeCB	90	90 + 101 + 113	C X				
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		X				
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C X				
2,2',3,5,6'-PeCB	94		X				
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		X				
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		X				
2,2',4,6,6'-PeCB	104		X				
2,3,3',4,4'-PeCB	105		X				
2,3,3',4,5-PeCB	106		X				
2,3,3',4',5-PeCB	107	107 + 124	C X				
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		X				
2,3,3',4',6-PeCB	110	110 + 115	C X				
2,3,3',5,5'-PeCB	111		X				
2,3,3',5,6-PeCB	112		X				
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		X				
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		X				
2,3',4,5',6-PeCB	121		X				
2',3,3',4,5-PeCB	122		X				
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		X				
2,2',3,3',4,4'-HxCB	128	128 + 166	C X				
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C X				
2,2',3,3',4,5'-HxCB	130		X				
2,2',3,3',4,6-HxCB	131		X				
2,2',3,3',4,6'-HxCB	132		X				
2,2',3,3',5,5'-HxCB	133		X				
2,2',3,3',5,6-HxCB	134	134 + 143	C X				
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C X				
2,2',3,3',6,6'-HxCB	136		X				
2,2',3,4,4',5-HxCB	137		X				
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C X				
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		X				
2,2',3,4,5,6-HxCB	142		X				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		X				
2,2',3,4,6,6'-HxCB	145		X				
2,2',3,4',5,5'-HxCB	146		X				
2,2',3,4',5,6-HxCB	147	147 + 149	C X				
2,2',3,4',5,6'-HxCB	148		X				
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		X				
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		X				
2,2',4,4',5,5'-HxCB	153	153 + 168	C X				
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		X				
2,3,3',4,5,5'-HxCB	159		X				
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		X				
2,3,3',4',5,5'-HxCB	162		X				
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		X				
2,3,3',5,5',6-HxCB	165		X				
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,3',4,4',6-HpCB	171	171 + 173	C X				
2,2',3,3',4,5,5'-HpCB	172		X				
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		X				
2,2',3,3',4,5',6-HpCB	175		X				
2,2',3,3',4,6,6'-HpCB	176		X				
2,2',3,3',4',5,6-HpCB	177		X				
2,2',3,3',5,5',6-HpCB	178		X				
2,2',3,3',5,6,6'-HpCB	179		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C X				
2,2',3,4,4',5,6-HpCB	181		X				
2,2',3,4,4',5,6'-HpCB	182		X				
2,2',3,4,4',5',6-HpCB	183	183 + 185	C X				
2,2',3,4,4',6,6'-HpCB	184		X				
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		X				
2,2',3,4',5,5',6-HpCB	187		X				
2,2',3,4',5,6,6'-HpCB	188		X				
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190		X				
2,3,3',4,4',5',6-HpCB	191		X				
2,3,3',4,5,5',6-HpCB	192		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		X				
2,2',3,3',4,4',5,6-OcCB	195		X				
2,2',3,3',4,4',5,6'-OcCB	196		X				
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C X				
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C X				
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		X				
2,2',3,3',5,5',6,6'-OcCB	202		X				
2,2',3,4,4',5,5',6-OcCB	203		X				
2,2',3,4,4',5,6,6'-OcCB	204		X				
2,3,3',4,4',5,5',6-OcCB	205		X				
2,2',3,3',4,4',5,5',6-NoCB	206		X				
2,2',3,3',4,4',5,6,6'-NoCB	207		X				
2,2',3,3',4,5,5',6,6'-NoCB	208		X				
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X				

(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; D = dilution data; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(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: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 18-Apr-2019 17:10:23; Application: XMLTransformer-1.17.7;
Report Filename: 1668_PCB1668_PCBTF_L30771-1_Form1A_PB9B_046S6_SJ2547919.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-1 W
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Apr-2019 **Time:** 01:33:34	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB9B_046 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1
Concentration Units:	pg absolute		

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	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		D	4000	2650	66.3	3.15	0.716
13C12-4-MoCB	3L		D	4000	2360	59.1	3.39	0.857
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L		X					
13C12-3,4,4'-TriCB	37L		X					
13C12-2,2',6,6'-TeCB	54L		X					
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,2',4,6,6'-PeCB	104L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,2',4,4',6,6'-HxCB	155L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,2',3,4',5,6,6'-HpCB	188L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		X					
13C12-2,3,3',4,4',5,5',6-OcCB	205L		X					
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X					
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L		X					
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of 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: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 18-Apr-2019 17:10:23; Application: XMLTransformer-1.17.7;
Report Filename: 1668_PCB1668_PCBTF_L30771-1_Form2_PB9B_046S6_SJ2547919.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-2
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 18:21:16	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_043A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1
Concentration Units:	pg/sample		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			70.4	7.96 (S)	3.45	1.001
3-MoCB	2			40.3	7.59 (S)	2.67	0.988
4-MoCB	3			75.0	6.82 (S)	3.24	1.000
2,2'-DiCB	4		U		500 (S)		
2,3-DiCB	5		U		324 (S)		
2,3'-DiCB	6		U		294 (S)		
2,4-DiCB	7		U		302 (S)		
2,4'-DiCB	8		U		269 (S)		
2,5-DiCB	9		U		292 (S)		
2,6-DiCB	10		U		293 (S)		
3,3'-DiCB	11			809	325 (S)	1.56	0.969
3,4-DiCB	12	12 + 13	C U		315 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		299 (S)		
4,4'-DiCB	15		U		314 (S)		
2,2',3-TriCB	16		K	102	24.5 (S)	1.27	1.166
2,2',4-TriCB	17			197	19.1 (S)	0.94	1.139
2,2',5-TriCB	18	18 + 30	C	218	16.4 (S)	0.92	1.114
2,2',6-TriCB	19		K	42.5	24.1 (S)	0.86	1.001
2,3,3'-TriCB	20	20 + 28	C	575	9.15 (S)	1.05	0.849
2,3,4-TriCB	21	21 + 33	C	209	9.25 (S)	1.01	0.857
2,3,4'-TriCB	22			166	10.0 (S)	1.10	0.873
2,3,5-TriCB	23		U		9.81 (S)		
2,3,6-TriCB	24		U		14.0 (S)		
2,3',4-TriCB	25			80.8	8.15 (S)	0.89	0.826
2,3',5-TriCB	26	26 + 29	C	114	9.30 (S)	1.00	1.302
2,3',6-TriCB	27		K J	23.0	13.9 (S)	1.37	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			449	8.62 (S)	1.07	0.838
2,4',6-TriCB	32			102	8.75 (S)	1.04	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		9.45 (S)		
3,3',4-TriCB	35		K J	22.7	10.2 (S)	1.95	0.986
3,3',5-TriCB	36		K J	9.54	9.30 (S)	0.78	0.932
3,4,4'-TriCB	37			194	10.2 (S)	1.04	1.001
3,4,5-TriCB	38		U		9.55 (S)		
3,4',5-TriCB	39		U		9.34 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	344	10.5 (S)	0.73	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		K	193	10.7 (S)	0.58	1.312
2,2',3,5-TeCB	43		J	16.3	11.4 (S)	0.81	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1260	9.27 (S)	0.85	1.286
2,2',3,6-TeCB	45	45 + 51	C	549	9.99 (S)	0.86	1.149
2,2',3,6'-TeCB	46			35.0	11.4 (S)	0.70	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			103	10.3 (S)	0.70	1.274
2,2',4,5'-TeCB	49	49 + 69	C	529	8.74 (S)	0.85	1.260
2,2',4,6-TeCB	50	50 + 53	C	99.7	9.67 (S)	0.77	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			862	9.16 (S)	0.81	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		7.35 (S)		
2,3,3',4-TeCB	55		U		14.5 (S)		
2,3,3',4'-TeCB	56			338	15.4 (S)	0.77	0.905
2,3,3',5-TeCB	57		U		13.8 (S)		
2,3,3',5'-TeCB	58		U		14.9 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K	52.2	7.50 (S)	0.90	1.301
2,3,4,4'-TeCB	60			133	14.7 (S)	0.86	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1230	14.1 (S)	0.81	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	31.5	13.4 (S)	0.84	0.865
2,3,4',6-TeCB	64			295	7.54 (S)	0.80	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			779	13.7 (S)	0.81	0.885
2,3',4,5-TeCB	67		K J	16.7	12.3 (S)	0.44	0.857
2,3',4,5'-TeCB	68			284	13.7 (S)	0.88	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		J	16.0	13.3 (S)	0.85	0.823
2,3',5',6-TeCB	73		U		7.93 (S)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			111	14.7 (S)	0.84	1.000
3,3',4,5-TeCB	78		U		14.6 (S)		
3,3',4,5'-TeCB	79		K J	17.0	12.5 (S)	1.02	0.970
3,3',5,5'-TeCB	80		U		13.4 (S)		
3,4,4',5-TeCB	81		U		15.1 (S)		
2,2',3,3',4-PeCB	82			158	7.53 (S)	1.70	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	774	6.96 (S)	1.51	0.885
2,2',3,3',6-PeCB	84		K	267	7.54 (S)	1.17	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	230	5.61 (S)	1.60	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	857	5.94 (S)	1.52	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	189	6.72 (S)	1.38	1.154
2,2',3,4,6'-PeCB	89		K J	12.5	7.01 (S)	0.81	1.181
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1310	5.99 (S)	1.61	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			268	6.88 (S)	1.49	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	955	6.50 (S)	1.55	1.120
2,2',3,5,6'-PeCB	94		U		7.21 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	10.5	6.20 (S)	1.33	1.013
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K J	16.8	5.88 (S)	1.17	1.093
2,2',4,6,6'-PeCB	104		U		7.35 (S)		
2,3,3',4,4'-PeCB	105			524	11.7 (S)	1.49	1.000
2,3,3',4,5-PeCB	106		U		11.8 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	49.6	13.5 (S)	1.32	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			115	11.4 (S)	1.37	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1510	5.14 (S)	1.65	0.925
2,3,3',5,5'-PeCB	111		U		5.24 (S)		
2,3,3',5,6-PeCB	112		U		5.13 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	32.3	12.6 (S)	1.55	1.001
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			1350	12.6 (S)	1.58	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	7.62	4.86 (S)	1.80	0.959
2,3',4,5',6-PeCB	121		U		5.11 (S)		
2',3,3',4,5-PeCB	122		K J	19.2	13.4 (S)	4.48	1.009
2',3,4,4',5-PeCB	123		J	31.2	12.7 (S)	1.57	1.000
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		13.6 (S)		
3,3',4,5,5'-PeCB	127		U		13.1 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	343	10.1 (S)	1.27	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	3070	9.91 (S)	1.30	0.928
2,2',3,3',4,5'-HxCB	130			156	12.0 (S)	1.32	0.913
2,2',3,3',4,6-HxCB	131		K J	27.2	12.2 (S)	2.41	1.158
2,2',3,3',4,6'-HxCB	132			768	11.7 (S)	1.23	1.173
2,2',3,3',5,5'-HxCB	133			51.3	10.8 (S)	1.33	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C	121	11.6 (S)	1.12	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	837	6.99 (S)	1.22	1.102
2,2',3,3',6,6'-HxCB	136			268	5.40 (S)	1.25	1.023
2,2',3,4,4',5-HxCB	137			62.7	11.3 (S)	1.14	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K J	28.5	10.4 (S)	1.84	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			536	10.2 (S)	1.18	0.904
2,2',3,4,5,6-HxCB	142		U		11.3 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K	115	6.99 (S)	0.86	1.121
2,2',3,4,6,6'-HxCB	145		U		5.65 (S)		
2,2',3,4',5,5'-HxCB	146			459	9.46 (S)	1.33	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	2270	10.4 (S)	1.28	1.132
2,2',3,4',5,6'-HxCB	148		U		7.09 (S)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		5.32 (S)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.98 (S)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	2420	8.60 (S)	1.31	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		5.29 (S)		
2,3,3',4,4',5-HxCB	156	156 + 157	C	295	9.94 (S)	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			267	7.61 (S)	1.32	0.938
2,3,3',4,5,5'-HxCB	159		K	35.3	8.46 (S)	2.11	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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2,3,3',4,5',6-HxCB	161		U		7.73 (S)		
2,3,3',4',5,5'-HxCB	162		U		8.17 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			243	8.31 (S)	1.17	0.921
2,3,3',5,5',6-HxCB	165		U		8.89 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			117	7.88 (S)	1.18	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		8.32 (S)		
2,2',3,3',4,4',5-HpCB	170			883	9.80 (S)	1.07	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	253	9.71 (S)	1.19	1.162
2,2',3,3',4,5,5'-HpCB	172			143	9.80 (S)	0.94	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			853	9.10 (S)	1.07	1.132
2,2',3,3',4,5',6-HpCB	175		K	41.6	8.57 (S)	1.21	1.102
2,2',3,3',4,6,6'-HpCB	176			107	6.48 (S)	0.92	1.034
2,2',3,3',4',5,6-HpCB	177			551	8.59 (S)	1.17	1.145
2,2',3,3',5,5',6-HpCB	178			196	9.11 (S)	1.07	1.085
2,2',3,3',5,6,6'-HpCB	179			317	6.24 (S)	0.97	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	2140	9.36 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181		U		8.90 (S)		
2,2',3,4,4',5,6'-HpCB	182		U		8.55 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	580	8.79 (S)	1.15	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	6.44	6.08 (S)	1.23	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		6.77 (S)		
2,2',3,4',5,5',6-HpCB	187			1060	8.52 (S)	1.15	1.110
2,2',3,4',5,6,6'-HpCB	188		U		7.19 (S)		
2,3,3',4,4',5,5'-HpCB	189		K	38.2	4.18 (S)	1.44	1.000
2,3,3',4,4',5,6-HpCB	190			208	7.38 (S)	1.06	0.947
2,3,3',4,4',5',6-HpCB	191		K	42.3	7.40 (S)	1.63	0.918
2,3,3',4,5,5',6-HpCB	192		U		7.97 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			395	5.60 (S)	0.99	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	157	6.02 (S)	1.10	0.946
2,2',3,3',4,4',5,6'-OcCB	196		K	211	11.4 (S)	1.02	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K	73.5	7.85 (S)	1.16	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	463	11.9 (S)	0.83	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			42.5	7.76 (S)	0.87	1.023
2,2',3,3',5,5',6,6'-OcCB	202		K	101	9.30 (S)	0.70	1.000
2,2',3,4,4',5,5',6-OcCB	203			263	10.9 (S)	0.88	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		7.83 (S)		
2,3,3',4,4',5,5',6-OcCB	205		K J	18.6	4.43 (S)	0.52	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			258	12.2 (S)	0.78	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		J	29.9	9.46 (S)	0.69	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208		K	74.9	10.5 (S)	1.05	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			458	7.75 (S)	1.22	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; G = lock mass interference present; C = co-eluting congener.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-2_Form1A_PB9B_043AS9_SJ2546915.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-2
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 18:21:16	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_043A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1
Concentration Units:	pg absolute		

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	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	937	23.4	3.26	0.716
13C12-4-MoCB	3L			4000	1200	30.0	3.24	0.857
13C12-2,2'-DiCB	4L			4000	1200	29.9	1.65	0.871
13C12-4,4'-DiCB	15L			4000	1490	37.3	1.62	1.251
13C12-2,2',6-TriCB	19L			4000	1270	31.8	1.09	1.071
13C12-3,4,4'-TriCB	37L			4000	2000	50.0	0.99	1.090
13C12-2,2',6,6'-TeCB	54L			4000	1760	44.0	0.83	0.811
13C12-3,3',4,4'-TeCB	77L			4000	1960	49.1	0.82	1.395
13C12-3,4,4',5-TeCB	81L			4000	1880	46.9	0.80	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	1830	45.7	1.58	0.809
13C12-2,3,3',4,4'-PeCB	105L			4000	2520	63.0	1.54	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2220	55.6	1.52	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2210	55.2	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	2300	57.5	1.57	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2320	58.1	1.54	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	1800	45.0	1.26	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	4000	50.0	1.33	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	1990	49.8	1.31	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2110	52.8	1.33	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2390	59.7	1.09	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2260	56.5	1.06	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	1700	42.5	1.10	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	2410	60.3	1.05	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1740	43.4	0.94	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	2290	57.1	0.95	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2080	52.0	0.80	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	1860	46.5	0.81	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	1840	45.9	1.19	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	2100	52.6	1.01	0.924
13C12-2,3,3',5,5'-PeCB	111L			4000	2170	54.2	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	1980	49.5	1.03	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-2_Form2_PB9B_043AS9_SJ2546915.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-3
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 22:59:30	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg/sample		

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			55.9	7.06 (S)	2.74	1.000
3-MoCB	2			39.9	7.14 (S)	3.04	0.988
4-MoCB	3			70.5	6.81 (S)	3.41	1.001
2,2'-DiCB	4		U		111 (S)		
2,3-DiCB	5		U		138 (S)		
2,3'-DiCB	6		U		124 (S)		
2,4-DiCB	7		U		126 (S)		
2,4'-DiCB	8			226	113 (S)	1.64	1.209
2,5-DiCB	9		U		117 (S)		
2,6-DiCB	10		U		124 (S)		
3,3'-DiCB	11			1290	133 (S)	1.65	0.968
3,4-DiCB	12	12 + 13	C U		135 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		131 (S)		
4,4'-DiCB	15			194	147 (S)	1.47	1.001
2,2',3-TriCB	16		K	90.0	16.9 (S)	1.34	1.166
2,2',4-TriCB	17			152	14.6 (S)	1.12	1.139
2,2',5-TriCB	18	18 + 30	C	242	12.3 (S)	1.15	1.115
2,2',6-TriCB	19			35.8	16.3 (S)	1.05	1.001
2,3,3'-TriCB	20	20 + 28	C	445	8.08 (S)	1.04	0.849
2,3,4-TriCB	21	21 + 33	C	187	8.20 (S)	1.00	0.857
2,3,4'-TriCB	22			150	9.29 (S)	1.00	0.873
2,3,5-TriCB	23		U		8.86 (S)		
2,3,6-TriCB	24		U		11.1 (S)		
2,3',4-TriCB	25			82.2	7.41 (S)	1.09	0.826
2,3',5-TriCB	26	26 + 29	C	86.0	8.45 (S)	1.04	1.302
2,3',6-TriCB	27		K J	19.9	10.0 (S)	1.27	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			354	7.66 (S)	1.00	0.837
2,4',6-TriCB	32			78.3	8.06 (S)	0.91	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		8.64 (S)		
3,3',4-TriCB	35		K J	22.0	9.99 (S)	1.21	0.985
3,3',5-TriCB	36		K J	11.8	9.09 (S)	1.24	0.933
3,4,4'-TriCB	37			156	9.91 (S)	1.07	1.001
3,4,5-TriCB	38		U		8.91 (S)		
3,4',5-TriCB	39		U		9.04 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	278	7.86 (S)	0.78	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			151	8.43 (S)	0.80	1.312
2,2',3,5-TeCB	43		J	17.3	9.16 (S)	0.76	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1040	7.05 (S)	0.82	1.287
2,2',3,6-TeCB	45	45 + 51	C	360	7.10 (S)	0.79	1.149
2,2',3,6'-TeCB	46		K J	32.4	8.30 (S)	0.98	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			96.1	8.05 (S)	0.82	1.274
2,2',4,5'-TeCB	49	49 + 69	C	406	6.58 (S)	0.76	1.260
2,2',4,6-TeCB	50	50 + 53	C	73.5	6.91 (S)	0.83	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			748	7.19 (S)	0.82	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		5.27 (S)		
2,3,3',4-TeCB	55		U		10.7 (S)		
2,3,3',4'-TeCB	56			255	10.7 (S)	0.82	0.905
2,3,3',5-TeCB	57		U		9.79 (S)		
2,3,3',5'-TeCB	58		U		10.3 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	49.0	5.69 (S)	0.76	1.302
2,3,4,4'-TeCB	60			103	10.4 (S)	0.79	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1030	9.66 (S)	0.77	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	21.9	9.58 (S)	0.71	0.864
2,3,4',6-TeCB	64			256	5.66 (S)	0.85	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			660	9.81 (S)	0.80	0.884
2,3',4,5-TeCB	67		J	14.0	8.63 (S)	0.73	0.857
2,3',4,5'-TeCB	68			166	9.27 (S)	0.78	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	10.1	9.22 (S)	1.33	0.823
2,3',5',6-TeCB	73		U		5.82 (S)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			93.6	10.4 (S)	0.77	1.000
3,3',4,5-TeCB	78		U		10.4 (S)		
3,3',4,5'-TeCB	79		J	14.9	8.37 (S)	0.76	0.970
3,3',5,5'-TeCB	80		U		9.36 (S)		
3,4,4',5-TeCB	81		U		10.4 (S)		
2,2',3,3',4-PeCB	82			136	7.46 (S)	1.51	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	596	7.06 (S)	1.66	0.886
2,2',3,3',6-PeCB	84			206	7.48 (S)	1.49	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	212	5.60 (S)	1.62	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	622	5.71 (S)	1.50	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	130	6.61 (S)	1.72	1.155
2,2',3,4,6'-PeCB	89		J	12.0	7.12 (S)	1.64	1.181
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	831	5.78 (S)	1.55	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			188	6.79 (S)	1.52	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	672	6.36 (S)	1.44	1.120
2,2',3,5,6'-PeCB	94		U		7.13 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	10.8	4.15 (Q)	1.96	1.014
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K J	12.4	5.79 (S)	1.12	1.094
2,2',4,6,6'-PeCB	104		K J	5.76	4.15 (Q)	1.08	1.002
2,3,3',4,4'-PeCB	105			416	8.52 (S)	1.71	1.000
2,3,3',4,5-PeCB	106		U		8.99 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	42.6	9.71 (S)	1.75	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		K	81.0	9.13 (S)	1.27	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1090	4.87 (S)	1.53	0.925
2,3,3',5,5'-PeCB	111		U		4.93 (S)		
2,3,3',5,6-PeCB	112		U		4.70 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	19.3	9.19 (S)	1.35	1.001
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			922	9.36 (S)	1.56	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	5.83	4.66 (S)	1.59	0.958
2,3',4,5',6-PeCB	121		U		5.09 (S)		
2',3,3',4,5-PeCB	122		J	16.2	9.93 (S)	1.42	1.009
2',3,4,4',5-PeCB	123		J	22.4	9.37 (S)	1.51	1.000
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		10.3 (S)		
3,3',4,5,5'-PeCB	127		U		8.39 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	217	11.7 (S)	1.09	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1600	11.9 (S)	1.34	0.928
2,2',3,3',4,5'-HxCB	130			77.9	15.2 (S)	1.38	0.913
2,2',3,3',4,6-HxCB	131		U		16.0 (S)		
2,2',3,3',4,6'-HxCB	132			435	16.2 (S)	1.27	1.173
2,2',3,3',5,5'-HxCB	133		K J	21.4	15.2 (S)	1.02	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C	61.5	15.7 (S)	1.34	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	417	5.25 (S)	1.27	1.103
2,2',3,3',6,6'-HxCB	136		K	128	4.15 (Q)	1.44	1.023
2,2',3,4,4',5-HxCB	137		K	72.4	14.7 (S)	2.07	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K J	14.6	14.0 (S)	1.48	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			238	13.5 (S)	1.20	0.904
2,2',3,4,5,6-HxCB	142		U		15.6 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			49.8	5.30 (S)	1.14	1.121
2,2',3,4,6,6'-HxCB	145		U		4.39 (S)		
2,2',3,4',5,5'-HxCB	146			240	11.9 (S)	1.42	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	1210	14.1 (S)	1.39	1.132
2,2',3,4',5,6'-HxCB	148		K J	7.16	5.49 (S)	0.85	1.082
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.15 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.15 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1340	10.9 (S)	1.22	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	7.58	4.15 (Q)	0.73	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	169	12.5 (S)	1.42	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			134	9.07 (S)	1.16	0.938
2,3,3',4,5,5'-HxCB	159		K J	16.9	9.70 (S)	1.56	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		10.4 (S)		
2,3,3',4',5,5'-HxCB	162		U		9.64 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			97.9	9.53 (S)	1.15	0.921
2,3,3',5,5',6-HxCB	165		U		11.8 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			61.2	9.34 (S)	1.11	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		10.1 (S)		
2,2',3,3',4,4',5-HpCB	170			365	4.54 (S)	0.95	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	106	4.15 (Q)	0.96	1.162
2,2',3,3',4,5,5'-HpCB	172			68.0	4.16 (S)	0.91	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			374	4.15 (Q)	1.06	1.132
2,2',3,3',4,5',6-HpCB	175		J	13.8	4.15 (Q)	0.97	1.102
2,2',3,3',4,6,6'-HpCB	176			39.3	4.15 (Q)	1.18	1.034
2,2',3,3',4',5,6-HpCB	177			198	4.15 (Q)	0.98	1.145
2,2',3,3',5,5',6-HpCB	178		K	89.7	4.15 (Q)	1.35	1.085
2,2',3,3',5,6,6'-HpCB	179			155	4.15 (Q)	1.04	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	941	4.34 (S)	1.11	1.000
2,2',3,4,4',5,6-HpCB	181		U		4.15 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		4.15 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	240	4.15 (Q)	1.06	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	7.94	4.15 (Q)	1.42	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.15 (Q)		
2,2',3,4',5,5',6-HpCB	187			476	4.15 (Q)	1.03	1.110
2,2',3,4',5,6,6'-HpCB	188		U		4.15 (Q)		
2,3,3',4,4',5,5'-HpCB	189		J	19.7	4.15 (Q)	0.99	1.000
2,3,3',4,4',5,6-HpCB	190		K	67.4	4.15 (Q)	1.34	0.947
2,3,3',4,4',5',6-HpCB	191		K J	13.1	4.15 (Q)	1.84	0.918
2,3,3',4,5,5',6-HpCB	192		U		4.15 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			200	4.61 (S)	1.01	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	86.4	5.53 (S)	1.13	0.946
2,2',3,3',4,4',5,6'-OcCB	196			106	5.67 (S)	0.82	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	38.6	4.38 (S)	0.99	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	283	6.03 (S)	0.82	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K J	28.1	4.44 (S)	0.69	1.023
2,2',3,3',5,5',6,6'-OcCB	202		K	68.2	4.86 (S)	0.69	1.000
2,2',3,4,4',5,5',6-OcCB	203		K	179	5.43 (S)	0.73	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		4.45 (S)		
2,3,3',4,4',5,5',6-OcCB	205		J	9.56	4.15 (Q)	0.81	1.000
2,2',3,3',4,4',5,5',6-NoCB	206		K	168	9.41 (S)	0.98	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		J	24.1	7.75 (S)	0.85	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			75.5	8.31 (S)	0.82	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K	456	4.49 (S)	1.42	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; G = lock mass interference present; C = co-eluting congener.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-3_Form1A_PB9B_044S3_SJ2546885.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-3
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 22:59:30	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg absolute		

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

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	1410	35.4	3.25	0.717
13C12-4-MoCB	3L			4000	1640	41.0	3.22	0.856
13C12-2,2'-DiCB	4L			4000	1650	41.4	1.63	0.871
13C12-4,4'-DiCB	15L			4000	1780	44.4	1.62	1.250
13C12-2,2',6-TriCB	19L			4000	1750	43.8	1.05	1.070
13C12-3,4,4'-TriCB	37L			4000	2630	65.7	1.01	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2290	57.3	0.84	0.811
13C12-3,3',4,4'-TeCB	77L			4000	2580	64.6	0.79	1.395
13C12-3,4,4',5-TeCB	81L			4000	2520	63.0	0.80	1.372
13C12-2,2',4,6,6'-PeCB	104L			4000	2500	62.6	1.59	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3240	81.0	1.56	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2930	73.3	1.60	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2840	70.9	1.53	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2960	73.9	1.53	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	2930	73.3	1.54	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2880	71.9	1.27	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5900	73.7	1.32	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3020	75.5	1.31	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3130	78.2	1.32	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3190	79.8	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3090	77.3	1.06	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2550	63.7	1.06	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3420	85.5	1.06	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2380	59.5	0.92	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3040	76.1	0.94	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3020	75.5	0.81	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	2680	66.9	0.82	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2960	74.1	1.18	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	2800	70.1	1.00	0.924
13C12-2,3,3',5,5'-PeCB	111L			4000	2820	70.5	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	2970	74.1	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-3_Form2_PB9B_044S3_SJ2546885.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-4 (A)
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 00:03:47	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg/sample		

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			733	10.8 (S)	3.08	1.001
3-MoCB	2			65.0	10.4 (S)	3.50	0.989
4-MoCB	3			258	9.61 (S)	3.29	1.002
2,2'-DiCB	4			760	155 (S)	1.56	1.001
2,3-DiCB	5		U		85.4 (S)		
2,3'-DiCB	6			230	77.0 (S)	1.70	1.176
2,4-DiCB	7		U		78.0 (S)		
2,4'-DiCB	8			606	70.2 (S)	1.61	1.207
2,5-DiCB	9		U		72.3 (S)		
2,6-DiCB	10		U		76.8 (S)		
3,3'-DiCB	11			832	82.4 (S)	1.63	0.969
3,4-DiCB	12	12 + 13	C	123	83.7 (S)	1.61	0.985
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		80.9 (S)		
4,4'-DiCB	15			614	82.3 (S)	1.68	1.002
2,2',3-TriCB	16			102	17.6 (S)	1.18	1.166
2,2',4-TriCB	17			265	15.2 (S)	1.08	1.139
2,2',5-TriCB	18	18 + 30	C	352	12.8 (S)	1.13	1.114
2,2',6-TriCB	19		K	111	19.9 (S)	1.28	1.001
2,3,3'-TriCB	20	20 + 28	C	531	7.42 (S)	1.03	0.848
2,3,4-TriCB	21	21 + 33	C	166	7.53 (S)	0.98	0.857
2,3,4'-TriCB	22			142	8.53 (S)	1.02	0.872
2,3,5-TriCB	23		U		8.14 (S)		
2,3,6-TriCB	24		U		11.6 (S)		
2,3',4-TriCB	25			91.4	6.80 (S)	0.99	0.826
2,3',5-TriCB	26	26 + 29	C	150	7.76 (S)	1.02	1.301
2,3',6-TriCB	27			56.9	10.4 (S)	0.97	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			470	7.04 (S)	1.04	0.837
2,4',6-TriCB	32			149	7.41 (S)	0.99	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		7.94 (S)		
3,3',4-TriCB	35		J	18.5	9.18 (S)	0.96	0.985
3,3',5-TriCB	36		J	8.61	8.35 (S)	1.13	0.932
3,4,4'-TriCB	37			152	8.36 (S)	1.15	1.001
3,4,5-TriCB	38		U		8.19 (S)		
3,4',5-TriCB	39		U		8.30 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C K	157	4.99 (S)	0.91	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			87.0	5.35 (S)	0.70	1.312
2,2',3,5-TeCB	43		J	8.39	5.82 (S)	0.68	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	760	4.48 (S)	0.84	1.287
2,2',3,6-TeCB	45	45 + 51	C	284	4.51 (S)	0.83	1.148
2,2',3,6'-TeCB	46		K J	23.9	5.27 (S)	0.44	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			69.6	5.11 (S)	0.78	1.274
2,2',4,5'-TeCB	49	49 + 69	C	287	4.19 (Q)	0.81	1.259
2,2',4,6-TeCB	50	50 + 53	C	69.3	4.38 (S)	0.76	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			603	4.56 (S)	0.82	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	4.68	4.19 (Q)	0.40	1.001
2,3,3',4-TeCB	55		U		8.24 (S)		
2,3,3',4'-TeCB	56			163	8.18 (S)	0.86	0.905
2,3,3',5-TeCB	57		U		7.51 (S)		
2,3,3',5'-TeCB	58		U		7.88 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K J	31.0	4.19 (Q)	1.01	1.303
2,3,4,4'-TeCB	60			77.5	7.97 (S)	0.80	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	696	7.41 (S)	0.81	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	18.6	7.35 (S)	0.79	0.864
2,3,4',6-TeCB	64			164	4.19 (Q)	0.77	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			403	7.52 (S)	0.82	0.885
2,3',4,5-TeCB	67		J	10.8	6.62 (S)	0.79	0.857
2,3',4,5'-TeCB	68			180	7.11 (S)	0.79	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		U		7.07 (S)		
2,3',5',6-TeCB	73		U		4.19 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			68.7	7.78 (S)	0.75	1.000
3,3',4,5-TeCB	78		U		7.96 (S)		
3,3',4,5'-TeCB	79		J	9.11	6.42 (S)	0.66	0.970
3,3',5,5'-TeCB	80		U		7.18 (S)		
3,4,4',5-TeCB	81		U		7.72 (S)		
2,2',3,3',4-PeCB	82			99.2	12.4 (S)	1.40	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	463	11.7 (S)	1.53	0.885
2,2',3,3',6-PeCB	84		K	167	12.4 (S)	1.79	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	165	9.28 (S)	1.34	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	537	9.46 (S)	1.65	0.902
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	98.3	11.0 (S)	1.53	1.154
2,2',3,4,6'-PeCB	89		U		11.8 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	738	9.58 (S)	1.68	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			156	11.2 (S)	1.77	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	590	10.5 (S)	1.56	1.120
2,2',3,5,6'-PeCB	94		U		11.8 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		5.26 (S)		
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		U		9.60 (S)		
2,2',4,6,6'-PeCB	104		U		5.47 (S)		
2,3,3',4,4'-PeCB	105			390	8.80 (S)	1.48	1.001
2,3,3',4,5-PeCB	106		U		9.44 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	41.6	10.2 (S)	1.41	0.990
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			79.3	9.59 (S)	1.39	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	923	8.07 (S)	1.62	0.925
2,3,3',5,5'-PeCB	111		U		8.17 (S)		
2,3,3',5,6-PeCB	112		U		7.78 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K J	27.6	9.87 (S)	2.17	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			864	9.73 (S)	1.46	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		7.73 (S)		
2,3',4,5',6-PeCB	121		U		8.43 (S)		
2',3,3',4,5-PeCB	122		K J	11.5	10.4 (S)	3.13	1.009
2',3,4,4',5-PeCB	123		K J	22.9	9.83 (S)	0.76	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		10.4 (S)		
3,3',4,5,5'-PeCB	127		U		8.81 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	218	4.19 (Q)	1.13	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1430	4.19 (Q)	1.22	0.929
2,2',3,3',4,5'-HxCB	130			69.9	4.19 (Q)	1.12	0.913
2,2',3,3',4,6-HxCB	131		J	14.6	4.41 (S)	1.08	1.159
2,2',3,3',4,6'-HxCB	132			353	4.47 (S)	1.16	1.173
2,2',3,3',5,5'-HxCB	133		J	17.7	4.20 (S)	1.22	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C K	51.9	4.34 (S)	1.68	1.138
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	339	4.19 (Q)	1.31	1.102
2,2',3,3',6,6'-HxCB	136			97.4	4.19 (Q)	1.28	1.022
2,2',3,4,4',5-HxCB	137		K	68.5	4.19 (Q)	0.72	0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C J	24.4	4.19 (Q)	1.14	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			197	4.19 (Q)	1.33	0.903
2,2',3,4,5,6-HxCB	142		U		4.30 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K	52.5	4.19 (Q)	1.01	1.121
2,2',3,4,6,6'-HxCB	145		U		4.19 (Q)		
2,2',3,4',5,5'-HxCB	146			177	4.19 (Q)	1.41	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	925	4.19 (Q)	1.34	1.132
2,2',3,4',5,6'-HxCB	148		U		4.19 (Q)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.19 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.19 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	974	4.19 (Q)	1.30	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		J	5.18	4.19 (Q)	1.07	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	176	4.19 (Q)	1.18	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			111	4.19 (Q)	1.29	0.938
2,3,3',4,5,5'-HxCB	159		J	12.0	4.19 (Q)	1.10	0.982
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.19 (Q)		
2,3,3',4',5,5'-HxCB	162		K J	5.93	4.19 (Q)	2.16	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			78.7	4.19 (Q)	1.25	0.921
2,3,3',5,5',6-HxCB	165		U		4.19 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K	62.2	4.19 (Q)	1.00	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		4.19 (Q)		
2,2',3,3',4,4',5-HpCB	170			282	4.19 (Q)	0.96	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	70.8	4.19 (Q)	1.14	1.161
2,2',3,3',4,5,5'-HpCB	172			50.9	4.19 (Q)	0.96	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			215	4.19 (Q)	1.06	1.132
2,2',3,3',4,5',6-HpCB	175		K J	4.85	4.19 (Q)	5.40	1.102
2,2',3,3',4,6,6'-HpCB	176			35.1	4.19 (Q)	0.99	1.034
2,2',3,3',4',5,6-HpCB	177		K	138	4.19 (Q)	1.23	1.145
2,2',3,3',5,5',6-HpCB	178			66.8	4.19 (Q)	1.04	1.084
2,2',3,3',5,6,6'-HpCB	179			104	4.19 (Q)	1.20	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	718	4.19 (Q)	1.09	1.000
2,2',3,4,4',5,6-HpCB	181		U		4.19 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		4.19 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	141	4.19 (Q)	1.17	1.126
2,2',3,4,4',6,6'-HpCB	184		U		4.19 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.19 (Q)		
2,2',3,4',5,5',6-HpCB	187			307	4.19 (Q)	0.96	1.110
2,2',3,4',5,6,6'-HpCB	188		U		4.19 (Q)		
2,3,3',4,4',5,5'-HpCB	189		K J	8.95	4.19 (Q)	1.34	1.000
2,3,3',4,4',5,6-HpCB	190			63.0	4.19 (Q)	1.17	0.947
2,3,3',4,4',5',6-HpCB	191		K J	9.12	4.19 (Q)	0.67	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.19 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			195	5.34 (S)	1.00	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	72.6	6.41 (S)	0.73	0.945
2,2',3,3',4,4',5,6'-OcCB	196			91.3	4.28 (S)	0.80	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K J	25.2	4.19 (Q)	1.60	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K	205	4.56 (S)	1.06	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K J	17.3	4.19 (Q)	0.58	1.023
2,2',3,3',5,5',6,6'-OcCB	202			49.8	4.19 (Q)	0.87	1.001
2,2',3,4,4',5,5',6-OcCB	203		K	116	4.19 (Q)	1.65	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		4.19 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	13.9	4.19 (Q)	0.89	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			150	8.22 (S)	0.83	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		J	23.4	7.04 (S)	0.67	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			60.7	7.84 (S)	0.88	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			306	4.19 (Q)	1.07	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; G = lock mass interference present; C = co-eluting congener.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-4_Form1A_PB9B_044S4_SJ2546887.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-4 (A)
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 00:03:47	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg absolute		

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

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	724	18.1	3.25	0.716
13C12-4-MoCB	3L			4000	949	23.7	3.20	0.856
13C12-2,2'-DiCB	4L		V	4000	963	24.1	1.63	0.872
13C12-4,4'-DiCB	15L			4000	1430	35.7	1.60	1.251
13C12-2,2',6-TriCB	19L			4000	1230	30.8	1.04	1.071
13C12-3,4,4'-TriCB	37L			4000	2220	55.6	0.99	1.090
13C12-2,2',6,6'-TeCB	54L			4000	1810	45.4	0.84	0.811
13C12-3,3',4,4'-TeCB	77L			4000	2220	55.5	0.80	1.395
13C12-3,4,4',5-TeCB	81L			4000	2190	54.6	0.80	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	2010	50.2	1.56	0.809
13C12-2,3,3',4,4'-PeCB	105L			4000	2720	68.1	1.56	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2360	58.9	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L			4000	2320	58.0	1.53	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	2450	61.4	1.57	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2460	61.5	1.55	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2120	52.9	1.27	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	4690	58.7	1.29	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2260	56.4	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2450	61.2	1.29	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2520	63.1	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2380	59.6	1.07	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	1760	44.0	1.08	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	2710	67.7	1.05	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1640	41.0	0.95	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	2490	62.2	0.94	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2480	62.0	0.80	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	2100	52.4	0.82	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2450	61.4	1.19	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	2280	57.0	1.01	0.924
13C12-2,3,3',5,5'-PeCB	111L			4000	2530	63.3	1.59	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	2070	51.8	1.04	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits; C = co-eluting congener.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-4_Form2_PB9B_044S4_SJ2546887.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	WG67275-103 (DUP L30771-4)
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 01:08:07	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg/sample		

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			46.5	4.90 (S)	2.75	1.001
3-MoCB	2			33.6	5.18 (S)	2.77	0.988
4-MoCB	3			60.4	5.13 (S)	3.12	1.000
2,2'-DiCB	4		U		110 (S)		
2,3-DiCB	5		U		71.3 (S)		
2,3'-DiCB	6		U		64.4 (S)		
2,4-DiCB	7		U		65.2 (S)		
2,4'-DiCB	8		J	113	58.7 (S)	1.35	1.208
2,5-DiCB	9		U		60.4 (S)		
2,6-DiCB	10		U		64.2 (S)		
3,3'-DiCB	11			463	68.9 (S)	1.69	0.969
3,4-DiCB	12	12 + 13	C U		69.9 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		67.5 (S)		
4,4'-DiCB	15		J	117	74.0 (S)	1.45	1.000
2,2',3-TriCB	16		K	52.3	14.1 (S)	1.21	1.166
2,2',4-TriCB	17		K	94.1	12.2 (S)	1.22	1.139
2,2',5-TriCB	18	18 + 30	C	128	10.3 (S)	1.01	1.114
2,2',6-TriCB	19		K J	23.6	14.3 (S)	1.23	1.001
2,3,3'-TriCB	20	20 + 28	C	255	7.38 (S)	1.05	0.848
2,3,4-TriCB	21	21 + 33	C	97.8	7.49 (S)	1.07	0.857
2,3,4'-TriCB	22			83.0	8.48 (S)	1.14	0.873
2,3,5-TriCB	23		U		8.09 (S)		
2,3,6-TriCB	24		U		9.32 (S)		
2,3',4-TriCB	25			47.6	6.77 (S)	1.01	0.826
2,3',5-TriCB	26	26 + 29	C	48.8	7.72 (S)	1.05	1.302
2,3',6-TriCB	27		J	11.3	8.37 (S)	0.92	1.152
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			193	7.00 (S)	1.05	0.837
2,4',6-TriCB	32			42.6	7.36 (S)	1.03	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	8.67	7.89 (S)	1.04	1.275
3,3',4-TriCB	35		J	14.5	9.13 (S)	0.95	0.985
3,3',5-TriCB	36		U		8.30 (S)		
3,4,4'-TriCB	37			106	8.78 (S)	1.05	1.001
3,4,5-TriCB	38		U		8.14 (S)		
3,4',5-TriCB	39		U		8.25 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	139	4.66 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			81.8	5.00 (S)	0.87	1.312
2,2',3,5-TeCB	43		K J	7.91	5.43 (S)	0.63	1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	701	4.18 (S)	0.82	1.287
2,2',3,6-TeCB	45	45 + 51	C	227	4.21 (S)	0.81	1.149
2,2',3,6'-TeCB	46		K J	13.4	4.92 (S)	0.56	1.162
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			52.7	4.77 (S)	0.69	1.275
2,2',4,5'-TeCB	49	49 + 69	C K	249	4.17 (Q)	0.94	1.260
2,2',4,6-TeCB	50	50 + 53	C	36.0	4.17 (Q)	0.67	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			588	4.26 (S)	0.83	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	9.59	4.17 (Q)	1.01	1.001
2,3,3',4-TeCB	55		U		4.71 (S)		
2,3,3',4'-TeCB	56			139	4.67 (S)	0.78	0.905
2,3,3',5-TeCB	57		U		4.29 (S)		
2,3,3',5'-TeCB	58		U		4.50 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K J	21.9	4.17 (Q)	0.92	1.302
2,3,4,4'-TeCB	60			61.9	4.55 (S)	0.84	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	723	4.24 (S)	0.78	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	12.0	4.20 (S)	0.77	0.864
2,3,4',6-TeCB	64			131	4.17 (Q)	0.86	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			370	4.30 (S)	0.80	0.885
2,3',4,5-TeCB	67		J	8.58	4.17 (Q)	0.70	0.857
2,3',4,5'-TeCB	68			166	4.17 (Q)	0.70	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	5.59	4.17 (Q)	1.38	0.823
2,3',5',6-TeCB	73		U		4.17 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			83.1	4.48 (S)	0.88	1.000
3,3',4,5-TeCB	78		U		4.55 (S)		
3,3',4,5'-TeCB	79		J	13.6	4.17 (Q)	0.76	0.970
3,3',5,5'-TeCB	80		U		4.17 (Q)		
3,4,4',5-TeCB	81		K J	8.58	4.48 (S)	0.95	1.000
2,2',3,3',4-PeCB	82			120	4.26 (S)	1.33	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	517	4.17 (Q)	1.67	0.886
2,2',3,3',6-PeCB	84			214	4.27 (S)	1.73	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	186	4.17 (Q)	1.55	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	662	4.17 (Q)	1.55	0.902
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	108	4.17 (Q)	1.38	1.154
2,2',3,4,6'-PeCB	89		K J	7.46	4.17 (Q)	2.65	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	820	4.17 (Q)	1.68	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			160	4.17 (Q)	1.58	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	592	4.17 (Q)	1.54	1.120
2,2',3,5,6'-PeCB	94		U		4.17 (Q)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	5.07	4.17 (Q)	3.06	1.015
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K J	5.82	4.17 (Q)	0.92	1.093
2,2',4,6,6'-PeCB	104		K J	10.7	4.17 (Q)	1.27	1.001
2,3,3',4,4'-PeCB	105			433	4.86 (S)	1.55	1.000
2,3,3',4,5-PeCB	106		U		5.58 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C K	50.5	6.02 (S)	2.25	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		K	80.1	5.66 (S)	1.87	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1050	4.17 (Q)	1.54	0.925
2,3,3',5,5'-PeCB	111		U		4.17 (Q)		
2,3,3',5,6-PeCB	112		U		4.17 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K J	25.5	5.78 (S)	1.80	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			937	5.70 (S)	1.62	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	4.29	4.17 (Q)	1.62	0.958
2,3',4,5',6-PeCB	121		U		4.17 (Q)		
2',3,3',4,5-PeCB	122		J	10.4	6.16 (S)	1.43	1.010
2',3,4,4',5-PeCB	123		K J	28.0	5.93 (S)	1.92	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	13.6	5.82 (S)	1.25	1.000
3,3',4,5,5'-PeCB	127		J	6.38	5.20 (S)	1.52	1.043
2,2',3,3',4,4'-HxCB	128	128 + 166	C	225	4.69 (S)	1.23	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1330	4.77 (S)	1.30	0.929
2,2',3,3',4,5'-HxCB	130			88.0	6.06 (S)	1.12	0.913
2,2',3,3',4,6-HxCB	131		K J	13.4	6.38 (S)	0.97	1.158
2,2',3,3',4,6'-HxCB	132			324	6.46 (S)	1.16	1.173
2,2',3,3',5,5'-HxCB	133		K J	16.2	6.07 (S)	1.61	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C	46.6	6.27 (S)	1.24	1.138
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	274	4.17 (Q)	1.26	1.103
2,2',3,3',6,6'-HxCB	136			89.2	4.17 (Q)	1.14	1.023
2,2',3,4,4',5-HxCB	137			63.7	5.86 (S)	1.23	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K J	18.0	5.59 (S)	0.70	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			200	5.39 (S)	1.30	0.903
2,2',3,4,5,6-HxCB	142		U		6.22 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			37.1	4.17 (Q)	1.09	1.121
2,2',3,4,6,6'-HxCB	145		U		4.17 (Q)		
2,2',3,4',5,5'-HxCB	146			182	4.76 (S)	1.39	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	740	5.63 (S)	1.18	1.133
2,2',3,4',5,6'-HxCB	148		U		4.17 (Q)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.17 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.17 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	981	4.33 (S)	1.28	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	8.11	4.17 (Q)	1.97	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	180	4.71 (S)	1.36	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			132	4.17 (Q)	1.24	0.938
2,3,3',4,5,5'-HxCB	159		J	10.4	4.17 (Q)	1.41	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.17 (Q)		
2,3,3',4',5,5'-HxCB	162		J	5.42	4.17 (Q)	1.13	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			81.9	4.17 (Q)	1.32	0.921
2,3,3',5,5',6-HxCB	165		U		4.72 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			64.8	4.17 (Q)	1.22	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		4.17 (Q)		
2,2',3,3',4,4',5-HpCB	170			242	4.17 (Q)	1.20	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	72.2	4.17 (Q)	1.01	1.162
2,2',3,3',4,5,5'-HpCB	172			49.0	4.17 (Q)	1.15	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			227	4.17 (Q)	1.06	1.132
2,2',3,3',4,5',6-HpCB	175		K J	8.61	4.17 (Q)	2.39	1.102
2,2',3,3',4,6,6'-HpCB	176		J	26.3	4.17 (Q)	1.04	1.034
2,2',3,3',4',5,6-HpCB	177			167	4.17 (Q)	1.11	1.145
2,2',3,3',5,5',6-HpCB	178			56.2	4.17 (Q)	0.92	1.084
2,2',3,3',5,6,6'-HpCB	179			91.7	4.17 (Q)	1.08	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	666	4.17 (Q)	1.04	1.000
2,2',3,4,4',5,6-HpCB	181		K J	4.65	4.17 (Q)	3.54	1.155
2,2',3,4,4',5,6'-HpCB	182		K J	5.76	4.17 (Q)	0.42	1.115
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	156	4.17 (Q)	1.09	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	4.69	4.17 (Q)	0.84	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.17 (Q)		
2,2',3,4',5,5',6-HpCB	187			313	4.17 (Q)	1.09	1.109
2,2',3,4',5,6,6'-HpCB	188		K J	6.04	4.17 (Q)	1.29	1.001
2,3,3',4,4',5,5'-HpCB	189		K J	12.6	4.17 (Q)	0.83	1.000
2,3,3',4,4',5,6-HpCB	190			65.9	4.17 (Q)	1.17	0.947
2,3,3',4,4',5',6-HpCB	191		J	12.2	4.17 (Q)	1.17	0.918
2,3,3',4,5,5',6-HpCB	192		U		4.17 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			141	4.17 (Q)	0.98	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	57.2	4.17 (Q)	1.06	0.945
2,2',3,3',4,4',5,6'-OcCB	196			64.8	4.17 (Q)	0.92	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C J	22.6	4.17 (Q)	0.80	1.047
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	186	4.17 (Q)	0.94	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		J	22.2	4.17 (Q)	0.92	1.023
2,2',3,3',5,5',6,6'-OcCB	202			47.1	4.17 (Q)	1.02	1.001
2,2',3,4,4',5,5',6-OcCB	203			122	4.17 (Q)	0.90	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		4.17 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	10.5	4.17 (Q)	0.69	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			131	5.00 (S)	0.77	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		J	14.2	4.17 (Q)	0.87	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			52.8	4.17 (Q)	0.72	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			293	4.17 (Q)	1.27	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; G = lock mass interference present; C = co-eluting congener.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_WG67275-103_Form1A_PB9B_044S5_SJ2546889.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	WG67275-103 (DUP L30771-4)
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 01:08:07	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg absolute		

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

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	1180	29.4	3.24	0.717
13C12-4-MoCB	3L			4000	1340	33.5	3.20	0.857
13C12-2,2'-DiCB	4L			4000	1380	34.4	1.65	0.873
13C12-4,4'-DiCB	15L			4000	1640	40.9	1.61	1.253
13C12-2,2',6-TriCB	19L			4000	1560	38.9	1.06	1.072
13C12-3,4,4'-TriCB	37L			4000	2370	59.2	1.00	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2120	53.0	0.83	0.810
13C12-3,3',4,4'-TeCB	77L			4000	2590	64.7	0.82	1.394
13C12-3,4,4',5-TeCB	81L			4000	2530	63.3	0.80	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	2340	58.6	1.58	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3820	95.4	1.55	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	3130	78.2	1.50	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	3110	77.7	1.52	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	3160	78.9	1.51	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	3480	87.1	1.55	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2300	57.5	1.28	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6520	81.5	1.30	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3180	79.5	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3520	88.1	1.29	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3490	87.2	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3260	81.5	1.05	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	1980	49.5	1.08	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3630	90.8	1.04	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2580	64.5	0.92	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3080	77.0	0.96	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3270	81.8	0.81	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3220	80.6	0.81	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	3370	84.4	1.18	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	2500	62.4	0.99	0.924
13C12-2,3,3',5,5'-PeCB	111L			4000	2880	72.1	1.58	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	2950	73.7	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_WG67275-103_Form2_PB9B_044S5_SJ2546889.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

PCB CONGENER 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: pg/sample

COMPOUND	IUPAC NO.	L30771-4 (A) LAB FLAG [1]	L30771-4 (A) CONC. FOUND	WG67275-103 LAB FLAG [1]	WG67275-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2-MoCB	1		733		46.5	390	176
3-MoCB	2		65.0		33.6	49.3	63.6
4-MoCB	3		258		60.4	159	124
2,2'-DiCB	4		760	U			
2,3-DiCB	5	U		U			
2,3'-DiCB	6		230	U			
2,4-DiCB	7	U		U			
2,4'-DiCB	8		606	J	113	359	137
2,5-DiCB	9	U		U			
2,6-DiCB	10	U		U			
3,3'-DiCB	11		832		463	648	57.0
3,4-DiCB	12	C	123	C U			
3,4'-DiCB	13	C12		C12			
3,5-DiCB	14	U		U			
4,4'-DiCB	15		614	J	117	366	136
2,2',3-TriCB	16		102	K	52.3		
2,2',4-TriCB	17		265	K	94.1		
2,2',5-TriCB	18	C	352	C	128	240	93.2
2,2',6-TriCB	19	K	111	K J	23.6		
2,3,3'-TriCB	20	C	531	C	255	393	70.3
2,3,4-TriCB	21	C	166	C	97.8	132	51.8
2,3,4'-TriCB	22		142		83.0	113	52.5
2,3,5-TriCB	23	U		U			
2,3,6-TriCB	24	U		U			
2,3',4-TriCB	25		91.4		47.6	69.5	63.0
2,3',5-TriCB	26	C	150	C	48.8	99.6	102
2,3',6-TriCB	27		56.9	J	11.3	34.1	134
2,4,4'-TriCB	28	C20		C20			
2,4,5-TriCB	29	C26		C26			
2,4,6-TriCB	30	C18		C18			
2,4',5-TriCB	31		470		193	331	83.7
2,4',6-TriCB	32		149		42.6	95.8	111
2',3,4-TriCB	33	C21		C21			
2',3,5-TriCB	34	U		J	8.67		
3,3',4-TriCB	35	J	18.5	J	14.5	16.5	24.4
3,3',5-TriCB	36	J	8.61	U			
3,4,4'-TriCB	37		152		106	129	35.9
3,4,5-TriCB	38	U		U			
3,4',5-TriCB	39	U		U			
2,2',3,3'-TeCB	40	C K	157	C	139		
2,2',3,4-TeCB	41	C40		C40			
2,2',3,4'-TeCB	42		87.0		81.8	84.4	6.20
2,2',3,5-TeCB	43	J	8.39	K J	7.91		
2,2',3,5'-TeCB	44	C	760	C	701	730	8.08
2,2',3,6-TeCB	45	C	284	C	227	256	22.2
2,2',3,6'-TeCB	46	K J	23.9	K J	13.4		
2,2',4,4'-TeCB	47	C44		C44			
2,2',4,5-TeCB	48		69.6		52.7	61.2	27.6
2,2',4,5'-TeCB	49	C	287	C K	249		
2,2',4,6-TeCB	50	C	69.3	C	36.0	52.7	63.2
2,2',4,6'-TeCB	51	C45		C45			
2,2',5,5'-TeCB	52		603		588	596	2.39
2,2',5,6'-TeCB	53	C50		C50			
2,2',6,6'-TeCB	54	K J	4.68	K J	9.59		
2,3,3',4-TeCB	55	U		U			

COMPOUND	IUPAC NO.	L30771-4 (A) LAB FLAG [1]	L30771-4 (A) CONC. FOUND	WG67275-103 LAB FLAG [1]	WG67275-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3,3',4'-TeCB	56		163		139	151	15.5
2,3,3',5-TeCB	57	U		U			
2,3,3',5'-TeCB	58	U		U			
2,3,3',6-TeCB	59	C K J	31.0	C K J	21.9		
2,3,4,4'-TeCB	60		77.5		61.9	69.7	22.3
2,3,4,5-TeCB	61	C	696	C	723	710	3.87
2,3,4,6-TeCB	62	C59		C59			
2,3,4',5-TeCB	63	J	18.6	J	12.0	15.3	42.8
2,3,4',6-TeCB	64		164		131	148	22.5
2,3,5,6-TeCB	65	C44		C44			
2,3',4,4'-TeCB	66		403		370	386	8.70
2,3',4,5-TeCB	67	J	10.8	J	8.58	9.66	22.5
2,3',4,5'-TeCB	68		180		166	173	7.99
2,3',4,6-TeCB	69	C49		C49			
2,3',4',5-TeCB	70	C61		C61			
2,3',4',6-TeCB	71	C40		C40			
2,3',5,5'-TeCB	72	U		K J	5.59		
2,3',5',6-TeCB	73	U		U			
2,4,4',5-TeCB	74	C61		C61			
2,4,4',6-TeCB	75	C59		C59			
2',3,4,5-TeCB	76	C61		C61			
3,3',4,4'-TeCB	77		68.7		83.1	75.9	19.0
3,3',4,5-TeCB	78	U		U			
3,3',4,5'-TeCB	79	J	9.11	J	13.6	11.4	39.7
3,3',5,5'-TeCB	80	U		U			
3,4,4',5-TeCB	81	U		K J	8.58		
2,2',3,3',4-PeCB	82		99.2		120	110	19.1
2,2',3,3',5-PeCB	83	C	463	C	517	490	11.0
2,2',3,3',6-PeCB	84	K	167		214		
2,2',3,4,4'-PeCB	85	C	165	C	186	175	11.7
2,2',3,4,5-PeCB	86	C G	537	C G	662	599	20.9
2,2',3,4,5'-PeCB	87	C86		C86			
2,2',3,4,6-PeCB	88	C	98.3	C	108	103	9.63
2,2',3,4,6'-PeCB	89	U		K J	7.46		
2,2',3,4',5-PeCB	90	C	738	C	820	779	10.4
2,2',3,4',6-PeCB	91	C88		C88			
2,2',3,5,5'-PeCB	92		156		160	158	2.12
2,2',3,5,6-PeCB	93	C	590	C	592	591	0.417
2,2',3,5,6'-PeCB	94	U		U			
2,2',3,5',6-PeCB	95	C93		C93			
2,2',3,6,6'-PeCB	96	U		K J	5.07		
2,2',3',4,5-PeCB	97	C86		C86			
2,2',3',4,6-PeCB	98	C93		C93			
2,2',4,4',5-PeCB	99	C83		C83			
2,2',4,4',6-PeCB	100	C93		C93			
2,2',4,5,5'-PeCB	101	C90		C90			
2,2',4,5,6'-PeCB	102	C93		C93			
2,2',4,5',6-PeCB	103	U		K J	5.82		
2,2',4,6,6'-PeCB	104	U		K J	10.7		
2,3,3',4,4'-PeCB	105		390		433	411	10.5
2,3,3',4,5-PeCB	106	U		U			
2,3,3',4',5-PeCB	107	C	41.6	C K	50.5		
2,3,3',4,5'-PeCB	108	C86		C86			
2,3,3',4,6-PeCB	109		79.3	K	80.1		
2,3,3',4',6-PeCB	110	C	923	C	1050	989	13.3
2,3,3',5,5'-PeCB	111	U		U			
2,3,3',5,6-PeCB	112	U		U			
2,3,3',5',6-PeCB	113	C90		C90			
2,3,4,4',5-PeCB	114	K J	27.6	K J	25.5		
2,3,4,4',6-PeCB	115	C110		C110			
2,3,4,5,6-PeCB	116	C85		C85			
2,3,4',5,6-PeCB	117	C85		C85			
2,3',4,4',5-PeCB	118		864		937	901	8.16
2,3',4,4',6-PeCB	119	C86		C86			

COMPOUND	IUPAC NO.	L30771-4 (A) LAB FLAG [1]	L30771-4 (A) CONC. FOUND	WG67275-103 LAB FLAG [1]	WG67275-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3',4,5,5'-PeCB	120	U		J	4.29		
2,3',4,5',6-PeCB	121	U		U			
2',3,3',4,5-PeCB	122	K J	11.5	J	10.4		
2',3,4,4',5-PeCB	123	K J	22.9	K J	28.0		
2',3,4,5,5'-PeCB	124	C107		C107			
2',3,4,5,6'-PeCB	125	C86		C86			
3,3',4,4',5-PeCB	126	U		K J	13.6		
3,3',4,5,5'-PeCB	127	U		J	6.38		
2,2',3,3',4,4'-HxCB	128	C	218	C	225	222	3.27
2,2',3,3',4,5-HxCB	129	C	1430	C	1330	1380	7.41
2,2',3,3',4,5'-HxCB	130		69.9		88.0	79.0	23.0
2,2',3,3',4,6-HxCB	131	J	14.6	K J	13.4		
2,2',3,3',4,6'-HxCB	132		353		324	338	8.29
2,2',3,3',5,5'-HxCB	133	J	17.7	K J	16.2		
2,2',3,3',5,6-HxCB	134	C K	51.9	C	46.6		
2,2',3,3',5,6'-HxCB	135	C	339	C	274	307	21.4
2,2',3,3',6,6'-HxCB	136		97.4		89.2	93.3	8.83
2,2',3,4,4',5-HxCB	137	K	68.5		63.7		
2,2',3,4,4',5'-HxCB	138	C129		C129			
2,2',3,4,4',6-HxCB	139	C J	24.4	C K J	18.0		
2,2',3,4,4',6'-HxCB	140	C139		C139			
2,2',3,4,5,5'-HxCB	141		197		200	199	1.46
2,2',3,4,5,6-HxCB	142	U		U			
2,2',3,4,5,6'-HxCB	143	C134		C134			
2,2',3,4,5',6-HxCB	144	K	52.5		37.1		
2,2',3,4,6,6'-HxCB	145	U		U			
2,2',3,4',5,5'-HxCB	146		177		182	180	2.80
2,2',3,4',5,6-HxCB	147	C	925	C	740	833	22.2
2,2',3,4',5,6'-HxCB	148	U		U			
2,2',3,4',5',6-HxCB	149	C147		C147			
2,2',3,4',6,6'-HxCB	150	U		U			
2,2',3,5,5',6-HxCB	151	C135		C135			
2,2',3,5,6,6'-HxCB	152	U		U			
2,2',4,4',5,5'-HxCB	153	C	974	C	981	978	0.717
2,2',4,4',5,6'-HxCB	154	C135		C135			
2,2',4,4',6,6'-HxCB	155	J	5.18	K J	8.11		
2,3,3',4,4',5-HxCB	156	C	176	C	180	178	2.46
2,3,3',4,4',5'-HxCB	157	C156		C156			
2,3,3',4,4',6-HxCB	158		111		132	121	17.4
2,3,3',4,5,5'-HxCB	159	J	12.0	J	10.4	11.2	14.1
2,3,3',4,5,6-HxCB	160	C129		C129			
2,3,3',4,5',6-HxCB	161	U		U			
2,3,3',4',5,5'-HxCB	162	K J	5.93	J	5.42		
2,3,3',4',5,6-HxCB	163	C129		C129			
2,3,3',4',5',6-HxCB	164		78.7		81.9	80.3	3.98
2,3,3',5,5',6-HxCB	165	U		U			
2,3,4,4',5,6-HxCB	166	C128		C128			
2,3',4,4',5,5'-HxCB	167	K	62.2		64.8		
2,3',4,4',5',6-HxCB	168	C153		C153			
3,3',4,4',5,5'-HxCB	169	U		U			
2,2',3,3',4,4',5-HpCB	170		282		242	262	15.4
2,2',3,3',4,4',6-HpCB	171	C	70.8	C	72.2	71.5	1.99
2,2',3,3',4,5,5'-HpCB	172		50.9		49.0	50.0	3.69
2,2',3,3',4,5,6-HpCB	173	C171		C171			
2,2',3,3',4,5,6'-HpCB	174		215		227	221	5.13
2,2',3,3',4,5',6-HpCB	175	K J	4.85	K J	8.61		
2,2',3,3',4,6,6'-HpCB	176		35.1	J	26.3	30.7	28.8
2,2',3,3',4',5,6-HpCB	177	K	138		167		
2,2',3,3',5,5',6-HpCB	178		66.8		56.2	61.5	17.2
2,2',3,3',5,6,6'-HpCB	179		104		91.7	97.8	12.4
2,2',3,4,4',5,5'-HpCB	180	C	718	C	666	692	7.51
2,2',3,4,4',5,6-HpCB	181	U		K J	4.65		
2,2',3,4,4',5,6'-HpCB	182	U		K J	5.76		
2,2',3,4,4',5',6-HpCB	183	C	141	C	156	149	10.1

COMPOUND	IUPAC NO.	L30771-4 (A) LAB FLAG [1]	L30771-4 (A) CONC. FOUND	WG67275-103 LAB FLAG [1]	WG67275-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,2',3,4,4',6,6'-HpCB	184	U		K J	4.69		
2,2',3,4,5,5',6-HpCB	185	C183		C183			
2,2',3,4,5,6,6'-HpCB	186	U		U			
2,2',3,4',5,5',6-HpCB	187		307		313	310	1.79
2,2',3,4',5,6,6'-HpCB	188	U		K J	6.04		
2,3,3',4,4',5,5'-HpCB	189	K J	8.95	K J	12.6		
2,3,3',4,4',5,6-HpCB	190		63.0		65.9	64.4	4.50
2,3,3',4,4',5',6-HpCB	191	K J	9.12	J	12.2		
2,3,3',4,5,5',6-HpCB	192	U		U			
2,3,3',4',5,5',6-HpCB	193	C180		C180			
2,2',3,3',4,4',5,5'-OcCB	194		195		141	168	32.4
2,2',3,3',4,4',5,6-OcCB	195	K	72.6	K	57.2		
2,2',3,3',4,4',5,6'-OcCB	196		91.3		64.8	78.0	34.0
2,2',3,3',4,4',6,6'-OcCB	197	C K J	25.2	C J	22.6		
2,2',3,3',4,5,5',6-OcCB	198	C K	205	C	186		
2,2',3,3',4,5,5',6'-OcCB	199	C198		C198			
2,2',3,3',4,5,6,6'-OcCB	200	C197		C197			
2,2',3,3',4,5',6,6'-OcCB	201	K J	17.3	J	22.2		
2,2',3,3',5,5',6,6'-OcCB	202		49.8		47.1	48.4	5.61
2,2',3,4,4',5,5',6-OcCB	203	K	116		122		
2,2',3,4,4',5,6,6'-OcCB	204	U		U			
2,3,3',4,4',5,5',6-OcCB	205	J	13.9	K J	10.5		
2,2',3,3',4,4',5,5',6-NoCB	206		150		131	140	13.2
2,2',3,3',4,4',5,6,6'-NoCB	207	J	23.4	J	14.2	18.8	49.1
2,2',3,3',4,5,5',6,6'-NoCB	208		60.7		52.8	56.8	13.9
2,2',3,3',4,4',5,5',6,6'-DeCB	209		306		293	300	4.21

(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; C = co-eluting congener.

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

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.

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Report Filename: RPD_PCB1668_RPD_WG67275-103_L30771-4_.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-5
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 02:12:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg/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	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			54.8	4.26 (S)	3.09	1.001
3-MoCB	2			46.9	4.62 (S)	2.88	0.989
4-MoCB	3			69.2	4.68 (S)	3.52	1.001
2,2'-DiCB	4		J	92.9	70.1 (S)	1.39	1.001
2,3-DiCB	5		U		47.1 (S)		
2,3'-DiCB	6		K J	48.0	42.5 (S)	1.09	1.177
2,4-DiCB	7		U		43.0 (S)		
2,4'-DiCB	8			169	38.7 (S)	1.65	1.209
2,5-DiCB	9		U		39.9 (S)		
2,6-DiCB	10		U		42.3 (S)		
3,3'-DiCB	11			708	45.4 (S)	1.78	0.968
3,4-DiCB	12	12 + 13	C U		46.1 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		44.6 (S)		
4,4'-DiCB	15			179	49.7 (S)	1.56	1.001
2,2',3-TriCB	16			80.2	16.5 (S)	1.00	1.166
2,2',4-TriCB	17			135	14.2 (S)	1.05	1.140
2,2',5-TriCB	18	18 + 30	C	209	12.0 (S)	1.03	1.115
2,2',6-TriCB	19		K J	29.7	15.5 (S)	1.29	1.001
2,3,3'-TriCB	20	20 + 28	C	398	7.34 (S)	1.07	0.849
2,3,4-TriCB	21	21 + 33	C	163	7.44 (S)	0.91	0.857
2,3,4'-TriCB	22			126	8.44 (S)	0.98	0.873
2,3,5-TriCB	23		U		8.05 (S)		
2,3,6-TriCB	24		U		10.8 (S)		
2,3',4-TriCB	25			46.2	6.73 (S)	0.98	0.826
2,3',5-TriCB	26	26 + 29	C	75.7	7.68 (S)	0.96	1.302
2,3',6-TriCB	27		K J	16.3	9.74 (S)	0.87	1.152
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			306	6.96 (S)	1.08	0.837
2,4',6-TriCB	32			76.5	7.32 (S)	1.09	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		7.85 (S)		
3,3',4-TriCB	35		J	20.8	9.08 (S)	1.18	0.985
3,3',5-TriCB	36		K J	13.2	8.26 (S)	0.84	0.932
3,4,4'-TriCB	37			155	9.10 (S)	1.03	1.001
3,4,5-TriCB	38		U		8.10 (S)		
3,4',5-TriCB	39		U		8.21 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	203	5.14 (S)	0.70	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		K	113	5.51 (S)	0.94	1.312
2,2',3,5-TeCB	43		K J	14.4	5.99 (S)	0.64	1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	744	4.61 (S)	0.79	1.287
2,2',3,6-TeCB	45	45 + 51	C	407	4.64 (S)	0.88	1.149
2,2',3,6'-TeCB	46		J	22.3	5.42 (S)	0.71	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			78.7	5.26 (S)	0.67	1.275
2,2',4,5'-TeCB	49	49 + 69	C	298	4.30 (S)	0.85	1.260
2,2',4,6-TeCB	50	50 + 53	C	54.5	4.51 (S)	0.81	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			566	4.70 (S)	0.85	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		4.16 (Q)		
2,3,3',4-TeCB	55		J	10.9	5.23 (S)	0.66	0.890
2,3,3',4'-TeCB	56			185	5.19 (S)	0.78	0.905
2,3,3',5-TeCB	57		U		4.77 (S)		
2,3,3',5'-TeCB	58		U		5.00 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	37.5	4.16 (Q)	0.82	1.303
2,3,4,4'-TeCB	60			70.7	5.06 (S)	0.83	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	734	4.71 (S)	0.79	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		K J	17.2	4.66 (S)	1.01	0.864
2,3,4',6-TeCB	64			180	4.16 (Q)	0.79	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			470	4.77 (S)	0.76	0.884
2,3',4,5-TeCB	67		K J	9.93	4.20 (S)	0.92	0.857
2,3',4,5'-TeCB	68			169	4.51 (S)	0.81	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	6.80	4.49 (S)	1.13	0.823
2,3',5',6-TeCB	73		U		4.16 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		K	79.2	5.11 (S)	0.98	1.000
3,3',4,5-TeCB	78		U		5.05 (S)		
3,3',4,5'-TeCB	79		K J	7.73	4.16 (Q)	0.57	0.970
3,3',5,5'-TeCB	80		U		4.56 (S)		
3,4,4',5-TeCB	81		U		5.06 (S)		
2,2',3,3',4-PeCB	82			96.8	4.52 (S)	1.43	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	494	4.27 (S)	1.41	0.886
2,2',3,3',6-PeCB	84			162	4.52 (S)	1.66	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	171	4.16 (Q)	1.34	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	535	4.16 (Q)	1.47	0.902
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C K	93.3	4.16 (Q)	2.02	1.153
2,2',3,4,6'-PeCB	89		U		4.31 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	703	4.16 (Q)	1.65	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		K	135	4.16 (Q)	1.85	0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	494	4.16 (Q)	1.53	1.119
2,2',3,5,6'-PeCB	94		K J	5.30	4.32 (S)	1.25	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	4.27	4.18 (S)	1.34	1.014
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K J	7.17	4.16 (Q)	1.93	1.093
2,2',4,6,6'-PeCB	104		U		4.16 (Q)		
2,3,3',4,4'-PeCB	105			375	6.85 (S)	1.63	1.000
2,3,3',4,5-PeCB	106		U		7.52 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	39.3	8.12 (S)	1.34	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			69.4	7.63 (S)	1.46	0.998
2,3,3',4',6-PeCB	110	110 + 115	C	918	4.16 (Q)	1.71	0.925
2,3,3',5,5'-PeCB	111		U		4.16 (Q)		
2,3,3',5,6-PeCB	112		U		4.16 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	25.0	8.14 (S)	1.40	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			840	7.73 (S)	1.54	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	4.43	4.16 (Q)	1.20	0.959
2,3',4,5',6-PeCB	121		U		4.16 (Q)		
2',3,3',4,5-PeCB	122		K J	14.9	8.30 (S)	1.25	1.010
2',3,4,4',5-PeCB	123		K J	24.2	8.08 (S)	1.90	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		7.92 (S)		
3,3',4,5,5'-PeCB	127		U		7.01 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	204	4.16 (Q)	1.06	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1370	4.16 (Q)	1.37	0.928
2,2',3,3',4,5'-HxCB	130			76.9	4.16 (Q)	1.16	0.913
2,2',3,3',4,6-HxCB	131		K J	13.4	4.16 (Q)	1.57	1.159
2,2',3,3',4,6'-HxCB	132			320	4.16 (Q)	1.14	1.173
2,2',3,3',5,5'-HxCB	133		K J	22.9	4.16 (Q)	1.45	1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C	43.0	4.16 (Q)	1.35	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	339	4.42 (S)	1.14	1.103
2,2',3,3',6,6'-HxCB	136			98.0	4.16 (Q)	1.31	1.023
2,2',3,4,4',5-HxCB	137			64.6	4.16 (Q)	1.11	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K J	22.9	4.16 (Q)	1.84	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			188	4.16 (Q)	1.34	0.903
2,2',3,4,5,6-HxCB	142		U		4.16 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K	36.9	4.46 (S)	0.93	1.121
2,2',3,4,6,6'-HxCB	145		U		4.16 (Q)		
2,2',3,4',5,5'-HxCB	146			192	4.16 (Q)	1.40	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	894	4.16 (Q)	1.19	1.132
2,2',3,4',5,6'-HxCB	148		U		4.63 (S)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.16 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.16 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1020	4.16 (Q)	1.24	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		J	4.55	4.16 (Q)	1.31	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	152	4.16 (Q)	1.21	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			127	4.16 (Q)	1.37	0.938
2,3,3',4,5,5'-HxCB	159		K J	15.0	4.16 (Q)	0.71	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.16 (Q)		
2,3,3',4',5,5'-HxCB	162		U		4.16 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			78.5	4.16 (Q)	1.33	0.921
2,3,3',5,5',6-HxCB	165		U		4.16 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			66.0	4.16 (Q)	1.15	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		4.16 (Q)		
2,2',3,3',4,4',5-HpCB	170		K	307	4.16 (Q)	1.21	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	96.8	4.16 (Q)	1.09	1.162
2,2',3,3',4,5,5'-HpCB	172			51.0	4.16 (Q)	1.06	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			285	4.16 (Q)	1.15	1.132
2,2',3,3',4,5',6-HpCB	175		K J	9.03	4.16 (Q)	1.21	1.101
2,2',3,3',4,6,6'-HpCB	176			33.6	4.16 (Q)	1.06	1.033
2,2',3,3',4',5,6-HpCB	177			180	4.16 (Q)	1.14	1.144
2,2',3,3',5,5',6-HpCB	178		K	78.6	4.16 (Q)	0.87	1.085
2,2',3,3',5,6,6'-HpCB	179			112	4.16 (Q)	1.02	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	832	4.16 (Q)	1.00	1.000
2,2',3,4,4',5,6-HpCB	181		U		4.16 (Q)		
2,2',3,4,4',5,6'-HpCB	182		K J	6.64	4.16 (Q)	0.54	1.115
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	185	4.16 (Q)	1.06	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	6.11	4.16 (Q)	1.34	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.16 (Q)		
2,2',3,4',5,5',6-HpCB	187			404	4.16 (Q)	0.98	1.109
2,2',3,4',5,6,6'-HpCB	188		U		4.16 (Q)		
2,3,3',4,4',5,5'-HpCB	189		K J	13.0	4.16 (Q)	1.28	1.000
2,3,3',4,4',5,6-HpCB	190		K	65.2	4.16 (Q)	0.83	0.947
2,3,3',4,4',5',6-HpCB	191		K J	17.6	4.16 (Q)	0.87	0.918
2,3,3',4,5,5',6-HpCB	192		U		4.16 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			187	4.16 (Q)	0.91	0.991
2,2',3,3',4,4',5,6-OcCB	195			81.3	4.16 (Q)	0.84	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K	87.2	4.16 (Q)	1.09	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	39.3	4.16 (Q)	0.80	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	218	4.16 (Q)	0.85	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		J	26.4	4.16 (Q)	0.92	1.023
2,2',3,3',5,5',6,6'-OcCB	202			79.0	4.16 (Q)	0.76	1.001
2,2',3,4,4',5,5',6-OcCB	203			161	4.16 (Q)	0.96	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		4.16 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	12.3	4.16 (Q)	0.88	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			181	7.67 (S)	0.75	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	24.8	6.39 (S)	0.97	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			67.8	6.92 (S)	0.67	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			380	4.16 (Q)	1.13	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; G = lock mass interference present; C = co-eluting congener.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-5_Form1A_PB9B_044S6_SJ2546891.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-5
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	22-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 02:12:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg absolute		

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LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	1570	39.2	3.20	0.717
13C12-4-MoCB	3L			4000	1670	41.7	3.19	0.856
13C12-2,2'-DiCB	4L			4000	1670	41.7	1.61	0.872
13C12-4,4'-DiCB	15L			4000	1840	46.1	1.62	1.252
13C12-2,2',6-TriCB	19L			4000	1760	43.9	1.08	1.071
13C12-3,4,4'-TriCB	37L			4000	2550	63.8	1.01	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2380	59.4	0.84	0.810
13C12-3,3',4,4'-TeCB	77L			4000	2550	63.7	0.81	1.394
13C12-3,4,4',5-TeCB	81L			4000	2520	63.0	0.81	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	2660	66.6	1.57	0.809
13C12-2,3,3',4,4'-PeCB	105L			4000	3400	84.9	1.54	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2820	70.6	1.53	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2900	72.5	1.49	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2900	72.6	1.50	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	3160	78.9	1.52	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2600	65.0	1.28	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6690	83.6	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3210	80.3	1.30	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3540	88.5	1.29	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3270	81.6	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3150	78.9	1.08	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2000	49.9	1.05	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3610	90.3	1.08	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2340	58.4	0.92	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3130	78.3	0.95	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3200	80.0	0.82	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	2830	70.7	0.80	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	3350	83.8	1.19	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	2760	69.0	1.03	0.924
13C12-2,3,3',5,5'-PeCB	111L			4000	2830	70.7	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	3000	75.1	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-5_Form2_PB9B_044S6_SJ2546891.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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
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Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-6
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 03:16:46	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg/sample		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			49.8	4.16 (Q)	3.33	1.000
3-MoCB	2		J	30.4	4.16 (Q)	3.00	0.988
4-MoCB	3		K	48.5	4.16 (Q)	3.61	1.001
2,2'-DiCB	4		K	90.7	34.6 (S)	1.31	1.000
2,3-DiCB	5		U		24.3 (S)		
2,3'-DiCB	6		J	41.6	21.9 (S)	1.70	1.176
2,4-DiCB	7		U		22.2 (S)		
2,4'-DiCB	8			157	20.0 (S)	1.57	1.207
2,5-DiCB	9		U		20.6 (S)		
2,6-DiCB	10		U		21.8 (S)		
3,3'-DiCB	11			591	23.4 (S)	1.57	0.969
3,4-DiCB	12	12 + 13	C J	26.5	23.8 (S)	1.57	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		23.0 (S)		
4,4'-DiCB	15			181	26.3 (S)	1.51	1.001
2,2',3-TriCB	16			80.2	8.84 (S)	1.07	1.166
2,2',4-TriCB	17			250	7.65 (S)	1.06	1.139
2,2',5-TriCB	18	18 + 30	C	209	6.46 (S)	1.07	1.114
2,2',6-TriCB	19			39.0	8.60 (S)	0.95	1.000
2,3,3'-TriCB	20	20 + 28	C	438	4.42 (S)	1.08	0.849
2,3,4-TriCB	21	21 + 33	C	193	4.48 (S)	1.02	0.857
2,3,4'-TriCB	22			146	5.08 (S)	1.00	0.873
2,3,5-TriCB	23		U		4.85 (S)		
2,3,6-TriCB	24		U		5.83 (S)		
2,3',4-TriCB	25			95.0	4.16 (Q)	1.10	0.826
2,3',5-TriCB	26	26 + 29	C	76.7	4.62 (S)	0.99	1.302
2,3',6-TriCB	27		J	20.9	5.24 (S)	1.07	1.150
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			339	4.19 (S)	1.05	0.838
2,4',6-TriCB	32			69.9	4.41 (S)	1.17	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		4.73 (S)		
3,3',4-TriCB	35		J	19.2	5.47 (S)	1.12	0.986
3,3',5-TriCB	36		J	12.0	4.97 (S)	1.16	0.933
3,4,4'-TriCB	37			160	5.35 (S)	1.04	1.001
3,4,5-TriCB	38		U		4.88 (S)		
3,4',5-TriCB	39		U		4.94 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	263	4.17 (S)	0.87	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		K	142	4.47 (S)	0.99	1.312
2,2',3,5-TeCB	43		J	18.0	4.86 (S)	0.78	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1420	4.16 (Q)	0.80	1.287
2,2',3,6-TeCB	45	45 + 51	C	730	4.16 (Q)	0.84	1.149
2,2',3,6'-TeCB	46		J	26.7	4.40 (S)	0.77	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			89.0	4.27 (S)	0.69	1.274
2,2',4,5'-TeCB	49	49 + 69	C	401	4.16 (Q)	0.77	1.260
2,2',4,6-TeCB	50	50 + 53	C	73.3	4.16 (Q)	0.72	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			702	4.16 (Q)	0.82	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	6.07	4.16 (Q)	1.21	1.001
2,3,3',4-TeCB	55		U		7.46 (S)		
2,3,3',4'-TeCB	56			226	7.41 (S)	0.83	0.905
2,3,3',5-TeCB	57		U		6.80 (S)		
2,3,3',5'-TeCB	58		U		7.14 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	50.5	4.16 (Q)	0.82	1.302
2,3,4,4'-TeCB	60			85.0	7.22 (S)	0.79	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	841	6.71 (S)	0.78	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	19.1	6.65 (S)	0.80	0.865
2,3,4',6-TeCB	64			233	4.16 (Q)	0.80	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	549	6.81 (S)	0.78	0.885
2,3',4,5-TeCB	67		K J	9.97	6.00 (S)	1.01	0.857
2,3',4,5'-TeCB	68			399	6.44 (S)	0.76	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	6.81	6.41 (S)	0.99	0.824
2,3',5',6-TeCB	73		K J	4.83	4.16 (Q)	0.99	1.242
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			77.5	7.42 (S)	0.78	1.000
3,3',4,5-TeCB	78		U		7.21 (S)		
3,3',4,5'-TeCB	79		K J	10.5	5.82 (S)	0.59	0.970
3,3',5,5'-TeCB	80		U		6.50 (S)		
3,4,4',5-TeCB	81		U		7.55 (S)		
2,2',3,3',4-PeCB	82			108	6.55 (S)	1.58	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	582	6.20 (S)	1.62	0.885
2,2',3,3',6-PeCB	84			185	6.56 (S)	1.64	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	178	4.92 (S)	1.64	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	591	5.01 (S)	1.60	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	139	5.80 (S)	1.63	1.154
2,2',3,4,6'-PeCB	89		J	10.7	6.25 (S)	1.44	1.181
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	830	5.07 (S)	1.58	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			169	5.96 (S)	1.54	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	610	5.58 (S)	1.62	1.120
2,2',3,5,6'-PeCB	94		U		6.26 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	4.32	4.16 (Q)	2.02	1.015
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		J	14.7	5.08 (S)	1.58	1.093
2,2',4,6,6'-PeCB	104		U		4.16 (Q)		
2,3,3',4,4'-PeCB	105			365	5.08 (S)	1.77	1.000
2,3,3',4,5-PeCB	106		U		5.39 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	42.3	5.82 (S)	1.58	0.990
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		K	72.1	5.47 (S)	1.80	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	997	4.27 (S)	1.52	0.925
2,3,3',5,5'-PeCB	111		U		4.33 (S)		
2,3,3',5,6-PeCB	112		U		4.16 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K J	21.6	5.25 (S)	1.09	1.001
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			860	5.69 (S)	1.59	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	4.94	4.16 (Q)	0.82	0.958
2,3',4,5',6-PeCB	121		U		4.47 (S)		
2',3,3',4,5-PeCB	122		K J	10.8	5.95 (S)	0.89	1.010
2',3,4,4',5-PeCB	123		J	19.9	6.24 (S)	1.40	1.000
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		J	6.74	6.45 (S)	1.47	1.001
3,3',4,5,5'-PeCB	127		U		5.03 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	183	4.16 (Q)	1.33	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1320	4.16 (Q)	1.32	0.929
2,2',3,3',4,5'-HxCB	130			88.0	4.16 (Q)	1.37	0.913
2,2',3,3',4,6-HxCB	131		J	12.9	4.16 (Q)	1.11	1.159
2,2',3,3',4,6'-HxCB	132			386	4.16 (Q)	1.20	1.173
2,2',3,3',5,5'-HxCB	133		K J	23.5	4.16 (Q)	1.92	1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C	57.6	4.16 (Q)	1.36	1.140
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	412	4.16 (Q)	1.28	1.103
2,2',3,3',6,6'-HxCB	136			149	4.16 (Q)	1.35	1.023
2,2',3,4,4',5-HxCB	137			46.2	4.16 (Q)	1.18	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C J	23.9	4.16 (Q)	1.09	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			210	4.16 (Q)	1.41	0.903
2,2',3,4,5,6-HxCB	142		U		4.16 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			45.6	4.16 (Q)	1.25	1.121
2,2',3,4,6,6'-HxCB	145		U		4.16 (Q)		
2,2',3,4',5,5'-HxCB	146			228	4.16 (Q)	1.28	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	1090	4.16 (Q)	1.37	1.132
2,2',3,4',5,6'-HxCB	148		K J	4.88	4.16 (Q)	0.99	1.083
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.16 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.16 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1110	4.16 (Q)	1.28	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	4.59	4.16 (Q)	1.67	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	150	4.16 (Q)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			114	4.16 (Q)	1.33	0.938
2,3,3',4,5,5'-HxCB	159		J	17.7	4.16 (Q)	1.21	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.16 (Q)		
2,3,3',4',5,5'-HxCB	162		J	5.60	4.16 (Q)	1.19	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			95.3	4.16 (Q)	1.34	0.921
2,3,3',5,5',6-HxCB	165		U		4.16 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K	64.0	4.16 (Q)	1.45	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		4.16 (Q)		
2,2',3,3',4,4',5-HpCB	170			344	4.16 (Q)	0.94	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K	93.0	4.16 (Q)	1.27	1.162
2,2',3,3',4,5,5'-HpCB	172			61.2	4.16 (Q)	1.05	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			308	4.16 (Q)	1.07	1.132
2,2',3,3',4,5',6-HpCB	175		J	11.8	4.16 (Q)	0.90	1.102
2,2',3,3',4,6,6'-HpCB	176		K	37.2	4.16 (Q)	1.40	1.034
2,2',3,3',4',5,6-HpCB	177			201	4.16 (Q)	1.04	1.145
2,2',3,3',5,5',6-HpCB	178			75.6	4.16 (Q)	0.91	1.085
2,2',3,3',5,6,6'-HpCB	179			144	4.16 (Q)	1.20	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	903	4.16 (Q)	1.08	1.000
2,2',3,4,4',5,6-HpCB	181		U		4.16 (Q)		
2,2',3,4,4',5,6'-HpCB	182		J	4.39	4.16 (Q)	0.99	1.115
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	196	4.16 (Q)	1.11	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	5.15	4.16 (Q)	0.78	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.16 (Q)		
2,2',3,4',5,5',6-HpCB	187			425	4.16 (Q)	1.07	1.110
2,2',3,4',5,6,6'-HpCB	188		U		4.16 (Q)		
2,3,3',4,4',5,5'-HpCB	189		J	11.0	4.16 (Q)	0.97	1.000
2,3,3',4,4',5,6-HpCB	190		K	70.7	4.16 (Q)	1.37	0.947
2,3,3',4,4',5',6-HpCB	191		K J	12.0	4.16 (Q)	0.79	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.16 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			199	4.16 (Q)	0.83	0.991
2,2',3,3',4,4',5,6-OcCB	195			97.8	4.16 (Q)	0.96	0.946
2,2',3,3',4,4',5,6'-OcCB	196		K	83.6	4.16 (Q)	0.70	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K	37.5	4.16 (Q)	0.74	1.047
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	233	4.16 (Q)	0.97	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K J	29.6	4.16 (Q)	1.06	1.023
2,2',3,3',5,5',6,6'-OcCB	202		K	76.9	4.16 (Q)	0.75	1.000
2,2',3,4,4',5,5',6-OcCB	203		K	145	4.16 (Q)	0.74	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		4.16 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	14.2	4.16 (Q)	0.92	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			176	5.22 (S)	0.82	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	20.7	4.39 (S)	0.94	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			70.1	4.80 (S)	0.73	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			332	4.16 (Q)	1.23	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; G = lock mass interference present; C = co-eluting congener.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-6_Form1A_PB9B_044S7_SJ2546893.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-6
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 03:16:46	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg absolute		

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LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	3720	93.0	3.21	0.717
13C12-4-MoCB	3L			4000	4460	112	3.21	0.857
13C12-2,2'-DiCB	4L			4000	4260	107	1.65	0.872
13C12-4,4'-DiCB	15L			4000	4480	112	1.64	1.251
13C12-2,2',6-TriCB	19L			4000	4070	102	1.06	1.071
13C12-3,4,4'-TriCB	37L			4000	6000	150	1.01	1.090
13C12-2,2',6,6'-TeCB	54L			4000	5520	138	0.84	0.811
13C12-3,3',4,4'-TeCB	77L			4000	5500	138	0.80	1.394
13C12-3,4,4',5-TeCB	81L			4000	5330	133	0.81	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	5740	144	1.56	0.809
13C12-2,3,3',4,4'-PeCB	105L		V	4000	6970	174	1.54	1.199
13C12-2,3,4,4',5-PeCB	114L		V	4000	6310	158	1.61	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	5800	145	1.49	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	5820	146	1.48	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	5760	144	1.52	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	5650	141	1.26	0.786
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C V	8000	12900	161	1.31	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		V	4000	6260	156	1.31	1.077
13C12-3,3',4,4',5,5'-HxCB	169L		V	4000	6520	163	1.31	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L		V	4000	6200	155	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L		V	4000	6030	151	1.07	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	4750	119	1.07	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L		V	4000	7230	181	1.06	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	4850	121	0.96	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L		V	4000	6290	157	0.95	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		V	4000	6170	154	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	5310	133	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	5710	143	1.16	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L		V	4000	6430	161	1.01	0.924
13C12-2,3,3',5,5'-PeCB	111L		V	4000	5950	149	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L		V	4000	5950	149	1.10	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits; C = co-eluting congener.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-6_Form2_PB9B_044S7_SJ2546893.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-7
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 04:21:04	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg/sample		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		X				
3-MoCB	2		X				
4-MoCB	3		X				
2,2'-DiCB	4		K	86.5	71.4 (S)	1.26	1.000
2,3-DiCB	5		U		50.6 (S)		
2,3'-DiCB	6			50.4	45.7 (S)	1.40	1.174
2,4-DiCB	7		U		46.3 (S)		
2,4'-DiCB	8			191	41.6 (S)	1.49	1.204
2,5-DiCB	9		U		42.9 (S)		
2,6-DiCB	10		U		45.5 (S)		
3,3'-DiCB	11			760	48.9 (S)	1.51	0.969
3,4-DiCB	12	12 + 13	C U		49.6 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		47.9 (S)		
4,4'-DiCB	15			196	55.1 (S)	1.50	1.000
2,2',3-TriCB	16			87.0	8.88 (S)	1.17	1.164
2,2',4-TriCB	17		K	139	7.69 (S)	1.22	1.136
2,2',5-TriCB	18	18 + 30	C	251	6.49 (S)	1.12	1.111
2,2',6-TriCB	19			48.0	7.82 (S)	1.07	1.001
2,3,3'-TriCB	20	20 + 28	C	457	4.25 (S)	1.00	0.848
2,3,4-TriCB	21	21 + 33	C	173	4.31 (S)	0.99	0.858
2,3,4'-TriCB	22			149	4.88 (S)	1.01	0.873
2,3,5-TriCB	23		U		4.65 (S)		
2,3,6-TriCB	24		U		5.86 (S)		
2,3',4-TriCB	25			67.8	4.16 (Q)	0.97	0.826
2,3',5-TriCB	26	26 + 29	C	88.4	4.44 (S)	1.01	1.298
2,3',6-TriCB	27		K J	24.3	5.26 (S)	0.86	1.149
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			351	4.16 (Q)	1.04	0.837
2,4',6-TriCB	32		G	68.0	4.24 (S)	1.05	1.196
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		4.54 (S)		
3,3',4-TriCB	35		J	23.1	5.25 (S)	0.96	0.985
3,3',5-TriCB	36		J	9.04	4.77 (S)	1.04	0.932
3,4,4'-TriCB	37			193	5.47 (S)	1.13	1.001
3,4,5-TriCB	38		U		4.68 (S)		
3,4',5-TriCB	39		U		4.75 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C K	280	4.37 (S)	0.92	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			170	4.69 (S)	0.77	1.310
2,2',3,5-TeCB	43		J	24.5	5.10 (S)	0.87	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	895	4.16 (Q)	0.84	1.285
2,2',3,6-TeCB	45	45 + 51	C	258	4.16 (Q)	0.88	1.147
2,2',3,6'-TeCB	46		J	29.3	4.61 (S)	0.81	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			105	4.47 (S)	0.72	1.273
2,2',4,5'-TeCB	49	49 + 69	C	555	4.16 (Q)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	81.0	4.16 (Q)	0.82	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			840	4.16 (Q)	0.80	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	5.44	4.16 (Q)	0.70	1.002
2,3,3',4-TeCB	55		K J	11.8	6.47 (S)	0.61	0.889
2,3,3',4'-TeCB	56			292	6.42 (S)	0.76	0.905
2,3,3',5-TeCB	57		U		5.90 (S)		
2,3,3',5'-TeCB	58		U		6.19 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K	43.4	4.16 (Q)	0.95	1.300
2,3,4,4'-TeCB	60			124	6.26 (S)	0.75	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1140	5.82 (S)	0.79	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	23.2	5.77 (S)	0.72	0.865
2,3,4',6-TeCB	64			266	4.16 (Q)	0.83	1.347
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	763	5.91 (S)	0.78	0.885
2,3',4,5-TeCB	67		J	15.3	5.20 (S)	0.83	0.857
2,3',4,5'-TeCB	68			107	5.58 (S)	0.79	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	10.2	5.56 (S)	0.92	0.823
2,3',5',6-TeCB	73		K J	4.40	4.16 (Q)	0.95	1.241
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			105	6.61 (S)	0.81	1.000
3,3',4,5-TeCB	78		U		6.26 (S)		
3,3',4,5'-TeCB	79		J	15.2	5.05 (S)	0.78	0.970
3,3',5,5'-TeCB	80		U		5.64 (S)		
3,4,4',5-TeCB	81		U		6.37 (S)		
2,2',3,3',4-PeCB	82		G	89.4	4.18 (S)	1.34	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	762	4.16 (Q)	1.75	0.885
2,2',3,3',6-PeCB	84			245	4.19 (S)	1.70	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	246	4.16 (Q)	1.54	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	789	4.16 (Q)	1.63	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	186	4.16 (Q)	1.71	1.153
2,2',3,4,6'-PeCB	89		J	13.4	4.16 (Q)	1.75	1.181
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1020	4.16 (Q)	1.51	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		K	207	4.16 (Q)	1.29	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	848	4.16 (Q)	1.68	1.119
2,2',3,5,6'-PeCB	94		J	9.08	4.16 (Q)	1.40	1.101
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	4.98	4.16 (Q)	2.03	1.015
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K J	22.2	4.16 (Q)	2.00	1.093
2,2',4,6,6'-PeCB	104		U		4.16 (Q)		
2,3,3',4,4'-PeCB	105			478	6.59 (S)	1.60	1.000
2,3,3',4,5-PeCB	106		U		7.06 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	48.9	7.63 (S)	1.40	0.990
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			94.0	7.17 (S)	1.70	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1290	4.16 (Q)	1.65	0.925
2,3,3',5,5'-PeCB	111		U		4.16 (Q)		
2,3,3',5,6-PeCB	112		U		4.16 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K J	23.9	7.92 (S)	1.25	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			1130	7.58 (S)	1.54	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		4.16 (Q)		
2,3',4,5',6-PeCB	121		U		4.16 (Q)		
2',3,3',4,5-PeCB	122		J	11.5	7.80 (S)	1.43	1.010
2',3,4,4',5-PeCB	123		J	29.2	7.29 (S)	1.54	1.000
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	10.6	8.59 (S)	2.19	1.000
3,3',4,5,5'-PeCB	127		U		6.59 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C K	266	5.45 (S)	1.56	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	2090	5.54 (S)	1.27	0.929
2,2',3,3',4,5'-HxCB	130			119	7.04 (S)	1.41	0.913
2,2',3,3',4,6-HxCB	131		K J	16.1	7.42 (S)	2.01	1.157
2,2',3,3',4,6'-HxCB	132			500	7.51 (S)	1.25	1.173
2,2',3,3',5,5'-HxCB	133		K J	19.7	7.06 (S)	0.71	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C	68.8	7.29 (S)	1.23	1.138
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	565	4.16 (Q)	1.35	1.103
2,2',3,3',6,6'-HxCB	136			195	4.16 (Q)	1.32	1.022
2,2',3,4,4',5-HxCB	137		K	87.5	6.81 (S)	1.03	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K J	25.8	6.50 (S)	1.56	1.151
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			322	6.27 (S)	1.15	0.903
2,2',3,4,5,6-HxCB	142		U		7.23 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			89.3	4.16 (Q)	1.29	1.120
2,2',3,4,6,6'-HxCB	145		U		4.16 (Q)		
2,2',3,4',5,5'-HxCB	146			320	5.53 (S)	1.19	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	1760	6.55 (S)	1.26	1.132
2,2',3,4',5,6'-HxCB	148		U G		4.24 (S)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.16 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.16 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1960	5.03 (S)	1.31	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	7.17	4.16 (Q)	0.68	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	208	5.73 (S)	1.18	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		K	162	4.21 (S)	1.62	0.938
2,3,3',4,5,5'-HxCB	159		U		4.50 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.81 (S)		
2,3,3',4',5,5'-HxCB	162		J	8.21	4.47 (S)	1.20	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			129	4.42 (S)	1.38	0.921
2,3,3',5,5',6-HxCB	165		U		5.49 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			75.2	4.48 (S)	1.18	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		J	7.48	4.87 (S)	1.41	1.000
2,2',3,3',4,4',5-HpCB	170			433	4.16 (Q)	1.09	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	130	4.16 (Q)	1.16	1.162
2,2',3,3',4,5,5'-HpCB	172			86.0	4.16 (Q)	1.20	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			454	4.16 (Q)	1.10	1.132
2,2',3,3',4,5',6-HpCB	175		K J	18.9	4.16 (Q)	0.78	1.102
2,2',3,3',4,6,6'-HpCB	176			57.4	4.16 (Q)	1.11	1.033
2,2',3,3',4',5,6-HpCB	177			235	4.16 (Q)	1.16	1.145
2,2',3,3',5,5',6-HpCB	178			117	4.16 (Q)	1.09	1.085
2,2',3,3',5,6,6'-HpCB	179			255	4.16 (Q)	1.10	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1200	4.16 (Q)	1.03	1.000
2,2',3,4,4',5,6-HpCB	181		K J	6.90	4.16 (Q)	2.08	1.156
2,2',3,4,4',5,6'-HpCB	182		J	6.79	4.16 (Q)	0.92	1.115
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	281	4.16 (Q)	1.09	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	12.2	4.16 (Q)	0.77	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.16 (Q)		
2,2',3,4',5,5',6-HpCB	187			631	4.16 (Q)	1.17	1.109
2,2',3,4',5,6,6'-HpCB	188		U		4.16 (Q)		
2,3,3',4,4',5,5'-HpCB	189		J	19.0	4.16 (Q)	0.91	1.000
2,3,3',4,4',5,6-HpCB	190			95.0	4.16 (Q)	1.04	0.947
2,3,3',4,4',5',6-HpCB	191		K J	14.9	4.16 (Q)	1.40	0.918
2,3,3',4,5,5',6-HpCB	192		U		4.16 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			258	4.16 (Q)	0.87	0.991
2,2',3,3',4,4',5,6-OcCB	195			127	4.16 (Q)	0.96	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K	126	4.16 (Q)	1.15	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K	64.0	4.16 (Q)	0.74	1.047
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	376	4.16 (Q)	0.81	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K	45.1	4.16 (Q)	1.18	1.023
2,2',3,3',5,5',6,6'-OcCB	202			85.3	4.16 (Q)	0.77	1.001
2,2',3,4,4',5,5',6-OcCB	203			224	4.16 (Q)	0.90	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		4.16 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	13.1	4.16 (Q)	0.97	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			225	8.68 (S)	0.78	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	31.3	7.09 (S)	0.60	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			94.7	7.57 (S)	0.79	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			454	4.16 (Q)	1.19	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; G = lock mass interference present; C = co-eluting congener; X = result reported separately.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-7_Form1A_PB9B_044S8_SJ2546895.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-7
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 04:21:04	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg absolute		

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	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L		X					
13C12-2,2'-DiCB	4L			4000	2150	53.8	1.59	0.872
13C12-4,4'-DiCB	15L			4000	2200	55.0	1.62	1.245
13C12-2,2',6-TriCB	19L			4000	2210	55.2	1.05	1.067
13C12-3,4,4'-TriCB	37L			4000	2700	67.6	1.00	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2590	64.8	0.84	0.811
13C12-3,3',4,4'-TeCB	77L			4000	2640	66.1	0.80	1.394
13C12-3,4,4',5-TeCB	81L			4000	2560	63.9	0.80	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	2990	74.7	1.55	0.809
13C12-2,3,3',4,4'-PeCB	105L			4000	3380	84.4	1.60	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2790	69.7	1.58	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2770	69.2	1.51	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	3040	75.9	1.54	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2820	70.5	1.56	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2660	66.5	1.27	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5210	65.1	1.29	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2590	64.8	1.31	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2660	66.6	1.30	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3350	83.8	1.09	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3220	80.4	1.06	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2600	65.0	1.09	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3530	88.2	1.08	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2470	61.6	0.92	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3010	75.1	0.94	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3030	75.6	0.82	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	2740	68.5	0.79	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2990	74.7	1.20	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	2940	73.6	0.99	0.924
13C12-2,3,3',5,5'-PeCB	111L			4000	3030	75.8	1.62	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	2640	66.1	1.08	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-7_Form2_PB9B_044S8_SJ2546895.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-7 W
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Apr-2019 **Time:** 02:37:52	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB9B_046 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1
Concentration Units:	pg/sample		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K D J	113	27.2 (S)	2.30	1.003
3-MoCB	2		D J	53.3	29.8 (S)	2.84	0.989
4-MoCB	3		K D J	136	32.2 (S)	4.52	1.000
2,2'-DiCB	4		X				
2,3-DiCB	5		X				
2,3'-DiCB	6		X				
2,4-DiCB	7		X				
2,4'-DiCB	8		X				
2,5-DiCB	9		X				
2,6-DiCB	10		X				
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TriCB	16		X				
2,2',4-TriCB	17		X				
2,2',5-TriCB	18	18 + 30	C X				
2,2',6-TriCB	19		X				
2,3,3'-TriCB	20	20 + 28	C X				
2,3,4-TriCB	21	21 + 33	C X				
2,3,4'-TriCB	22		X				
2,3,5-TriCB	23		X				
2,3,6-TriCB	24		X				
2,3',4-TriCB	25		X				
2,3',5-TriCB	26	26 + 29	C X				
2,3',6-TriCB	27		X				
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31		X				
2,4',6-TriCB	32		X				
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		X				
3,3',4-TriCB	35		X				
3,3',5-TriCB	36		X				
3,4,4'-TriCB	37		X				
3,4,5-TriCB	38		X				
3,4',5-TriCB	39		X				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C X				
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		X				
2,2',3,5-TeCB	43		X				
2,2',3,5'-TeCB	44	44 + 47 + 65	C X				
2,2',3,6-TeCB	45	45 + 51	C X				
2,2',3,6'-TeCB	46		X				
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		X				
2,2',4,5'-TeCB	49	49 + 69	C X				
2,2',4,6-TeCB	50	50 + 53	C X				
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		X				
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		X				
2,3,3',4-TeCB	55		X				
2,3,3',4'-TeCB	56		X				
2,3,3',5-TeCB	57		X				
2,3,3',5'-TeCB	58		X				
2,3,3',6-TeCB	59	59 + 62 + 75	C X				
2,3,4,4'-TeCB	60		X				
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C X				
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		X				
2,3,4',6-TeCB	64		X				
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		X				
2,3',4,5-TeCB	67		X				
2,3',4,5'-TeCB	68		X				
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		X				
2,3',5',6-TeCB	73		X				
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		X				
3,3',4,5'-TeCB	79		X				
3,3',5,5'-TeCB	80		X				
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82		X				
2,2',3,3',5-PeCB	83	83 + 99	C X				
2,2',3,3',6-PeCB	84		X				
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C X				
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C X				
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C X				
2,2',3,4,6'-PeCB	89		X				
2,2',3,4',5-PeCB	90	90 + 101 + 113	C X				
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		X				
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C X				
2,2',3,5,6'-PeCB	94		X				
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		X				
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		X				
2,2',4,6,6'-PeCB	104		X				
2,3,3',4,4'-PeCB	105		X				
2,3,3',4,5-PeCB	106		X				
2,3,3',4',5-PeCB	107	107 + 124	C X				
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		X				
2,3,3',4',6-PeCB	110	110 + 115	C X				
2,3,3',5,5'-PeCB	111		X				
2,3,3',5,6-PeCB	112		X				
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		X				
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		X				
2,3',4,5',6-PeCB	121		X				
2',3,3',4,5-PeCB	122		X				
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		X				
2,2',3,3',4,4'-HxCB	128	128 + 166	C X				
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C X				
2,2',3,3',4,5'-HxCB	130		X				
2,2',3,3',4,6-HxCB	131		X				
2,2',3,3',4,6'-HxCB	132		X				
2,2',3,3',5,5'-HxCB	133		X				
2,2',3,3',5,6-HxCB	134	134 + 143	C X				
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C X				
2,2',3,3',6,6'-HxCB	136		X				
2,2',3,4,4',5-HxCB	137		X				
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C X				
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		X				
2,2',3,4,5,6-HxCB	142		X				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		X				
2,2',3,4,6,6'-HxCB	145		X				
2,2',3,4',5,5'-HxCB	146		X				
2,2',3,4',5,6-HxCB	147	147 + 149	C X				
2,2',3,4',5,6'-HxCB	148		X				
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		X				
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		X				
2,2',4,4',5,5'-HxCB	153	153 + 168	C X				
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		X				
2,3,3',4,5,5'-HxCB	159		X				
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		X				
2,3,3',4',5,5'-HxCB	162		X				
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		X				
2,3,3',5,5',6-HxCB	165		X				
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,3',4,4',6-HpCB	171	171 + 173	C X				
2,2',3,3',4,5,5'-HpCB	172		X				
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		X				
2,2',3,3',4,5',6-HpCB	175		X				
2,2',3,3',4,6,6'-HpCB	176		X				
2,2',3,3',4',5,6-HpCB	177		X				
2,2',3,3',5,5',6-HpCB	178		X				
2,2',3,3',5,6,6'-HpCB	179		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C X				
2,2',3,4,4',5,6-HpCB	181		X				
2,2',3,4,4',5,6'-HpCB	182		X				
2,2',3,4,4',5',6-HpCB	183	183 + 185	C X				
2,2',3,4,4',6,6'-HpCB	184		X				
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		X				
2,2',3,4',5,5',6-HpCB	187		X				
2,2',3,4',5,6,6'-HpCB	188		X				
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190		X				
2,3,3',4,4',5',6-HpCB	191		X				
2,3,3',4,5,5',6-HpCB	192		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		X				
2,2',3,3',4,4',5,6-OcCB	195		X				
2,2',3,3',4,4',5,6'-OcCB	196		X				
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C X				
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C X				
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		X				
2,2',3,3',5,5',6,6'-OcCB	202		X				
2,2',3,4,4',5,5',6-OcCB	203		X				
2,2',3,4,4',5,6,6'-OcCB	204		X				
2,3,3',4,4',5,5',6-OcCB	205		X				
2,2',3,3',4,4',5,5',6-NoCB	206		X				
2,2',3,3',4,4',5,6,6'-NoCB	207		X				
2,2',3,3',4,5,5',6,6'-NoCB	208		X				
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X				

(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; D = dilution data; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-7_Form1A_PB9B_046S7_SJ2547921.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-7 W
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Apr-2019 **Time:** 02:37:52	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB9B_046 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1
Concentration Units:	pg absolute		

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	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		D	4000	2140	53.4	3.10	0.716
13C12-4-MoCB	3L		D	4000	2090	52.2	3.39	0.856
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L		X					
13C12-3,4,4'-TriCB	37L		X					
13C12-2,2',6,6'-TeCB	54L		X					
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,2',4,6,6'-PeCB	104L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,2',4,4',6,6'-HxCB	155L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,2',3,4',5,6,6'-HpCB	188L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		X					
13C12-2,3,3',4,4',5,5',6-OcCB	205L		X					
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X					
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L		X					
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-7_Form2_PB9B_046S7_SJ2547921.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-8
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 05:25:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg/sample		

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			121	6.34 (S)	3.14	1.001
3-MoCB	2			48.2	4.88 (S)	3.35	0.989
4-MoCB	3			99.8	4.16 (Q)	3.12	1.001
2,2'-DiCB	4			173	102 (S)	1.56	1.001
2,3-DiCB	5		U		65.7 (S)		
2,3'-DiCB	6			78.7	59.3 (S)	1.54	1.175
2,4-DiCB	7		U		60.1 (S)		
2,4'-DiCB	8			256	54.1 (S)	1.58	1.206
2,5-DiCB	9		U		55.7 (S)		
2,6-DiCB	10		U		59.1 (S)		
3,3'-DiCB	11			952	63.5 (S)	1.58	0.969
3,4-DiCB	12	12 + 13	C	65.0	64.4 (S)	1.65	0.985
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		62.3 (S)		
4,4'-DiCB	15			280	67.7 (S)	1.62	1.001
2,2',3-TriCB	16		K	97.8	10.0 (S)	1.21	1.165
2,2',4-TriCB	17		G	169	8.69 (S)	1.14	1.139
2,2',5-TriCB	18	18 + 30	C	258	7.33 (S)	1.12	1.114
2,2',6-TriCB	19		K	65.5	9.73 (S)	1.24	1.001
2,3,3'-TriCB	20	20 + 28	C	545	4.91 (S)	1.07	0.849
2,3,4-TriCB	21	21 + 33	C	216	4.98 (S)	1.01	0.857
2,3,4'-TriCB	22			175	5.64 (S)	1.03	0.873
2,3,5-TriCB	23		U		5.38 (S)		
2,3,6-TriCB	24		U		6.62 (S)		
2,3',4-TriCB	25			89.3	4.50 (S)	1.03	0.826
2,3',5-TriCB	26	26 + 29	C	110	5.13 (S)	1.04	1.301
2,3',6-TriCB	27		J	32.9	5.94 (S)	1.16	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			417	4.65 (S)	1.06	0.838
2,4',6-TriCB	32		G	62.1	4.89 (S)	1.10	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		5.25 (S)		
3,3',4-TriCB	35		J	27.3	6.07 (S)	0.99	0.985
3,3',5-TriCB	36		K J	18.3	5.52 (S)	1.21	0.932
3,4,4'-TriCB	37			211	5.94 (S)	1.06	1.001
3,4,5-TriCB	38		U		5.41 (S)		
3,4',5-TriCB	39		K J	6.68	5.49 (S)	0.83	0.948

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C K	322	4.16 (Q)	0.94	1.335
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			176	4.16 (Q)	0.76	1.310
2,2',3,5-TeCB	43		K J	21.3	4.16 (Q)	1.28	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	977	4.16 (Q)	0.81	1.285
2,2',3,6-TeCB	45	45 + 51	C	332	4.16 (Q)	0.83	1.147
2,2',3,6'-TeCB	46		J	31.4	4.16 (Q)	0.77	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			104	4.16 (Q)	0.82	1.273
2,2',4,5'-TeCB	49	49 + 69	C	509	4.16 (Q)	0.84	1.259
2,2',4,6-TeCB	50	50 + 53	C	86.1	4.16 (Q)	0.71	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			890	4.16 (Q)	0.80	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	7.03	4.16 (Q)	0.80	1.001
2,3,3',4-TeCB	55		J	14.4	6.06 (S)	0.82	0.890
2,3,3',4'-TeCB	56			309	6.02 (S)	0.81	0.905
2,3,3',5-TeCB	57		U		5.53 (S)		
2,3,3',5'-TeCB	58		U		5.80 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	61.5	4.16 (Q)	0.72	1.301
2,3,4,4'-TeCB	60			116	5.86 (S)	0.74	0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1130	5.45 (S)	0.80	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	26.4	5.41 (S)	0.86	0.865
2,3,4',6-TeCB	64			278	4.16 (Q)	0.80	1.347
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	737	5.53 (S)	0.80	0.885
2,3',4,5-TeCB	67		K J	17.8	4.87 (S)	0.92	0.857
2,3',4,5'-TeCB	68			102	5.23 (S)	0.82	0.832
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	9.89	5.21 (S)	1.32	0.824
2,3',5',6-TeCB	73		K J	7.65	4.16 (Q)	0.92	1.239
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			118	5.87 (S)	0.87	1.000
3,3',4,5-TeCB	78		U		5.86 (S)		
3,3',4,5'-TeCB	79		J	14.6	4.73 (S)	0.70	0.970
3,3',5,5'-TeCB	80		U		5.28 (S)		
3,4,4',5-TeCB	81		U		5.87 (S)		
2,2',3,3',4-PeCB	82			140	6.26 (S)	1.75	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	816	5.93 (S)	1.60	0.886
2,2',3,3',6-PeCB	84			242	6.28 (S)	1.57	1.161
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	251	4.70 (S)	1.67	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	812	4.79 (S)	1.52	0.902
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	167	5.55 (S)	1.53	1.153
2,2',3,4,6'-PeCB	89		K J	10.8	5.98 (S)	1.82	1.181
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1120	4.85 (S)	1.57	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			236	5.70 (S)	1.62	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	831	5.34 (S)	1.51	1.119
2,2',3,5,6'-PeCB	94		K J	6.84	5.99 (S)	0.85	1.101
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	5.53	4.16 (Q)	1.48	1.015
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K J	17.5	4.86 (S)	2.61	1.093
2,2',4,6,6'-PeCB	104		U		4.16 (Q)		
2,3,3',4,4'-PeCB	105			508	5.33 (S)	1.64	1.000
2,3,3',4,5-PeCB	106		U		5.87 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	51.3	6.34 (S)	1.74	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			100	5.96 (S)	1.49	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1400	4.16 (Q)	1.58	0.925
2,3,3',5,5'-PeCB	111		U		4.16 (Q)		
2,3,3',5,6-PeCB	112		U		4.16 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	25.8	6.23 (S)	1.55	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			1210	6.23 (S)	1.66	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	6.97	4.16 (Q)	1.28	0.959
2,3',4,5',6-PeCB	121		U		4.27 (S)		
2',3,3',4,5-PeCB	122		J	19.3	6.48 (S)	1.46	1.010
2',3,4,4',5-PeCB	123		K J	22.2	6.48 (S)	1.86	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	7.66	6.38 (S)	3.05	1.000
3,3',4,5,5'-PeCB	127		U		5.48 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	268	7.41 (S)	1.17	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1850	7.53 (S)	1.29	0.929
2,2',3,3',4,5'-HxCB	130		K	106	9.57 (S)	1.48	0.913
2,2',3,3',4,6-HxCB	131		K J	13.6	10.1 (S)	0.98	1.159
2,2',3,3',4,6'-HxCB	132			531	10.2 (S)	1.23	1.173
2,2',3,3',5,5'-HxCB	133		J	30.2	9.59 (S)	1.39	1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C	82.2	9.91 (S)	1.28	1.138
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	600	4.16 (Q)	1.22	1.103
2,2',3,3',6,6'-HxCB	136			173	4.16 (Q)	1.29	1.023
2,2',3,4,4',5-HxCB	137		K	77.2	9.26 (S)	1.47	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C J	29.8	8.84 (S)	1.35	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			335	8.52 (S)	1.29	0.903
2,2',3,4,5,6-HxCB	142		U		9.83 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			62.7	4.16 (Q)	1.20	1.121
2,2',3,4,6,6'-HxCB	145		U		4.16 (Q)		
2,2',3,4',5,5'-HxCB	146			325	7.52 (S)	1.23	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	1380	8.90 (S)	1.34	1.132
2,2',3,4',5,6'-HxCB	148		K J	5.78	4.16 (Q)	2.06	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.16 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.16 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1620	6.84 (S)	1.29	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	5.58	4.16 (Q)	1.87	1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	215	7.45 (S)	1.33	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			161	5.72 (S)	1.30	0.938
2,3,3',4,5,5'-HxCB	159		K J	22.7	6.12 (S)	1.92	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		6.54 (S)		
2,3,3',4',5,5'-HxCB	162		U		6.08 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		K	125	6.01 (S)	1.52	0.921
2,3,3',5,5',6-HxCB	165		U		7.47 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			85.3	6.08 (S)	1.41	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		6.48 (S)		
2,2',3,3',4,4',5-HpCB	170			492	4.16 (Q)	1.03	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K	141	4.16 (Q)	1.29	1.162
2,2',3,3',4,5,5'-HpCB	172			87.2	4.16 (Q)	1.04	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			475	4.16 (Q)	1.07	1.133
2,2',3,3',4,5',6-HpCB	175		J	15.9	4.16 (Q)	1.19	1.102
2,2',3,3',4,6,6'-HpCB	176			53.3	4.16 (Q)	0.98	1.034
2,2',3,3',4',5,6-HpCB	177		G	272	4.16 (Q)	1.10	1.145
2,2',3,3',5,5',6-HpCB	178		K	124	4.16 (Q)	1.24	1.085
2,2',3,3',5,6,6'-HpCB	179			205	4.16 (Q)	1.05	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1250	4.16 (Q)	1.07	1.000
2,2',3,4,4',5,6-HpCB	181		J	5.14	4.16 (Q)	1.15	1.156
2,2',3,4,4',5,6'-HpCB	182		K J	4.79	4.16 (Q)	0.47	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	301	4.16 (Q)	0.98	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	6.15	4.16 (Q)	1.29	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.16 (Q)		
2,2',3,4',5,5',6-HpCB	187			629	4.16 (Q)	1.10	1.110
2,2',3,4',5,6,6'-HpCB	188		U		4.16 (Q)		
2,3,3',4,4',5,5'-HpCB	189		J	17.9	4.16 (Q)	0.91	1.001
2,3,3',4,4',5,6-HpCB	190			95.4	4.16 (Q)	1.03	0.947
2,3,3',4,4',5',6-HpCB	191		J	18.8	4.16 (Q)	1.11	0.918
2,3,3',4,5,5',6-HpCB	192		U		4.16 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			265	4.16 (Q)	0.98	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	118	4.16 (Q)	1.12	0.945
2,2',3,3',4,4',5,6'-OcCB	196			135	4.16 (Q)	0.91	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	59.6	4.16 (Q)	0.86	1.047
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	363	4.16 (Q)	0.86	1.114
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			44.0	4.16 (Q)	0.85	1.023
2,2',3,3',5,5',6,6'-OcCB	202		K G	106	4.16 (Q)	1.07	1.000
2,2',3,4,4',5,5',6-OcCB	203			229	4.16 (Q)	0.93	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		4.16 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	15.4	4.16 (Q)	1.58	1.000
2,2',3,3',4,4',5,5',6-NoCB	206		K	230	7.04 (S)	0.91	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		J	29.9	5.60 (S)	0.72	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			97.8	5.83 (S)	0.86	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1010	4.16 (Q)	1.20	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; C = co-eluting congener.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-8_Form1A_PB9B_044S9_SJ2546897.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER 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

Project No.	PORTLAND HARBOR PDI AND BASELINE WATER		
Contract No.:	4972	**Lab Sample I.D.:**	L30771-8
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	21-Feb-2019	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 05:25:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_044 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_044 S: 1
Concentration Units:	pg absolute		

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

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			8000	2860	35.8	3.23	0.717
13C12-4-MoCB	3L			8000	3920	49.0	3.19	0.858
13C12-2,2'-DiCB	4L			8000	3710	46.4	1.66	0.872
13C12-4,4'-DiCB	15L			8000	4300	53.8	1.62	1.249
13C12-2,2',6-TriCB	19L			8000	4130	51.6	1.08	1.070
13C12-3,4,4'-TriCB	37L			8000	5890	73.6	1.02	1.090
13C12-2,2',6,6'-TeCB	54L			8000	5230	65.4	0.83	0.811
13C12-3,3',4,4'-TeCB	77L			8000	5610	70.1	0.80	1.394
13C12-3,4,4',5-TeCB	81L			8000	5560	69.4	0.79	1.371
13C12-2,2',4,6,6'-PeCB	104L			8000	5620	70.3	1.56	0.809
13C12-2,3,3',4,4'-PeCB	105L			8000	7150	89.4	1.57	1.199
13C12-2,3,4,4',5-PeCB	114L			8000	5880	73.5	1.54	1.178
13C12-2,3',4,4',5-PeCB	118L			8000	5680	71.0	1.48	1.161
13C12-2',3,4,4',5-PeCB	123L			8000	5930	74.1	1.52	1.150
13C12-3,3',4,4',5-PeCB	126L			8000	6300	78.7	1.54	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			8000	5910	73.9	1.27	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	16000	13100	82.2	1.29	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			8000	6480	80.9	1.29	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			8000	6600	82.5	1.28	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L			8000	6980	87.3	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			8000	6970	87.1	1.09	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			8000	5310	66.3	1.06	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			8000	7910	98.8	1.08	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		G	8000	5750	71.8	0.94	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			8000	6160	77.0	0.95	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			8000	6130	76.6	0.81	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			8000	5720	71.4	0.82	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			8000	5770	72.1	1.20	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			8000	6040	75.5	1.00	0.924
13C12-2,3,3',5,5'-PeCB	111L			8000	5850	73.1	1.58	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			8000	6040	75.5	1.08	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_L30771-8_Form2_PB9B_044S9_SJ2546897.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT 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

Project No.	N/A		
Contract No.:	4972	**Lab Sample I.D.:**	WG67275-101
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 14:03:58	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_043A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1
Concentration Units:	pg/sample		

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		X				
3-MoCB	2		X				
4-MoCB	3		X				
2,2'-DiCB	4		U		490 (S)		
2,3-DiCB	5		U		361 (S)		
2,3'-DiCB	6		U		328 (S)		
2,4-DiCB	7		U		337 (S)		
2,4'-DiCB	8		U		300 (S)		
2,5-DiCB	9		U		326 (S)		
2,6-DiCB	10		U		327 (S)		
3,3'-DiCB	11		U		363 (S)		
3,4-DiCB	12	12 + 13	C U		352 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		334 (S)		
4,4'-DiCB	15		U		376 (S)		
2,2',3-TriCB	16		K	50.0	44.9 (S)	0.66	1.161
2,2',4-TriCB	17		K	41.7	35.0 (S)	1.84	1.135
2,2',5-TriCB	18	18 + 30	C	76.1	30.2 (S)	1.03	1.110
2,2',6-TriCB	19		U		35.8 (S)		
2,3,3'-TriCB	20	20 + 28	C	95.3	11.7 (S)	1.15	0.850
2,3,4-TriCB	21	21 + 33	C	56.6	11.8 (S)	1.06	0.858
2,3,4'-TriCB	22			36.6	12.8 (S)	1.16	0.873
2,3,5-TriCB	23		U		12.5 (S)		
2,3,6-TriCB	24		U		25.7 (S)		
2,3',4-TriCB	25		U		10.4 (S)		
2,3',5-TriCB	26	26 + 29	C K J	20.8	11.9 (S)	1.31	1.296
2,3',6-TriCB	27		U		25.6 (S)		
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			84.6	11.0 (S)	1.11	0.838
2,4',6-TriCB	32		J G	19.5	11.2 (S)	0.92	1.193
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		12.1 (S)		
3,3',4-TriCB	35		U		13.0 (S)		
3,3',5-TriCB	36		U		11.9 (S)		
3,4,4'-TriCB	37		K J	28.6	14.6 (S)	1.21	1.001
3,4,5-TriCB	38		U		12.2 (S)		
3,4',5-TriCB	39		U		11.9 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	34.2	10.5 (S)	0.78	1.333
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		U		10.7 (S)		
2,2',3,5-TeCB	43		U		11.4 (S)		
2,2',3,5'-TeCB	44	44 + 47 + 65	C	72.7	9.28 (S)	0.83	1.282
2,2',3,6-TeCB	45	45 + 51	C K J	21.0	10.0 (S)	1.09	1.144
2,2',3,6'-TeCB	46		U		11.4 (S)		
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		J	11.6	10.3 (S)	0.86	1.271
2,2',4,5'-TeCB	49	49 + 69	C K	33.5	8.76 (S)	1.04	1.257
2,2',4,6-TeCB	50	50 + 53	C U		9.69 (S)		
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			60.8	9.18 (S)	0.74	1.232
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	7.80	6.37 (S)	0.74	1.001
2,3,3',4-TeCB	55		U		6.81 (S)		
2,3,3',4'-TeCB	56		U		7.28 (S)		
2,3,3',5-TeCB	57		U		6.52 (S)		
2,3,3',5'-TeCB	58		U		7.00 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C U		7.52 (S)		
2,3,4,4'-TeCB	60		U		6.95 (S)		
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	36.1	6.63 (S)	0.81	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		6.33 (S)		
2,3,4',6-TeCB	64		K J	19.6	7.55 (S)	0.98	1.344
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		K J	17.4	6.47 (S)	0.56	0.885
2,3',4,5-TeCB	67		U		5.79 (S)		
2,3',4,5'-TeCB	68		U		6.48 (S)		
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		U		6.29 (S)		
2,3',5',6-TeCB	73		U		7.94 (S)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		U		7.57 (S)		
3,3',4,5-TeCB	78		U		6.90 (S)		
3,3',4,5'-TeCB	79		U		5.91 (S)		
3,3',5,5'-TeCB	80		U		6.29 (S)		
3,4,4',5-TeCB	81		U		7.37 (S)		
2,2',3,3',4-PeCB	82		U		12.3 (S)		
2,2',3,3',5-PeCB	83	83 + 99	C K J	16.7	11.3 (S)	2.81	0.886
2,2',3,3',6-PeCB	84		U		12.3 (S)		
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C U		9.14 (S)		
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C K J	31.8	9.69 (S)	0.83	0.902
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C U		10.9 (S)		
2,2',3,4,6'-PeCB	89		U		11.4 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C J	23.1	9.76 (S)	1.74	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		U		11.2 (S)		
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C J	29.9	10.6 (S)	1.67	1.120
2,2',3,5,6'-PeCB	94		U		11.8 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		6.76 (S)		
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		U		9.59 (S)		
2,2',4,6,6'-PeCB	104		U		6.38 (S)		
2,3,3',4,4'-PeCB	105		J	11.0	7.38 (S)	1.42	1.000
2,3,3',4,5-PeCB	106		U		6.95 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C U		7.91 (S)		
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		U		6.71 (S)		
2,3,3',4',6-PeCB	110	110 + 115	C K J	27.7	8.37 (S)	2.30	0.925
2,3,3',5,5'-PeCB	111		U		8.55 (S)		
2,3,3',5,6-PeCB	112		U		8.36 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		U		7.34 (S)		
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		K J	23.3	7.54 (S)	1.89	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		7.92 (S)		
2,3',4,5',6-PeCB	121		U		8.32 (S)		
2',3,3',4,5-PeCB	122		U		7.87 (S)		
2',3,4,4',5-PeCB	123		U		7.87 (S)		
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		8.54 (S)		
3,3',4,5,5'-PeCB	127		U		7.68 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C U		6.19 (S)		
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C U		6.10 (S)		
2,2',3,3',4,5'-HxCB	130		U		7.37 (S)		
2,2',3,3',4,6-HxCB	131		U		7.53 (S)		
2,2',3,3',4,6'-HxCB	132		K J	12.0	7.22 (S)	0.94	1.173
2,2',3,3',5,5'-HxCB	133		U		6.68 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C U		7.12 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C U		9.85 (S)		
2,2',3,3',6,6'-HxCB	136		U		7.61 (S)		
2,2',3,4,4',5-HxCB	137		U		6.98 (S)		
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C U		6.38 (S)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		U		6.27 (S)		
2,2',3,4,5,6-HxCB	142		U		6.95 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		U		9.85 (S)		
2,2',3,4,6,6'-HxCB	145		U		7.96 (S)		
2,2',3,4',5,5'-HxCB	146		U		5.82 (S)		
2,2',3,4',5,6-HxCB	147	147 + 149	C K J	23.5	6.41 (S)	0.93	1.132
2,2',3,4',5,6'-HxCB	148		U		10.0 (S)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		7.50 (S)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		7.02 (S)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C K J	23.1	5.29 (S)	1.48	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		6.85 (S)		
2,3,3',4,4',5-HxCB	156	156 + 157	C U		6.31 (S)		
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		U		4.69 (S)		
2,3,3',4,5,5'-HxCB	159		U		5.21 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.76 (S)		
2,3,3',4',5,5'-HxCB	162		U		5.03 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		U		5.12 (S)		
2,3,3',5,5',6-HxCB	165		U		5.47 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		U		4.87 (S)		
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		5.20 (S)		
2,2',3,3',4,4',5-HpCB	170		U		9.46 (S)		
2,2',3,3',4,4',6-HpCB	171	171 + 173	C U		9.17 (S)		
2,2',3,3',4,5,5'-HpCB	172		U		9.25 (S)		
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		U		8.59 (S)		
2,2',3,3',4,5',6-HpCB	175		U		8.09 (S)		
2,2',3,3',4,6,6'-HpCB	176		U		6.11 (S)		
2,2',3,3',4',5,6-HpCB	177		U		8.11 (S)		
2,2',3,3',5,5',6-HpCB	178		U		8.59 (S)		
2,2',3,3',5,6,6'-HpCB	179		U		5.89 (S)		
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C J	15.7	8.94 (S)	1.08	1.001
2,2',3,4,4',5,6-HpCB	181		U		8.40 (S)		
2,2',3,4,4',5,6'-HpCB	182		U		8.07 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C U		8.29 (S)		
2,2',3,4,4',6,6'-HpCB	184		U		5.74 (S)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		6.39 (S)		
2,2',3,4',5,5',6-HpCB	187		J	9.32	8.04 (S)	1.19	1.109
2,2',3,4',5,6,6'-HpCB	188		U		6.27 (S)		
2,3,3',4,4',5,5'-HpCB	189		U		4.70 (S)		
2,3,3',4,4',5,6-HpCB	190		U		6.96 (S)		
2,3,3',4,4',5',6-HpCB	191		U		6.99 (S)		
2,3,3',4,5,5',6-HpCB	192		U		7.52 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		U		6.71 (S)		
2,2',3,3',4,4',5,6-OcCB	195		U		7.22 (S)		
2,2',3,3',4,4',5,6'-OcCB	196		U		11.2 (S)		
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C U		7.66 (S)		
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C U		11.6 (S)		
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		U		7.57 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		U		8.10 (S)		
2,2',3,4,4',5,5',6-OcCB	203		U		10.6 (S)		
2,2',3,4,4',5,6,6'-OcCB	204		U		7.64 (S)		
2,3,3',4,4',5,5',6-OcCB	205		U		5.77 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		U		14.5 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		U		11.0 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		12.0 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	11.7	6.87 (S)	1.77	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; C = co-eluting congener; X = result reported separately.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_WG67275-101_Form1A_PB9B_043AS5_SJ2546911.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT 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

Project No.	N/A		
Contract No.:	4972	**Lab Sample I.D.:**	WG67275-101
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 14:03:58	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9B_043A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1
Concentration Units:	pg absolute		

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LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L		X					
13C12-2,2'-DiCB	4L			4000	2490	62.4	1.63	0.876
13C12-4,4'-DiCB	15L			4000	2640	66.0	1.62	1.243
13C12-2,2',6-TriCB	19L			4000	2550	63.9	1.06	1.068
13C12-3,4,4'-TriCB	37L			4000	2520	62.9	1.00	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2750	68.8	0.83	0.813
13C12-3,3',4,4'-TeCB	77L			4000	2460	61.4	0.80	1.394
13C12-3,4,4',5-TeCB	81L			4000	2480	62.0	0.81	1.371
13C12-2,2',4,6,6'-PeCB	104L			4000	2840	71.1	1.54	0.809
13C12-2,3,3',4,4'-PeCB	105L			4000	2820	70.4	1.55	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2770	69.3	1.54	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2640	66.1	1.53	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2660	66.5	1.52	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	2660	66.6	1.56	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2690	67.2	1.28	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5340	66.8	1.35	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2700	67.5	1.34	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2800	70.1	1.29	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3200	79.9	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3010	75.2	1.07	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2520	63.0	1.08	0.713
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3100	77.5	1.05	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2550	63.7	0.89	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	2780	69.4	0.95	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2680	67.1	0.80	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	2470	61.7	0.79	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2330	58.2	1.15	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			4000	2930	73.2	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L			4000	2720	67.9	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	2710	67.8	1.07	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_WG67275-101_Form2_PB9B_043AS5_SJ2546911.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT 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

Project No.	N/A		
Contract No.:	4972	**Lab Sample I.D.:**	WG67275-101 W
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Apr-2019 **Time:** 00:29:18	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB9B_046 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1
Concentration Units:	pg/sample		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		D J	114	31.7 (S)	3.07	1.003
3-MoCB	2		U D		27.1 (S)		
4-MoCB	3		K D J	119	22.0 (S)	4.69	1.000
2,2'-DiCB	4		X				
2,3-DiCB	5		X				
2,3'-DiCB	6		X				
2,4-DiCB	7		X				
2,4'-DiCB	8		X				
2,5-DiCB	9		X				
2,6-DiCB	10		X				
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TriCB	16		X				
2,2',4-TriCB	17		X				
2,2',5-TriCB	18	18 + 30	C X				
2,2',6-TriCB	19		X				
2,3,3'-TriCB	20	20 + 28	C X				
2,3,4-TriCB	21	21 + 33	C X				
2,3,4'-TriCB	22		X				
2,3,5-TriCB	23		X				
2,3,6-TriCB	24		X				
2,3',4-TriCB	25		X				
2,3',5-TriCB	26	26 + 29	C X				
2,3',6-TriCB	27		X				
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31		X				
2,4',6-TriCB	32		X				
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		X				
3,3',4-TriCB	35		X				
3,3',5-TriCB	36		X				
3,4,4'-TriCB	37		X				
3,4,5-TriCB	38		X				
3,4',5-TriCB	39		X				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C X				
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		X				
2,2',3,5-TeCB	43		X				
2,2',3,5'-TeCB	44	44 + 47 + 65	C X				
2,2',3,6-TeCB	45	45 + 51	C X				
2,2',3,6'-TeCB	46		X				
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		X				
2,2',4,5'-TeCB	49	49 + 69	C X				
2,2',4,6-TeCB	50	50 + 53	C X				
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		X				
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		X				
2,3,3',4-TeCB	55		X				
2,3,3',4'-TeCB	56		X				
2,3,3',5-TeCB	57		X				
2,3,3',5'-TeCB	58		X				
2,3,3',6-TeCB	59	59 + 62 + 75	C X				
2,3,4,4'-TeCB	60		X				
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C X				
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		X				
2,3,4',6-TeCB	64		X				
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		X				
2,3',4,5-TeCB	67		X				
2,3',4,5'-TeCB	68		X				
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		X				
2,3',5',6-TeCB	73		X				
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		X				
3,3',4,5'-TeCB	79		X				
3,3',5,5'-TeCB	80		X				
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82		X				
2,2',3,3',5-PeCB	83	83 + 99	C X				
2,2',3,3',6-PeCB	84		X				
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C X				
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C X				
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C X				
2,2',3,4,6'-PeCB	89		X				
2,2',3,4',5-PeCB	90	90 + 101 + 113	C X				
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		X				
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C X				
2,2',3,5,6'-PeCB	94		X				
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		X				
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

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	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		X				
2,2',4,6,6'-PeCB	104		X				
2,3,3',4,4'-PeCB	105		X				
2,3,3',4,5-PeCB	106		X				
2,3,3',4',5-PeCB	107	107 + 124	C X				
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		X				
2,3,3',4',6-PeCB	110	110 + 115	C X				
2,3,3',5,5'-PeCB	111		X				
2,3,3',5,6-PeCB	112		X				
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		X				
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		X				
2,3',4,5',6-PeCB	121		X				
2',3,3',4,5-PeCB	122		X				
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		X				
2,2',3,3',4,4'-HxCB	128	128 + 166	C X				
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C X				
2,2',3,3',4,5'-HxCB	130		X				
2,2',3,3',4,6-HxCB	131		X				
2,2',3,3',4,6'-HxCB	132		X				
2,2',3,3',5,5'-HxCB	133		X				
2,2',3,3',5,6-HxCB	134	134 + 143	C X				
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C X				
2,2',3,3',6,6'-HxCB	136		X				
2,2',3,4,4',5-HxCB	137		X				
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C X				
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		X				
2,2',3,4,5,6-HxCB	142		X				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		X				
2,2',3,4,6,6'-HxCB	145		X				
2,2',3,4',5,5'-HxCB	146		X				
2,2',3,4',5,6-HxCB	147	147 + 149	C X				
2,2',3,4',5,6'-HxCB	148		X				
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		X				
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		X				
2,2',4,4',5,5'-HxCB	153	153 + 168	C X				
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		X				
2,3,3',4,5,5'-HxCB	159		X				
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		X				
2,3,3',4',5,5'-HxCB	162		X				
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		X				
2,3,3',5,5',6-HxCB	165		X				
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,3',4,4',6-HpCB	171	171 + 173	C X				
2,2',3,3',4,5,5'-HpCB	172		X				
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		X				
2,2',3,3',4,5',6-HpCB	175		X				
2,2',3,3',4,6,6'-HpCB	176		X				
2,2',3,3',4',5,6-HpCB	177		X				
2,2',3,3',5,5',6-HpCB	178		X				
2,2',3,3',5,6,6'-HpCB	179		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C X				
2,2',3,4,4',5,6-HpCB	181		X				
2,2',3,4,4',5,6'-HpCB	182		X				
2,2',3,4,4',5',6-HpCB	183	183 + 185	C X				
2,2',3,4,4',6,6'-HpCB	184		X				
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		X				
2,2',3,4',5,5',6-HpCB	187		X				
2,2',3,4',5,6,6'-HpCB	188		X				
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190		X				
2,3,3',4,4',5',6-HpCB	191		X				
2,3,3',4,5,5',6-HpCB	192		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		X				
2,2',3,3',4,4',5,6-OcCB	195		X				
2,2',3,3',4,4',5,6'-OcCB	196		X				
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C X				
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C X				
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		X				
2,2',3,3',5,5',6,6'-OcCB	202		X				
2,2',3,4,4',5,5',6-OcCB	203		X				
2,2',3,4,4',5,6,6'-OcCB	204		X				
2,3,3',4,4',5,5',6-OcCB	205		X				
2,2',3,3',4,4',5,5',6-NoCB	206		X				
2,2',3,3',4,4',5,6,6'-NoCB	207		X				
2,2',3,3',4,5,5',6,6'-NoCB	208		X				
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X				

(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; D = dilution data; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_WG67275-101_Form1A_PB9B_046S5_SJ2547917.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT 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

Project No.	N/A		
Contract No.:	4972	**Lab Sample I.D.:**	WG67275-101 W
Matrix:	FILTER	**Sample Size:**	0.2 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Apr-2019 **Time:** 00:29:18	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB9B_046 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1
Concentration Units:	pg absolute		

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	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		D	4000	2780	69.4	3.15	0.718
13C12-4-MoCB	3L		D	4000	2600	64.9	3.46	0.857
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L		X					
13C12-3,4,4'-TriCB	37L		X					
13C12-2,2',6,6'-TeCB	54L		X					
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,2',4,6,6'-PeCB	104L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,2',4,4',6,6'-HxCB	155L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,2',3,4',5,6,6'-HpCB	188L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		X					
13C12-2,3,3',4,4',5,5',6-OcCB	205L		X					
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X					
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L		X					
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of 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: _____Brian Watson_____

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Report Filename: 1668_PCB1668_PCBTF_WG67275-101_Form2_PB9B_046S5_SJ2547917.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 8A

PCB CONGENER 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	**Lab Sample I.D.:**	WG67275-102
Matrix:	FILTER	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 10:51:03	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB9B_043A S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
2-MoCB	1		X					
4-MoCB	3		X					
2,2'-DiCB	4			1.60	100	98.9	50.0 - 150	98.9
4,4'-DiCB	15			1.56	100	76.5	50.0 - 150	76.5
2,2',6-TriCB	19			1.07	100	101	50.0 - 150	101
3,4,4'-TriCB	37			1.04	100	103	50.0 - 150	103
2,2',6,6'-TeCB	54			0.82	100	92.7	50.0 - 150	92.7
3,3',4,4'-TeCB	77			0.80	100	102	50.0 - 150	102
3,4,4',5-TeCB	81			0.80	100	102	50.0 - 150	102
2,2',4,6,6'-PeCB	104			1.60	100	104	50.0 - 150	104
2,3,3',4,4'-PeCB	105			1.60	100	102	50.0 - 150	102
2,3,4,4',5-PeCB	114			1.62	100	101	50.0 - 150	101
2,3',4,4',5-PeCB	118			1.58	100	99.3	50.0 - 150	99.3
2',3,4,4',5-PeCB	123			1.61	100	101	50.0 - 150	101
3,3',4,4',5-PeCB	126			1.63	100	101	50.0 - 150	101
2,2',4,4',6,6'-HxCB	155			1.25	100	104	50.0 - 150	104
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.28	200	202	100 - 300	101
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.28	100	103	50.0 - 150	103
3,3',4,4',5,5'-HxCB	169			1.31	100	102	50.0 - 150	102
2,2',3,4',5,6,6'-HpCB	188			1.08	100	108	50.0 - 150	108
2,3,3',4,4',5,5'-HpCB	189			1.04	100	101	50.0 - 150	101
2,2',3,3',5,5',6,6'-OcCB	202			0.92	100	103	50.0 - 150	103
2,3,3',4,4',5,5',6-OcCB	205			0.91	100	101	50.0 - 150	101
2,2',3,3',4,4',5,5',6-NoCB	206			0.79	100	103	50.0 - 150	103
2,2',3,3',4,5,5',6,6'-NoCB	208			0.81	100	103	50.0 - 150	103
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.21	100	99.8	50.0 - 150	99.8

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

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

Signed: _____Brian Watson_____

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.

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SGS AXYS METHOD MLA-010 Rev 12

Form 8B

PCB CONGENER 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	**Lab Sample I.D.:**	WG67275-102
Matrix:	FILTER	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Apr-2019 **Time:** 10:51:03	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB9B_043A S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9B_043A S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L		X					
13C12-2,2'-DiCB	4L			1.63	200	134	60.0 - 280	66.8
13C12-4,4'-DiCB	15L			1.63	200	135	60.0 - 280	67.7
13C12-2,2',6-TriCB	19L			1.05	200	145	60.0 - 280	72.6
13C12-3,4,4'-TriCB	37L			1.02	200	145	60.0 - 280	72.6
13C12-2,2',6,6'-TeCB	54L			0.80	200	158	60.0 - 280	79.2
13C12-3,3',4,4'-TeCB	77L			0.80	200	132	60.0 - 280	66.2
13C12-3,4,4',5-TeCB	81L			0.80	200	136	60.0 - 280	68.1
13C12-2,2',4,6,6'-PeCB	104L			1.57	200	157	60.0 - 280	78.3
13C12-2,3,3',4,4'-PeCB	105L			1.54	200	154	60.0 - 280	77.2
13C12-2,3,4,4',5-PeCB	114L			1.55	200	148	60.0 - 280	74.0
13C12-2,3',4,4',5-PeCB	118L			1.57	200	143	60.0 - 280	71.5
13C12-2',3,4,4',5-PeCB	123L			1.58	200	144	60.0 - 280	72.1
13C12-3,3',4,4',5-PeCB	126L			1.53	200	114	60.0 - 280	56.8
13C12-2,2',4,4',6,6'-HxCB	155L			1.26	200	161	60.0 - 280	80.7
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.30	400	296	120 - 560	73.9
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.32	200	141	60.0 - 280	70.3
13C12-3,3',4,4',5,5'-HxCB	169L			1.30	200	96.1	60.0 - 280	48.0
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.09	200	154	60.0 - 280	77.1
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.06	200	171	60.0 - 280	85.5
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.91	200	141	60.0 - 280	70.6
13C12-2,3,3',4,4',5,5',6-OcCB	205L			0.98	200	158	60.0 - 280	79.2
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.81	200	150	60.0 - 280	74.8
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			0.80	200	139	60.0 - 280	69.4
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.15	200	137	60.0 - 280	68.7
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			1.03	200	157	80.0 - 250	78.3
13C12-2,3,3',5,5'-PeCB	111L			1.59	200	152	80.0 - 250	76.1
13C12-2,2',3,3',5,5',6-HpCB	178L			1.06	200	143	80.0 - 250	71.5

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

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

Signed: _____Brian Watson_____

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.

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Report Filename: 1668_PCB1668_PCBTF_WG67275-102_Form8B_SJ2546907.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 8A

PCB CONGENER 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	**Lab Sample I.D.:**	WG67275-102 W
Matrix:	FILTER	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 21:16:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**OPR Data Filename:**	**PB9B_046 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
2-MoCB	1		D	3.01	100	110	50.0 - 150	110
4-MoCB	3		D	3.01	100	106	50.0 - 150	106
2,2'-DiCB	4		X					
4,4'-DiCB	15		X					
2,2',6-TriCB	19		X					
3,4,4'-TriCB	37		X					
2,2',6,6'-TeCB	54		X					
3,3',4,4'-TeCB	77		X					
3,4,4',5-TeCB	81		X					
2,2',4,6,6'-PeCB	104		X					
2,3,3',4,4'-PeCB	105		X					
2,3,4,4',5-PeCB	114		X					
2,3',4,4',5-PeCB	118		X					
2',3,4,4',5-PeCB	123		X					
3,3',4,4',5-PeCB	126		X					
2,2',4,4',6,6'-HxCB	155		X					
2,3,3',4,4',5-HxCB	156	156 + 157	C X					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167		X					
3,3',4,4',5,5'-HxCB	169		X					
2,2',3,4',5,6,6'-HpCB	188		X					
2,3,3',4,4',5,5'-HpCB	189		X					
2,2',3,3',5,5',6,6'-OcCB	202		X					
2,3,3',4,4',5,5',6-OcCB	205		X					
2,2',3,3',4,4',5,5',6-NoCB	206		X					
2,2',3,3',4,5,5',6,6'-NoCB	208		X					
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

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

Signed: _____Brian Watson_____

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.

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SGS AXYS METHOD MLA-010 Rev 12

Form 8B

PCB CONGENER 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	**Lab Sample I.D.:**	WG67275-102 W
Matrix:	FILTER	**Initial Calibration Date:**	09-Nov-2018
Extraction Date:	12-Mar-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Apr-2019 **Time:** 21:16:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**OPR Data Filename:**	**PB9B_046 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9B_043A S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB9B_046 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-2-MoCB	1L		D	3.24	200	138	30.0 - 280	69.2
13C12-4-MoCB	3L		D	3.23	200	144	30.0 - 280	71.9
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L		X					
13C12-3,4,4'-TriCB	37L		X					
13C12-2,2',6,6'-TeCB	54L		X					
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,2',4,6,6'-PeCB	104L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,2',4,4',6,6'-HxCB	155L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,4',5,6,6'-HpCB	188L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		X					
13C12-2,3,3',4,4',5,5',6-OcCB	205L		X					
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X					
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L		X					
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

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

Signed: _____Brian Watson_____

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.

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Report Filename: 1668_PCB1668_PCBTF_WG67275-102_Form8B_SJ2547913.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 3A
PCB CONGENERS 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: 09-Nov-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8B_168B S: 3
CS1 Data Filename: PB8B_168B S: 4
CS2 Data Filename: PB8B_168C S: 2
CS3 Data Filename: PB8B_168C S: 1
CS4 Data Filename: PB8B_168B S: 6
CS5 Data Filename: PB8B_168B S: 5
CS6 Data Filename: PB8B_168C S: 4

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO.**	**CO-ELUTIONS**	**LAB FLAG[1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[2] (%RSD)**
2-MoCB	1			1.36	1.24	1.21	1.18	1.19	1.22		1.24	5.36
4-MoCB	3			1.40	1.28	1.20	1.17	1.18	1.21		1.24	7.09
2,2'-DiCB	4			1.22	1.20	1.12	1.08	1.13	1.16	1.08	1.14	4.81
4,4'-DiCB	15			1.21	1.11	1.05	0.99	1.02	1.06	0.95	1.06	8.01
2,2',6-TriCB	19			1.32	1.13	1.14	1.08	1.08	1.10	1.10	1.14	7.40
3,4,4'-TriCB	37			1.27	1.18	1.13	1.08	1.09	1.14	1.07	1.14	6.08
2,2',6,6'-TeCB	54			1.33	1.20	1.15	1.11	1.10	1.13	1.10	1.16	7.06
3,3',4,4'-TeCB	77			1.24	1.11	1.10	1.06	1.03	1.09	1.07	1.10	5.93
3,4,4',5-TeCB	81			1.21	1.14	1.13	1.06	1.05	1.08	1.07	1.11	4.94
2,2',4,6,6'-PeCB	104			1.29	1.24	1.15	1.10	1.15	1.19	1.14	1.18	5.63
2,3,3',4,4'-PeCB	105			1.18	1.17	1.14	1.09	1.10	1.15	1.09	1.13	3.34
2,3,4,4',5-PeCB	114			1.22	1.20	1.20	1.13	1.16	1.19	1.12	1.17	3.29
2,3',4,4',5-PeCB	118			1.32	1.19	1.15	1.09	1.11	1.14	1.08	1.15	7.12
2',3,4,4',5-PeCB	123			1.14	1.10	1.06	1.03	1.05	1.09	1.03	1.07	3.68
3,3',4,4',5-PeCB	126			1.31	1.17	1.14	1.08	1.13	1.15	1.10	1.15	6.47
2,2',4,4',6,6'-HxCB	155			1.31	1.22	1.10	1.04	1.12	1.14	1.06	1.14	8.18
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.21	1.21	1.17	1.16	1.14	1.17	1.14	1.17	2.47
2,3,3',4,4',5'-HxCB	157	156 + 157	C156									
2,3',4,4',5,5'-HxCB	167			1.33	1.22	1.21	1.16	1.16	1.20	1.16	1.21	4.97
3,3',4,4',5,5'-HxCB	169			1.29	1.16	1.13	1.09	1.09	1.11	1.07	1.14	6.67
2,2',3,4',5,6,6'-HpCB	188			1.11	1.10	1.06	1.02	1.04	1.06	1.04	1.06	3.09
2,3,3',4,4',5,5'-HpCB	189			1.26	1.14	1.06	1.03	1.04	1.07	1.03	1.09	7.92
2,2',3,3',5,5',6,6'-OcCB	202			0.92	0.98	0.96	0.93	0.96	0.96	0.95	0.95	2.17
2,3,3',4,4',5,5',6-OcCB	205			1.16	1.04	0.99	0.98	0.97	1.00	0.95	1.01	7.06
2,2',3,3',4,4',5,5',6-NoCB	206			1.11	1.08	1.02	0.99	0.97	1.01	0.96	1.02	5.60
2,2',3,3',4,5,5',6,6'-NoCB	208			1.06	1.04	0.98	0.94	0.97	0.98	0.93	0.99	4.91
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.55	1.22	1.15	1.08	1.13	1.13	1.10	1.19	13.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) For contract CV specifications, see Section 10.4.4, Method 1668A.

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

Signed: _____Robert Tones_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 3B
PCB CONGENERS 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: 09-Nov-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8B_168B S: 3
CS1 Data Filename: PB8B_168B S: 4
CS2 Data Filename: PB8B_168C S: 2
CS3 Data Filename: PB8B_168C S: 1
CS4 Data Filename: PB8B_168B S: 6
CS5 Data Filename: PB8B_168B S: 5
CS6 Data Filename: PB8B_168C S: 4

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO. [1]**	**CO-ELUTIONS**	**LAB FLAG[2]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[3] (%RSD)**
13C12-2-MoCB	1L			0.95	0.96	1.00	0.97	1.01	0.99	0.96	0.98	2.37
13C12-4-MoCB	3L			0.94	0.93	0.98	0.96	0.98	1.00	0.99	0.97	2.65
13C12-2,2'-DiCB	4L			0.62	0.62	0.64	0.64	0.65	0.67	0.63	0.64	2.46
13C12-4,4'-DiCB	15L			1.07	1.06	1.06	1.05	1.09	1.13	1.11	1.08	2.72
13C12-2,2',6-TriCB	19L			0.49	0.48	0.51	0.51	0.50	0.51	0.49	0.50	2.54
13C12-3,4,4'-TriCB	37L			1.83	1.80	1.77	1.77	1.83	1.96	2.13	1.87	6.99
13C12-2,2',6,6'-TeCB	54L			1.31	1.32	1.30	1.31	1.31	1.34	1.52	1.34	5.93
13C12-3,3',4,4'-TeCB	77L			1.62	1.57	1.53	1.57	1.60	1.72	1.75	1.62	5.10
13C12-3,4,4',5-TeCB	81L			1.60	1.54	1.48	1.55	1.58	1.74	1.75	1.61	6.41
13C12-2,2',4,6,6'-PeCB	104L			1.14	1.13	1.13	1.17	1.12	1.13	1.25	1.15	3.99
13C12-2,3,3',4,4'-PeCB	105L			1.56	1.54	1.42	1.50	1.54	1.60	1.71	1.55	5.75
13C12-2,3,4,4',5-PeCB	114L			1.52	1.49	1.40	1.47	1.50	1.56	1.66	1.51	5.26
13C12-2,3',4,4',5-PeCB	118L			1.55	1.56	1.44	1.52	1.54	1.68	1.77	1.58	6.93
13C12-2',3,4,4',5-PeCB	123L			1.61	1.60	1.46	1.53	1.58	1.68	1.78	1.60	6.34
13C12-3,3',4,4',5-PeCB	126L			1.46	1.43	1.33	1.43	1.43	1.57	1.61	1.47	6.57
13C12-2,2',4,4',6,6'-HxCB	155L			1.11	1.13	1.19	1.16	1.18	1.16	1.28	1.17	4.87
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.27	1.24	1.23	1.24	1.32	1.39	1.46	1.31	6.64
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L									
13C12-2,3',4,4',5,5'-HxCB	167L			1.25	1.24	1.22	1.24	1.28	1.31	1.43	1.28	5.72
13C12-3,3',4,4',5,5'-HxCB	169L			1.23	1.21	1.19	1.20	1.27	1.37	1.45	1.27	7.90
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.51	1.53	1.67	1.71	1.70	1.57	1.80	1.64	6.63
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.56	1.58	1.53	1.52	1.63	1.66	1.77	1.61	5.44
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.17	1.22	1.28	1.33	1.26	1.24	1.37	1.27	5.40
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.43	1.42	1.44	1.43	1.49	1.53	1.66	1.49	5.74
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.93	0.91	0.96	0.95	1.00	1.02	1.11	0.98	6.79
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.20	1.19	1.20	1.24	1.28	1.31	1.45	1.27	7.13
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			0.98	0.98	1.05	1.07	1.02	1.09	1.15	1.05	5.96
CLEAN-UP STANDARD												
13C12-2,4,4'-TriCB	28L			1.88	1.86	1.81	1.81	1.79	1.82	1.97	1.85	3.43
13C12-2,3,3',5,5'-PeCB	111L			1.32	1.31	1.26	1.35	1.31	1.38	1.44	1.34	4.17
13C12-2,2',3,3',5,5',6-HpCB	178L			0.81	0.80	0.83	0.84	0.82	0.83	0.81	0.82	1.63

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) For contract CV specifications, see Section 10.4.4, Method 1668A.

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

Signed: _____Robert Tones_____

For Axys Internal Use Only [XSL Template: Form16683B.xsl; Created: 18-Apr-2019 17:10:23; Application: XMLTransformer-1.17.7; Report Filename: 1668_PCB1668_09-Nov-2018_PB8B__Form3B_GS81304.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 3C

PCB CONGENER 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: 09-Nov-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8B_168B S: 3

CS1 Data Filename: PB8B_168B S: 4

CS2 Data Filename: PB8B_168C S: 2

CS3 Data Filename: PB8B_168C S: 1

CS4 Data Filename: PB8B_168B S: 6

CS5 Data Filename: PB8B_168B S: 5

CS6 Data Filename: PB8B_168C S: 4

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG[1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [2]
2-MoCB	1			**M/M+2**	2.92	2.99	3.02	3.09	3.09	3.13		2.66-3.60
4-MoCB	3			**M/M+2**	3.21	3.15	3.06	3.09	3.08	3.11		2.66-3.60
2,2'-DiCB	4			**M/M+2**	1.60	1.58	1.59	1.58	1.60	1.60	1.58	1.33-1.79
4,4'-DiCB	15			**M/M+2**	1.46	1.70	1.58	1.58	1.59	1.60	1.46	1.33-1.79
2,2',6-TriCB	19			**M/M+2**	1.18	0.92	1.10	1.06	1.07	1.07	1.07	0.88-1.20
3,4,4'-TriCB	37			**M/M+2**	1.06	1.06	1.03	1.05	1.03	1.03	1.03	0.88-1.20
2,2',6,6'-TeCB	54			**M/M+2**	0.71	0.81	0.79	0.79	0.79	0.80	0.80	0.65-0.89
3,3',4,4'-TeCB	77			**M/M+2**	0.87	0.81	0.80	0.79	0.80	0.80	0.80	0.65-0.89
3,4,4',5-TeCB	81			**M/M+2**	0.78	0.76	0.81	0.80	0.80	0.80	0.80	0.65-0.89
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.37	1.64	1.60	1.57	1.58	1.58	1.59	1.32-1.78
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.54	1.57	1.51	1.55	1.56	1.56	1.56	1.32-1.78
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.57	1.62	1.59	1.57	1.57	1.58	1.57	1.32-1.78
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.61	1.56	1.54	1.58	1.57	1.57	1.57	1.32-1.78
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.51	1.59	1.48	1.56	1.56	1.57	1.57	1.32-1.78
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.57	1.47	1.55	1.57	1.57	1.57	1.57	1.32-1.78
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.05	1.22	1.25	1.27	1.28	1.28	1.27	1.05-1.43
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.27	1.23	1.24	1.26	1.27	1.26	1.27	1.05-1.43
2,3,3',4,4',5'-HxCB	157	156 + 157	C156									
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.30	1.42	1.31	1.26	1.26	1.26	1.26	1.05-1.43
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.30	1.25	1.28	1.28	1.26	1.27	1.27	1.05-1.43
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	0.90	1.18	1.07	1.04	1.05	1.05	1.05	0.89-1.21
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.17	1.00	1.08	1.05	1.05	1.04	1.04	0.89-1.21
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.76	0.94	0.87	0.90	0.91	0.90	0.91	0.76-1.02
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.97	1.01	0.95	0.90	0.92	0.92	0.92	0.76-1.02
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.66	0.78	0.79	0.79	0.78	0.79	0.78	0.65-0.89
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.67	0.80	0.79	0.79	0.79	0.78	0.78	0.65-0.89
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.21	1.14	1.16	1.22	1.19	1.18	1.19	0.99-1.33

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

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

Signed: _____Robert Tones_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 3D

PCB CONGENER 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: 09-Nov-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8B_168B S: 3

CS1 Data Filename: PB8B_168B S: 4

CS2 Data Filename: PB8B_168C S: 2

CS3 Data Filename: PB8B_168C S: 1

CS4 Data Filename: PB8B_168B S: 6

CS5 Data Filename: PB8B_168B S: 5

CS6 Data Filename: PB8B_168C S: 4

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	M/Z's FORMING RATIO [3]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [3]
13C12-2-MoCB	1L			**M/M+2**	3.15	3.14	3.16	3.15	3.17	3.11	3.11	2.66-3.60
13C12-4-MoCB	3L			**M/M+2**	3.13	3.12	3.10	3.12	3.13	3.10	3.09	2.66-3.60
13C12-2,2'-DiCB	4L			**M/M+2**	1.64	1.62	1.61	1.63	1.63	1.64	1.61	1.33-1.79
13C12-4,4'-DiCB	15L			**M/M+2**	1.62	1.61	1.60	1.61	1.62	1.61	1.60	1.33-1.79
13C12-2,2',6-TriCB	19L			**M/M+2**	1.05	1.04	1.05	1.06	1.06	1.08	1.08	0.88-1.20
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.03	1.02	1.04	1.03	1.04	1.04	1.03	0.88-1.20
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.79	0.78	0.75	0.80	0.79	0.79	0.65-0.89
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.78	0.77	0.78	0.78	0.78	0.77	0.78	0.65-0.89
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.78	0.78	0.77	0.77	0.77	0.78	0.79	0.65-0.89
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.59	1.58	1.59	1.59	1.58	1.56	1.58	1.32-1.78
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.55	1.56	1.54	1.55	1.56	1.54	1.55	1.32-1.78
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.58	1.55	1.57	1.57	1.58	1.58	1.57	1.32-1.78
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.55	1.56	1.54	1.55	1.55	1.57	1.54	1.32-1.78
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.56	1.54	1.57	1.56	1.55	1.56	1.55	1.32-1.78
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.55	1.56	1.54	1.56	1.56	1.55	1.55	1.32-1.78
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.28	1.27	1.24	1.27	1.26	1.26	1.26	1.05-1.43
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.26	1.25	1.25	1.29	1.26	1.26	1.05-1.43
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L									
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.27	1.28	1.28	1.27	1.28	1.28	1.27	1.05-1.43
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.26	1.26	1.23	1.27	1.26	1.27	1.28	1.05-1.43
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	1.06	1.07	1.06	1.06	1.06	1.06	0.89-1.21
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.06	1.07	1.05	1.05	1.07	1.06	1.06	0.89-1.21
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.92	0.91	0.90	0.91	0.90	0.91	0.91	0.76-1.02
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.95	0.94	0.94	0.95	0.93	0.94	0.95	0.76-1.02
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.78	0.76	0.79	0.78	0.78	0.79	0.81	0.65-0.89
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.77	0.79	0.79	0.78	0.78	0.77	0.81	0.65-0.89
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.19	1.21	1.19	1.21	1.17	1.19	1.19	0.99-1.33
CLEAN-UP STANDARD												
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.04	1.03	1.02	1.02	1.04	1.03	1.02	0.88-1.20
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.60	1.60	1.59	1.61	1.58	1.62	1.32-1.78
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.06	1.07	1.06	1.07	1.06	1.05	1.05	0.89-1.21

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

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

Signed: _____Robert Tones_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:46:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.08	2.66-3.60	23.9	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.04	2.66-3.60	24.9	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.54	1.33-1.79	24.6	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.61	1.33-1.79	27.3	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.06	0.88-1.20	25.6	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.05	0.88-1.20	25.5	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.82	0.65-0.89	45.1	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.80	0.65-0.89	49.0	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.80	0.65-0.89	51.4	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.59	1.32-1.78	50.9	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.58	1.32-1.78	51.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.58	1.32-1.78	51.1	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.61	1.32-1.78	49.1	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.61	1.32-1.78	49.7	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.62	1.32-1.78	53.5	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.28	1.05-1.43	50.2	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.28	1.05-1.43	101	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.29	1.05-1.43	54.7	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.29	1.05-1.43	53.0	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.03	0.89-1.21	51.5	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.06	0.89-1.21	49.0	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	80.2	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.93	0.76-1.02	75.0	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.79	0.65-0.89	75.8	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.79	0.65-0.89	80.1	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.22	0.99-1.33	71.9	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:46:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.22	2.66-3.60	111	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.19	2.66-3.60	101	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.67	1.33-1.79	100	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.64	1.33-1.79	89.6	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.06	0.88-1.20	95.0	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	84.3	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.82	0.65-0.89	101	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.80	0.65-0.89	78.0	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.80	0.65-0.89	80.8	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.53	1.32-1.78	92.0	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.56	1.32-1.78	86.7	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.61	1.32-1.78	87.7	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.51	1.32-1.78	84.6	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.51	1.32-1.78	82.2	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.52	1.32-1.78	81.9	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.26	1.05-1.43	105	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.05-1.43	185	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.30	1.05-1.43	93.4	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.31	1.05-1.43	90.4	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	0.89-1.21	88.6	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.06	0.89-1.21	97.3	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.93	0.76-1.02	85.1	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.96	0.76-1.02	93.5	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.78	0.65-0.89	86.8	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.82	0.65-0.89	88.5	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.21	0.99-1.33	82.0	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	97.5	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.59	1.32-1.78	87.5	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.07	0.89-1.21	93.8	60.0 - 130

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:46:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.002	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.001	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.001	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.000	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.000	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:46:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.717	0.686-0.748
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.857	0.825-0.888
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.872	0.841-0.903
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.252	1.220-1.283
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.090	1.070-1.110
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.798-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.394	1.381-1.407
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.371	1.358-1.384
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.809	0.799-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.199	1.189-1.209
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.168-1.189
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.161	1.151-1.171
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.140-1.161
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.299	1.289-1.309
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.787	0.779-0.795
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.107	1.099-1.115
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.077	1.069-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.190	1.182-1.198
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.713	0.706-0.719
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.958	0.952-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.818	0.812-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.018
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.066-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.924	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.087	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.011	1.003-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

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

Initial Calibration Date: 09-Nov-2018 **CAL Data Filename:** PB9B_043A S: 1

Instrument ID: HR GC/MS **Analysis Date:** 15-Apr-2019

GC Column ID: SPB OCTYL **Analysis Time:** 09:46:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			1.19	**M/M+2**	3.06	2.66-3.60	0.988	0.984 - 0.992
2,3-DiCB	5			1.26	**M/M+2**	1.59	1.33-1.79	1.199	1.195 - 1.203
2,3'-DiCB	6			1.39	**M/M+2**	1.55	1.33-1.79	1.178	1.174 - 1.181
2,4-DiCB	7			1.35	**M/M+2**	1.57	1.33-1.79	1.160	1.156 - 1.163
2,4'-DiCB	8			1.52	**M/M+2**	1.55	1.33-1.79	1.207	1.204 - 1.211
2,5-DiCB	9			1.40	**M/M+2**	1.59	1.33-1.79	1.148	1.144 - 1.151
2,6-DiCB	10			1.40	**M/M+2**	1.56	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			1.26	**M/M+2**	1.55	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.30	**M/M+2**	1.55	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.37	**M/M+2**	1.53	1.33-1.79	0.926	0.924 - 0.929
2,2',3-TriCB	16			0.75	**M/M+2**	1.06	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			0.96	**M/M+2**	1.06	0.88-1.20	1.139	1.136 - 1.142
2,2',5-TriCB	18	18 + 30	C	1.12	**M/M+2**	1.08	0.88-1.20	1.113	1.110 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.61	**M/M+2**	1.05	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.60	**M/M+2**	1.03	0.88-1.20	0.856	0.853 - 0.859
2,3,4'-TriCB	22			1.47	**M/M+2**	1.04	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			1.50	**M/M+2**	1.04	0.88-1.20	1.283	1.280 - 1.286
2,3,6-TriCB	24			1.31	**M/M+2**	1.04	0.88-1.20	1.159	1.156 - 1.162
2,3',4-TriCB	25			1.81	**M/M+2**	1.04	0.88-1.20	0.826	0.824 - 0.828
2,3',5-TriCB	26	26 + 29	C	1.59	**M/M+2**	1.04	0.88-1.20	1.303	1.298 - 1.307
2,3',6-TriCB	27			1.32	**M/M+2**	1.07	0.88-1.20	1.151	1.148 - 1.154
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			1.71	**M/M+2**	1.04	0.88-1.20	0.837	0.836 - 0.839
2,4',6-TriCB	32			1.69	**M/M+2**	1.04	0.88-1.20	1.197	1.194 - 1.200
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.56	**M/M+2**	1.05	0.88-1.20	1.274	1.272 - 1.277
3,3',4-TriCB	35			1.45	**M/M+2**	1.00	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.59	**M/M+2**	1.04	0.88-1.20	0.932	0.930 - 0.934
3,4,5-TriCB	38			1.55	**M/M+2**	1.05	0.88-1.20	0.968	0.966 - 0.970
3,4',5-TriCB	39			1.58	**M/M+2**	1.04	0.88-1.20	0.946	0.944 - 0.948
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.79	**M/M+2**	0.82	0.65-0.89	1.335	1.331 - 1.339
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.78	**M/M+2**	0.81	0.65-0.89	1.311	1.309 - 1.313
2,2',3,5-TeCB	43			0.73	**M/M+2**	0.82	0.65-0.89	1.246	1.244 - 1.249
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.90	**M/M+2**	0.82	0.65-0.89	1.286	1.282 - 1.291
2,2',3,6-TeCB	45	45 + 51	C	0.83	**M/M+2**	0.81	0.65-0.89	1.147	1.143 - 1.151
2,2',3,6'-TeCB	46			0.73	**M/M+2**	0.83	0.65-0.89	1.160	1.158 - 1.163
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.81	**M/M+2**	0.81	0.65-0.89	1.274	1.272 - 1.277
2,2',4,5'-TeCB	49	49 + 69	C	0.95	**M/M+2**	0.82	0.65-0.89	1.258	1.254 - 1.262
2,2',4,6-TeCB	50	50 + 53	C	0.86	**M/M+2**	0.82	0.65-0.89	1.112	1.108 - 1.116
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.91	**M/M+2**	0.81	0.65-0.89	1.234	1.232 - 1.236
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			1.15	**M/M+2**	0.80	0.65-0.89	0.889	0.888 - 0.891
2,3,3',4'-TeCB	56			1.08	**M/M+2**	0.81	0.65-0.89	0.905	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.20	**M/M+2**	0.80	0.65-0.89	0.845	0.843 - 0.846
2,3,3',5'-TeCB	58			1.12	**M/M+2**	0.79	0.65-0.89	0.852	0.850 - 0.853
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.11	**M/M+2**	0.82	0.65-0.89	1.302	1.298 - 1.306
2,3,4,4'-TeCB	60			1.13	**M/M+2**	0.79	0.65-0.89	0.911	0.910 - 0.913
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.18	**M/M+2**	0.79	0.65-0.89	0.875	0.872 - 0.878
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			1.24	**M/M+2**	0.80	0.65-0.89	0.865	0.864 - 0.866
2,3,4',6-TeCB	64			1.11	**M/M+2**	0.82	0.65-0.89	1.348	1.345 - 1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			1.21	**M/M+2**	0.78	0.65-0.89	0.885	0.883 - 0.886
2,3',4,5-TeCB	67			1.35	**M/M+2**	0.79	0.65-0.89	0.857	0.855 - 0.858
2,3',4,5'-TeCB	68			1.21	**M/M+2**	0.81	0.65-0.89	0.832	0.831 - 0.833
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			1.24	**M/M+2**	0.79	0.65-0.89	0.823	0.822 - 0.825
2,3',5',6-TeCB	73			1.05	**M/M+2**	0.81	0.65-0.89	1.241	1.239 - 1.244
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			1.13	**M/M+2**	0.81	0.65-0.89	0.987	0.986 - 0.989
3,3',4,5'-TeCB	79			1.33	**M/M+2**	0.81	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.24	**M/M+2**	0.80	0.65-0.89	0.924	0.923 - 0.926
2,2',3,3',4-PeCB	82			0.73	**M+2/M+4**	1.56	1.32-1.78	0.933	0.932 - 0.934
2,2',3,3',5-PeCB	83	83 + 99	C	0.79	**M+2/M+4**	1.58	1.32-1.78	0.885	0.882 - 0.887
2,2',3,3',6-PeCB	84			0.73	**M+2/M+4**	1.56	1.32-1.78	1.162	1.160 - 1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	0.98	**M+2/M+4**	1.60	1.32-1.78	0.919	0.917 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.93	**M+2/M+4**	1.60	1.32-1.78	0.900	0.897 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	0.82	**M+2/M+4**	1.57	1.32-1.78	1.152	1.148 - 1.156
2,2',3,4,6'-PeCB	89			0.79	**M+2/M+4**	1.58	1.32-1.78	1.181	1.179 - 1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.92	**M+2/M+4**	1.58	1.32-1.78	0.868	0.866 - 0.871
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.80	**M+2/M+4**	1.58	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.85	**M+2/M+4**	1.58	1.32-1.78	1.129	1.118 - 1.140
2,2',3,5,6'-PeCB	94			0.76	**M+2/M+4**	1.57	1.32-1.78	1.102	1.100 - 1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			1.01	**M+2/M+4**	1.60	1.32-1.78	1.015	1.011 - 1.018
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			0.94	**M+2/M+4**	1.59	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			1.25	**M+2/M+4**	1.62	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	1.10	**M+2/M+4**	1.61	1.32-1.78	0.991	0.988 - 0.993
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3,3',4,6-PeCB	109			1.30	**M+2/M+4**	1.60	1.32-1.78	0.997	0.996 - 0.998
2,3,3',4',6-PeCB	110	110 + 115	C	1.07	**M+2/M+4**	1.58	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.05	**M+2/M+4**	1.61	1.32-1.78	0.945	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.07	**M+2/M+4**	1.58	1.32-1.78	0.889	0.888 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.13	**M+2/M+4**	1.56	1.32-1.78	0.958	0.957 - 0.960
2,3',4,5',6-PeCB	121			1.08	**M+2/M+4**	1.58	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			1.11	**M+2/M+4**	1.59	1.32-1.78	1.010	1.009 - 1.012
2',3,4,5,5'-PeCB	124	107 + 124	C107						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			1.13	**M+2/M+4**	1.62	1.32-1.78	1.041	1.040 - 1.043
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.01	**M+2/M+4**	1.28	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.03	**M+2/M+4**	1.28	1.05-1.43	0.930	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.85	**M+2/M+4**	1.27	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.83	**M+2/M+4**	1.23	1.05-1.43	1.158	1.157 - 1.160
2,2',3,3',4,6'-HxCB	132			0.87	**M+2/M+4**	1.29	1.05-1.43	1.173	1.170 - 1.175
2,2',3,3',5,5'-HxCB	133			0.94	**M+2/M+4**	1.27	1.05-1.43	1.190	1.188 - 1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.88	**M+2/M+4**	1.27	1.05-1.43	1.140	1.137 - 1.142
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.83	**M+2/M+4**	1.23	1.05-1.43	1.106	1.100 - 1.111
2,2',3,3',6,6'-HxCB	136			1.08	**M+2/M+4**	1.26	1.05-1.43	1.022	1.021 - 1.024
2,2',3,4,4',5-HxCB	137			0.90	**M+2/M+4**	1.26	1.05-1.43	0.918	0.917 - 0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.98	**M+2/M+4**	1.30	1.05-1.43	1.151	1.149 - 1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			1.00	**M+2/M+4**	1.28	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.90	**M+2/M+4**	1.28	1.05-1.43	1.163	1.161 - 1.164
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.83	**M+2/M+4**	1.24	1.05-1.43	1.121	1.119 - 1.122
2,2',3,4,6,6'-HxCB	145			1.03	**M+2/M+4**	1.24	1.05-1.43	1.033	1.031 - 1.034
2,2',3,4',5,5'-HxCB	146			1.07	**M+2/M+4**	1.26	1.05-1.43	0.885	0.883 - 0.886
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.98	**M+2/M+4**	1.27	1.05-1.43	1.132	1.129 - 1.135
2,2',3,4',5,6'-HxCB	148			0.82	**M+2/M+4**	1.26	1.05-1.43	1.083	1.081 - 1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			1.10	**M+2/M+4**	1.27	1.05-1.43	1.011	1.010 - 1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			1.17	**M+2/M+4**	1.26	1.05-1.43	1.006	1.004 - 1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.18	**M+2/M+4**	1.28	1.05-1.43	0.900	0.898 - 0.902
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.34	**M+2/M+4**	1.28	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.20	**M+2/M+4**	1.28	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.31	**M+2/M+4**	1.32	1.05-1.43	0.888	0.887 - 0.889
2,3,3',4',5,5'-HxCB	162			1.24	**M+2/M+4**	1.28	1.05-1.43	0.989	0.988 - 0.990
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.22	**M+2/M+4**	1.29	1.05-1.43	0.921	0.920 - 0.923
2,3,3',5,5',6-HxCB	165			1.14	**M+2/M+4**	1.27	1.05-1.43	0.878	0.877 - 0.880
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5',6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.26	**M+2/M+4**	1.07	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.68	**M+2/M+4**	1.06	0.89-1.21	1.162	1.160 - 1.164
2,2',3,3',4,5,5'-HpCB	172			0.67	**M+2/M+4**	1.03	0.89-1.21	0.897	0.896 - 0.898
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.72	**M+2/M+4**	1.07	0.89-1.21	1.132	1.131 - 1.134
2,2',3,3',4,5',6-HpCB	175			0.77	**M+2/M+4**	1.07	0.89-1.21	1.102	1.101 - 1.103
2,2',3,3',4,6,6'-HpCB	176			1.01	**M+2/M+4**	1.06	0.89-1.21	1.034	1.032 - 1.035
2,2',3,3',4',5,6-HpCB	177			0.76	**M+2/M+4**	1.06	0.89-1.21	1.145	1.143 - 1.146
2,2',3,3',5,5',6-HpCB	178			0.72	**M+2/M+4**	1.05	0.89-1.21	1.084	1.083 - 1.085
2,2',3,3',5,6,6'-HpCB	179			1.05	**M+2/M+4**	1.07	0.89-1.21	1.010	1.008 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.09	**M+2/M+4**	1.05	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.74	**M+2/M+4**	1.06	0.89-1.21	1.156	1.154 - 1.157
2,2',3,4,4',5,6'-HpCB	182			0.77	**M+2/M+4**	1.06	0.89-1.21	1.115	1.114 - 1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.75	**M+2/M+4**	1.06	0.89-1.21	1.128	1.126 - 1.129
2,2',3,4,4',6,6'-HpCB	184			1.08	**M+2/M+4**	1.04	0.89-1.21	1.025	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			0.97	**M+2/M+4**	1.07	0.89-1.21	1.046	1.045 - 1.047
2,2',3,4',5,5',6-HpCB	187			0.77	**M+2/M+4**	1.07	0.89-1.21	1.110	1.108 - 1.111
2,3,3',4,4',5,6-HpCB	190			0.89	**M+2/M+4**	1.05	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5',6-HpCB	191			0.89	**M+2/M+4**	1.08	0.89-1.21	0.918	0.917 - 0.919
2,3,3',4,5,5',6-HpCB	192			0.82	**M+2/M+4**	1.05	0.89-1.21	0.903	0.902 - 0.904
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.95	**M+2/M+4**	0.92	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.89	**M+2/M+4**	0.91	0.76-1.02	0.946	0.945 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.62	**M+2/M+4**	0.91	0.76-1.02	0.916	0.915 - 0.917

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.91	**M+2/M+4**	0.93	0.76-1.02	1.045	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.60	**M+2/M+4**	0.94	0.76-1.02	1.113	1.112 - 1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			0.92	**M+2/M+4**	0.92	0.76-1.02	1.023	1.021 - 1.024
2,2',3,4,4',5,5',6-OcCB	203			0.65	**M+2/M+4**	0.90	0.76-1.02	0.920	0.919 - 0.921
2,2',3,4,4',5,6,6'-OcCB	204			0.91	**M+2/M+4**	0.93	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.20	**M+2/M+4**	0.80	0.65-0.89	1.020	1.019 - 1.021

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**CAL Data Filename:**	PB9B_043A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:46:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.08	**M/M+2**	3.22	2.66-3.60	0.717	0.702 - 0.733
13C12-4-MoCB	3L			0.98	**M/M+2**	3.19	2.66-3.60	0.857	0.841 - 0.872
13C12-2,2'-DiCB	4L			0.64	**M/M+2**	1.67	1.33-1.79	0.872	0.857 - 0.888
13C12-4,4'-DiCB	15L			0.97	**M/M+2**	1.64	1.33-1.79	1.252	1.236 - 1.267
13C12-2,2',6-TriCB	19L			0.47	**M/M+2**	1.06	0.88-1.20	1.072	1.056 - 1.087
13C12-3,4,4'-TriCB	37L			1.58	**M/M+2**	1.02	0.88-1.20	1.090	1.080 - 1.100
13C12-2,2',6,6'-TeCB	54L			1.36	**M/M+2**	0.82	0.65-0.89	0.811	0.804 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.27	**M/M+2**	0.80	0.65-0.89	1.394	1.388 - 1.401
13C12-3,4,4',5-TeCB	81L			1.30	**M/M+2**	0.80	0.65-0.89	1.371	1.364 - 1.378
13C12-2,2',4,6,6'-PeCB	104L			1.06	**M+2/M+4**	1.53	1.32-1.78	0.809	0.804 - 0.814
13C12-2,3,3',4,4'-PeCB	105L			1.35	**M+2/M+4**	1.56	1.32-1.78	1.199	1.194 - 1.204
13C12-2,3,4,4',5-PeCB	114L			1.33	**M+2/M+4**	1.61	1.32-1.78	1.178	1.173 - 1.183
13C12-2,3',4,4',5-PeCB	118L			1.34	**M+2/M+4**	1.51	1.32-1.78	1.161	1.156 - 1.166
13C12-2',3,4,4',5-PeCB	123L			1.32	**M+2/M+4**	1.51	1.32-1.78	1.151	1.146 - 1.156
13C12-3,3',4,4',5-PeCB	126L			1.20	**M+2/M+4**	1.52	1.32-1.78	1.299	1.294 - 1.304
13C12-2,2',4,4',6,6'-HxCB	155L			1.23	**M+2/M+4**	1.26	1.05-1.43	0.787	0.783 - 0.791
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.21	**M+2/M+4**	1.28	1.05-1.43	1.107	1.103 - 1.111
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.20	**M+2/M+4**	1.30	1.05-1.43	1.077	1.073 - 1.081
13C12-3,3',4,4',5,5'-HxCB	169L			1.15	**M+2/M+4**	1.31	1.05-1.43	1.190	1.186 - 1.194
13C12-2,2',3,3',4,4',5-HpCB	170L			0.76	**M+2/M+4**	1.09	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			0.96	**M+2/M+4**	1.06	0.89-1.21	0.873	0.869 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.45	**M+2/M+4**	1.05	0.89-1.21	0.713	0.709 - 0.716
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.56	**M+2/M+4**	1.06	0.89-1.21	0.958	0.955 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.08	**M+2/M+4**	0.93	0.76-1.02	0.818	0.815 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.39	**M+2/M+4**	0.96	0.76-1.02	1.009	1.004 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.85	**M+2/M+4**	0.78	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.12	**M+2/M+4**	0.82	0.65-0.89	0.949	0.946 - 0.952

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:25:35

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.07	2.66-3.60	25.3	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.04	2.66-3.60	26.7	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.58	1.33-1.79	25.4	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.60	1.33-1.79	28.8	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.06	0.88-1.20	26.7	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.06	0.88-1.20	26.3	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.82	0.65-0.89	46.5	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.79	0.65-0.89	49.7	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.65-0.89	51.1	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.58	1.32-1.78	52.5	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.58	1.32-1.78	53.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.61	1.32-1.78	52.3	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.61	1.32-1.78	49.5	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.60	1.32-1.78	56.0	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.60	1.32-1.78	55.0	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.25	1.05-1.43	51.8	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.28	1.05-1.43	102	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.31	1.05-1.43	55.1	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.26	1.05-1.43	52.5	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.09	0.89-1.21	53.1	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.02	0.89-1.21	49.1	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.93	0.76-1.02	77.8	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.92	0.76-1.02	74.6	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.81	0.65-0.89	73.4	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.81	0.65-0.89	80.6	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.18	0.99-1.33	68.5	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:25:35

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.25	2.66-3.60	109	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.22	2.66-3.60	99.3	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.65	1.33-1.79	94.3	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.64	1.33-1.79	86.3	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.08	0.88-1.20	80.7	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.01	0.88-1.20	99.3	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.81	0.65-0.89	108	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.80	0.65-0.89	90.5	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.80	0.65-0.89	91.8	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.56	1.32-1.78	86.4	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.56	1.32-1.78	101	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.58	1.32-1.78	101	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.53	1.32-1.78	97.0	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.52	1.32-1.78	93.7	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.49	1.32-1.78	100	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.27	1.05-1.43	86.2	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.30	1.05-1.43	192	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.32	1.05-1.43	97.0	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.29	1.05-1.43	106	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	68.0	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.07	0.89-1.21	95.5	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.95	0.76-1.02	75.1	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.97	0.76-1.02	95.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.80	0.65-0.89	94.1	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.82	0.65-0.89	82.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.18	0.99-1.33	89.5	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.02	0.88-1.20	115	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.59	1.32-1.78	91.6	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.10	0.89-1.21	90.5	60.0 - 130

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

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SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:25:35

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.002	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.002	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.001	0.999-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.000	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.001	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_043A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:25:35

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.718	0.687-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.856	0.825-0.888
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.872	0.841-0.903
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.253	1.222-1.284
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.090	1.070-1.110
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.395	1.382-1.408
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.372	1.359-1.385
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.809	0.799-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.199	1.189-1.209
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.168-1.189
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.161	1.151-1.171
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.150	1.140-1.161
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.300	1.289-1.310
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.787	0.779-0.795
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.107	1.099-1.115
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.191	1.183-1.199
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.713	0.706-0.719
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.818	0.812-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.018
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.956
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.066-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.925	0.912-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.087	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.004-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

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

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 18-Apr-2019 17:10:23; Application: XMLTransformer-1.17.7; Report Filename: 1668_PCB1668_PB9B_043AS10__Form6B_SJ2546917.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:50:45

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.13	2.66-3.60	24.9	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.10	2.66-3.60	26.2	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.60	1.33-1.79	25.5	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.59	1.33-1.79	28.2	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.07	0.88-1.20	26.4	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.04	0.88-1.20	24.9	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.83	0.65-0.89	49.2	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.80	0.65-0.89	50.2	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.65-0.89	50.8	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.60	1.32-1.78	51.3	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.56	1.32-1.78	50.7	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.59	1.32-1.78	48.9	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.58	1.32-1.78	47.8	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.59	1.32-1.78	55.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.62	1.32-1.78	53.4	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.27	1.05-1.43	51.4	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.26	1.05-1.43	102	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.27	1.05-1.43	54.6	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.30	1.05-1.43	53.7	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.06	0.89-1.21	48.8	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.04	0.89-1.21	49.0	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	78.6	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.93	0.76-1.02	74.9	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.80	0.65-0.89	72.6	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.80	0.65-0.89	78.3	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.18	0.99-1.33	69.6	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:50:45

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.23	2.66-3.60	111	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.19	2.66-3.60	97.9	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.65	1.33-1.79	94.2	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.63	1.33-1.79	81.6	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	85.5	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.01	0.88-1.20	97.0	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.85	0.65-0.89	110	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.80	0.65-0.89	89.8	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.80	0.65-0.89	92.1	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.56	1.32-1.78	89.1	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.55	1.32-1.78	97.7	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.59	1.32-1.78	95.0	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.53	1.32-1.78	89.8	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.51	1.32-1.78	90.5	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.56	1.32-1.78	99.2	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.28	1.05-1.43	85.3	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.32	1.05-1.43	193	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.30	1.05-1.43	95.5	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.28	1.05-1.43	105	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	72.3	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.07	0.89-1.21	95.8	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.92	0.76-1.02	80.5	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.95	0.76-1.02	94.5	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.79	0.65-0.89	96.3	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.80	0.65-0.89	84.0	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.21	0.99-1.33	101	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.00	0.88-1.20	118	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.32-1.78	91.0	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.06	0.89-1.21	94.5	60.0 - 130

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:50:45

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.000	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.002	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.001	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.001	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.001	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:50:45

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.718	0.687-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.857	0.825-0.888
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.842-0.904
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.253	1.221-1.284
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.090	1.070-1.109
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.810	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.394	1.381-1.407
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.371	1.357-1.384
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.809	0.799-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.199	1.189-1.210
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.168-1.189
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.140-1.161
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.300	1.289-1.310
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.787	0.779-0.795
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.107	1.099-1.115
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.190	1.182-1.198
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.713	0.707-0.719
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.818	0.812-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.066-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.924	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.004-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

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

Initial Calibration Date: 09-Nov-2018 **CAL Data Filename:** PB9B_044 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 15-Apr-2019

GC Column ID: SPB OCTYL **Analysis Time:** 20:50:45

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			1.20	**M/M+2**	3.10	2.66-3.60	0.989	0.985 - 0.993
2,3-DiCB	5			1.32	**M/M+2**	1.72	1.33-1.79	1.199	1.195 - 1.202
2,3'-DiCB	6			1.46	**M/M+2**	1.60	1.33-1.79	1.176	1.173 - 1.180
2,4-DiCB	7			1.44	**M/M+2**	1.58	1.33-1.79	1.160	1.156 - 1.163
2,4'-DiCB	8			1.60	**M/M+2**	1.59	1.33-1.79	1.208	1.205 - 1.212
2,5-DiCB	9			1.56	**M/M+2**	1.59	1.33-1.79	1.146	1.143 - 1.150
2,6-DiCB	10			1.47	**M/M+2**	1.61	1.33-1.79	1.013	1.010 - 1.017
3,3'-DiCB	11			1.37	**M/M+2**	1.62	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.35	**M/M+2**	1.60	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.39	**M/M+2**	1.59	1.33-1.79	0.926	0.924 - 0.929
2,2',3-TriCB	16			0.82	**M/M+2**	1.06	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			0.95	**M/M+2**	1.07	0.88-1.20	1.139	1.136 - 1.142
2,2',5-TriCB	18	18 + 30	C	1.12	**M/M+2**	1.07	0.88-1.20	1.113	1.111 - 1.116
2,3,3'-TriCB	20	20 + 28	C	1.67	**M/M+2**	1.03	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.65	**M/M+2**	1.04	0.88-1.20	0.856	0.853 - 0.859
2,3,4'-TriCB	22			1.45	**M/M+2**	1.04	0.88-1.20	0.873	0.871 - 0.875
2,3,5-TriCB	23			1.52	**M/M+2**	1.03	0.88-1.20	1.283	1.280 - 1.286
2,3,6-TriCB	24			1.25	**M/M+2**	1.07	0.88-1.20	1.160	1.157 - 1.163
2,3',4-TriCB	25			1.82	**M/M+2**	1.04	0.88-1.20	0.827	0.825 - 0.828
2,3',5-TriCB	26	26 + 29	C	1.60	**M/M+2**	1.04	0.88-1.20	1.303	1.298 - 1.307
2,3',6-TriCB	27			1.39	**M/M+2**	1.09	0.88-1.20	1.152	1.149 - 1.155
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			1.76	**M/M+2**	1.04	0.88-1.20	0.837	0.836 - 0.839
2,4',6-TriCB	32			1.68	**M/M+2**	1.03	0.88-1.20	1.198	1.195 - 1.201
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.56	**M/M+2**	1.04	0.88-1.20	1.274	1.272 - 1.277
3,3',4-TriCB	35			1.35	**M/M+2**	1.04	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.49	**M/M+2**	1.04	0.88-1.20	0.932	0.931 - 0.934
3,4,5-TriCB	38			1.52	**M/M+2**	1.05	0.88-1.20	0.968	0.967 - 0.970
3,4',5-TriCB	39			1.50	**M/M+2**	1.03	0.88-1.20	0.946	0.945 - 0.948
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.76	**M/M+2**	0.82	0.65-0.89	1.335	1.331 - 1.339
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.71	**M/M+2**	0.82	0.65-0.89	1.312	1.309 - 1.314
2,2',3,5-TeCB	43			0.65	**M/M+2**	0.84	0.65-0.89	1.247	1.245 - 1.250
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.85	**M/M+2**	0.83	0.65-0.89	1.286	1.282 - 1.291
2,2',3,6-TeCB	45	45 + 51	C	0.84	**M/M+2**	0.81	0.65-0.89	1.148	1.144 - 1.152
2,2',3,6'-TeCB	46			0.72	**M/M+2**	0.82	0.65-0.89	1.161	1.159 - 1.164
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.74	**M/M+2**	0.83	0.65-0.89	1.274	1.272 - 1.277
2,2',4,5'-TeCB	49	49 + 69	C	0.91	**M/M+2**	0.83	0.65-0.89	1.259	1.255 - 1.263
2,2',4,6-TeCB	50	50 + 53	C	0.86	**M/M+2**	0.81	0.65-0.89	1.112	1.108 - 1.116
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.83	**M/M+2**	0.82	0.65-0.89	1.235	1.232 - 1.237
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			1.08	**M/M+2**	0.82	0.65-0.89	0.890	0.888 - 0.891
2,3,3',4'-TeCB	56			1.09	**M/M+2**	0.80	0.65-0.89	0.905	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.19	**M/M+2**	0.79	0.65-0.89	0.845	0.843 - 0.846
2,3,3',5'-TeCB	58			1.13	**M/M+2**	0.80	0.65-0.89	0.852	0.851 - 0.853
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.05	**M/M+2**	0.83	0.65-0.89	1.303	1.299 - 1.307
2,3,4,4'-TeCB	60			1.12	**M/M+2**	0.80	0.65-0.89	0.911	0.910 - 0.913
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.20	**M/M+2**	0.80	0.65-0.89	0.875	0.872 - 0.878
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			1.21	**M/M+2**	0.79	0.65-0.89	0.865	0.864 - 0.866
2,3,4',6-TeCB	64			1.05	**M/M+2**	0.82	0.65-0.89	1.348	1.345 - 1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			1.18	**M/M+2**	0.81	0.65-0.89	0.885	0.883 - 0.886
2,3',4,5-TeCB	67			1.35	**M/M+2**	0.79	0.65-0.89	0.857	0.856 - 0.859
2,3',4,5'-TeCB	68			1.25	**M/M+2**	0.80	0.65-0.89	0.832	0.831 - 0.834
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			1.26	**M/M+2**	0.80	0.65-0.89	0.823	0.822 - 0.825
2,3',5',6-TeCB	73			1.02	**M/M+2**	0.83	0.65-0.89	1.242	1.240 - 1.245
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			1.12	**M/M+2**	0.80	0.65-0.89	0.987	0.986 - 0.989
3,3',4,5'-TeCB	79			1.39	**M/M+2**	0.79	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.24	**M/M+2**	0.80	0.65-0.89	0.925	0.923 - 0.926
2,2',3,3',4-PeCB	82			0.67	**M+2/M+4**	1.59	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.71	**M+2/M+4**	1.58	1.32-1.78	0.884	0.882 - 0.887
2,2',3,3',6-PeCB	84			0.67	**M+2/M+4**	1.57	1.32-1.78	1.163	1.161 - 1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	0.90	**M+2/M+4**	1.60	1.32-1.78	0.920	0.917 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.88	**M+2/M+4**	1.60	1.32-1.78	0.901	0.897 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	0.76	**M+2/M+4**	1.60	1.32-1.78	1.152	1.148 - 1.156
2,2',3,4,6'-PeCB	89			0.71	**M+2/M+4**	1.62	1.32-1.78	1.182	1.180 - 1.184
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.87	**M+2/M+4**	1.59	1.32-1.78	0.869	0.867 - 0.871
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.74	**M+2/M+4**	1.60	1.32-1.78	0.853	0.852 - 0.855
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.79	**M+2/M+4**	1.59	1.32-1.78	1.130	1.119 - 1.140
2,2',3,5,6'-PeCB	94			0.71	**M+2/M+4**	1.57	1.32-1.78	1.102	1.100 - 1.104
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			0.91	**M+2/M+4**	1.56	1.32-1.78	1.015	1.012 - 1.019
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			0.87	**M+2/M+4**	1.58	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			1.21	**M+2/M+4**	1.59	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	1.12	**M+2/M+4**	1.61	1.32-1.78	0.991	0.988 - 0.993
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3,3',4,6-PeCB	109			1.19	**M+2/M+4**	1.58	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.03	**M+2/M+4**	1.57	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.02	**M+2/M+4**	1.58	1.32-1.78	0.946	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.07	**M+2/M+4**	1.59	1.32-1.78	0.889	0.888 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.08	**M+2/M+4**	1.59	1.32-1.78	0.959	0.957 - 0.960
2,3',4,5',6-PeCB	121			0.99	**M+2/M+4**	1.59	1.32-1.78	1.199	1.197 - 1.201
2',3,3',4,5-PeCB	122			1.09	**M+2/M+4**	1.59	1.32-1.78	1.010	1.009 - 1.012
2',3,4,5,5'-PeCB	124	107 + 124	C107						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			1.29	**M+2/M+4**	1.61	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.05	**M+2/M+4**	1.28	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.03	**M+2/M+4**	1.28	1.05-1.43	0.930	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.81	**M+2/M+4**	1.29	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.77	**M+2/M+4**	1.26	1.05-1.43	1.158	1.157 - 1.160
2,2',3,3',4,6'-HxCB	132			0.76	**M+2/M+4**	1.29	1.05-1.43	1.173	1.170 - 1.175
2,2',3,3',5,5'-HxCB	133			0.81	**M+2/M+4**	1.26	1.05-1.43	1.190	1.189 - 1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.78	**M+2/M+4**	1.30	1.05-1.43	1.140	1.138 - 1.143
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.71	**M+2/M+4**	1.28	1.05-1.43	1.106	1.100 - 1.112
2,2',3,3',6,6'-HxCB	136			0.90	**M+2/M+4**	1.27	1.05-1.43	1.023	1.021 - 1.024
2,2',3,4,4',5-HxCB	137			0.84	**M+2/M+4**	1.29	1.05-1.43	0.918	0.917 - 0.920
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.88	**M+2/M+4**	1.29	1.05-1.43	1.152	1.150 - 1.155
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.91	**M+2/M+4**	1.30	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.79	**M+2/M+4**	1.27	1.05-1.43	1.163	1.162 - 1.165
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.70	**M+2/M+4**	1.24	1.05-1.43	1.120	1.119 - 1.122
2,2',3,4,6,6'-HxCB	145			0.84	**M+2/M+4**	1.26	1.05-1.43	1.033	1.032 - 1.035
2,2',3,4',5,5'-HxCB	146			1.03	**M+2/M+4**	1.29	1.05-1.43	0.885	0.883 - 0.886
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.87	**M+2/M+4**	1.27	1.05-1.43	1.132	1.129 - 1.135
2,2',3,4',5,6'-HxCB	148			0.67	**M+2/M+4**	1.28	1.05-1.43	1.083	1.082 - 1.085
2,2',3,4',5',6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			0.90	**M+2/M+4**	1.27	1.05-1.43	1.012	1.010 - 1.014
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			0.97	**M+2/M+4**	1.25	1.05-1.43	1.006	1.004 - 1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.13	**M+2/M+4**	1.27	1.05-1.43	0.899	0.897 - 0.901
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.36	**M+2/M+4**	1.28	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.27	**M+2/M+4**	1.28	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.19	**M+2/M+4**	1.29	1.05-1.43	0.888	0.886 - 0.889
2,3,3',4',5,5'-HxCB	162			1.27	**M+2/M+4**	1.29	1.05-1.43	0.989	0.988 - 0.990
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.29	**M+2/M+4**	1.29	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.04	**M+2/M+4**	1.30	1.05-1.43	0.879	0.877 - 0.880
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5',6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.21	**M+2/M+4**	1.05	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.67	**M+2/M+4**	1.04	0.89-1.21	1.161	1.159 - 1.163
2,2',3,3',4,5,5'-HpCB	172			0.66	**M+2/M+4**	1.03	0.89-1.21	0.897	0.896 - 0.898
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.72	**M+2/M+4**	1.08	0.89-1.21	1.132	1.131 - 1.134
2,2',3,3',4,5',6-HpCB	175			0.74	**M+2/M+4**	1.05	0.89-1.21	1.102	1.100 - 1.103
2,2',3,3',4,6,6'-HpCB	176			0.92	**M+2/M+4**	1.05	0.89-1.21	1.033	1.032 - 1.035
2,2',3,3',4',5,6-HpCB	177			0.90	**M+2/M+4**	1.06	0.89-1.21	1.144	1.143 - 1.145
2,2',3,3',5,5',6-HpCB	178			0.70	**M+2/M+4**	1.05	0.89-1.21	1.084	1.083 - 1.085
2,2',3,3',5,6,6'-HpCB	179			0.88	**M+2/M+4**	1.06	0.89-1.21	1.009	1.008 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.07	**M+2/M+4**	1.06	0.89-1.21	0.999	0.998 - 1.000
2,2',3,4,4',5,6-HpCB	181			0.71	**M+2/M+4**	1.06	0.89-1.21	1.156	1.154 - 1.157
2,2',3,4,4',5,6'-HpCB	182			0.74	**M+2/M+4**	1.08	0.89-1.21	1.115	1.113 - 1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.73	**M+2/M+4**	1.05	0.89-1.21	1.128	1.126 - 1.129
2,2',3,4,4',6,6'-HpCB	184			0.94	**M+2/M+4**	1.06	0.89-1.21	1.025	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			0.87	**M+2/M+4**	1.06	0.89-1.21	1.046	1.045 - 1.047
2,2',3,4',5,5',6-HpCB	187			0.76	**M+2/M+4**	1.06	0.89-1.21	1.109	1.108 - 1.110
2,3,3',4,4',5,6-HpCB	190			0.95	**M+2/M+4**	1.04	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5',6-HpCB	191			0.94	**M+2/M+4**	1.07	0.89-1.21	0.918	0.917 - 0.919
2,3,3',4,5,5',6-HpCB	192			0.84	**M+2/M+4**	1.05	0.89-1.21	0.903	0.902 - 0.904
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.96	**M+2/M+4**	0.93	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.80	**M+2/M+4**	0.94	0.76-1.02	0.946	0.945 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.66	**M+2/M+4**	0.91	0.76-1.02	0.916	0.915 - 0.917

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.85	**M+2/M+4**	0.91	0.76-1.02	1.046	1.043 - 1.049
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.62	**M+2/M+4**	0.91	0.76-1.02	1.114	1.112 - 1.116
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			0.84	**M+2/M+4**	0.90	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.68	**M+2/M+4**	0.91	0.76-1.02	0.920	0.919 - 0.921
2,2',3,4,4',5,6,6'-OcCB	204			0.84	**M+2/M+4**	0.91	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.14	**M+2/M+4**	0.81	0.65-0.89	1.020	1.019 - 1.021

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
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Initial Calibration Date:	09-Nov-2018	**CAL Data Filename:**	PB9B_044 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:50:45

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.09	**M/M+2**	3.23	2.66-3.60	0.718	0.703 - 0.734
13C12-4-MoCB	3L			0.95	**M/M+2**	3.19	2.66-3.60	0.857	0.841 - 0.872
13C12-2,2'-DiCB	4L			0.60	**M/M+2**	1.65	1.33-1.79	0.873	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.88	**M/M+2**	1.63	1.33-1.79	1.253	1.237 - 1.268
13C12-2,2',6-TriCB	19L			0.43	**M/M+2**	1.07	0.88-1.20	1.072	1.056 - 1.087
13C12-3,4,4'-TriCB	37L			1.82	**M/M+2**	1.01	0.88-1.20	1.090	1.080 - 1.099
13C12-2,2',6,6'-TeCB	54L			1.47	**M/M+2**	0.85	0.65-0.89	0.810	0.804 - 0.817
13C12-3,3',4,4'-TeCB	77L			1.46	**M/M+2**	0.80	0.65-0.89	1.394	1.387 - 1.401
13C12-3,4,4',5-TeCB	81L			1.48	**M/M+2**	0.80	0.65-0.89	1.371	1.364 - 1.377
13C12-2,2',4,6,6'-PeCB	104L			1.03	**M+2/M+4**	1.56	1.32-1.78	0.809	0.804 - 0.814
13C12-2,3,3',4,4'-PeCB	105L			1.51	**M+2/M+4**	1.55	1.32-1.78	1.199	1.194 - 1.205
13C12-2,3,4,4',5-PeCB	114L			1.44	**M+2/M+4**	1.59	1.32-1.78	1.179	1.174 - 1.184
13C12-2,3',4,4',5-PeCB	118L			1.42	**M+2/M+4**	1.53	1.32-1.78	1.162	1.157 - 1.167
13C12-2',3,4,4',5-PeCB	123L			1.45	**M+2/M+4**	1.51	1.32-1.78	1.151	1.146 - 1.156
13C12-3,3',4,4',5-PeCB	126L			1.46	**M+2/M+4**	1.56	1.32-1.78	1.300	1.294 - 1.305
13C12-2,2',4,4',6,6'-HxCB	155L			1.00	**M+2/M+4**	1.28	1.05-1.43	0.787	0.783 - 0.791
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.26	**M+2/M+4**	1.32	1.05-1.43	1.107	1.103 - 1.111
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.22	**M+2/M+4**	1.30	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.34	**M+2/M+4**	1.28	1.05-1.43	1.190	1.186 - 1.194
13C12-2,2',3,3',4,4',5-HpCB	170L			0.78	**M+2/M+4**	1.06	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			0.94	**M+2/M+4**	1.08	0.89-1.21	0.873	0.870 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.19	**M+2/M+4**	1.06	0.89-1.21	0.713	0.710 - 0.716
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.54	**M+2/M+4**	1.07	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.02	**M+2/M+4**	0.92	0.76-1.02	0.818	0.815 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.41	**M+2/M+4**	0.95	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.95	**M+2/M+4**	0.79	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.06	**M+2/M+4**	0.80	0.65-0.89	0.949	0.946 - 0.952

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:29:42

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.12	2.66-3.60	25.2	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.12	2.66-3.60	26.3	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.60	1.33-1.79	25.5	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.57	1.33-1.79	29.5	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.08	0.88-1.20	27.4	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.05	0.88-1.20	25.5	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.85	0.65-0.89	49.8	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.79	0.65-0.89	50.9	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.65-0.89	53.3	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.58	1.32-1.78	52.3	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.59	1.32-1.78	52.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.62	1.32-1.78	50.6	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.56	1.32-1.78	47.8	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.58	1.32-1.78	49.8	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.60	1.32-1.78	51.1	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.29	1.05-1.43	50.4	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.28	1.05-1.43	103	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.28	1.05-1.43	56.1	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.29	1.05-1.43	53.6	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.06	0.89-1.21	49.5	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.03	0.89-1.21	49.6	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	78.2	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.94	0.76-1.02	73.7	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.80	0.65-0.89	70.8	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.80	0.65-0.89	79.5	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.17	0.99-1.33	68.5	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:29:42

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.25	2.66-3.60	112	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.17	2.66-3.60	104	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.62	1.33-1.79	98.7	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.64	1.33-1.79	85.5	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	79.9	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.03	0.88-1.20	104	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.84	0.65-0.89	104	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.81	0.65-0.89	96.8	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.81	0.65-0.89	97.7	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.56	1.32-1.78	83.9	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.50	1.32-1.78	102	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.54	1.32-1.78	105	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.57	1.32-1.78	101	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.56	1.32-1.78	103	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.51	1.32-1.78	105	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.27	1.05-1.43	81.7	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.05-1.43	222	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.31	1.05-1.43	107	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.29	1.05-1.43	120	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.08	0.89-1.21	60.8	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.07	0.89-1.21	104	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.91	0.76-1.02	71.5	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.96	0.76-1.02	91.9	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.80	0.65-0.89	96.4	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.81	0.65-0.89	82.5	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.20	0.99-1.33	102	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.00	0.88-1.20	121	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.59	1.32-1.78	95.0	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.06	0.89-1.21	96.1	60.0 - 130

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:29:42

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.001	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.000	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.001	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.001	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_044 S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:29:42

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.718	0.687-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.856	0.825-0.888
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.842-0.904
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.252	1.221-1.283
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.090	1.070-1.110
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.394	1.381-1.408
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.371	1.358-1.384
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.809	0.798-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.199	1.189-1.210
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.168-1.189
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.161	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.161
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.300	1.289-1.310
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.787	0.779-0.795
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.107	1.099-1.115
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.190	1.182-1.199
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.713	0.706-0.719
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.818	0.812-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.010	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.044	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.956
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.066-1.085
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.924	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.087	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.004-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:12:06

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.08	2.66-3.60	25.4	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.07	2.66-3.60	26.2	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.59	1.33-1.79	25.7	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.58	1.33-1.79	30.3	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.08	0.88-1.20	26.8	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.04	0.88-1.20	25.9	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.83	0.65-0.89	46.2	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.81	0.65-0.89	48.6	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.65-0.89	51.7	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.59	1.32-1.78	50.5	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.49	1.32-1.78	52.3	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.59	1.32-1.78	51.0	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.51	1.32-1.78	49.1	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.53	1.32-1.78	54.7	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.54	1.32-1.78	53.3	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.25	1.05-1.43	51.2	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.28	1.05-1.43	99.4	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.32	1.05-1.43	53.2	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.34	1.05-1.43	56.3	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.03	0.89-1.21	51.1	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.03	0.89-1.21	49.3	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.93	0.76-1.02	78.7	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.94	0.76-1.02	74.3	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.79	0.65-0.89	73.4	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.79	0.65-0.89	80.1	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.21	0.99-1.33	68.3	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:12:06

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.28	2.66-3.60	113	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.18	2.66-3.60	107	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.64	1.33-1.79	100	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.62	1.33-1.79	88.7	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	87.1	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	94.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.81	0.65-0.89	104	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.80	0.65-0.89	98.2	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.79	0.65-0.89	94.1	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.59	1.32-1.78	89.4	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.54	1.32-1.78	101	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.58	1.32-1.78	101	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.54	1.32-1.78	99.0	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.53	1.32-1.78	94.7	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.57	1.32-1.78	115	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.29	1.05-1.43	77.1	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.33	1.05-1.43	181	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.34	1.05-1.43	88.2	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.29	1.05-1.43	88.6	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.08	0.89-1.21	69.8	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.06	0.89-1.21	101	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.93	0.76-1.02	73.6	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.97	0.76-1.02	87.4	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.81	0.65-0.89	82.7	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.81	0.65-0.89	82.3	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.19	0.99-1.33	77.9	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.01	0.88-1.20	107	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.32-1.78	101	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.06	0.89-1.21	91.8	60.0 - 130

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:12:06

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.002	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.000	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.001	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.000	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:12:06

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.718	0.687-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.856	0.825-0.888
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.842-0.904
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.253	1.222-1.284
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.090	1.070-1.110
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.395	1.382-1.408
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.372	1.359-1.385
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.809	0.798-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.199	1.189-1.210
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.168-1.189
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.161	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.161
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.300	1.289-1.310
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.787	0.779-0.795
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.107	1.099-1.115
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.190	1.182-1.199
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.713	0.706-0.719
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.818	0.812-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.010	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.044	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.956
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.066-1.085
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.924	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.088	1.078-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.004-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

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

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 18-Apr-2019 17:10:23; Application: XMLTransformer-1.17.7; Report Filename: 1668_PCB1668_PB9B_046S1__Form6B_SJ2547911.html; Workgroup: WG67275; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

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

Initial Calibration Date: 09-Nov-2018 **CAL Data Filename:** PB9B_046 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 16-Apr-2019

GC Column ID: SPB OCTYL **Analysis Time:** 20:12:06

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			1.23	**M/M+2**	3.06	2.66-3.60	0.989	0.985 - 0.993
2,3-DiCB	5			1.29	**M/M+2**	1.58	1.33-1.79	1.198	1.194 - 1.201
2,3'-DiCB	6			1.47	**M/M+2**	1.58	1.33-1.79	1.175	1.172 - 1.179
2,4-DiCB	7			1.43	**M/M+2**	1.59	1.33-1.79	1.159	1.155 - 1.162
2,4'-DiCB	8			1.62	**M/M+2**	1.57	1.33-1.79	1.207	1.204 - 1.211
2,5-DiCB	9			1.47	**M/M+2**	1.59	1.33-1.79	1.147	1.143 - 1.150
2,6-DiCB	10			1.45	**M/M+2**	1.59	1.33-1.79	1.013	1.010 - 1.017
3,3'-DiCB	11			1.33	**M/M+2**	1.58	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.35	**M/M+2**	1.59	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.40	**M/M+2**	1.59	1.33-1.79	0.926	0.924 - 0.929
2,2',3-TriCB	16			0.78	**M/M+2**	1.06	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			0.95	**M/M+2**	1.08	0.88-1.20	1.139	1.136 - 1.142
2,2',5-TriCB	18	18 + 30	C	1.09	**M/M+2**	1.08	0.88-1.20	1.113	1.110 - 1.116
2,3,3'-TriCB	20	20 + 28	C	1.67	**M/M+2**	1.05	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.70	**M/M+2**	1.05	0.88-1.20	0.856	0.853 - 0.859
2,3,4'-TriCB	22			1.53	**M/M+2**	1.04	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			1.57	**M/M+2**	1.05	0.88-1.20	1.283	1.281 - 1.286
2,3,6-TriCB	24			1.21	**M/M+2**	1.05	0.88-1.20	1.160	1.157 - 1.163
2,3',4-TriCB	25			1.91	**M/M+2**	1.03	0.88-1.20	0.826	0.824 - 0.828
2,3',5-TriCB	26	26 + 29	C	1.66	**M/M+2**	1.04	0.88-1.20	1.303	1.298 - 1.308
2,3',6-TriCB	27			1.34	**M/M+2**	1.08	0.88-1.20	1.152	1.150 - 1.155
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			1.87	**M/M+2**	1.04	0.88-1.20	0.837	0.836 - 0.839
2,4',6-TriCB	32			1.75	**M/M+2**	1.03	0.88-1.20	1.198	1.195 - 1.201
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.60	**M/M+2**	1.05	0.88-1.20	1.275	1.272 - 1.278
3,3',4-TriCB	35			1.50	**M/M+2**	1.06	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.66	**M/M+2**	1.05	0.88-1.20	0.932	0.931 - 0.934
3,4,5-TriCB	38			1.68	**M/M+2**	1.08	0.88-1.20	0.968	0.966 - 0.970
3,4',5-TriCB	39			1.67	**M/M+2**	1.04	0.88-1.20	0.946	0.944 - 0.948
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.70	**M/M+2**	0.83	0.65-0.89	1.335	1.331 - 1.339
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.67	**M/M+2**	0.82	0.65-0.89	1.311	1.309 - 1.314
2,2',3,5-TeCB	43			0.57	**M/M+2**	0.84	0.65-0.89	1.247	1.244 - 1.249
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.80	**M/M+2**	0.82	0.65-0.89	1.287	1.283 - 1.291
2,2',3,6-TeCB	45	45 + 51	C	0.73	**M/M+2**	0.83	0.65-0.89	1.147	1.143 - 1.152
2,2',3,6'-TeCB	46			0.62	**M/M+2**	0.83	0.65-0.89	1.161	1.159 - 1.164
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.70	**M/M+2**	0.83	0.65-0.89	1.274	1.272 - 1.277
2,2',4,5'-TeCB	49	49 + 69	C	0.86	**M/M+2**	0.83	0.65-0.89	1.259	1.255 - 1.263
2,2',4,6-TeCB	50	50 + 53	C	0.77	**M/M+2**	0.83	0.65-0.89	1.112	1.108 - 1.116
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.79	**M/M+2**	0.83	0.65-0.89	1.234	1.232 - 1.237
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			1.08	**M/M+2**	0.83	0.65-0.89	0.889	0.888 - 0.891
2,3,3',4'-TeCB	56			1.05	**M/M+2**	0.80	0.65-0.89	0.905	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.14	**M/M+2**	0.77	0.65-0.89	0.844	0.843 - 0.846
2,3,3',5'-TeCB	58			1.09	**M/M+2**	0.79	0.65-0.89	0.851	0.850 - 0.853
2,3,3',6-TeCB	59	59 + 62 + 75	C	0.99	**M/M+2**	0.83	0.65-0.89	1.302	1.298 - 1.306
2,3,4,4'-TeCB	60			1.09	**M/M+2**	0.80	0.65-0.89	0.911	0.909 - 0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.16	**M/M+2**	0.80	0.65-0.89	0.874	0.871 - 0.877
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			1.20	**M/M+2**	0.80	0.65-0.89	0.864	0.863 - 0.866
2,3,4',6-TeCB	64			0.97	**M/M+2**	0.84	0.65-0.89	1.348	1.346 - 1.351
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			1.18	**M/M+2**	0.80	0.65-0.89	0.884	0.883 - 0.886
2,3',4,5-TeCB	67			1.31	**M/M+2**	0.79	0.65-0.89	0.857	0.855 - 0.858
2,3',4,5'-TeCB	68			1.20	**M/M+2**	0.79	0.65-0.89	0.832	0.830 - 0.833
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			1.19	**M/M+2**	0.80	0.65-0.89	0.823	0.822 - 0.825
2,3',5',6-TeCB	73			1.00	**M/M+2**	0.81	0.65-0.89	1.242	1.240 - 1.245
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			1.10	**M/M+2**	0.79	0.65-0.89	0.987	0.986 - 0.989
3,3',4,5'-TeCB	79			1.37	**M/M+2**	0.80	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.20	**M/M+2**	0.80	0.65-0.89	0.924	0.923 - 0.925
2,2',3,3',4-PeCB	82			0.66	**M+2/M+4**	1.59	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.69	**M+2/M+4**	1.57	1.32-1.78	0.884	0.881 - 0.887
2,2',3,3',6-PeCB	84			0.64	**M+2/M+4**	1.57	1.32-1.78	1.162	1.160 - 1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	0.87	**M+2/M+4**	1.62	1.32-1.78	0.919	0.916 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.84	**M+2/M+4**	1.61	1.32-1.78	0.901	0.897 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	0.73	**M+2/M+4**	1.60	1.32-1.78	1.152	1.148 - 1.156
2,2',3,4,6'-PeCB	89			0.67	**M+2/M+4**	1.61	1.32-1.78	1.181	1.179 - 1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.83	**M+2/M+4**	1.59	1.32-1.78	0.869	0.867 - 0.871
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.70	**M+2/M+4**	1.59	1.32-1.78	0.853	0.852 - 0.855
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.74	**M+2/M+4**	1.60	1.32-1.78	1.129	1.118 - 1.140
2,2',3,5,6'-PeCB	94			0.67	**M+2/M+4**	1.56	1.32-1.78	1.102	1.100 - 1.104
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			0.86	**M+2/M+4**	1.61	1.32-1.78	1.015	1.012 - 1.019
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			0.82	**M+2/M+4**	1.60	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			1.26	**M+2/M+4**	1.55	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	1.19	**M+2/M+4**	1.56	1.32-1.78	0.990	0.988 - 0.992
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3,3',4,6-PeCB	109			1.34	**M+2/M+4**	1.53	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	0.99	**M+2/M+4**	1.61	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.08	**M+2/M+4**	1.62	1.32-1.78	0.946	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.00	**M+2/M+4**	1.59	1.32-1.78	0.889	0.888 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.27	**M+2/M+4**	1.60	1.32-1.78	0.959	0.957 - 0.960
2,3',4,5',6-PeCB	121			0.95	**M+2/M+4**	1.60	1.32-1.78	1.199	1.197 - 1.201
2',3,3',4,5-PeCB	122			1.15	**M+2/M+4**	1.55	1.32-1.78	1.010	1.009 - 1.012
2',3,4,5,5'-PeCB	124	107 + 124	C107						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			1.38	**M+2/M+4**	1.57	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.09	**M+2/M+4**	1.27	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.10	**M+2/M+4**	1.28	1.05-1.43	0.930	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.86	**M+2/M+4**	1.28	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.75	**M+2/M+4**	1.25	1.05-1.43	1.158	1.157 - 1.160
2,2',3,3',4,6'-HxCB	132			0.73	**M+2/M+4**	1.27	1.05-1.43	1.173	1.170 - 1.175
2,2',3,3',5,5'-HxCB	133			0.78	**M+2/M+4**	1.29	1.05-1.43	1.190	1.189 - 1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.85	**M+2/M+4**	1.30	1.05-1.43	1.140	1.138 - 1.143
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.82	**M+2/M+4**	1.25	1.05-1.43	1.106	1.100 - 1.111
2,2',3,3',6,6'-HxCB	136			0.89	**M+2/M+4**	1.27	1.05-1.43	1.022	1.021 - 1.024
2,2',3,4,4',5-HxCB	137			0.86	**M+2/M+4**	1.26	1.05-1.43	0.918	0.917 - 0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.85	**M+2/M+4**	1.27	1.05-1.43	1.152	1.149 - 1.155
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.97	**M+2/M+4**	1.29	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.78	**M+2/M+4**	1.32	1.05-1.43	1.163	1.162 - 1.165
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.86	**M+2/M+4**	1.29	1.05-1.43	1.120	1.119 - 1.122
2,2',3,4,6,6'-HxCB	145			0.85	**M+2/M+4**	1.28	1.05-1.43	1.033	1.031 - 1.034
2,2',3,4',5,5'-HxCB	146			0.97	**M+2/M+4**	1.28	1.05-1.43	0.885	0.883 - 0.886
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.96	**M+2/M+4**	1.30	1.05-1.43	1.132	1.130 - 1.135
2,2',3,4',5,6'-HxCB	148			0.69	**M+2/M+4**	1.26	1.05-1.43	1.083	1.082 - 1.085
2,2',3,4',5',6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			0.88	**M+2/M+4**	1.26	1.05-1.43	1.012	1.010 - 1.014
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			0.95	**M+2/M+4**	1.27	1.05-1.43	1.006	1.004 - 1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.23	**M+2/M+4**	1.27	1.05-1.43	0.899	0.897 - 0.901
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.46	**M+2/M+4**	1.29	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.34	**M+2/M+4**	1.28	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.19	**M+2/M+4**	1.30	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.28	**M+2/M+4**	1.26	1.05-1.43	0.989	0.988 - 0.990
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.40	**M+2/M+4**	1.30	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.00	**M+2/M+4**	1.28	1.05-1.43	0.878	0.877 - 0.880
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5',6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.22	**M+2/M+4**	1.06	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.71	**M+2/M+4**	1.07	0.89-1.21	1.161	1.159 - 1.164
2,2',3,3',4,5,5'-HpCB	172			0.69	**M+2/M+4**	1.10	0.89-1.21	0.897	0.896 - 0.898
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.80	**M+2/M+4**	1.08	0.89-1.21	1.133	1.132 - 1.134
2,2',3,3',4,5',6-HpCB	175			0.80	**M+2/M+4**	1.06	0.89-1.21	1.102	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			0.99	**M+2/M+4**	1.09	0.89-1.21	1.034	1.032 - 1.035
2,2',3,3',4',5,6-HpCB	177			0.77	**M+2/M+4**	1.06	0.89-1.21	1.145	1.143 - 1.146
2,2',3,3',5,5',6-HpCB	178			0.76	**M+2/M+4**	1.07	0.89-1.21	1.085	1.083 - 1.086
2,2',3,3',5,6,6'-HpCB	179			0.92	**M+2/M+4**	1.05	0.89-1.21	1.009	1.008 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.13	**M+2/M+4**	1.07	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.73	**M+2/M+4**	1.06	0.89-1.21	1.156	1.154 - 1.157
2,2',3,4,4',5,6'-HpCB	182			0.80	**M+2/M+4**	1.07	0.89-1.21	1.115	1.114 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.80	**M+2/M+4**	1.06	0.89-1.21	1.127	1.126 - 1.129
2,2',3,4,4',6,6'-HpCB	184			0.98	**M+2/M+4**	1.07	0.89-1.21	1.025	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			0.95	**M+2/M+4**	1.06	0.89-1.21	1.046	1.045 - 1.047
2,2',3,4',5,5',6-HpCB	187			0.82	**M+2/M+4**	1.07	0.89-1.21	1.110	1.108 - 1.111
2,3,3',4,4',5,6-HpCB	190			0.90	**M+2/M+4**	1.06	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5',6-HpCB	191			0.93	**M+2/M+4**	1.06	0.89-1.21	0.918	0.917 - 0.919
2,3,3',4,5,5',6-HpCB	192			0.89	**M+2/M+4**	1.08	0.89-1.21	0.903	0.902 - 0.904
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			1.05	**M+2/M+4**	0.92	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.92	**M+2/M+4**	0.92	0.76-1.02	0.946	0.945 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.64	**M+2/M+4**	0.92	0.76-1.02	0.916	0.915 - 0.917

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.93	**M+2/M+4**	0.94	0.76-1.02	1.046	1.043 - 1.049
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.63	**M+2/M+4**	0.92	0.76-1.02	1.114	1.112 - 1.116
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			0.93	**M+2/M+4**	0.93	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.68	**M+2/M+4**	0.91	0.76-1.02	0.920	0.919 - 0.921
2,2',3,4,4',5,6,6'-OcCB	204			0.90	**M+2/M+4**	0.92	0.76-1.02	1.039	1.038 - 1.041
2,2',3,3',4,4',5,6,6'-NoCB	207			0.67	**M+2/M+4**	0.81	0.65-0.89	1.020	1.019 - 1.021

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**CAL Data Filename:**	PB9B_046 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	16-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	20:12:06

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.11	**M/M+2**	3.28	2.66-3.60	0.718	0.702 - 0.734
13C12-4-MoCB	3L			1.04	**M/M+2**	3.18	2.66-3.60	0.856	0.841 - 0.872
13C12-2,2'-DiCB	4L			0.64	**M/M+2**	1.64	1.33-1.79	0.873	0.857 - 0.889
13C12-4,4'-DiCB	15L			0.96	**M/M+2**	1.62	1.33-1.79	1.253	1.237 - 1.268
13C12-2,2',6-TriCB	19L			0.43	**M/M+2**	1.07	0.88-1.20	1.072	1.056 - 1.087
13C12-3,4,4'-TriCB	37L			1.77	**M/M+2**	1.02	0.88-1.20	1.090	1.080 - 1.100
13C12-2,2',6,6'-TeCB	54L			1.41	**M/M+2**	0.81	0.65-0.89	0.811	0.804 - 0.817
13C12-3,3',4,4'-TeCB	77L			1.59	**M/M+2**	0.80	0.65-0.89	1.395	1.388 - 1.402
13C12-3,4,4',5-TeCB	81L			1.51	**M/M+2**	0.79	0.65-0.89	1.372	1.365 - 1.378
13C12-2,2',4,6,6'-PeCB	104L			1.03	**M+2/M+4**	1.59	1.32-1.78	0.809	0.804 - 0.814
13C12-2,3,3',4,4'-PeCB	105L			1.57	**M+2/M+4**	1.54	1.32-1.78	1.199	1.194 - 1.205
13C12-2,3,4,4',5-PeCB	114L			1.52	**M+2/M+4**	1.58	1.32-1.78	1.179	1.174 - 1.184
13C12-2,3',4,4',5-PeCB	118L			1.56	**M+2/M+4**	1.54	1.32-1.78	1.161	1.156 - 1.166
13C12-2',3,4,4',5-PeCB	123L			1.52	**M+2/M+4**	1.53	1.32-1.78	1.151	1.146 - 1.156
13C12-3,3',4,4',5-PeCB	126L			1.69	**M+2/M+4**	1.57	1.32-1.78	1.300	1.295 - 1.305
13C12-2,2',4,4',6,6'-HxCB	155L			0.90	**M+2/M+4**	1.29	1.05-1.43	0.787	0.783 - 0.791
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.18	**M+2/M+4**	1.33	1.05-1.43	1.107	1.103 - 1.111
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.13	**M+2/M+4**	1.34	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.13	**M+2/M+4**	1.29	1.05-1.43	1.190	1.186 - 1.194
13C12-2,2',3,3',4,4',5-HpCB	170L			0.74	**M+2/M+4**	1.04	0.89-1.21	0.897	0.894 - 0.901
13C12-2,2',3,4,4',5,5'-HpCB	180L			0.92	**M+2/M+4**	1.09	0.89-1.21	0.873	0.870 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.15	**M+2/M+4**	1.08	0.89-1.21	0.713	0.710 - 0.716
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.62	**M+2/M+4**	1.06	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.93	**M+2/M+4**	0.93	0.76-1.02	0.818	0.815 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.30	**M+2/M+4**	0.97	0.76-1.02	1.010	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.81	**M+2/M+4**	0.81	0.65-0.89	1.044	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.04	**M+2/M+4**	0.81	0.65-0.89	0.949	0.946 - 0.952

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	17-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	03:42:08

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.07	2.66-3.60	25.2	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.06	2.66-3.60	26.3	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.59	1.33-1.79	26.3	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.72	1.33-1.79	28.4	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.08	0.88-1.20	26.7	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.03	0.88-1.20	26.0	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.82	0.65-0.89	45.1	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.81	0.65-0.89	48.0	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.80	0.65-0.89	49.2	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.55	1.32-1.78	51.3	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.58	1.32-1.78	52.8	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.62	1.32-1.78	50.4	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.55	1.32-1.78	47.9	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.60	1.32-1.78	54.8	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.64	1.32-1.78	53.2	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.25	1.05-1.43	51.7	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.29	1.05-1.43	100	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.30	1.05-1.43	53.6	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.30	1.05-1.43	52.7	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.06	0.89-1.21	51.3	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.05	0.89-1.21	49.9	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.93	0.76-1.02	77.1	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.92	0.76-1.02	73.8	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.80	0.65-0.89	74.5	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.80	0.65-0.89	80.0	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.23	0.99-1.33	68.2	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER 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:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	17-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	03:42:08

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.27	2.66-3.60	107	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.24	2.66-3.60	102	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.66	1.33-1.79	91.9	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.61	1.33-1.79	84.4	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	86.8	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	93.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.81	0.65-0.89	109	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.81	0.65-0.89	82.9	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.80	0.65-0.89	84.2	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.57	1.32-1.78	92.8	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.56	1.32-1.78	94.9	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.56	1.32-1.78	92.0	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.61	1.32-1.78	89.4	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.61	1.32-1.78	89.1	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.57	1.32-1.78	92.9	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.30	1.05-1.43	97.5	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.05-1.43	191	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.26	1.05-1.43	93.8	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.29	1.05-1.43	101	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.12	0.89-1.21	75.0	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.07	0.89-1.21	101	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.91	0.76-1.02	85.0	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.94	0.76-1.02	95.1	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.82	0.65-0.89	89.3	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.80	0.65-0.89	83.2	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.16	0.99-1.33	86.9	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.02	0.88-1.20	112	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.58	1.32-1.78	88.4	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.06	0.89-1.21	94.3	60.0 - 130

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	17-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	03:42:08

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.002	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.002	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.000	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.000	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.001	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

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

Signed: _____Angela Schlak_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

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

Initial Calibration Date:	09-Nov-2018	**VER Data Filename:**	PB9B_046 S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	17-Apr-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	03:42:08

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.718	0.686-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.857	0.826-0.889
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.842-0.904
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.252	1.221-1.283
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.090	1.070-1.110
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.810	0.797-0.823
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.395	1.381-1.408
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.371	1.358-1.385
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.809	0.798-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.199	1.189-1.209
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.168-1.189
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.161	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.150	1.140-1.161
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.299	1.289-1.310
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.787	0.778-0.795
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.107	1.099-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.191	1.183-1.199
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.713	0.706-0.719
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.952-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.818	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.044	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.956
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.066-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.924	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.087	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.004-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

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Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
BFR	BTBPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y										
	DBDPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y										
	HBB	SGS AXYS MLA-033	MLA-033		Y											Y							Y										
	PBEB	SGS AXYS MLA-033	MLA-033		Y											Y							Y										
Bisphenols	Bisphenol A	SGS AXYS MLA-113	MLA-113		Y																		Y										
	Bisphenol AF	SGS AXYS MLA-113	MLA-113		Y																		Y										
	Bisphenol B	SGS AXYS MLA-113	MLA-113		Y																		Y										
	Bisphenol E	SGS AXYS MLA-113	MLA-113		Y																		Y										
	Bisphenol F	SGS AXYS MLA-113	MLA-113		Y																		Y										
	Bisphenol S	SGS AXYS MLA-113	MLA-113		Y																		Y										
BPA and MPE	4,4'-dihydroxy-2,2-diphenylpropane (Bisphenol A) (BPA)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(3-carboxypropyl) phthalate (MCPP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-2-ethylhexyl phthalate (MEHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-benzyl phthalate (MBzP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-butyl phthalate (MBP) (n + iso)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-cyclohexyl phthalate (MCHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-ethyl phthalate (MEP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-iso-nonyl phthalate (MiNP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-methyl phthalate (MMP)	SGS AXYS MLA-059	MLA-059																			Y											
HBCDD	alpha-hexabromocyclododecane (a-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	beta-hexabromocyclododecane (b-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	gamma-hexabromocyclododecane (g-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
OC Pesticides	"Organochlorine Pesticides" category (CA only)	EPA 608	MLA-007																					Y									
		EPA 625	MLA-007																					Y									
		EPA 8081	MLA-007			Y																											
	"Pesticides" category (CA only)	EPA 8270	MLA-007			Y																											
	2,4'-DDD	EPA 625	MLA-007																						Y								Y
		EPA 8270	MLA-007				Y						Y		Y																			
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDE	EPA 625	MLA-007																						Y								Y
		EPA 8270	MLA-007				Y						Y		Y																			
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDT	EPA 625	MLA-007																						Y								Y
		EPA 8270	MLA-007				Y						Y		Y																			
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDD	EPA 625	MLA-007																						Y				Y	Y		Y	Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDE	EPA 625	MLA-007																						Y				Y	Y		Y	Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				

Accreditation Scope

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

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	4,4'-DDT	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Aldrin	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Alpha-HCH	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Beta-HCH	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Chlordane, technical	EPA 8270	MLA-007				Y			Y	Y		Y	Y											Y				Y	Y		Y		Y	
		SGS AXYS MLA-007	MLA-007				Y							Y											Y									Y	
	cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y											Y				Y			Y		Y	
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	cis-Nonachlor	EPA 8270	MLA-007				Y					Y		Y											Y									Y	
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Delta-HCH	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Dieldrin	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Endosulphan I	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Endosulphan II	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	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	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 **
		EPA 1699	MLA-028				Y							Y										Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y					Y			Y	
	Endosulphan sulphate	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y					Y			Y	
	Endrin	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y					Y			Y	
	Endrin aldehyde	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y									Y		Y					Y			Y	
	Endrin ketone	EPA 8081	MLA-007				Y			Y		Y		Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									
	Gamma-HCH (Lindane)	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									
	Heptachlor	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									
	Heptachlor epoxide	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									
	Hexachlorobenzene	EPA 1625	MLA-007																						Y				Y					Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									
	Methoxychlor	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									
	Mirex	EPA 8270	MLA-007				Y			Y		Y		Y											Y				Y	Y		Y		Y	
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y					Y			Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Oxychlordane	EPA 8270	MLA-007				Y					Y													Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y									Y							Y		Y								Y	
	Toxaphene	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y											Y				Y			Y	Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	trans-Nonachlor	EPA 8270	MLA-007				Y					Y		Y											Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y									Y								Y	
PAH	1,2,6-Trimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1,2-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1,4,6,7-Tetramethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1,7-Dimethylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1,7-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1,8-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1-Methylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1-Methylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	1-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2,3,5-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2,3,6-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2,4-Dimethyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2,6-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2-Methylanthracene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2-Methylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	2-Methylnaphthalene	EPA 1625	MLA-021																														Y	
		EPA 8270	MLA-021				Y			Y															Y									
		SGS AXYS MLA-021	MLA-021		Y		Y							Y									Y										Y	
	2-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	3,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	3-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	3-Methylfluoranthene/ Benzo(a)fluorene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	3-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	5,9-Dimethylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	5/6-Methylchrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y										
	7-Methylbenzo(a)pyrene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	9/4-Methylphenanthrenes	SGS AXYS MLA-021	MLA-021		Y																		Y										
	Acenaphthene	EPA 1625	MLA-021																						Y				Y	Y			Y	
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y								Y	Y								Y		Y								Y	
	Acenaphthylene	EPA 1625	MLA-021																						Y				Y	Y			Y	
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y								Y	Y								Y		Y								Y	

Accreditation Scope

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	Anthracene	EPA 1625	MLA-021																						Y			Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y	
	Benz[a]anthracene	EPA 1625	MLA-021																						Y			Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y	
	Benzo[a]pyrene	EPA 1625	MLA-021																						Y			Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y	
	Benzo[b]fluoranthene	EPA 1625	MLA-021																						Y			Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y	
	Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021		Y											Y							Y											
	Benzo[ghi]perylene	EPA 1625	MLA-021																						Y			Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y	
	Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021		Y											Y							Y											
	Benzo[k]fluoranthene	EPA 1625	MLA-021																						Y			Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y			Y	Y																				
		SGS AXYS MLA-021	MLA-021				Y							Y											Y								Y	
	Biphenyl	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	Chrysene	EPA 1625	MLA-021																						Y			Y	Y				Y	

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				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 **
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																			
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Dibenz[a,h]anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y											
	Fluoranthene	EPA 1625	MLA-021																					Y				Y	Y				Y
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Fluorene	EPA 1625	MLA-021																					Y				Y	Y				Y
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Naphthalene	EPA 1625	MLA-021																					Y				Y	Y				Y
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Perylene	SGS AXYS MLA-021	MLA-021		Y																	Y											
	Phenanthrene	EPA 1625	MLA-021																					Y				Y	Y				Y
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y
		EPA 8270	MLA-021			Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y	Y							Y		Y							Y		Y								Y
	Retene	SGS AXYS MLA-021	MLA-021		Y																	Y											
PBDPE	BDE 10 2,6-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 100 2,2',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 105 2,3,3',4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 11 3,3'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 116 2,3,4,5,6-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 119 2,3',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 12 3,4-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 126 3,3',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 13 3,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 140 2,2',3,4,4',6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 15 4,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											
	BDE 153 2,2',4,4',5,5'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y						Y											

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				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	BDE 154 2,2',4,4',5',6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 155 2,2',4,4',6,6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 166 2,3,4,4',5,6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 17 2,2',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 181 2,2',3,4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 183 2,2',3,4,4',5',6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 190 2,3,3',4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 206 2,2',3,3',4,4',5,5',6-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 207 2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 208 2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 209 Decabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 25 2,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 28 2,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 30 2,4,6-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 35 3,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 37 3,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 47 2,2',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 49 2,2',4,5'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 66 2,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 7 2,4-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 75 2,4,4',6-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 77 3,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 8 2,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 85 2,2',3,4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	BDE 99 2,2',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
PCB Aroclors	"PCBs" category (CA only)	EPA 625	MLA-007																					Y										
		EPA 8270	MLA-007			Y																												
	PCB Aroclor 1016	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007									Y																						
	PCB Aroclor 1221	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1232	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1242	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1248	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1254	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1260	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1268	SGS AXYS MLA-007	MLA-007		Y											Y							Y											
PCB congeners	PCB 1 2-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 10 2,6-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 100 2,2',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				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 **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 101/90/89	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 102 2,2',4,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105/127	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 106 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107 2,3,3',4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107/109	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 108 2,3,3',4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 110 2,3,3',4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 111 2,3,3',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 111/117	EPA 8270	MLA-007									Y																						
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 118/106	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 119 2,3',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 12 3,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 12/13	EPA 8270	MLA-007									Y																						
	PCB 120 2,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 121 2,3',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 122 2,3,3',4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 123 2,3',4,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 124 2,3',4',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 125 2,3',4',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 126 3,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 127 3,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 128 2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 129 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 13 3,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 130 2,2',3,3',4,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 131 2,2',3,3',4,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 131/142	EPA 8270	MLA-007									Y																						

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 132 2,2',3,3',4,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 132/168	EPA 8270	MLA-007									Y																						
	PCB 133 2,2',3,3',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 134 2,2',3,3',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 134/143	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 135 2,2',3,3',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 136 2,2',3,3',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 137 2,2',3,4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 138 2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 138/163/164	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 139 2,2',3,4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 14 3,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 140 2,2',3,4,4',6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 141 2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 142 2,2',3,4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 143 2,2',3,4,5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 144 2,2',3,4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 144/135	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 145 2,2',3,4,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 146 2,2',3,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007			Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 147 2,2',3,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 148 2,2',3,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 149 2,2',3,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 149/139	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 15 4,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 150 2,2',3,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 151 2,2',3,5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 152 2,2',3,5,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 153 2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 154 2,2',4,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 155 2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 156 2,3,3',4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 157 2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 158 2,3,3',4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 158/160	EPA 8270	MLA-007									Y																						

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 159 2,3,3',4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 16 2,2',3-Trichlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 16/32	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 160 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 161 2,3,3',4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 162 2,3,3',4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 163 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 164 2,3,3',4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 165 2,3,3',5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 166 2,3,4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 167 2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 168 2,3',4,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 169 3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 17 2,2',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 170 2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 170/190	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 171 2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				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 **
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 172/192	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 173 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 174 2,2',3,3',4,5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 174/181	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 175 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 176 2,2',3,3',4,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 177 2,2',3,3',4,5',6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 178 2,2',3,3',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 179 2,2',3,3',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 180 2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 181 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 182 2,2',3,4,4',5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 183 2,2',3,4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 184 2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	

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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	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 **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 185 2,2',3,4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 186 2,2',3,4,5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 187 2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 187/182	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 188 2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 189 2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 19 2,2',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 190 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 191 2,3,3',4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 192 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 193 2,3,3',4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 194 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 195 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 196 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 196/203	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				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 **
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 198 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 199 2,2',3,3',4,5,5',6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 2 3-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 20 2,3,3'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 200 2,2',3,3',4,5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 201 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 202 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 203 2,2',3,4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 204 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 205 2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 206 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 207 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 208 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				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 **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 21 2,3,4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 22 2,3,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 23 2,3,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 23/34	EPA 8270	MLA-007									Y																					
	PCB 24 2,3,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 24/27	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 29 2,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
	PCB 33/20/21	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y	Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	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	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 **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 36 3,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 37 3,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 38 3,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 39 3,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 4 2,2'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 4/10	EPA 8270	MLA-007									Y																						
	PCB 40 2,2',3,3'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 41 2,2',3,4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 41/71/64/68	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 42 2,2',3,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 42/59	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 43 2,2',3,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 44 2,2',3,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 45 2,2',3,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 46 2,2',3,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 47 2,2',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 47/48/75	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 48 2,2',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y			Y	Y	Y	Y		Y	Y

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 49/43	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 5 2,3-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 51 2,2',4,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 52/73	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 53 2,2',5,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 56/60	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 57 2,3,3',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 62/65	EPA 8270	MLA-007									Y																						
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	PCB 64 2,3,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 65 2,3,5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 66 2,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 66/80	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 67 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 69 2,3',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 7 2,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 7/9	EPA 8270	MLA-007									Y																						
	PCB 70 2,3',4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 70/76	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 71 2,3',4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 72 2,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 73 2,3',5',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 74 2,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 74/61	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 75 2,4,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 76 2,3',4',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 77 3,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 78 3,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 79 3,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 8/5	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 80 3,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 83/108	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 84 2,2',3,3',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 85 2,2',3,4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 85/120	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 86 2,2',3,4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 87/115/116	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 88 2,2',3,4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 88/121	EPA 8270	MLA-007									Y																						
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 9 2,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 92 2,2',3,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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	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 **
	PCB 95 2,2',3,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 95/93	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 96 2,2',3,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 97 2,2',3,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 97/86	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 98 2,2',3,4',6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 98/102	EPA 8270	MLA-007									Y																						
	PCB 99 2,2',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB congeners, total	EPA 1668	MLA-010							Y																		Y						
	Sum - Dichlorobiphenyls (BZ-12-+ BZ-13)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-110 + BZ-115)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											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	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 **
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ 97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 +BZ-125)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Total Dichlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	Total Heptachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	Total Hexachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	Total Monochlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	Total Nonachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Octachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total PCBs	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Total Pentachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Polychlorinated biphenyls	SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Tetrachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Trichlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
PCDDF	"Dioxins and Dibenzofurans" category (CA only)	EPA 1613	MLA-017																					Y									
		EPA 8290	MLA-017			Y																												
	1,2,3,4,6,7,8-HpCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,6,7,8-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8,9-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	

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				Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y				Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	1,2,3,7,8-PeCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	1,2,3,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	2,3,4,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	2,3,7,8-TCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	2,3,7,8-TCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	OCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	OCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y			Y
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y
	Total HpCDD	EPA 1613	MLA-017											Y							Y				Y						Y		Y
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y
	Total HpCDF	EPA 1613	MLA-017											Y							Y				Y						Y		Y
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y
	Total HxCDD	EPA 1613	MLA-017											Y							Y				Y						Y		Y
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y
	Total HxCDF	EPA 1613	MLA-017											Y							Y				Y						Y		Y
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y
	Total PCDD	EPA 1613	MLA-017											Y							Y												Y
		EPA 8290	MLA-017											Y							Y												Y
		SGS AXYS MLA-017	MLA-017											Y							Y												Y
	Total PCDD+PCDF	EPA 1613	MLA-017											Y							Y												Y
		EPA 8290	MLA-017											Y							Y												Y
		SGS AXYS MLA-017	MLA-017											Y							Y												Y
	Total PCDF	EPA 1613	MLA-017											Y							Y												Y
		EPA 8290	MLA-017											Y							Y												Y
		SGS AXYS MLA-017	MLA-017											Y							Y												Y
	Total PeCDD	EPA 1613	MLA-017											Y							Y				Y						Y		Y
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y

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				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	Total PeCDF	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total TCDD	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total TCDF	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
PFAS	4:2 Fluorotelomersulfonate (4:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	6:2 Fluorotelomersulfonate (6:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	8:2 Fluorotelomersulfonate (8:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	N-Ethylperfluorooctanesulfonamide (N-EtFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	N-Ethylperfluorooctanesulfonamidoethanol (N-EtFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Methylperfluorooctanesulfonamide (N-MeFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-060	MLA-060																				Y			Y	Y	Y				Y		
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																					
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-060	MLA-060																				Y			Y	Y	Y				Y		
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																					
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-060	MLA-060																				Y			Y	Y	Y				Y		
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																					
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-060	MLA-060																				Y			Y	Y	Y				Y		
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																					
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y			Y	Y				Y		Y	Y
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-060	MLA-060																				Y			Y	Y	Y				Y		
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																					
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													

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				Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-042	MLA-042	Y																			Y										
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorononanoate (PFNA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonamide (PFOSA), a.k.a. FOSA	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y									Y		Y	Y				Y			Y	Y
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y									Y		Y	Y				Y			Y	Y
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075		Y																		Y											
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075		Y																		Y											

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	4-Epianhydrochlortetracycline (EACTC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	4-Epianhydrotetracycline (EATC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	4-Epioxytetracycline (EOTC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	4-Epitetracycline (ETC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Acetaminophen	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Albuterol	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Alprazolam	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Amitriptyline	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Amlodipine	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Amphetamine	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Anhydrochlortetracycline (ACTC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Anhydrotetracycline (ATC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Atenolol	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Atorvastatin	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Azithromycin	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Benzoylecgonine	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Benztropine	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Betamethasone	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Bisphenol A	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Caffeine	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Carbadox	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Carbamazepine	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Cefotaxime	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Chlortetracycline (CTC)	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Cimetidine	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Ciprofloxacin	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Clarithromycin	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Clinafloxacin	EPA 1694	MLA-075									Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Clonidine	SGS AXYS MLA-075	MLA-075		Y																		Y										

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	Cloxacillin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cocaine	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Codeine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cotinine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Dehydronifedipine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Demeclocycline	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Diazepam	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Digoxigenin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Digoxin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Diltiazem	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Diphenhydramine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Doxycycline	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Enalapril	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Enrofloxacin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Erythromycin	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Erythromycin anydrate	EPA 1694	MLA-075										Y																		Y			
	Flumequine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Fluocinonide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Fluoxetine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Furosemide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Gemfibrozil	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Glipizide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Glyburide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Hydrocodone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Hydrocortisone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Ibuprofen	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Isochlortetracycline (ICTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Lincomycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				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 **
	Lomefloxacin	EPA 1694	MLA-075										Y																	Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Meprobamate	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Metformin	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Methylprednisolone	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Metoprolol	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Miconazole	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Minocycline	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Naproxen	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Norfloxacin	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Norfluoxetine	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Norgestimate	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Norverapamil	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Ofloxacin	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Ormetoprim	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Oxacillin	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Oxolinic acid	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Oxycodone	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Oxytetracycline (OTC)	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Paroxetine	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Penicillin G	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Penicillin V	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Prednisolone	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Prednisone	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Promethazine	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Propoxyphene	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Propranolol	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Ranitidine	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Roxithromycin	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Sarafloxacin	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Sertraline	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Simvastatin	SGS AXYS MLA-075	MLA-075		Y																	Y												
	Sulfachloropyridazine	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Sulfadiazine	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Sulfadimethoxine	EPA 1694	MLA-075										Y																	Y				
		SGS AXYS MLA-075	MLA-075		Y																	Y												
	Sulfamerazine	EPA 1694	MLA-075										Y																	Y				

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Sulfamethazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Sulfamethizole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Sulfamethoxazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Sulfanilamide	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Sulfathiazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Tetracycline (TC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Theophylline	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Thiabendazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Trenbolone	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Triamterene	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Triclocarban	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Triclosan	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Trimethoprim	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Tylosin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Valsartan	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Verapamil	SGS AXYS MLA-075	MLA-075		Y																		Y										
	Virginiamycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	Warfarin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
Targeted Metabolites	11, 14, 17-eicosatrienoic acid (eicosatrienoic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	11, 14-eicosadienoic acid	SGS AXYS MLM-001	MLM-001													Y																	
	3-hydroxytyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Acetylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Acetylornithine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Alanine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	alpha-Aminoadipic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Arginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Asparagine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Aspartate	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Asymmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Butenylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Butyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	C22:5 ISOMER 1 (tentatively all-cis-4, 8, 12, 15, 19-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	C22:5 ISOMER 2 (all-cis-7,10,13,16,19-docosapentaenoic acid (DPA)	SGS AXYS MLM-001	MLM-001													Y																	
	C22:5 ISOMER 3 (tentatively all-cis-4, 7, 10, 13, 16-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Carnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Carnosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	chenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	cholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Citrulline	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Creatinine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Decadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	decanoic acid (capric acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	deoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001													Y																	
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Dodecanedioylcarnitine	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											
	Glutarylcarnitine (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 (Fumarylcarnitine)	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											
	Hydroxylbutyrylcarnitine	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											
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline 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											
	Hydroxyvalerylcarnitine (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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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 **
	lysoPhosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Methionine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Methylglutarylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Nonaylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Ornithine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phenylalanine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phenylethylamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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						Y											
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Proline	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Putrescine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sarcosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Serine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Serotonin	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Spermidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Spermine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Taurine	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	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 **
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	taurocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	tauroursodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Threonine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tryptophan	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	ursodexoycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Valine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079	Y																													
TOP	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorononanoate (PFNA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-111	MLA-111		Y																		Y										

Note * Analysis of pesticides and PCBs in non-potable water samples by SGS AXYS method MLA-007, with the exception of NPDES or State permitted discharges and Stormwater applications, may fall within the scope of Washington State Department of Ecology solids matrix accreditation, subject to approval of the Ecology Project Manager.

Note ** PFAS by LC-MS/MS compliant with US DoD QSM 5.1 table B-15

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