SGS AXYS

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SGS AXYS Client No.: 4972

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The SGS AXYS contact for these data is Sean Campbell.

BATCH SUMMARY

Batch ID: WG66477	***Date:*** 14-Feb-2019
Analysis Type: PCB Congener	***Matrix Type:*** XAD

BATCH MAKEUP

Contract: 4972

Samples:

L30522-1	PDI-WS-T05-1811
L30522-2	PDI-WS-T01-1811
L30522-3	PDI-WS-T03-1811
L30522-4	PDI-WS-T07-1811
L30522-5	PDI-WS-T02-1811
L30522-6	PDI-WS-T04-1812
L30522-7	PDI-WS-T06-1811
L30522-8	PDI-RB-XD-181129

Blank: WG66477-101

Reference or Spike: WG66477-102

Duplicate:

Comments:

1. Data are considered final.
2. Data are not blank corrected. Sample data should be evaluated with consideration of analyte levels in the Lab Blank (AXYS ID WG66477-101), notably for PCB 20/28.
3. Percent recoveries of ^{13}C-labeled PCB 4 and 19 in sample PDI-WS-T02-1811 (AXYS ID L30522-5) were below the method lower control limits. The labeled surrogates were flagged with a 'V'. Since the isotope dilution method of quantification produces data that were recovery corrected, the variances from the method acceptance criteria were deemed not to affect the quantification of the analytes. Percent surrogate recoveries were used as general method performance indicator only.
4. Disturbances of the mass ions used to monitor instrument performance (lock-mass) were observed at retention times corresponding to PCB 11, 12/13, 22, 27, 32, 54, 66, 86/87/97/108/119/125, 135/151/154, 153/168, 177, 182, 197/200 and/or 202 in all client samples and the Lab Blank. The congeners were flagged with a 'G'. As the interferences only affect congeners that were small contributors to the overall total, data were not considered significantly affected by the variances. The lock-mass disturbances at retention times corresponding to PCB 32 and 86/87/97/108/119/125 were determined to originate from a labeled standard solution used for the quantification of target pesticide analytes. Test dilutions conducted for this matrix to minimize the disturbances have proven that the disturbances do not affect the quantification of these congeners.
5. PCB 123 peaks in all client samples were on the tail of a larger peak and there was no obvious valley between the two peaks. As a result, the congener was flagged with a 'K' though its ion abundance ratio was within the method control limit in some samples. The reported concentrations should be interpreted as estimated maximum possible concentrations.
6. Relative retention times (RRTs) for PCB 42, 43, 46, 48, 50/53, 52, 44/47/65, 64 and/or 73 in samples PDI-WS-T03-1811, PDI-WS-T04-1812 and PDI-RB-XD-181129 (AXYS ID L30522-3, -6 and -8, respectively) were slightly outside of the nominal RRT acceptance windows printed on Form 3A/B but these congeners were determined to be present based on a detailed inspection of sample and calibration chromatogram patterns.

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T05-1811
Sample Collection:
27-Nov-2018 15:44

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.:**	L30522-1
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 13:04:15	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			309	1.72 (S)	3.04	1.003
3-MoCB	2			74.8	1.91 (S)	3.03	0.988
4-MoCB	3			78.2	1.53 (S)	3.17	1.001
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				

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	159	0.971 (S)	0.82	1.335
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			79.5	1.06 (S)	0.80	1.310
2,2',3,5-TeCB	43			11.1	1.26 (S)	0.66	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	4300	0.889 (S)	0.77	1.286
2,2',3,6-TeCB	45	45 + 51	C	7290	1.05 (S)	0.79	1.148
2,2',3,6'-TeCB	46			35.6	1.23 (S)	0.72	1.159
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			58.4	1.03 (S)	0.73	1.272
2,2',4,5'-TeCB	49	49 + 69	C	280	0.862 (S)	0.81	1.257
2,2',4,6-TeCB	50	50 + 53	C	95.0	1.04 (S)	0.83	1.109
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			525	0.908 (S)	0.77	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K G	16.3	0.848 (Q)	0.92	1.000
2,3,3',4-TeCB	55		U		5.72 (S)		
2,3,3',4'-TeCB	56			101	5.53 (S)	0.74	0.905
2,3,3',5-TeCB	57		U		5.45 (S)		
2,3,3',5'-TeCB	58		U		5.94 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	29.5	0.848 (Q)	0.77	1.300
2,3,4,4'-TeCB	60			50.7	5.36 (S)	0.77	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	467	5.21 (S)	0.75	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			10.4	5.35 (S)	0.85	0.865
2,3,4',6-TeCB	64			143	0.848 (Q)	0.78	1.347
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			243	5.28 (S)	0.75	0.885
2,3',4,5-TeCB	67		J	5.66	4.91 (S)	0.77	0.857
2,3',4,5'-TeCB	68			2040	5.28 (S)	0.75	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		5.31 (S)		
2,3',5',6-TeCB	73		K J	2.67	0.848 (Q)	0.56	1.240
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			24.3	5.27 (S)	0.78	1.000
3,3',4,5-TeCB	78		U		5.04 (S)		
3,3',4,5'-TeCB	79		J	4.21	4.06 (S)	0.66	0.971
3,3',5,5'-TeCB	80		U		4.78 (S)		
3,4,4',5-TeCB	81		U		4.88 (S)		
2,2',3,3',4-PeCB	82			60.3	0.848 (Q)	1.53	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	273	0.848 (Q)	1.73	0.886
2,2',3,3',6-PeCB	84			116	0.848 (Q)	1.57	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	86.4	0.848 (Q)	1.45	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	291	0.848 (Q)	1.62	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	80.4	0.848 (Q)	1.55	1.154
2,2',3,4,6'-PeCB	89		K J	5.52	0.848 (Q)	1.20	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	438	0.848 (Q)	1.59	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			100	0.848 (Q)	1.72	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	416	0.848 (Q)	1.58	1.120
2,2',3,5,6'-PeCB	94		K J	5.38	0.848 (Q)	0.91	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	6.28	0.848 (Q)	1.78	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				

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			8.12	0.848 (Q)	1.77	1.093
2,2',4,6,6'-PeCB	104		K J	0.961	0.848 (Q)	0.45	1.001
2,3,3',4,4'-PeCB	105			131	1.26 (S)	1.58	1.000
2,3,3',4,5-PeCB	106		U		1.38 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	15.6	1.39 (S)	1.40	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			22.1	1.24 (S)	1.55	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	512	0.848 (Q)	1.55	0.925
2,3,3',5,5'-PeCB	111		U		0.848 (Q)		
2,3,3',5,6-PeCB	112		U		0.848 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K	8.69	1.22 (S)	2.28	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			302	1.31 (S)	1.55	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	2.40	0.848 (Q)	0.58	0.959
2,3',4,5',6-PeCB	121		U		0.848 (Q)		
2',3,3',4,5-PeCB	122		K J	4.27	1.41 (S)	2.04	1.010
2',3,4,4',5-PeCB	123		K	10.4	1.14 (S)	1.36	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		1.38 (S)		
3,3',4,5,5'-PeCB	127		U		1.34 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	33.6	0.848 (Q)	1.37	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	267	0.848 (Q)	1.22	0.928
2,2',3,3',4,5'-HxCB	130		K	17.9	0.848 (Q)	1.51	0.913
2,2',3,3',4,6-HxCB	131		K J	4.62	0.848 (Q)	1.64	1.158
2,2',3,3',4,6'-HxCB	132			94.1	0.848 (Q)	1.26	1.172
2,2',3,3',5,5'-HxCB	133		K J	6.45	0.848 (Q)	1.67	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C	17.9	0.848 (Q)	1.30	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C G	140	0.848 (Q)	1.22	1.103
2,2',3,3',6,6'-HxCB	136		K	40.6	0.848 (Q)	1.43	1.022
2,2',3,4,4',5-HxCB	137			13.5	0.848 (Q)	1.20	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	4.80	0.848 (Q)	1.13	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			42.7	0.848 (Q)	1.26	0.903
2,2',3,4,5,6-HxCB	142		U		0.848 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K	17.5	0.848 (Q)	1.65	1.121
2,2',3,4,6,6'-HxCB	145		U		0.848 (Q)		
2,2',3,4',5,5'-HxCB	146			53.2	0.848 (Q)	1.18	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	313	0.848 (Q)	1.29	1.132
2,2',3,4',5,6'-HxCB	148		K J	2.27	0.848 (Q)	3.33	1.083
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		J	1.18	0.848 (Q)	1.40	1.012
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.848 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	276	0.848 (Q)	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	1.37	0.848 (Q)	3.27	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	25.4	0.848 (Q)	1.32	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			25.3	0.848 (Q)	1.32	0.938
2,3,3',4,5,5'-HxCB	159		K J	2.83	0.848 (Q)	1.60	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		0.848 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.848 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		K	15.8	0.848 (Q)	1.52	0.921
2,3,3',5,5',6-HxCB	165		U		0.848 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K	8.63	0.848 (Q)	1.51	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.848 (Q)		
2,2',3,3',4,4',5-HpCB	170			27.6	0.848 (Q)	1.10	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K	10.6	0.848 (Q)	0.87	1.163
2,2',3,3',4,5,5'-HpCB	172		J	5.75	0.848 (Q)	1.13	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K	30.9	0.848 (Q)	0.82	1.133
2,2',3,3',4,5',6-HpCB	175		K J	1.49	0.848 (Q)	2.05	1.102
2,2',3,3',4,6,6'-HpCB	176		K J	4.34	0.848 (Q)	0.65	1.034
2,2',3,3',4',5,6-HpCB	177		K	18.9	0.848 (Q)	0.76	1.145
2,2',3,3',5,5',6-HpCB	178		K	9.90	0.848 (Q)	1.25	1.085
2,2',3,3',5,6,6'-HpCB	179			16.1	0.848 (Q)	1.08	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	91.4	0.848 (Q)	1.08	1.001
2,2',3,4,4',5,6-HpCB	181		U		0.848 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		0.848 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K	22.8	0.848 (Q)	1.26	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	1.04	0.848 (Q)	2.00	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.848 (Q)		
2,2',3,4',5,5',6-HpCB	187			49.8	0.848 (Q)	1.06	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.848 (Q)		
2,3,3',4,4',5,5'-HpCB	189		K J	0.986	0.848 (Q)	0.73	1.000
2,3,3',4,4',5,6-HpCB	190		K	7.48	0.848 (Q)	0.82	0.947
2,3,3',4,4',5',6-HpCB	191		K J	1.74	0.848 (Q)	1.45	0.918
2,3,3',4,5,5',6-HpCB	192		U		0.848 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			32.3	0.848 (Q)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			10.5	0.848 (Q)	0.90	0.945
2,2',3,3',4,4',5,6'-OcCB	196			28.0	0.848 (Q)	0.82	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K J	6.04	0.848 (Q)	1.12	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	50.2	0.848 (Q)	0.96	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	3.46	0.848 (Q)	0.53	1.023
2,2',3,3',5,5',6,6'-OcCB	202			7.99	0.848 (Q)	0.76	1.000
2,2',3,4,4',5,5',6-OcCB	203		K	33.9	0.848 (Q)	1.05	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		0.848 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	0.981	0.848 (Q)	1.83	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			59.0	3.56 (S)	0.86	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			8.72	2.35 (S)	0.73	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			23.6	2.69 (S)	0.86	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K	7.77	0.848 (Q)	0.88	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-1_Form1A_PB9C_036S6_SJ2509684.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T05-1811
Sample Collection:
27-Nov-2018 15:44

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.:**	L30522-1
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 13:04:15	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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	1200	30.1	3.26	0.717
13C12-4-MoCB	3L			4000	1450	36.3	3.18	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		G	4000	2340	58.5	0.78	0.812
13C12-3,3',4,4'-TeCB	77L			4000	2980	74.5	0.75	1.397
13C12-3,4,4',5-TeCB	81L			4000	3050	76.4	0.71	1.373
13C12-2,2',4,6,6'-PeCB	104L			4000	1780	44.6	1.60	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	2880	71.9	1.53	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2670	66.7	1.60	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2780	69.5	1.58	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	3250	81.3	1.55	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2680	66.9	1.54	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2170	54.3	1.34	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5490	68.6	1.27	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2830	70.8	1.23	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2840	71.1	1.24	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2380	59.6	1.09	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2450	61.2	1.09	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2390	59.7	1.10	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3000	75.0	0.99	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1770	44.2	0.89	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3200	80.0	0.85	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2960	73.9	0.77	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3160	78.9	0.76	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2820	70.6	1.22	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1370	68.7	1.02	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1610	80.6	1.58	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1370	68.6	1.04	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; 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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-1_Form2_PB9C_036S6_SJ2509684.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T05-1811
Sample Collection:
27-Nov-2018 15:44

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.:**	L30522-1 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 23:09:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		X				
3-MoCB	2		X				
4-MoCB	3		X				
2,2'-DiCB	4		D	728	27.5 (S)	1.61	1.001
2,3-DiCB	5		U D		20.3 (S)		
2,3'-DiCB	6		D	90.9	18.3 (S)	1.43	1.177
2,4-DiCB	7		D	36.1	19.2 (S)	1.52	1.159
2,4'-DiCB	8		D	321	17.2 (S)	1.53	1.209
2,5-DiCB	9		K D J	24.1	17.5 (S)	1.06	1.147
2,6-DiCB	10		K D J	24.6	18.2 (S)	2.04	1.013
3,3'-DiCB	11		D G	1720	19.3 (S)	1.60	0.969
3,4-DiCB	12	12 + 13	C K D G	60.0	19.5 (S)	2.08	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U D		18.9 (S)		
4,4'-DiCB	15		D	136	18.9 (S)	1.44	1.001
2,2',3-TriCB	16		D	162	3.35 (S)	0.98	1.166
2,2',4-TriCB	17		D	361	2.70 (S)	1.12	1.139
2,2',5-TriCB	18	18 + 30	C D	384	2.23 (S)	1.03	1.114
2,2',6-TriCB	19		D	208	3.01 (S)	1.03	1.001
2,3,3'-TriCB	20	20 + 28	C D	442	3.70 (S)	1.03	0.848
2,3,4-TriCB	21	21 + 33	C D	447	3.69 (S)	1.01	0.856
2,3,4'-TriCB	22		D	180	4.12 (S)	0.97	0.872
2,3,5-TriCB	23		U D		4.11 (S)		
2,3,6-TriCB	24		D J	4.15	1.90 (S)	1.13	1.161
2,3',4-TriCB	25		D	86.7	3.31 (S)	1.03	0.825
2,3',5-TriCB	26	26 + 29	C D	89.8	3.79 (S)	0.91	1.304
2,3',6-TriCB	27		D G	34.5	1.88 (S)	1.17	1.153
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		D	333	3.54 (S)	0.98	0.837
2,4',6-TriCB	32		D	153	3.64 (S)	1.01	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K D J	4.22	3.90 (S)	0.78	1.275
3,3',4-TriCB	35		K D J	15.5	4.05 (S)	1.47	0.985
3,3',5-TriCB	36		D J	6.35	3.72 (S)	0.99	0.932
3,4,4'-TriCB	37		D	70.0	3.66 (S)	0.90	1.001
3,4,5-TriCB	38		U D		3.60 (S)		
3,4',5-TriCB	39		U D		3.73 (S)		

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				

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; 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-1_Form1A_PB9C_039S4_SJ2510458.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T05-1811
Sample Collection:
27-Nov-2018 15:44

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.:**	L30522-1 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 23:09:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		D	4000	1600	40.0	1.59	0.873
13C12-4,4'-DiCB	15L		D	4000	2050	51.3	1.54	1.254
13C12-2,2',6-TriCB	19L		D	4000	2070	51.8	1.05	1.073
13C12-3,4,4'-TriCB	37L		D	4000	2010	50.2	1.06	1.090
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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-1_Form2_PB9C_039S4_SJ2510458.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-WS-T05-1811
Sample Collection:
27-Nov-2018 15:44

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-1
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 13:04:15	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		4050	31.2 (S)	101	1.05	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		4410	0.357 (S)	110	1.64	0.778
13C12-2,2',4,4',5,5'-HxCB	153L	4000		5090	0.0261 (S)	127	1.23	0.898

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681B.xsl; Created: 14-Feb-2019 16:40:40; Application: XMLTransformer-1.17.6; Report Filename: 1668_PCB1668_PCBCS_L30522-1_Form1B_SJ2509762.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T01-1811
Sample Collection:
28-Nov-2018 14:26

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.:**	L30522-2
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 14:08:28	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			193	1.26 (S)	3.10	1.001
3-MoCB	2			47.4	1.55 (S)	3.23	0.988
4-MoCB	3			56.2	1.36 (S)	3.11	1.001
2,2'-DiCB	4			602	4.86 (S)	1.46	1.001
2,3-DiCB	5		K	9.05	4.60 (S)	2.80	1.199
2,3'-DiCB	6			103	4.23 (S)	1.50	1.176
2,4-DiCB	7			18.1	4.35 (S)	1.61	1.159
2,4'-DiCB	8			466	3.89 (S)	1.53	1.208
2,5-DiCB	9			33.7	4.04 (S)	1.44	1.147
2,6-DiCB	10		K	29.4	4.31 (S)	1.31	1.013
3,3'-DiCB	11			1250	4.29 (S)	1.52	0.969
3,4-DiCB	12	12 + 13	C	39.4	4.26 (S)	1.78	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		4.21 (S)		
4,4'-DiCB	15			124	4.27 (S)	1.46	1.001
2,2',3-TriCB	16			179	1.16 (S)	1.09	1.166
2,2',4-TriCB	17			327	1.01 (S)	1.08	1.138
2,2',5-TriCB	18	18 + 30	C	383	0.851 (Q)	1.03	1.115
2,2',6-TriCB	19			293	1.15 (S)	1.09	1.001
2,3,3'-TriCB	20	20 + 28	C	448	1.17 (S)	1.01	0.848
2,3,4-TriCB	21	21 + 33	C	213	1.17 (S)	1.01	0.857
2,3,4'-TriCB	22			201	1.30 (S)	0.97	0.872
2,3,5-TriCB	23		U		1.37 (S)		
2,3,6-TriCB	24			7.61	0.851 (Q)	0.94	1.160
2,3',4-TriCB	25			105	1.09 (S)	1.02	0.825
2,3',5-TriCB	26	26 + 29	C	92.1	1.25 (S)	1.05	1.303
2,3',6-TriCB	27			67.0	0.851 (Q)	1.12	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			335	1.12 (S)	0.99	0.837
2,4',6-TriCB	32		G	169	1.25 (S)	1.00	1.199
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K J	3.33	1.33 (S)	0.74	1.275
3,3',4-TriCB	35			11.0	1.21 (S)	1.01	0.986
3,3',5-TriCB	36		J	5.60	1.15 (S)	1.08	0.932
3,4,4'-TriCB	37			59.5	1.07 (S)	0.98	1.001
3,4,5-TriCB	38		J	1.98	1.10 (S)	0.98	0.969
3,4',5-TriCB	39		J	5.27	1.14 (S)	0.95	0.947

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	195	1.07 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			100	1.17 (S)	0.79	1.312
2,2',3,5-TeCB	43			13.0	1.39 (S)	0.76	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1150	0.983 (S)	0.78	1.288
2,2',3,6-TeCB	45	45 + 51	C	1300	1.16 (S)	0.77	1.149
2,2',3,6'-TeCB	46			36.9	1.36 (S)	0.80	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			60.6	1.14 (S)	0.76	1.275
2,2',4,5'-TeCB	49	49 + 69	C	354	0.953 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C	131	1.15 (S)	0.83	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			584	1.00 (S)	0.78	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			27.5	0.949 (S)	0.77	1.001
2,3,3',4-TeCB	55		U		3.55 (S)		
2,3,3',4'-TeCB	56			88.2	3.42 (S)	0.75	0.905
2,3,3',5-TeCB	57		U		3.38 (S)		
2,3,3',5'-TeCB	58		U		3.68 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K	30.8	0.851 (Q)	0.89	1.304
2,3,4,4'-TeCB	60			34.6	3.32 (S)	0.79	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	411	3.23 (S)	0.77	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			12.9	3.31 (S)	0.67	0.865
2,3,4',6-TeCB	64			140	0.851 (Q)	0.77	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			232	3.27 (S)	0.74	0.884
2,3',4,5-TeCB	67		J	6.07	3.05 (S)	0.69	0.857
2,3',4,5'-TeCB	68			632	3.27 (S)	0.73	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	9.19	3.29 (S)	1.11	0.823
2,3',5',6-TeCB	73		K J	4.75	0.866 (S)	1.20	1.243
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			16.3	2.97 (S)	0.88	1.000
3,3',4,5-TeCB	78		U		3.12 (S)		
3,3',4,5'-TeCB	79		J	4.68	2.52 (S)	0.83	0.971
3,3',5,5'-TeCB	80		U		2.96 (S)		
3,4,4',5-TeCB	81		U		2.83 (S)		
2,2',3,3',4-PeCB	82			36.1	0.851 (Q)	1.54	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	248	0.851 (Q)	1.62	0.885
2,2',3,3',6-PeCB	84			118	0.851 (Q)	1.67	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	55.9	0.851 (Q)	1.59	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	246	0.851 (Q)	1.71	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	85.2	0.851 (Q)	1.62	1.154
2,2',3,4,6'-PeCB	89		J	4.97	0.851 (Q)	1.60	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	428	0.851 (Q)	1.60	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			118	0.851 (Q)	1.63	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	478	0.851 (Q)	1.52	1.121
2,2',3,5,6'-PeCB	94		K	7.89	0.851 (Q)	2.46	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	6.61	0.851 (Q)	1.62	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				

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	17.4	0.851 (Q)	1.79	1.094
2,2',4,6,6'-PeCB	104		J	1.54	0.851 (Q)	1.52	1.000
2,3,3',4,4'-PeCB	105			69.2	1.24 (S)	1.50	1.000
2,3,3',4,5-PeCB	106		U		1.47 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	9.72	1.48 (S)	1.33	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			18.1	1.33 (S)	1.52	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	461	0.851 (Q)	1.62	0.924
2,3,3',5,5'-PeCB	111		U		0.851 (Q)		
2,3,3',5,6-PeCB	112		U		0.851 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	3.82	1.27 (S)	1.57	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			214	1.37 (S)	1.57	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	3.63	0.851 (Q)	1.28	0.959
2,3',4,5',6-PeCB	121		U		0.851 (Q)		
2',3,3',4,5-PeCB	122		K J	2.49	1.50 (S)	2.03	1.010
2',3,4,4',5-PeCB	123		K J	6.15	1.36 (S)	1.43	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		1.38 (S)		
3,3',4,5,5'-PeCB	127		U		1.43 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	23.0	0.851 (Q)	1.39	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	214	0.851 (Q)	1.27	0.928
2,2',3,3',4,5'-HxCB	130			12.5	0.851 (Q)	1.17	0.913
2,2',3,3',4,6-HxCB	131		K J	3.36	0.851 (Q)	2.50	1.158
2,2',3,3',4,6'-HxCB	132			82.9	0.851 (Q)	1.33	1.173
2,2',3,3',5,5'-HxCB	133		J	5.39	0.851 (Q)	1.30	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C	16.2	0.851 (Q)	1.18	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	167	0.851 (Q)	1.25	1.103
2,2',3,3',6,6'-HxCB	136			45.6	0.851 (Q)	1.30	1.023
2,2',3,4,4',5-HxCB	137		K	7.58	0.851 (Q)	0.98	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	4.03	0.851 (Q)	1.15	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			39.4	0.851 (Q)	1.33	0.903
2,2',3,4,5,6-HxCB	142		U		0.851 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K	16.0	0.851 (Q)	1.45	1.121
2,2',3,4,6,6'-HxCB	145		U		0.851 (Q)		
2,2',3,4',5,5'-HxCB	146			65.6	0.851 (Q)	1.31	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	289	0.851 (Q)	1.30	1.132
2,2',3,4',5,6'-HxCB	148		K J	1.54	0.851 (Q)	2.41	1.083
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.851 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.851 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	209	0.851 (Q)	1.32	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.851 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C	15.9	0.851 (Q)	1.18	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			19.6	0.851 (Q)	1.41	0.938
2,3,3',4,5,5'-HxCB	159		J	1.94	0.851 (Q)	1.13	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.
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		0.851 (Q)		
2,3,3',4',5,5'-HxCB	162		K J	0.874	0.851 (Q)	1.83	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		K	15.0	0.851 (Q)	1.55	0.921
2,3,3',5,5',6-HxCB	165		U		0.851 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K J	5.30	0.851 (Q)	1.05	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.851 (Q)		
2,2',3,3',4,4',5-HpCB	170			21.2	0.851 (Q)	0.91	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	6.98	0.851 (Q)	1.09	1.162
2,2',3,3',4,5,5'-HpCB	172		K J	4.54	0.851 (Q)	1.28	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K	27.5	0.851 (Q)	0.83	1.133
2,2',3,3',4,5',6-HpCB	175		K J	1.14	0.851 (Q)	2.55	1.103
2,2',3,3',4,6,6'-HpCB	176		K J	3.37	0.851 (Q)	0.77	1.034
2,2',3,3',4',5,6-HpCB	177			18.0	0.851 (Q)	1.10	1.145
2,2',3,3',5,5',6-HpCB	178			7.75	0.851 (Q)	0.90	1.085
2,2',3,3',5,6,6'-HpCB	179		K	14.3	0.851 (Q)	1.21	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	68.5	0.851 (Q)	0.97	1.000
2,2',3,4,4',5,6-HpCB	181		U		0.851 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U G		0.851 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K	19.6	0.851 (Q)	0.80	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.851 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.851 (Q)		
2,2',3,4',5,5',6-HpCB	187			41.8	0.851 (Q)	1.14	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.851 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.851 (Q)		
2,3,3',4,4',5,6-HpCB	190		K J	4.49	0.851 (Q)	0.79	0.947
2,3,3',4,4',5',6-HpCB	191		U		0.851 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.851 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			8.71	0.851 (Q)	0.82	0.991
2,2',3,3',4,4',5,6-OcCB	195		K J	3.76	0.851 (Q)	0.74	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K J	3.99	0.851 (Q)	0.61	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C J G	2.16	0.851 (Q)	1.02	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K	11.2	0.851 (Q)	1.20	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		K J	1.30	0.851 (Q)	0.62	1.023
2,2',3,3',5,5',6,6'-OcCB	202		J	3.70	0.851 (Q)	0.80	1.000
2,2',3,4,4',5,5',6-OcCB	203		K J	6.59	0.851 (Q)	0.58	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		0.851 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.851 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		K J	5.14	2.83 (S)	1.04	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		U		1.70 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		K J	3.55	1.83 (S)	0.60	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	4.45	0.851 (Q)	1.51	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-2_Form1A_PB9C_036S7_SJ2509686.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T01-1811
Sample Collection:
28-Nov-2018 14:26

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.:**	L30522-2
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 14:08:28	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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	1050	26.1	3.15	0.719
13C12-4-MoCB	3L			4000	1090	27.1	3.16	0.858
13C12-2,2'-DiCB	4L			4000	1270	31.8	1.58	0.873
13C12-4,4'-DiCB	15L			4000	1310	32.7	1.60	1.254
13C12-2,2',6-TriCB	19L			4000	1370	34.3	1.07	1.073
13C12-3,4,4'-TriCB	37L			4000	2070	51.8	1.04	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2000	50.1	0.78	0.810
13C12-3,3',4,4'-TeCB	77L			4000	3040	76.1	0.71	1.396
13C12-3,4,4',5-TeCB	81L			4000	3120	78.0	0.73	1.373
13C12-2,2',4,6,6'-PeCB	104L			4000	1850	46.2	1.65	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3390	84.8	1.55	1.200
13C12-2,3,4,4',5-PeCB	114L			4000	2920	73.0	1.57	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	3070	76.8	1.53	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	3220	80.4	1.55	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	3180	79.6	1.55	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2180	54.6	1.28	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6620	82.8	1.21	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3390	84.7	1.24	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3400	85.0	1.21	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2660	66.4	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2590	64.7	1.04	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2380	59.4	1.08	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3510	87.7	1.01	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1810	45.2	0.87	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3600	90.0	0.86	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3260	81.4	0.77	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	4020	100	0.74	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	3190	79.7	1.17	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1300	64.9	1.05	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1690	84.4	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1600	79.8	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-2_Form2_PB9C_036S7_SJ2509686.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-WS-T01-1811
Sample Collection:
28-Nov-2018 14:26

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-2
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 14:08:28	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		4100	22.7 (S)	103	1.03	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		3880	1.08 (S)	97.1	1.57	0.779
13C12-2,2',4,4',5,5'-HxCB	153L	4000		3810	0.852 (S)	95.3	1.22	0.899

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681B.xsl; Created: 14-Feb-2019 16:40:40; Application: XMLTransformer-1.17.6; Report Filename: 1668_PCB1668_PCBCS_L30522-2_Form1B_SJ2509763.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T03-1811
Sample Collection:
27-Nov-2018 16:22

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.:**	L30522-3
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 15:12:37	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			191	1.27 (S)	3.08	1.001
3-MoCB	2			48.6	1.46 (S)	2.91	0.988
4-MoCB	3			54.1	1.20 (S)	2.98	1.001
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				

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	176	1.66 (S)	0.76	1.332
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			85.8	1.81 (S)	0.76	1.307
2,2',3,5-TeCB	43			12.1	2.15 (S)	0.80	1.242
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2040	1.52 (S)	0.78	1.282
2,2',3,6-TeCB	45	45 + 51	C	8800	1.79 (S)	0.78	1.146
2,2',3,6'-TeCB	46			35.2	2.10 (S)	0.67	1.156
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			48.9	1.77 (S)	0.79	1.270
2,2',4,5'-TeCB	49	49 + 69	C	374	1.48 (S)	0.79	1.255
2,2',4,6-TeCB	50	50 + 53	C	127	1.78 (S)	0.74	1.107
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			650	1.56 (S)	0.77	1.230
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		G	23.6	1.15 (S)	0.77	1.000
2,3,3',4-TeCB	55		U		2.20 (S)		
2,3,3',4'-TeCB	56			85.0	2.13 (S)	0.76	0.905
2,3,3',5-TeCB	57		U		2.10 (S)		
2,3,3',5'-TeCB	58		U		2.28 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	30.5	1.23 (S)	0.81	1.298
2,3,4,4'-TeCB	60			32.4	2.06 (S)	0.74	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	389	2.00 (S)	0.75	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			12.9	2.06 (S)	0.76	0.865
2,3,4',6-TeCB	64			123	1.19 (S)	0.74	1.343
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			223	2.03 (S)	0.75	0.885
2,3',4,5-TeCB	67		J	5.83	1.89 (S)	0.80	0.857
2,3',4,5'-TeCB	68			2280	2.03 (S)	0.75	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		2.04 (S)		
2,3',5',6-TeCB	73		K J	5.75	1.34 (S)	0.91	1.237
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			16.7	2.13 (S)	0.75	1.000
3,3',4,5-TeCB	78		U		1.94 (S)		
3,3',4,5'-TeCB	79		J	4.75	1.56 (S)	0.69	0.971
3,3',5,5'-TeCB	80		U		1.84 (S)		
3,4,4',5-TeCB	81		U		1.82 (S)		
2,2',3,3',4-PeCB	82			35.6	1.27 (S)	1.58	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	243	1.21 (S)	1.77	0.886
2,2',3,3',6-PeCB	84			121	1.40 (S)	1.55	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	53.9	0.960 (S)	1.71	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	230	1.00 (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	91.2	1.25 (S)	1.63	1.154
2,2',3,4,6'-PeCB	89		J	4.90	1.31 (S)	1.69	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	413	1.04 (S)	1.62	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			113	1.23 (S)	1.48	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	471	1.25 (S)	1.60	1.120
2,2',3,5,6'-PeCB	94		J	6.41	1.42 (S)	1.62	1.101
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K	7.18	0.849 (Q)	2.20	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				

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			16.5	1.18 (S)	1.52	1.093
2,2',4,6,6'-PeCB	104		J	2.86	0.849 (Q)	1.57	1.001
2,3,3',4,4'-PeCB	105			61.5	1.09 (S)	1.39	1.000
2,3,3',4,5-PeCB	106		U		1.21 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C K	7.47	1.22 (S)	1.23	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			18.6	1.09 (S)	1.51	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	444	0.849 (Q)	1.63	0.925
2,3,3',5,5'-PeCB	111		U		0.855 (S)		
2,3,3',5,6-PeCB	112		U		0.849 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	3.66	1.08 (S)	1.65	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			198	1.18 (S)	1.52	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	2.54	0.849 (Q)	2.41	0.960
2,3',4,5',6-PeCB	121		K J	1.22	0.932 (S)	0.88	1.200
2',3,3',4,5-PeCB	122		J	1.61	1.24 (S)	1.39	1.010
2',3,4,4',5-PeCB	123		K J	4.68	1.10 (S)	1.97	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		1.18 (S)		
3,3',4,5,5'-PeCB	127		U		1.18 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	27.3	0.849 (Q)	1.31	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	201	0.849 (Q)	1.36	0.929
2,2',3,3',4,5'-HxCB	130		K	13.9	0.849 (Q)	1.57	0.913
2,2',3,3',4,6-HxCB	131		K J	2.99	0.849 (Q)	2.50	1.158
2,2',3,3',4,6'-HxCB	132			77.5	0.849 (Q)	1.35	1.172
2,2',3,3',5,5'-HxCB	133		J	4.74	0.849 (Q)	1.37	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C K	16.5	0.849 (Q)	1.49	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C G	131	0.849 (Q)	1.24	1.103
2,2',3,3',6,6'-HxCB	136			39.4	0.849 (Q)	1.14	1.022
2,2',3,4,4',5-HxCB	137		K J	6.60	0.849 (Q)	0.79	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	4.17	0.849 (Q)	1.20	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			32.8	0.849 (Q)	1.16	0.903
2,2',3,4,5,6-HxCB	142		U		0.849 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			13.4	0.849 (Q)	1.15	1.121
2,2',3,4,6,6'-HxCB	145		U		0.849 (Q)		
2,2',3,4',5,5'-HxCB	146			53.8	0.849 (Q)	1.38	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	287	0.849 (Q)	1.22	1.132
2,2',3,4',5,6'-HxCB	148		K J	1.44	0.849 (Q)	2.73	1.083
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		J	1.08	0.849 (Q)	1.15	1.012
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.849 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	233	0.849 (Q)	1.19	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.849 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C K	14.1	0.849 (Q)	0.90	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			15.7	0.849 (Q)	1.34	0.938
2,3,3',4,5,5'-HxCB	159		K J	2.98	0.849 (Q)	2.98	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.
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		0.849 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.849 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			15.2	0.849 (Q)	1.33	0.921
2,3,3',5,5',6-HxCB	165		U		0.849 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K J	6.03	0.849 (Q)	0.86	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.849 (Q)		
2,2',3,3',4,4',5-HpCB	170		K	19.4	0.849 (Q)	1.22	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	8.34	0.849 (Q)	1.06	1.162
2,2',3,3',4,5,5'-HpCB	172		J	4.74	0.849 (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			30.0	0.849 (Q)	1.07	1.133
2,2',3,3',4,5',6-HpCB	175		U		0.849 (Q)		
2,2',3,3',4,6,6'-HpCB	176		J	4.05	0.849 (Q)	1.18	1.034
2,2',3,3',4',5,6-HpCB	177		G	16.3	0.849 (Q)	1.09	1.145
2,2',3,3',5,5',6-HpCB	178			7.65	0.849 (Q)	0.93	1.085
2,2',3,3',5,6,6'-HpCB	179			14.0	0.849 (Q)	1.19	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	67.6	0.849 (Q)	1.11	1.001
2,2',3,4,4',5,6-HpCB	181		U		0.849 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		0.849 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	19.7	0.849 (Q)	1.14	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.849 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.849 (Q)		
2,2',3,4',5,5',6-HpCB	187			47.5	0.849 (Q)	1.00	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.849 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.849 (Q)		
2,3,3',4,4',5,6-HpCB	190		J	5.01	0.849 (Q)	1.16	0.947
2,3,3',4,4',5',6-HpCB	191		U		0.849 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.849 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			16.9	0.849 (Q)	0.96	0.991
2,2',3,3',4,4',5,6-OcCB	195		J	4.60	0.849 (Q)	0.99	0.945
2,2',3,3',4,4',5,6'-OcCB	196			10.7	0.849 (Q)	1.01	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C J	2.29	0.849 (Q)	0.80	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K	21.7	0.849 (Q)	1.18	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	1.58	0.849 (Q)	2.82	1.023
2,2',3,3',5,5',6,6'-OcCB	202		K J G	4.99	0.849 (Q)	1.18	1.001
2,2',3,4,4',5,5',6-OcCB	203			15.7	0.849 (Q)	1.00	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		0.849 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	1.11	0.849 (Q)	0.69	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			23.6	3.85 (S)	0.88	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	4.99	2.41 (S)	0.93	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			9.09	2.66 (S)	0.84	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K	6.85	0.849 (Q)	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; 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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-3_Form1A_PB9C_036S8_SJ2509688.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T03-1811
Sample Collection:
27-Nov-2018 16:22

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.:**	L30522-3
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 15:12:37	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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	1450	36.2	3.18	0.717
13C12-4-MoCB	3L			4000	1610	40.1	3.19	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		G	4000	1770	44.3	0.79	0.814
13C12-3,3',4,4'-TeCB	77L			4000	2260	56.6	0.73	1.396
13C12-3,4,4',5-TeCB	81L			4000	2450	61.3	0.74	1.372
13C12-2,2',4,6,6'-PeCB	104L			4000	1920	47.9	1.63	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	2700	67.4	1.56	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2490	62.1	1.60	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2540	63.4	1.54	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2770	69.4	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2570	64.3	1.57	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2080	52.0	1.31	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5160	64.5	1.22	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2730	68.2	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2690	67.2	1.22	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2220	55.4	1.09	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2210	55.3	1.08	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2090	52.2	1.06	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	2780	69.6	1.01	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		G	4000	1860	46.4	0.90	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	2870	71.7	0.85	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2580	64.5	0.73	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3020	75.6	0.73	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2410	60.3	1.20	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1200	59.9	1.02	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1450	72.5	1.67	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1300	64.8	1.05	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; 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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-3_Form2_PB9C_036S8_SJ2509688.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T03-1811
Sample Collection:
27-Nov-2018 16:22

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.:**	L30522-3 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 01:18:43	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		D	452	25.4 (S)	1.60	1.001
2,3-DiCB	5		U D		22.0 (S)		
2,3'-DiCB	6		D	69.7	19.8 (S)	1.59	1.176
2,4-DiCB	7		K D	35.4	20.7 (S)	0.83	1.159
2,4'-DiCB	8		D	281	18.5 (S)	1.44	1.208
2,5-DiCB	9		K D J	22.8	19.0 (S)	1.12	1.146
2,6-DiCB	10		K D J	21.1	19.7 (S)	1.19	1.013
3,3'-DiCB	11		D G	1040	20.9 (S)	1.62	0.968
3,4-DiCB	12	12 + 13	C K D G	54.4	21.1 (S)	4.73	0.985
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U D		20.4 (S)		
4,4'-DiCB	15		D	123	22.2 (S)	1.62	1.001
2,2',3-TriCB	16		K D	157	2.49 (S)	1.42	1.167
2,2',4-TriCB	17		D	303	2.01 (S)	0.92	1.139
2,2',5-TriCB	18	18 + 30	C D	276	1.65 (S)	0.99	1.114
2,2',6-TriCB	19		D	218	2.05 (S)	0.95	1.001
2,3,3'-TriCB	20	20 + 28	C D	430	4.33 (S)	1.06	0.848
2,3,4-TriCB	21	21 + 33	C D	482	4.31 (S)	1.05	0.856
2,3,4'-TriCB	22		D G	164	4.82 (S)	0.98	0.872
2,3,5-TriCB	23		U D		4.81 (S)		
2,3,6-TriCB	24		K D J	5.77	1.41 (S)	1.33	1.160
2,3',4-TriCB	25		D	184	3.87 (S)	1.08	0.825
2,3',5-TriCB	26	26 + 29	C D	90.6	4.43 (S)	1.10	1.304
2,3',6-TriCB	27		K D J G	16.8	1.39 (S)	0.87	1.153
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		D	324	4.14 (S)	1.00	0.837
2,4',6-TriCB	32		D	150	4.25 (S)	0.94	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U D		4.56 (S)		
3,3',4-TriCB	35		K D J	14.3	4.73 (S)	1.37	0.985
3,3',5-TriCB	36		D J	10.5	4.35 (S)	0.97	0.932
3,4,4'-TriCB	37		D	69.8	4.50 (S)	0.97	1.000
3,4,5-TriCB	38		U D		4.21 (S)		
3,4',5-TriCB	39		U D		4.35 (S)		

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				

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; 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-3_Form1A_PB9C_039S6_SJ2510462.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T03-1811
Sample Collection:
27-Nov-2018 16:22

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.:**	L30522-3 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 01:18:43	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		D	4000	1970	49.3	1.60	0.873
13C12-4,4'-DiCB	15L		D	4000	1920	47.9	1.56	1.253
13C12-2,2',6-TriCB	19L		D	4000	2240	56.0	1.07	1.072
13C12-3,4,4'-TriCB	37L		D	4000	1700	42.6	1.05	1.090
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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-3_Form2_PB9C_039S6_SJ2510462.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-WS-T03-1811
Sample Collection:
27-Nov-2018 16:22

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-3
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 15:12:37	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		4540	38.9 (S)	113	1.03	0.837
13C12-2,2',3,5',6-PeCB	95L	4000		4360	0.563 (S)	109	1.61	0.778
13C12-2,2',4,4',5,5'-HxCB	153L	4000		4970	0.0177 (S)	124	1.24	0.898

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T07-1811
Sample Collection:
28-Nov-2018 13:18

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.:**	L30522-4
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 16:16:52	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			138	1.21 (S)	3.05	1.001
3-MoCB	2			33.7	1.44 (S)	3.17	0.989
4-MoCB	3			35.6	1.22 (S)	3.00	1.001
2,2'-DiCB	4			226	7.01 (S)	1.52	1.001
2,3-DiCB	5		K J	6.58	6.18 (S)	1.20	1.200
2,3'-DiCB	6			41.2	5.68 (S)	1.65	1.177
2,4-DiCB	7		K	17.2	5.84 (S)	2.07	1.159
2,4'-DiCB	8			158	5.22 (S)	1.47	1.210
2,5-DiCB	9			15.3	5.43 (S)	1.40	1.147
2,6-DiCB	10			9.77	5.79 (S)	1.39	1.016
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		5.66 (S)		
4,4'-DiCB	15			61.7	5.49 (S)	1.39	1.001
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				

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	55.6	0.936 (S)	0.71	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			28.4	1.02 (S)	0.72	1.312
2,2',3,5-TeCB	43		K J	4.62	1.21 (S)	1.17	1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1990	0.857 (S)	0.78	1.288
2,2',3,6-TeCB	45	45 + 51	C	4360	1.01 (S)	0.78	1.149
2,2',3,6'-TeCB	46			13.3	1.18 (S)	0.82	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		K	21.6	0.997 (S)	0.92	1.274
2,2',4,5'-TeCB	49	49 + 69	C	103	0.851 (Q)	0.75	1.259
2,2',4,6-TeCB	50	50 + 53	C	26.7	1.00 (S)	0.76	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			189	0.875 (S)	0.80	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	1.09	0.851 (Q)	0.73	1.002
2,3,3',4-TeCB	55		U		2.87 (S)		
2,3,3',4'-TeCB	56			27.7	2.77 (S)	0.68	0.905
2,3,3',5-TeCB	57		U		2.73 (S)		
2,3,3',5'-TeCB	58		U		2.98 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	11.9	0.851 (Q)	0.82	1.302
2,3,4,4'-TeCB	60			15.4	2.69 (S)	0.76	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	132	2.61 (S)	0.75	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	3.76	2.68 (S)	0.69	0.865
2,3,4',6-TeCB	64			49.1	0.851 (Q)	0.86	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			69.7	2.64 (S)	0.79	0.885
2,3',4,5-TeCB	67		K J	2.94	2.46 (S)	0.51	0.857
2,3',4,5'-TeCB	68			1070	2.64 (S)	0.74	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		2.66 (S)		
2,3',5',6-TeCB	73		K J	0.926	0.851 (Q)	1.65	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		K	9.45	2.62 (S)	0.89	1.001
3,3',4,5-TeCB	78		U		2.53 (S)		
3,3',4,5'-TeCB	79		K J	2.23	2.04 (S)	0.99	0.971
3,3',5,5'-TeCB	80		U		2.40 (S)		
3,4,4',5-TeCB	81		U		2.32 (S)		
2,2',3,3',4-PeCB	82		K	14.0	0.851 (Q)	1.90	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	75.3	0.851 (Q)	1.66	0.885
2,2',3,3',6-PeCB	84			34.9	0.851 (Q)	1.47	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	22.0	0.851 (Q)	1.77	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	91.2	0.851 (Q)	1.44	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	23.6	0.851 (Q)	1.73	1.154
2,2',3,4,6'-PeCB	89		K J	1.61	0.851 (Q)	1.99	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	131	0.851 (Q)	1.58	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			34.7	0.851 (Q)	1.51	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	139	0.851 (Q)	1.55	1.120
2,2',3,5,6'-PeCB	94		J	0.902	0.851 (Q)	1.41	1.101
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	1.43	0.851 (Q)	1.19	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				

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	2.16	0.851 (Q)	1.26	1.093
2,2',4,6,6'-PeCB	104		U		0.851 (Q)		
2,3,3',4,4'-PeCB	105			32.5	0.851 (Q)	1.44	1.000
2,3,3',4,5-PeCB	106		U		0.974 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C J	3.67	0.981 (S)	1.76	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		K J	6.47	0.881 (S)	1.30	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	152	0.851 (Q)	1.69	0.925
2,3,3',5,5'-PeCB	111		U		0.851 (Q)		
2,3,3',5,6-PeCB	112		U		0.851 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	2.64	0.867 (S)	1.46	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			80.2	0.940 (S)	1.55	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		0.851 (Q)		
2,3',4,5',6-PeCB	121		U		0.851 (Q)		
2',3,3',4,5-PeCB	122		U		0.996 (S)		
2',3,4,4',5-PeCB	123		K J	3.67	0.851 (Q)	1.92	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		0.926 (S)		
3,3',4,5,5'-PeCB	127		U		0.946 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	10.4	0.851 (Q)	1.13	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	81.9	0.851 (Q)	1.32	0.929
2,2',3,3',4,5'-HxCB	130		J	5.29	0.851 (Q)	1.22	0.913
2,2',3,3',4,6-HxCB	131		J	1.59	0.851 (Q)	1.41	1.158
2,2',3,3',4,6'-HxCB	132			27.6	0.851 (Q)	1.21	1.173
2,2',3,3',5,5'-HxCB	133		K J	0.984	0.851 (Q)	2.07	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C K J	5.85	0.851 (Q)	1.62	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	50.1	0.851 (Q)	1.23	1.103
2,2',3,3',6,6'-HxCB	136			9.85	0.851 (Q)	1.25	1.023
2,2',3,4,4',5-HxCB	137		K J	4.74	0.851 (Q)	0.76	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	1.62	0.851 (Q)	1.01	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			13.3	0.851 (Q)	1.29	0.903
2,2',3,4,5,6-HxCB	142		U		0.851 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		J	4.54	0.851 (Q)	1.26	1.121
2,2',3,4,6,6'-HxCB	145		U		0.851 (Q)		
2,2',3,4',5,5'-HxCB	146			20.2	0.851 (Q)	1.20	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	95.4	0.851 (Q)	1.21	1.132
2,2',3,4',5,6'-HxCB	148		U		0.851 (Q)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.851 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.851 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	89.7	0.851 (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		U		0.851 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C J	7.31	0.851 (Q)	1.18	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			7.87	0.851 (Q)	1.40	0.938
2,3,3',4,5,5'-HxCB	159		U		0.851 (Q)		
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		0.851 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.851 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		K J	5.76	0.851 (Q)	1.91	0.921
2,3,3',5,5',6-HxCB	165		U		0.851 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K J	2.99	0.851 (Q)	0.91	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.851 (Q)		
2,2',3,3',4,4',5-HpCB	170			10.6	0.851 (Q)	1.14	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K J	3.15	0.851 (Q)	1.62	1.162
2,2',3,3',4,5,5'-HpCB	172		K J	1.99	0.851 (Q)	0.43	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			11.3	0.851 (Q)	1.00	1.133
2,2',3,3',4,5',6-HpCB	175		U		0.851 (Q)		
2,2',3,3',4,6,6'-HpCB	176		J	2.00	0.851 (Q)	1.12	1.034
2,2',3,3',4',5,6-HpCB	177		K J	6.74	0.851 (Q)	0.89	1.145
2,2',3,3',5,5',6-HpCB	178		K J	2.87	0.851 (Q)	0.79	1.085
2,2',3,3',5,6,6'-HpCB	179		J	6.25	0.851 (Q)	0.95	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	34.1	0.851 (Q)	0.97	1.001
2,2',3,4,4',5,6-HpCB	181		U		0.851 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U G		0.851 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K	8.19	0.851 (Q)	0.84	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.851 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.851 (Q)		
2,2',3,4',5,5',6-HpCB	187			18.0	0.851 (Q)	1.04	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.851 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.851 (Q)		
2,3,3',4,4',5,6-HpCB	190		K J	1.61	0.851 (Q)	1.37	0.947
2,3,3',4,4',5',6-HpCB	191		U		0.851 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.851 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		J	6.36	0.851 (Q)	0.94	0.991
2,2',3,3',4,4',5,6-OcCB	195		J	1.96	0.851 (Q)	0.91	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K J	3.66	0.851 (Q)	0.48	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K J G	2.21	0.851 (Q)	0.74	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	7.05	0.851 (Q)	0.93	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		U		0.851 (Q)		
2,2',3,3',5,5',6,6'-OcCB	202		J	3.35	0.851 (Q)	0.91	1.000
2,2',3,4,4',5,5',6-OcCB	203		K J	4.97	0.851 (Q)	0.64	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		0.851 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.851 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		J	6.07	3.07 (S)	0.81	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		U		1.97 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		K J	3.01	2.23 (S)	0.93	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	3.79	0.851 (Q)	1.34	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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-4_Form1A_PB9C_036S9_SJ2509690.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T07-1811
Sample Collection:
28-Nov-2018 13:18

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.:**	L30522-4
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 16:16:52	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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	1190	29.9	3.26	0.718
13C12-4-MoCB	3L			4000	1290	32.3	3.08	0.857
13C12-2,2'-DiCB	4L			4000	1390	34.8	1.53	0.872
13C12-4,4'-DiCB	15L			4000	1550	38.8	1.60	1.254
13C12-2,2',6-TriCB	19L		X					
13C12-3,4,4'-TriCB	37L		X					
13C12-2,2',6,6'-TeCB	54L			4000	2180	54.5	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			4000	2830	70.7	0.70	1.396
13C12-3,4,4',5-TeCB	81L			4000	3030	75.8	0.75	1.373
13C12-2,2',4,6,6'-PeCB	104L			4000	1760	44.0	1.63	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3100	77.4	1.55	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2720	68.0	1.58	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2810	70.4	1.58	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	3200	80.0	1.55	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2890	72.2	1.58	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2060	51.6	1.28	0.786
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5730	71.6	1.24	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2950	73.8	1.23	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2870	71.7	1.21	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2340	58.4	1.08	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2300	57.5	1.06	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2240	55.9	1.07	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3000	75.0	1.01	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1670	41.9	0.88	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3170	79.2	0.84	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2850	71.4	0.72	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3240	80.9	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2750	68.7	1.17	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1320	66.1	1.01	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1580	79.0	1.65	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1430	71.5	1.06	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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-4_Form2_PB9C_036S9_SJ2509690.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T07-1811
Sample Collection:
28-Nov-2018 13:18

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.:**	L30522-4 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 02:23:01	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		X				
3-MoCB	2		X				
4-MoCB	3		X				
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		D	825	22.7 (S)	1.53	0.969
3,4-DiCB	12	12 + 13	C K D	42.9	22.9 (S)	2.62	0.985
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TriCB	16		D	63.9	2.57 (S)	1.01	1.165
2,2',4-TriCB	17		D	157	2.07 (S)	0.94	1.139
2,2',5-TriCB	18	18 + 30	C D	136	1.71 (S)	1.02	1.114
2,2',6-TriCB	19		K D	34.8	2.28 (S)	1.32	1.001
2,3,3'-TriCB	20	20 + 28	C D	188	3.53 (S)	0.96	0.848
2,3,4-TriCB	21	21 + 33	C D	233	3.51 (S)	1.04	0.855
2,3,4'-TriCB	22		D	80.9	3.93 (S)	0.93	0.871
2,3,5-TriCB	23		U D		3.92 (S)		
2,3,6-TriCB	24		K D J	3.56	1.46 (S)	1.38	1.159
2,3',4-TriCB	25		D	45.8	3.15 (S)	1.19	0.825
2,3',5-TriCB	26	26 + 29	C D J	31.7	3.61 (S)	1.06	1.302
2,3',6-TriCB	27		K D J	16.7	1.44 (S)	1.41	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		D	148	3.37 (S)	1.03	0.837
2,4',6-TriCB	32		K D	56.8	3.47 (S)	1.21	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U D		3.72 (S)		
3,3',4-TriCB	35		D J	8.21	3.86 (S)	1.19	0.985
3,3',5-TriCB	36		D J	4.16	3.54 (S)	1.02	0.932
3,4,4'-TriCB	37		D J	26.7	3.51 (S)	0.98	1.001
3,4,5-TriCB	38		U D		3.43 (S)		
3,4',5-TriCB	39		U D		3.55 (S)		

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				

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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-4_Form1A_PB9C_039S7_SJ2510464.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T07-1811
Sample Collection:
28-Nov-2018 13:18

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.:**	L30522-4 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 02:23:01	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		D	4000	1530	38.3	1.58	0.873
13C12-4,4'-DiCB	15L		D	4000	1690	42.2	1.53	1.253
13C12-2,2',6-TriCB	19L		D	4000	1820	45.4	1.06	1.073
13C12-3,4,4'-TriCB	37L		D	4000	1780	44.5	1.04	1.090
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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-4_Form2_PB9C_039S7_SJ2510464.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-WS-T07-1811
Sample Collection:
28-Nov-2018 13:18

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-4
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 16:16:52	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		4160	29.8 (S)	104	1.03	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		4240	0.0268 (S)	106	1.61	0.778
13C12-2,2',4,4',5,5'-HxCB	153L	4000		4790	0.0179 (S)	120	1.20	0.898

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681B.xsl; Created: 14-Feb-2019 16:40:40; Application: XMLTransformer-1.17.6; Report Filename: 1668_PCB1668_PCBCS_L30522-4_Form1B_SJ2509765.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T02-1811
Sample Collection:
30-Nov-2018 15:06

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.:**	L30522-5
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 17:21:06	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			125	1.90 (S)	3.12	1.003
3-MoCB	2			39.3	2.36 (S)	3.21	0.989
4-MoCB	3			43.7	2.09 (S)	3.32	1.001
2,2'-DiCB	4			310	9.04 (S)	1.47	1.001
2,3-DiCB	5		U		7.79 (S)		
2,3'-DiCB	6		K	60.7	7.16 (S)	1.26	1.176
2,4-DiCB	7			13.8	7.36 (S)	1.51	1.158
2,4'-DiCB	8			269	6.58 (S)	1.58	1.208
2,5-DiCB	9			21.9	6.84 (S)	1.58	1.146
2,6-DiCB	10			13.7	7.29 (S)	1.55	1.014
3,3'-DiCB	11			1030	7.27 (S)	1.52	0.969
3,4-DiCB	12	12 + 13	C	25.2	7.21 (S)	1.57	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		7.12 (S)		
4,4'-DiCB	15			86.5	6.81 (S)	1.48	1.001
2,2',3-TriCB	16			122	2.59 (S)	1.04	1.167
2,2',4-TriCB	17			184	2.24 (S)	1.15	1.139
2,2',5-TriCB	18	18 + 30	C	256	1.86 (S)	1.08	1.114
2,2',6-TriCB	19			158	2.78 (S)	1.10	1.001
2,3,3'-TriCB	20	20 + 28	C	322	1.58 (S)	1.04	0.848
2,3,4-TriCB	21	21 + 33	C	156	1.58 (S)	1.01	0.857
2,3,4'-TriCB	22			129	1.75 (S)	1.04	0.872
2,3,5-TriCB	23		U		1.85 (S)		
2,3,6-TriCB	24		K J	4.55	1.69 (S)	0.66	1.161
2,3',4-TriCB	25			79.8	1.48 (S)	0.98	0.825
2,3',5-TriCB	26	26 + 29	C	61.0	1.69 (S)	0.97	1.303
2,3',6-TriCB	27			35.5	1.53 (S)	0.98	1.153
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			238	1.51 (S)	0.98	0.836
2,4',6-TriCB	32		G	118	1.69 (S)	0.97	1.199
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	2.89	1.79 (S)	1.02	1.276
3,3',4-TriCB	35			8.47	1.63 (S)	0.92	0.985
3,3',5-TriCB	36		J	4.51	1.55 (S)	1.01	0.932
3,4,4'-TriCB	37			43.0	1.38 (S)	1.02	1.001
3,4,5-TriCB	38		K J	2.60	1.49 (S)	1.33	0.968
3,4',5-TriCB	39		K J	3.54	1.54 (S)	0.78	0.946

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	126	1.29 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			70.9	1.40 (S)	0.80	1.313
2,2',3,5-TeCB	43			10.7	1.67 (S)	0.68	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	599	1.18 (S)	0.79	1.287
2,2',3,6-TeCB	45	45 + 51	C	923	1.39 (S)	0.79	1.149
2,2',3,6'-TeCB	46		K	22.7	1.63 (S)	0.91	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			41.1	1.37 (S)	0.81	1.275
2,2',4,5'-TeCB	49	49 + 69	C	230	1.14 (S)	0.79	1.260
2,2',4,6-TeCB	50	50 + 53	C	82.6	1.38 (S)	0.79	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			401	1.20 (S)	0.78	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K	17.0	1.23 (S)	0.94	1.001
2,3,3',4-TeCB	55		K J	3.88	3.49 (S)	0.57	0.889
2,3,3',4'-TeCB	56			68.0	3.37 (S)	0.76	0.905
2,3,3',5-TeCB	57		U		3.32 (S)		
2,3,3',5'-TeCB	58		U		3.62 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	22.2	0.954 (S)	0.82	1.303
2,3,4,4'-TeCB	60			25.3	3.27 (S)	0.77	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	306	3.17 (S)	0.76	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			9.64	3.26 (S)	0.87	0.864
2,3,4',6-TeCB	64			103	0.919 (S)	0.77	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			169	3.22 (S)	0.74	0.885
2,3',4,5-TeCB	67		K J	4.19	3.00 (S)	0.64	0.857
2,3',4,5'-TeCB	68			437	3.22 (S)	0.75	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	7.52	3.24 (S)	0.54	0.823
2,3',5',6-TeCB	73		J	2.69	1.04 (S)	0.70	1.243
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			10.8	2.71 (S)	0.73	1.000
3,3',4,5-TeCB	78		U		3.07 (S)		
3,3',4,5'-TeCB	79		J	5.44	2.48 (S)	0.80	0.970
3,3',5,5'-TeCB	80		U		2.92 (S)		
3,4,4',5-TeCB	81		U		2.89 (S)		
2,2',3,3',4-PeCB	82			28.6	0.853 (Q)	1.71	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	192	0.853 (Q)	1.58	0.885
2,2',3,3',6-PeCB	84			90.8	0.853 (Q)	1.59	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	44.7	0.853 (Q)	1.50	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	179	0.853 (Q)	1.54	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	62.6	0.853 (Q)	1.72	1.155
2,2',3,4,6'-PeCB	89		K J	3.50	0.853 (Q)	1.27	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	321	0.853 (Q)	1.68	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			84.7	0.853 (Q)	1.63	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	352	0.853 (Q)	1.61	1.120
2,2',3,5,6'-PeCB	94		K J	4.44	0.853 (Q)	2.23	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	6.05	0.853 (Q)	1.25	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				

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	9.93	0.853 (Q)	1.91	1.093
2,2',4,6,6'-PeCB	104		K J	2.21	0.853 (Q)	1.09	1.001
2,3,3',4,4'-PeCB	105			51.8	0.853 (Q)	1.58	1.000
2,3,3',4,5-PeCB	106		U		0.853 (Q)		
2,3,3',4',5-PeCB	107	107 + 124	C	9.06	0.853 (Q)	1.51	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			15.0	0.853 (Q)	1.73	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	347	0.853 (Q)	1.64	0.924
2,3,3',5,5'-PeCB	111		U		0.853 (Q)		
2,3,3',5,6-PeCB	112		U		0.853 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	3.58	0.853 (Q)	1.53	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			167	0.853 (Q)	1.57	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	3.41	0.853 (Q)	2.64	0.959
2,3',4,5',6-PeCB	121		U		0.853 (Q)		
2',3,3',4,5-PeCB	122		K J	2.84	0.853 (Q)	0.71	1.011
2',3,4,4',5-PeCB	123		K J	4.03	0.853 (Q)	1.35	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		0.853 (Q)		
3,3',4,5,5'-PeCB	127		U		0.853 (Q)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C K	19.1	0.853 (Q)	1.73	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	159	0.853 (Q)	1.29	0.929
2,2',3,3',4,5'-HxCB	130			11.2	0.853 (Q)	1.13	0.913
2,2',3,3',4,6-HxCB	131		J	2.10	0.853 (Q)	1.41	1.159
2,2',3,3',4,6'-HxCB	132			62.4	0.853 (Q)	1.31	1.173
2,2',3,3',5,5'-HxCB	133		J	3.70	0.853 (Q)	1.15	1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C	11.6	0.853 (Q)	1.09	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	125	0.853 (Q)	1.41	1.103
2,2',3,3',6,6'-HxCB	136			30.5	0.853 (Q)	1.31	1.022
2,2',3,4,4',5-HxCB	137			7.93	0.853 (Q)	1.29	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 K J	2.87	0.853 (Q)	1.57	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			30.2	0.853 (Q)	1.37	0.903
2,2',3,4,5,6-HxCB	142		U		0.853 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			10.7	0.853 (Q)	1.06	1.121
2,2',3,4,6,6'-HxCB	145		U		0.853 (Q)		
2,2',3,4',5,5'-HxCB	146			45.0	0.853 (Q)	1.23	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	222	0.853 (Q)	1.20	1.132
2,2',3,4',5,6'-HxCB	148		K J	1.55	0.853 (Q)	0.24	1.083
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.853 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.853 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	163	0.853 (Q)	1.27	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	0.982	0.853 (Q)	1.72	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C J	12.6	0.853 (Q)	1.17	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			14.1	0.853 (Q)	1.29	0.938
2,3,3',4,5,5'-HxCB	159		K J	1.81	0.853 (Q)	1.81	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		0.853 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.853 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			11.9	0.853 (Q)	1.16	0.921
2,3,3',5,5',6-HxCB	165		U		0.853 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K J	3.72	0.853 (Q)	1.61	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.853 (Q)		
2,2',3,3',4,4',5-HpCB	170		K	13.4	0.853 (Q)	0.76	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C J	5.96	0.853 (Q)	0.97	1.162
2,2',3,3',4,5,5'-HpCB	172		K J	2.87	0.853 (Q)	1.25	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K	18.9	0.853 (Q)	0.74	1.133
2,2',3,3',4,5',6-HpCB	175		K J	0.951	0.853 (Q)	3.76	1.102
2,2',3,3',4,6,6'-HpCB	176		K J	2.62	0.853 (Q)	1.72	1.034
2,2',3,3',4',5,6-HpCB	177		K	12.8	0.853 (Q)	0.87	1.145
2,2',3,3',5,5',6-HpCB	178		J	6.02	0.853 (Q)	1.09	1.085
2,2',3,3',5,6,6'-HpCB	179		K	10.5	0.853 (Q)	1.30	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	52.3	0.853 (Q)	1.13	1.000
2,2',3,4,4',5,6-HpCB	181		U		0.853 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		0.853 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K	14.3	0.853 (Q)	1.24	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.853 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.853 (Q)		
2,2',3,4',5,5',6-HpCB	187			29.2	0.853 (Q)	0.90	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.853 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.853 (Q)		
2,3,3',4,4',5,6-HpCB	190		K J	3.90	0.853 (Q)	1.60	0.947
2,3,3',4,4',5',6-HpCB	191		U		0.853 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.853 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		K J	6.65	0.853 (Q)	1.16	0.991
2,2',3,3',4,4',5,6-OcCB	195		J	2.65	0.853 (Q)	1.01	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K J	2.28	0.853 (Q)	0.68	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K J G	1.40	0.853 (Q)	0.44	1.047
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K	8.74	0.853 (Q)	1.13	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	0.962	0.853 (Q)	0.27	1.023
2,2',3,3',5,5',6,6'-OcCB	202		K J	1.30	0.853 (Q)	0.51	1.001
2,2',3,4,4',5,5',6-OcCB	203		K J	5.16	0.853 (Q)	1.09	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.853 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.853 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		K J	6.35	3.47 (S)	0.51	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		U		2.25 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		2.56 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	4.20	0.853 (Q)	1.93	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-5_Form1A_PB9C_036S10_SJ2509692.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T02-1811
Sample Collection:
30-Nov-2018 15:06

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.:**	L30522-5
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 17:21:06	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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	718	17.9	3.19	0.717
13C12-4-MoCB	3L			4000	711	17.8	3.25	0.856
13C12-2,2'-DiCB	4L		V	4000	868	21.7	1.56	0.873
13C12-4,4'-DiCB	15L			4000	1000	25.0	1.59	1.253
13C12-2,2',6-TriCB	19L		V	4000	991	24.8	1.07	1.072
13C12-3,4,4'-TriCB	37L			4000	1630	40.7	1.03	1.090
13C12-2,2',6,6'-TeCB	54L			4000	1490	37.1	0.77	0.810
13C12-3,3',4,4'-TeCB	77L			4000	2790	69.7	0.74	1.396
13C12-3,4,4',5-TeCB	81L			4000	2550	63.7	0.72	1.373
13C12-2,2',4,6,6'-PeCB	104L			4000	1440	36.1	1.61	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3040	76.0	1.59	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2490	62.3	1.56	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2650	66.3	1.54	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2750	68.8	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2860	71.6	1.57	1.300
13C12-2,2',4,4',6,6'-HxCB	155L			4000	1760	44.0	1.29	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5710	71.4	1.25	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2860	71.6	1.22	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2920	72.9	1.20	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2260	56.4	1.09	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2290	57.1	1.08	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	1980	49.4	1.09	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3140	78.4	0.99	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1500	37.5	0.86	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3210	80.2	0.85	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2940	73.4	0.75	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3280	81.9	0.76	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2790	69.9	1.20	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	968	48.4	1.04	0.923
13C12-2,3,3',5,5'-PeCB	111L			2000	1530	76.5	1.62	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1350	67.5	1.06	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-5_Form2_PB9C_036S10_SJ2509692.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-WS-T02-1811
Sample Collection:
30-Nov-2018 15:06

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-5
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 17:21:06	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		4040	37.5 (S)	101	1.04	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		3830	1.30 (S)	95.7	1.62	0.778
13C12-2,2',4,4',5,5'-HxCB	153L	4000		3940	0.0201 (S)	98.6	1.22	0.899

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T04-1812
Sample Collection:
01-Dec-2018 13:10

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.:**	L30522-6
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 04:12:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_037 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_037 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			58.6	1.20 (S)	3.12	1.003
3-MoCB	2			31.2	1.41 (S)	2.87	0.989
4-MoCB	3			30.7	1.03 (S)	3.07	1.001
2,2'-DiCB	4			175	11.9 (S)	1.41	1.000
2,3-DiCB	5		U		9.89 (S)		
2,3'-DiCB	6			34.1	9.00 (S)	1.60	1.174
2,4-DiCB	7		K	11.5	9.29 (S)	0.76	1.158
2,4'-DiCB	8		G	116	8.21 (S)	1.56	1.206
2,5-DiCB	9		K	13.5	8.59 (S)	1.14	1.144
2,6-DiCB	10		U		8.92 (S)		
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		9.39 (S)		
4,4'-DiCB	15			58.6	8.41 (S)	1.45	1.000
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				

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	78.5	1.05 (S)	0.76	1.335
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			44.7	1.18 (S)	0.67	1.310
2,2',3,5-TeCB	43		K J	3.82	0.847 (Q)	1.02	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	950	0.943 (S)	0.77	1.286
2,2',3,6-TeCB	45	45 + 51	C	600	1.04 (S)	0.78	1.147
2,2',3,6'-TeCB	46			13.2	1.22 (S)	0.72	1.159
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			28.3	1.11 (S)	0.68	1.273
2,2',4,5'-TeCB	49	49 + 69	C	146	0.909 (S)	0.79	1.258
2,2',4,6-TeCB	50	50 + 53	C	44.9	1.01 (S)	0.71	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			282	0.977 (S)	0.79	1.232
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K	7.94	0.847 (Q)	0.57	1.001
2,3,3',4-TeCB	55		U		2.24 (S)		
2,3,3',4'-TeCB	56		K	48.8	2.11 (S)	0.65	0.905
2,3,3',5-TeCB	57		U		2.04 (S)		
2,3,3',5'-TeCB	58		U		2.05 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K	14.1	0.847 (Q)	0.62	1.300
2,3,4,4'-TeCB	60			20.6	2.10 (S)	0.75	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	195	1.91 (S)	0.76	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		J	5.84	1.94 (S)	0.66	0.864
2,3,4',6-TeCB	64			66.9	0.847 (Q)	0.75	1.346
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	116	1.98 (S)	0.79	0.885
2,3',4,5-TeCB	67		K J	2.75	1.70 (S)	0.95	0.857
2,3',4,5'-TeCB	68			277	1.89 (S)	0.72	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		1.97 (S)		
2,3',5',6-TeCB	73		K J	1.48	0.847 (Q)	0.59	1.240
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			9.52	2.02 (S)	0.76	1.000
3,3',4,5-TeCB	78		U		1.99 (S)		
3,3',4,5'-TeCB	79		J	2.53	1.51 (S)	0.70	0.970
3,3',5,5'-TeCB	80		U		1.80 (S)		
3,4,4',5-TeCB	81		U		1.63 (S)		
2,2',3,3',4-PeCB	82			24.3	0.847 (Q)	1.38	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	121	0.847 (Q)	1.55	0.886
2,2',3,3',6-PeCB	84			54.4	0.847 (Q)	1.32	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	28.3	0.847 (Q)	1.58	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	129	0.847 (Q)	1.75	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	32.6	0.847 (Q)	1.33	1.155
2,2',3,4,6'-PeCB	89		J	1.99	0.847 (Q)	1.62	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	198	0.847 (Q)	1.73	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			57.9	0.847 (Q)	1.52	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	195	0.847 (Q)	1.66	1.121
2,2',3,5,6'-PeCB	94		K J	3.22	0.847 (Q)	2.34	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	2.32	0.847 (Q)	1.66	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				

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		J	5.33	0.847 (Q)	1.77	1.094
2,2',4,6,6'-PeCB	104		K J	1.12	0.847 (Q)	0.73	1.001
2,3,3',4,4'-PeCB	105			39.9	0.847 (Q)	1.69	1.000
2,3,3',4,5-PeCB	106		U		0.917 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C K J	6.37	0.993 (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	9.73	0.890 (S)	1.26	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	241	0.847 (Q)	1.57	0.925
2,3,3',5,5'-PeCB	111		U		0.847 (Q)		
2,3,3',5,6-PeCB	112		U		0.847 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K J	2.54	0.847 (Q)	0.91	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			114	0.888 (S)	1.42	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	1.10	0.847 (Q)	1.37	0.960
2,3',4,5',6-PeCB	121		J	0.995	0.847 (Q)	1.73	1.200
2',3,3',4,5-PeCB	122		J	1.36	1.05 (S)	1.61	1.010
2',3,4,4',5-PeCB	123		K J	4.22	0.847 (Q)	1.18	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		0.883 (S)		
3,3',4,5,5'-PeCB	127		U		0.953 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	16.1	0.847 (Q)	1.36	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	122	0.847 (Q)	1.25	0.929
2,2',3,3',4,5'-HxCB	130		K	8.54	0.847 (Q)	1.70	0.913
2,2',3,3',4,6-HxCB	131		J	2.64	0.847 (Q)	1.24	1.159
2,2',3,3',4,6'-HxCB	132			43.1	0.847 (Q)	1.25	1.173
2,2',3,3',5,5'-HxCB	133		J	2.48	0.847 (Q)	1.08	1.190
2,2',3,3',5,6-HxCB	134	134 + 143	C	8.24	0.847 (Q)	1.22	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C G	69.7	0.847 (Q)	1.29	1.103
2,2',3,3',6,6'-HxCB	136		K	21.0	0.847 (Q)	1.02	1.022
2,2',3,4,4',5-HxCB	137		K J	6.10	0.847 (Q)	1.02	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 K J	1.80	0.847 (Q)	0.94	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			19.8	0.847 (Q)	1.27	0.904
2,2',3,4,5,6-HxCB	142		U		0.847 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			10.1	0.847 (Q)	1.16	1.121
2,2',3,4,6,6'-HxCB	145		U		0.847 (Q)		
2,2',3,4',5,5'-HxCB	146		K	29.3	0.847 (Q)	1.02	0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	170	0.847 (Q)	1.22	1.132
2,2',3,4',5,6'-HxCB	148		K J	1.16	0.847 (Q)	2.84	1.083
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.847 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.847 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	118	0.847 (Q)	1.21	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	1.22	0.847 (Q)	0.94	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C J	9.60	0.847 (Q)	1.30	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			11.0	0.847 (Q)	1.22	0.938
2,3,3',4,5,5'-HxCB	159		U		0.847 (Q)		
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		0.847 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.847 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			8.07	0.847 (Q)	1.24	0.921
2,3,3',5,5',6-HxCB	165		U		0.847 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K J	3.07	0.847 (Q)	0.64	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.847 (Q)		
2,2',3,3',4,4',5-HpCB	170			11.9	0.847 (Q)	1.11	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K J	4.99	0.847 (Q)	0.74	1.162
2,2',3,3',4,5,5'-HpCB	172		K J	3.12	0.847 (Q)	1.63	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K	18.8	0.847 (Q)	1.46	1.132
2,2',3,3',4,5',6-HpCB	175		U		0.847 (Q)		
2,2',3,3',4,6,6'-HpCB	176		K J	1.87	0.847 (Q)	0.79	1.033
2,2',3,3',4',5,6-HpCB	177			8.48	0.847 (Q)	1.07	1.145
2,2',3,3',5,5',6-HpCB	178		U		0.847 (Q)		
2,2',3,3',5,6,6'-HpCB	179			8.65	0.847 (Q)	0.90	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	35.8	0.847 (Q)	1.03	1.000
2,2',3,4,4',5,6-HpCB	181		U		0.847 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		0.847 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	13.0	0.847 (Q)	0.94	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	1.09	0.847 (Q)	0.73	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.847 (Q)		
2,2',3,4',5,5',6-HpCB	187			28.7	0.847 (Q)	0.98	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.847 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.847 (Q)		
2,3,3',4,4',5,6-HpCB	190		K J	2.62	0.847 (Q)	1.50	0.947
2,3,3',4,4',5',6-HpCB	191		U		0.847 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.847 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			14.9	0.847 (Q)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195		J	3.83	0.847 (Q)	0.79	0.946
2,2',3,3',4,4',5,6'-OcCB	196			12.5	0.847 (Q)	0.96	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K J	3.58	0.847 (Q)	0.60	1.047
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	24.8	0.847 (Q)	0.99	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		K J	1.43	0.847 (Q)	0.40	1.022
2,2',3,3',5,5',6,6'-OcCB	202		K J	3.54	0.847 (Q)	0.70	1.000
2,2',3,4,4',5,5',6-OcCB	203			23.1	0.847 (Q)	0.87	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		0.847 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.847 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206			27.4	2.98 (S)	0.80	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		J	4.62	1.87 (S)	0.80	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			10.7	2.02 (S)	0.73	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		J	6.27	0.847 (Q)	1.23	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-6_Form1A_PB9C_037S9_SJ2509704.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T04-1812
Sample Collection:
01-Dec-2018 13:10

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.:**	L30522-6
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 04:12:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_037 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_037 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	1410	35.3	3.25	0.716
13C12-4-MoCB	3L			4000	1690	42.2	3.10	0.856
13C12-2,2'-DiCB	4L			4000	1520	38.1	1.57	0.874
13C12-4,4'-DiCB	15L			4000	1900	47.6	1.58	1.254
13C12-2,2',6-TriCB	19L		X					
13C12-3,4,4'-TriCB	37L		X					
13C12-2,2',6,6'-TeCB	54L			4000	2210	55.2	0.79	0.812
13C12-3,3',4,4'-TeCB	77L			4000	2210	55.3	0.71	1.396
13C12-3,4,4',5-TeCB	81L			4000	2580	64.5	0.73	1.372
13C12-2,2',4,6,6'-PeCB	104L			4000	1770	44.3	1.57	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	2770	69.2	1.57	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2420	60.6	1.62	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2410	60.3	1.55	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2900	72.4	1.55	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	2440	61.0	1.54	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2300	57.5	1.28	0.786
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5470	68.3	1.25	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2860	71.5	1.23	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2870	71.8	1.24	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3460	86.4	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3350	83.9	1.09	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2570	64.3	1.07	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	2750	68.8	0.99	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2080	52.0	0.90	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3240	81.0	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3110	77.7	0.80	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3650	91.3	0.77	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	3140	78.5	1.19	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1170	58.3	1.04	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1420	70.8	1.62	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1460	73.2	1.07	1.011

(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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-6_Form2_PB9C_037S9_SJ2509704.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T04-1812
Sample Collection:
01-Dec-2018 13:10

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.:**	L30522-6 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 04:31:40	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		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		D G	565	18.9 (S)	1.67	0.968
3,4-DiCB	12	12 + 13	C K D G	47.9	19.1 (S)	2.69	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TriCB	16		D	66.6	2.66 (S)	1.01	1.167
2,2',4-TriCB	17		D	108	2.14 (S)	0.92	1.140
2,2',5-TriCB	18	18 + 30	C D	141	1.77 (S)	1.15	1.115
2,2',6-TriCB	19		D	96.2	2.43 (S)	0.91	1.001
2,3,3'-TriCB	20	20 + 28	C D	214	3.73 (S)	0.98	0.848
2,3,4-TriCB	21	21 + 33	C D	101	3.72 (S)	0.96	0.856
2,3,4'-TriCB	22		D	92.5	4.15 (S)	0.99	0.872
2,3,5-TriCB	23		U D		4.14 (S)		
2,3,6-TriCB	24		D J	3.26	1.51 (S)	1.10	1.160
2,3',4-TriCB	25		D	38.5	3.33 (S)	1.13	0.825
2,3',5-TriCB	26	26 + 29	C K D	38.6	3.82 (S)	0.84	1.304
2,3',6-TriCB	27		D J G	12.0	1.49 (S)	1.17	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		D	153	3.57 (S)	0.91	0.837
2,4',6-TriCB	32		D	72.0	3.67 (S)	1.06	1.199
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U D		3.93 (S)		
3,3',4-TriCB	35		D J	5.12	4.08 (S)	1.01	0.985
3,3',5-TriCB	36		K D J	4.04	3.75 (S)	2.07	0.933
3,4,4'-TriCB	37		K D J	31.8	3.65 (S)	1.35	1.001
3,4,5-TriCB	38		U D		3.63 (S)		
3,4',5-TriCB	39		U D		3.75 (S)		

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				

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; 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-6_Form1A_PB9C_039S9_SJ2510468.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T04-1812
Sample Collection:
01-Dec-2018 13:10

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.:**	L30522-6 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 04:31:40	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		D	4000	1620	40.5	1.62	0.873
13C12-4,4'-DiCB	15L		D	4000	1990	49.7	1.58	1.253
13C12-2,2',6-TriCB	19L		D	4000	1900	47.5	1.05	1.072
13C12-3,4,4'-TriCB	37L		D	4000	1870	46.8	1.06	1.090
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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-6_Form2_PB9C_039S9_SJ2510468.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-WS-T04-1812
Sample Collection:
01-Dec-2018 13:10

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-6
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 04:12:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_037 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		3170	42.2 (S)	79.2	1.03	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		3030	0.296 (S)	75.8	1.59	0.779
13C12-2,2',4,4',5,5'-HxCB	153L	4000		4170	0.0155 (S)	104	1.21	0.899

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681B.xsl; Created: 14-Feb-2019 16:40:40; Application: XMLTransformer-1.17.6; Report Filename: 1668_PCB1668_PCBCS_L30522-6_Form1B_SJ2509769.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T06-1811
Sample Collection:
30-Nov-2018 16:26

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.:**	L30522-7
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 05:16:27	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_037 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_037 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			53.0	1.08 (S)	2.88	1.001
3-MoCB	2			34.0	1.35 (S)	2.97	0.988
4-MoCB	3			31.1	1.04 (S)	3.07	1.001
2,2'-DiCB	4			124	11.3 (S)	1.57	1.000
2,3-DiCB	5		U		9.49 (S)		
2,3'-DiCB	6			30.7	8.63 (S)	1.44	1.174
2,4-DiCB	7			11.5	8.91 (S)	1.35	1.159
2,4'-DiCB	8			133	7.88 (S)	1.43	1.208
2,5-DiCB	9			13.4	8.24 (S)	1.49	1.146
2,6-DiCB	10		U		8.56 (S)		
3,3'-DiCB	11		G	706	9.32 (S)	1.54	0.968
3,4-DiCB	12	12 + 13	C K	17.7	9.22 (S)	1.23	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		9.01 (S)		
4,4'-DiCB	15			49.1	8.15 (S)	1.49	1.001
2,2',3-TriCB	16			57.0	1.49 (S)	1.12	1.167
2,2',4-TriCB	17			95.4	1.24 (S)	1.10	1.140
2,2',5-TriCB	18	18 + 30	C	124	1.02 (S)	1.17	1.115
2,2',6-TriCB	19		K	28.0	1.56 (S)	1.30	1.001
2,3,3'-TriCB	20	20 + 28	C	161	1.44 (S)	0.97	0.848
2,3,4-TriCB	21	21 + 33	C	93.9	1.45 (S)	0.90	0.856
2,3,4'-TriCB	22			70.3	1.66 (S)	0.97	0.872
2,3,5-TriCB	23		U		1.64 (S)		
2,3,6-TriCB	24		K J	1.98	0.899 (S)	1.34	1.160
2,3',4-TriCB	25			32.2	1.27 (S)	0.97	0.824
2,3',5-TriCB	26	26 + 29	C	28.8	1.51 (S)	1.00	1.304
2,3',6-TriCB	27			15.1	0.850 (Q)	1.02	1.153
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			122	1.37 (S)	1.00	0.837
2,4',6-TriCB	32		G	34.3	1.43 (S)	0.97	1.200
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		1.57 (S)		
3,3',4-TriCB	35		K J	5.79	1.66 (S)	0.81	0.985
3,3',5-TriCB	36		J	2.23	1.48 (S)	1.01	0.932
3,4,4'-TriCB	37			24.4	1.22 (S)	1.07	1.001
3,4,5-TriCB	38		U		1.40 (S)		
3,4',5-TriCB	39		U		1.52 (S)		

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	58.6	0.850 (Q)	0.75	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			30.4	0.850 (Q)	0.84	1.312
2,2',3,5-TeCB	43		J	3.51	0.850 (Q)	0.69	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	767	0.850 (Q)	0.76	1.288
2,2',3,6-TeCB	45	45 + 51	C	835	0.850 (Q)	0.74	1.149
2,2',3,6'-TeCB	46		K	11.1	0.850 (Q)	0.89	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			21.8	0.850 (Q)	0.87	1.274
2,2',4,5'-TeCB	49	49 + 69	C	92.3	0.850 (Q)	0.83	1.260
2,2',4,6-TeCB	50	50 + 53	C K	24.7	0.850 (Q)	0.92	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			187	0.850 (Q)	0.78	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	1.65	0.850 (Q)	0.99	1.001
2,3,3',4-TeCB	55		K J	2.98	2.59 (S)	0.48	0.890
2,3,3',4'-TeCB	56			34.3	2.45 (S)	0.76	0.905
2,3,3',5-TeCB	57		U		2.36 (S)		
2,3,3',5'-TeCB	58		U		2.38 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	10.3	0.850 (Q)	0.81	1.302
2,3,4,4'-TeCB	60			20.0	2.43 (S)	0.72	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	148	2.21 (S)	0.73	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		K J	3.16	2.25 (S)	1.10	0.865
2,3,4',6-TeCB	64			53.4	0.850 (Q)	0.78	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			75.6	2.30 (S)	0.74	0.885
2,3',4,5-TeCB	67		K J	2.81	1.97 (S)	0.55	0.856
2,3',4,5'-TeCB	68			346	2.19 (S)	0.75	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		2.28 (S)		
2,3',5',6-TeCB	73		U		0.850 (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 J	6.45	2.05 (S)	1.14	1.001
3,3',4,5-TeCB	78		U		2.31 (S)		
3,3',4,5'-TeCB	79		U		1.75 (S)		
3,3',5,5'-TeCB	80		U		2.09 (S)		
3,4,4',5-TeCB	81		U		1.87 (S)		
2,2',3,3',4-PeCB	82			12.4	0.850 (Q)	1.68	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	63.6	0.850 (Q)	1.62	0.885
2,2',3,3',6-PeCB	84			36.1	0.850 (Q)	1.39	1.162
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	21.3	0.850 (Q)	1.77	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	80.3	0.850 (Q)	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	18.7	0.850 (Q)	1.38	1.154
2,2',3,4,6'-PeCB	89		K J	1.95	0.850 (Q)	1.30	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	114	0.850 (Q)	1.57	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			29.3	0.850 (Q)	1.37	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	114	0.850 (Q)	1.49	1.121
2,2',3,5,6'-PeCB	94		U		0.850 (Q)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	1.08	0.850 (Q)	1.09	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				

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	1.06	0.850 (Q)	0.91	1.093
2,2',4,6,6'-PeCB	104		U		0.850 (Q)		
2,3,3',4,4'-PeCB	105			33.0	0.850 (Q)	1.55	1.000
2,3,3',4,5-PeCB	106		U		0.850 (Q)		
2,3,3',4',5-PeCB	107	107 + 124	C K J	4.15	0.899 (S)	1.04	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		J	5.61	0.850 (Q)	1.32	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	139	0.850 (Q)	1.58	0.925
2,3,3',5,5'-PeCB	111		U		0.850 (Q)		
2,3,3',5,6-PeCB	112		U		0.850 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K J	2.22	0.850 (Q)	2.10	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			79.8	0.850 (Q)	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		K J	1.03	0.850 (Q)	6.28	0.959
2,3',4,5',6-PeCB	121		U		0.850 (Q)		
2',3,3',4,5-PeCB	122		U		0.947 (S)		
2',3,4,4',5-PeCB	123		K J	2.76	0.850 (Q)	1.26	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		0.850 (Q)		
3,3',4,5,5'-PeCB	127		U		0.863 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	12.6	0.850 (Q)	1.41	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	78.5	0.850 (Q)	1.16	0.929
2,2',3,3',4,5'-HxCB	130		K J	4.89	0.850 (Q)	0.66	0.913
2,2',3,3',4,6-HxCB	131		U		0.850 (Q)		
2,2',3,3',4,6'-HxCB	132			26.3	0.850 (Q)	1.10	1.173
2,2',3,3',5,5'-HxCB	133		K J	1.65	0.850 (Q)	0.98	1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C J	5.19	0.850 (Q)	1.28	1.139
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	39.4	0.850 (Q)	1.10	1.102
2,2',3,3',6,6'-HxCB	136		K	10.0	0.850 (Q)	1.01	1.023
2,2',3,4,4',5-HxCB	137		K J	4.37	0.850 (Q)	2.35	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	1.58	0.850 (Q)	1.00	1.152
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			12.4	0.850 (Q)	1.14	0.904
2,2',3,4,5,6-HxCB	142		U		0.850 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K J	4.10	0.850 (Q)	1.70	1.120
2,2',3,4,6,6'-HxCB	145		U		0.850 (Q)		
2,2',3,4',5,5'-HxCB	146			20.3	0.850 (Q)	1.21	0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	95.6	0.850 (Q)	1.34	1.132
2,2',3,4',5,6'-HxCB	148		U		0.850 (Q)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.850 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.850 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	72.6	0.850 (Q)	1.12	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.850 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C K J	7.72	0.850 (Q)	0.92	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		K J	6.41	0.850 (Q)	1.59	0.938
2,3,3',4,5,5'-HxCB	159		U		0.850 (Q)		
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		0.850 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.850 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		K J	5.59	0.850 (Q)	1.60	0.921
2,3,3',5,5',6-HxCB	165		U		0.850 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		J	3.18	0.850 (Q)	1.29	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.850 (Q)		
2,2',3,3',4,4',5-HpCB	170			10.2	0.850 (Q)	1.02	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K J	3.89	0.850 (Q)	1.25	1.162
2,2',3,3',4,5,5'-HpCB	172		K J	2.74	0.850 (Q)	0.62	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			9.20	0.850 (Q)	1.17	1.133
2,2',3,3',4,5',6-HpCB	175		U		0.850 (Q)		
2,2',3,3',4,6,6'-HpCB	176		U		0.850 (Q)		
2,2',3,3',4',5,6-HpCB	177		K J	6.35	0.850 (Q)	1.29	1.145
2,2',3,3',5,5',6-HpCB	178		K J	5.64	0.850 (Q)	0.79	1.085
2,2',3,3',5,6,6'-HpCB	179		K J	4.55	0.850 (Q)	0.80	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	30.5	0.850 (Q)	0.98	1.000
2,2',3,4,4',5,6-HpCB	181		U		0.850 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		0.850 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	7.83	0.850 (Q)	1.04	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.850 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.850 (Q)		
2,2',3,4',5,5',6-HpCB	187		K	24.8	0.850 (Q)	0.83	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.850 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.850 (Q)		
2,3,3',4,4',5,6-HpCB	190		K J	2.41	0.850 (Q)	1.73	0.947
2,3,3',4,4',5',6-HpCB	191		U		0.850 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.850 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		K	8.78	0.850 (Q)	1.17	0.991
2,2',3,3',4,4',5,6-OcCB	195		K J	2.87	0.850 (Q)	0.72	0.946
2,2',3,3',4,4',5,6'-OcCB	196		J	4.49	0.850 (Q)	0.81	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C J	2.39	0.850 (Q)	0.90	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K	12.3	0.850 (Q)	0.65	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		U		0.850 (Q)		
2,2',3,3',5,5',6,6'-OcCB	202		K J	1.98	0.850 (Q)	1.79	1.000
2,2',3,4,4',5,5',6-OcCB	203		K J	5.69	0.850 (Q)	1.22	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		0.850 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.850 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		K	7.55	3.35 (S)	1.11	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		U		2.29 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		J	2.72	2.64 (S)	0.66	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	4.70	0.850 (Q)	0.65	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-7_Form1A_PB9C_037S10_SJ2509706.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-WS-T06-1811
Sample Collection:
30-Nov-2018 16:26

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.:**	L30522-7
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 05:16:27	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_037 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_037 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	929	23.2	3.10	0.718
13C12-4-MoCB	3L			4000	1080	26.9	3.09	0.857
13C12-2,2'-DiCB	4L			4000	1070	26.7	1.62	0.874
13C12-4,4'-DiCB	15L			4000	1330	33.3	1.59	1.254
13C12-2,2',6-TriCB	19L			4000	1240	30.9	1.09	1.072
13C12-3,4,4'-TriCB	37L			4000	1790	44.8	1.04	1.090
13C12-2,2',6,6'-TeCB	54L			4000	1770	44.4	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			4000	2140	53.6	0.75	1.395
13C12-3,4,4',5-TeCB	81L			4000	2220	55.6	0.72	1.372
13C12-2,2',4,6,6'-PeCB	104L			4000	1660	41.6	1.61	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	2690	67.2	1.55	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2250	56.3	1.60	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2380	59.4	1.57	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2550	63.6	1.61	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	2470	61.9	1.56	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2060	51.5	1.31	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5720	71.5	1.26	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2860	71.5	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2970	74.2	1.24	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3370	84.1	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3240	81.1	1.06	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2250	56.4	1.05	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	2750	68.7	1.01	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1890	47.2	0.89	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3270	81.9	0.86	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3170	79.3	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3250	81.2	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	3160	79.1	1.21	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	985	49.3	1.03	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1330	66.7	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1420	70.9	1.04	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_L30522-7_Form2_PB9C_037S10_SJ2509706.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-WS-T06-1811
Sample Collection:
30-Nov-2018 16:26

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-7
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 05:16:27	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_037 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		3330	30.5 (S)	83.3	1.02	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		3280	0.0269 (S)	82.0	1.70	0.778
13C12-2,2',4,4',5,5'-HxCB	153L	4000		4090	0.856 (S)	102	1.24	0.899

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

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SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-RB-XD-181129
Sample Collection:
29-Nov-2018 09:50

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.:**	L30522-8
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 11:59:57	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			647	1.75 (S)	3.07	1.001
3-MoCB	2			86.9	1.82 (S)	3.17	0.989
4-MoCB	3			231	1.37 (S)	3.07	1.001
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				

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	13.0	1.01 (S)	0.85	1.333
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		K	8.51	1.10 (S)	0.96	1.310
2,2',3,5-TeCB	43		K J	1.44	1.30 (S)	0.27	1.243
2,2',3,5'-TeCB	44	44 + 47 + 65	C	725	0.921 (S)	0.79	1.285
2,2',3,6-TeCB	45	45 + 51	C	1070	1.09 (S)	0.76	1.147
2,2',3,6'-TeCB	46		K J	2.37	1.27 (S)	1.22	1.158
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		K J	5.47	1.07 (S)	1.15	1.272
2,2',4,5'-TeCB	49	49 + 69	C	20.9	0.893 (S)	0.70	1.257
2,2',4,6-TeCB	50	50 + 53	C K J	4.54	1.08 (S)	0.59	1.109
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			30.7	0.941 (S)	0.85	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		0.848 (Q)		
2,3,3',4-TeCB	55		U		1.91 (S)		
2,3,3',4'-TeCB	56		J	6.77	1.84 (S)	0.70	0.905
2,3,3',5-TeCB	57		U		1.82 (S)		
2,3,3',5'-TeCB	58		U		1.98 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C J	2.59	0.848 (Q)	0.82	1.301
2,3,4,4'-TeCB	60		J	3.88	1.79 (S)	0.74	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	21.5	1.74 (S)	0.72	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		1.78 (S)		
2,3,4',6-TeCB	64			9.00	0.848 (Q)	0.79	1.346
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			14.2	1.76 (S)	0.77	0.885
2,3',4,5-TeCB	67		U		1.64 (S)		
2,3',4,5'-TeCB	68			678	1.76 (S)	0.75	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		1.77 (S)		
2,3',5',6-TeCB	73		U		0.848 (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		U		1.64 (S)		
3,3',4,5-TeCB	78		U		1.68 (S)		
3,3',4,5'-TeCB	79		U		1.35 (S)		
3,3',5,5'-TeCB	80		U		1.59 (S)		
3,4,4',5-TeCB	81		U		1.67 (S)		
2,2',3,3',4-PeCB	82		K J	2.94	0.848 (Q)	1.30	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	8.57	0.848 (Q)	1.57	0.886
2,2',3,3',6-PeCB	84		J	4.65	0.848 (Q)	1.49	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C J	3.98	0.848 (Q)	1.42	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	13.5	0.848 (Q)	1.39	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 K J	6.27	0.848 (Q)	2.26	1.154
2,2',3,4,6'-PeCB	89		U		0.848 (Q)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	20.1	0.848 (Q)	1.52	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		K J	2.29	0.848 (Q)	2.11	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	18.5	0.848 (Q)	1.53	1.121
2,2',3,5,6'-PeCB	94		U		0.848 (Q)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		0.848 (Q)		
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				

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		0.848 (Q)		
2,2',4,6,6'-PeCB	104		U		0.848 (Q)		
2,3,3',4,4'-PeCB	105		J	5.58	0.848 (Q)	1.53	1.001
2,3,3',4,5-PeCB	106		U		0.848 (Q)		
2,3,3',4',5-PeCB	107	107 + 124	C U		0.848 (Q)		
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		U		0.848 (Q)		
2,3,3',4',6-PeCB	110	110 + 115	C	16.2	0.848 (Q)	1.65	0.925
2,3,3',5,5'-PeCB	111		U		0.848 (Q)		
2,3,3',5,6-PeCB	112		U		0.848 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		U		0.848 (Q)		
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	9.49	0.848 (Q)	1.10	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		0.848 (Q)		
2,3',4,5',6-PeCB	121		U		0.848 (Q)		
2',3,3',4,5-PeCB	122		U		0.848 (Q)		
2',3,4,4',5-PeCB	123		U		0.848 (Q)		
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		0.848 (Q)		
3,3',4,5,5'-PeCB	127		U		0.848 (Q)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C J	1.71	0.848 (Q)	1.41	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	10.1	0.848 (Q)	1.32	0.928
2,2',3,3',4,5'-HxCB	130		K J	0.975	0.848 (Q)	1.60	0.913
2,2',3,3',4,6-HxCB	131		U		0.848 (Q)		
2,2',3,3',4,6'-HxCB	132		J	4.62	0.848 (Q)	1.19	1.173
2,2',3,3',5,5'-HxCB	133		U		0.848 (Q)		
2,2',3,3',5,6-HxCB	134	134 + 143	C U		0.848 (Q)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C J	5.66	0.848 (Q)	1.22	1.104
2,2',3,3',6,6'-HxCB	136		K J	2.02	0.848 (Q)	0.89	1.022
2,2',3,4,4',5-HxCB	137		K J	1.41	0.848 (Q)	0.61	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 U		0.848 (Q)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		K J	2.51	0.848 (Q)	1.50	0.903
2,2',3,4,5,6-HxCB	142		U		0.848 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		U		0.848 (Q)		
2,2',3,4,6,6'-HxCB	145		U		0.848 (Q)		
2,2',3,4',5,5'-HxCB	146		J	2.13	0.848 (Q)	1.23	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	12.7	0.848 (Q)	1.20	1.133
2,2',3,4',5,6'-HxCB	148		U		0.848 (Q)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.848 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.848 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C K G	8.42	0.848 (Q)	1.66	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.848 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C K J	1.66	0.848 (Q)	1.57	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		K J	1.29	0.848 (Q)	0.78	0.938
2,3,3',4,5,5'-HxCB	159		U		0.848 (Q)		
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		0.848 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.848 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		K J	0.983	0.848 (Q)	0.97	0.921
2,3,3',5,5',6-HxCB	165		U		0.848 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		U		0.848 (Q)		
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.848 (Q)		
2,2',3,3',4,4',5-HpCB	170		J	2.94	0.848 (Q)	0.98	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K J	1.45	0.848 (Q)	0.54	1.163
2,2',3,3',4,5,5'-HpCB	172		U		0.848 (Q)		
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K J	3.60	0.848 (Q)	0.74	1.133
2,2',3,3',4,5',6-HpCB	175		U		0.848 (Q)		
2,2',3,3',4,6,6'-HpCB	176		U		0.848 (Q)		
2,2',3,3',4',5,6-HpCB	177		J	1.73	0.848 (Q)	0.89	1.145
2,2',3,3',5,5',6-HpCB	178		U		0.848 (Q)		
2,2',3,3',5,6,6'-HpCB	179		J	1.90	0.848 (Q)	0.89	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C K	10.4	0.848 (Q)	1.33	1.000
2,2',3,4,4',5,6-HpCB	181		U		0.848 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U G		0.848 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K J	1.80	0.848 (Q)	0.65	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.848 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.848 (Q)		
2,2',3,4',5,5',6-HpCB	187		K J	3.98	0.848 (Q)	1.45	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.848 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.848 (Q)		
2,3,3',4,4',5,6-HpCB	190		U		0.848 (Q)		
2,3,3',4,4',5',6-HpCB	191		U		0.848 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.848 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		K J	4.16	0.848 (Q)	0.55	0.991
2,2',3,3',4,4',5,6-OcCB	195		K J	1.13	0.848 (Q)	1.40	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K J	2.57	0.848 (Q)	1.60	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C U G		0.848 (Q)		
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K J	3.98	0.848 (Q)	1.16	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		U		0.848 (Q)		
2,2',3,3',5,5',6,6'-OcCB	202		K J	1.23	0.848 (Q)	1.55	1.001
2,2',3,4,4',5,5',6-OcCB	203		J	2.74	0.848 (Q)	0.92	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.848 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.848 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		J	3.84	2.88 (S)	0.75	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		U		1.83 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		2.05 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	2.77	0.848 (Q)	1.69	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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-8_Form1A_PB9C_036S5_SJ2509682.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-RB-XD-181129
Sample Collection:
29-Nov-2018 09:50

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.:**	L30522-8
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 11:59:57	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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	892	22.3	3.24	0.717
13C12-4-MoCB	3L			4000	1170	29.3	3.10	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			4000	1870	46.9	0.79	0.812
13C12-3,3',4,4'-TeCB	77L			4000	2770	69.3	0.76	1.395
13C12-3,4,4',5-TeCB	81L			4000	2650	66.2	0.74	1.372
13C12-2,2',4,6,6'-PeCB	104L			4000	1570	39.2	1.65	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	2730	68.3	1.54	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2430	60.7	1.57	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2500	62.4	1.56	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	2820	70.4	1.58	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	2720	68.0	1.57	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2140	53.6	1.28	0.786
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6210	77.7	1.24	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3170	79.2	1.23	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2940	73.6	1.24	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2520	63.0	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2550	63.7	1.05	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2320	58.0	1.05	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3190	79.7	0.99	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1780	44.6	0.86	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3360	83.9	0.85	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3010	75.1	0.75	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3510	87.7	0.75	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2960	74.0	1.21	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1250	62.6	1.05	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1350	67.7	1.63	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1420	71.1	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; 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-8_Form2_PB9C_036S5_SJ2509682.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-RB-XD-181129
Sample Collection:
29-Nov-2018 09:50

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.:**	L30522-8 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 06:40:21	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		X				
3-MoCB	2		X				
4-MoCB	3		X				
2,2'-DiCB	4		D	158	31.5 (S)	1.74	1.001
2,3-DiCB	5		U D		25.4 (S)		
2,3'-DiCB	6		K D	68.3	22.9 (S)	1.80	1.176
2,4-DiCB	7		U D		23.9 (S)		
2,4'-DiCB	8		D	224	21.4 (S)	1.63	1.208
2,5-DiCB	9		U D		21.9 (S)		
2,6-DiCB	10		U D		22.7 (S)		
3,3'-DiCB	11		D	240	24.1 (S)	1.47	0.969
3,4-DiCB	12	12 + 13	C K D	36.9	24.3 (S)	2.85	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U D		23.5 (S)		
4,4'-DiCB	15		D	35.6	24.7 (S)	1.37	1.000
2,2',3-TriCB	16		D J	24.4	3.03 (S)	0.99	1.166
2,2',4-TriCB	17		D	64.9	2.45 (S)	1.19	1.139
2,2',5-TriCB	18	18 + 30	C K D	47.4	2.02 (S)	0.73	1.114
2,2',6-TriCB	19		K D J	9.96	2.77 (S)	2.83	1.001
2,3,3'-TriCB	20	20 + 28	C D	69.6	3.85 (S)	1.01	0.848
2,3,4-TriCB	21	21 + 33	C D	70.4	3.84 (S)	0.94	0.856
2,3,4'-TriCB	22		K D J	27.7	4.28 (S)	1.54	0.872
2,3,5-TriCB	23		U D		4.28 (S)		
2,3,6-TriCB	24		K D J	1.88	1.72 (S)	3.16	1.159
2,3',4-TriCB	25		D	120	3.44 (S)	1.06	0.825
2,3',5-TriCB	26	26 + 29	C K D J	10.2	3.94 (S)	1.57	1.304
2,3',6-TriCB	27		K D J G	3.26	1.70 (S)	0.42	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		D	42.1	3.68 (S)	0.95	0.837
2,4',6-TriCB	32		D J	17.7	3.78 (S)	0.96	1.199
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U D		4.06 (S)		
3,3',4-TriCB	35		U D		4.21 (S)		
3,3',5-TriCB	36		U D		3.87 (S)		
3,4,4'-TriCB	37		K D J	7.48	3.75 (S)	0.76	1.000
3,4,5-TriCB	38		U D		3.75 (S)		
3,4',5-TriCB	39		K D J	5.63	3.87 (S)	1.31	0.946

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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				

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; 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; 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-8_Form1A_PB9C_039S11_SJ2510472.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-RB-XD-181129
Sample Collection:
29-Nov-2018 09:50

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.:**	L30522-8 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Feb-2019 **Time:** 06:40:21	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		D	4000	1420	35.6	1.61	0.873
13C12-4,4'-DiCB	15L		D	4000	1610	40.3	1.54	1.253
13C12-2,2',6-TriCB	19L		D	4000	1750	43.9	1.03	1.072
13C12-3,4,4'-TriCB	37L		D	4000	1740	43.6	1.04	1.090
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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_L30522-8_Form2_PB9C_039S11_SJ2510472.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
PDI-RB-XD-181129
Sample Collection:
29-Nov-2018 09:50

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	L30522-8
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	04-Dec-2018	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 11:59:57	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		3860	32.8 (S)	96.5	1.03	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		4100	0.439 (S)	102	1.67	0.778
13C12-2,2',4,4',5,5'-HxCB	153L	4000		4560	0.851 (S)	114	1.22	0.898

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681B.xsl; Created: 14-Feb-2019 16:40:40; Application: XMLTransformer-1.17.6; Report Filename: 1668_PCB1668_PCBCS_L30522-8_Form1B_SJ2509761.html; Workgroup: WG66477; 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.:**	WG66477-101
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 10:55:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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		K J	6.11	0.947 (S)	2.45	1.001
3-MoCB	2		J	4.56	1.14 (S)	3.05	0.989
4-MoCB	3		K J	5.74	0.972 (S)	3.84	1.001
2,2'-DiCB	4		K	8.46	4.86 (S)	2.01	1.001
2,3-DiCB	5		U		4.57 (S)		
2,3'-DiCB	6			6.82	4.20 (S)	1.38	1.176
2,4-DiCB	7		U		4.32 (S)		
2,4'-DiCB	8			32.8	3.86 (S)	1.52	1.207
2,5-DiCB	9		K J	4.67	4.02 (S)	1.16	1.145
2,6-DiCB	10		U		4.28 (S)		
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		4.18 (S)		
4,4'-DiCB	15		K	12.9	4.21 (S)	1.09	1.001
2,2',3-TriCB	16		K	8.78	1.35 (S)	1.38	1.167
2,2',4-TriCB	17		K	10.7	1.17 (S)	1.29	1.139
2,2',5-TriCB	18	18 + 30	C	19.8	0.974 (S)	1.08	1.114
2,2',6-TriCB	19		J	2.69	1.37 (S)	1.00	1.000
2,3,3'-TriCB	20	20 + 28	C	50.4	1.21 (S)	0.98	0.848
2,3,4-TriCB	21	21 + 33	C K	9.95	1.21 (S)	1.21	0.857
2,3,4'-TriCB	22			14.1	1.35 (S)	1.07	0.872
2,3,5-TriCB	23		U		1.43 (S)		
2,3,6-TriCB	24		K J	0.885	0.884 (S)	1.51	1.159
2,3',4-TriCB	25		K J	3.90	1.14 (S)	0.79	0.826
2,3',5-TriCB	26	26 + 29	C	7.08	1.30 (S)	0.98	1.303
2,3',6-TriCB	27		J G	1.33	0.847 (Q)	1.12	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			25.8	1.16 (S)	1.08	0.836
2,4',6-TriCB	32		J G	5.22	1.30 (S)	1.16	1.200
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		1.38 (S)		
3,3',4-TriCB	35		U		1.25 (S)		
3,3',5-TriCB	36		U		1.19 (S)		
3,4,4'-TriCB	37		K	7.63	1.09 (S)	0.87	1.001
3,4,5-TriCB	38		U		1.15 (S)		
3,4',5-TriCB	39		U		1.19 (S)		

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	11.5	1.07 (S)	0.81	1.335
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		J	6.56	1.17 (S)	0.80	1.311
2,2',3,5-TeCB	43		U		1.39 (S)		
2,2',3,5'-TeCB	44	44 + 47 + 65	C	29.9	0.981 (S)	0.81	1.285
2,2',3,6-TeCB	45	45 + 51	C J	4.71	1.16 (S)	0.80	1.146
2,2',3,6'-TeCB	46		K J	1.37	1.35 (S)	3.23	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		J	2.67	1.14 (S)	0.85	1.273
2,2',4,5'-TeCB	49	49 + 69	C	25.6	0.952 (S)	0.79	1.258
2,2',4,6-TeCB	50	50 + 53	C K J	4.91	1.15 (S)	1.00	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			33.6	1.00 (S)	0.81	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		0.847 (Q)		
2,3,3',4-TeCB	55		U		1.43 (S)		
2,3,3',4'-TeCB	56		J	3.09	1.38 (S)	0.70	0.905
2,3,3',5-TeCB	57		U		1.36 (S)		
2,3,3',5'-TeCB	58		U		1.49 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K J	2.39	0.847 (Q)	0.59	1.302
2,3,4,4'-TeCB	60		J	3.18	1.34 (S)	0.78	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	23.6	1.30 (S)	0.74	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		1.34 (S)		
2,3,4',6-TeCB	64			11.6	0.847 (Q)	0.77	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	19.7	1.32 (S)	0.67	0.885
2,3',4,5-TeCB	67		U		1.23 (S)		
2,3',4,5'-TeCB	68		J	2.05	1.32 (S)	0.71	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		1.33 (S)		
2,3',5',6-TeCB	73		U		0.864 (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		J	1.78	1.39 (S)	0.66	1.000
3,3',4,5-TeCB	78		U		1.26 (S)		
3,3',4,5'-TeCB	79		U		1.02 (S)		
3,3',5,5'-TeCB	80		U		1.20 (S)		
3,4,4',5-TeCB	81		U		1.21 (S)		
2,2',3,3',4-PeCB	82		U		0.847 (Q)		
2,2',3,3',5-PeCB	83	83 + 99	C	10.3	0.847 (Q)	1.43	0.886
2,2',3,3',6-PeCB	84		K J	3.62	0.847 (Q)	2.34	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C K J	5.25	0.847 (Q)	2.04	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C K G	12.6	0.847 (Q)	0.92	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 J	4.60	0.847 (Q)	1.18	1.156
2,2',3,4,6'-PeCB	89		U		0.847 (Q)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	21.1	0.847 (Q)	1.61	0.870
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		J	6.56	0.847 (Q)	1.67	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C K	16.0	0.847 (Q)	1.85	1.122
2,2',3,5,6'-PeCB	94		K J	0.906	0.847 (Q)	3.95	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		0.847 (Q)		
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				

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		0.847 (Q)		
2,2',4,6,6'-PeCB	104		U		0.847 (Q)		
2,3,3',4,4'-PeCB	105		K J	5.79	0.847 (Q)	1.81	1.001
2,3,3',4,5-PeCB	106		U		0.847 (Q)		
2,3,3',4',5-PeCB	107	107 + 124	C U		0.847 (Q)		
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		K J	1.12	0.847 (Q)	2.22	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	18.7	0.847 (Q)	1.65	0.925
2,3,3',5,5'-PeCB	111		U		0.847 (Q)		
2,3,3',5,6-PeCB	112		U		0.847 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		U		0.847 (Q)		
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	13.4	0.847 (Q)	1.96	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		0.847 (Q)		
2,3',4,5',6-PeCB	121		U		0.847 (Q)		
2',3,3',4,5-PeCB	122		U		0.847 (Q)		
2',3,4,4',5-PeCB	123		U		0.847 (Q)		
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		0.847 (Q)		
3,3',4,5,5'-PeCB	127		U		0.847 (Q)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C J	2.64	0.847 (Q)	1.08	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	16.9	0.847 (Q)	1.37	0.929
2,2',3,3',4,5'-HxCB	130		K J	1.88	0.847 (Q)	0.66	0.913
2,2',3,3',4,6-HxCB	131		U		0.847 (Q)		
2,2',3,3',4,6'-HxCB	132		J	3.35	0.847 (Q)	1.11	1.173
2,2',3,3',5,5'-HxCB	133		K J	1.58	0.847 (Q)	0.74	1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C U		0.847 (Q)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C K	8.23	0.847 (Q)	0.98	1.105
2,2',3,3',6,6'-HxCB	136		K J	1.43	0.847 (Q)	0.75	1.023
2,2',3,4,4',5-HxCB	137		K J	1.01	0.847 (Q)	0.47	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 U		0.847 (Q)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		K J	2.74	0.847 (Q)	1.04	0.903
2,2',3,4,5,6-HxCB	142		U		0.847 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		U		0.847 (Q)		
2,2',3,4,6,6'-HxCB	145		U		0.847 (Q)		
2,2',3,4',5,5'-HxCB	146			7.16	0.847 (Q)	1.13	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C K	12.9	0.847 (Q)	1.50	1.132
2,2',3,4',5,6'-HxCB	148		U		0.847 (Q)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.847 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.847 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	17.6	0.847 (Q)	1.12	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.847 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C K J	2.52	0.847 (Q)	0.98	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		U		0.847 (Q)		
2,3,3',4,5,5'-HxCB	159		U		0.847 (Q)		
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		0.847 (Q)		
2,3,3',4',5,5'-HxCB	162		U		0.847 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		U		0.847 (Q)		
2,3,3',5,5',6-HxCB	165		U		0.847 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K J	1.48	0.847 (Q)	1.69	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.847 (Q)		
2,2',3,3',4,4',5-HpCB	170		K J	5.29	0.847 (Q)	0.73	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K J	0.952	0.847 (Q)	1.63	1.162
2,2',3,3',4,5,5'-HpCB	172		K J	0.953	0.847 (Q)	0.69	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K J	3.01	0.847 (Q)	1.36	1.133
2,2',3,3',4,5',6-HpCB	175		U		0.847 (Q)		
2,2',3,3',4,6,6'-HpCB	176		U		0.847 (Q)		
2,2',3,3',4',5,6-HpCB	177		J	3.13	0.847 (Q)	1.21	1.145
2,2',3,3',5,5',6-HpCB	178		K J	2.18	0.847 (Q)	0.78	1.085
2,2',3,3',5,6,6'-HpCB	179		J	1.09	0.847 (Q)	1.08	1.009
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C K	20.3	0.847 (Q)	0.88	1.001
2,2',3,4,4',5,6-HpCB	181		U		0.847 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		0.847 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C J	2.26	0.847 (Q)	0.93	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.847 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.847 (Q)		
2,2',3,4',5,5',6-HpCB	187			9.85	0.847 (Q)	1.20	1.110
2,2',3,4',5,6,6'-HpCB	188		U		0.847 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		0.847 (Q)		
2,3,3',4,4',5,6-HpCB	190		K J	1.69	0.847 (Q)	0.74	0.947
2,3,3',4,4',5',6-HpCB	191		U		0.847 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		0.847 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		J	4.43	0.847 (Q)	0.98	0.991
2,2',3,3',4,4',5,6-OcCB	195		K J	1.68	0.847 (Q)	2.90	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K J	1.81	0.847 (Q)	1.19	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C U		0.847 (Q)		
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C J	4.65	0.847 (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		U		0.847 (Q)		
2,2',3,3',5,5',6,6'-OcCB	202		K J	0.995	0.847 (Q)	0.73	1.000
2,2',3,4,4',5,5',6-OcCB	203		K J	3.38	0.847 (Q)	0.63	0.920
2,2',3,4,4',5,6,6'-OcCB	204		U		0.847 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.847 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		U		2.90 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		U		1.85 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		2.08 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		J	3.23	0.847 (Q)	1.15	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_WG66477-101_Form1A_PB9C_036S4_SJ2509680.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

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

Form 2

PCB CONGENER ANALYSIS REPORT

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

Contract No.:	4972	**Project No.**	N/A
Matrix:	XAD	**Lab Sample I.D.:**	WG66477-101
Sample Receipt Date:	N/A	**Sample Size:**	1 sample
Extraction Date:	28-Jan-2019	**Initial Calibration Date:**	15-Jan-2019
Analysis Date:	06-Feb-2019 **Time:** 10:55:45	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB9C_036 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	PB9C_036 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	PB9C_036 S: 1

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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	1560	39.0	3.21	0.718
13C12-4-MoCB	3L			4000	1650	41.3	3.17	0.857
13C12-2,2'-DiCB	4L			4000	1670	41.9	1.56	0.874
13C12-4,4'-DiCB	15L			4000	1680	42.1	1.58	1.255
13C12-2,2',6-TriCB	19L			4000	1520	38.0	1.09	1.073
13C12-3,4,4'-TriCB	37L			4000	2080	52.0	1.03	1.090
13C12-2,2',6,6'-TeCB	54L			4000	2270	56.8	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			4000	2640	65.9	0.70	1.395
13C12-3,4,4',5-TeCB	81L			4000	2840	71.0	0.74	1.372
13C12-2,2',4,6,6'-PeCB	104L			4000	1700	42.5	1.64	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3200	79.9	1.55	1.199
13C12-2,3,4,4',5-PeCB	114L			4000	2780	69.6	1.59	1.178
13C12-2,3',4,4',5-PeCB	118L			4000	2820	70.6	1.53	1.161
13C12-2',3,4,4',5-PeCB	123L			4000	3110	77.9	1.55	1.150
13C12-3,3',4,4',5-PeCB	126L			4000	3200	80.0	1.55	1.299
13C12-2,2',4,4',6,6'-HxCB	155L			4000	1910	47.6	1.28	0.787
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6330	79.2	1.23	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3240	80.9	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3110	77.7	1.21	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2420	60.4	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2420	60.6	1.08	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2120	52.9	1.07	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3000	75.1	0.99	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1750	43.8	0.87	0.818
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3220	80.5	0.85	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3030	75.9	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3460	86.5	0.75	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2940	73.5	1.21	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1180	59.2	1.01	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1420	71.0	1.66	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1390	69.7	0.99	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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_WG66477-101_Form2_PB9C_036S4_SJ2509680.html; Workgroup: WG66477; 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.:**	WG66477-101 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 22:05:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		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		D J	30.2	23.3 (S)	1.43	0.969
3,4-DiCB	12	12 + 13	C K D G	42.2	23.5 (S)	9.21	0.987
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				

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; 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_WG66477-101_Form1A_PB9C_039S3_SJ2510456.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

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

Form 2

PCB CONGENER ANALYSIS REPORT

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.:**	WG66477-101 W
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Feb-2019 **Time:** 22:05:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB9C_039 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB9C_039 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		D	4000	1760	44.0	1.59	0.873
13C12-4,4'-DiCB	15L		D	4000	1690	42.2	1.66	1.253
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: _____Matthew Ou_____

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Report Filename: 1668_PCB1668_PCBTF_WG66477-101_Form2_PB9C_039S3_SJ2510456.html; Workgroup: WG66477; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

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

Form 1B

PCB CLIENT STANDARD ANALYSIS REPORT

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.:**	WG66477-101
Matrix:	XAD	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	06-Feb-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 10:55:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB9C_036 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	N/A
Concentration Units:	pg/sample		

CLIENT STANDARD	IUPAC NO. [1]	SPIKE CONC.	LAB FLAG [2]	CONC. FOUND	REPORTING LIMIT (RL)[3]	R(%) [4]	ION ABUND. RATIO [5]	RRT
13C12-2,4',5-TriCB	31L	4000		3930	28.3 (S)	98.3	1.03	0.836
13C12-2,2',3,5',6-PeCB	95L	4000		3990	0.493 (S)	99.7	1.64	0.779
13C12-2,2',4,4',5,5'-HxCB	153L	4000		3670	0.0198 (S)	91.8	1.20	0.899

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(4) R% = percent recovery of labeled compounds.
(5) Required limits for ion abundance ratios are 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: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form16681B.xsl; Created: 14-Feb-2019 16:40:40; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBCS_WG66477-101_Form1B_SJ2509760.html; Workgroup: WG66477; 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.:**	WG66477-102
Matrix:	XAD	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 08:47:15	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB9C_036 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			3.06	100	93.9	50.0 - 150	93.9
4-MoCB	3			3.03	100	88.4	50.0 - 150	88.4
2,2'-DiCB	4			1.51	100	87.2	50.0 - 150	87.2
4,4'-DiCB	15			1.49	100	84.5	50.0 - 150	84.5
2,2',6-TriCB	19			1.06	100	108	50.0 - 150	108
3,4,4'-TriCB	37			0.99	100	86.3	50.0 - 150	86.3
2,2',6,6'-TeCB	54			0.78	100	105	50.0 - 150	105
3,3',4,4'-TeCB	77			0.75	100	91.7	50.0 - 150	91.7
3,4,4',5-TeCB	81			0.76	100	92.4	50.0 - 150	92.4
2,2',4,6,6'-PeCB	104			1.59	100	111	50.0 - 150	111
2,3,3',4,4'-PeCB	105			1.53	100	92.2	50.0 - 150	92.2
2,3,4,4',5-PeCB	114			1.52	100	89.2	50.0 - 150	89.2
2,3',4,4',5-PeCB	118			1.53	100	91.5	50.0 - 150	91.5
2',3,4,4',5-PeCB	123			1.54	100	92.9	50.0 - 150	92.9
3,3',4,4',5-PeCB	126			1.52	100	90.4	50.0 - 150	90.4
2,2',4,4',6,6'-HxCB	155			1.26	100	118	50.0 - 150	118
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.24	200	206	100 - 300	103
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.24	100	105	50.0 - 150	105
3,3',4,4',5,5'-HxCB	169			1.29	100	103	50.0 - 150	103
2,2',3,4',5,6,6'-HpCB	188			1.09	100	107	50.0 - 150	107
2,3,3',4,4',5,5'-HpCB	189			0.99	100	89.2	50.0 - 150	89.2
2,2',3,3',5,5',6,6'-OcCB	202			0.93	100	115	50.0 - 150	115
2,3,3',4,4',5,5',6-OcCB	205			0.90	100	102	50.0 - 150	102
2,2',3,3',4,4',5,5',6-NoCB	206			0.80	100	107	50.0 - 150	107
2,2',3,3',4,5,5',6,6'-NoCB	208			0.78	100	108	50.0 - 150	108
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.18	100	104	50.0 - 150	104

(1) 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: _____Matthew Ou_____

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_WG66477-102_Form8A_SJ2509676.html; Workgroup: WG66477; Design ID: 3360]

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.:**	WG66477-102
Matrix:	XAD	**Initial Calibration Date:**	15-Jan-2019
Extraction Date:	28-Jan-2019	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2019 **Time:** 08:47:15	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB9C_036 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB9C_036 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB9C_036 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			3.15	200	73.5	30.0 - 280	36.8
13C12-4-MoCB	3L			3.20	200	78.6	30.0 - 280	39.3
13C12-2,2'-DiCB	4L			1.59	200	79.7	60.0 - 280	39.8
13C12-4,4'-DiCB	15L			1.56	200	92.5	60.0 - 280	46.3
13C12-2,2',6-TriCB	19L			1.06	200	76.4	60.0 - 280	38.2
13C12-3,4,4'-TriCB	37L			1.02	200	103	60.0 - 280	51.6
13C12-2,2',6,6'-TeCB	54L			0.77	200	106	60.0 - 280	52.9
13C12-3,3',4,4'-TeCB	77L			0.72	200	136	60.0 - 280	68.0
13C12-3,4,4',5-TeCB	81L			0.72	200	149	60.0 - 280	74.7
13C12-2,2',4,6,6'-PeCB	104L			1.61	200	77.9	60.0 - 280	38.9
13C12-2,3,3',4,4'-PeCB	105L			1.53	200	156	60.0 - 280	77.9
13C12-2,3,4,4',5-PeCB	114L			1.57	200	137	60.0 - 280	68.3
13C12-2,3',4,4',5-PeCB	118L			1.56	200	145	60.0 - 280	72.7
13C12-2',3,4,4',5-PeCB	123L			1.57	200	148	60.0 - 280	74.2
13C12-3,3',4,4',5-PeCB	126L			1.55	200	152	60.0 - 280	75.8
13C12-2,2',4,4',6,6'-HxCB	155L			1.31	200	91.8	60.0 - 280	45.9
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.27	400	297	120 - 560	74.3
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.21	200	145	60.0 - 280	72.3
13C12-3,3',4,4',5,5'-HxCB	169L			1.20	200	150	60.0 - 280	74.9
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.08	200	110	60.0 - 280	55.2
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.00	200	127	60.0 - 280	63.5
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.88	200	90.0	60.0 - 280	45.0
13C12-2,3,3',4,4',5,5',6-OcCB	205L			0.86	200	150	60.0 - 280	75.1
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.76	200	146	60.0 - 280	72.8
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			0.74	200	159	60.0 - 280	79.6
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.20	200	140	60.0 - 280	70.2
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			1.05	100	53.0	40.0 - 125	53.0
13C12-2,3,3',5,5'-PeCB	111L			1.64	100	68.6	40.0 - 125	68.6
13C12-2,2',3,3',5,5',6-HpCB	178L			1.06	100	66.3	40.0 - 125	66.3

(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: _____Matthew Ou_____

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

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_PCBTF_WG66477-102_Form8B_SJ2509676.html; Workgroup: WG66477; 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: 15-Jan-2019

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB9C_009E S: 3
CS1 Data Filename: PB9C_009E S: 5
CS2 Data Filename: PB9C_009F S: 1
CS3 Data Filename: PB9C_009E S: 8
CS4 Data Filename: PB9C_009E S: 7
CS5 Data Filename: PB9C_009F S: 3
CS6 Data Filename: PB9C_009F 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			1.09	1.09	1.14	1.13	1.14	1.03		1.10	3.74
4-MoCB	3			1.21	1.11	1.11	1.12	1.14	1.09		1.13	3.73
2,2'-DiCB	4			0.99	0.94	1.00	1.01	1.04	1.06		1.01	4.15
4,4'-DiCB	15			0.91	0.86	0.90	0.93	0.94	0.96		0.92	3.85
2,2',6-TriCB	19			1.16	1.07	1.10	1.10	1.14	1.15	1.11	1.12	2.75
3,4,4'-TriCB	37			0.99	0.96	1.02	1.01	1.05	1.07	0.97	1.01	3.77
2,2',6,6'-TeCB	54			1.08	1.02	1.07	1.10	1.12	1.15	1.07	1.09	3.77
3,3',4,4'-TeCB	77			1.11	1.02	1.05	1.03	1.05	1.07	1.04	1.05	2.97
3,4,4',5-TeCB	81			1.04	1.01	1.01	1.05	1.08	1.10	1.05	1.05	3.16
2,2',4,6,6'-PeCB	104			1.14	1.08	1.07	1.09	1.13	1.17	1.13	1.12	3.08
2,3,3',4,4'-PeCB	105			0.98	1.02	1.01	1.02	1.05	1.09	1.05	1.03	3.46
2,3,4,4',5-PeCB	114			1.06	1.06	1.06	1.07	1.11	1.15	1.07	1.08	3.10
2,3',4,4',5-PeCB	118			0.97	0.95	1.00	1.01	1.05	1.11	1.07	1.02	5.35
2',3,4,4',5-PeCB	123			0.88	0.95	0.95	0.96	1.00	1.04	1.01	0.97	5.19
3,3',4,4',5-PeCB	126			1.03	0.99	1.00	1.04	1.06	1.10	1.07	1.04	3.53
2,2',4,4',6,6'-HxCB	155			1.01	1.02	1.02	1.07	1.09	1.09		1.05	3.69
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.11	1.07	1.15	1.14	1.16	1.19	1.10	1.13	3.68
2,3,3',4,4',5'-HxCB	157	156 + 157	C156									
2,3',4,4',5,5'-HxCB	167			1.10	1.08	1.14	1.16	1.18	1.22	1.18	1.15	4.24
3,3',4,4',5,5'-HxCB	169			1.08	1.02	1.08	1.09	1.11	1.14	1.09	1.09	3.21
2,2',3,4',5,6,6'-HpCB	188			0.99	0.97	0.97	0.98	1.01	1.03		0.99	2.33
2,3,3',4,4',5,5'-HpCB	189			0.97	1.00	1.04	1.03	1.04	1.09	1.04	1.03	3.90
2,2',3,3',5,5',6,6'-OcCB	202			0.88	0.84	0.83	0.86	0.88	0.94	0.92	0.88	4.32
2,3,3',4,4',5,5',6-OcCB	205			1.01	0.94	1.01	1.00	1.02	1.05	1.01	1.01	3.39
2,2',3,3',4,4',5,5',6-NoCB	206			1.12	0.91	1.00	0.99	1.01	1.03	0.98	1.01	6.25
2,2',3,3',4,5,5',6,6'-NoCB	208			0.89	0.95	0.96	0.97	1.00	1.02	0.97	0.96	4.34
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.35	1.06	1.01	1.03	1.04	1.07	1.02	1.08	11.2

(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: _____Jason MacKenzie_____

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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: 15-Jan-2019

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB9C_009E S: 3
CS1 Data Filename: PB9C_009E S: 5
CS2 Data Filename: PB9C_009F S: 1
CS3 Data Filename: PB9C_009E S: 8
CS4 Data Filename: PB9C_009E S: 7
CS5 Data Filename: PB9C_009F S: 3
CS6 Data Filename: PB9C_009F 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			1.12	1.12	1.16	1.14	1.15	1.18	1.21	1.16	2.74
13C12-4-MoCB	3L			1.06	1.08	1.10	1.08	1.13	1.20	1.27	1.13	6.80
13C12-2,2'-DiCB	4L			0.65	0.65	0.66	0.66	0.68	0.71	0.77	0.68	6.23
13C12-4,4'-DiCB	15L			0.99	1.01	0.99	0.99	1.09	1.20	1.32	1.08	12.0
13C12-2,2',6-TriCB	19L			0.46	0.45	0.45	0.48	0.49	0.54	0.60	0.50	11.3
13C12-3,4,4'-TriCB	37L			1.84	1.86	1.88	1.85	1.96	2.30	2.69	2.05	15.7
13C12-2,2',6,6'-TeCB	54L			1.47	1.47	1.52	1.52	1.60	1.75	2.03	1.62	12.5
13C12-3,3',4,4'-TeCB	77L			1.43	1.46	1.47	1.42	1.52	1.79	2.13	1.60	16.5
13C12-3,4,4',5-TeCB	81L			1.45	1.46	1.49	1.43	1.49	1.76	2.13	1.60	16.2
13C12-2,2',4,6,6'-PeCB	104L			1.24	1.22	1.25	1.31	1.39	1.62	1.93	1.42	18.4
13C12-2,3,3',4,4'-PeCB	105L			1.51	1.49	1.49	1.46	1.56	1.79	2.10	1.63	14.6
13C12-2,3,4,4',5-PeCB	114L			1.54	1.52	1.53	1.51	1.67	1.92	2.10	1.69	14.0
13C12-2,3',4,4',5-PeCB	118L			1.48	1.45	1.44	1.43	1.54	1.74	2.09	1.60	15.2
13C12-2',3,4,4',5-PeCB	123L			1.47	1.47	1.45	1.43	1.56	1.78	2.14	1.61	16.2
13C12-3,3',4,4',5-PeCB	126L			1.42	1.45	1.46	1.41	1.53	1.72	1.96	1.56	13.2
13C12-2,2',4,4',6,6'-HxCB	155L			1.27	1.22	1.27	1.30	1.45	1.75		1.37	14.5
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.29	1.31	1.29	1.31	1.46	1.72	1.95	1.47	17.8
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L									
13C12-2,3',4,4',5,5'-HxCB	167L			1.26	1.29	1.25	1.26	1.38	1.57	1.80	1.40	14.9
13C12-3,3',4,4',5,5'-HxCB	169L			1.40	1.42	1.36	1.39	1.50	1.69	1.89	1.52	13.0
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.34	1.28	1.36	1.43	1.60	2.02		1.51	18.2
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.51	1.47	1.46	1.46	1.57	1.68	1.72	1.55	6.94
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.34	1.33	1.39	1.42	1.42	1.64	1.81	1.48	12.1
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.39	1.36	1.36	1.37	1.43	1.57	1.60	1.44	6.98
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.93	0.90	0.92	0.92	0.96	1.03	1.08	0.96	6.90
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.13	1.11	1.10	1.15	1.20	1.32	1.46	1.21	11.1
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.02	0.97	1.02	1.01	1.05	1.17	1.20	1.06	8.12
CLEAN-UP STANDARD												
13C12-2,4,4'-TriCB	28L			1.92	1.92	1.90	1.90	1.87	1.87	1.85	1.89	1.31
13C12-2,3,3',5,5'-PeCB	111L			1.30	1.30	1.31	1.30	1.38	1.47	1.69	1.39	10.5
13C12-2,2',3,3',5,5',6-HpCB	178L			0.85	0.84	0.82	0.84	0.85	0.85	0.87	0.85	1.81

(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: _____Jason MacKenzie_____

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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: 15-Jan-2019

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB9C_009E S: 3
CS1 Data Filename: PB9C_009E S: 5
CS2 Data Filename: PB9C_009F S: 1
CS3 Data Filename: PB9C_009E S: 8
CS4 Data Filename: PB9C_009E S: 7
CS5 Data Filename: PB9C_009F S: 3
CS6 Data Filename: PB9C_009F 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**	3.13	3.21	3.21	3.12	3.12	2.67		2.66-3.60
4-MoCB	3			**M/M+2**	3.57	3.29	3.14	3.12	3.12	2.91		2.66-3.60
2,2'-DiCB	4			**M/M+2**	1.69	1.58	1.53	1.55	1.55	1.54		1.33-1.79
4,4'-DiCB	15			**M/M+2**	1.46	1.55	1.56	1.55	1.54	1.56		1.33-1.79
2,2',6-TriCB	19			**M/M+2**	1.03	0.97	1.02	1.08	1.07	1.04	1.05	0.88-1.20
3,4,4'-TriCB	37			**M/M+2**	1.08	1.04	1.01	1.02	1.04	1.04	1.02	0.88-1.20
2,2',6,6'-TeCB	54			**M/M+2**	0.73	0.80	0.78	0.79	0.79	0.79	0.82	0.65-0.89
3,3',4,4'-TeCB	77			**M/M+2**	0.80	0.81	0.76	0.78	0.77	0.78	0.77	0.65-0.89
3,4,4',5-TeCB	81			**M/M+2**	0.72	0.74	0.76	0.78	0.78	0.77	0.78	0.65-0.89
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.53	1.48	1.47	1.57	1.56	1.56	1.55	1.32-1.78
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.55	1.51	1.58	1.57	1.57	1.54	1.55	1.32-1.78
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.50	1.72	1.61	1.59	1.60	1.61	1.61	1.32-1.78
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.46	1.55	1.62	1.56	1.55	1.55	1.56	1.32-1.78
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.73	1.53	1.58	1.57	1.54	1.54	1.55	1.32-1.78
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.39	1.57	1.54	1.57	1.55	1.55	1.55	1.32-1.78
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.42	1.22	1.27	1.28	1.25	1.25		1.05-1.43
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.16	1.22	1.27	1.26	1.25	1.26	1.21	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**	1.42	1.25	1.28	1.27	1.25	1.26	1.26	1.05-1.43
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.01	1.23	1.21	1.25	1.27	1.27	1.27	1.05-1.43
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.00	1.19	1.03	1.05	1.05	1.04		0.89-1.21
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.11	0.94	1.03	1.04	1.05	1.05	1.05	0.89-1.21
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.81	0.92	0.94	0.89	0.89	0.90	0.90	0.76-1.02
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.85	0.86	0.89	0.89	0.89	0.90	0.89	0.76-1.02
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.81	0.78	0.79	0.78	0.78	0.79	0.79	0.65-0.89
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.88	0.76	0.75	0.79	0.79	0.79	0.78	0.65-0.89
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.22	1.05	1.28	1.20	1.18	1.17	1.17	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: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form16683C.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_15-Jan-2019_PB9C__Form3C_GS80132.html; Workgroup: WG66477; Design ID: 3360]

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: 15-Jan-2019

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB9C_009E S: 3

CS1 Data Filename: PB9C_009E S: 5

CS2 Data Filename: PB9C_009F S: 1

CS3 Data Filename: PB9C_009E S: 8

CS4 Data Filename: PB9C_009E S: 7

CS5 Data Filename: PB9C_009F S: 3

CS6 Data Filename: PB9C_009F 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**	3.24	3.21	3.15	3.18	3.21	3.19	3.19	2.66-3.60
13C12-4-MoCB	3L			**M/M+2**	3.17	3.18	3.20	3.18	3.14	3.11	3.13	2.66-3.60
13C12-2,2'-DiCB	4L			**M/M+2**	1.59	1.60	1.59	1.59	1.61	1.59	1.58	1.33-1.79
13C12-4,4'-DiCB	15L			**M/M+2**	1.60	1.59	1.60	1.57	1.59	1.58	1.57	1.33-1.79
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	1.07	1.07	1.06	1.07	1.08	1.08	0.88-1.20
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.04	1.05	1.05	1.05	1.05	1.04	1.04	0.88-1.20
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.79	0.79	0.79	0.79	0.78	0.79	0.79	0.65-0.89
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.72	0.74	0.76	0.74	0.74	0.76	0.76	0.65-0.89
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.72	0.72	0.75	0.71	0.73	0.72	0.75	0.65-0.89
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.60	1.60	1.58	1.58	1.59	1.57	1.59	1.32-1.78
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.58	1.56	1.57	1.59	1.56	1.56	1.57	1.32-1.78
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.62	1.61	1.65	1.64	1.62	1.65	1.64	1.32-1.78
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.57	1.59	1.57	1.58	1.55	1.56	1.54	1.32-1.78
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.57	1.58	1.58	1.56	1.56	1.54	1.57	1.32-1.78
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.55	1.56	1.57	1.58	1.56	1.58	1.56	1.32-1.78
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.25	1.26	1.25	1.24	1.26	1.27		1.05-1.43
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.27	1.27	1.25	1.26	1.28	1.25	1.25	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**	1.26	1.27	1.26	1.25	1.28	1.24	1.24	1.05-1.43
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.26	1.27	1.23	1.26	1.27	1.26	1.23	1.05-1.43
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	1.06	1.06	1.06	1.05	1.07		0.89-1.21
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.01	1.02	0.99	1.00	1.01	1.02	1.04	0.89-1.21
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.91	0.90	0.89	0.92	0.93	0.91	0.90	0.76-1.02
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.86	0.87	0.87	0.87	0.87	0.86	0.87	0.76-1.02
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.76	0.77	0.77	0.77	0.78	0.77	0.78	0.65-0.89
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.77	0.76	0.74	0.77	0.77	0.77	0.77	0.65-0.89
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.17	1.19	1.19	1.17	1.18	1.18	1.14	0.99-1.33
CLEAN-UP STANDARD												
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.05	1.05	1.06	1.04	1.05	1.06	1.05	0.88-1.20
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.59	1.60	1.61	1.58	1.61	1.62	1.59	1.32-1.78
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.05	1.06	1.04	1.04	1.04	1.06	1.04	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: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form16683D.xsl; Created: 14-Feb-2019 16:38:31; Application: XMLTransformer-1.17.6;
Report Filename: 1668_PCB1668_15-Jan-2019_PB9C__Form3D_GS80132.html; Workgroup: WG66477; 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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:42:59

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**	3.02	2.66-3.60	21.6	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.00	2.66-3.60	21.8	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.51	1.33-1.79	20.7	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.50	1.33-1.79	24.3	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.07	0.88-1.20	27.2	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	0.99	0.88-1.20	21.6	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.79	0.65-0.89	51.2	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.75	0.65-0.89	44.0	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.74	0.65-0.89	48.1	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.59	1.32-1.78	55.3	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.49	1.32-1.78	45.8	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.56	1.32-1.78	45.8	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.49	1.32-1.78	44.5	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.47	1.32-1.78	51.2	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.54	1.32-1.78	47.4	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.29	1.05-1.43	55.5	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.24	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**	1.24	1.05-1.43	56.6	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.29	1.05-1.43	55.2	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.05	0.89-1.21	51.8	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.01	0.89-1.21	44.9	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.92	0.76-1.02	90.5	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.88	0.76-1.02	75.6	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.78	0.65-0.89	76.9	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.78	0.65-0.89	86.8	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.16	0.99-1.33	74.4	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:42:59

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**	3.11	2.66-3.60	99.4	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.17	2.66-3.60	92.4	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.55	1.33-1.79	89.9	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.57	1.33-1.79	92.0	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.08	0.88-1.20	93.7	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.03	0.88-1.20	81.7	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	79.1	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.75	0.65-0.89	97.3	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.73	0.65-0.89	96.7	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.62	1.32-1.78	62.7	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.55	1.32-1.78	91.7	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.56	1.32-1.78	87.2	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.55	1.32-1.78	94.3	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.55	1.32-1.78	93.4	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.56	1.32-1.78	93.3	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.28	1.05-1.43	64.6	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.24	1.05-1.43	171	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**	1.23	1.05-1.43	86.4	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.21	1.05-1.43	80.7	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	93.4	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.01	0.89-1.21	84.8	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.88	0.76-1.02	71.3	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.86	0.76-1.02	92.8	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	94.6	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.74	0.65-0.89	102	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.17	0.99-1.33	94.2	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	85.8	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.61	1.32-1.78	92.1	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.03	0.89-1.21	88.0	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:42:59

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	1.000	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	1.000	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	1.001	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	1.001	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: _____Kristen Bowes_____

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Report Filename: 1668_PCB1668_PB9C_036S1__Form6A_SJ2509674.html; Workgroup: WG66477; Design ID: 3360]

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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:42:59

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	0.686-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.856	0.825-0.887
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	1.221-1.284
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	1.382-1.409
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	0.808	0.798-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.198	1.188-1.209
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.167-1.188
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.161	1.150-1.171
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	1.299	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	1.078	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	0.958	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	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.018
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	1.012	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: _____Kristen Bowes_____

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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: 15-Jan-2019 **CAL Data Filename:** PB9C_036 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 06-Feb-2019

GC Column ID: SPB OCTYL **Analysis Time:** 07:42:59

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			0.94	**M/M+2**	3.01	2.66-3.60	0.989	0.985 - 0.993
2,3-DiCB	5			0.93	**M/M+2**	1.52	1.33-1.79	1.200	1.196 - 1.203
2,3'-DiCB	6			1.01	**M/M+2**	1.48	1.33-1.79	1.177	1.173 - 1.180
2,4-DiCB	7			0.99	**M/M+2**	1.51	1.33-1.79	1.160	1.157 - 1.164
2,4'-DiCB	8			1.10	**M/M+2**	1.54	1.33-1.79	1.209	1.205 - 1.213
2,5-DiCB	9			1.06	**M/M+2**	1.52	1.33-1.79	1.147	1.143 - 1.151
2,6-DiCB	10			1.00	**M/M+2**	1.49	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			1.00	**M/M+2**	1.51	1.33-1.79	0.970	0.968 - 0.973
3,4-DiCB	12	12 + 13	C	1.01	**M/M+2**	1.49	1.33-1.79	0.986	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.02	**M/M+2**	1.52	1.33-1.79	0.927	0.924 - 0.929
2,2',3-TriCB	16			0.78	**M/M+2**	1.09	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			0.90	**M/M+2**	1.08	0.88-1.20	1.139	1.136 - 1.142
2,2',5-TriCB	18	18 + 30	C	1.08	**M/M+2**	1.09	0.88-1.20	1.114	1.111 - 1.117
2,3,3'-TriCB	20	20 + 28	C	1.14	**M/M+2**	1.00	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.14	**M/M+2**	0.99	0.88-1.20	0.856	0.853 - 0.859
2,3,4'-TriCB	22			1.03	**M/M+2**	0.99	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			0.97	**M/M+2**	0.99	0.88-1.20	1.285	1.282 - 1.288
2,3,6-TriCB	24			1.19	**M/M+2**	1.04	0.88-1.20	1.161	1.158 - 1.163
2,3',4-TriCB	25			1.22	**M/M+2**	1.00	0.88-1.20	0.826	0.824 - 0.828
2,3',5-TriCB	26	26 + 29	C	1.07	**M/M+2**	0.99	0.88-1.20	1.304	1.300 - 1.309
2,3',6-TriCB	27			1.32	**M/M+2**	1.07	0.88-1.20	1.153	1.150 - 1.156
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			1.20	**M/M+2**	0.99	0.88-1.20	0.837	0.835 - 0.839
2,4',6-TriCB	32			1.06	**M/M+2**	0.99	0.88-1.20	1.198	1.196 - 1.201
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.01	**M/M+2**	0.99	0.88-1.20	1.276	1.273 - 1.279
3,3',4-TriCB	35			1.11	**M/M+2**	0.98	0.88-1.20	0.985	0.983 - 0.987
3,3',5-TriCB	36			1.16	**M/M+2**	1.00	0.88-1.20	0.932	0.931 - 0.934
3,4,5-TriCB	38			1.21	**M/M+2**	1.00	0.88-1.20	0.968	0.966 - 0.970
3,4',5-TriCB	39			1.17	**M/M+2**	1.00	0.88-1.20	0.946	0.944 - 0.948
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.82	**M/M+2**	0.78	0.65-0.89	1.336	1.332 - 1.340
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.75	**M/M+2**	0.80	0.65-0.89	1.312	1.310 - 1.315
2,2',3,5-TeCB	43			0.63	**M/M+2**	0.66	0.65-0.89	1.248	1.245 - 1.250
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.89	**M/M+2**	0.78	0.65-0.89	1.287	1.283 - 1.291
2,2',3,6-TeCB	45	45 + 51	C	0.76	**M/M+2**	0.76	0.65-0.89	1.148	1.143 - 1.152
2,2',3,6'-TeCB	46			0.65	**M/M+2**	0.77	0.65-0.89	1.161	1.158 - 1.163
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.77	**M/M+2**	0.79	0.65-0.89	1.275	1.272 - 1.277
2,2',4,5'-TeCB	49	49 + 69	C	0.92	**M/M+2**	0.78	0.65-0.89	1.258	1.254 - 1.262
2,2',4,6-TeCB	50	50 + 53	C	0.76	**M/M+2**	0.79	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			0.87	**M/M+2**	0.79	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			0.91	**M/M+2**	0.73	0.65-0.89	0.889	0.888 - 0.891
2,3,3',4'-TeCB	56			0.95	**M/M+2**	0.74	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			0.96	**M/M+2**	0.75	0.65-0.89	0.845	0.843 - 0.846
2,3,3',5'-TeCB	58			0.88	**M/M+2**	0.75	0.65-0.89	0.852	0.850 - 0.853
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.10	**M/M+2**	0.78	0.65-0.89	1.302	1.298 - 1.307
2,3,4,4'-TeCB	60			0.97	**M/M+2**	0.75	0.65-0.89	0.911	0.909 - 0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.00	**M/M+2**	0.74	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			0.98	**M/M+2**	0.76	0.65-0.89	0.864	0.863 - 0.866
2,3,4',6-TeCB	64			1.14	**M/M+2**	0.79	0.65-0.89	1.349	1.347 - 1.352
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			0.99	**M/M+2**	0.74	0.65-0.89	0.885	0.883 - 0.886
2,3',4,5-TeCB	67			1.06	**M/M+2**	0.77	0.65-0.89	0.857	0.855 - 0.858
2,3',4,5'-TeCB	68			0.99	**M/M+2**	0.74	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			0.98	**M/M+2**	0.75	0.65-0.89	0.823	0.822 - 0.825
2,3',5',6-TeCB	73			1.01	**M/M+2**	0.86	0.65-0.89	1.242	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			1.04	**M/M+2**	0.78	0.65-0.89	0.987	0.986 - 0.989
3,3',4,5'-TeCB	79			1.29	**M/M+2**	0.77	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.09	**M/M+2**	0.75	0.65-0.89	0.924	0.923 - 0.926
2,2',3,3',4-PeCB	82			0.74	**M+2/M+4**	1.58	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.78	**M+2/M+4**	1.60	1.32-1.78	0.884	0.881 - 0.887
2,2',3,3',6-PeCB	84			0.67	**M+2/M+4**	1.63	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**	1.57	1.32-1.78	0.919	0.916 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.94	**M+2/M+4**	1.58	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	0.75	**M+2/M+4**	1.57	1.32-1.78	1.152	1.148 - 1.156
2,2',3,4,6'-PeCB	89			0.72	**M+2/M+4**	1.60	1.32-1.78	1.181	1.180 - 1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.91	**M+2/M+4**	1.60	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			0.77	**M+2/M+4**	1.63	1.32-1.78	0.853	0.852 - 0.855
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.76	**M+2/M+4**	1.59	1.32-1.78	1.129	1.118 - 1.140
2,2',3,5,6'-PeCB	94			0.67	**M+2/M+4**	1.62	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			0.82	**M+2/M+4**	1.60	1.32-1.78	1.014	1.011 - 1.017
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			0.80	**M+2/M+4**	1.58	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			0.98	**M+2/M+4**	1.53	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	0.98	**M+2/M+4**	1.50	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			1.09	**M+2/M+4**	1.48	1.32-1.78	0.997	0.996 - 0.998
2,3,3',4',6-PeCB	110	110 + 115	C	1.12	**M+2/M+4**	1.62	1.32-1.78	0.926	0.924 - 0.929
2,3,3',5,5'-PeCB	111			1.10	**M+2/M+4**	1.58	1.32-1.78	0.946	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.13	**M+2/M+4**	1.57	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			1.22	**M+2/M+4**	1.56	1.32-1.78	0.958	0.957 - 0.960
2,3',4,5',6-PeCB	121			1.01	**M+2/M+4**	1.58	1.32-1.78	1.199	1.197 - 1.201
2',3,3',4,5-PeCB	122			0.96	**M+2/M+4**	1.49	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			1.01	**M+2/M+4**	1.44	1.32-1.78	1.041	1.040 - 1.043
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.07	**M+2/M+4**	1.25	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.04	**M+2/M+4**	1.27	1.05-1.43	0.930	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.81	**M+2/M+4**	1.26	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.82	**M+2/M+4**	1.24	1.05-1.43	1.158	1.157 - 1.160
2,2',3,3',4,6'-HxCB	132			0.81	**M+2/M+4**	1.28	1.05-1.43	1.173	1.170 - 1.175
2,2',3,3',5,5'-HxCB	133			0.89	**M+2/M+4**	1.25	1.05-1.43	1.190	1.189 - 1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.83	**M+2/M+4**	1.27	1.05-1.43	1.140	1.138 - 1.143
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.70	**M+2/M+4**	1.26	1.05-1.43	1.106	1.100 - 1.111
2,2',3,3',6,6'-HxCB	136			0.87	**M+2/M+4**	1.30	1.05-1.43	1.022	1.021 - 1.024
2,2',3,4,4',5-HxCB	137			0.82	**M+2/M+4**	1.27	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	0.91	**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			0.95	**M+2/M+4**	1.28	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.82	**M+2/M+4**	1.23	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			0.71	**M+2/M+4**	1.31	1.05-1.43	1.121	1.119 - 1.122
2,2',3,4,6,6'-HxCB	145			0.81	**M+2/M+4**	1.31	1.05-1.43	1.033	1.032 - 1.035
2,2',3,4',5,5'-HxCB	146			1.05	**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	0.94	**M+2/M+4**	1.25	1.05-1.43	1.132	1.130 - 1.135
2,2',3,4',5,6'-HxCB	148			0.65	**M+2/M+4**	1.30	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			0.84	**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			0.91	**M+2/M+4**	1.30	1.05-1.43	1.006	1.005 - 1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.15	**M+2/M+4**	1.26	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**	1.26	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.32	**M+2/M+4**	1.25	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			1.23	**M+2/M+4**	1.27	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.29	**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			1.30	**M+2/M+4**	1.27	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.10	**M+2/M+4**	1.26	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			1.13	**M+2/M+4**	1.05	0.89-1.21	1.001	1.000 - 1.002
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.80	**M+2/M+4**	1.04	0.89-1.21	1.161	1.159 - 1.164
2,2',3,3',4,5,5'-HpCB	172			0.79	**M+2/M+4**	1.05	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			0.84	**M+2/M+4**	1.07	0.89-1.21	1.133	1.132 - 1.134
2,2',3,3',4,5',6-HpCB	175			0.86	**M+2/M+4**	1.06	0.89-1.21	1.102	1.101 - 1.103
2,2',3,3',4,6,6'-HpCB	176			1.10	**M+2/M+4**	1.05	0.89-1.21	1.034	1.032 - 1.035
2,2',3,3',4',5,6-HpCB	177			0.85	**M+2/M+4**	1.04	0.89-1.21	1.145	1.143 - 1.146
2,2',3,3',5,5',6-HpCB	178			0.81	**M+2/M+4**	1.05	0.89-1.21	1.085	1.083 - 1.086
2,2',3,3',5,6,6'-HpCB	179			1.10	**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	1.04	**M+2/M+4**	1.04	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.82	**M+2/M+4**	1.07	0.89-1.21	1.156	1.154 - 1.157
2,2',3,4,4',5,6'-HpCB	182			0.88	**M+2/M+4**	1.08	0.89-1.21	1.115	1.114 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.88	**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			1.10	**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			1.03	**M+2/M+4**	1.04	0.89-1.21	1.046	1.045 - 1.047
2,2',3,4',5,5',6-HpCB	187			0.88	**M+2/M+4**	1.05	0.89-1.21	1.110	1.108 - 1.111
2,3,3',4,4',5,6-HpCB	190			1.06	**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			1.09	**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			0.97	**M+2/M+4**	1.06	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			0.98	**M+2/M+4**	0.90	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.96	**M+2/M+4**	0.88	0.76-1.02	0.946	0.945 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.76	**M+2/M+4**	0.93	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	1.01	**M+2/M+4**	0.91	0.76-1.02	1.045	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.73	**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			1.00	**M+2/M+4**	0.92	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.80	**M+2/M+4**	0.90	0.76-1.02	0.920	0.919 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.97	**M+2/M+4**	0.90	0.76-1.02	1.039	1.038 - 1.041
2,2',3,3',4,4',5,6,6'-NoCB	207			1.29	**M+2/M+4**	0.79	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**CAL Data Filename:**	PB9C_036 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:42:59

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			1.15	**M/M+2**	3.11	2.66-3.60	0.717	0.702 - 0.733
13C12-4-MoCB	3L			1.05	**M/M+2**	3.17	2.66-3.60	0.856	0.840 - 0.872
13C12-2,2'-DiCB	4L			0.61	**M/M+2**	1.55	1.33-1.79	0.873	0.857 - 0.888
13C12-4,4'-DiCB	15L			1.00	**M/M+2**	1.57	1.33-1.79	1.252	1.237 - 1.268
13C12-2,2',6-TriCB	19L			0.47	**M/M+2**	1.08	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.68	**M/M+2**	1.03	0.88-1.20	1.090	1.080 - 1.100
13C12-2,2',6,6'-TeCB	54L			1.28	**M/M+2**	0.80	0.65-0.89	0.811	0.804 - 0.817
13C12-3,3',4,4'-TeCB	77L			1.56	**M/M+2**	0.75	0.65-0.89	1.395	1.389 - 1.402
13C12-3,4,4',5-TeCB	81L			1.55	**M/M+2**	0.73	0.65-0.89	1.372	1.365 - 1.379
13C12-2,2',4,6,6'-PeCB	104L			0.89	**M+2/M+4**	1.62	1.32-1.78	0.808	0.803 - 0.814
13C12-2,3,3',4,4'-PeCB	105L			1.49	**M+2/M+4**	1.55	1.32-1.78	1.198	1.193 - 1.204
13C12-2,3,4,4',5-PeCB	114L			1.47	**M+2/M+4**	1.56	1.32-1.78	1.178	1.173 - 1.183
13C12-2,3',4,4',5-PeCB	118L			1.50	**M+2/M+4**	1.55	1.32-1.78	1.161	1.155 - 1.166
13C12-2',3,4,4',5-PeCB	123L			1.51	**M+2/M+4**	1.55	1.32-1.78	1.150	1.145 - 1.155
13C12-3,3',4,4',5-PeCB	126L			1.46	**M+2/M+4**	1.56	1.32-1.78	1.299	1.294 - 1.304
13C12-2,2',4,4',6,6'-HxCB	155L			0.89	**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**	1.24	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			1.21	**M+2/M+4**	1.23	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.23	**M+2/M+4**	1.21	1.05-1.43	1.190	1.186 - 1.194
13C12-2,2',3,3',4,4',5-HpCB	170L			0.95	**M+2/M+4**	1.05	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.10	**M+2/M+4**	1.09	0.89-1.21	0.873	0.869 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.41	**M+2/M+4**	1.06	0.89-1.21	0.713	0.709 - 0.716
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.32	**M+2/M+4**	1.01	0.89-1.21	0.958	0.955 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.05	**M+2/M+4**	0.88	0.76-1.02	0.818	0.814 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.34	**M+2/M+4**	0.86	0.76-1.02	1.009	1.004 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.91	**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			1.23	**M+2/M+4**	0.74	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: _____Kristen Bowes_____

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Report Filename: 1668_PCB1668_PB9C_036S1__Form346B_SJ2509664_GS80132.html; Workgroup: WG66477; Design ID: 3360]

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:	15-Jan-2019	**CAL Data Filename:**	PB9C_036 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:42:59

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
13C12-3,4,4'-TriCB	37L			1.68	**M/M+2**	1.03	0.88-1.20	1.090	1.077 - 1.104
13C12-2,3',4,4',5-PeCB	118L			1.50	**M+2/M+4**	1.55	1.32-1.78	1.161	1.150 - 1.171
13C12-2,3',4,4',5,5'-HxCB	167L			1.21	**M+2/M+4**	1.23	1.05-1.43	1.078	1.070 - 1.086
ADDITIONAL STANDARD									
13C12-2,4',5-TriCB	31L			1.00	**M/M+2**	1.03	0.88-1.20	0.837	0.824 - 0.849
13C12-2,2',3,5',6-PeCB	95L			0.56	**M+2/M+4**	1.64	1.32-1.78	0.779	0.770 - 0.788
13C12-2,2',4,4',5,5'-HxCB	153L			0.92	**M+2/M+4**	1.22	1.05-1.43	0.899	0.891 - 0.906

(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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:25:22

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**	3.03	2.66-3.60	21.6	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.05	2.66-3.60	21.6	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.53	1.33-1.79	20.9	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.49	1.33-1.79	24.0	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.05	0.88-1.20	27.3	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.00	0.88-1.20	21.4	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.80	0.65-0.89	52.6	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.77	0.65-0.89	45.8	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.75	0.65-0.89	48.0	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.62	1.32-1.78	54.9	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.54	1.32-1.78	49.3	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.55	1.32-1.78	45.9	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.51	1.32-1.78	45.7	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.53	1.32-1.78	52.2	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.54	1.32-1.78	48.8	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.29	1.05-1.43	53.9	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	105	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**	1.25	1.05-1.43	57.6	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.35	1.05-1.43	61.2	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.04	0.89-1.21	51.8	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.02	0.89-1.21	44.9	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	88.6	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.89	0.76-1.02	79.4	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	80.4	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.78	0.65-0.89	90.9	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.16	0.99-1.33	76.3	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:25:22

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**	3.11	2.66-3.60	103	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.16	2.66-3.60	95.2	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.59	1.33-1.79	80.7	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.57	1.33-1.79	88.2	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.08	0.88-1.20	89.1	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	82.2	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	89.6	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.73	0.65-0.89	101	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.72	0.65-0.89	91.9	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.61	1.32-1.78	70.4	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.57	1.32-1.78	88.7	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.57	1.32-1.78	85.8	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.55	1.32-1.78	89.1	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.55	1.32-1.78	90.9	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.59	1.32-1.78	92.7	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.29	1.05-1.43	70.4	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.23	1.05-1.43	183	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**	1.22	1.05-1.43	91.4	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.20	1.05-1.43	95.7	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	0.89-1.21	68.8	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.00	0.89-1.21	95.9	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.89	0.76-1.02	53.7	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.89	0.76-1.02	97.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.75	0.65-0.89	95.4	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.74	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**	1.16	0.99-1.33	87.9	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.04	0.88-1.20	92.7	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.64	1.32-1.78	105	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.04	0.89-1.21	86.2	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:25:22

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	0.999-1.003
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	1.001	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	1.000	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	1.001	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	1.001	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	1.000	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_036 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:25:22

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	0.685-0.748
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.856	0.824-0.887
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.841-0.904
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	0.809	0.796-0.822
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.395	1.382-1.409
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	0.808	0.798-0.818
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	1.151-1.171
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	1.300	1.289-1.310
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.786	0.778-0.794
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	1.182-1.199
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	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	1.066-1.085
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.923	0.910-0.937
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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:38:00

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**	3.00	2.66-3.60	20.7	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.02	2.66-3.60	21.1	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.49	1.33-1.79	20.5	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.50	1.33-1.79	23.9	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.06	0.88-1.20	26.6	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	0.97	0.88-1.20	21.0	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.79	0.65-0.89	50.0	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.75	0.65-0.89	44.2	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.80	0.65-0.89	46.8	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.58	1.32-1.78	54.9	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.46	1.32-1.78	45.0	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.44	1.32-1.78	42.1	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.49	1.32-1.78	43.1	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.47	1.32-1.78	44.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.54	1.32-1.78	46.9	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.25	1.05-1.43	53.9	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.31	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**	1.26	1.05-1.43	54.5	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.31	1.05-1.43	56.6	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.02	0.89-1.21	50.1	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.02	0.89-1.21	43.8	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.93	0.76-1.02	87.5	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.89	0.76-1.02	75.4	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	78.8	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	86.6	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.20	0.99-1.33	75.0	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:38:00

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**	3.12	2.66-3.60	108	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.11	2.66-3.60	96.9	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.59	1.33-1.79	91.6	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.57	1.33-1.79	85.5	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.08	0.88-1.20	99.8	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	70.9	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	87.6	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.73	0.65-0.89	75.5	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.72	0.65-0.89	75.9	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.63	1.32-1.78	73.0	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.60	1.32-1.78	75.5	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.62	1.32-1.78	74.6	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.54	1.32-1.78	73.5	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.55	1.32-1.78	75.9	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.56	1.32-1.78	77.5	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.29	1.05-1.43	79.7	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.22	1.05-1.43	175	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**	1.22	1.05-1.43	88.2	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.25	1.05-1.43	91.2	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.09	0.89-1.21	76.4	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	0.99	0.89-1.21	84.4	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.85	0.76-1.02	61.9	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.87	0.76-1.02	98.7	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	99.4	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.77	0.65-0.89	89.5	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	99.9	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.02	0.88-1.20	81.2	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.64	1.32-1.78	88.3	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.02	0.89-1.21	90.4	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:38:00

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	1.000	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	1.000	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	1.001	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	1.001	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	1.000	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	1.000	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	1.000	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:38:00

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	0.685-0.748
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	0.810	0.797-0.823
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	0.808	0.798-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.199	1.188-1.209
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.168-1.188
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	1.299	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	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.191	1.182-1.199
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	1.009	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	0.943-0.956
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: _____Kristen Bowes_____

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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: 15-Jan-2019 **CAL Data Filename:** PB9C_037 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 06-Feb-2019

GC Column ID: SPB OCTYL **Analysis Time:** 19:38:00

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			0.88	**M/M+2**	3.04	2.66-3.60	0.988	0.984 - 0.991
2,3-DiCB	5			0.93	**M/M+2**	1.51	1.33-1.79	1.198	1.195 - 1.202
2,3'-DiCB	6			1.02	**M/M+2**	1.52	1.33-1.79	1.175	1.172 - 1.179
2,4-DiCB	7			0.99	**M/M+2**	1.50	1.33-1.79	1.159	1.155 - 1.162
2,4'-DiCB	8			1.11	**M/M+2**	1.51	1.33-1.79	1.206	1.203 - 1.210
2,5-DiCB	9			1.06	**M/M+2**	1.51	1.33-1.79	1.147	1.143 - 1.150
2,6-DiCB	10			1.03	**M/M+2**	1.51	1.33-1.79	1.013	1.010 - 1.017
3,3'-DiCB	11			0.94	**M/M+2**	1.50	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	0.95	**M/M+2**	1.50	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			0.97	**M/M+2**	1.49	1.33-1.79	0.926	0.923 - 0.928
2,2',3-TriCB	16			0.84	**M/M+2**	1.06	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			1.01	**M/M+2**	1.04	0.88-1.20	1.139	1.136 - 1.142
2,2',5-TriCB	18	18 + 30	C	1.22	**M/M+2**	1.04	0.88-1.20	1.114	1.111 - 1.117
2,3,3'-TriCB	20	20 + 28	C	1.05	**M/M+2**	0.98	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.04	**M/M+2**	0.99	0.88-1.20	0.856	0.853 - 0.859
2,3,4'-TriCB	22			0.91	**M/M+2**	0.99	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			0.92	**M/M+2**	0.98	0.88-1.20	1.285	1.282 - 1.288
2,3,6-TriCB	24			1.39	**M/M+2**	1.00	0.88-1.20	1.160	1.157 - 1.163
2,3',4-TriCB	25			1.19	**M/M+2**	0.99	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	1.01	**M/M+2**	0.97	0.88-1.20	1.304	1.299 - 1.309
2,3',6-TriCB	27			1.49	**M/M+2**	1.10	0.88-1.20	1.153	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			1.10	**M/M+2**	1.00	0.88-1.20	0.837	0.835 - 0.839
2,4',6-TriCB	32			1.06	**M/M+2**	1.00	0.88-1.20	1.198	1.195 - 1.201
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			0.97	**M/M+2**	0.98	0.88-1.20	1.275	1.272 - 1.278
3,3',4-TriCB	35			0.91	**M/M+2**	0.99	0.88-1.20	0.985	0.983 - 0.987
3,3',5-TriCB	36			1.03	**M/M+2**	0.99	0.88-1.20	0.932	0.931 - 0.934
3,4,5-TriCB	38			1.09	**M/M+2**	1.01	0.88-1.20	0.968	0.967 - 0.970
3,4',5-TriCB	39			1.00	**M/M+2**	0.98	0.88-1.20	0.946	0.944 - 0.948
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.84	**M/M+2**	0.78	0.65-0.89	1.337	1.333 - 1.341
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.75	**M/M+2**	0.79	0.65-0.89	1.313	1.311 - 1.316
2,2',3,5-TeCB	43			0.70	**M/M+2**	0.79	0.65-0.89	1.248	1.246 - 1.251
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.94	**M/M+2**	0.78	0.65-0.89	1.288	1.284 - 1.292
2,2',3,6-TeCB	45	45 + 51	C	0.85	**M/M+2**	0.77	0.65-0.89	1.148	1.143 - 1.152
2,2',3,6'-TeCB	46			0.73	**M/M+2**	0.77	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			0.80	**M/M+2**	0.76	0.65-0.89	1.275	1.273 - 1.278
2,2',4,5'-TeCB	49	49 + 69	C	0.98	**M/M+2**	0.78	0.65-0.89	1.259	1.255 - 1.263
2,2',4,6-TeCB	50	50 + 53	C	0.88	**M/M+2**	0.78	0.65-0.89	1.113	1.109 - 1.117
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.91	**M/M+2**	0.77	0.65-0.89	1.236	1.234 - 1.239
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.79	**M/M+2**	0.80	0.65-0.89	0.890	0.888 - 0.891
2,3,3',4'-TeCB	56			0.83	**M/M+2**	0.74	0.65-0.89	0.905	0.904 - 0.907

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			0.86	**M/M+2**	0.79	0.65-0.89	0.845	0.843 - 0.846
2,3,3',5'-TeCB	58			0.86	**M/M+2**	0.82	0.65-0.89	0.851	0.850 - 0.853
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.18	**M/M+2**	0.77	0.65-0.89	1.303	1.299 - 1.307
2,3,4,4'-TeCB	60			0.84	**M/M+2**	0.77	0.65-0.89	0.911	0.910 - 0.913
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	0.92	**M/M+2**	0.76	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			0.91	**M/M+2**	0.78	0.65-0.89	0.865	0.864 - 0.866
2,3,4',6-TeCB	64			1.17	**M/M+2**	0.79	0.65-0.89	1.350	1.348 - 1.352
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			0.89	**M/M+2**	0.78	0.65-0.89	0.885	0.883 - 0.886
2,3',4,5-TeCB	67			1.03	**M/M+2**	0.81	0.65-0.89	0.857	0.855 - 0.858
2,3',4,5'-TeCB	68			0.93	**M/M+2**	0.78	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			0.89	**M/M+2**	0.77	0.65-0.89	0.823	0.822 - 0.825
2,3',5',6-TeCB	73			1.10	**M/M+2**	0.76	0.65-0.89	1.243	1.241 - 1.246
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			0.88	**M/M+2**	0.76	0.65-0.89	0.987	0.986 - 0.989
3,3',4,5'-TeCB	79			1.17	**M/M+2**	0.78	0.65-0.89	0.971	0.970 - 0.972
3,3',5,5'-TeCB	80			0.98	**M/M+2**	0.76	0.65-0.89	0.924	0.923 - 0.926
2,2',3,3',4-PeCB	82			0.77	**M+2/M+4**	1.58	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.80	**M+2/M+4**	1.67	1.32-1.78	0.885	0.882 - 0.887
2,2',3,3',6-PeCB	84			0.73	**M+2/M+4**	1.55	1.32-1.78	1.162	1.160 - 1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1.03	**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	1.01	**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	0.85	**M+2/M+4**	1.63	1.32-1.78	1.153	1.149 - 1.157
2,2',3,4,6'-PeCB	89			0.78	**M+2/M+4**	1.60	1.32-1.78	1.182	1.180 - 1.184
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1.00	**M+2/M+4**	1.55	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			0.82	**M+2/M+4**	1.63	1.32-1.78	0.853	0.852 - 0.855
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.87	**M+2/M+4**	1.59	1.32-1.78	1.130	1.119 - 1.141
2,2',3,5,6'-PeCB	94			0.77	**M+2/M+4**	1.61	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			1.09	**M+2/M+4**	1.58	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			0.91	**M+2/M+4**	1.60	1.32-1.78	1.094	1.092 - 1.096
2,3,3',4,5-PeCB	106			0.95	**M+2/M+4**	1.46	1.32-1.78	1.004	1.002 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	0.88	**M+2/M+4**	1.44	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			0.98	**M+2/M+4**	1.42	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.17	**M+2/M+4**	1.59	1.32-1.78	0.926	0.924 - 0.929
2,3,3',5,5'-PeCB	111			1.17	**M+2/M+4**	1.61	1.32-1.78	0.946	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.17	**M+2/M+4**	1.60	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			1.28	**M+2/M+4**	1.64	1.32-1.78	0.959	0.957 - 0.960
2,3',4,5',6-PeCB	121			1.09	**M+2/M+4**	1.54	1.32-1.78	1.201	1.199 - 1.203
2',3,3',4,5-PeCB	122			0.83	**M+2/M+4**	1.40	1.32-1.78	1.010	1.008 - 1.011
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			0.91	**M+2/M+4**	1.54	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	0.96	**M+2/M+4**	1.26	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	0.95	**M+2/M+4**	1.25	1.05-1.43	0.930	0.927 - 0.933
2,2',3,3',4,5'-HxCB	130			0.71	**M+2/M+4**	1.24	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.77	**M+2/M+4**	1.25	1.05-1.43	1.158	1.157 - 1.160
2,2',3,3',4,6'-HxCB	132			0.72	**M+2/M+4**	1.27	1.05-1.43	1.173	1.171 - 1.176
2,2',3,3',5,5'-HxCB	133			0.78	**M+2/M+4**	1.25	1.05-1.43	1.190	1.188 - 1.191
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.75	**M+2/M+4**	1.29	1.05-1.43	1.140	1.137 - 1.142
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.75	**M+2/M+4**	1.27	1.05-1.43	1.106	1.100 - 1.111
2,2',3,3',6,6'-HxCB	136			0.96	**M+2/M+4**	1.26	1.05-1.43	1.023	1.021 - 1.024
2,2',3,4,4',5-HxCB	137			0.73	**M+2/M+4**	1.25	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	0.83	**M+2/M+4**	1.25	1.05-1.43	1.152	1.149 - 1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.82	**M+2/M+4**	1.26	1.05-1.43	0.904	0.902 - 0.905
2,2',3,4,5,6-HxCB	142			0.73	**M+2/M+4**	1.27	1.05-1.43	1.164	1.162 - 1.165
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.73	**M+2/M+4**	1.29	1.05-1.43	1.121	1.119 - 1.122
2,2',3,4,6,6'-HxCB	145			0.87	**M+2/M+4**	1.26	1.05-1.43	1.033	1.031 - 1.034
2,2',3,4',5,5'-HxCB	146			0.94	**M+2/M+4**	1.13	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.85	**M+2/M+4**	1.23	1.05-1.43	1.133	1.130 - 1.135
2,2',3,4',5,6'-HxCB	148			0.71	**M+2/M+4**	1.25	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			0.93	**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			1.04	**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	1.06	**M+2/M+4**	1.25	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			1.27	**M+2/M+4**	1.26	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.18	**M+2/M+4**	1.25	1.05-1.43	0.983	0.981 - 0.984
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.16	**M+2/M+4**	1.35	1.05-1.43	0.888	0.886 - 0.889
2,3,3',4',5,5'-HxCB	162			1.24	**M+2/M+4**	1.30	1.05-1.43	0.989	0.988 - 0.991
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.12	**M+2/M+4**	1.25	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			0.97	**M+2/M+4**	1.25	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			1.16	**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	0.66	**M+2/M+4**	1.05	0.89-1.21	1.162	1.160 - 1.164
2,2',3,3',4,5,5'-HpCB	172			0.65	**M+2/M+4**	1.06	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			0.68	**M+2/M+4**	1.05	0.89-1.21	1.133	1.131 - 1.134
2,2',3,3',4,5',6-HpCB	175			0.72	**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			0.90	**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			0.96	**M+2/M+4**	1.05	0.89-1.21	1.145	1.144 - 1.146
2,2',3,3',5,5',6-HpCB	178			0.69	**M+2/M+4**	1.01	0.89-1.21	1.085	1.083 - 1.086
2,2',3,3',5,6,6'-HpCB	179			0.90	**M+2/M+4**	1.06	0.89-1.21	1.010	1.008 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.04	**M+2/M+4**	1.08	0.89-1.21	0.999	0.998 - 1.000
2,2',3,4,4',5,6-HpCB	181			0.70	**M+2/M+4**	1.06	0.89-1.21	1.156	1.155 - 1.157
2,2',3,4,4',5,6'-HpCB	182			0.71	**M+2/M+4**	1.06	0.89-1.21	1.116	1.114 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.72	**M+2/M+4**	1.04	0.89-1.21	1.128	1.126 - 1.129
2,2',3,4,4',6,6'-HpCB	184			0.95	**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			0.86	**M+2/M+4**	1.05	0.89-1.21	1.046	1.045 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.73	**M+2/M+4**	1.05	0.89-1.21	1.110	1.108 - 1.111
2,3,3',4,4',5,6-HpCB	190			0.97	**M+2/M+4**	1.07	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**	1.04	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**	1.07	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			1.02	**M+2/M+4**	0.91	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.90	**M+2/M+4**	0.90	0.76-1.02	0.946	0.945 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.61	**M+2/M+4**	0.90	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	0.83	**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	0.61	**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			0.77	**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			0.66	**M+2/M+4**	0.90	0.76-1.02	0.920	0.919 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.77	**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			1.27	**M+2/M+4**	0.79	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**CAL Data Filename:**	PB9C_037 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:38:00

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			1.25	**M/M+2**	3.12	2.66-3.60	0.717	0.701 - 0.732
13C12-4-MoCB	3L			1.10	**M/M+2**	3.11	2.66-3.60	0.856	0.841 - 0.872
13C12-2,2'-DiCB	4L			0.63	**M/M+2**	1.59	1.33-1.79	0.873	0.857 - 0.889
13C12-4,4'-DiCB	15L			0.93	**M/M+2**	1.57	1.33-1.79	1.252	1.236 - 1.268
13C12-2,2',6-TriCB	19L			0.50	**M/M+2**	1.08	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.46	**M/M+2**	1.02	0.88-1.20	1.090	1.080 - 1.100
13C12-2,2',6,6'-TeCB	54L			1.42	**M/M+2**	0.80	0.65-0.89	0.810	0.803 - 0.817
13C12-3,3',4,4'-TeCB	77L			1.21	**M/M+2**	0.73	0.65-0.89	1.395	1.388 - 1.402
13C12-3,4,4',5-TeCB	81L			1.22	**M/M+2**	0.72	0.65-0.89	1.372	1.365 - 1.378
13C12-2,2',4,6,6'-PeCB	104L			1.04	**M+2/M+4**	1.63	1.32-1.78	0.808	0.803 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.23	**M+2/M+4**	1.60	1.32-1.78	1.199	1.194 - 1.204
13C12-2,3,4,4',5-PeCB	114L			1.26	**M+2/M+4**	1.62	1.32-1.78	1.178	1.173 - 1.183
13C12-2,3',4,4',5-PeCB	118L			1.17	**M+2/M+4**	1.54	1.32-1.78	1.161	1.156 - 1.166
13C12-2',3,4,4',5-PeCB	123L			1.22	**M+2/M+4**	1.55	1.32-1.78	1.150	1.145 - 1.155
13C12-3,3',4,4',5-PeCB	126L			1.21	**M+2/M+4**	1.56	1.32-1.78	1.299	1.294 - 1.304
13C12-2,2',4,4',6,6'-HxCB	155L			1.10	**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	1.29	**M+2/M+4**	1.22	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			1.24	**M+2/M+4**	1.22	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.39	**M+2/M+4**	1.25	1.05-1.43	1.191	1.187 - 1.195
13C12-2,2',3,3',4,4',5-HpCB	170L			0.73	**M+2/M+4**	1.04	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			0.86	**M+2/M+4**	1.04	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**	1.09	0.89-1.21	0.713	0.710 - 0.716
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.31	**M+2/M+4**	0.99	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.91	**M+2/M+4**	0.85	0.76-1.02	0.818	0.814 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.42	**M+2/M+4**	0.87	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.96	**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			1.08	**M+2/M+4**	0.77	0.65-0.89	0.949	0.946 - 0.953

(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: _____Kristen Bowes_____

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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:	15-Jan-2019	**CAL Data Filename:**	PB9C_037 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	06-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:38:00

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
13C12-3,4,4'-TriCB	37L			1.46	**M/M+2**	1.02	0.88-1.20	1.090	1.077 - 1.104
13C12-2,3',4,4',5-PeCB	118L			1.17	**M+2/M+4**	1.54	1.32-1.78	1.161	1.151 - 1.171
13C12-2,3',4,4',5,5'-HxCB	167L			1.24	**M+2/M+4**	1.22	1.05-1.43	1.078	1.070 - 1.086
ADDITIONAL STANDARD									
13C12-2,4',5-TriCB	31L			1.13	**M/M+2**	1.03	0.88-1.20	0.836	0.824 - 0.848
13C12-2,2',3,5',6-PeCB	95L			0.75	**M+2/M+4**	1.63	1.32-1.78	0.779	0.770 - 0.787
13C12-2,2',4,4',5,5'-HxCB	153L			0.91	**M+2/M+4**	1.24	1.05-1.43	0.899	0.891 - 0.906

(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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:20:42

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**	3.01	2.66-3.60	20.9	17.5 - 32.5
4-MoCB	3			**M/M+2**	2.98	2.66-3.60	20.9	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.52	1.33-1.79	20.4	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.52	1.33-1.79	23.8	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.05	0.88-1.20	27.0	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	0.96	0.88-1.20	21.8	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.79	0.65-0.89	51.4	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.74	0.65-0.89	44.1	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.78	0.65-0.89	47.1	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.57	1.32-1.78	54.4	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.54	1.32-1.78	44.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.60	1.32-1.78	42.0	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.48	1.32-1.78	42.2	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.51	1.32-1.78	49.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.57	1.32-1.78	44.5	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.25	1.05-1.43	53.6	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.22	1.05-1.43	99.6	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**	1.24	1.05-1.43	55.3	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.37	1.05-1.43	60.7	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.06	0.89-1.21	51.6	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.04	0.89-1.21	44.8	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	84.8	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.89	0.76-1.02	75.4	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	79.3	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.77	0.65-0.89	87.2	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.15	0.99-1.33	75.8	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:20:42

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**	3.10	2.66-3.60	112	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.11	2.66-3.60	103	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.57	1.33-1.79	91.9	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.58	1.33-1.79	88.4	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	96.0	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.03	0.88-1.20	73.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	87.5	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.76	0.65-0.89	76.8	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.73	0.65-0.89	76.5	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.58	1.32-1.78	72.5	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.54	1.32-1.78	78.7	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.63	1.32-1.78	78.3	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.54	1.32-1.78	78.3	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.58	1.32-1.78	84.3	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.55	1.32-1.78	78.8	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.30	1.05-1.43	77.6	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.26	1.05-1.43	183	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**	1.23	1.05-1.43	89.4	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.27	1.05-1.43	95.0	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	75.7	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	0.98	0.89-1.21	78.5	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.88	0.76-1.02	63.0	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.87	0.76-1.02	100	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	99.8	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.77	0.65-0.89	85.2	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	97.8	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.01	0.88-1.20	84.0	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.64	1.32-1.78	88.8	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.07	0.89-1.21	88.1	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:20:42

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	1.002	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	1.000	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	1.001	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	1.001	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	1.001	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	1.000	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	1.000	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	1.000	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_037 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:20:42

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	0.717	0.686-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.857	0.826-0.888
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	1.222-1.285
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	1.382-1.408
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	0.808	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	1.151-1.171
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	1.300	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	1.182-1.199
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	0.958	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	1.000-1.019
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	0.910-0.937
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: _____Kristen Bowes_____

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Report Filename: 1668_PCB1668_PB9C_037S11__Form6B_SJ2509708.html; Workgroup: WG66477; 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:	15-Jan-2019	**VER Data Filename:**	PB9C_039 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:57:10

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	22.7	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.09	2.66-3.60	22.9	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.57	1.33-1.79	22.8	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.54	1.33-1.79	26.0	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.06	0.88-1.20	24.4	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.01	0.88-1.20	23.3	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.79	0.65-0.89	47.6	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.78	0.65-0.89	46.0	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.78	0.65-0.89	50.0	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.52	1.32-1.78	48.2	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.48	1.32-1.78	48.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.56	1.32-1.78	47.4	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.52	1.32-1.78	47.0	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.50	1.32-1.78	47.1	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.57	1.32-1.78	49.2	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.26	1.05-1.43	50.1	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.27	1.05-1.43	96.8	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**	1.25	1.05-1.43	52.7	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.27	1.05-1.43	49.3	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.05	0.89-1.21	46.7	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.03	0.89-1.21	48.8	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.89	0.76-1.02	81.1	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.90	0.76-1.02	74.5	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.78	0.65-0.89	74.2	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.78	0.65-0.89	81.1	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	69.1	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_039 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:57:10

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**	3.15	2.66-3.60	96.6	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.12	2.66-3.60	89.9	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.57	1.33-1.79	92.6	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.58	1.33-1.79	88.4	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.06	0.88-1.20	113	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	69.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.82	0.65-0.89	85.8	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.72	0.65-0.89	75.3	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.74	0.65-0.89	75.5	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.61	1.32-1.78	92.8	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.59	1.32-1.78	73.1	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.61	1.32-1.78	70.4	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.54	1.32-1.78	76.1	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.59	1.32-1.78	81.5	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.57	1.32-1.78	73.0	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.24	1.05-1.43	103	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.25	1.05-1.43	173	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**	1.23	1.05-1.43	87.3	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.23	1.05-1.43	85.1	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	0.89-1.21	118	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.00	0.89-1.21	87.4	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.89	0.76-1.02	113	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.87	0.76-1.02	94.2	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.76	0.65-0.89	98.6	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	106	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.17	0.99-1.33	119	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.04	0.88-1.20	81.4	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.32-1.78	89.0	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.04	0.89-1.21	109	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_039 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:57:10

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	1.000	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	1.000	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	1.000	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	1.001	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_039 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:57:10

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	0.856	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	1.252	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	1.382-1.408
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.372	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	1.188-1.209
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.168-1.188
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	1.140-1.160
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.299	1.288-1.309
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	1.099-1.115
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	1.069-1.085
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	1.066-1.085
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.

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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: 15-Jan-2019 **CAL Data Filename:** PB9C_039 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 07-Feb-2019

GC Column ID: SPB OCTYL **Analysis Time:** 19:57:10

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			1.00	**M/M+2**	3.12	2.66-3.60	0.988	0.984 - 0.991
2,3-DiCB	5			1.02	**M/M+2**	1.57	1.33-1.79	1.199	1.196 - 1.203
2,3'-DiCB	6			1.13	**M/M+2**	1.55	1.33-1.79	1.178	1.174 - 1.181
2,4-DiCB	7			1.08	**M/M+2**	1.53	1.33-1.79	1.160	1.156 - 1.163
2,4'-DiCB	8			1.21	**M/M+2**	1.55	1.33-1.79	1.209	1.205 - 1.212
2,5-DiCB	9			1.18	**M/M+2**	1.54	1.33-1.79	1.148	1.144 - 1.152
2,6-DiCB	10			1.14	**M/M+2**	1.54	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			1.07	**M/M+2**	1.54	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.06	**M/M+2**	1.54	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.10	**M/M+2**	1.56	1.33-1.79	0.926	0.924 - 0.929
2,2',3-TriCB	16			0.80	**M/M+2**	1.06	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			0.99	**M/M+2**	1.04	0.88-1.20	1.139	1.136 - 1.142
2,2',5-TriCB	18	18 + 30	C	1.21	**M/M+2**	1.04	0.88-1.20	1.114	1.111 - 1.117
2,3,3'-TriCB	20	20 + 28	C	1.16	**M/M+2**	1.01	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.16	**M/M+2**	1.02	0.88-1.20	0.856	0.853 - 0.859
2,3,4'-TriCB	22			1.04	**M/M+2**	1.03	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			1.04	**M/M+2**	1.02	0.88-1.20	1.284	1.282 - 1.287
2,3,6-TriCB	24			1.41	**M/M+2**	1.05	0.88-1.20	1.159	1.156 - 1.162
2,3',4-TriCB	25			1.30	**M/M+2**	1.01	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	1.13	**M/M+2**	1.02	0.88-1.20	1.304	1.299 - 1.309
2,3',6-TriCB	27			1.43	**M/M+2**	1.03	0.88-1.20	1.151	1.149 - 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			1.21	**M/M+2**	1.03	0.88-1.20	0.837	0.835 - 0.839
2,4',6-TriCB	32			1.18	**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			1.10	**M/M+2**	1.01	0.88-1.20	1.275	1.272 - 1.278
3,3',4-TriCB	35			1.06	**M/M+2**	1.01	0.88-1.20	0.985	0.983 - 0.987
3,3',5-TriCB	36			1.15	**M/M+2**	1.02	0.88-1.20	0.932	0.931 - 0.934
3,4,5-TriCB	38			1.19	**M/M+2**	1.04	0.88-1.20	0.968	0.966 - 0.970
3,4',5-TriCB	39			1.15	**M/M+2**	1.01	0.88-1.20	0.946	0.944 - 0.948
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.83	**M/M+2**	0.79	0.65-0.89	1.337	1.333 - 1.341
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.77	**M/M+2**	0.79	0.65-0.89	1.313	1.310 - 1.315
2,2',3,5-TeCB	43			0.71	**M/M+2**	0.77	0.65-0.89	1.248	1.246 - 1.251
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.93	**M/M+2**	0.78	0.65-0.89	1.287	1.283 - 1.292
2,2',3,6-TeCB	45	45 + 51	C	0.84	**M/M+2**	0.78	0.65-0.89	1.147	1.143 - 1.152
2,2',3,6'-TeCB	46			0.72	**M/M+2**	0.78	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			0.82	**M/M+2**	0.79	0.65-0.89	1.275	1.273 - 1.278
2,2',4,5'-TeCB	49	49 + 69	C	0.97	**M/M+2**	0.78	0.65-0.89	1.259	1.255 - 1.263
2,2',4,6-TeCB	50	50 + 53	C	0.87	**M/M+2**	0.76	0.65-0.89	1.113	1.109 - 1.117
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.88	**M/M+2**	0.79	0.65-0.89	1.235	1.233 - 1.238
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.89	**M/M+2**	0.78	0.65-0.89	0.890	0.888 - 0.891
2,3,3',4'-TeCB	56			0.91	**M/M+2**	0.76	0.65-0.89	0.905	0.904 - 0.907

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			0.97	**M/M+2**	0.78	0.65-0.89	0.845	0.844 - 0.847
2,3,3',5'-TeCB	58			0.93	**M/M+2**	0.79	0.65-0.89	0.852	0.851 - 0.853
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.14	**M/M+2**	0.78	0.65-0.89	1.303	1.299 - 1.307
2,3,4,4'-TeCB	60			0.93	**M/M+2**	0.77	0.65-0.89	0.911	0.910 - 0.913
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	0.98	**M/M+2**	0.78	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			1.00	**M/M+2**	0.79	0.65-0.89	0.865	0.864 - 0.866
2,3,4',6-TeCB	64			1.14	**M/M+2**	0.77	0.65-0.89	1.350	1.347 - 1.352
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			0.99	**M/M+2**	0.77	0.65-0.89	0.885	0.884 - 0.887
2,3',4,5-TeCB	67			1.13	**M/M+2**	0.78	0.65-0.89	0.857	0.856 - 0.859
2,3',4,5'-TeCB	68			1.02	**M/M+2**	0.78	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			1.01	**M/M+2**	0.78	0.65-0.89	0.823	0.822 - 0.825
2,3',5',6-TeCB	73			1.08	**M/M+2**	0.79	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			0.96	**M/M+2**	0.78	0.65-0.89	0.988	0.986 - 0.989
3,3',4,5'-TeCB	79			1.20	**M/M+2**	0.77	0.65-0.89	0.971	0.970 - 0.972
3,3',5,5'-TeCB	80			1.06	**M/M+2**	0.78	0.65-0.89	0.925	0.924 - 0.926
2,2',3,3',4-PeCB	82			0.72	**M+2/M+4**	1.60	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.76	**M+2/M+4**	1.52	1.32-1.78	0.885	0.882 - 0.887
2,2',3,3',6-PeCB	84			0.69	**M+2/M+4**	1.57	1.32-1.78	1.161	1.160 - 1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	0.96	**M+2/M+4**	1.57	1.32-1.78	0.920	0.917 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.92	**M+2/M+4**	1.57	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	0.78	**M+2/M+4**	1.59	1.32-1.78	1.152	1.148 - 1.156
2,2',3,4,6'-PeCB	89			0.72	**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**	1.57	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			0.77	**M+2/M+4**	1.58	1.32-1.78	0.853	0.852 - 0.855
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.80	**M+2/M+4**	1.56	1.32-1.78	1.129	1.118 - 1.140
2,2',3,5,6'-PeCB	94			0.70	**M+2/M+4**	1.58	1.32-1.78	1.101	1.100 - 1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			1.18	**M+2/M+4**	1.59	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			0.86	**M+2/M+4**	1.56	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			1.03	**M+2/M+4**	1.53	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**	1.55	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**	1.49	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.06	**M+2/M+4**	1.56	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.07	**M+2/M+4**	1.57	1.32-1.78	0.946	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.08	**M+2/M+4**	1.57	1.32-1.78	0.889	0.888 - 0.891
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			1.21	**M+2/M+4**	1.58	1.32-1.78	0.959	0.957 - 0.960
2,3',4,5',6-PeCB	121			1.01	**M+2/M+4**	1.53	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			0.89	**M+2/M+4**	1.53	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			0.91	**M+2/M+4**	1.58	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	0.88	**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	0.87	**M+2/M+4**	1.24	1.05-1.43	0.930	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.67	**M+2/M+4**	1.22	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.79	**M+2/M+4**	1.24	1.05-1.43	1.159	1.157 - 1.160
2,2',3,3',4,6'-HxCB	132			0.70	**M+2/M+4**	1.24	1.05-1.43	1.173	1.170 - 1.176
2,2',3,3',5,5'-HxCB	133			0.74	**M+2/M+4**	1.24	1.05-1.43	1.190	1.189 - 1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.82	**M+2/M+4**	1.26	1.05-1.43	1.140	1.138 - 1.143
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.89	**M+2/M+4**	1.25	1.05-1.43	1.106	1.100 - 1.112
2,2',3,3',6,6'-HxCB	136			1.10	**M+2/M+4**	1.26	1.05-1.43	1.023	1.021 - 1.024
2,2',3,4,4',5-HxCB	137			0.71	**M+2/M+4**	1.24	1.05-1.43	0.919	0.918 - 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	0.90	**M+2/M+4**	1.26	1.05-1.43	1.152	1.149 - 1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.76	**M+2/M+4**	1.24	1.05-1.43	0.904	0.902 - 0.905
2,2',3,4,5,6-HxCB	142			0.73	**M+2/M+4**	1.22	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			0.96	**M+2/M+4**	1.24	1.05-1.43	1.121	1.119 - 1.122
2,2',3,4,6,6'-HxCB	145			1.01	**M+2/M+4**	1.28	1.05-1.43	1.033	1.031 - 1.034
2,2',3,4',5,5'-HxCB	146			0.85	**M+2/M+4**	1.26	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.94	**M+2/M+4**	1.25	1.05-1.43	1.133	1.130 - 1.135
2,2',3,4',5,6'-HxCB	148			0.80	**M+2/M+4**	1.23	1.05-1.43	1.084	1.082 - 1.085
2,2',3,4',5',6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			1.08	**M+2/M+4**	1.24	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			1.15	**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	0.97	**M+2/M+4**	1.25	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			1.13	**M+2/M+4**	1.26	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.08	**M+2/M+4**	1.23	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			1.10	**M+2/M+4**	1.28	1.05-1.43	0.888	0.887 - 0.889
2,3,3',4',5,5'-HxCB	162			1.07	**M+2/M+4**	1.26	1.05-1.43	0.989	0.988 - 0.991
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.05	**M+2/M+4**	1.25	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			0.93	**M+2/M+4**	1.25	1.05-1.43	0.878	0.877 - 0.879
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			1.08	**M+2/M+4**	1.02	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.76	**M+2/M+4**	1.03	0.89-1.21	1.162	1.159 - 1.164
2,2',3,3',4,5,5'-HpCB	172			0.75	**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			0.83	**M+2/M+4**	1.06	0.89-1.21	1.133	1.131 - 1.134
2,2',3,3',4,5',6-HpCB	175			0.82	**M+2/M+4**	1.02	0.89-1.21	1.102	1.101 - 1.103
2,2',3,3',4,6,6'-HpCB	176			1.04	**M+2/M+4**	1.07	0.89-1.21	1.034	1.032 - 1.035
2,2',3,3',4',5,6-HpCB	177			0.83	**M+2/M+4**	1.05	0.89-1.21	1.145	1.143 - 1.146
2,2',3,3',5,5',6-HpCB	178			0.77	**M+2/M+4**	1.03	0.89-1.21	1.085	1.083 - 1.086
2,2',3,3',5,6,6'-HpCB	179			1.07	**M+2/M+4**	1.00	0.89-1.21	1.009	1.008 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	0.95	**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			0.78	**M+2/M+4**	1.02	0.89-1.21	1.156	1.155 - 1.157
2,2',3,4,4',5,6'-HpCB	182			0.82	**M+2/M+4**	1.04	0.89-1.21	1.115	1.114 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.81	**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			1.09	**M+2/M+4**	1.03	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			1.00	**M+2/M+4**	1.02	0.89-1.21	1.046	1.045 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.84	**M+2/M+4**	1.04	0.89-1.21	1.110	1.109 - 1.111
2,3,3',4,4',5,6-HpCB	190			1.06	**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			1.03	**M+2/M+4**	1.05	0.89-1.21	0.918	0.917 - 0.919
2,3,3',4,5,5',6-HpCB	192			0.92	**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			0.75	**M+2/M+4**	0.91	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.69	**M+2/M+4**	0.90	0.76-1.02	0.945	0.944 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.82	**M+2/M+4**	0.90	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	1.12	**M+2/M+4**	0.88	0.76-1.02	1.045	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.80	**M+2/M+4**	0.90	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			1.11	**M+2/M+4**	0.91	0.76-1.02	1.023	1.021 - 1.024
2,2',3,4,4',5,5',6-OcCB	203			0.87	**M+2/M+4**	0.89	0.76-1.02	0.920	0.919 - 0.921
2,2',3,4,4',5,6,6'-OcCB	204			1.06	**M+2/M+4**	0.89	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.10	**M+2/M+4**	0.77	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**CAL Data Filename:**	PB9C_039 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:57:10

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			1.12	**M/M+2**	3.15	2.66-3.60	0.717	0.701 - 0.733
13C12-4-MoCB	3L			1.02	**M/M+2**	3.12	2.66-3.60	0.856	0.841 - 0.872
13C12-2,2'-DiCB	4L			0.63	**M/M+2**	1.57	1.33-1.79	0.872	0.856 - 0.888
13C12-4,4'-DiCB	15L			0.96	**M/M+2**	1.58	1.33-1.79	1.252	1.236 - 1.267
13C12-2,2',6-TriCB	19L			0.56	**M/M+2**	1.06	0.88-1.20	1.072	1.056 - 1.087
13C12-3,4,4'-TriCB	37L			1.43	**M/M+2**	1.02	0.88-1.20	1.090	1.080 - 1.100
13C12-2,2',6,6'-TeCB	54L			1.39	**M/M+2**	0.82	0.65-0.89	0.810	0.804 - 0.817
13C12-3,3',4,4'-TeCB	77L			1.21	**M/M+2**	0.72	0.65-0.89	1.395	1.388 - 1.401
13C12-3,4,4',5-TeCB	81L			1.21	**M/M+2**	0.74	0.65-0.89	1.372	1.365 - 1.378
13C12-2,2',4,6,6'-PeCB	104L			1.32	**M+2/M+4**	1.61	1.32-1.78	0.809	0.803 - 0.814
13C12-2,3,3',4,4'-PeCB	105L			1.19	**M+2/M+4**	1.59	1.32-1.78	1.199	1.193 - 1.204
13C12-2,3,4,4',5-PeCB	114L			1.19	**M+2/M+4**	1.61	1.32-1.78	1.178	1.173 - 1.183
13C12-2,3',4,4',5-PeCB	118L			1.21	**M+2/M+4**	1.54	1.32-1.78	1.161	1.156 - 1.166
13C12-2',3,4,4',5-PeCB	123L			1.31	**M+2/M+4**	1.59	1.32-1.78	1.150	1.145 - 1.155
13C12-3,3',4,4',5-PeCB	126L			1.14	**M+2/M+4**	1.57	1.32-1.78	1.299	1.294 - 1.304
13C12-2,2',4,4',6,6'-HxCB	155L			1.41	**M+2/M+4**	1.24	1.05-1.43	0.787	0.783 - 0.791
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.27	**M+2/M+4**	1.25	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**	1.23	1.05-1.43	1.077	1.073 - 1.081
13C12-3,3',4,4',5,5'-HxCB	169L			1.30	**M+2/M+4**	1.23	1.05-1.43	1.190	1.186 - 1.194
13C12-2,2',3,3',4,4',5-HpCB	170L			1.13	**M+2/M+4**	1.05	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.32	**M+2/M+4**	1.03	0.89-1.21	0.873	0.870 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.78	**M+2/M+4**	1.05	0.89-1.21	0.713	0.710 - 0.716
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.36	**M+2/M+4**	1.00	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.67	**M+2/M+4**	0.89	0.76-1.02	0.818	0.815 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.36	**M+2/M+4**	0.87	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**	0.76	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.28	**M+2/M+4**	0.78	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: _____Kristen Bowes_____

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Report Filename: 1668_PCB1668_PB9C_039S1__Form346B_SJ2510440_GS80153.html; Workgroup: WG66477; 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:	15-Jan-2019	**VER Data Filename:**	PB9C_040 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:52:08

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**	3.12	2.66-3.60	23.2	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.10	2.66-3.60	23.4	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.55	1.33-1.79	23.2	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.51	1.33-1.79	26.4	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.05	0.88-1.20	24.7	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.01	0.88-1.20	24.2	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.78	0.65-0.89	48.7	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.76	0.65-0.89	46.3	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.77	0.65-0.89	48.6	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.57	1.32-1.78	49.2	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.50	1.32-1.78	48.7	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.57	1.32-1.78	48.0	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.59	1.32-1.78	47.2	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.55	1.32-1.78	53.8	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.58	1.32-1.78	51.0	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.26	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**	1.26	1.05-1.43	97.5	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**	1.24	1.05-1.43	52.6	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.35	1.05-1.43	54.7	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.04	0.89-1.21	47.1	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.04	0.89-1.21	47.9	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.90	0.76-1.02	79.2	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.90	0.76-1.02	74.5	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.77	0.65-0.89	74.3	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	81.9	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.19	0.99-1.33	72.0	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_040 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:52:08

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**	3.18	2.66-3.60	95.6	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.13	2.66-3.60	87.1	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.58	1.33-1.79	92.5	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.59	1.33-1.79	84.9	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.05	0.88-1.20	107	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.03	0.88-1.20	68.5	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	88.4	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.72	0.65-0.89	70.2	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.72	0.65-0.89	71.1	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.60	1.32-1.78	96.2	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.58	1.32-1.78	68.5	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.58	1.32-1.78	65.1	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.56	1.32-1.78	69.2	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.58	1.32-1.78	72.1	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.58	1.32-1.78	64.8	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.27	1.05-1.43	113	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.23	1.05-1.43	166	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**	1.24	1.05-1.43	85.9	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.23	1.05-1.43	82.4	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	0.89-1.21	112	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.00	0.89-1.21	81.1	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.87	0.76-1.02	106	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.88	0.76-1.02	95.3	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.76	0.65-0.89	107	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	101	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.17	0.99-1.33	122	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	83.2	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.61	1.32-1.78	86.2	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.02	0.89-1.21	110	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_040 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:52:08

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	1.001	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	1.001	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	1.001	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	1.001	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	1.000	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	1.000	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	1.000	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: _____Kristen Bowes_____

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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:	15-Jan-2019	**VER Data Filename:**	PB9C_040 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Feb-2019
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:52:08

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	0.687-0.749
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	1.073	1.042-1.104
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	0.797-0.824
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	1.372	1.359-1.385
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.198	1.188-1.209
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.178	1.168-1.188
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	1.140-1.160
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.298	1.288-1.309
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	1.098-1.115
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	1.069-1.086
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	0.959	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	0.812-0.824
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	1.076-1.097
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: _____Kristen Bowes_____

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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	
	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	
	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	
	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	
	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									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									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									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									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									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.
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-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									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	

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 **
	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		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	

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 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							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										

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 **
	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											

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 **
	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	
	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	
	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	
	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	
	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	
	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	
	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	
	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	

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 **
		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	

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 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																						

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 **
		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																						

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 **
		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 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	
	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	
	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	
	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	
		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	
	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	
		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	
	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	
		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	
	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	
	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	
		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	
		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	
	PCB 158/160	EPA 8270	MLA-007									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-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	

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 **
		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	

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 **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	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	
		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	
		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	
		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	
	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	
	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	
	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	
		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	
	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	
	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	
	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	
		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	
		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	
		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	
		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																						

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 **
		SGS AXYS MLA-010	MLA-010	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

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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 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	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	

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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-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	

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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 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	

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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	
	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	

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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 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

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 **
	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

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 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

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 **
	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				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				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				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													

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 **
		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
	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											

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 **
	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											

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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 **
	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.
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 **
	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.
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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-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.
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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 **
	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

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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 **
	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

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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 **
	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)