



ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
www.alsglobal.com/geochemistry

To: COLIN DUNN CONSULTING INC.
8756 PENDER PARK DRIVE
NORTH SAANICH BC V8L 3Z5

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Plus Appendix Pages
Finalized Date: 31-MAY-2019
Account: CODUCO

CERTIFICATE VA19111420

Project: Research-Collaborative w/ALS

This report is for 157 Vegetation samples submitted to our lab in Vancouver, BC, Canada on 9-MAY-2019.

The following have access to data associated with this certificate:

COLIN DUNN

DAVE HEBERLEIN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-HAL01a	Super Trace Halogens on Vegetation

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



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CERTIFICATE OF ANALYSIS VA19111420

Sample Description	Method Analyte Units LOD	WEI-21	ME-HAL01a	ME-HAL01a	ME-HAL01a	ME-HAL01a
		Recvd Wt.	I	Br	F	Cl
		kg 0.02	ppm 0.002	ppm 0.02	ppm 0.05	ppm 0.1
1158		<0.02	0.044	19.20	92.4	1200
1159		<0.02	0.023	0.48	251	130.0
1160		<0.02	0.030	1.58	112.5	1275
1161		<0.02	0.018	1.02	93.0	1185
1162		<0.02	0.019	1.31	93.6	1275
1163		<0.02	0.060	2.22	183.0	1550
1164		<0.02	0.043	1.27	110.0	598
1165		<0.02	0.019	1.01	85.2	1275
1166		<0.02	0.013	0.81	112.0	892
1167		<0.02	0.103	85.3	21.4	401
1168		<0.02	0.015	0.67	66.9	398
1169		<0.02	0.146	3.04	189.0	1930
1170		<0.02	0.024	1.05	85.7	796
1171		<0.02	0.133	2.09	92.6	3600
1172		<0.02	0.074	1.51	56.4	2900
1173		<0.02	0.014	1.67	58.1	199.5
1174		<0.02	0.043	0.28	65.7	63.5
1175		<0.02	0.018	5.35	33.7	1940
1176		<0.02	0.045	13.85	86.5	399
1177		<0.02	0.015	0.18	185.0	42.8
1178		<0.02	0.059	8.34	121.5	496
1179		<0.02	0.015	0.77	82.6	597
1180		<0.02	0.035	1.15	103.5	99.8
1181		<0.02	0.062	3.36	82.0	1785
1182		<0.02	0.013	0.17	72.6	24.6
1183		<0.02	0.028	10.35	50.2	398
1184		<0.02	0.009	0.30	47.5	100.0
1185		<0.02	0.011	0.13	97.5	23.3
1186		<0.02	0.009	0.87	101.0	33.1
1187		<0.02	0.065	2.90	107.0	1575
1188		<0.02	0.021	1.87	59.8	1295
1189		<0.02	0.010	0.32	95.4	200
1190		<0.02	0.035	2.80	51.5	997
1191		<0.02	0.116	95.6	12.20	367
1192		<0.02	0.021	1.11	21.8	904
1193		<0.02	0.014	0.47	64.8	172.0
1194		<0.02	0.009	0.21	84.1	99.9
1195		<0.02	0.015	0.22	70.0	99.9
1196		<0.02	0.008	0.51	33.8	301
1197		<0.02	0.009	0.21	71.2	99.9



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1198		<0.02	0.036	5.55	171.0	2760
1199		<0.02	0.035	2.82	193.5	1665
1200		<0.02	0.017	0.29	68.3	99.8
1201		<0.02	0.036	1.42	115.0	1190
1202		<0.02	0.033	4.02	34.7	1000
1203		<0.02	0.020	1.50	43.4	99.9
1204		<0.02	0.025	2.20	153.5	1585
1205		<0.02	0.055	2.61	144.5	2060
1206		<0.02	0.021	1.30	76.8	1290
1207		<0.02	0.042	1.50	102.5	1485
1208		<0.02	0.048	1.03	87.9	993
1209		<0.02	0.009	0.23	85.7	99.9
1210		<0.02	0.027	0.82	35.1	301
1211		<0.02	0.042	10.95	40.0	2260
1212		<0.02	0.024	1.14	29.9	1105
1213		<0.02	0.043	1.54	31.6	903
1214		<0.02	0.028	2.23	63.0	2440
1215		<0.02	0.023	0.72	67.0	402
1216		<0.02	0.022	1.60	70.1	268
1217		<0.02	0.125	96.5	14.60	356
1218		<0.02	0.017	0.22	92.4	45.9
1219		<0.02	0.018	0.48	44.0	32.4
1220		<0.02	0.019	0.28	34.8	99.9
1221		<0.02	0.020	3.39	21.1	1770
1222		<0.02	0.017	0.70	26.8	597
1223		<0.02	0.024	4.36	15.30	2390
1224		<0.02	0.018	3.63	19.65	1385
1225		<0.02	0.036	0.71	47.4	500
1226		<0.02	0.088	1.68	97.3	2380
1227		<0.02	0.029	0.23	88.1	108.5
1228		<0.02	0.044	0.53	43.5	300
1229		<0.02	0.020	0.18	57.4	49.8
1230		<0.02	0.119	96.4	7.33	401
1231		<0.02	0.039	1.56	48.1	695
1232		<0.02	0.046	1.93	43.6	1085
1233		<0.02	0.013	0.66	55.3	28.0
1234		<0.02	0.017	0.70	30.9	399
1235		<0.02	0.029	0.26	42.9	127.0
1236		<0.02	0.011	0.19	47.9	17.5
1237		<0.02	0.016	0.87	58.0	24.3



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		Recvd Wt.	I	Br	F	Cl
		kg 0.02	ppm 0.002	ppm 0.02	ppm 0.05	ppm 0.1
1238		<0.02	0.056	5.20	47.2	1470
1239		<0.02	0.039	0.41	71.8	38.2
1240		<0.02	0.043	1.86	54.3	100.0
1241		<0.02	0.019	0.99	112.0	888
1242		<0.02	0.016	1.19	63.9	890
1243		<0.02	0.022	1.36	44.1	993
1244		<0.02	0.045	1.91	69.6	1750
1245		<0.02	0.020	1.56	77.3	980
1246		<0.02	0.043	2.14	40.7	2300
1247		<0.02	0.013	0.32	62.9	299
1248		<0.02	0.048	8.03	24.7	1275
1249		<0.02	0.114	96.7	11.25	401
1250		<0.02	0.082	10.35	61.8	2570
1251		<0.02	0.014	0.20	60.6	27.4
1252		<0.02	0.081	2.81	68.9	2100
1253		<0.02	0.080	2.84	115.0	1815
1254		<0.02	0.013	0.13	34.4	47.1
1255		<0.02	0.076	2.53	61.3	1715
1256		<0.02	0.023	3.25	46.9	406
1257		<0.02	0.040	71.0	39.8	911
1258		<0.02	0.018	1.45	27.5	1015
1259		<0.02	0.080	5.64	86.0	2940
1260		<0.02	0.020	3.53	50.4	100.5
1261		<0.02	0.039	2.80	39.2	2600
1262		<0.02	0.013	0.09	110.0	21.7
1263		<0.02	0.014	0.09	63.2	99.9
1264		<0.02	0.014	0.34	39.8	146.0
1265		<0.02	0.013	0.10	118.5	40.0
1266		<0.02	0.011	3.06	26.4	401
1267		<0.02	0.018	0.34	39.2	301
1268		<0.02	0.024	2.16	25.2	2560
1269		<0.02	0.067	18.95	47.4	3220
1270		<0.02	0.036	2.91	42.8	2600
1271		<0.02	0.022	1.11	31.5	1995
1272		<0.02	0.011	0.80	25.4	303
1273		<0.02	0.110	97.3	5.26	401
1274		<0.02	0.030	1.48	48.5	1015
1275		<0.02	0.014	0.60	29.5	299
1276		<0.02	0.005	0.05	42.4	32.8
1277		<0.02	0.018	0.36	46.5	400



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		Recvd Wt. kg 0.02	I ppm 0.002	Br ppm 0.02	F ppm 0.05	Cl ppm 0.1
1278		<0.02	0.012	0.08	73.5	43.3
1279		<0.02	0.011	0.09	53.1	46.1
1280		<0.02	0.016	0.69	56.7	3.0
1281		<0.02	0.007	0.45	44.1	299
1282		<0.02	0.006	0.08	51.1	67.7
1283		<0.02	0.013	0.46	60.7	4.2
1284		<0.02	0.105	3.91	66.3	100.0
1285		<0.02	0.020	0.35	36.0	199.5
1286		<0.02	0.013	0.34	29.1	200
1287		<0.02	0.040	0.99	31.3	504
1288		<0.02	0.060	13.65	50.3	812
1289		<0.02	0.012	1.29	18.85	603
1290		<0.02	0.013	0.95	23.7	399
1291		<0.02	0.022	8.05	23.9	1105
1292		<0.02	0.099	92.7	3.18	401
1293		<0.02	0.029	1.87	51.2	207
1294		<0.02	0.067	17.90	55.6	1090
1295		<0.02	0.124	3.94	130.0	4900
1296		<0.02	0.037	5.46	65.7	495
1297		<0.02	0.019	0.23	77.2	75.4
1298		<0.02	0.056	1.55	58.5	801
1299		<0.02	0.037	1.43	57.3	800
1300		<0.02	0.100	1.61	99.3	890
1301		<0.02	0.015	0.19	137.5	22.1
1302		<0.02	0.079	20.9	41.1	1765
1303		<0.02	0.012	0.35	50.2	48.1
1304		<0.02	0.010	0.15	60.4	28.6
1305		<0.02	0.009	0.15	58.4	37.2
1306		<0.02	0.020	1.46	54.4	1095
1307		<0.02	0.021	1.29	39.8	1870
1308		<0.02	0.007	1.45	29.1	897
1309		<0.02	0.018	1.05	38.8	700
1310		<0.02	0.010	0.15	75.5	31.0
1311		<0.02	0.042	1.33	45.0	1670
1312		<0.02	0.096	93.8	7.51	401
1313		<0.02	0.013	0.17	248	<0.1
1314		<0.02	0.042	1.63	100.5	985



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CERTIFICATE OF ANALYSIS VA19111420

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Applies to Method:

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
LOG-23 ME-HAL01a WEI-21