



Natural Resources

Mines

**GEOCHEMICAL DATA FROM THE BAIE
D'ESPOIR GROUP, ST. ALBAN'S MAP SHEET,
SOUTH COAST OF NEWFOUNDLAND
(NTS MAP AREA 1M/13)**

A. Westhues

Open File 001M/13/0872

**St. John's, Newfoundland
January, 2017**

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SUMMARY

This Open File release consists of whole-rock geochemistry data of 30 samples, collected from the Baie D'Espoir Group, around St. Alban's, on the south coast of Newfoundland. The samples are part of a bedrock mapping study undertaken between June and August 2016 (Figure 1). Samples were collected from sulphide-bearing, structurally controlled quartz veins and the surrounding altered host rocks. Several assays from known, and previously unknown mineralized zones indicate elevated gold (Au), silver (Ag), antimony (Sb), and arsenic (As) contents in some of the sampled quartz veins, locally, together with elevated base-metal (Cu, Pb, Zn) contents. The work was conducted using truck and ATV, as well as helicopter and boat support. The Baie D'Espoir Group, especially the metasedimentary and metavolcanic rocks of the Isle Galet Formation, has been the focus of exploration activities with numerous showings and indications of Au, As, Sb and Pb and a few prospects, mainly in the Little River area. Two Au showings, True Grit and Golden Grit, are reported within the St. Joseph's Cove Formation. More information about the regional geology and mineralization of the area can be found in Colman-Sadd (1976), Colman-Sadd and Swinden (1982) and Evans (1996). Details about the current bedrock mapping project will be available March 2017 (Westhues, 2017).

NOTES ON DATABASE

This database includes the results of major, trace-elements and rare-earth elements (REE) analyses of 30 samples collected in 2016. The location data for each sample is given in Universal Transverse Mercator (UTM) eastings and northings (Zone 21; NAD 27); a brief sample description and the whole-rock geochemical data can be found in Appendix A. All appendices are tabulated below and also available in digital format (*i.e.*, *.csv comma-separated values files).

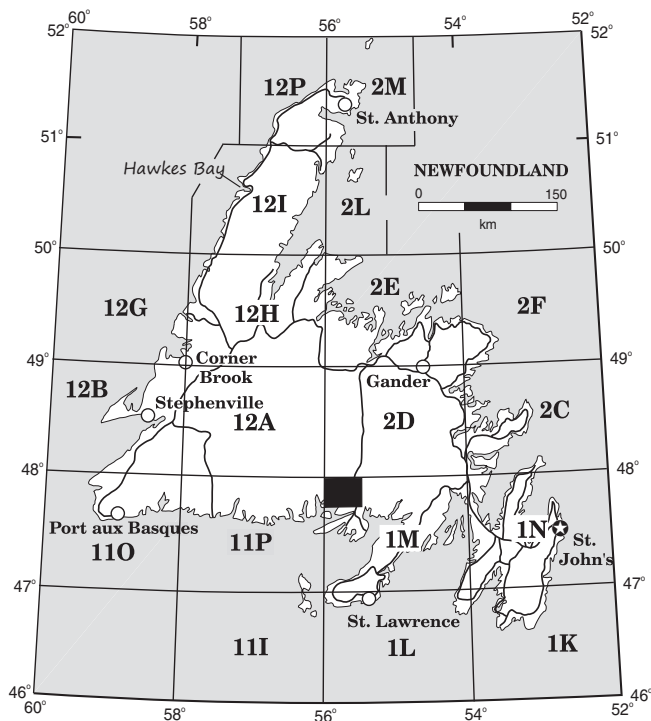


Figure 1. Location of study area.

Most analyses were carried out at the Geological Survey of Newfoundland's (GSNL) laboratory in St. John's; this was supplemented by a neutron activation analysis package (BQ-NAA-1) for selected trace elements, done externally at a commercial laboratory Maxxam (former Becquerel Laboratories, *see* details of the analytical procedures at <http://maxxam.ca/services/radioactivity-testing-trace-element-analysis>). At the GSNL laboratory, major elements (plus Cr, Zr and Ba) were determined by inductively coupled plasma-optical emission spectrometry following a lithium tetraborate fusion (ICP-OES-FUS). Where the oxidation state was determined by titration, iron is presented

as FeO and Fe₂O₃, otherwise as Fe₂O₃ (total). Select trace elements were determined by inductively coupled plasma emission spectrometry following a four acid (HF-HCl-HNO₃-HClO₄) total digestion (ICP-ES 4 ACID). Other trace elements were determined by inductively coupled plasma mass spectrometry following a lithium tetraborate fusion (ICP-MS-FUS) and silver was measured by ICP-OES following a HNO₃ digestion. Analytical method of determination is indicated for each element in the Appendix A. Volatiles are reported as loss on ignition (LOI) determined through gravimetric methods.

Major elements are reported in weight percent (wt.%), and minor and trace elements are reported in parts per million (ppm), except gold (Au), reported in parts per billion (ppb). Detection limits are listed for each element in Appendices A, B, C, D, E and F. Note that the negative value, -99, reported for a given element indicates that it was not analyzed for in the sample, whereas all other negative numbers indicate the concentration of the specific element in the sample was below the detection limit (*e.g.*, -0.01 indicates the measured value was below the detection limit of 0.01). Note that for BQ-NAA-1 analyses, some samples have elevated detection limits due to high contents of Sb, Br, or As and some Se detection limits are elevated due to interference from Ta.

Note that the release also includes raw, unprocessed data for several standards completed at the GSNL and Maxxam laboratories (Appendices B, C, D, E and F). These may be used by the reader to assess accuracy and were analyzed at a frequency of one in 20. For ICP-OES (major-element, Ag) and ICP-MS (trace-element) standards were supplied by the Canadian Certified Reference Materials Project (CH-2, SU-1A) and the United States Geological Survey (AGV-1, BHVO-1, MAG-1, RGM-1, W-2). Two standards were used for ICP-ES (trace-elements) analysis, supplied by the Canadian Certified Reference Materials Project (SY-4, WGB-1). The latter standard WGB-1 was also used for BQ-NAA-1 analyses at Maxxam. Duplicate analyses (labelled as sample xxx-DUP, *e.g.*, 16AW042CO2-DUP) of selected samples are also included in Appendices B, C, D, E and F and these can be used to assess precision. Analytical duplicates were inserted at a frequency of one in 20, with the duplicate selected at random.

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Westhues, A.

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Open File 001M/13/0872 - Appendix A: Field Data and Major and Trace Element Geochemistry

SampleID	LabNumber	UTMEast	UTMNorth	Datum	UTMZone	NTS_Map	RockType	Formation / Group	Notes
									Detection Limit
									Analysis Method
16AW014B02	11040001	605162	5305818	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsg	small outcrop close to MODS "22 West"
16AW019B02	11040002	603146	5303433	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsg	partly vuggy quartz vein
16AW027B02	11040003	600669	5302566	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsg	quartz network close to MODS "Little River 3"
16AW042B02	11040004	601211	5315707	NAD27	21	01M/13	altered shale, gossan	O: Ylsp	outcrop close to MODS "True Grit"
16AW042C02	11040005	601211	5315707	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	outcrop close to MODS "True Grit"
16AW043B02	11040006	598879	5314945	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	stream outcrop, Southeast Brook, N of "Golden Grit"
16AW044B02	11040007	599266	5310649	NAD27	21	01M/13	quartz-sulphide gravel	O: Ylsp	quarry along highway 361
16AW054B02	11040008	598055	5299579	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsg	outcrop close to MODS "Little River Two"
16AW058B02	11040041	605657	5300973	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsg	rusty veins and small gossan zone
16AW061B02	11040079	586210	5306317	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	pyrite bearing quartz veins along trail outcrop
16AW062B01	11040081	585591	5307402	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	rusty quartz veins within little stream
16AW063C02	11040082	591761	5310666	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	rusty quartz vein close to Pardy Head
16AW064C01	11040083	591705	5310669	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	stibnite bearing quartz vein at Pardy Head
16AW066C01	11040084	593991	5308442	NAD27	21	01M/13	quartz-sulphide vein	O: Ylspc	rusty quartz vein close to the mouth of Southeast Brook
16AW068C02	11040085	595563	5309478	NAD27	21	01M/13	sulphide rich boulder/float	O: Ylspc	found along shore of Southeast Brook
16AW089B02	11040097	597075	5292207	NAD27	21	01M/13	sulphide vein	IS;Ggt	arsenopyrite-rich vein
16AW407C02	11040092	588455	5306082	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	pyrite ±pyrrhotite bearing quartz veins, Lee Cove
16AW416C02	11040086	591276	5305945	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	pyrite ±galena bearing quartz vein, Southwest Cove
16AW417C02	11040087	590080	5305421	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	pyrite ±chalcopyrite bearing quartz veinlets
16AW425B02	11040093	595262	5304301	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	pyrite ±chalcopyrite bearing quartz vein, close to Gaze Point
16AW432B02	11040088	592894	5301316	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	rusty quartz vein
16AW453C02	11040089	586048	5297797	NAD27	21	01M/13	quartz-sulphide vein	O: Yrsb	rusty quartz vein, close to contact with quartzite at Collins Head
16AW458C02	11040075	586131	5294003	NAD27	21	01M/13	quartz-sulphide vein	O: YRsq	galena bearing barite-quartz network, Hardy Cove
16AW461C02	11040094	589149	5299896	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsp	0.5 m wide rusty quartz vein
16AW462D02	11040095	588856	5299667	NAD27	21	01M/13	quartz-sulphide vein	O: YRsg	pyrite ±bornite bearing quartz veins
16AW475C02	11040091	588336	5293063	NAD27	21	01M/13	sulphide rich vein	O: YRsg	pyrite ±chalcopyrite bearing quartz-rich vein, Black Duck Cove
16AW485B02	11040076	588587	5290735	NAD27	21	01M/13	altered schist	O: Ylfb	disseminated sulfides within altered schist, Morgan Arm
16AW486B02	11040077	588420	5290340	NAD27	21	01M/13	altered psammite	O: Ylsg	disseminated sulfides within altered psammite, Barasway de Cerf
16AW486C02	11040078	588420	5290340	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsg	pyrite ±chalcopyrite-galena bearing quartz vein, Barasway de Cerf
16AW495B02	11040096	586886	5289672	NAD27	21	01M/13	quartz-sulphide vein	O: Ylsg	pyrite ±pyrrhotite-galena bearing quartz vein, Gull Cove

Open File 001M/13/0872 - Appendix A: Field Data and Major and Trace Element Geochemistry

SampleID	LabNumber	SiO2	Al2O3	Fe2O3T	Fe2O3	FeO	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	Cr	Zr	Ba	LOI	Total	
		wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	ppm	ppm	ppm	wt. %	wt. %
Detection Limit		ICP-OES-	ICP-OES-	ICP-OES-	Calc	Titration	ICP-OES-	ICP-OES-	ICP-OES-	ICP-OES-	ICP-OES-	ICP-OES-	ICP-OES-	ICP-OES-	ICP-OES-	ICP-OES-			
Analysis Method		FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	Grav	
16AW014B02	11040001	56.78	19.57	8.31	1.86	5.80	2.67	0.41	1.30	3.92	0.971	0.148	0.105	82	170	903	4.67	98.85	
16AW019B02	11040002	88.13	4.46	2.33	1.65	0.61	0.10	0.05	0.06	0.74	0.224	0.018	0.022	19	42	185	2.02	98.15	
16AW027B02	11040003	55.72	21.75	7.64	1.16	5.83	1.73	0.36	1.54	4.13	1.014	0.414	0.153	101	194	554	3.87	98.32	
16AW042B02	11040004	54.15	20.68	8.84	2.23	5.95	3.65	0.12	3.75	2.95	1.025	0.161	0.107	124	245	534	4.34	99.77	
16AW042C02	11040005	80.19	7.18	5.24	0.94	3.87	1.65	0.15	0.15	1.52	0.401	0.109	0.048	45	54	261	2.32	98.95	
16AW043B02	11040006	87.82	0.72	4.77	0.83	3.55	0.59	1.07	0.15	0.20	0.012	0.078	0.063	6	4	194	3.09	98.57	
16AW044B02	11040007	83.29	1.38	4.68	-99	-99	1.23	2.24	0.09	0.36	0.053	0.050	0.043	12	15	50	4.72	98.13	
16AW054B02	11040008	95.42	1.86	1.05	-99	-99	0.07	0.14	0.62	0.12	0.018	0.015	0.010	6	2	37	0.64	99.95	
16AW058B02	11040041	63.14	12.18	8.11	0.30	7.03	3.10	4.86	1.13	0.77	1.639	0.171	0.249	37	124	49	2.84	98.18	
16AW061B02	11040079	82.87	3.57	3.12	1.36	1.59	0.88	1.99	0.61	0.84	0.177	0.086	0.052	24	56	125	4.62	98.80	
16AW062B01	11040081	94.50	0.60	1.70	-99	-99	0.13	0.28	0.20	0.14	0.029	0.012	0.046	6	14	16	0.58	98.21	
16AW063C02	11040082	79.45	4.33	3.01	0.18	2.55	1.58	2.91	0.66	1.02	0.157	0.068	0.064	24	47	161	4.95	98.20	
16AW064C01	11040083	86.74	0.92	2.82	-99	-99	1.13	2.38	0.23	0.22	0.046	0.057	0.014	10	18	33	3.47	98.02	
16AW066C01	11040084	70.95	3.73	10.42	4.52	5.31	0.70	1.05	0.55	0.83	0.223	0.153	0.044	18	63	165	9.45	98.10	
16AW068C02	11040085	49.38	0.70	28.60	16.79	10.63	0.10	0.07	0.04	0.21	0.010	0.025	0.002	4	10	15	15.63	94.78	
16AW089B02	11040097	76.97	11.86	1.93	0.12	1.63	0.78	0.19	2.13	4.25	0.133	0.019	0.009	3	252	537	0.70	98.97	
16AW407C02	11040092	85.45	1.47	5.12	-99	-99	0.77	1.72	0.62	0.16	0.019	0.028	0.028	6	5	21	2.68	98.06	
16AW416C02	11040086	74.81	5.08	5.63	-99	-99	1.71	3.03	0.77	1.27	0.224	0.044	0.121	30	69	206	5.63	98.31	
16AW417C02	11040087	83.57	1.94	4.92	-99	-99	0.95	2.20	0.33	0.40	0.086	0.037	0.070	-1	24	71	3.67	98.17	
16AW425B02	11040093	96.85	0.53	1.46	0.09	1.23	0.19	0.09	0.02	0.10	0.007	0.213	0.003	3	-1	207	0.35	99.81	
16AW432B02	11040088	82.28	1.98	5.99	-99	-99	1.02	1.64	0.11	0.54	0.079	0.229	0.022	-1	14	134	4.21	98.09	
16AW453C02	11040089	83.74	3.89	4.84	0.19	4.18	1.10	0.91	0.08	0.69	0.132	1.062	0.260	22	17	359	2.36	99.05	
16AW458C02	11040075	83.43	3.34	1.24	-99	-99	0.08	0.24	0.04	0.08	0.270	0.018	0.038	2	189	43773	1.55	90.32	
16AW461C02	11040094	84.91	0.51	7.38	1.12	5.63	0.52	0.94	0.03	0.12	0.033	0.098	0.005	8	6	34	4.18	98.72	
16AW462D02	11040095	87.10	3.10	3.85	-99	-99	0.44	0.27	0.71	0.36	0.067	0.023	0.037	14	19	104	2.15	98.11	
16AW475C02	11040091	67.80	5.29	15.72	7.36	7.53	0.47	0.14	0.57	1.30	0.219	0.052	0.032	24	37	557	6.96	98.56	
16AW485B02	11040076	66.59	15.28	4.96	0.93	3.63	1.17	2.02	2.17	1.84	0.952	0.100	0.214	62	432	1235	2.92	98.03	
16AW486B02	11040077	74.48	9.51	4.95	0.63	3.89	2.66	1.06	2.31	0.56	0.473	0.074	0.074	164	161	79	2.02	98.18	
16AW486C02	11040078	92.46	0.93	2.72	-99	-99	0.20	0.11	0.08	0.23	0.032	0.013	0.022	7	7	58	1.44	98.24	
16AW495B02	11040096	96.28	0.69	1.61	-99	-99	0.36	0.10	0.07	0.11	0.024	0.022	0.005	6	3	39	0.78	100.07	

Open File 001M/13/0872 - Appendix A: Field Data and Major and Trace Element Geochemistry

SampleID	LabNumber	Sb	As	Ba	Br	Ce	Cs	Cr	Co	Eu	Au	Hf	Fe	La	Lu	Mo	Rb	Sm	Sc	Se	Na
Units		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	wt. %	ppm	ppm	ppm	ppm	ppm	ppm	ppm	wt. %
Detection Limit		0.1, 0.6	0.5, 180	50, 180	1 to 8	3 to 19	0.5, 1.2, 10 to 120	2	0.5 to 3	1, 4	1 to 4	0.2	0.2	1	0.05 to 0.65	1 to 9	5 to 26	0.1	0.2	1 to 13	0.05, 1.2
Analysis Method		BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1	BQ- NAA-1
16AW014B02	11040001	2.6	15.0	810	-1	23	7.3	87	5	-0.5	-1	4	4.9	5	0.26	-1	150	1.3	18.2	-1	0.91
16AW019B02	11040002	10.9	274	170	-1	17	7.9	30	-2	-0.5	119	-1	1.5	7	0.13	23	40	1.3	4.1	-1	-0.05
16AW027B02	11040003	10.3	53.7	540	-1	46	17	120	6	-0.5	84	3	5.0	22	0.54	-1	200	4.0	21.1	-1	1.10
16AW042B02	11040004	12.3	144	490	-1	96	5.0	140	16	1.7	52	5	5.9	41	0.54	-1	120	8.7	20.9	-1	2.60
16AW042C02	11040005	35.3	4770	330	-1	40	2.3	-95	16	2.5	1010	-1	3.7	25	0.37	-2	43	3.7	8.3	-6	0.12
16AW043B02	11040006	9.4	447	190	-1	-3	-0.5	19	20	-0.5	2	-1	3.0	1	-0.05	2	-5	0.4	0.8	-1	0.09
16AW044B02	11040007	4.2	1110	-50	-1	-6	0.5	-30	5	0.6	79	-1	3.1	-1	0.19	-1	6	0.6	1.3	-1	0.06
16AW054B02	11040008	14.4	2900	-50	-1	-11	1.2	-34	4	-0.5	2020	-1	0.8	-1	-0.15	-3	-5	0.2	0.5	-4	0.42
16AW058B02	11040041	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
16AW061B02	11040079	31.3	43.0	130	-1	20	0.8	32	5	-0.5	-1	1	2.3	10	0.10	8	31	2.4	5.1	-1	0.45
16AW062B01	11040081	1.3	4.1	-50	-1	-3	-0.5	-10	3	-0.5	2	-1	1.0	1	-0.05	2	-5	0.4	0.4	-1	0.13
16AW063C02	11040082	3.1	3.2	170	-1	14	1.4	28	7	-0.5	-1	1	2.0	6	0.07	-1	34	1.5	3.2	-1	0.46
16AW064C01	11040083	861	5170	-50	-3	-19	-0.5	-63	12	-2.4	432	-2	1.8	-1	-0.33	-4	-12	0.7	1.4	-6	0.20
16AW066C01	11040084	228	54800	-180	-8	76	-1.2	-120	190	-3	7080	-4	7.6	8	-0.65	-9	-26	2.1	2.3	-13	-1.20
16AW068C02	11040085	246	3120	-50	-1	-14	-0.5	12	14	-1.1	2850	-1	19.1	-1	-0.20	26	9	0.4	-0.2	15	-0.05
16AW089B02	11040097	-0.6	2590	520	-1	46	1.9	-30	-2	1.6	-4	7	1.3	26	0.88	-2	86	6.0	4.2	-3	1.50
16AW407C02	11040092	0.6	18.0	-50	-1	-3	-0.5	-10	20	-0.5	4	-1	3.4	2	0.16	1	7	0.6	0.8	-1	0.43
16AW416C02	11040086	12.3	37.0	200	-1	25	1.7	38	16	-0.5	-1	2	3.7	12	0.09	2	47	2.5	4.1	-1	0.53
16AW417C02	11040087	10.0	4.9	60	-1	10	0.7	16	21	-0.5	2	-1	3.4	4	0.06	2	14	1.1	1.9	-1	0.24
16AW425B02	11040093	0.5	1.1	-50	-1	6	-0.5	-10	-2	-0.5	-1	-1	0.9	3	-0.05	1	-5	0.5	0.4	-1	-0.05
16AW432B02	11040088	5.0	3.7	130	-1	-3	1.2	21	27	-0.5	2	-1	4.0	3	0.07	2	21	0.8	2.1	-1	0.07
16AW453C02	11040089	0.4	35.0	120	-1	34	3.7	27	23	0.6	2	-1	3.1	11	0.19	5	53	2.5	4.8	-1	0.06
16AW458C02	11040075	20.7	2.1	43400	2	26	-0.5	-30	7	0.8	8	8	0.8	17	0.14	-1	-5	2.3	0.4	-2	-0.05
16AW461C02	11040094	5.8	19.0	-50	-1	15	-0.5	-10	25	-0.5	5	-1	5.1	8	0.07	-1	5	1.4	0.6	5	-0.05
16AW462D02	11040095	0.4	17.0	97	-1	6	0.8	19	11	-0.5	1	-1	2.5	3	0.07	-1	19	0.5	1.5	-1	0.47
16AW475C02	11040091	19.0	53.9	530	-1	-3	1.1	22	85	-0.5	7	-1	10.9	3	0.19	2	47	0.8	4.6	4	0.41
16AW485B02	11040076	-0.1	2.4	1100	1	76	4.8	72	8	1.4	-1	11	3.0	32	0.57	-1	86	6.0	13.8	-1	1.50
16AW486B02	11040077	-0.1	4.7	55	-1	37	2.5	180	8	1.1	-1	4	3.2	16	0.40	4	31	4.7	8.8	-1	1.60
16AW486C02	11040078	0.3	0.8	50	-1	-3	-0.5	-10	23	-0.5	-1	-1	1.7	2	-0.05	3	6	0.5	0.6	1	-0.05
16AW495B02	11040096	0.5	1.2	-50	-1	6	-0.5	-10	4	-0.5	1	-1	1.0	3	-0.05	2	-5	0.5	0.2	2	-0.05

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SampleID	LabNumber	Ta	Tb	Th	W	U	Yb	Zr	Ag	As	Be	Cd	Co	Cu	Li	Mn	Ni	Pb	Rb
Units		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit		0.2 to 1	0.5, 0.4, 0.7	1 to 18	0.2 to 1.9	0.5 to 6.8	100 to 830	100 to 830	ICP-	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES
Analysis Method		BQ-	BQ-	BQ-	BQ-	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	OES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES
		NAA-1	NAA-1	NAA-1	NAA-1	NAA-1	NAA-1	NAA-1		4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID
16AW014B02	11040001	1.1	-0.5	10.2	2	2.2	1.9	-100	-0.1	13	1.7	0.1	7	11	78.6	1118	20	11	168
16AW019B02	11040002	-0.2	-0.5	2.2	1	0.7	-0.5	-100	0.2	288	2.3	-0.1	2	6	316	155	7	2	41
16AW027B02	11040003	1.5	0.7	14.2	6	3.3	2.8	-100	-0.1	49	2.9	0.1	9	28	101	3190	30	6	220
16AW042B02	11040004	1.6	1.0	15.5	4	3.1	2.9	-100	-0.1	135	2.1	0.1	19	47	67.5	1213	50	-1	103
16AW042C02	11040005	-0.4	-0.5	5.0	4	1.0	-2.0	-360	-0.1	5108	1.0	1.4	24	26	36.3	894	28	-1	52
16AW043B02	11040006	-0.2	-0.5	0.5	-1	0.1	-0.5	-100	0.1	490	-0.1	0.6	30	120	2.3	669	49	47	3
16AW044B02	11040007	-0.2	-0.5	0.4	-1	0.2	1.1	-100	-0.1	1141	0.3	1.54	7	19	5.8	418	30	36	11
16AW054B02	11040008	-0.2	-0.5	-0.4	-1	-0.3	-1.2	-200	-0.1	3077	1.3	1.1	2	3	5.7	137	4	14	-1
16AW058B02	11040041	-99	-99	-99	-99	-99	-99	-99	-0.1	17	0.8	0.7	21	22	45.3	1313	22	2	76
16AW061B02	11040079	0.3	-0.5	3.1	3	1.1	0.9	-100	-0.1	35	0.5	-0.1	5	12	4.8	669	15	12	25
16AW062B01	11040081	-0.2	-0.5	0.5	-1	0.2	-0.5	-100	-0.1	4	-0.1	-0.1	3	18	0.6	93	9	4	4
16AW063C02	11040082	-0.2	-0.5	1.9	-1	0.7	0.9	-100	-0.1	5	0.5	-0.1	9	15	8.2	500	20	2	34
16AW064C01	11040083	-0.4	-0.5	-0.7	-8	-0.9	-3.7	-360	2.5	5520	0.1	43	15	16	1.5	430	11	3841	8
16AW066C01	11040084	-1.0	-0.5	3.6	-18	-1.9	-6.8	-830	0.8	79540	0.6	75	236	8	8.7	1139	44	17	33
16AW068C02	11040085	-0.2	-0.5	-0.4	-9	-0.6	-1.9	-240	63.5	3023	0.1	79	16	403	1.0	169	65	7853	7
16AW089B02	11040097	-0.2	0.8	11.8	2	2.5	4.7	-100	-0.1	2660	0.9	1.6	-1	7	5.9	113	3	25	82
16AW407C02	11040092	-0.2	-0.5	0.3	-1	0.2	1.0	-100	-0.1	15	0.1	-0.1	25	61	1.3	215	58	11	8
16AW416C02	11040086	0.2	-0.5	3.9	1	1.5	0.8	-100	0.1	35	0.7	-0.1	19	28	12.6	330	41	8	46
16AW417C02	11040087	-0.2	-0.5	1.2	-1	0.5	0.6	-100	-0.1	5	0.3	0.3	27	30	4.8	280	62	47	14
16AW425B02	11040093	-0.2	-0.5	0.3	-1	-0.1	-0.5	-100	-0.1	-2	-0.1	-0.1	2	106	4.2	1683	5	4	2
16AW432B02	11040088	-0.2	-0.5	1.2	-1	0.9	-0.5	-100	-0.1	3	0.4	0.3	36	114	6.9	1768	61	30	18
16AW453C02	11040089	-0.2	-0.5	1.5	1	1.6	1.1	-100	0.1	32	0.6	-0.1	29	40	49.7	7535	59	7	48
16AW458C02	11040075	0.5	-0.5	5.8	1	0.9	1.1	-210	22.0	2	0.5	74	10	47	1.0	138	4	29280	-1
16AW461C02	11040094	-0.2	-0.5	1.9	-1	0.3	-0.5	-100	0.6	17	0.1	0.1	33	97	5.0	756	136	28	7
16AW462D02	11040095	-0.2	-0.5	0.9	1	0.4	-0.5	-100	0.1	16	0.6	-0.1	16	37	18.9	179	43	10	14
16AW475C02	11040091	0.4	-0.5	3.1	-1	0.9	-0.5	-100	0.3	47	0.4	-0.1	100	215	21.4	371	77	10	44
16AW485B02	11040076	1.4	0.9	13.9	2	3.6	3.4	-100	-0.1	2	2.4	0.3	11	19	43.2	705	29	28	78
16AW486B02	11040077	0.7	0.8	5.8	2	2.4	2.6	-100	0.1	4	1.4	0.4	10	26	43.9	555	57	15	31
16AW486C02	11040078	-0.2	-0.5	0.8	-1	0.4	-0.5	-100	0.1	2	0.1	0.1	33	61	4.2	100	45	13	6
16AW495B02	11040096	-0.2	-0.5	0.2	-1	0.2	-0.5	-100	5.0	-2	-0.1	11	6	16	4.2	167	8	1059	3

Open File 001M/13/0872 - Appendix A: Field Data and Major and Trace Element Geochemistry

SampleID	LabNumber	Sc	V	Zn	Ga	Ge	Sr	Y	Nb	Mo	Sn	Cs	La	Ce	Pr	Nd	Sm	Eu	Tb	
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit		ICP-ES	ICP-ES	ICP-ES	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-	ICP-MS-
Analysis Method		4 ACID	4 ACID	4 ACID	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS
16AW014B02	11040001	22.9	152	84	22	4	75	17	13.9	-2	4	6.9	5.5	24.8	1.3	5.3	1.5	0.44	0.4	
16AW019B02	11040002	5.6	40	11	8	1	49	6	4.0	19	1	7.2	7.9	17.0	1.9	7.2	1.2	0.27	0.2	
16AW027B02	11040003	23.2	148	79	27	5	110	24	16.9	-2	4	14.8	21.7	48.3	5.2	19.3	3.9	0.96	0.7	
16AW042B02	11040004	22.8	152	117	25	5	152	26	16.4	-2	3	4.6	41.5	96.3	10.5	42.2	8.7	1.58	1.0	
16AW042C02	11040005	9.5	61	59	11	4	29	9	6.4	3	2	2.1	23.7	51.6	5.5	20.9	3.6	0.77	0.4	
16AW043B02	11040006	1.0	5	141	-1	2	62	3	-1.0	-2	-1	-0.5	1.6	4.1	0.5	1.9	0.6	0.26	0.1	
16AW044B02	11040007	1.7	9	6193	2	2	76	7	1.3	-2	-1	0.6	1.0	1.9	0.3	1.3	0.6	0.23	0.2	
16AW054B02	11040008	0.2	2	7	1	2	85	-1	-1.0	3	-1	1.2	0.7	1.1	0.1	0.6	0.1	0.08	-0.1	
16AW058B02	11040041	28.0	242	119	15	5	155	30	7.5	-2	3	30.3	14.2	31.6	4.1	18.2	4.7	1.35	0.9	
16AW061B02	11040079	5.5	24	55	4	2	108	12	2.5	6	-1	0.9	8.2	18.4	2.1	8.4	2.1	0.47	0.3	
16AW062B02	11040081	0.4	3	10	-1	1	14	2	-1.0	-2	-1	-0.5	1.2	2.8	0.3	1.5	0.3	-0.05	-0.1	
16AW063C02	11040082	3.5	25	22	5	1	129	8	1.9	-2	-1	1.2	6.4	13.7	1.6	6.8	1.5	0.45	0.3	
16AW064C01	11040083	1.3	6	2417	-1	1	96	7	-1.0	-2	-1	-0.5	1.9	4.9	0.6	2.5	0.6	0.27	0.2	
16AW066C01	11040084	3.3	20	19	5	3	66	7	4.5	3	1	1.1	9.3	19.8	2.2	8.6	1.7	0.39	0.3	
16AW068C02	11040085	0.4	3	20100	2	7	1	3	-1.0	22	2	0.5	0.5	1.1	0.1	0.5	0.2	0.06	-0.1	
16AW089B02	11040097	3.5	4	27	14	3	26	51	9.9	-2	7	1.8	26.1	54.3	6.4	24.6	5.9	1.13	1.3	
16AW407C02	11040092	0.8	4	34	1	2	84	8	2.2	-2	1	-0.5	1.5	3.1	0.4	1.8	0.6	0.27	0.2	
16AW416C02	11040086	4.8	30	36	6	3	160	8	3.9	-2	1	1.5	12.0	26.4	3.1	11.7	2.5	0.54	0.3	
16AW417C02	11040087	2.0	14	53	2	2	90	4	1.3	-2	-1	0.6	4.3	9.0	1.1	4.2	1.1	0.37	0.2	
16AW425B02	11040093	0.4	3	12	-1	1	10	2	2.0	-2	-1	-0.5	2.4	5.6	0.6	2.3	0.5	0.21	-0.1	
16AW432B02	11040088	2.5	27	54	3	2	36	4	1.1	-2	-1	1.0	3.5	8.4	0.8	3.6	0.8	0.30	0.1	
16AW453C02	11040089	5.5	77	59	6	3	11	16	1.5	4	-1	2.8	10.6	28.9	2.6	10.7	2.2	0.62	0.5	
16AW458C02	11040075	2.4	22	7324	4	2	177	12	4.5	-2	2	-0.5	17.6	32.0	3.4	12.8	2.6	9.24	0.4	
16AW461C02	11040094	0.6	15	18	1	3	31	3	1.0	2	1	-0.5	7.2	15.8	1.8	6.4	1.4	0.34	0.1	
16AW462D02	11040095	1.6	12	36	3	2	51	3	1.3	-2	1	0.8	2.8	5.8	0.7	2.8	0.6	0.20	-0.1	
16AW475C02	11040091	4.4	31	25	6	4	31	8	3.3	-2	1	1.0	3.4	7.7	0.8	3.2	0.6	0.34	0.2	
16AW485B02	11040076	14.8	93	90	17	3	233	30	15.7	-2	2	4.2	31.4	69.0	8.0	30.5	6.0	1.41	0.8	
16AW486B02	11040077	9.9	104	135	9	3	161	26	7.0	3	-1	2.4	16.4	36.5	4.4	18.4	4.6	1.17	0.8	
16AW486C02	11040078	0.9	11	22	-1	2	6	2	-1.0	3	-1	-0.5	2.5	5.3	0.5	2.1	0.4	0.07	-0.1	
16AW495B02	11040096	0.4	6	628	1	1	11	3	2.3	2	-1	0.6	4.0	7.1	0.8	3.3	0.5	0.17	-0.1	

Open File 001M/13/0872 - Appendix A: Field Data and Major and Trace Element Geochemistry

SampleID	LabNumber	Gd ppm	Dy ppm	Ho ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm	Hf ppm	Ta ppm	W		Th ppm	U ppm
											ICP-MS- FUS	ICP-MS- FUS		
16AW014B02	11040001	1.9	2.9	0.7	2.3	0.34	2.5	0.41	4.8	2.6	5	0.1	-0.5	2.0
16AW019B02	11040002	0.9	1.0	0.2	0.7	0.10	0.7	0.10	1.3	1.3	3	-0.5	-0.5	0.6
16AW027B02	11040003	4.1	4.6	0.9	2.9	0.43	3.0	0.46	5.3	2.5	8	-0.5	-0.5	3.0
16AW042B02	11040004	6.7	5.4	1.0	3.0	0.46	3.2	0.62	6.6	2.4	6	-0.5	-0.5	2.9
16AW042C02	11040005	2.6	2.0	0.4	1.1	0.15	1.0	0.17	1.9	1.3	6	-0.5	-0.5	0.9
16AW043B02	11040006	0.7	0.6	0.1	0.3	-0.05	0.2	0.05	0.2	0.7	2	-0.5	-0.5	-0.1
16AW044B02	11040007	1.0	1.2	0.3	0.8	0.11	0.8	0.25	0.4	0.7	3	-0.5	-0.5	0.2
16AW054B02	11040008	0.2	0.2	-0.1	-0.1	-0.05	-0.1	-0.05	-0.2	0.6	2	-0.5	-0.5	-0.1
16AW058B02	11040041	5.4	5.8	1.2	3.5	0.49	3.4	0.54	3.4	-0.5	-1	-0.5	-0.5	0.9
16AW061B02	11040079	2.2	2.1	0.4	1.2	0.13	1.1	0.15	1.3	-0.5	2	-0.5	-0.5	0.8
16AW062B01	11040081	0.4	0.4	-0.1	0.2	-0.05	0.2	-0.05	0.2	-0.5	-1	-0.5	-0.5	0.1
16AW063C02	11040082	1.6	1.5	0.3	0.7	0.07	0.7	0.08	1.2	-0.5	-1	-0.5	-0.5	0.6
16AW064C01	11040083	1.1	1.2	0.2	0.6	0.06	0.5	-0.05	0.2	-0.5	-1	-0.5	-0.5	0.2
16AW066C01	11040084	1.7	1.5	0.3	0.8	0.13	0.8	0.12	1.7	-0.5	3	0.3	-0.5	0.8
16AW068C02	11040085	0.2	0.3	-0.1	0.3	-0.05	0.2	-0.05	-0.2	-0.5	1	0.3	1.1	-0.1
16AW089B02	11040097	7.2	8.8	1.9	6.0	0.86	5.3	0.85	8.7	-0.5	3	0.1	-0.5	2.2
16AW407C02	11040092	1.0	1.4	0.3	1.0	0.19	1.0	0.20	0.4	-0.5	3	0.2	-0.5	0.3
16AW416C02	11040086	2.3	1.8	0.3	1.0	0.13	0.9	0.14	2.0	-0.5	2	-0.5	-0.5	1.2
16AW417C02	11040087	1.0	0.9	0.2	0.5	0.07	0.4	0.06	0.6	-0.5	-1	-0.5	-0.5	0.4
16AW425B02	11040093	0.4	0.3	-0.1	0.2	0.06	0.1	0.06	0.2	-0.5	2	0.2	-0.5	-0.1
16AW432B02	11040088	0.9	0.9	0.2	0.5	0.07	0.4	0.08	0.4	-0.5	-1	-0.5	-0.5	0.7
16AW453C02	11040089	2.7	2.6	0.5	1.5	0.20	1.3	0.20	0.5	-0.5	1	-0.5	-0.5	1.4
16AW458C02	11040075	2.1	2.1	0.4	1.3	0.18	1.1	0.19	5.1	-0.5	-1	-0.5	5.6	0.8
16AW461C02	11040094	1.0	0.5	0.1	0.3	0.06	0.3	0.06	0.4	-0.5	2	0.2	-0.5	0.3
16AW462D02	11040095	0.5	0.5	0.1	0.3	0.07	0.3	0.06	0.6	-0.5	4	0.1	-0.5	1.0
16AW475C02	11040091	1.0	1.2	0.3	0.9	0.16	0.9	0.16	0.9	0.6	2	0.3	1.0	3.4
16AW485B02	11040076	5.3	5.1	1.0	3.3	0.45	3.4	0.53	11	1.0	1	-0.5	-0.5	13.3
16AW486B02	11040077	4.9	4.8	0.9	2.7	0.36	2.6	0.36	4.3	-0.5	2	-0.5	-0.5	5.6
16AW486C02	11040078	0.4	0.4	-0.1	0.2	-0.05	0.2	-0.05	-0.2	-0.5	-1	-0.5	-0.5	0.4
16AW495B02	11040096	0.5	0.6	0.1	0.3	0.07	0.3	0.07	0.2	-0.5	2	0.1	-0.5	0.4

Open File 001M/13/0872 - Appendix B: Major Element Standards and Duplicates

SampleID	LabNumber	Control	SiO2	Al2O3	Fe2O3	FeO	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	Cr	Zr	Ba	LOI	Total		
			wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	wt. %	ppm	ppm	ppm	wt. %	wt. %
			ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS
Detection Limit			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.001	0.001	1	1	1	0.01			
Analysis Method			ICP-OES- FUS		Calc Titration	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS	ICP-OES- FUS		
BHVO-1	11040020	Standard	48.85	13.38	12.03	-99	7.13	10.96	2.22	0.53	2.729	0.169	0.258	258	160	131				
RGM-1	11040040	Standard	71.78	13.61	1.85	-99	0.26	1.13	4.09	4.21	0.263	0.035	0.041	3	207	848				
W-2	11040060	Standard	52.75	15.55	10.87	-99	6.54	10.89	2.25	0.65	1.087	0.173	0.121	82	91	177				
AGV-1	11040080	Standard	58.40	17.02	6.75	-99	1.56	4.96	4.25	2.89	1.048	0.100	0.503	8	216	1251				
MAG-1	11040100	Standard	48.64	15.60	6.81	-99	2.98	1.44	3.90	3.50	0.688	0.100	0.157	91	115	482				
16AW042CO2	11040005	Original	80.19	7.18	5.24	3.87	1.65	0.15	0.15	1.52	0.401	0.109	0.048	45	54	261	2.32	98.95		
16AW042CO2-DUP	11040010	Duplicate	80.08	7.32	5.19	3.66	1.68	0.08	0.16	1.53	0.384	0.108	0.048	46	58	269	2.21	98.78		
16AW045A02	11040022	Original	61.84	16.75	6.57	5.44	2.34	3.80	3.24	2.76	1.008	0.119	0.397	42	366	707	0.78	99.62		
16AW045A02-DUP	11040030	Duplicate	61.38	16.66	6.52	5.49	2.32	3.83	3.24	2.75	1.004	0.118	0.401	41	387	706	0.78	99.00		
16AW097A02	11040048	Original	72.08	13.48	3.46	1.64	1.14	0.33	1.41	2.61	0.696	0.035	0.022	60	161	349	3.18	98.45		
16AW097A02-DUP	11040050	Duplicate	72.41	13.94	3.43	1.58	1.18	0.28	1.45	2.64	0.707	0.036	0.022	63	152	349	3.23	99.32		
16AW448A02	11040068	Original	62.56	17.96	4.90	3.87	2.76	1.07	4.63	2.38	0.611	0.034	0.139	12	127	429	2.10	99.14		
16AW448A02-DUP	11040070	Duplicate	62.09	17.31	4.74	3.86	2.72	1.04	4.62	2.45	0.610	0.034	0.139	13	125	434	2.27	98.03		
16AW068C02	11040085	Original	49.28	0.71	28.82	17.27	10.39	0.08	0.04	0.20	0.008	0.025	0.001	3	9	20	15.74	94.97		
16AW068C02-DUP	11040090	Duplicate	49.28	0.71	28.82	17.27	10.39	0.08	0.04	0.20	0.008	0.025	0.001	3	9	20	15.74	94.97		

Open File 001M/13/0872 - Appendix C: Trace element Standards and Duplicates by INAA

SampleID	LabNumber	Control	Sb	As	Ba	Br	Ce	Cs	Cr	Co	Eu	Au	Hf	Fe	La
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	wt. %	ppm
Detection Limit			0.6	0.5	50	1	3	0.5	10	2	0.5	1	1	0.2	1
Analysis Method			BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1	BQ-NAA-1
WGB-1	11040080	Standard	2.2	2.0	830	-1	19	0.5	330	28	1.1	2	2	4.5	8
16AW068C02	11040085	Original	246	3120	-50	-1	-14	-0.5	12	14	-1.1	2850	-1	19.1	-1
16AW068C02-DUP	11040090	Duplicate	246	3170	-50	-1	-14	-0.5	-44	12	1.4	2940	-1	19.2	-1

Open File 001M/13/0872 - Appendix C: Trace element Standards and Duplicates by INAA

SampleID	LabNumber	Lu	Mo	Rb	Sm	Sc	Se	Na	Ta	Tb	Th	W	U	Yb	Zr
Units		ppm	ppm	ppm	ppm	ppm	ppm	wt. %	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit		0.05	1	5	0.1	0.2	1	0.05	0.2	0.5	0.4	1	0.6	0.5	100
Analysis Method		BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1 BQ-NAA-1													
WGB-1	11040080	0.14	-1	20	2.7	39.9	-1	1.60	0.4	0.5	1.0	1	0.7	1.6	-100
16AW068C02	11040085	-0.20	26	9	0.4	-0.2	15	-0.05	-0.2	-0.5	-0.4	-9	-0.6	-1.9	-240
16AW068C02-DUP	11040090	-0.19	20	-5	0.4	-0.2	15	-0.05	-0.2	-0.5	-0.4	-2	-0.6	-1.9	-240

Open File 001M/13/0872 - Appendix D: Standards and Duplicates for Silver Analysis

SampleID	LabNumber	Control	Units	Ag
			Detection Limit	0.1
			Analysis Method	ICP-OES
CH-2	11040020	Standard		11.5
CH-2	11040040	Standard		9.0
CH-2	11040080	Standard		11.6
SU-1A	11040020	Standard		2.7
SU-1A	11040040	Standard		3.1
SU-1A	11040060	Standard		2.5
SU-1A	11040100	Standard		2.7
16AW042CO2	11040005	Original		-0.1
16AW042CO2-DUP	11040010	Duplicate		-0.1
16AW045AO2	11040022	Original		-0.1
16AW045AO2-DUP	11040030	Duplicate		-0.1
16AW097A02	11040048	Original		0.1
16AW097A02-DUP	11040050	Duplicate		0.1
16AW448A02	11040068	Original		-0.1
16AW448A02-DUP	11040070	Duplicate		-0.1
16AW068C02	11040085	Original		63.5
16AW068C02-DUP	11040090	Duplicate		64.7

Open File 001M/13/0872 - Appendix E: Trace Element Standards and Duplicates by ICP-OES (4 Acid)

SampleID	LabNumber	Control	As	Be	Cd	Co	Cu	Li	Mn	Ni	Pb	Rb	Sc	V	Zn
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit			ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES	ICP-ES
Analysis Method			4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID	4 ACID
SY-4	11040040	Standard	-2	2.4	0.2	2	5	37.9	803	14	-1	58	0.9	5	94
SY-4	11040060	Standard	-2	2.2	0.1	2	4	35.4	756	11	1	51	0.9	5	86
SY-4	11040100	Standard	-2	2.2	0.2	2	5	34.8	762	11	-1	54	0.9	5	86
WGB-1	11040020	Standard	-2	0.3	0.2	30	94	46.4	984	62	2	20	43.2	215	35
WGB-1	11040080	Standard	-2	0.3	0.1	28	86	41.2	909	59	3	24	41.3	212	34
16AW042CO2	11040005	Original	5108	1.0	1.4	24	26	36.3	894	28	-1	52	9.5	61	59
16AW042CO2-DUP	11040010	Duplicate	5037	1	1.3	24	26	36.8	898	28	-1	53	9.6	62	59
16AW045AO2	11040022	Original	-2	2.1	0.2	18	13	245.1	878	25	11	182	17.8	113	84
16AW045AO2-DUP	11040030	Duplicate	-2	2.2	0.3	18	15	250.9	898	25	12	187	18.1	115	87
16AW097A02	11040048	Original	15	1.7	-0.1	-1	17	34.0	264	5	16	105	15.6	191	43
16AW097A02-DUP	11040050	Duplicate	15	1.7	-0.1	-1	17	33.3	260	5	17	104	15.8	187	43
16AW448A02	11040068	Original	2	1.7	-0.1	16	44	42.6	244	28	10	62	10.2	97	60
16AW448A02-DUP	11040070	Duplicate	2	1.8	-0.1	16	45	43.0	246	28	11	67	10.3	98	61
16AW068CO2	11040085	Original	3023	0.1	79.2	16	403	1.0	169	65	7853	7	0.4	3	20100
16AW068CO2-DUP	11040090	Duplicate	3128	0.1	77.7	17	405	1.0	170	66	7837	6	0.4	3	20300

Open File 001M/13/0872 - Appendix F: Trace Element Standards and Duplicates by ICP-MS (Fusion)

SampleID	LabNumber	Control	Ga	Ge	Sr	Y	Nb	Mo	Sn	Cs	La	Ce	Pr	Nd	Sm	Eu	Tb
			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit																	
Analysis Method	ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS- ICP-MS-																
BHVO-1	11040020	Standard	19	4	361	22	15.0	-2	2	-0.5	14.7	35.8	5.1	23.1	5.6	1.98	0.9
RGM-1	11040040	Standard	16	2	100	19	6.8	-2	4	9.3	22.0	43.1	4.8	18.4	3.8	0.76	0.6
W-2	11040060	Standard	14	4	178	18	5.4	-2	1	1.1	9.6	21.7	2.8	12.5	3.0	1.03	0.6
AGV-1	11040080	Standard	18	3	615	17	11.5	3	4	1.2	35.7	65.3	7.8	29.9	5.4	1.60	0.6
MAG-1	11040100	Standard	20	4	129	23	14.4	-2	4	6.9	38.0	78.1	9.2	34.4	6.5	1.32	0.8
16AW042CO2	11040005	Original	11	4	29	9	6.4	3	2	2.1	23.7	51.6	5.5	20.9	3.6	0.77	0.4
16AW042CO2-DUP	11040010	Duplicate	11	5	27	9	6.3	5	3	2.1	24.4	53.7	5.7	21.0	3.9	0.80	0.4
16AW045AO2	11040022	Original	21	4	214	29	13.5	-2	5	15.5	15.9	37.2	4.4	19.8	5.0	1.69	1.0
16AW045AO2-DUP	11040030	Duplicate	21	3	212	30	12.4	-2	4	14.7	16.0	37.4	4.5	20.1	5.2	1.78	0.9
16AW097AO2	11040048	Original	16	3	72	11	10.2	5	3	6.2	3.2	6.9	0.8	3.3	0.7	0.27	0.2
16AW097AO2-DUP	11040050	Duplicate	17	3	71	11	10.0	5	3	6.2	3.5	7.2	0.8	3.2	0.7	0.27	0.2
16AW448AO2	11040068	Original	18	2	358	10	6.0	-2	1	5.3	13.8	28.8	3.3	12.6	2.4	0.82	0.3
16AW448AO2-DUP	11040070	Duplicate	16	2	359	10	6.1	-2	1	5.1	13.7	27.5	3.2	12.7	2.3	0.82	0.3
16AW068CO2	11040085	Original	2	7	1	3	-1.0	22	2	0.5	0.5	1.1	0.1	0.5	0.2	0.06	-0.1
16AW068CO2-DUP	11040090	Duplicate	2	8	1	3	-1.0	21	2	-0.5	1.3	1.4	0.1	0.9	0.2	0.06	-0.1

Open File 001M/13/0872 - Appendix F: Trace Element Standards and Duplicates by ICP-MS (Fusion)

SampleID	LabNumber	Gd	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Bi	Th	U
		0.1	0.1	0.1	0.1	0.05	0.1	0.05	0.2	0.5	1	0.1	0.5	0.1	0.1
Detection Limit															
Analysis Method		FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS	FUS
BHVO-1	11040020	6.0	5.1	0.9	2.4	0.31	1.9	0.27	4.2	1.9	2	-0.5	-0.5	1.3	0.4
RGM-1	11040040	3.5	3.5	0.7	2.2	0.33	2.3	0.41	5.5	-0.5	-1	-0.5	-0.5	13.4	5.1
W-2	11040060	3.5	3.6	0.7	2.1	0.25	1.9	0.28	2.2	-0.5	-1	-0.5	-0.5	1.9	0.4
AGV-1	11040080	4.7	3.3	0.6	1.7	0.20	1.5	0.21	4.6	-0.5	-1	-0.5	-0.5	5.6	1.8
MAG-1	11040100	5.6	4.8	0.9	2.6	0.37	2.4	0.41	3.3	0.7	3	0.1	-0.5	10.5	2.5
16AW042CO2	11040005	2.6	2.0	0.4	1.1	0.15	1.0	0.17	1.9	1.3	6	-0.5	-0.5	5.5	0.9
16AW042CO2-DUP	11040010	2.7	1.9	0.3	1.0	0.14	1.0	0.16	1.7	1.2	6	-0.5	-0.5	5.5	1.0
16AW045AO2	11040022	5.7	5.8	1.1	3.3	0.45	2.9	0.47	9.2	2.7	4	0.1	-0.5	4.1	1.5
16AW045AO2-DUP	11040030	5.6	5.8	1.1	3.2	0.43	2.8	0.41	7.2	2.0	2	-0.5	-0.5	4.0	1.4
16AW097A02	11040048	1.0	1.6	0.4	1.4	0.22	1.7	0.35	4.6	1.1	-1	0.3	-0.5	6.8	3.5
16AW097A02-DUP	11040050	1.0	1.5	0.4	1.3	0.24	1.7	0.33	4.3	1.0	1	0.3	-0.5	6.5	3.5
16AW448A02	11040068	2.3	2.1	0.4	1.1	0.16	1.1	0.17	3.4	-0.5	1	-0.5	-0.5	4.3	1.9
16AW448A02-DUP	11040070	2.2	2.0	0.4	1.1	0.15	1.2	0.16	3.4	-0.5	-1	-0.5	-0.5	4.1	1.9
16AW068C02	11040085	0.2	0.3	-0.1	0.3	-0.05	0.2	-0.05	-0.2	-0.5	1	0.3	1.1	-0.1	-0.1
16AW068C02-DUP	11040090	0.3	0.4	0.1	0.3	-0.05	0.3	-0.05	-0.2	-0.5	3	0.4	0.9	0.7	-0.1