

Comparison of HAL XRF determinations and GeoProficiency Test values

(red GeoPT values are provisional)

(blank cell indicates GeoPT could not determine a value with confidence)

Major and minor elements and LOI in wt %, trace elements in ppm.

Sample Test period Material	SyMP-1 Jun 2016 Syenite		MNS-1 Jun 2016 Nepheline Syenite		ShWYO-1 Dec 2016 Silty marine shale		ShTX-1 Dec 2016 Calcareous organic-rich shale		ORA-1 Jun 2017 Andesite		SSCO-1 Jun 2017 Mineralised stream sediment	
	HAL	GeoPT39	HAL	GeoPT39A	HAL	GeoPT40	HAL	GeoPT40A	HAL	GeoPT41	HAL	GeoPT41A
SiO2	55.65	55.52	51.95	51.89	61.31	61.87	25.09	25.13	60.26	60.48	69.03	69.42
TiO2	0.797	0.799	0.354	0.346	0.565	0.565	0.181	0.175	0.843	0.850	0.400	0.396
Al2O3	12.95	12.99	22.70	22.53	13.13	13.13	4.02	4.00	17.56	17.50	11.04	11.07
Fe2O3*	7.70	7.76	2.63	2.63	4.91	4.64	1.58	1.61	6.21	6.14	6.71	6.55
MnO	0.103	0.101	0.145	0.139	0.044	0.043	0.012	0.011	0.097	0.095	0.431	0.424
MgO	3.28	3.31	0.30	0.23	2.87	2.85	0.43	0.42	3.22	3.19	0.76	0.72
CaO	3.15	3.14	2.29	2.28	3.93	3.94	33.03	32.95	6.02	6.00	1.54	1.54
Na2O	1.67	1.72	6.75	6.98	1.02	1.02	0.05		4.25	4.20	1.83	1.80
K2O	10.46	10.40	9.27	9.12	2.46	2.45	0.35	0.34	1.24	1.24	3.57	3.55
P2O5	0.704	0.721	0.049	0.040	0.182	0.181	0.099	0.099	0.174	0.173	0.190	0.186
LOI	2.04	2.39	3.20	3.28	7.73		31.33	31.61	-0.13		3.33	
Sum Majors	96.45	96.46	96.43	96.19	90.42	90.70	64.83	64.74	99.86	99.86	95.52	95.65
As	7		24	23	12	12	12	15	5		17	
Ni	234	230	10		27	28	72	75	33	33	11	9
Cr	320	296	55	43	73	68	34	30	44	40	18	17
V	155	157	29	27	113	117	397	419	107	108	57	55
Sc	14	16	1		11	11	5	4	15	13	7	6
Cu	120	115	4		26	24	38	34	30	30	362	365
Zn	106	112	100	97	99	97	97	98	69	67	645	605
Ga	22	21	23	22	16	16	6	6	21	21	16	16
Ba	5399	5220	433	420	580	580	76	73	311	323	779	779
Rb	648	642	197	192	106	101	17	17	18	19	129	127
Cs	10	11	14	13	4	7	1	3	1	0	7	4
Sr	764	778	1707	1714	202	195	1052	1017	562	543	194	189
Y	54	48	29	25	26	23	10	10	15	15	28	26
Zr	1040	917	648	589	197	183	53	53	147	146	237	230
Hf	27.4	23.8	14.0	10.1	5.2	5.0	0.4	1.2	2.8	3.7	6.6	6.5
Nb	31	27	48	41	11	11	7	6	8	8	19	19
Ta	2	1	1	2	0	1	0	0	0	1	0	1
Mo	38	33	6	4	1	1	46	48	2	1	13	13
La	219	219	165	163	27	28	14	13	12	16	38	38
Ce	475	471	301	294	55	54	25	25	34	34	98	100
Nd	228	222	93	89	26	25	8	11	16	17	33	32
Sm	31	41	14	11	5.0	4.9	2.7	2.1	2.8	3.6	6.4	5.8
Dy	10	12	5	4	4.3	3.9	1.8	1.7	2.6	2.9	4.7	4.7
Yb	6	3	4	2	5	2	5	1	3	1	6	3
Th	131	124	62	60	9	9	2	3	2	3	11	11
U	15	13	15	13	3	3	10	9	1	1	3	3
Tl	2	4	1	2	3	1	0	3	0	0	2	1
Pb	252	249	127	115	19	20	3	6	9	9	946	917
Bi	0	1	0	1	2	0	0	0	0		2	2