



# ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS USA Inc.

4977 Energy Way  
Reno NV 89502

Phone: 775 356 5395 Fax: 775 355 0179 www.alschemex.com

To: MINNESOTA STATE DEPARTMENT OF NATURAL  
RESOURCES  
1525 3RD AVENUE EAST  
HIBBING MN 55746

Page: 1  
Finalized Date: 6-JUL-2010  
Account: MINSTA

## CERTIFICATE RE10075765

Project: Project 373 and 378

P.O. No.:

This report is for 65 Drill Core samples submitted to our lab in Reno, NV, USA on  
11-JUN-2010.

The following have access to data associated with this certificate:

BARRY FREY

DENNIS MARTIN

PHIL PIPPO

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
CRU-21	Crush entire sample >70% -6 mm
PUL-31	Pulverize split to 85% <75 um
SPL-33	Split Sample - scoop split
LOG-24	Pulp Login - Rcd w/o Barcode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP06	Whole Rock Package - ICP-AES	ICP-AES
C-IR07	Total Carbon (Leco)	LECO
S-IR08	Total Sulphur (Leco)	LECO
ME-MS81	38 element fusion ICP-MS	ICP-MS
ME-MS42	Up to 34 elements by ICP-MS	ICP-MS
OA-GRA05	Loss on Ignition at 1000C	WST-SEQ
TOT-ICP06	Total Calculation for ICP06	ICP-AES
ME-4ACD81	Base Metals by 4-acid dig.	ICP-AES
C-GAS05	Inorganic Carbon (CO2)	
F-ELE81a	F by Specific Ion Electrode	WST-SIM
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES
ME-ICP61	33 element four acid ICP-AES	ICP-AES
PGM-ICP23	Pt, Pd, Au 30g FA ICP	ICP-AES

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project.

To: MINNESOTA STATE DEPARTMENT OF NATURAL RESOURCES  
ATTN: BARRY FREY  
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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.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



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## CERTIFICATE OF ANALYSIS RE10075765

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg	PGM-ICP23 Au ppm	PGM-ICP23 Pt ppm	PGM-ICP23 Pd ppm	ME-ICP06 SiO2 %	ME-ICP06 Al2O3 %	ME-ICP06 Fe2O3 %	ME-ICP06 CaO %	ME-ICP06 MgO %	ME-ICP06 Na2O %	ME-ICP06 K2O %	ME-ICP06 Cr2O3 %	ME-ICP06 TiO2 %	ME-ICP06 MnO %	ME-ICP06 P2O5 %
P3780001		0.66	0.001	<0.005	0.001	65.5	14.10	6.22	3.07	2.81	3.20	1.67	0.02	0.58	0.10	0.17
P3780002		0.63	0.001	<0.005	0.001	65.9	14.10	6.38	2.94	2.86	3.17	1.78	0.02	0.59	0.09	0.16
P3780003		0.51	0.001	<0.005	0.002	58.1	17.75	6.51	5.61	2.75	3.69	1.74	0.02	0.66	0.16	0.09
P3780004		0.40	0.001	<0.005	0.002	65.8	14.70	6.35	3.09	2.79	3.32	2.02	0.02	0.58	0.10	0.24
P3780005		0.73	0.001	<0.005	0.001	62.5	15.65	6.53	3.39	2.71	3.21	2.09	0.02	0.59	0.15	0.02
P3780006		1.09	0.001	<0.005	0.002	62.2	16.10	7.38	3.16	2.81	3.41	2.49	0.02	0.64	0.10	0.19
P3780007		0.77	0.001	<0.005	0.001	67.8	14.60	6.18	3.06	2.76	3.25	1.97	0.02	0.58	0.10	0.06
P3780008		0.40	0.001	<0.005	<0.001	62.4	14.30	6.41	3.29	1.22	4.33	1.22	<0.01	0.68	0.09	0.11
P3780009		1.76	0.001	<0.005	0.001	69.1	13.50	5.48	4.23	2.37	2.73	1.38	0.02	0.50	0.11	0.08
P3780010		0.55	0.001	<0.005	<0.001	65.8	13.50	5.89	3.51	1.23	4.42	1.00	<0.01	0.66	0.12	0.12
P3780011		0.83	0.001	<0.005	<0.001	61.0	14.50	7.04	3.52	1.50	4.13	1.18	<0.01	0.71	0.11	0.30
P3780012		0.83	0.001	<0.005	<0.001	59.7	14.35	6.54	4.88	1.30	3.71	1.59	<0.01	0.74	0.11	0.23
P3780013		1.24	0.001	<0.005	<0.001	60.5	14.35	5.73	5.44	1.14	5.01	0.86	<0.01	0.70	0.11	0.21
P3780014		1.91	<0.001	<0.005	<0.001	63.4	14.75	6.34	3.37	1.22	4.44	1.27	<0.01	0.72	0.10	0.25
P3780015		1.27	0.001	<0.005	<0.001	61.7	14.40	6.43	4.05	1.31	4.69	1.04	<0.01	0.73	0.10	0.11
P3780016		1.38	<0.001	<0.005	<0.001	63.7	14.40	6.22	3.18	1.11	4.72	1.12	<0.01	0.65	0.08	0.19
P3780017		1.90	<0.001	<0.005	<0.001	56.0	13.60	7.01	6.51	1.99	3.78	1.16	<0.01	0.66	0.12	<0.01
P3780018		0.99	0.001	<0.005	<0.001	44.7	14.15	10.05	13.55	3.69	2.80	0.14	0.02	0.83	0.21	0.26
P3780019		0.34	<0.001	<0.005	<0.001	61.6	14.40	6.34	4.60	1.12	3.46	1.64	<0.01	0.67	0.10	0.37
P3780020		0.26	0.001	<0.005	<0.001	62.4	15.05	6.68	3.20	1.04	4.99	0.69	<0.01	0.67	0.11	0.29
P3780021		1.33	0.003	<0.005	0.002	43.4	12.30	10.75	10.95	6.52	2.59	0.06	0.05	0.90	0.19	0.18
P3780022		0.16	0.049	<0.005	0.006	47.8	17.60	12.65	2.58	2.05	2.02	0.59	0.03	0.99	0.22	0.09
P3780023		0.10	0.707	0.008	0.012	78.8	8.95	1.83	0.18	0.49	0.06	2.54	0.02	0.57	<0.01	0.07
P3780024		0.71	0.001	<0.005	0.003	47.4	14.40	12.70	8.49	8.06	2.73	0.07	0.04	1.03	0.17	0.06
P3780025		0.30	0.002	<0.005	0.002	47.5	13.40	12.55	13.70	5.28	1.55	0.07	0.03	0.94	0.19	0.04
P3780026		0.22	0.001	<0.005	0.002	45.0	13.55	13.35	9.87	6.40	2.21	0.18	0.03	1.10	0.16	0.03
P3780027		0.68	0.006	<0.005	0.001	57.1	13.20	14.30	3.71	4.37	1.26	0.54	0.01	0.37	0.13	0.15
P3780028		0.19	0.007	<0.005	0.001	48.6	1.56	30.6	7.63	2.05	<0.01	<0.01	<0.01	0.07	0.14	0.04
P3780029		0.56	<0.001	<0.005	0.001	49.8	15.55	11.00	5.98	4.60	3.58	0.17	<0.01	1.17	0.16	0.26
P3780030		1.25	<0.001	<0.005	<0.001	43.0	16.40	9.55	11.50	4.65	2.16	0.68	0.02	0.73	0.14	0.07
P3780031		0.31	<0.001	<0.005	0.001	44.4	17.75	10.35	10.15	4.75	2.27	0.27	0.02	0.82	0.13	0.06
P3780032		1.41	<0.001	<0.005	0.001	43.2	18.25	8.90	10.85	4.68	2.34	0.50	0.02	0.71	0.12	0.10
P3780033		0.86	0.009	<0.005	<0.001	55.3	11.45	15.30	4.72	2.17	1.32	1.74	0.01	0.59	0.13	0.06
P3780034		0.25	0.001	<0.005	0.001	66.2	14.50	7.14	1.80	1.12	1.49	2.28	<0.01	0.54	0.07	0.11
P3780035		0.48	0.011	<0.005	0.001	67.1	12.45	9.22	1.66	0.94	1.92	1.94	0.01	0.39	0.04	<0.01
P3780036		0.69	0.004	<0.005	0.001	65.0	12.25	7.59	3.68	1.38	1.81	1.82	<0.01	0.40	0.09	0.08
P3780037		1.49	<0.001	<0.005	0.002	48.0	12.30	12.55	11.05	2.66	1.82	0.65	0.01	1.87	0.24	0.14
P3780038		1.30	<0.001	<0.005	0.001	49.3	13.25	12.55	9.52	2.77	2.47	0.57	0.01	1.70	0.22	0.01
P3780039		1.16	<0.001	<0.005	0.001	51.9	13.10	14.05	8.78	2.66	2.26	0.45	0.01	1.64	0.27	0.14
P3780040		2.00	<0.001	<0.005	0.001	54.0	16.15	8.96	7.25	3.48	2.53	1.25	0.01	0.65	0.22	0.10

Comments: Low whole rock total confirmed by re-analysis.



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Sample Description	Method Analyte Units LOR	ME-ICP06	ME-ICP06	C-IR07	S-IR08	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
		SrO	BaO	C	S	Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga	Gd	Hf
		%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.01	0.01	0.01	0.01	0.5	0.5	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2
P3780001		0.04	0.05	0.09	0.28	450	51.2	140	2.37	2.44	1.46	0.96	17.2	3.45	3.4
P3780002		0.04	0.05	0.04	0.30	421	54.3	140	3.00	2.51	1.49	1.03	17.4	3.69	3.7
P3780003		0.05	0.07	0.12	0.29	607	64.4	160	2.51	3.19	1.95	1.25	19.6	4.60	3.8
P3780004		0.04	0.06	0.10	0.25	533	54.2	150	3.48	2.54	1.45	1.11	17.9	3.74	3.4
P3780005		0.05	0.06	0.17	0.23	546	55.4	150	3.80	2.64	1.57	1.08	18.8	3.84	3.4
P3780006		0.04	0.07	0.26	0.32	570	53.7	140	4.37	2.76	1.61	1.06	18.6	3.86	3.3
P3780007		0.04	0.06	0.05	0.22	548	57.5	140	3.34	2.33	1.41	1.02	17.8	3.73	3.2
P3780008		0.02	0.02	0.55	0.08	221	44.0	10	1.31	4.53	2.71	1.30	18.3	5.02	4.7
P3780009		0.03	0.05	0.14	0.21	398	48.1	120	2.92	2.24	1.31	1.02	15.9	3.53	2.9
P3780010		0.02	0.03	0.58	0.09	236	41.6	10	1.22	4.19	2.59	1.18	17.1	4.71	4.5
P3780011		0.02	0.02	0.63	0.04	211	41.2	<10	2.87	4.46	2.68	1.20	18.2	5.05	4.5
P3780012		0.01	0.04	0.93	0.12	325	32.3	<10	1.89	5.08	2.88	1.47	20.3	5.55	4.7
P3780013		0.02	0.02	1.05	0.11	178.0	47.2	<10	0.93	4.47	2.72	1.41	17.1	5.47	4.5
P3780014		0.02	0.04	0.57	0.09	349	54.0	10	1.55	5.07	3.08	1.48	20.9	5.87	5.2
P3780015		0.02	0.02	0.73	0.02	217	46.7	<10	1.34	4.49	2.73	1.35	18.4	5.31	4.6
P3780016		0.02	0.02	0.57	0.02	175.5	44.5	<10	1.58	4.30	2.72	1.26	19.0	4.77	4.8
P3780017		0.02	0.03	1.45	0.06	221	36.8	40	1.83	3.26	2.09	1.08	18.2	3.71	3.3
P3780018		0.06	<0.01	2.06	0.10	33.4	29.2	90	0.28	2.27	1.38	0.92	14.3	2.83	1.5
P3780019		0.01	0.03	0.86	0.09	291	45.0	<10	2.36	4.49	2.81	1.28	20.4	5.01	4.9
P3780020		0.02	0.02	0.28	0.11	220	46.6	<10	1.55	4.65	2.91	1.32	19.4	4.96	5.3
P3780021		0.02	0.01	2.50	0.37	57.5	24.6	290	0.95	2.17	1.20	0.98	12.0	2.63	1.4
P3780022		0.01	<0.01	0.08	0.23	48.7	10.7	200	1.22	4.82	3.22	1.15	18.5	3.96	1.9
P3780023		0.01	0.14	0.11	0.35	1365	94.5	130	8.43	3.48	2.23	0.88	11.7	4.45	12.5
P3780024		0.03	<0.01	0.23	0.11	27.1	10.3	260	0.18	3.45	2.21	0.84	16.3	2.78	1.7
P3780025		0.05	<0.01	0.79	0.07	16.1	8.3	210	0.11	3.40	2.28	0.93	17.7	2.79	1.5
P3780026		0.02	<0.01	1.41	0.11	55.4	9.4	230	0.25	3.66	2.44	0.74	17.1	2.83	2.0
P3780027		0.01	0.02	0.59	0.22	155.5	20.2	70	1.72	1.40	0.89	0.90	13.1	1.76	2.0
P3780028		<0.01	<0.01	2.10	0.90	6.4	14.6	20	0.15	1.80	1.16	0.62	5.1	1.90	0.5
P3780029		0.03	0.01	0.91	0.09	65.1	49.5	30	0.59	4.13	2.44	1.58	20.6	5.04	3.2
P3780030		0.01	0.01	2.18	0.13	128.5	7.1	140	2.10	2.64	1.83	0.69	15.4	2.11	1.3
P3780031		0.03	0.01	1.44	0.10	66.0	7.9	110	0.64	2.92	1.94	0.73	16.4	2.38	1.4
P3780032		0.02	0.01	1.72	0.10	93.2	6.8	130	1.69	2.54	1.67	0.70	16.2	2.12	1.2
P3780033		0.01	0.02	1.06	4.99	178.0	23.4	40	2.88	2.46	1.55	0.82	16.1	2.47	2.8
P3780034		0.01	0.04	0.07	2.51	326	19.4	20	2.61	1.84	1.27	0.50	16.7	2.00	3.4
P3780035		0.01	0.02	0.18	3.92	239	27.3	30	3.01	2.78	1.84	0.78	20.8	2.65	4.7
P3780036		0.01	0.02	0.68	3.05	230	42.8	20	2.43	2.94	1.64	0.96	17.7	3.79	5.1
P3780037		0.01	0.04	1.91	0.24	348	19.3	40	2.56	6.40	4.22	1.49	19.8	5.36	3.5
P3780038		0.01	0.01	1.74	0.10	131.5	16.0	50	1.91	5.95	3.86	1.41	20.6	4.73	2.8
P3780039		0.01	0.01	1.15	0.12	128.0	13.4	50	1.88	5.97	3.93	1.35	20.9	4.70	3.0
P3780040		0.03	0.02	1.01	0.02	219	17.8	40	1.74	2.00	1.27	0.66	16.8	2.22	2.2

Comments: Low whole rock total confirmed by re-analysis.



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Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	La	Lu	Nb	Nd	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th	Ti	Tm
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	0.2	0.1	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05	0.5	0.01
P3780001		25.4	0.21	5.4	21.9	6.09	52.1	3.84	1	361	0.4	0.48	7.36	0.9	0.20
P3780002		27.1	0.21	5.3	23.4	6.47	55.6	4.07	1	352	0.5	0.52	7.78	0.9	0.21
P3780003		31.8	0.29	6.2	28.0	7.79	54.1	5.07	2	418	0.6	0.65	8.49	<0.5	0.27
P3780004		27.4	0.22	5.5	23.4	6.47	60.0	4.12	1	353	0.4	0.51	7.38	<0.5	0.20
P3780005		27.7	0.21	5.8	24.1	6.66	71.1	4.16	1	386	0.4	0.50	7.36	<0.5	0.21
P3780006		26.4	0.24	5.8	23.2	6.51	82.2	4.31	1	345	0.5	0.53	7.30	<0.5	0.23
P3780007		28.8	0.19	5.6	25.1	6.78	59.6	4.18	1	341	0.5	0.47	7.52	<0.5	0.19
P3780008		19.4	0.43	7.5	23.2	5.82	31.6	5.02	1	165.0	0.5	0.80	3.14	<0.5	0.40
P3780009		24.6	0.17	4.7	21.1	5.81	39.9	3.64	1	292	0.4	0.45	6.16	<0.5	0.17
P3780010		19.1	0.39	7.1	21.9	5.51	24.7	4.55	1	181.0	0.5	0.76	2.98	0.5	0.36
P3780011		19.5	0.42	7.5	21.6	5.53	31.4	4.54	1	126.5	0.5	0.78	3.13	<0.5	0.39
P3780012		14.3	0.43	7.9	19.9	4.52	41.6	5.08	1	96.8	0.6	0.91	3.19	<0.5	0.40
P3780013		21.6	0.39	7.2	25.3	6.23	22.2	5.43	1	119.5	0.5	0.84	3.02	<0.5	0.39
P3780014		23.9	0.46	8.3	28.3	7.29	33.7	5.88	1	160.5	0.6	0.90	3.47	<0.5	0.47
P3780015		20.9	0.42	7.8	24.6	6.06	26.5	5.07	1	157.0	0.6	0.83	3.15	<0.5	0.39
P3780016		19.3	0.42	7.6	22.6	5.61	27.2	4.88	1	137.0	0.6	0.75	3.18	<0.5	0.40
P3780017		15.5	0.30	6.0	19.0	4.83	29.7	3.86	1	151.0	0.4	0.56	2.05	<0.5	0.28
P3780018		11.4	0.19	4.4	16.2	4.05	2.6	3.15	<1	453	0.3	0.41	0.71	<0.5	0.17
P3780019		20.0	0.41	7.6	22.8	5.83	43.5	4.97	1	132.0	0.6	0.79	3.07	<0.5	0.40
P3780020		20.9	0.40	8.1	23.8	6.04	19.2	5.09	2	234	0.5	0.78	3.31	<0.5	0.44
P3780021		10.5	0.15	5.7	13.6	3.24	3.0	2.69	1	186.5	0.3	0.37	0.75	<0.5	0.17
P3780022		5.5	0.44	2.6	9.2	1.77	24.6	2.83	1	59.9	0.2	0.70	0.37	<0.5	0.45
P3780023		53.9	0.34	10.5	31.6	9.69	98.4	4.82	2	96.0	0.7	0.58	10.40	3.2	0.32
P3780024		4.5	0.35	3.2	7.5	1.47	0.8	2.25	1	223	0.2	0.49	0.36	<0.5	0.34
P3780025		3.5	0.30	2.1	6.7	1.24	0.6	2.08	1	386	0.1	0.49	0.25	<0.5	0.35
P3780026		3.7	0.39	2.7	7.2	1.44	4.7	2.17	1	181.5	0.1	0.52	0.31	<0.5	0.39
P3780027		10.1	0.11	2.9	9.1	2.32	19.3	1.82	2	125.5	0.2	0.24	1.61	<0.5	0.14
P3780028		6.9	0.16	0.7	7.8	1.79	0.9	1.70	2	22.9	<0.1	0.27	0.30	<0.5	0.18
P3780029		22.8	0.32	6.4	25.8	6.20	7.5	5.13	1	262	0.4	0.70	2.18	<0.5	0.33
P3780030		2.8	0.27	2.1	5.6	1.08	24.6	1.66	1	150.5	0.1	0.38	0.22	<0.5	0.28
P3780031		3.1	0.28	2.3	6.2	1.18	9.3	1.91	1	224	0.1	0.42	0.25	<0.5	0.27
P3780032		2.7	0.24	1.9	5.3	1.01	16.8	1.67	1	221	0.1	0.36	0.21	<0.5	0.23
P3780033		11.1	0.20	5.0	11.7	2.84	45.0	2.29	4	99.5	0.3	0.41	1.62	<0.5	0.24
P3780034		9.7	0.18	4.4	9.5	2.23	37.4	1.77	2	126.0	0.3	0.29	1.92	<0.5	0.18
P3780035		13.2	0.26	6.2	13.6	3.38	50.1	2.58	7	110.0	0.5	0.42	2.41	<0.5	0.32
P3780036		21.4	0.21	5.3	19.9	4.97	47.9	3.63	5	105.0	0.4	0.50	2.14	<0.5	0.23
P3780037		7.8	0.61	4.5	14.6	2.79	20.3	4.42	2	141.5	0.2	0.94	0.75	<0.5	0.60
P3780038		6.1	0.56	3.2	12.2	2.32	17.9	4.02	2	133.5	0.2	0.82	0.53	<0.5	0.52
P3780039		5.3	0.53	3.3	10.5	1.90	15.4	3.24	1	126.5	0.2	0.78	0.51	<0.5	0.60
P3780040		8.5	0.18	3.3	9.2	2.21	38.2	1.93	1	215	0.2	0.31	1.25	<0.5	0.18

Comments: Low whole rock total confirmed by re-analysis.



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To: MINNESOTA STATE DEPARTMENT OF NATURAL  
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1525 3RD AVENUE EAST

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Finalized Date: 6-JUL-2010

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Project: Project 373 and 378

## CERTIFICATE OF ANALYSIS RE10075765

Method Analyte Units LOR	ME-MS81 V ppm 5	ME-MS81 W ppm 1	ME-MS81 Y ppm 0.5	ME-MS81 Yb ppm 0.03	ME-MS81 Zr ppm 2	ME-MS42 As ppm 0.1	ME-MS42 Bi ppm 0.01	ME-MS42 Hg ppm 0.005	ME-MS42 Sb ppm 0.05	ME-MS42 Se ppm 0.2	ME-MS42 Te ppm 0.01	OA-GRA05 LOI % 0.01	TOT-ICP06 Total % 0.01	ME-4ACD81 Ag ppm 0.5	ME-4ACD81 Cd ppm 0.5
Sample Description															
P3780001	107	<1	12.6	1.37	131	0.6	0.22	0.009	<0.05	0.4	0.02	1.40	98.9	<0.5	<0.5
P3780002	110	<1	12.6	1.40	140	0.9	0.24	0.006	<0.05	0.4	0.03	1.10	99.2	<0.5	<0.5
P3780003	123	22	16.4	1.86	138	1.0	0.29	0.014	<0.05	0.4	0.02	1.99	99.2	<0.5	0.5
P3780004	107	1	12.5	1.33	132	1.1	0.21	0.005	0.05	0.3	0.02	2.10	101.0	<0.5	<0.5
P3780005	115	1	13.8	1.40	128	0.4	0.22	<0.005	<0.05	0.3	0.02	1.51	98.5	<0.5	<0.5
P3780006	123	1	13.8	1.47	119	0.6	0.25	<0.005	<0.05	0.4	0.02	2.19	101.0	<0.5	<0.5
P3780007	103	<1	11.9	1.32	127	0.2	0.17	<0.005	<0.05	0.3	0.02	0.60	101.0	<0.5	<0.5
P3780008	16	1	23.5	2.64	179	0.4	0.03	<0.005	0.16	0.2	<0.01	3.60	97.7	<0.5	<0.5
P3780009	89	1	11.1	1.20	108	0.9	0.18	<0.005	<0.05	0.3	0.02	0.90	100.5	<0.5	<0.5
P3780010	15	1	22.1	2.53	171	0.6	0.03	0.009	0.16	0.2	<0.01	3.70	100.0	<0.5	<0.5
P3780011	22	1	23.4	2.51	168	1.3	0.03	<0.005	0.21	0.2	<0.01	4.58	98.6	<0.5	<0.5
P3780012	25	<1	26.6	2.71	177	1.1	0.06	<0.005	0.19	0.3	0.01	5.69	98.9	<0.5	<0.5
P3780013	19	1	24.5	2.59	171	1.1	0.12	<0.005	0.21	0.2	<0.01	5.61	99.7	<0.5	<0.5
P3780014	18	1	26.1	2.89	198	0.5	0.02	<0.005	0.17	0.3	<0.01	5.08	101.0	<0.5	<0.5
P3780015	27	1	23.5	2.54	179	0.2	0.03	<0.005	0.17	0.2	<0.01	4.90	99.5	<0.5	<0.5
P3780016	11	2	23.2	2.71	173	0.1	0.02	<0.005	0.16	0.2	<0.01	3.63	99.0	<0.5	<0.5
P3780017	90	2	17.2	1.93	117	0.2	0.04	<0.005	0.17	0.2	<0.01	7.00	97.9	<0.5	<0.5
P3780018	193	1	11.9	1.16	54	1.7	0.08	<0.005	0.28	0.3	0.01	9.21	99.7	<0.5	<0.5
P3780019	12	2	25.2	2.64	173	0.2	0.02	<0.005	0.11	0.2	<0.01	4.53	98.9	<0.5	<0.5
P3780020	10	4	24.1	2.84	193	1.1	0.05	<0.005	0.20	0.3	<0.01	2.53	97.7	<0.5	<0.5
P3780021	173	<1	10.7	1.06	53	0.7	0.05	0.006	0.16	0.3	0.01	11.25	99.2	<0.5	<0.5
P3780022	227	2	30.4	3.00	64	93.9	0.01	<0.005	0.66	0.4	0.02	11.95	98.6	<0.5	<0.5
P3780023	103	82	20.1	2.17	480	186.0	0.11	1.090	5.68	1.7	0.05	4.16	97.8	0.5	<0.5
P3780024	287	1	19.1	2.23	55	2.1	0.02	0.010	0.26	0.2	<0.01	2.54	97.7	<0.5	<0.5
P3780025	289	1	20.2	2.28	46	3.9	0.07	<0.005	0.46	0.2	0.01	4.77	100.0	<0.5	<0.5
P3780026	331	<1	19.7	2.63	63	1.6	0.05	<0.005	0.21	0.3	0.01	7.15	99.1	0.6	<0.5
P3780027	87	1	8.1	0.91	69	0.7	0.03	0.026	0.13	1.0	0.04	4.91	100.0	<0.5	0.9
P3780028	25	1	11.3	1.15	15	2.3	0.09	0.042	0.18	4.6	0.18	6.15	96.8	0.9	<0.5
P3780029	231	<1	21.2	2.23	123	1.6	0.03	0.005	0.13	0.3	<0.01	6.09	98.4	<0.5	<0.5
P3780030	195	<1	15.1	1.90	42	0.3	0.01	<0.005	0.09	0.3	<0.01	11.05	100.0	<0.5	<0.5
P3780031	189	<1	16.3	1.93	48	0.3	0.01	<0.005	0.10	0.2	<0.01	7.56	98.6	<0.5	<0.5
P3780032	177	<1	14.1	1.63	39	0.8	0.01	<0.005	0.12	0.2	<0.01	8.81	98.5	<0.5	<0.5
P3780033	90	2	14.2	1.57	101	1.2	0.32	0.038	0.55	5.8	1.52	5.62	98.4	2.2	5.4
P3780034	87	1	10.8	1.30	115	196.5	0.14	<0.005	0.93	1.4	0.28	3.70	99.0	0.5	<0.5
P3780035	44	1	16.0	1.76	175	117.5	0.61	0.243	0.96	4.2	1.42	2.99	98.7	0.6	4.0
P3780036	32	<1	14.7	1.61	193	11.4	0.34	0.148	1.26	4.5	0.90	3.97	98.1	1.0	2.6
P3780037	380	<1	35.3	4.05	112	28.0	0.03	0.007	0.40	0.6	0.02	8.18	99.5	0.5	<0.5
P3780038	399	<1	32.6	3.89	90	1.0	0.02	0.006	0.22	0.5	<0.01	7.88	100.5	<0.5	<0.5
P3780039	397	<1	32.5	3.76	91	1.0	0.02	<0.005	0.25	0.6	<0.01	5.46	100.5	<0.5	<0.5
P3780040	169	<1	10.8	1.24	78	0.4	0.03	0.006	0.11	0.2	<0.01	5.87	100.5	<0.5	<0.5

Comments: Low whole rock total confirmed by re-analysis.



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Project: Project 373 and 378

## CERTIFICATE OF ANALYSIS RE10075765

Sample Description	Method	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81	C-GAS05	C-GAS05	F-ELE81a	ME-ICP41	ME-ICP61
	Analyte	Co	Cu	Mo	Ni	Pb	Zn	C	CO2	F	B	Li
	Units LOR	ppm 1	ppm 1	ppm 1	ppm 1	ppm 2	ppm 2	% 0.05	% 0.2	ppm 20	ppm 10	ppm 10
P3780001		19	40	1	64	17	85	0.11	0.4	390	<10	20
P3780002		20	47	1	66	17	83	0.06	0.2	440	<10	20
P3780003		23	55	1	81	26	112	0.14	0.5	420	<10	30
P3780004		18	50	1	65	14	91	0.11	0.4	460	<10	20
P3780005		19	50	<1	69	11	65	0.17	0.6	470	<10	40
P3780006		23	57	<1	76	11	63	0.24	0.9	510	<10	50
P3780007		18	44	<1	62	16	85	0.08	0.3	490	<10	30
P3780008		8	11	1	<1	<2	69	0.51	1.9	450	<10	<10
P3780009		17	47	<1	55	14	69	0.15	0.6	420	<10	20
P3780010		8	7	1	2	2	77	0.56	2.0	430	<10	10
P3780011		8	14	<1	<1	3	80	0.60	2.2	570	<10	20
P3780012		9	8	<1	<1	4	73	0.88	3.2	700	<10	10
P3780013		7	15	1	<1	2	63	0.99	3.6	560	<10	10
P3780014		8	8	<1	<1	5	74	0.53	2.0	510	<10	<10
P3780015		9	17	<1	2	2	70	0.68	2.5	500	<10	<10
P3780016		7	5	<1	1	5	79	0.53	1.9	400	<10	<10
P3780017		20	15	<1	52	4	103	1.36	5.0	480	<10	10
P3780018		37	119	<1	125	4	103	1.98	7.3	420	<10	10
P3780019		9	11	<1	2	3	61	0.81	3.0	430	<10	<10
P3780020		7	29	1	1	4	97	0.27	1.0	410	<10	<10
P3780021		50	159	<1	304	5	138	2.39	8.8	380	<10	20
P3780022		52	140	<1	134	3	69	<0.05	<0.2	120	10	<10
P3780023		2	13	14	11	10	21	<0.05	<0.2	890	<10	40
P3780024		41	89	<1	114	4	83	0.21	0.8	240	<10	10
P3780025		29	77	<1	56	4	79	0.70	2.6	140	<10	<10
P3780026		37	42	<1	62	3	118	1.29	4.7	140	<10	20
P3780027		20	123	<1	49	4	417	0.49	1.8	120	<10	20
P3780028		26	414	2	17	3	135	1.98	7.2	120	<10	<10
P3780029		29	107	<1	26	3	94	0.05	0.2	240	<10	20
P3780030		30	76	<1	83	3	80	2.09	7.7	120	<10	30
P3780031		31	58	<1	113	<2	96	1.34	4.9	110	<10	30
P3780032		29	62	<1	96	<2	73	1.58	5.8	130	<10	20
P3780033		30	359	1	47	10	1310	0.91	3.3	320	<10	10
P3780034		24	66	1	27	11	46	0.06	0.2	240	<10	<10
P3780035		39	428	1	37	27	1410	0.16	0.6	230	<10	<10
P3780036		30	368	<1	20	17	875	0.62	2.3	240	<10	<10
P3780037		41	60	<1	36	5	183	1.87	6.9	330	<10	<10
P3780038		31	136	<1	26	2	127	1.66	6.1	170	<10	<10
P3780039		34	118	<1	27	<2	145	1.14	4.2	190	<10	<10
P3780040		25	40	<1	52	6	143	1.01	3.7	250	<10	10

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## CERTIFICATE OF ANALYSIS RE10075765

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg	PGM-ICP23 Au ppm	PGM-ICP23 Pt ppm	PGM-ICP23 Pd ppm	ME-ICP06 SiO2 %	ME-ICP06 Al2O3 %	ME-ICP06 Fe2O3 %	ME-ICP06 CaO %	ME-ICP06 MgO %	ME-ICP06 Na2O %	ME-ICP06 K2O %	ME-ICP06 Cr2O3 %	ME-ICP06 TiO2 %	ME-ICP06 MnO %	ME-ICP06 P2O5 %
P3780041		1.64	<0.001	<0.005	0.001	60.9	14.85	6.81	5.70	2.91	2.41	1.10	0.01	0.48	0.20	0.10
P3780042		1.07	0.001	<0.005	<0.001	63.0	12.90	9.08	4.86	2.21	1.85	1.16	<0.01	0.46	0.18	0.08
P3780043		0.90	0.002	<0.005	<0.001	48.2	11.00	16.45	8.07	3.83	0.73	0.38	0.01	0.53	0.61	0.01
P3780044		0.54	0.007	<0.005	0.001	48.8	16.15	13.75	5.57	3.82	1.73	1.02	0.02	0.77	0.40	0.23
P3780045		0.66	<0.001	<0.005	<0.001	60.7	13.85	7.41	5.64	2.20	2.92	0.89	<0.01	0.78	0.16	0.20
P3780046		0.54	<0.001	<0.005	<0.001	57.9	14.05	7.03	6.61	2.66	2.46	1.41	<0.01	0.62	0.12	0.07
P3780047		1.15	0.024	<0.005	0.001	54.6	11.20	15.80	3.37	3.00	1.61	0.95	<0.01	0.49	0.25	0.13
P3780048		0.56	0.005	<0.005	0.001	58.6	16.20	5.94	5.94	3.10	3.43	0.92	0.01	0.69	0.09	0.15
P3780049		0.90	0.005	<0.005	0.001	58.2	14.10	11.05	4.46	2.11	2.82	1.16	0.01	0.58	0.10	0.14
P3780050		1.31	0.002	<0.005	<0.001	53.7	14.25	6.55	8.95	3.12	3.51	0.89	0.01	0.50	0.08	0.05
P3780051		0.10	0.711	0.005	0.012	79.4	9.02	1.84	0.19	0.48	0.07	2.56	0.02	0.57	<0.01	0.08
P3780052		0.13	0.063	<0.005	0.006	49.7	17.65	12.50	2.65	2.02	2.08	0.62	0.03	1.04	0.22	0.09
P3780053		1.89	<0.001	<0.005	0.001	50.0	13.45	14.00	7.84	4.89	3.07	0.08	0.01	1.41	0.20	0.13
P3780054		1.03	0.003	<0.005	<0.001	52.2	14.70	12.05	8.43	2.20	2.86	0.75	0.01	1.86	0.19	0.20
P3780055		1.68	<0.001	<0.005	0.001	48.5	13.10	15.00	9.15	3.65	2.60	0.24	0.01	1.44	0.24	0.14
P3780056		0.14	0.004	<0.005	<0.001	36.3	9.80	16.95	11.65	3.71	2.89	0.15	<0.01	1.30	0.45	0.09
P3780057		0.87	0.001	<0.005	0.001	44.5	10.35	13.25	12.45	4.31	1.24	0.50	0.01	1.02	0.30	0.07
P3780058		1.66	<0.001	<0.005	0.002	48.8	13.70	15.45	8.23	5.47	2.53	0.09	0.01	1.14	0.22	0.06
P3780059		0.56	0.030	<0.005	0.003	66.8	4.80	16.25	6.37	1.54	0.34	0.08	0.01	0.17	0.34	<0.01
P3780060		1.58	0.012	<0.005	0.003	47.6	15.65	12.75	9.57	7.84	1.95	0.73	0.05	0.90	0.19	0.05
P3780061		1.70	0.799	<0.005	0.009	48.0	13.75	14.45	9.98	4.11	1.37	1.40	0.03	0.99	0.29	0.05
P3780062		0.91	0.123	<0.005	0.002	56.4	17.20	9.32	3.21	3.47	2.11	2.99	0.03	0.58	0.16	0.17
P3780063		1.44	0.004	<0.005	0.001	90.3	2.87	3.12	0.48	0.59	0.14	0.71	0.01	0.10	0.02	0.03
P3780021DUP			0.002	<0.005	0.002	42.7	12.15	10.15	11.15	6.10	2.52	0.08	0.05	0.81	0.19	0.17
P3780050DUP			0.004	<0.005	<0.001	53.7	14.10	6.18	8.85	2.87	3.45	0.89	0.01	0.46	0.08	0.14

Comments: Low whole rock total confirmed by re-analysis.



# ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS USA Inc.

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To: MINNESOTA STATE DEPARTMENT OF NATURAL  
RESOURCES

1525 3RD AVENUE EAST

HIBBING MN 55746

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Total # Pages: 3 (A - E)

Finalized Date: 6-JUL-2010

Account: MINSTA

Project: Project 373 and 378

## CERTIFICATE OF ANALYSIS RE10075765

Sample Description	Method Analyte Units LOR	ME-ICP06 SrO %	ME-ICP06 BaO %	C-IR07 C %	S-IR08 S %	ME-MS81 Ba ppm	ME-MS81 Ce ppm	ME-MS81 Cr ppm	ME-MS81 Cs ppm	ME-MS81 Dy ppm	ME-MS81 Er ppm	ME-MS81 Eu ppm	ME-MS81 Ga ppm	ME-MS81 Gd ppm	ME-MS81 Hf ppm	ME-MS81 Ho ppm
		0.01	0.01	0.01	0.01	0.5	0.5	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2	0.01
P3780041		0.02	0.03	0.64	0.79	269	24.4	60	1.45	1.86	1.14	0.62	15.5	2.15	2.6	0.36
P3780042		0.02	0.03	0.44	1.59	315	22.9	40	1.53	1.86	1.14	0.61	13.9	2.06	2.3	0.36
P3780043		<0.01	0.01	1.93	0.90	106.5	19.9	90	1.04	2.24	1.41	0.85	13.3	2.33	1.9	0.44
P3780044		0.02	0.03	0.78	0.39	251	18.8	170	1.74	2.41	1.47	0.80	17.3	2.43	2.4	0.46
P3780045		0.02	0.02	0.83	0.12	211	22.3	10	1.01	2.48	1.60	0.80	16.2	2.64	3.2	0.48
P3780046		0.02	0.02	0.96	1.21	222	22.4	20	2.02	1.93	1.12	0.68	16.3	2.18	2.5	0.36
P3780047		0.01	0.02	1.05	4.06	182.0	22.8	40	1.15	2.37	1.36	0.86	15.6	2.31	2.7	0.42
P3780048		0.02	0.02	0.92	0.05	187.0	19.3	60	1.73	2.20	1.41	0.70	17.3	2.31	2.4	0.44
P3780049		0.02	0.02	0.58	2.50	221	21.0	40	1.69	2.16	1.41	0.65	17.4	2.35	3.3	0.42
P3780050		0.02	0.01	1.83	0.08	114.0	18.0	50	0.80	1.63	0.97	0.69	15.6	1.94	1.7	0.31
P3780051		0.01	0.14	0.10	0.33	1270	87.4	120	7.89	3.15	1.99	0.81	10.9	4.20	11.9	0.63
P3780052		<0.01	<0.01	0.07	0.05	49.4	10.6	200	1.18	4.89	3.17	1.17	18.7	3.98	1.9	0.99
P3780053		0.03	<0.01	0.81	0.08	34.2	23.6	100	0.37	4.87	3.17	1.24	19.3	4.34	3.0	0.99
P3780054		0.01	0.02	1.02	0.08	238	16.4	60	1.25	6.34	4.18	1.41	23.4	5.14	3.4	1.31
P3780055		0.01	0.01	1.83	0.10	130.5	20.5	70	0.73	5.31	3.47	1.33	20.6	4.51	2.9	1.09
P3780056		0.02	0.01	4.47	0.87	65.1	11.7	20	0.39	5.09	3.42	1.24	17.4	3.88	2.4	1.08
P3780057		0.01	0.01	3.30	0.13	97.0	12.2	40	1.40	4.43	2.89	0.98	14.7	3.51	2.0	0.92
P3780058		0.02	<0.01	0.98	0.06	13.5	9.4	70	0.28	4.31	2.93	0.91	18.4	3.18	2.2	0.93
P3780059		<0.01	<0.01	0.75	1.78	5.6	2.5	40	0.35	0.67	0.48	0.17	6.5	0.51	0.2	0.16
P3780060		0.02	0.03	0.28	0.02	281	8.6	380	4.44	2.69	1.76	0.70	16.2	2.14	1.7	0.56
P3780061		0.02	0.02	1.37	0.93	136.0	7.2	230	1.90	2.53	1.69	0.69	14.8	2.03	1.4	0.54
P3780062		0.04	0.12	0.32	1.84	1060	56.2	220	2.65	2.72	1.55	1.24	23.8	3.75	4.1	0.51
P3780063		0.01	0.02	0.27	1.21	177.5	10.0	60	0.61	0.55	0.30	0.24	4.6	0.71	0.7	0.11
P3780021DUP		0.03	0.01	2.54	0.37	62.4	27.3	350	1.01	2.34	1.29	1.07	12.8	2.86	1.6	0.43
P3780050DUP		0.02	0.01	1.76	0.07	119.5	18.2	60	0.84	1.61	1.01	0.66	16.0	1.88	1.8	0.33

Comments: Low whole rock total confirmed by re-analysis.



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1525 3RD AVENUE EAST  
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Finalized Date: 6-JUL-2010  
Account: MINSTA

Project: Project 373 and 378

## CERTIFICATE OF ANALYSIS RE10075765

Sample Description	Method Analyte Units LOR	ME-MS81 La ppm 0.5	ME-MS81 Lu ppm 0.01	ME-MS81 Nb ppm 0.2	ME-MS81 Nd ppm 0.1	ME-MS81 Pr ppm 0.03	ME-MS81 Rb ppm 0.2	ME-MS81 Sm ppm 0.03	ME-MS81 Sn ppm 1	ME-MS81 Sr ppm 0.1	ME-MS81 Ta ppm 0.1	ME-MS81 Tb ppm 0.01	ME-MS81 Th ppm 0.05	ME-MS81 Ti ppm 0.5	ME-MS81 Tm ppm 0.01	ME-MS81 U ppm 0.05
P3780041		12.7	0.16	4.0	10.8	2.77	30.1	2.13	1	180.5	0.3	0.31	2.05	<0.5	0.16	0.51
P3780042		11.7	0.17	3.8	10.2	2.59	29.5	1.96	1	184.5	0.3	0.30	2.00	<0.5	0.17	0.50
P3780043		9.6	0.21	3.5	10.5	2.50	11.8	2.24	1	88.5	0.2	0.35	1.10	<0.5	0.20	0.27
P3780044		8.4	0.22	4.6	9.9	2.37	28.6	2.25	1	147.0	0.3	0.37	1.08	<0.5	0.20	0.28
P3780045		10.4	0.23	4.8	11.4	2.69	23.5	2.36	1	168.5	0.3	0.40	1.55	<0.5	0.22	0.43
P3780046		10.6	0.17	4.1	11.0	2.69	39.4	2.11	2	175.5	0.3	0.32	1.41	<0.5	0.16	0.40
P3780047		11.0	0.18	3.9	11.5	2.76	24.2	2.37	5	110.0	0.3	0.37	1.44	<0.5	0.20	0.40
P3780048		9.3	0.18	4.0	9.4	2.32	31.0	1.95	1	214	0.3	0.35	1.32	<0.5	0.19	0.33
P3780049		9.9	0.19	4.5	10.0	2.47	35.4	1.95	5	159.0	0.3	0.32	1.79	<0.5	0.16	0.47
P3780050		8.7	0.13	3.1	9.1	2.22	29.9	1.81	1	175.5	0.2	0.28	0.98	<0.5	0.14	0.25
P3780051		49.9	0.31	9.7	28.9	8.98	91.1	4.48	2	87.9	0.7	0.54	9.72	2.5	0.29	3.12
P3780052		5.5	0.44	2.6	9.2	1.75	24.3	2.82	1	58.8	0.2	0.71	0.38	<0.5	0.43	0.07
P3780053		10.1	0.48	4.0	14.6	3.20	2.1	3.73	1	243	0.3	0.74	1.16	<0.5	0.47	0.27
P3780054		6.5	0.60	3.7	12.6	2.45	26.4	3.96	1	142.5	0.2	0.91	0.62	<0.5	0.60	0.15
P3780055		8.8	0.53	3.4	13.5	2.87	9.1	3.60	1	179.5	0.2	0.77	0.95	<0.5	0.52	0.21
P3780056		4.6	0.51	3.2	9.3	1.78	4.2	3.12	1	128.0	0.2	0.77	0.54	<0.5	0.49	0.13
P3780057		5.0	0.42	2.7	9.4	1.81	15.1	2.89	1	119.5	0.2	0.65	0.62	<0.5	0.41	0.19
P3780058		3.7	0.45	2.9	7.3	1.43	0.9	2.46	1	141.5	0.2	0.64	0.52	<0.5	0.43	0.11
P3780059		1.2	0.09	0.4	1.6	0.34	0.8	0.41	<1	13.2	<0.1	0.09	<0.05	<0.5	0.05	<0.05
P3780060		3.4	0.26	3.4	6.2	1.28	24.3	1.81	1	151.0	0.2	0.40	0.38	<0.5	0.25	0.10
P3780061		2.9	0.26	2.7	5.6	1.07	42.6	1.69	1	160.0	0.2	0.38	0.33	<0.5	0.26	0.07
P3780062		28.1	0.23	7.1	25.1	6.57	104.0	4.38	1	296	0.5	0.50	7.72	<0.5	0.22	2.25
P3780063		5.1	0.04	1.3	4.6	1.19	24.4	0.81	<1	24.9	0.1	0.09	1.42	<0.5	0.05	0.42
P3780021DUP		11.5	0.17	6.9	15.5	3.63	3.0	3.07	1	189.0	0.4	0.43	0.95	<0.5	0.18	0.18
P3780050DUP		8.7	0.13	3.6	9.7	2.27	30.6	1.94	1	175.0	0.2	0.30	1.11	<0.5	0.14	0.28

Comments: Low whole rock total confirmed by re-analysis.



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Project: Project 373 and 378

## CERTIFICATE OF ANALYSIS RE10075765

Sample Description	Method Analyte Units LOR	ME-MS81 V ppm 5	ME-MS81 W ppm 1	ME-MS81 Y ppm 0.5	ME-MS81 Yb ppm 0.03	ME-MS81 Zr ppm 2	ME-MS42 As ppm 0.1	ME-MS42 Bi ppm 0.01	ME-MS42 Hg ppm 0.005	ME-MS42 Sb ppm 0.05	ME-MS42 Se ppm 0.2	ME-MS42 Te ppm 0.01	OA-GRA05 LOI % 0.01	TOT-ICP06 Total % 0.01	ME-4ACD81 Ag ppm 0.5	ME-4ACD81 Cd ppm 0.5
P3780041		88	1	9.9	1.07	94	12.2	0.08	0.049	0.39	0.2	<0.01	4.53	100.0	<0.5	1.8
P3780042		88	<1	9.8	1.09	84	9.0	0.07	0.005	0.24	0.3	<0.01	4.42	100.5	<0.5	<0.5
P3780043		132	<1	12.7	1.38	71	1.0	0.80	0.005	0.37	1.5	0.23	8.87	98.7	0.5	<0.5
P3780044		176	<1	12.6	1.45	86	0.6	0.10	0.008	0.25	0.7	0.05	5.68	98.0	<0.5	<0.5
P3780045		100	<1	13.6	1.54	118	0.4	0.06	<0.005	0.09	0.3	0.03	4.61	99.4	<0.5	<0.5
P3780046		121	8	10.0	1.09	95	0.8	0.10	0.014	0.21	1.1	0.18	5.36	98.3	<0.5	0.7
P3780047		81	1	12.0	1.33	96	2.9	0.50	0.049	0.33	4.8	1.47	6.47	97.9	1.3	6.6
P3780048		188	<1	12.2	1.28	85	0.4	0.02	0.008	0.31	<0.2	0.02	5.60	100.5	<0.5	<0.5
P3780049		92	1	12.1	1.41	116	0.5	0.38	0.011	0.36	3.5	0.53	1.50	96.3	0.9	3.1
P3780050		114	<1	8.9	0.92	63	0.5	0.04	<0.005	0.14	0.2	<0.01	8.51	100.0	<0.5	<0.5
P3780051		95	78	18.4	2.03	447	171.0	0.10	1.090	5.96	1.5	0.03	3.52	97.9	0.7	<0.5
P3780052		228	3	30.1	2.98	63	88.1	0.01	0.014	0.65	0.3	0.02	11.00	99.6	<0.5	<0.5
P3780053		312	1	27.4	3.15	103	2.8	0.02	<0.005	0.21	0.4	<0.01	4.34	99.5	<0.5	<0.5
P3780054		423	<1	34.0	3.97	116	8.2	0.02	<0.005	0.22	0.6	<0.01	4.59	100.0	<0.5	<0.5
P3780055		369	<1	29.6	3.42	98	1.0	0.02	<0.005	0.22	0.4	<0.01	6.87	101.0	<0.5	<0.5
P3780056		411	2	28.6	3.41	83	6.2	0.09	0.005	0.50	2.0	0.02	14.80	98.1	0.6	<0.5
P3780057		306	2	24.5	2.85	70	0.4	0.02	0.005	0.09	0.4	0.01	12.80	101.0	0.5	<0.5
P3780058		384	1	24.4	2.97	74	1.2	0.02	0.009	0.16	0.3	0.01	4.89	100.5	<0.5	<0.5
P3780059		84	<1	4.4	0.50	8	0.7	0.78	<0.005	0.09	4.2	0.15	2.17	98.9	0.6	<0.5
P3780060		250	3	14.5	1.69	60	8.1	0.11	<0.005	0.06	0.2	0.01	2.88	100.0	0.5	<0.5
P3780061		272	5	14.6	1.73	48	2.5	7.12	0.007	0.07	0.7	2.38	6.79	101.5	0.5	<0.5
P3780062		138	8	13.5	1.46	147	0.6	1.35	<0.005	0.08	1.1	0.11	4.79	100.5	0.5	<0.5
P3780063		25	3	2.7	0.27	27	0.4	0.33	0.007	0.07	0.9	0.05	1.75	100.0	<0.5	3.6
P3780021DUP		201	1	11.4	1.16	58	0.7	0.05	0.008	0.14	0.3	<0.01	11.50	97.6	<0.5	<0.5
P3780050DUP		128	1	9.1	0.93	65	0.5	0.04	0.005	0.14	<0.2	<0.01	8.59	99.4	<0.5	<0.5

Comments: Low whole rock total confirmed by re-analysis.



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## CERTIFICATE OF ANALYSIS RE10075765

Sample Description	Method Analyte Units LOR	ME-4ACD81 Co ppm 1	ME-4ACD81 Cu ppm 1	ME-4ACD81 Mo ppm 1	ME-4ACD81 Ni ppm 1	ME-4ACD81 Pb ppm 2	ME-4ACD81 Zn ppm 2	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2	F-ELE81a F ppm 20	ME-ICP41 B ppm 10	ME-ICP61 Li ppm 10
P3780041		21	41	<1	45	7	790	0.65	2.4	220	<10	10
P3780042		27	44	<1	39	3	81	0.44	1.6	210	<10	10
P3780043		35	116	14	54	5	111	1.86	6.8	160	<10	<10
P3780044		35	107	<1	93	5	124	0.77	2.8	260	<10	10
P3780045		16	65	<1	18	2	69	0.82	3.0	240	<10	10
P3780046		14	104	<1	22	9	405	0.96	3.5	350	<10	10
P3780047		38	391	<1	48	6	2000	0.74	2.7	210	<10	10
P3780048		23	123	<1	52	<2	85	0.86	3.1	180	<10	20
P3780049		39	467	<1	43	9	1350	0.58	2.1	220	<10	<10
P3780050		20	60	<1	58	<2	67	1.78	6.5	260	<10	20
P3780051		1	11	12	9	9	19	<0.05	<0.2	940	<10	40
P3780052		54	141	<1	124	2	68	<0.05	<0.2	130	10	10
P3780053		37	89	<1	49	4	146	0.80	2.9	260	<10	10
P3780054		43	138	<1	30	<2	128	1.00	3.7	210	<10	20
P3780055		29	130	<1	29	<2	112	1.68	6.2	200	<10	10
P3780056		33	259	<1	15	4	125	4.20	15.4	90	<10	10
P3780057		29	94	<1	22	4	120	3.13	11.5	190	<10	10
P3780058		48	144	<1	46	<2	157	1.02	3.8	180	<10	10
P3780059		27	525	<1	28	<2	41	0.76	2.8	70	<10	<10
P3780060		47	7	<1	206	3	95	0.30	1.1	240	<10	40
P3780061		38	128	<1	96	6	79	1.32	4.8	230	<10	40
P3780062		31	122	1	126	10	76	0.26	0.9	580	<10	40
P3780063		16	100	<1	32	2	1045	0.15	0.6	150	<10	10
P3780021DUP		49	154	<1	273	3	128	2.51	9.2	350	<10	20
P3780050DUP		21	59	<1	56	<2	61	1.78	6.5	250	<10	<10

Comments: Low whole rock total confirmed by re-analysis.