GM 60330

A report of geological mapping and lithogeochemical sampling, Barville area property

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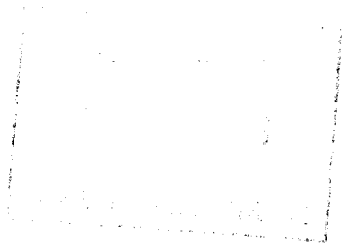
Énergie et Ressources naturelles
Québec

A Report of Geological Mapping and Lithogeochemical Sampling on the Barville Area Property of Phoenix Matachewan Mines Inc.

Barraute Township
SNRC: 32 C/12

Ressources Naturelles
Secteur mines

19 JUIN 2003



Bureau Régional Val-d'Or

June 11th 2003

Christopher Wagg P.Geo

MRN-GÉOINFORMATION 2003

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BARVILLE PROPETY, SWANSON-BARRAUTE PROJECT, SCALE 1:5 000

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Summary

Portions of the Phoenix Matachewan Mines Inc. exploration properties which are known collectively as the Swanson Project in the Canton Barraute of Quebec, situated a short distance north of the regional population centre of Val d'Or, were recently examined with the objective of obtaining a sufficient number of lithogeochemical samples in order to determine whether the extent and nature of the alteration exhibited by the rocks within mapped blocks suggest potential for occurrences of copper and zinc enriched massive sulphides upon the Company's property.

The portion of the Phoenix landholdings traversed and discussed within this report represent only a small fraction of the Company's total holdings in the region. The area examined includes ten contiguous Range lot parcels located immediately south and west of the village of Barville, and includes some of the most southerly portion of the "Barvue Project" acquired by purchase from Inmet Mining.

The past producing Abcourt (Barvue) Zinc deposit, with reported total resources in all categories of 6.65Mt grading 3.02% Zn and 29.58 g/t Ag (as of May 1999, R. Hinse pers. comm. a M. Bourgoin), is located immediately to the northeast of the land package covered by this report. The geological units present in the Barville area are believed prospective for similar massive sulphide occurrences; and prior work completed by Inmet upon the overall Barvue Project during 2001 included a comprehensive compilation of previous geological, ground and airborne geophysical survey data, geological fieldwork, ~26 line kilometres of Deep (Pulse) EM surveys, and the diamond drilling of a 177m hole to test the most favourably interpreted geophysical response encountered by the 2001 EM survey.

The drilling tested a strong conductor believed to lie within the western strike extension of the tuffaceous mine sequence, and "cut 9 metres of "semi-massive (15-50%) pyrite and pyrrhotite" (Gagnon, 2002), but with economically insignificant copper and zinc content. As a consequence of the discouraging drill results the project became available to potential acquisitors.

Phoenix Matachewan has to this point concentrated exploration efforts on the southernmost portion of the Barvue Project area, where expenditures are required in order to maintain claims in good standing. The ground recently examined is known to contain cherty felsic tuffaceous rocks and several untested conductive geophysical anomalies. Lack of common bedrock exposures has hampered previous work, and the current program focused on finding and sampling additional exposures so that an adequate lithogeochemical database might allow for a well-informed decision to be made regarding the VMS potential of the area studied, and to determine the advisability of conducting further work in the area southwest of the Abcourt deposit.

Property Location and Access

The claimgroup examined lies entirely within Range VI in the Canton of Barraute, extending from Lot 22 to Lot 31. Access is by means of Hwy. 397 leading northward from Val d'Or, passing through the town of Barraute, and crossing the road between Ranges VI and VII which leads westerly to the village of Barville. A north-south road at the village separates Lots 29 and 30, and provides the principal access to the work area. A powerline clearance which runs eastward from within Lot 21 to the eastern boundary of Lot 30 thence northward allows for good access to the entire area.

Figure 1 illustrates the project location, and Figure 2 presents a drawing of the claimgroup.



Ref.: Feuillet SNRC du Québec (Gestim)

MRB & associates
mining consultants

PHOENIX MATACHEWAN

GENERAL LOCATION

Figure 1

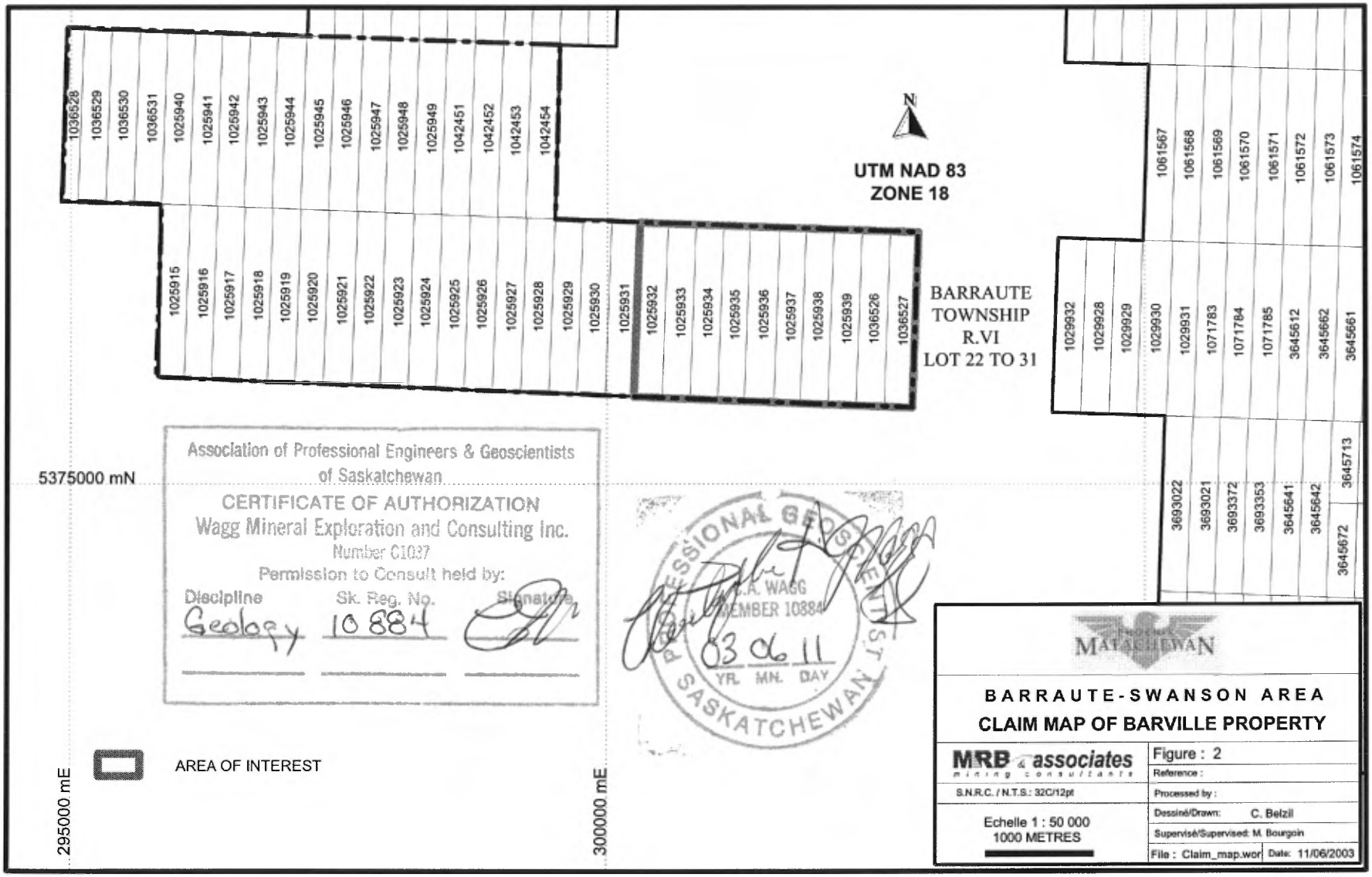
Property Description

The area examined consists of contiguous map staked mining claims numbered 1025932 through 1025939 (7 units), 1036526, and 1036527. Commencing in the northeastern corner and progressing clockwise, approximate UTM coordinates for the four corners of the rectangular block using a NAD 83 datum are as follows: 302900 E, 5377350 N; 302885 E, 5375715 N; 300460 E, 5375815 N; and 300440 E, 5377430 N.

Much of the northern half of the described lots are partially grown in old fields with little topographic relief and no exposures of bedrock. South of the east-west powerline, very little land was ever cleared for agriculture, and limited logging has until recently been confined to reasonably well drained areas. Several quite large open cuts have been completed recently during winter months, in the southern half of lots 22, 23, 24 and 25.

A few slightly elevated ridges occur in the southern half of lots 27, 28, and 29, where several previously unmapped outcrops were found, however, east of the road separating lot 29 from lot 30 outcrop is restricted to a single prominent hill in the northernmost part of lot 31.

Soils throughout the area are greyish clays deposited as lacustrine sediment, with the exception of very thin tills present around a cluster of outcrops exposed on the powerline clearance and just to the south, in lots 22 and 23.



Association of Professional Engineers & Geoscientists of Saskatchewan

CERTIFICATE OF AUTHORIZATION

Wagg Mineral Exploration and Consulting Inc.

Number C1037

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
Geology	10884	

PROFESSIONAL GEOSCIENTIST
R.R. WAGG
MEMBER 10884
03 06 11
YR. MN. DAY
SASKATCHEWAN

SASKATCHEWAN

BARRAUTE-SWANSON AREA

CLAIM MAP OF BARVILLE PROPERTY

MRB & associates mining consultants

Figure : 2

Reference :

S.N.R.C. / N.T.S.: 32C/12pt

Processed by :

Echelle 1 : 50 000
1000 METRES

Dessiné/Drawn: C. Belzil

Supervisé/Supervised: M. Bourgoin

File : Claim_map.wor Date: 11/06/2003

Regional Geology

The property lies within the Abitibi Subprovince of the Canadian Shield, an elongate east-west greenstone belt extending ~700 km from the Kapuskasing Structural Zone in north-central Ontario eastward to the Grenville front in south-central Quebece. The northern boundary of the belt coincides with the margin of the Opatica gneiss and plutonic terrane, while to the south it is bounded by the Bellecombe sequence of metasediments. Regional tectonism has been dated as 2650-2700 Ma (Chown et al., 1992)

The project area sits in the south-central part of the northern volcanic zone of the Abitibi greenstone belt, interpreted to result from island arc volcanism (Carriere, 2002; and references therein). There is a general progression in the region of the property from tholeiitic pillowed basalts northward into a mixed calc-alkaline volcanic succession. Previous studies have subdivided the nearby volcanic rocks into the Amos Group (tholeiitic), and the Figuery Group (tholeiitic to the south, and calc-alkalic in proximity to the Abcourt massive sulphide deposit.

Work Program and Personnel

Commencing the 16th of May a property reconnaissance was undertaken by geologists C.A. Wagg and Company President P.L. Jones in order to determine whether traverse mapping and detailed prospecting were likely to encounter new outcrops and produce sufficient lithogeochemical data for a well-informed analysis and interpretation to be made by senior company consultants.

It was ascertained that thorough ground coverage was likely to produce new data, and subsequently C.A.Wagg and Val d'Or based technician Rene du Carufel completed 9 man-days of fieldwork on the property between May 20th-26th, 2003.

A total of 34 rock samples numbered from 1012 through 1045 were collected from the area, with most tested for Au, Cu, and Zn content as well as major oxide geochemistry, CO2 and S. 32 lithogeochemical analyses were completed, with the two samples not similarly tested being vein quartz and analysed for Au only.

Accurate locations for rock samples and any outcrops encountered were determined by a hand held GPS receiver model Garmin GPS-12 (12 channel) generally to an instrument produced precision of an approximate five metre radius.

Sample UTM coordinates and descriptions are included as Appendix 1 following the report. Sample sites are depicted on the geological map accompanying this report, and analytical results, sample preparation and analysis methods are presented in Appendix 2.

Property Geology

The work completed over the period May 20th-26th has confirmed the general distribution and attitude of the volcanic rock units presented on Inmet geological compilation maps. Large portions of the area studied are of low relief and exhibit no bedrock exposure, particularly the approx. 800m stratigraphic interval between the large intermediate volcanic outcrop near the northeastern corner of the property, and the band of moderately well exposed felsic and basaltic rocks along and to the south of the powerline.

The large intermediate outcrop in the northeast was observed to contain a few percent pale weathering angular fragments, and has been interpreted as being of tuffaceous origin. A fragment poor bed of lapilli tuff found near its southeast edge is conclusively a product of pyroclastic volcanism.

In the central and southern part of the property pillowed basalts appear to be of tholeiitic composition. Well exposed outcrops scuffed clean by logging machinery offered a number of opportunities for top determinations in pillowed flows. Without exception all indications are that flow tops suggest southward younging. A few exposures of subtly graded upward-fining felsic tuff suggest a similar younging southward. Observed contacts and foliation fabrics dip steeply to the north indicating that bedding is overturned.

An isolated felsic tuff outcrop near the southwest corner of the claimgroup was not found during previous work by Inmet. Three distinct felsic tuffaceous units are present, one a narrow horizon including abundant cherty fragments up to 10cm by 25cm, and best described as tuff- breccia or coarse lapilli tuff. To the north from this location there is a lack of bedrock exposure for a 150m to 200m stratigraphic section, and the possibility exists for other felsic units to occur through this interval. No graphitic material was observed along along any of the flow contacts encountered during field studies, and any geophysical conductors situated between the isolated felsic outcrop and the previously mapped felsic horizon(s) to the north seem likely to be due to the presence of sulphide mineralisation.

That being said, the "gossan" noted to occur beneath the hydroelectric line on existing maps is merely rust staining several square metres in size, rather than a limonite/goethite rich saprolite of substantial dimensions, which the use of the term generally implies. At the location, a few percent mixed pyrite-pyrrhotite is present within locally siliceous interflow sediment a metre or so thick, occurring between two mafic flows. Pale jade-coloured cherty material is present in limited abundance, but appears unlikely to be the product of vent proximal exhalative activity.

The chert units noted within the more southern ~100m thick felsic horizon known within the mapped block were typically only millimetres to a few centimetres in thickness, interspersed within thinly bedded tuffaceous to epiclastic sediments.

Metre thick pyroclastic beds in the same vicinity include rhyolitic to cherty fragments of more substantial dimensions, and interpretaion of geochemical analyses should determine whether or not these units hold potential along strike or at depth for significant base metal mineralisation.

Among the glacially transported debris observed within till, there are two significant lithologies present which may suggest metallic mineralisation of economic interest within the claimblock examined. The first is a locally common light grey weathering, concrete-like, fragment rich heterolithic lapilli tuff, which contains occasional sub-cm pure pyrite-pyrrhotie lapilli. The mixed lapilli include a blackish shaly sediment subordinate to fragments of intermediate to felsic composition, all of which are sharply angular, and which range from about 1-3cm in average dimensions.

In retrospect this boulder population should perhaps have been studied and sampled in some detail, as the 30cm to 50cm sized blocks are likely to have been shed by either the unexposed northern felsic horizon known within the claimblock, or from the Abcourt Mine area.

A second significant population of boulders observed within till is a generally subrounded strongly iron carbonate altered basalt usually containing accessory pyrite, and with common cm-thick quartz veinlets. The species ranges from sub metre to about 3m in daimeter and was encountered in considerable abundance along the northeastern limit of common outcrop in the midportion of Lots 22 and 23.

Lithogeochemical Interpretation

Senior Company consulting geochemist J.M. Franklin, P.Geo., FRSC has examined the data generated by the mapping and sampling program, and his technical evaluation and interpretation are reproduced in their entirety as Appendix 2.

As is noted in the appended report, the lack of even distribution of samples\analyses across the project area limits the area to which his conclusions may be applied, to that part of the claims where bedrock is exposed in moderate abundance.

Two zones of anomalously altered bedrock have been discriminated, on the basis of sodium depletion, and potassium, alumina and manganese enrichment. Both zones occur along the trend of the more southerly of two pyroclastic felsic horizons known upon the property. Two "target areas" have been identified along this trend, largely due to sample distribution rather than intense alteration over a limited area.

Due to the occurrence of andesitic volcanic units in proximity to this felsic horizon, the geophysical conductor which it hosts has been determined as reasonably prospective for the occurrence of massive sulphide bodies. Trenching near the western end of the conductor has been recommended, as has obtaining

lithogeochemical survey data for other parts of the Inmet property, and for the Barvue Mine area.

Discussion

Only trace level copper and zinc sulphides were observed during the program, noted within a few of the pyrrhotite and pyrite bearing intermediate to felsic tuffaceous rocks, and it is unsurprising that only economically insignificant concentrations of these metals are indicated by laboratory analyses. Nor were there any intensely chloritised or sericitised zones or lithological units encountered, which might have suggested proximity to a paleo-seafloor hyrdothermal discharge zone with the potential for "VMS-type" accumulations of massive sulphides.

Outcrop is rare across the area examined, and although sufficient sampling was accomplished on the southern "half" of the claimgroup in order to assess the nature and significance of alteration processes to which that part of the area was subjected, little has been revealed which might help assess the merits of geophysical conductors known in the northern part of the claimblock.

Bedrock geochemistry has been interpreted as moderately prospective for base metal enriched VMS-type massive sulphides, but as has been the case with previous work in the area, limited bedrock exposure across the property continues to be problematic in terms of identifying specific areas exhibiting the most intense alteration present on the claimblock.

Although the analytical values returned by samples from sparsely quartz veined iron-carbonate altered basalt boulders are not statistically anomalous among the other exposed lithologies of the area, their abundance and prevalance in comparison to other rock types does suggest a local and possibly sizeable source area within the unexposed basalt-underlain area immediately to the northeast; the presence of which may signify and in part confirm that VMS forming processes have affected a broad area within the footwall strata to a prospective geophysical conductor.

A quite limited program of hand auger basal till sampling could be conducted along the margin of the outcrop area where the altered boulders occur, and the results for gold compared to values from reverse-circulation holes elsewhere in the Swanson Project area, or to a few samples concurrently obtained from down-ice of the Swanson gold occurrence, in order to more fully test mineral potential of the unexposed northern section of the claimblock.

For the couple of thousand dollars such an excercise would cost, it should be given consideration prior to allowing claims in the area to lapse.

Conclusions and Recommendations

1. There is insufficient data available at present to comment on the potential of geophysical conductors known within the northern felsic horizon on the property.
2. The westerly end of the conductor within the southern felsic horizon is the most prospective area identified by the survey, with strong alteration present in the immediately adjacent units.
3. The occurrence of andesitic volcanic units within the project add to the area`s economic potential, by virtue of the recognized association between andesitic volcanism with VMS productive mining camps.
4. More lithogeochemical data should be obtained from various sources

   for the Barville region, and would be complemented by the completion of a short trenching program in the target area defined by this study.

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CERTIFICATE

I, Christopher A. Wagg, residing at R.R. #1, in the village of Denbigh, Province of Ontario K0H 1L0, do hereby attest and certify that:

1. I hold a Bachelor of Science Degree in Honours Geology, conferred in May of 1989 at the University of Western Ontario, in London, Ontario, Canada.

2. I have been self-employed as a geological consultant since 1987, have been practising my profession continuously since 1989, and have operated as a private Ontario Corporation since 1991.

3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan, since November of 1999, and currently an application for membership in the Association of Professional Geoscientists of Ontario is pending review.

4. My examination and reporting concerning the Barville area claimgroup of Phoenix Matachewan Mines Inc. has been conducted in all respects as an objective and independent professional consultant.

5. I hold 75, 000 shares of Phoenix Matachewan Mines Inc. as a result of an unrelated exploration property transaction, however, I hold no interests, direct or indirect, in the Swanson Project property, or in any other lands in the surrounding region.

Dated this 11th day of June, 2003 at Val d"or, Quebec.

Christopher A. Wagg, B.Sc. P.Geo.

President, WAGG Mineral Exploration and Consulting Inc.

Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
Wagg Mineral Exploration and Consulting Inc.
Number 01027
Permission to Consult held by:
Discipline Sk. Reg. No. Signature
Geology 10884

PROFESSIONAL GEOSCIENTIST SASKATCHEWAN
C.A. WAGG
MEMBER 10884
03 06 11
YR MN DAY

APPENDIX 1

TABLE OF SAMPLE LOCATIONS AND DESCRIPTIONS

Wypt	E NAD83	N NAD83	UTM Zone	code/samp#	Structure		Description
54	301721,8	5376521	18U	ITUFF			Deep grn fresh,rare s.rnd lap to 2cm
54A	301725	5376521	18U	RS1012			ITUFF tr py 2-3%sm. frag
55	301717,1	5376512	18U	ITUFF	120/75N	fol	NE edge lg. mapped o/c
56	301750,4	5376500	18U	ITUFF			x-size o/c;5sec. trk defines lg. o/c
57	301760,5	5376493	18U	ITUFF			x-size o/c
58	301767,5	5376478	18U	ITUFF			x-size o/c
59	301710,1	5376503	18U	RS1013			AND'c BSLT 30-40% fsp
60	301689,8	5376467	18U	BSLT			x-size o/c
61	301699,7	5376401	18U	RS1014			rusty+pale weath tuff w. defm'd ch
61A	301701	5376400	18U	ITUFF	120/75N	contact	N edge of "felsic" horizon
62	301709,6	5376420	18U	BSLT			x-size o/c, mod sh'd
63	301660,5	5376425	18U	BSLT			x-size o/c
64	301658	5376432	18U	BSLT			x-size o/c
65	301638,8	5376415	18U	BSLT			x-size o/c
66	301615,8	5376429	18U	PBSLT			x-size o/c
67	301607,1	5376427	18U	PBSLT			x-size o/c
68	301615	5376382	18U	RS1015			Bslt w. 1-2% diss. po, ess. unalt'd
68A	301615,5	5376382	18U	BSLT			massive, mg
69	301621,4	5376384	18U	BSLT			N end of same o/c
70	301611,5	5376373	18U	FTUFF	098/-90to80N	contact	Major cont Bslt to N, fels w.CH bands to S
70A	301611,5	5376372	18U	RS1016			sh'd FTUFF w. 0.3-1m CH beds
71	301598,1	5376362	18U	FTUFF			felsic, likely tuffaceous
72	302630,7	5377104	18U	AND			NE corner of lg. o/c area S of Zn mine
73	302611	5377087	18U	RS1017	350/75W	fol	IVOLC amyg 3-4% calc tr-1py
74	302604,9	5377070	18U	QV	090/-90	bedding	sm. qv <10cm wide
75	302587,5	5377026	18U	RS1018			IVOLC sil,ep,calc alt 1-2%py
76	302612	5376968	18U	AND			2 mapped x off main o/c, bl'd
77	302634,7	5376993	18U	ITUFF			5% fels-CH lap, most cm, occ. to15x4cm
78	302632,8	5376995	18U	RS1019	120/70NE	bedding	ITUFF 5% chert lap some to 5x15cm
79	300906,4	5376726	18U	PBSLT			Top SW, 1mx20-30cm
80	300960	5376649	18U	PBSLT	095/75N	bedding	Top likely SW, stretched 8-10:1
81	300969,3	5376630	18U	PBSLT			x-size o/c
82	300995,6	5376634	18U	PBSLT			x; area has comm. lg fe-carb Bslt BLD
83	300998,8	5376623	18U	PBSLT			x; area has ang. I-F lap tuff BLD
84	300984,4	5376608	18U	PBSLT			x-size o/c
85	300936,6	5376581	18U	PBSLT			x-size o/c

86	300924,8	5376573	18U	BSLT			likely massive
87	300908,5	5376570	18U	BSLT			mg
88	300904	5376566	18U	CH	100/78-80N	bedding	Bedding w.in FTUFF/epiclastics
89	300903,6	5376566	18U	RS1020			FTUFF no sulphide
90	300887,9	5376549	18U	BSLT			ep-sil alt'd; poss. immense BLD
91	300824,6	5376589	18U	BSLT			
92	300825,2	5376597	18U	PBSLT			
93	300824,2	5376599	18U	RS1021			PBSLT ep ab qtz alt'd core
94	300830,1	5376608	18U	PBSLT			
95	300824,6	5376622	18U	PBSLT			
96	300761,8	5376515	18U	BSLT	050/70SE	jointing	mass synv sill AND'c;x-fr 050/70SE
97	300739,7	5376519	18U	QV	360/70E	bedding	in sill;
98	300721	5376529	18U	SZ	095/75N	bedding	mass BSLT to S, maf fl-bx to N
98A	300722	5376529		RS1022			SZ betw 2 bslts 3-4% eu. py
99	300730,9	5376564	18U	CH	108/80-82N	bedding	SE pt of o/c
100	300731	5376565	18U	FTUFF			3m of reworked? ash-lap w.mm-cm CH
101	300721,3	5376571	18U	CH			NW edge of o/c
102	300734,5	5376563	18U	RS1023			Tf/Sed w minor CH 1-2%pypo tr spcp
103	300737,2	5376561	18U	RS1024			CH .5m from N cont; 2.5m thick tr py
104	300719,3	5376571	18U	RS1025			.3m from S cont, N CH horiz.
105	300754,9	5376578	18U	CH			
106	300752	5376577	18U	BSLT			mass, porphyritic
107	300751,1	5376574	18U	FTUFF			
108	300752,3	5376561	18U	CH			
109	300750,6	5376558	18U	FTUFF			ext. of unit wpt 100
110	300732,2	5376508	18U	BSLT			mg, massive
111	300725,2	5376491	18U	BSLT			mg, massive
112	300725,3	5376404	18U	PBSLT			likely inmet mapped
113	300743,1	5376401	18U	PBSLT			likely inmet mapped
114	300722,9	5376370	18U	PBSLT			likely inmet mapped
115	300732,9	5376362	18U	RS1026			bl'd PBSLT
116	300778,1	5376528	18U	BSLT			
117	300782,8	5376584	18U	CH			dk grey flint, elsewhere grn-wh
118	300777,9	5376591	18U	RS1027			QV ang., 2 sm. pcs 2-3%popy
119	300793,6	5376653	18U	PBSLT			x-size o/c
120	300790,2	5376669	18U	PBSLT			x-size o/c
121	300784	5376674	18U	PBSLT			x-size o/c

122	300785,7	5376676	18U	PBSLT			NE end lg mapped o/c
123	300755,8	5376717	18U	ITUFF			poss. flow mat'l
124	300756,7	5376754	18U	BSLT	095/70N	bedding	maf tf-bx/aggl/welded tuff
125	300783	5376758	18U	BSLT			maf pyroclastic as above
126	300476,1	5376838	18U	BSLT			NW edge mapp.o/c
126A	300478	5376836	18U	FDYKE	150/-90	bedding	15cm wide
127	300484,8	5376839	18U	FDYKE	040/?	strike	int-felsic
128	300468,8	5376800	18U	RS1028			mass BSLT
129	300544,3	5376781	18U	BSLT			mass; 20m from NE limit
130	300468,2	5376739	18U	BSLT			mass, mod. sh'd, tr po
130A	300470	5376739	18U	RS1029			mass, mod. sh'd, tr po
131	300512,3	5376686	18U	BSLT			poss. BLD;fe-carb adj to qs
132	300694,5	5376712	18U	PBSLT			
133	300776,9	5376696	18U	CONT	102/78-80N		sh'd fl-cont? Inmet "gossan"sed?
133A	300776	5376696	18U	RS1030			2-3% fr-fill py tr po in sh'd flow cont
134	300843,9	5376717	18U	PBSLT			
135	300853,4	5376718	18U	ITUFF			Tuff-bx w.maf gmass, fel frag
136	300860,6	5376708	18U	ITUFF			as above, freq bomb-size lapilli
137	300898,4	5376722	18U	RS1031			QV in fe-carb lg. BLD tr-1 py
138	300291,4	5377435	18U	RS1032			BA-01 94.2-94.5m; banded po-cp at ~95m
138A	300291	537745		CUL			DDH core at rd-PL junction
139	300114,7	5376465	18U	BSLT	100/75N	bedding	pill-bx/fl-bx
139A	300116	5376465	18U	IDYKE	102/78N	bedding	fg, 40cm wide
140	300104,1	5376471	18U	PBSLT			AND? poss. sil 1% fg py
140A	300105	5376471	18U	RS1033			mod fe-carb,fol, 1% fg py
141	300087,9	5376460	18U	RS1034			sim to prev, bl'd pill core
142	302296,9	5375885	18U	CUL			N-S old frnceposts
143	302464,2	5375725	18U	CUL			E-W blz line prop. boundary?
144	302311,2	5375989	18U	CUL			S side old RR bridge
145	301165,2	5376122	18U	CUL			NE edge lg winter cut
146	301008	5376163	18U	CUL			E limit lg. open cut
147	301309,9	5375806	18U	CUL			cabin
148	301403,2	5375807	18U	BSLT			S tip of sm. N-S ridge
148A	301404	5375807	18U	RS1035			massive
149	301398,2	5375834	18U	BSLT			sim. to prev. poor exposure
150	301420,5	5375826	18U	PBSLT			.8x.6m pill. tops to S
151	301404,1	5375844	18U	PBSLT			

152	301407,6	5375863	18U	RS1036			Pbslt, tr py
153	301427	5375840	18U	PBSLT			NE edge of o/c area
154	301630,8	5375826	18U	CUL			B.D. tree stand 40m NE
155	301248,6	5376564	18U	PBSLT			S end 10mx3-4m o/c,SY bld
155A	301249	5376564	18U	RS1037			sh'd weakly rusty weath
156	301245,6	5376571	18U	PBSLT			
157	301238,1	5376548	18U	PBSLT			
158	301127,2	5376497	18U	BLD			LTUFF, sm mixed ang frag
159	301134,1	5376502	18U	BSLT			mg massive
160	301136	5376500	18U	RS1038			mass bslt, ep alt, tr po
161	301087,5	5376373	18U	CUL			end of log rd. from NW
162	301116	5376292	18U	CUL			old gridline at 016-020
163	301105,3	5376248	18U	CUL			2nd pt on same line
164	301010,1	5376246	18U	CUL			E limit lg. cut ~005 to PL
165	300921,4	5376126	18U	CUL			end of log rd ext to PL and N
166	300759,8	5376315	18U	BLD			ITUFF/TFBX frag to 10x15cm
167	300734,5	5376361	18U	BSLT			mg mass sill, 4 sm. o/c NW
167A	300734	5376361	18U	RS1039			mg massive, Cl~50
168	300725,4	5376372	18U	CONT			unexposed, PBSLT to NE
169	300579	5376339	18U	ITUFF			5m diam o/c fg laptuff to S
170	300579,1	5376340	18U	CONT	090/80N	bedding	crs laptuff to tf-bx 1.5m thick to S
171	300581	5376339	18U	RS1040			fg tuff 5-10% sm fragments
171	300581	5376340	18U	RS1041			mainly fragments in tf-bx, tr py
172	300533,6	5376310	18U	PBSLT			SE end of o/c
173	300528,2	5376316	18U	PBSLT			NW end same o/c
174	300531,6	5376310	18U	RS1042			fresh pbslt
175	300731,9	5376488	18U	BSLT			massive, likely a sill
176	300790,9	5376542	18U	ITUFF	107/82-84N	bedding	2m exp fine laptuff
177	300781	5376556	18U	RS1043			BLD fe-carb alt BSLT, 2% py
178	301361,3	5376206	18U	CUL			old BL ~095deg
179	301345	5376194	18U	CUL			N-S wide old line, prop bound?
180	301465,6	5376939	18U	CUL			tree stand
181	301583,3	5377208	18U	CUL			open old N-S rd
182	301607	5377194	18U	CUL			treestand
183	301575,9	5377019	18U	CUL			2nd pt on N-S rd
184	300972,4	5376697	18U	BSLT			massive, 4m diam
185	300961,2	5376693	18U	PBSLT			x-size

186	300959,2	5376704	18U	PBSLT			3m diam			
187	300948,9	5376715	18U	PBSLT			x-size			
188	300876,8	5376717	18U	RS1044			BLD fe-carb bslt, 1-2% py			
189	300873,9	5376736	18U	RS1045			BLD as above 2% qs			

APPENDIX 2

ANALYTICAL CERTIFICATES AND METHODS

Laboratoire Expert Inc

127, Boulevard Industriel
Rouyn-Noranda, QC, J9X 6P2
Tel.: (819) 762-7100 Fax.: (819) 762-7510

*** Certificate of analysis ***

Date : 2003/05/29
Page : 1 of 2

Client : **Phoenix Matachewan Mines Inc.**

Addressee : **Paul Jones**
2965 SableRidge Drive
Ottawa
Ontario Tel.:
Canada K1T 3X2 Fax.:

Folder : **215**
Your order number :
Project : **PQ-1**

Number of samples: **28**

Designation	Au FA-GEO ppb 2	Au-Dup FA-GEO ppb 2	Au FA-GRA g/t .03	Cu AAT-7 ppm 2	Cu-Dup AAT-7 ppm 2	Zn AAT-7 ppm 2	Zn-Dup AAT-7 ppm 2
[redacted]	[redacted]	[redacted]					
1012	7			72		111	
1013	12	10		84	78	107	112
1014	7			68		63	
1015	10			122		81	
1016	3			8		24	
1020	7			6		24	
1021	9			78		90	
1022	14			22		74	
1023	10			52		90	
1024	12.			12		48	
1025	45			24		17	
1026	9			30		34	
1027	10			84		109	
1028	10	10		12	12	115	115
1029	9			10		142	

Autre Projet

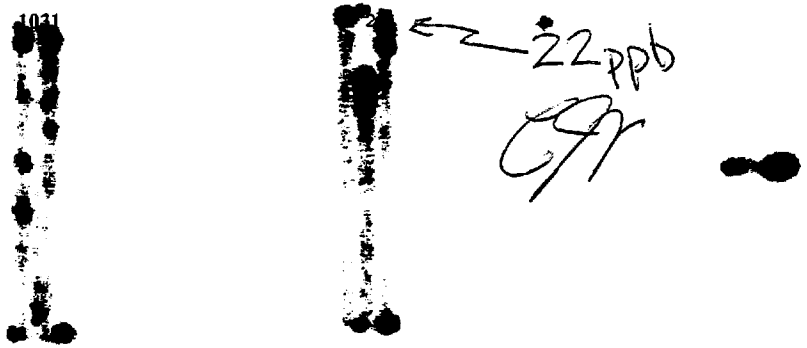
Joe Landers, Manager

Laboratoire Expert Inc
127, Boulevard Industriel
Rouyn-Noranda, QC. J9X 6P2
Tel.: (819) 762-7100 Fax.: (819) 762-7510

*** Certificate of analysis ***

Client :	**Phoenix Matachewan Mines Inc.**		
Addressee :	**Paul Jones** 2965 SableRidge Drive Ottawa Ontario Canada K1T 3X2	Tel.: Fax.:	Folder : **215** Your order number : Project : **PQ-1** Number of samples: **28**

Designation	Au FA-GEO ppb 2	Au-Dup FA-GEO ppb 2	Au FA-GRA g/t .03	Cu AAT-7 ppm 2	Cu-Dup AAT-7 ppm 2	Zn AAT-7 ppm 2	Zn-Dup AAT-7 ppm 2
1030	7			12		113	
1031	[illegible]						



Joe Landers, Manager

Laboratoire Expert Inc

127, Boulevard Industriel
Rouyn-Noranda, QC, J9X 6P2
Tel.: (819) 762-7100 Fax.: (819) 762-7510

*** Certificate of analysis ***

Date : 2003/05/30
Page : 1 of 1

Client : **Phoenix Matachewan Mines Inc.**

Addressee : **Paul Jones**
2965 SableRidge Drive
Ottawa
Ontario Tel.:
Canada K1T 3X2 Fax.:

Folder : **223**
Your order number :
Project : **PO-1**

Number of samples: **13**

Designation	Au FA-GEO ppb 2	Au-Dup FA-GEO ppb 2	Cu AAT-7 ppm 2	Cu-Dup AAT-7 ppm 2	Zn AAT-7 ppm 2	Zn-Dup AAT-7 ppm 2
1017	12	10	23	21	104	103
1018	7		78		64	
1019	7		16		109	
1032	12		52		64	
1033	9		30		50	
1035	21		6		37	
1036	10		58		72	
1040	9		40		45	
1041	9		25		46	
1042	14		18		62	
1043	8					
1044	7					
1045	3					

Joe Landers, Manager

Activation Laboratories Ltd. Work Order No. 27805 Report No. 27571D

Sample name	Al2O3 (%)	CaO (%)	Cr2O3 (%)	Fe2O3 (%)	K2O (%)	MgO (%)	MnO (%)	Na2O (%)	P2O5 (%)	SiO2 (%)	TiO2 (%)	LOI (%)	Total (%)
1002	12.29	4.85	0.01	14.02	0.30	4.17	0.164	1.82	0.10	48.95	1.29	10.15	98.11
1004	14.66	7.29	0.02	9.85	2.06	3.09	0.214	1.89	0.12	43.80	1.63	14.58	99.20
1005	15.91	1.51	0.04	1.84	1.31	0.24	0.041	6.09	0.10	69.74	0.26	2.32	99.40
1006	11.01	7.51	0.01	17.11	1.20	4.30	0.284	1.32	0.07	35.38	0.99	19.07	98.26
1007	13.38	7.52	0.01	7.84	0.99	3.87	0.164	1.81	0.12	47.55	1.37	13.53	98.15
1008	13.52	4.48	0.01	11.73	0.07	5.93	0.218	2.24	0.08	52.14	1.19	6.79	98.39
1011	11.17	9.40	0.01	11.71	1.91	4.21	0.229	1.06	0.07	40.71	0.91	17.57	98.98
1012	13.39	8.35	0.02	15.58	0.07	4.78	0.176	1.41	0.12	48.36	1.51	4.43	98.20
1013	13.51	8.40	0.02	16.62	0.42	4.45	0.256	2.25	0.15	48.65	1.56	3.87	100.16
1014	13.73	15.05	0.03	9.39	0.29	2.41	0.181	0.71	0.12	51.69	1.48	3.81	98.89
1014 REP	13.63	15.09	0.03	9.42	0.29	2.39	0.180	0.70	0.12	51.72	1.47	3.81	98.85
1015	12.20	7.06	0.01	17.53	0.24	5.96	0.210	1.61	0.15	49.43	1.95	3.28	99.63
1016	13.02	0.31	<0.01	2.59	5.01	1.37	0.027	0.48	0.04	73.14	0.23	2.26	98.48
1020	11.75	3.51	<0.01	2.41	3.63	0.73	0.042	0.21	0.04	72.49	0.26	3.68	98.75
1021	13.55	10.78	0.03	13.99	0.20	3.03	0.255	1.85	0.13	49.41	1.54	3.94	98.71
1022	14.24	9.93	0.01	10.27	0.18	3.03	0.243	2.42	0.17	51.64	0.70	5.59	98.43
1023	16.47	3.62	0.01	8.57	3.40	3.92	0.105	2.89	0.20	55.40	0.70	2.76	98.05
1024	13.30	0.87	<0.01	3.87	1.04	0.89	0.056	5.81	0.08	70.29	0.40	1.35	97.96
1025	11.02	1.48	0.02	1.96	0.77	0.55	0.021	4.78	0.03	77.38	0.14	0.68	98.83
1026	15.05	15.09	0.03	5.56	0.60	2.40	0.144	2.63	0.09	48.33	0.31	9.31	99.54
1027	4.13	1.88	0.03	2.70	0.77	0.11	0.019	1.19	0.03	85.79	0.14	1.28	98.07
1027 REP	4.10	1.86	0.02	2.69	0.76	0.12	0.017	1.19	0.03	85.82	0.13	1.28	98.02
1028	14.06	2.18	<0.01	11.62	0.20	2.93	0.143	4.55	0.39	59.73	1.28	2.67	99.75
1029	14.36	2.25	<0.01	12.24	0.32	3.44	0.165	4.22	0.44	56.60	1.30	2.79	98.13
1030	11.63	1.22	0.02	19.18	0.24	3.30	0.303	3.38	0.12	51.69	1.44	5.81	98.13
W-2	15.29	10.95	0.01	10.88	0.68	6.37	0.167	2.27	0.13	52.19	1.10		
W-2 (cert)	**15.35**	**10.87**	**0.01**	**10.74**	**0.63**	**6.37**	**0.160**	**2.14**	**0.13**	**52.44**	**1.06**	diabase	
SY-3	11.65	8.33	<0.01	6.45	4.19	2.68	0.326	4.08	0.55	59.41	0.15		
SY-3 (cert)	**11.76**	**8.25**		**6.49**	**4.23**	**2.67**	**0.320**	**4.12**	**0.54**	**59.68**	**0.15**	syenite	
SGR-1	6.56	8.43	<0.01	2.99	1.55	4.40	0.033	2.98	0.28	28.27	0.25		
SGR-1 (cert)	**6.52**	**8.38**		**3.03**	**1.66**	**4.44**	**0.034**	**2.99**	**0.33**	**28.24**	**0.26**	shale	
BE-N	10.11	14.11	0.05	13.03	1.42	13.21	0.205	3.24	1.09	36.65	2.72		
BE-N (cert)	**10.07**	**13.87**	**0.05**	**12.84**	**1.39**	**13.15**	**0.200**	**3.18**	**1.05**	**36.20**	**2.61**	basalt	
DNC-1	18.65	11.48	0.04	10.12	0.25	10.21	0.152	1.96	0.08	47.35	0.51		
DNC-1 (cert)	**18.30**	**11.27**	**0.04**	**9.93**	**0.23**	**10.05**	**0.149**	**1.87**	**0.09**	**47.04**	**0.48**	dolerite	

Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "(" which are information values

Activation Laboratories Ltd. Work Order No. 27805 Report No. 27571C

Sample name	Ba (ppm)	Sr (ppm)	Y (ppm)	Zr (ppm)	Nb (ppm)
1002	60	93	33	96	5
1004	378	172	33	106	6
1005	885	449	7	145	6
1006	240	189	25	81	5
1007	185	143	25	95	6
1008	67	76	26	79	5
1011	525	216	23	64	4
1012	29	185	34	106	6
1013	180	172	40	122	7
1014	268	103	35	104	7
1014 REP	274	104	35	104	7
1015	80	123	43	126	7
1016	925	16	17	182	5
1020	658	77	17	176	5
1021	93	192	37	108	6
1022	74	283	26	170	7
1023	753	157	19	135	5
1024	214	75	23	231	7
1025	199	75	45	210	17
1026	134	255	10	63	4
1027	158	40	18	142	5
1027 REP	148	40	19	143	6
1028	49	52	33	188	9
1029	98	29	36	193	10
1030	98	18	30	105	6
BE-N	1012	1370	29	270	122
BE-N (cert)	**1025**	**1370**	**30**	**260**	**105**
OKA-1	3867	13313	26	79	3711
OKA-1 (cert)	**(10000**				**3700**
STM-1	561	683	50	1233	270
STM-1 (cert)	**560**	**700**	**46**	**1210**	**268**
MRG-1	59	274	15	114	26
MRG-1 (cert)	**61**	**266**	**14**	**108**	**20**
MAG-1	485	136	27	134	16
MAG-1 (cert)	**479**	**146**	**28**	**126**	**12**
DNC-1	117	146	19	48	4
DNC-1 (cert)	**114**	**145**	**18**	**41**	**3**

Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "(" which are information values

Activation Laboratories Ltd. Work Order No. 27808 Report No. 27573D

Sample name	Al2O3 (%)	CaO (%)	Cr2O3 (%)	Fe2O3 (%)	K2O (%)	MgO (%)	MnO (%)	Na2O (%)	P2O5 (%)	SiO2 (%)	TiO2 (%)	LOI (%)	Total (%)	
1034	15,19	10,04	0,04	8,77	0,28	4,59	0,166	2,23	0,16	53,86	0,50	3,13	98,95	
1037	14,42	5,89	0,03	13,99	0,34	4,45	0,208	4,04	0,14	51,80	1,67	2,78	99,76	
1038	13,89	10,88	0,02	12,13	0,06	5,66	0,222	1,50	0,08	47,92	0,90	5,01	98,28	
1039	14,85	8,24	0,06	8,40	0,13	5,81	0,157	2,79	0,15	53,89	0,54	4,42	99,44	
1039 REP	14,73	8,27	0,06	8,39	0,14	5,84	0,156	2,79	0,15	54,02	0,54	4,42	99,51	
W-2	15,29	10,95	0,01	10,88	0,68	6,37	0,167	2,27	0,13	52,19	1,10			
W-2 (cert)	**15,35**	**10,87**	**0,01**	**10,74**	**0,63**	**6,37**	**0,160**	**2,14**	**0,13**	**52,44**	**1,06**	diabase		
SY-3	11,65	8,33	<0.01	6,45	4,19	2,68	0,326	4,08	0,55	59,41	0,15			
SY-3 (cert)	**11,76**	**8,25**		**6,49**	**4,23**	**2,67**	**0,320**	**4,12**	**0,54**	**59,68**	**0,15**	syenite		
SGR-1	6,56	8,43	<0.01	2,99	1,55	4,40	0,033	2,98	0,28	28,27	0,25			
SGR-1 (cert)	**6,52**	**8,38**		**3,03**	**1,66**	**4,44**	**0,034**	**2,99**	**0,33**	**28,24**	**0,26**	shale		
BE-N	10,11	14,11	0,05	13,03	1,42	13,21	0,205	3,24	1,09	38,65	2,72			
BE-N (cert)	**10,07**	**13,87**	**0,05**	**12,84**	**1,39**	**13,15**	**0,200**	**3,18**	**1,05**	**38,20**	**2,61**	basalt		
DNC-1	18,65	11,48	0,04	10,12	0,25	10,21	0,152	1,96	0,08	47,35	0,51			
DNC-1 (cert)	**18,30**	**11,27**	**0,04**	**9,93**	**0,23**	**10,05**	**0,149**	**1,87**	**0,09**	**47,04**	**0,48**	dolerite		

Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "(" which are information values

Activation Laboratories Ltd. Work Order No. 27808 Report No. 27573C

Sample name	Ba (ppm)	Sr (ppm)	Y (ppm)	Zr (ppm)	Nb (ppm)
1034	90	91	17	83	6
1037	120	51	41	115	8
1038	25	177	24	69	4
1039	56	225	17	90	5
1039 REP	58	225	17	90	6
BE-N	1012	1370	29	270	122
BE-N (cert)	**1025**	**1370**	**30**	**260**	**105**
OKA-1	3867	13313	26	79	3711
OKA-1 (cert)		**(10000**			**3700**
STM-1	561	683	50	1233	270
STM-1 (cert)	**560**	**700**	**46**	**1210**	**268**
MRG-1	59	274	15	114	26
MRG-1 (cert)	**61**	**266**	**14**	**108**	**20**
MAG-1	485	136	27	134	16
MAG-1 (cert)	**479**	**146**	**28**	**126**	**12**
DNC-1	117	146	19	48	4
DNC-1 (cert)	**114**	**145**	**18**	**41**	**3**

Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "(" which are information values

APPENDIX 3

LITHOGEOCHEMICAL STUDY + INTERPRETATION

Petrochemical Aspects of the Inmet Property, Barvue Area, Abitibi, Quebec
For
Phoenix Matachewan Mines Inc
By
J.M. Franklin

Introduction

Phoenix Matachewan Mines Ltd collected about 20 samples for whole-rock and trace element analysis during the Spring of 2003. The area consists of a thick succession of Archean volcanic and sedimentary strata which are part of the Kidd-Monroe assemblage of the Abitibi belt. In a previous report, I outlined the discovery potential of the area, and this preliminary report will examine the new data for indicators of volcanogenic massive sulfide (VMS) deposit potential. The area consists of two felsic horizons, with intervening intermediate, mafic and ultramafic flows. The strata have been divided into two groups for purposes of this report. The northern section (Barvue section, Figure 1) contains the Barvue Mine and associated occurrences in a bimodal sequence of basalt and rhyolite, whereas the central and southern part of the area consists of another bimodal section, with poorly defined lithologies.

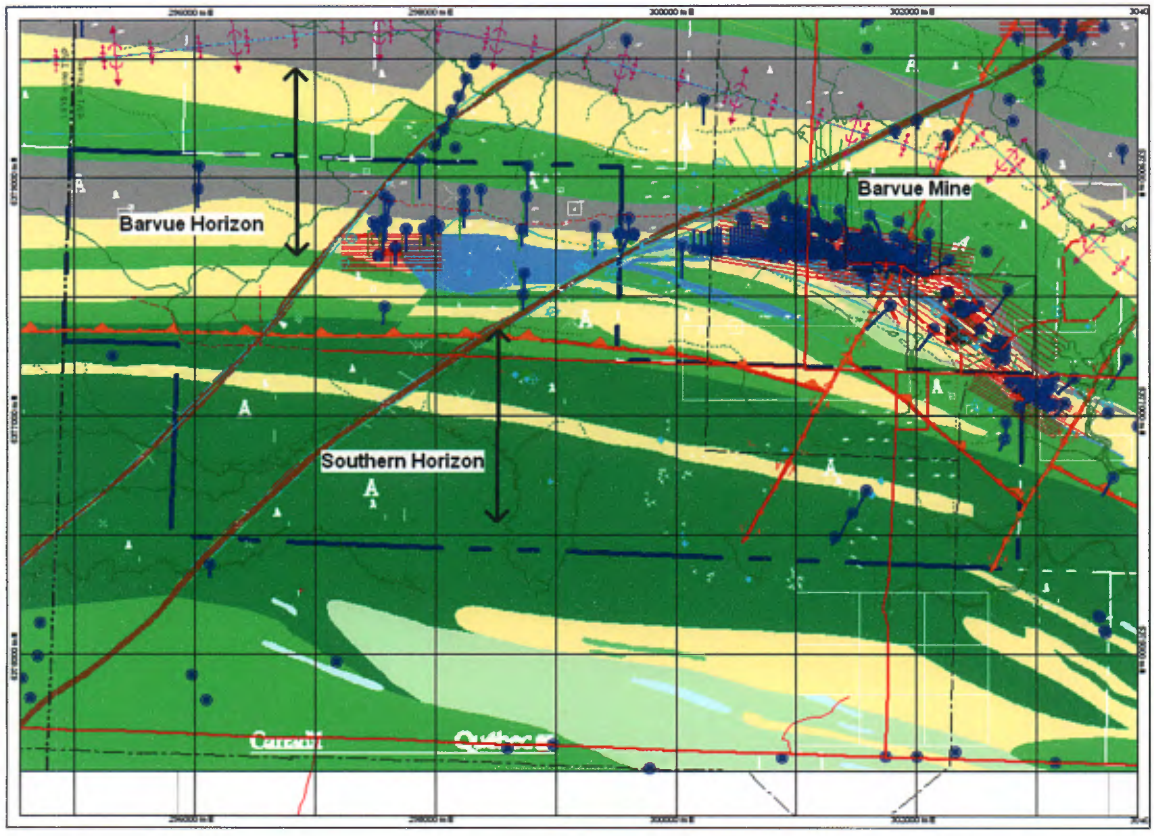


Figure 1: geology of the Barvue area, Abitibi Belt, Quebec

Based on the literature data and observations by Phoenix's field geologist, the sequence is south facing and steeply dipping, but not highly deformed. The compilation map shown in Figure 1 is based on data from the Quebec Geological Survey (MNR) and Inmet files. The Kidd Monroe assemblage contains significant ultramafic rock, and its felsic volcanic rocks are dominantly pyroclastic, compared to the predominance of flows in the VMS districts in the Noranda camp.

Data Analysis

The supplied data consisted of 20 samples that were analyzed for major and select minor elements. In addition, Inmet files contain data for an additional 28 samples, Noranda Mines Ltd supplied about 10 analyses, and the MRN files contain over 250 samples from the Barraute region, including some in the area of present interest.

Lithological classification

Several schemes are available that provide a basis for classifying the samples. In order to perform the classification the normative mineral contents and several key indices were calculated. Although all of the data sets were examined, only the new data are reported here.

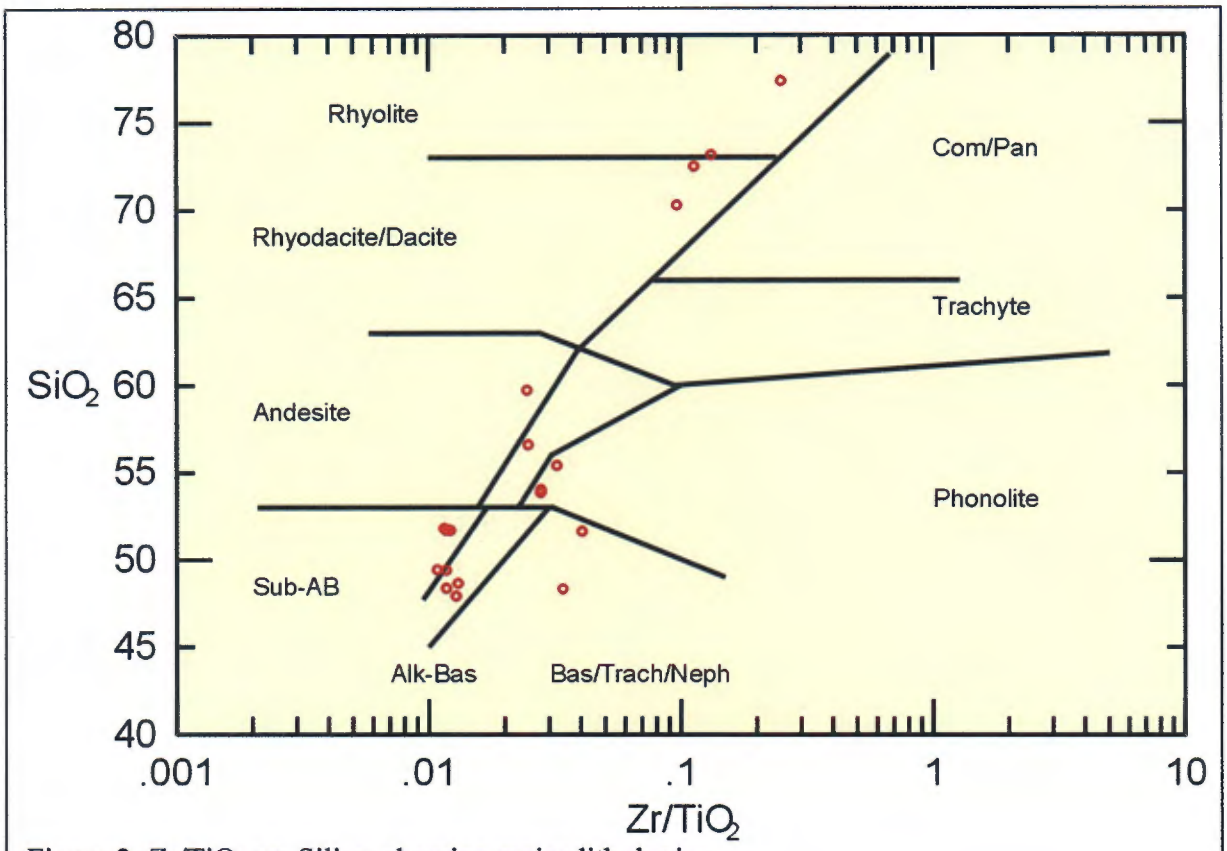


Figure 2: Zr/TiO_2 vs. Silica, showing major lithologies.

The first of these (Figure 2) shows that the data are strongly bimodal, and probably tri-modal. This is further investigated (Figure 3) using an immobile element ratio plot, and probability distributions (Figure 4).

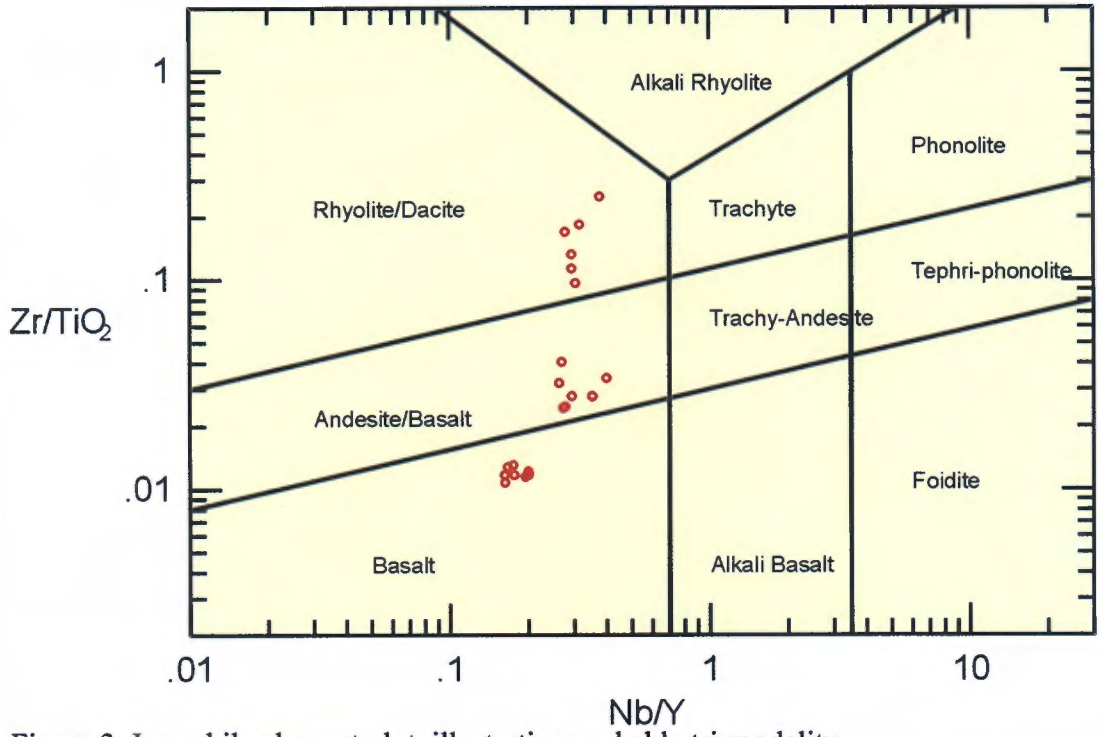


Figure 3: Immobile element plot, illustrating probable tri-modality.

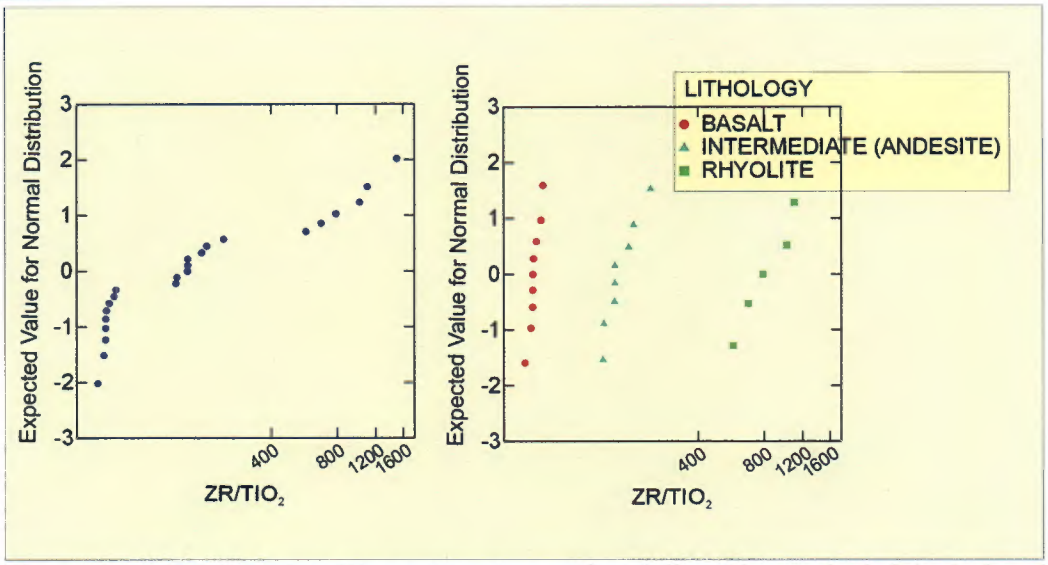


Figure 4: probability plots illustrating strong trimodality. Plot on the left includes all of the new data; on the right, the lithologies are separated

Figure 3 further illustrates the bimodality of the mafic suite, as well as the distinct separation of the felsic rocks. Figure 4 illustrates the clear separation of the three samples. Classification was done on the basis of the above two plots, and will be applied to all of the data available for the area in a future report.

The presence of a distinct intermediate or andesitic suite may be significant in the context of VMS potential. It has been noted in numerous districts such as Sturgeon Lake, Noranda, LaRonde and the Cenozoic VMS districts of Mexico and Peru, as well as in the modern system on the Galapagos Ridge, that andesite occurs preferentially near VMS deposits. The petrogenetic relationship is somewhat indirect, in that andesite seems to be generated by melt contamination, where excess heat in the mid-rust causes partial melting of hydrated basalt. This melting gives rise to both dacite-rhyolite as a distinct melt, and andesite by melt contamination. Excess heat indicates a large subvolcanic intrusive system, which usually "drives" upper crustal convective seawater circulation, a condition that usually leads to the formation of VMS districts. Thus the abundance of andesite in the Barvue region is a good indicator of VMS potential. In other districts, it most commonly occurs in the immediate hangingwall or footwall of the deposit, and is anomalously vesicular, typically forming abundant hyaloclastite. Further mapping should focus on these features.

I noted in examining the data that the samples appear to have excess volatile content (LOI). Although CO2 analyses were not available at the time of writing, I calculated the apparent CO2 content by assigning the appropriate amount of OH (calculated from the LOI) to the phyllosilicate minerals commonly present in greenschist-grade rocks. The difference between the LOI and the minimum OH content is likely CO2. Most of the samples seem to contain some excess volatile, which is probably in carbonate minerals. These are excellent indicators of proximity to VMS deposits, as their FE and Mn contents increase towards the deposits. Although this data set is too small to provide a good test of this, the possible relationship between excess Mn and VMS deposits will be examined below.

Alteration

The data are examined to determine if evidence of chemical alteration is present in the area. As no systematic study of the Barvue Mine is available, I relied on the typical indicators of alteration associated with VMS districts. These include Na depletion, excess alumina (as normative corundum), and anomalous Mn and K_2O contents above normal values. I relied on threshold values established in geologically similar districts, such as Noranda and Sturgeon Lake to establish possible anomalous contents.

Sodium:

Both Na depletion and excess Na characterize most VMS environments. Typically the footwall sequence is depleted in Na, due to excess local convection, which strips Na under low-T conditions. Na addition occurs under low water-rock conditions such as in the immediate hangingwall to many deposits. As well, Na enhancement may occur in lower semiconformable alteration zones (together with epidote).

The data clearly show both Na depletion and addition (Figures 5 and 6). In the southern assemblage, where the new data were collected, as well as the northern area, there are two zones of Na depletion, respectively.

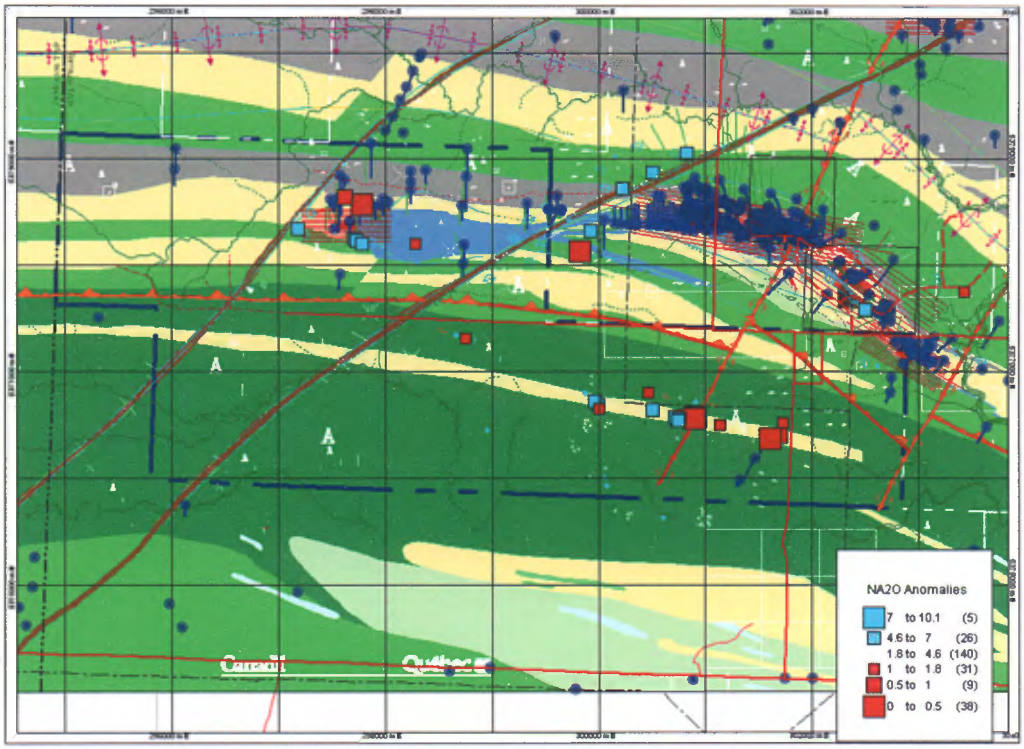


Figure 5: Na anomalies in the area of the Inmet property, illustrating areas of loss (red squares) and gain (turquoise squares)

Figure 5 illustrates that both horizons have distinct Na loss; the new data emphasize the importance of the southern area, which has not been extensively investigated. The southern area (Figure 6) has two apparent zones of Na depletion (this may be a sampling bias). The more easterly of these has been tested with three drill holes (which were drilled to the south of the target), but the western anomaly has not been examined. Outcrop is sparse here, so an intensive geophysical survey, possibly coupled with RC drilling, is recommended.

Excess Alumina:

Normative corundum is an excellent proxy for excess alumina, as the normative calculation adjusts for addition of Na or K. Thus normative corundum anomalies indicate strong alkali depletion, similar to that associated with acid-sulphate of acid-vapour styles of alteration. Excess alumina is always confined to the footwall sequences below VMS deposits.

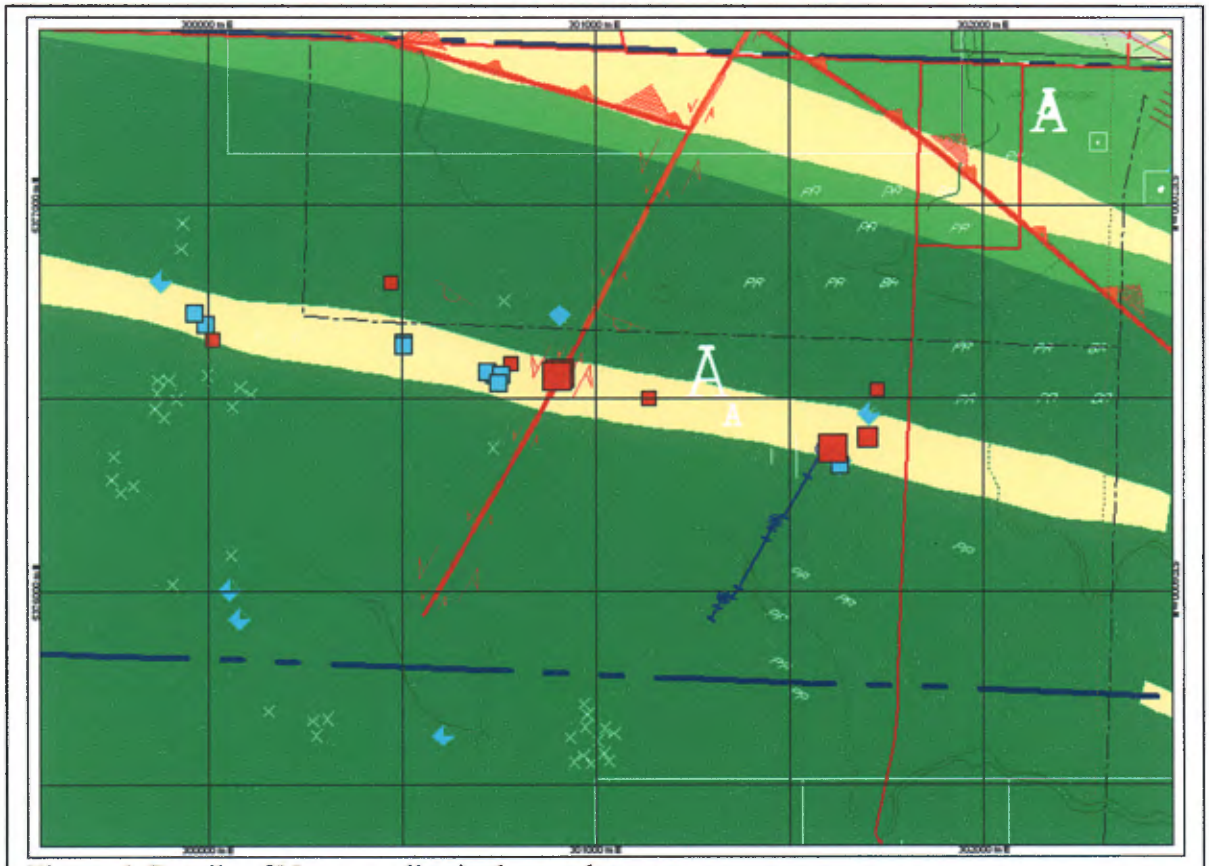
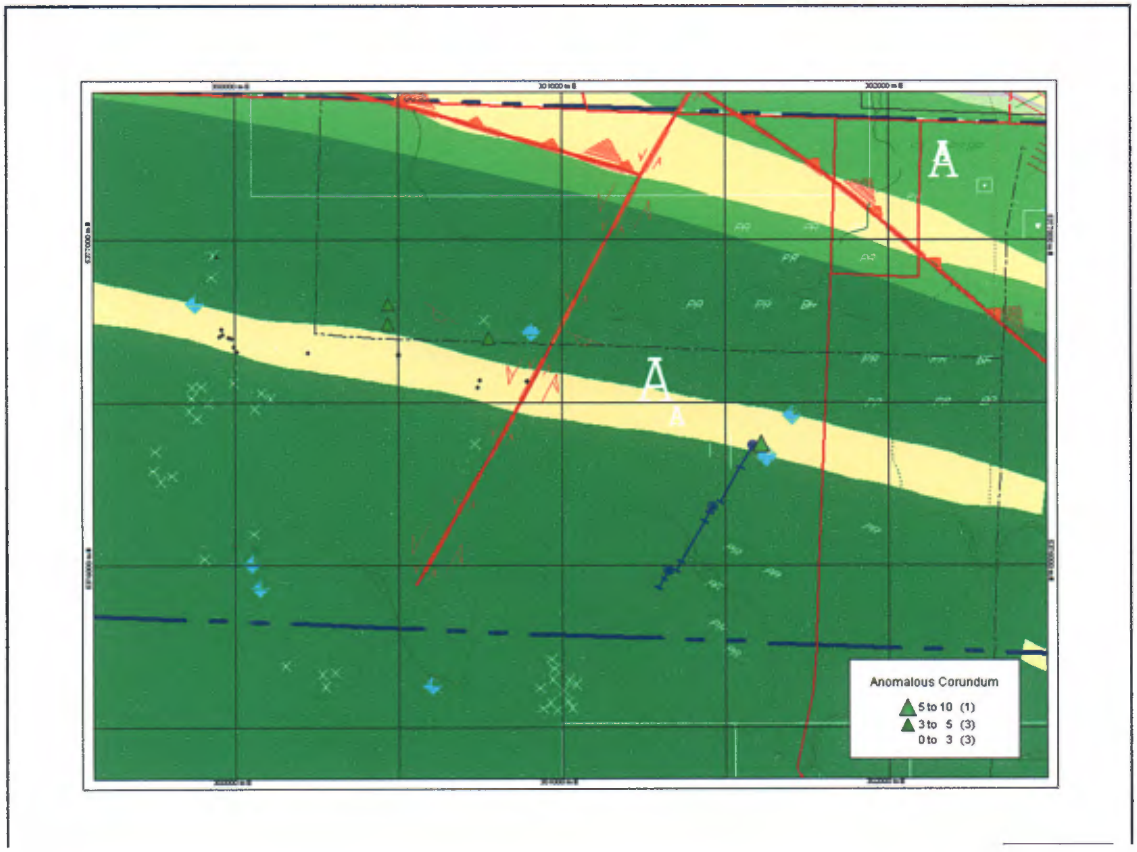


Figure 6: Details of Na anomalies in the southern area.



In Figure 7, several samples have excess alumina, and all are in the footwall sequences to the target felsic horizon. The alumina anomalies are associated only with the western Na depletion zone (see Figure 6), suggesting that this may be a more favourable target than the previously drilled eastern target.

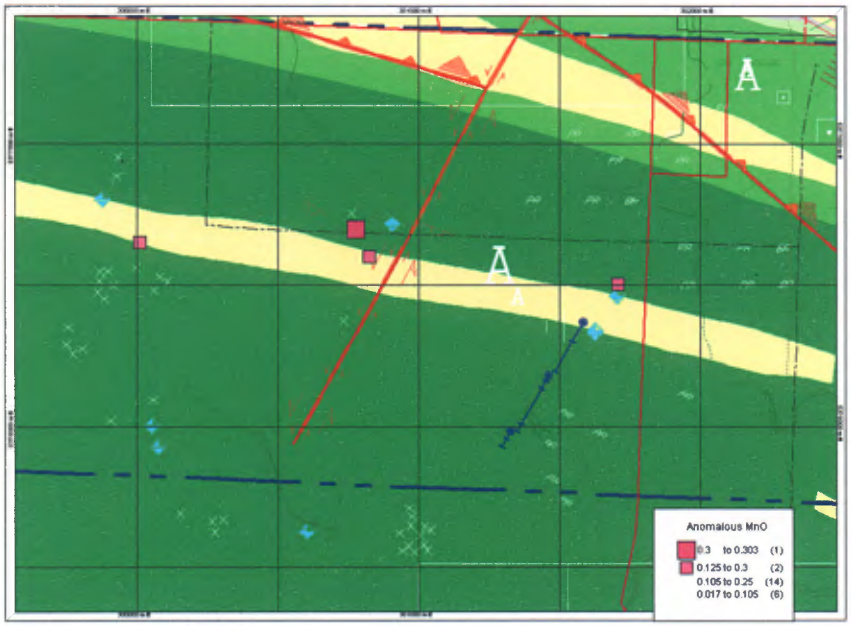


Figure 9: Mn anomalies in the southern area, Inmet property.

Manganese anomalies are associated with two aspects of VMS mineralization. In Archean sequences, the most common Mn anomaly is associated with carbonatization of the footwall strata. Mn, which is generally conservative in a reduced hydrothermal fluid such as that associated with VMS formation, will not precipitate unless it can be incorporated into syngenetic carbonate, or in a zone of oxidation. The latter is less common in Archean sequences, as oxygen was not abundant in Archean seawater. However, the second type of Mn anomaly is usually associated with "exhalative strata that form the hangingwall, and are lateral to the main hydrothermal discharge zone.

In Figure 9, three Mn anomalies are evident: One is in the footwall sequence to the drill holes. A stronger zone occurs to the west, in the area of strong Na depletion and excess alumina. These anomalies are quite pronounced; the samples should be examined to see if they are enriched in carbonate. Finally, there is a single anomalous sample further to the west.

Potassium

K_2O is enriched in most alteration pipes, as sericitization occurs as an envelope surrounding most intense chlorite zones in many pipes. Depending on the volcanological attributes of the area, sericite may be the dominant alteration attribute (e.g. at Sturgeon Lake, Kuroko and other pyroclastic-dominated areas). The K_2O distribution is strongly bimodal in the new data set.

Anomalously high values occur in both andesite and rhyolite, and are generally accompanied by Na depletion. The distribution of anomalous K_2O is shown in Figure 10.

These anomalous values occur to the south (stratigraphically higher) than the most intense alumina and Mn enrichment zones, Two target areas are defined, one that was drilled previously, and another to the west that, as discussed above, represents an excellent target.

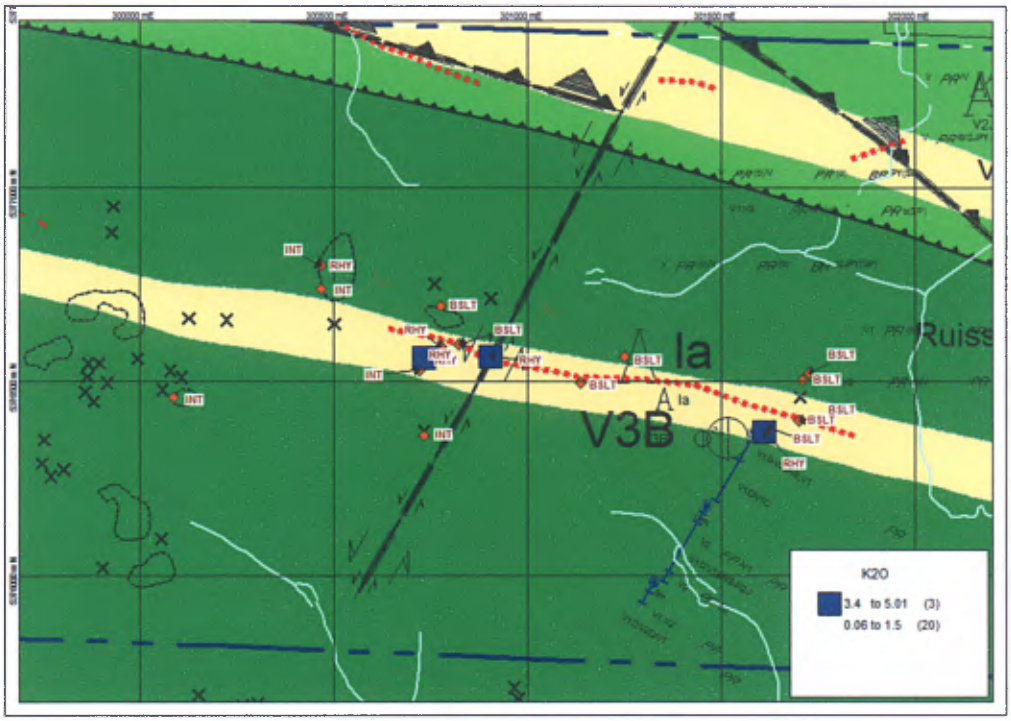


Figure 10: Distribution of anomalous potassium contents in the southern part of the Inmet property.

Summary and Recommendations:

The presence of andesite, combined with strong Na depletion, Mn enrichment and excess alumina all indicate that focused discharge centres that could have produced VMS mineralization occur in several areas on the Inmet property. The present study focuses on the southern zone of felsic rocks, and there are at least three areas worth further investigation. I constructed a simple index of alteration specific to the Barvue area, using Na_2O, MnO and normative corundum (see Figure 11). This is a preliminary index, as other indicators, such as CaO, Ba and K_2O could be included after further work at a larger scale is completed.

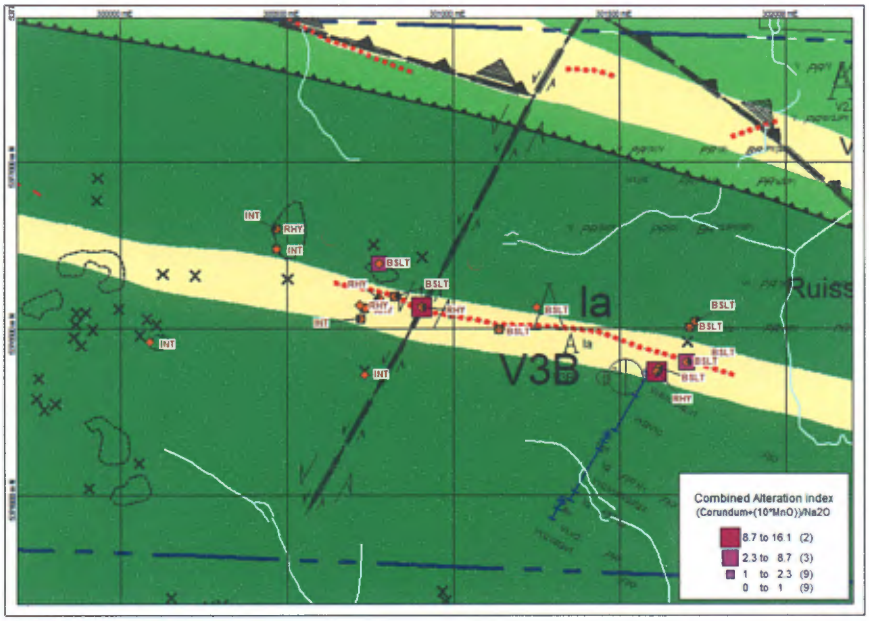


Figure 11: Map showing lithologies, sample distribution (orange diamonds) and highly altered samples (using the alteration index shown in the inset box). The principal geophysical anomaly is shown by a dotted red line.

The alteration index shows two major zones of alteration, as discussed previously. Several features are worth noting:
1: The previous drilling targetted the hanging wall of the anomalous areas (and the geophysical conductor). The reason for this should be determined.
2: The more western anomalous zone is coincident with the geophysical target, and is much stronger than the eastern zone.
3: The presence of andesite within the altered package is consistent with a major hydrothermal centre.
4: Sampling along the conductor is sparse, and thus the definition of two "targets" is artificial. The entire conductor is prospective.

Recommendations:

1: Determine why the previous drilling was targetted for the hangingwall of the geophysical and geochemical anomaly.
2: Expand the sampling, possibly using a backhoe or RC drilling, along the zone of the geophysical anomaly.
3: Trench or drill the western anomaly.
4: Undertake more lithogeochemical sampling of the entire property.
5: Examine the larger data set (MRN, Inmet and Noranda analyses) for alteration indicators.

Respectfully submitted

James M Franklin PhD FRSC Geol.
June 10, 2003