EVALUATION REPORT ON THE ARSENAULT PROPERTY (WIN and TWIN CLAIMS) Owned by S. Traynor

and the second

Swift River Area

NTS 104 0 13E Lat. 59°48'N, Long. 131°42'W Atlin Mining Division British Columbia, Canada

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> GEOLOGICAL SURVEY BRANCH 9 ASSESSMENT REPORT

MARCH 1999 Amended JUNE 1999

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INTRODUCTION

Ongoing research and initial reconaissance served to highlight the mineral potential of this area and resulted in the staking of two 4 post claims, each comprising 20 units.

A detailed program of prospecting and geochemical sampling, which included a re-examination of old trenches and available drill core, was then carried out and provided further evidence that previous investigations focused on the limited skarning in the area have likely overlooked the potential of the property to host volcanogenic massive sulfide mineralization.

AREA LOCATION AND ACCESS

The area is located in central northern B.C. in the northwestern corner of the Jennings River Map Sheet, NTS 104 O and is situated approximately 14 km south of the Alaska Highway where it crosses the Smart River (see Figure 1).

Access to the area was facilitated by the use of a float plane and a helicopter stationed at the Jennings River Outfitters camp at Pine Lake some 17 km to ENE. Initial reconaissance, orientation and staking were completed from a float plane accessible camp on Two Lakes which was abandoned in favor of helicopter supported access during subsequent trips due to the excessive time required to traverse on foot from the camp to the main area of investigation. An old access road constructed in 1971 that once connected the property to the Alaska Highway, was not considered for access as the bridge across the Swift River has long since washed out and the road is now somewhat deteriorated.

PROPERTY DESCRIPTION

The property currently consists of two 4 post mineral claims each of 20 units that covers 1000 ha. Comprising the majority of the main ridge of Mount Francis the property lies mostly above the 4000 foot level and much of it is above treeline (see Figure 2). The claims are within the Atlin Mining Division and are shown on the Mineral Titles Reference Map 104 O 13E.

Claim Data

Name	<u>Tag #</u>	Tenure# Unit	ts/Shape	Staked		Recorded		Expiry Date*	Owner
Twin	218472	363335 20/5	5Nx4W	June 12,	1998	June 17, 199)8	June 12, 2001	S. Traynor
Win	218473	363336 20/5	5Nx4W	June 13,	1998	June 17, 199)8	June 13, 2001	S. Traynor

*Upon filing and acceptance of this Evaluation Assessment Report





PREVIOUS WORK AND EXPLORATION

It is reported by Sawyer (1979) that copper mineralization was discovered in the area by Wilf McKinnon of Hudson's Bay Mining and Smelting in the 1940's. Subsequent work was concentrated on the Arsenault and adjacent claims in the area around Mt. Francis. Geological and geochemical survey work was undertaken in 1967 and included the excavation of 16 trenches, one of which reportedly yielded an assay result of 0.10 oz/ton Au over 3 meters (Sawyer, 1967). Construction of an access road (now washed out at Swift River), airborne and ground geophysical surveying, geochemical surveying, geological mapping and 1080 meters of diamond drilling in 4 holes, between 1970 and 1972 by Bolivar Mining Corp. Ltd., identified sulfide mineralization containing copper and zinc values – but not of commercial grade. Additional drilling of two holes totaling 675.5 meters by Rebel Developments Ltd. was completed in 1979 and 1981, the former of which contained a 27.6 meter intersection of moderate to heavy sulfides which included 6.7 meters that averaged 0.22% Cu. Two reports for Arnica Resources Ltd. by Ross (1989) and Christopher (1990) served to confirm many of the previous analytical results.

For more detailed information the reader is referred to the numerous reports referrence at the end of this report. Of note here though is the fact that invariably previous investigations have focused almost exclusively on the limited skarning in the area while the more important massive sulfide potential of the area has been largely ingnored.

REGIONAL AND PROPERTY GEOLOGY

Situated on the Nisutlin Plateau in northern B.C. the area is underlain by an assemblage of volcanic and sedimentary rocks, metamorphosed to greenschist grades, which lie to the east of the Teslin Fault. Lying within the Big Salmon Complex these rocks are thought to represent the southern extension of the Yukon-Tanana terrance which is currently being explored for massive sulfide deposits formed in volcanogenic settings since the discovery of the Kudz ze Kayah deposit of Cominco and the Wolverine deposit of Atna/Expatriate.

Locally on the property a variety of micaceous schists, quartzites and actinolite (chloritemagnetite) schists are found. The mafic schists occasionally are interbedded with carbonate rich layers and less frequently with quartzites, petrographic analysis of thin sections taken from samples of most of these units suggests intermediate to mafic volcanics as the most likely protoliths.

The diopside-garnet skarn complexes targeted during previous explorations are confined to the east-west trending lower ridge in the western central part of the property and are apparently contained in the upper horizons of the stratigraphy in the area. Although the calc-silicate mineralogy of these rocks is suggestive of skarn, no causative intrusion has been found and the interpretation of available drill logs suggests that the massive sulfide mineralization encountered in the drill holes have a syngentic origin as originally proposed by Sawyer (1979) and favored by Mihalynuk (1998). In fact the presence of hematite and a number of Mn bearing minerals, including piedmontite, associated with sulfide mineralization in greenstone as described in the drill logs for hole 79-2, suggests that this mineralization may in fact be related to the barium-manganese-rich rocks of the crinkle chert unit described by Mihalynuk (1998) which outcrops to the SW of where the drill hole was collared and for which Nelson (1997) has proposed an exhalative origin. This unit forms a distinctive marker horizon throughout much of the project area and at most localities is found to be underlain by carbonate and overlain by greenstone.

Mineralization consisting mainly of pyrite and chalcopyrite is dominant and is found at surface associated with the actinolite (chlorite) schists and the quartzites and occurs mainly as fine disseminations and blebs, but occassionally as semi-massive accumulations. Some samples contain late carbonate and chlorite veinlets which cut across the metamorphic fabric, but the chalcopyrite (where present) shows no obvious relationship to these and appears to belong to an earlier phase of mineralization (B. Northcote, personal communication see Appendix D), suggesting that it was deposited contemperaneously with the volcano-sedimentary lithologies that host it.

Chalcopyrite is also found associated with the 'Arsenault' dacite tuff of Mihalynuk (1998), the unit that apparently hosts two other chalcopyrite occurrences first identified by Sawyer in 1967 that appear to have received little attention since.

DESCRIPTION AND SUMMARY OF WORK

Investigations during the 1998 field season focussed on evaluating the claims staked in the Mount Francis area for their potential to host volcanogenic massive sulfides. Orientation and reconaissance of the property were carried out in conjunction with staking during mid June. Preliminary prospecting revealed widespread disseminated sulfide mineralization and a number of lithologies of specific interest.

Following a review of the existing data, more detailed prospecting and sampling was carried out from August 14 - 21, 1998 on the western flank of the mountain in an area overlooking the site(s) of previous investigations (see Figure 3). This phase of the evaluation involved the collection, for analysis, of 54 soil samples from an area that had previously produced a number of interesting Cu values and grab sampling of various lithologies in the immediate area. In addition, core available on the property from the 1971 drilling program was studied and sampled. Unfortunately, core from the 1979 and 1981 drilling which contained the reported massive sulfide intersections was not located on the property and subsequent inquires in Whitehorse failed to determine its whereabouts.

Soil samples were taken along picket lines at 25 meter intervals. Samples consisted of approximately 100 to 150 grams of material taken from the yellowish brown silty "B" horizon when present but alternately from the "C" horizon which contained a slightly higher clay content. Samples were collected using a hand auger from a depth of 30 to 40 centimeters, placed in wet strength Kraft paper envelopes, air dried and shipped to Bondar Clegg for analysis. Each of the 54 samples was analysed for 34 elements using standard ICP methods and for gold using a 30g Fire Assay with an AA finish.

Two additional days were spent in followup on the property in mid September (September 16 and 17, 1998) and involved additional prospecting and sampling on the main ridge of the mountain and around the gridded area sampled in August to determine if extensions to zones identified at that time could be extended along strike.

ANALYSIS AND INTERPRETATION

Analysis of sampled material produced numerous highly significant results, particularly from the the upper ridge area. Rock sample descriptions, complete analytical results and methodology and selected thin section descriptions and petrographic reports are presented in the Appendicies of this report.

The results of the soil geochemistry show a number of well defined copper anomalies within the gridded area (see Figure 4) that appearently parallel the prevailing strike in this area. Values in excess of two hundred (200) parts per million for copper are taken as anomalous and the contours at 200 ppm, 400 ppm and 600 ppm have been drawn in. The upper most of these anomalies defined occurs coincident



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with outcroppings of chlorite-actinolite schist, sampled as part of the work program that returned high Cu and Au values, and is interpreted as an expression of the mineralization contained in the bedrock. Downslope a smaller, less well defined anomaly that contains peak values comparable to the upper anomaly was also detected, but due to an increasing depth of accumulated talus in the area could not be directly related to a bedrock source. A third, much weaker feature is seen in the lower part of the grid and its coincidence with the surface depression associated with an inferred fault in this area, suggests that it is a false anomaly produced by the accumulation of mineralized material from up slope within the faulted depression. A visual review of the rest of the analytical data obtained from the soil sampling, suggests a possible correlation between Au and possibly Co with Cu in the soils, but a larger sample population will be necessary before this could be statisically determined.

Chip sampling of an old trench just NW of the soil grid, which contained quartzite showing abundant malachite staining, returned 0.46% Cu and 1.3g/t Au over 7.5 meters. Petrographic analysis of this unit suggests a protolith that was probably a mafic to intermediate volcanic.

Descriptions from drill logs and historic reports suggests that the actinolite-chlorite schist sampled from the upper ridge area is quite probably the same unit ("mafic D unit") that contained the massive sulfide mineralization intersected during the 1979 and 1981 drill programs. This unit has been found in mineralized outcrop (high Cu and elevated Au) over an extended strike length and occurs over the entire 2+ km. length of the main ridge (Mihalynuk (unpublished mapping and field notes)).

CONCLUSIONS AND RECOMMENDATIONS

Compilation of the results of the 1998 work program in conjunction with a re-evaluation of existing data has shown that the Arsenault property has a high probability of hosting volcanogenic massive sulfide mineralization. Reconaissance soil sampling and lithological grab sampling have revealed a highly anomalous and mineralized band of intermediate to mafic volcanic rocks exposed on the ridge overlooking the area in which previous investigations were focused.

This band of rock which includes carbonate altered quartzites and schists, including an actinolitechlorite-(magnetite) rich member thought to host the massive sulfide mineralization previously intersected on the property, is known to occur along the entire length of the main Mt. Francis ridge. A review of two geophysical reports by Walcott (1970 and 1972) shows a well defined linear magnetic trend coincident

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with the inferred extent of these rocks. Further analysis of I.P. data from the same reports shows the presence of a number of strong anomalies also associated with this trend that show good correlation with the elevated soil geochemical responses discussed above.

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In light of the numerous positive indications of the potential for mineralization on the property further work is definitely recommended. Grid development and additional soil geochemical sampling should be completed to close off the open anomalies identified during the 1998 season. In addition and in conjuction with this work more detailed sampling and mapping aimed at delineating the extent of the prospective package of rocks exposed along the main ridge should be carried out as soon as conditions permit during the 1999 season.

GEOLOGISTS'S CERTIFICATE

I, Steve Traynor, of 214 Alsek Road, Whitehorse, in the Territory of the Yukon, DO HEREBY CERTIFY:

THAT I am a Geologist practising my profession in Whitehorse, Yukon.

THAT I am a graduate of Queen's University (1982), Kingston, Ontario with a B.Sc. (Honours) degree in Geology.

THAT I have been engaged in mineral exploration for thirteen years in the Yukon, British Columbia, Manitoba, Ontario and Quebec.

THAT this report in based on work that I completed and/or supervised during the period from August 14 - 21, 1998 and September 16 - 17, 1998 on the Arsenault property.

SIGNED at Whitehorse, Yukon Territory, this 27th day of June, 1999.

Steve Traynor, B.Sc.

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REFERENCES

- Christopher, Peter A., 1990: Geological, Geochemical, Geophyscial and Trenching Report on the Fidelity Prospect; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 20137.
- Geological Survey of Canada, 1978: Stream Sediment and Water Geochemical Survey (104N), northern British Columbia, Open File 517.
- Geological Survey of Canada, 1978: Stream Sediment and Water Geochemical Survey (1040), northern British Columbia, Open File 561.
- Mihalynuk, M. and Nelson, J.L., 1998: Regional Geology and Mineralization of the Big Salmon Complex (104N NE and 104O NW), in Geological Fieldwork 1997, B.C. Ministry of Employment and Investment, Paper 1998-1.
- MINFILE, 1988: Jennings River Mineral Occurrence Map, Ministry of Energy, Mines and Petroleum Resources; Minfile Map 1040.
- Nelson, J., 1997: Last Seen Heading South: Extensions of the Yukon-Tanana into Northern British Columbia; in Geological Fieldwork 1996, B.C. Ministry of Employment and Investment, Paper 1997-1.
- Phendler, R.W., 1982: Report on Assessment Work (Diamond Drilling) on the Arsenault #1, #2 and #3 Claims; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 10411.
- Ross, Katherina, 1989: Assessment Report on the Ram Group of Mineral Claims; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 19082.
- Sawyer, J.B.P., 1967: Geological, Geochemical and Geophysical Report for Assessment Credit on the Top Claim Group; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 1149.
- Sawyer, J.B.P., 1979: Report on the 1979 Drilling Program on the Arsenault Claims Copper Prospect; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 8022.
- Turnbull, I. and Simpson, J.G., 1970: Report on a Geochemical Survey and Physical Work on the Top Claim Group; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 8022.
- Walcott, Peter E., 1970: A Report on Ground Magnetic and Induced Polarization Surveys; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 3014.

Walcott, Peter E., 1972: A Report on Ground Magnetic and Induced Polarization Surveys; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 3502.

STATEMENT OF EXPENDITURES

CANADA -- In the matter of geochemical and prospecting assessment work filed on the WIN and TWIN mineral claims, collectively known as the Arsenault property.

I, Steve Traynor a geologist living in Whitehorse, Yukon do solemnly declare that a program consisting of geochemical sampling and prospecting was carried out on the WIN and TWIN mineral claims during the period from August 14 - 21, 1998 and September 16 - 17, 1998. The following expenses were incurred during the course of this work and in the compilation and reporting of the results.

Geological supervision.	\$	1,800.00		
Prospecting and geoch	emical sa Wade	mpling: Carrell, Prospector/Assistant, 9 days @ \$150.00		1,350.00
Camp, Supplies and Su	ipport:	18 man days @ \$60.00		1,080.00
Transportaion: Discov	very Helio	copters Ltd.		2,100.60
Assay and Analysis:	Variou Petrog Shippi	is analysis of samples, rock and soils raphic report and thin section preparation ng costs to Bondar Clegg in Vancouver, B.C.		2,088.95 470.26 79.35
Report Preparation an	d Maps:	a se a company de la company de la company de la company. La company de la company de	· \.	640.42
TOTAL COST			<u>\$</u>	9,609.58

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

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7th Dated at Whitehorse in the Territory of the Yukon this 2an o 1999. day of

Steve Traynor, Geologist

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APPENDIX A

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PROSPECTING OBSERVATIONS The following write-up includes observations made during the completion of prospecting work carried out as part of an evaluation of the Arsenault Property (WIN and TWIN claims) and provides a keyed descprition of the traverses shown on Figure 5.

Traverse

- 1-1 An orientation traverse to locate and investigate the skarnified area that was the focus of most of the previous investigations in this area. Prospected lower trenches, including main Arsenault trench. Area consisted of mostly metamorphosed sedimentary rocks, predominately dirty sandstones and minor limestone interbedded with quartz rich, biotite schists. Skarns contained minor magnetite and chalcopyrite, but were found to be poorly developed and of limited extent at surface.
- 1-2 This traverse served to locate upper trenches and investigate the ridge overlooking site of proposed soil sampling grid. Sulfide mineralization consisting of chalcopyrite, bornite and pyrite hosted in a slightly skarnified chlorite schist was grab sampled from one of the trenches. A roughly north-south trending fault is delineated by a deep depression lying just east of the trenches. The rocks to the east of the fault appear to be upthrust from a deeper level and may represent an extension of sulfide bearing stratigraphy intersected in previous drilling. Chlorite-actinolite schist containing adundant disseminated sulfides sampled on the face of the overlooking ridge appears to support this hypothesis. Often interbedded with quartz>>sericite schist these units are very iron stained and often magnetic and may be similar to those producing the well developed gossans that are evident along strike on the north face of Mt. Francis.
- 1-3 Designed to investigate the area immediately west of the previously identified fault, this traverse covered an area west from the centre of the soil grid. Investigations were limited to large, near source, frost heaved blocks of felsmeer composed of quartz>>biotite schist with up to 5% disseminated sulfides, including minor disseminated chalcopyrite. A trench just NW of the soil grid, that previously produced elevated Au values was investigated and a grab sample taken. The trench contained rock that was almost entirely composed of quartz and contained abundant disseminated chalcopyrite.
- 1-4 The discovery of chlorite-magnetite schist with up to 8% disseminated sulfides just west of camp resulted in the decision to complete a traverse over this area. The rocks to the west were found to be predominately clean quartzites with occasional copper staining and minor amounts of quartz-chlorite-actinolite schist infolded. Further to the west, before the topography dropped off towards Swift Lake, graphitic metasediments prevailed and probably represent the upper levels of the stratigraphic package in the area. Float composed of piedmontite schist was also noted and was likely derived from an exhalative horizon previously noted in this area.
- 2-1 This traverse started from a helicopter setout on the north end of Mt. Francis was intended to investigate the gossans exposed along the north face of the mountain. Outcroppings along the main ridge were investigated and consisted of quartzites that were occasionally slightly chloritized and often contained a few percent sulfides, consisting of pyrite and pyrrhotite. Recent snowfall that persisted on the north face itself made investigation of the gossans there impossible. Working back to the south along the main peaks revealed the same greyish quartzite with some interbedded limestone present just south of the main peak.
- 2-2 Based on the hypothesis that the chlorite schist identified on the ridge face overlooking the soil grid probably extends along strike to the NE this helicopter supported traverse was carried out to identify additional outcroppings of this unit and was succesful in locating a well exposed showing that was sampled as 98R401-403. Sampling along what may be an isoclinal fold nose produced high Cu and elevated Au values in all samples. Sulfides consisting mainly of pyrite, but with a fair amount of chalcopyrite was present in volumes up to 30% and was at times semi-massive in character. The rock itself was a very chloritic actinolite schist interbedded with carbonate rich quartzites. Detailed chip sampling of the trench investigated during the course of

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Traverse 1-3 was completed with 3 samples, each covering 2.5m being collected. Favorable results obtained in the course of sampling during Traverse 1-2 were also followed up with more detailed prospecting and sampling on the overlooking ridge and identified additional occurrences of chlorite-actinolite schsit that returned some of the highest values so far for this unit.

The preceeding write up is based on observations that I made during the course of my work to re-evaluate the Arsenault area and specifically the WIN and TWIN claims for their massive sulfide potential.

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Respectfully submitted, Steve Traynor, Geologist

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APPENDIX B

ROCK SAMPLE REPORT

ROCK SAMPLE REPORT

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SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	ANALYTICAL HIGHLIGHTS
98R143	Ridge above soil grid	Silicified actinolite (chlorite) schist with 2% sulfides.	Highly elevated Cu (9754 ppm) and anomalous Au and Ag values.
98R147	Ridge above soil grid	Chlorite-biotite schist with minor quarzite, showing malachite staining.	Very high Cu (9772 ppm) and Au (121ppb
98R365	Western edge of claim block	Float, chlorite-magnetite schist with 8% sulfides including pyrite, chalcopyrite and bornite (?).	Elevated Cu value of 549 ppm.
98R366	Core - DDH 71-4 at ~240 ft.	Quartz-chlorite-magnetite schist with 15% sulfides, mainly pyrite with minor chalcopyrite.	Elevated Cu values.
98R367	Core - DDH 71-4 at ~500 ft.	Chlorite rich quartzite with 2-3% chalcopyrite as disseminations. Non magnetic.	Elevated Cu and Au values.
98R368	Core - DDH 71-4 at ~930 to 933 ft.	Chlorite-magnetite schist with some quartz with 15-20% disseminated to semi-massive sulfides, mostly pyrite.	Elevated Cu, Co and Au values.
98R369	Core - DDH 71-4 at ~360 ft.	Quartz>chlorite>biotite schist with 3% sulfides, including pyrite, chalcopyrite and bornite (?).	Elevated Cu values.
98R 370	Trench 8	Slightly skarnified chloritic schist with 4% sulfides.	High Cu and Au values (5114ppm and 147 ppb, respectively)
98R371	Ridge above soil grid	Actinolite >>chlorite schist with 5% finely disseminated sulfides, showing minor malachite staining.	
98R372	Ridge above soil grid	Taken from 3-5m wide band of iron stained talus, rock is quite chloritic and shows abundant malachite stain.	Elevated Cu values.
98R373	Ridge above soil grid	Very fine grained, silicified chloritic rock that is moderately magnetic. It is interbedded with quartz>>sericite schist.	Elevated Cu, Au and Hg values.
98R374	215 S/125 E on the soil grid	Large felsemeer blocks of quartz>>biotite schist with some chlorite developed. Sulfides to 5% with minor chalcopyrite.	
98R375	212 S/259 E on the soil grid	Grey quartz>>biotite schist that appears chloritized with 2% sulfides and minor malachite staining.	High Cu (7879 ppm) and elevated Au.
98R376	Trench 10	Massive, recrystalized (?) quartzite with 6% sulfides, including pyrite and chalcopyrite with malachite staining.	Very high Cu (1.3%), Au (1479 ppb) values and Hg (112ppb) values
98R377	Ridge above soil grid	Well silicified, finely laminated argillite (?) float with 2% sulfides.	
98R398	North end of Mount Francis	Chloritized quartzite with finely disseminated sulfides.	
98R399	North end of Mount Francis	Greyish quartzite with 5% sulfides along schistosity and blebs throughout, mostly pyrite and pyrrhotite.	
98R400	Central part of main ridge	Slightly chloritic fine grained quartzite with 2% disseminated sulfides.	Elevated Cu values
98R401	West flank of main ridge	1/2m thick layer of chloritic actinolite (?) schist bedded with carbonate rich layer. Sulfide content to 30% is semi-massive pyrite and chalcopyrite.	High Cu (4689 ppm) and elevated Au values.
98R402	West flank of main ridge	Same as 98R401, 5m along strike to the SW.	Elevated Cu an Co values.
98R403	West flank of main ridge	Same as 98R401, 10m along strike to the SW.	High Cu (4325 ppm) and elevated Au values.
98R404	Trench 10	2.5m chip sample of massive recrystalized quartzite.	98R404, 405 & 406 average 0.46% Cu and 1.3g/t Au over 7.5 m width.

ROCK SAMPLE REPORT, continued

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SAMPLE NUMBER	SAMPLE PARTICULARS	SAMPLE DESCRIPTION	ANALYTICAL HIGHLIGHTS
98R405	Trench 10	2.5m chip sample of massive recrystalized quartzite.	98R404, 405 & 406 average 0.46% Cu and 1.3g/t Au over 7.5 m width.
98R406	Trench 10	2.5m chip sample of massive recrystalized quartzite.	98R404, 405 & 406 average 0.46% Cu and 1.3g/t Au over 7.5 m width.
98R407	Ridge above soil grid	Thinly laminated, very schistose actinolite schist showing abundant malachite staining and sulfides to 2%.	Very high Cu (9099 ppm) and Au (307 ppb values.
98R408	Ridge above soil grid	Similar to 98R407 but contains some interbedded quartzite and is magnetic.	Anomalous Cu values.
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APPENDIX C

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CERTIFICATES OF ANALYSIS



		nterte ondar C	k Tes	ting Ser	vices					Geo Lab Rep	ochemical oort
REPORT: V98	-01535.1 (COMPLETE)					REFERENCE:		-		
CLIENT: MR. PROJECT: AR	STEVE TRAYNOR SENAULT						SUBMITTED BY: S	S. TRAYNOR AUG-98 DA	TE PRINTED:	4-SEP-98	
DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980902 1 A	u30 Gold	3	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980902 37 Cu	u Copper	2	1 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLA
980902 2 /	a Silver	1	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 38 Pb	Lead	2	2 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 3 0	cu Copper	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 39 Zr	n Zinc	2	2 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 4 F	b Lead	1	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 40 Mc	o Molybdenum	2	1 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 5 2	n Zinc	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 41 Ni	Nickel	2	1 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 6 N	io Molybdenum	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 42 Co	o Cobalt	2	1 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 7 1	li Nickel	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 43 Cc	Cadmium	2	1 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 8 0	co Cobalt	1	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA	980902 44 Bi	Bismuth	2	5 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 9 0	d Cadmium	1	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 45 As	Arsenic	2	5 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 10	i Bismuth	1	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 46 st	o Antimony	2	5 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 11	s Arsenic	1	5 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA	980902 47 Fe	e Tot Total Iron	2	0.01 PCT	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 12 9	Sb Antimony	1	5 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA	980902 48 Mr	Manganese	2	5 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
080002 13	a Iron	1	0 01 PCT	HCL +HNO3 (3-1)		980902 49 Te	Tellurium	2	25 PPM	HE-HN03-HCL04-HCL	
080002 1/ 1		1	1 PPM	HCL +HNO3 (3.1)	INDUC. COUP. PLASMA	980902 50 Ba	a Barium	2	5 PPM	HE-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
080002 14 1	a Tellurium	1	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 51 Cr	r Chrome	2	2 PPM	HE-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 16 1	la Barium	i	1 PPM	HCL:HNO3 (3:1)	INDUC, COUP, PLASMA	980902 52 V	Vanadium	2	2 PPM	HF-HN03-HCL04-HCL	INDUC. COUP. PLAS
980902 17	r Chromium	1	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA	980902 53 Sr	n Tin	2	20 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 18	/ Vanadium	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 54 W	Tungsten	2	20 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
000000 10	· · · ·		20 004	101 -1107 (7.1)		090002 55 1	Lanthanim	2	5 004		
980902 19 3	sn lin L Turreter	1	20 PPM	HUL:HNUD (3:1)	INDUC. COUP. PLASMA	900902 JJ La		2			INDUC. COUP. PLA
YOUYUZ ZU 1		1	20 PPM	HCL:HNUJ (J:1)	TNDUC. COUP. PLASMA	000002 30 AL	Mognosium	2			TNDUC. COUP. PLA
YOUYUZ 21	a Lanthanum	1	0.01.007	HULINNUD (JII)	THULL COUP. PLASMA	080002 57 Mg	naynestun Calcium	2			TNDUC. COUP. PLA
700702 22 1	AL ALUMINUM	1		HOL:HNO3 (3:1)	THOUL COUP. PLASMA	080002 50 La	a catorum Sodiem	2 2			
900902 23 1 980902 2/ /	ng magnestull °a Calcium	1		HCL:HNO3 (3.1)	TNDUC. COUP. PLASMA	980902 60 K	Potassium	2	0.01 PCT	HE-HNO3-HCI 04-HCI	INDUC. COUP. PLA
100702 24		•	0.01 701		LINGON GOOL & LAOPA	700702 00 K	, otassian	£	0101 101		
980902 25 1	la Sodium	1	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 61 Sr	• Strontium	2	1 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 26	(Potassium	1	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 62 Y	Yttrium	2	5 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 27	Sr Strontium	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 63 Ga	a Gallium	2	10 PPM	HF-HN03-HCL04-HCL	INDUC. COUP. PLAS
980902 28	/ Yttrium	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 64 Li	Lithium	2	2 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 29	Ga Gallium	1	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 65 Nb	o Niobium	2	5 PPM	HF-HNO3-HCLO4-HCL	INDUC. COUP. PLAS
980902 30	i Lithium	1	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980902 66 Sc	: Scandium	2	5 PPM	HF-HN03-HCL04-HCL	INDUC. COUP. PLAS

122

INDUC. COUP. PLASMA 980902 67 Ta

INDUC. COUP. PLASMA 980902 68 Ti

INDUC. COUP. PLASMA 980902 69 Zr

INDUC. COUP. PLASMA

INDUC. COUP. PLASMA

INDUC. COUP. PLASMA

HCL:HNO3 (3:1)

HCL:HNO3 (3:1)

HCL:HNO3 (3:1)

HCL:HNO3 (3:1)

HCL:HNO3 (3:1)

HF-HN03-HCL04-HCL

980902 31 Nb

980902 32 Sc

980902 33 Ta

980902 34 Ti

980902 35 Zr

980902 36 Ag

Niobium

Scandium

Tantalum

Titanium

Zirconium

Silver

1

1

1

1

1

2

1 PPM

5 PPM

1 PPM

0.5 PPM

10 PPM

0.01 PCT

2

2

2

5 PPM

5 PPM

0.01 PCT

Tantalum

Titanium

Zirconium

HF-HN03-HCL04-HCL

HF-HN03-HCL04-HCL

HF-HNO3-HCLO4-HCL

INDUC. COUP. PLAS

INDUC. COUP. PLAS

INDUC. COUP. PLAS

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EPORT: V98-01535.1 (COMPLE	TE)				REFERENCE :			
CLIENT: MR. STEVE TRAYNOR PROJECT: ARSENAULT					SUBMITTED BY: S. TRAYNO DATE RECEIVED: 26-AUG-98	R DATE PRINTED:	4-SEP-98	
SAMPLE TYPES NUM	BER. SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER				
R ROCK	3 2 -150	3	CRUSH ONLY CRUSH, SPLIT PULVERIZATION	4 10 14				
REPORT COPIES TO: BOX 4375		INVOICE	TO: BOX 4375		÷			
report is specifi applicable only t otherwise indicat ********************	c to those samples ident o the samples as receive ed *********************************	tified under "	Sample Number" and is n a dry basis unless	***				

	TS	Int Bor	tert ndar	ek Cle	Tes ¹ gg	ting	g Sei	rvi	ces	5											C I F	Geoch Lab Report	emi	cal
CLIENT: MR REPORT: V98	. STEVE TRAYNOR 3-01535.1 (COM	PLETE)								D/	ATE RE	CE I VED :	26-AUG-9	8	DATE	PRINTED:	4-SEP-	98 PAGE	PR E 1A(OJECT: 1/ 4)	ARSEN	AULT		
SAMPLE NUMBER	ELEMENT AU30 UNITS PPB	Ag Cu PPM PPM	i Pidi Zi I PPM PPI	n Mo M PPM P	Ni Co Cu PM PPM PPI	d Bi A: M PPM PPI	s Sb Fe M PPM PCT	Mn PPM	Te B PPM PPI	a Cr M PPM	V PPM P	Sn W PM PPM	La Al PPM PCT	Mg PCT	Ca PCT	Na K PCT PCT	Sr Y PPM PPM	Ga Li PPM PPM	NID S PPM PP	c Ta MIPPMI	Ti PCT P	Zr Ag Ci PM PPM PPI	J PD 7 1 PPM PI	Zn Mo PM PPM
98R143 98R365 98R370	60 9 147	<.2 549	953	6 1	18 46 <	2 <5 <	5 <5 9.44	585	<10 2	3 22	24 <	20 <20	2 1.30	1.25	3.12 0	.19 0.06	44 2	<2 8	4 <	5 <10 C	1.03	2.2 9754 <1 0.6 5114	+ 38 14 + 21	48 10 75 4
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Bondar-Clegg & Company Ltd., 130 Pemberton Avenue, North Vancouver, B.C., V7P 2R5, (604) 985-0681

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	ТС	Ir	nter	tek	c Te	stir	ıg S	Ser	vic	es								Lab	mour
	1 D	Bo	onda	r Cl	egg		•				· .							Report	
CLIENT: MR REPORT: V9	2. STEVE TRAYNO 28-01535.1 (CO	R MPLETE)							D	ATE RECEIVED: 2	26-AUG-98	DATE	PRINTED	: 4-SEP	-98 PAGE	PROJECT: 1B(2/ 4)	ARSENAULT	
SAMPLE NUMBER	ELEMENT NI UNITS PPM	Co C PPM PP	d Bi MPPMP	as sd Pm PPm	Fe Tot PCT	Mn Te PPM PPM	Ba Cr PPM PPM	V Sr PPM PPN	n W L 1 PPM PF	.a Al M PCT	Mg Ca Na PCT PCT PCT	n K Sr PCT PPM	Y Ga PPM PPM	a Li Nb 1 PPM PPM	SC Ta IPPM PPM	Ti Zr PCT PPM			
98R143	10	14 <	1 7	<5 <5	9.42 1	413 <25	9 78	13 25	5 <20 •	<5 0.78 2	2.32 8.16 0.20	0.08 93	9 <10) 4 <5	5 <5 6	0.07 14			
98R370	17	· 30 <	1 <5	14 <5	>10.00 1	615 <25	7 122	32 <24	D <20 ·	-5 1.81 1	1.10 >10.00 0.24	0.03 300	16 <10) 5 7	r <s 9<="" th=""><th>0.11 19</th><th></th><th></th><th></th></s>	0.11 19			

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	NT: MR. STEVE T	RAYNOR	`	C	Ģ											PROJECT:				ARSENAULT		
KEPU	KI: V90-01555.1	(COMPLETE							••••••••••••••••••••••••••••••••••••••			. 20 700				- 321 70		2				
STAN NAME	DARD ELEMEN UNIT	it Au30 Ag ('S PPB PPM PI	cu pid zr Pm PPM PPN	n Mo N M PPM PPI	i Co Cd M PPM PPM	l Bi A PPM PP	ns SD Fe Pm PPm PC1	e Mn PPM Pi	Te Ba PM PPM F	Cr V PPM PPM	Sn W PPM PPM	La Al PPM PCT	Mg PCT P	Ca Na PCT PCT	N K S PCT PI	Sr Y PM PPM P	Ga Li PM PPM P	ND SC T PM PPM PP	a Ti Z M PCT PF	r Ag M PPM	Cu Pb PPM PPM	Zn Mo PPM PPM
CANM	FT_STREAM-SED	- < 2	33 29 137	7 1 18	8 12 0.6	. ≺ 5 1	7 <5 3.43	3299 <	10 238	22 41	<20 <20	20 1.16	0.81 1.	.64 0.03	0.07	30 22	<28	3 <5 <1	0 0.03 <	<1 <.5	34 38	184 1
Numb	er of Analyses	- 313	1 1	1 1	1 1 1	1	1 1 1	1	1 1	1 1	1 1	1 1	1	1 1	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
Mean	Value	- 0.1	33 29 137	7 1 18	8 12 0.6	3 1	7 3 3.43	3 3299	5 238	22 41	10 10	20 1.16	0.81 1.	64 0.03	0.07	30 22	1 8	33	5 0.03 0.	5 0.3	34 38	184 1
Stan	dard Deviation	-					- 0000000	•	-	- 200		- 88		-		- 2000-00 2000-00 2000-00 2000-00	- 1000			- 3.53	- 33	
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Mear	n Value	2333 -						•	-	-	- 200		* - *	102009 100 0 00 -		-	+ 000±00	- 555555	-	-	- 335	
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CLIENT: MR. STEVE REPORT: V98-01535.	TRAYN 1 (C	OR OMPLETE)											DATE	RECEIVED): 26	-AUG-	98	DAT	E PRI	NTED	: 4-9	SEP-98	PAGE	PROJE 2B(4/	ECT: AF 4)	rsenaul."	T		
ITANDARD ELEME	NT N TS PP	i Co Cu M PPM PPI	d Bi 1 PPM	As PPM F	Sb F PPM	e Tot PCT	Mn PPM F	Te B PPM PP	a Cr M PPN	V I PPM	Sn PPM Pf	W L PM PP	.a Al M PCT	Mg PCT	Ca PCT	Na PCT	K PCT	Sr PPM P	y (Pm Pf	ia Li M PPM	ND PPM	Sc PPM I	Ta T PPM PC	i Zr T PPM						
ANMET STREAM-SED	2	4 21 <	1 <5	23	<5	4.36	3856 ·	<25 57	6 48	89	<20 <2	20 2	5 4.51	1.30	2.75	1.27	0.97	177	34 <1	10 10	6	11	5 0.3	4 74						
umber of Analyses		1 1	1 1	1	1	1	1	1	1 1	1	1	1	1 1	1		1	1	1	1	1 1	່ 1	1	1 🚋	1 1						
ean Value	2	4 21 0.	5 3	23	3	4.36	3856	13 57	6 48	89	10	10 2	5 4.51	1.30	2.75	1.27	0.97	177	34	5 10	6	11	5 0.3	4 74						
tandard Deviation		- 87	- 252	-		-	-	- 22			- 49933		-	-	-	-		- 8			· ·		- 100							
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iumber of Analyses	;		- 335	-		-		- 88	•		- 🖉	-	-	- 6	-	-		- 33	-		- 100		- 333	-						
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EPORT: V9	3-01535.0 (COMPLETE)						R	REFERENCE :				
LIENT: MR	STEVE TRAYNOR						S	SUBMITTED BY: S. 1	RAYNOR			
RUJECI: AI	(SENAUL I						DATE	RECEIVED: 26-AUG	6-98 DA	TE PRINTED:	15-SEP-98	
ate Pproved	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEM	IENT	IUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
80911 1	Au30 Gold	11	5 PPB	Fire Assay of 30g	30g Fire Assay - A	980911 37 z	lr i	Zirconium	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLA
80911 2	lg Silver	11	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	A 980911 38 S	SiO2	Silica (SiO2)	7	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
80911 3 (Cu Copper	. 11		HCL:HNO3 (3:1)	INDUC. COUP. PLASM	980911 39 т	102 i	Titanium (TiO2)	7	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
80911 4 1 80011 5 1	CUOL Copper, semiqua	nt 1		HCL:HNO3 (3:1)	INDUC. COUP. PLASM	A 980911 40 A	1203	Alumina (Al203)	. 7	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
80911 5 1 80911 6 1	n Zinc	11	2 PPM 1 DDM	HUL:HNUD (3:1)	INDUC. COUP. PLASMA	A 980911 41 F	•e203*	Total Iron (Fe203	$\frac{1}{7}$	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
		11	1 1 1 1 1		INDUC. COUP. PLASMA	4 900911 42 M	inu i	manganese (MNU)	1	0.01 PC1	BORATE FUSION	INDUC. COUP. PLA
80911 7 1	10 Molybdenum	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	980911 43 м	laΩ	Magnèsium (MgO)	7	0 01 PCT	RODATE FUSTON	
80911 8	Ni Nickel	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	A 980911 44 C	CaO (Calcium (CaO)	7	0.01 PCT	BORATE FUSION	INDUC COUP PLA
80911 9 (Co Cobalt	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	980911 45 N	la20	Sodium (Na20)	7	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
80911 10	Cd Cadmium	11	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	A 980911 46 K	(20	Potassium (K2O)	7	0.05 PCT	BORATE FUSION	INDUC. COUP. PLA
80911 11	3i Bismuth	11	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	A 980911 47 P	205 1	Phosphorous (P205) 7	0.03 PCT	BORATE FUSION	INDUC. COUP. PLA
80911 12 /	As Arsenic	11	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	4 980911 48 L	.0I I	Loss on Ignition	7	0.05 PCT	Ignition 1000 Deg.	GRAVIMETRIC
80911 13 :	Sb Antimony	11	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	080011 40 T	otal I	Whole Rock Total	11	0.01.001		
80911 14	la Mercury	11	0.010 PPM	HCL:HN03 (3:1)	COLD VAPOR AA	980911 50 0	r203	Chromium Oxide	7		PODATE EUSTON	
80911 15	e Iron	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980911 51 B	la l	Barium	7		Pressed Pollat	VDAV ELLODESCENC
80911 16 1	In Manganese	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	980911 52 s	Sr S	Strontium	7	1 PPM	Pressed Peilet	YPAV FILIOPESCENC
80911 17 '	re Tellurium	11	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980911 53 Y	,	Yttrium	7	1 PPM	Pressed Pellet	YRAY FILIORESCENC
80911 18 1	Ba Barium	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASM	980911 54 N	lb I	Niobium	7	2 PPM	Pressed Pellet	XRAY FLUORESCENC
80011 10	r Chromium	11	1 DDM	UCL .UNO3 (3.1)		000011 55 7		*****	7	4		
80911 20 1	/ Vanadium	11	1 DDM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	080011 56 0	.r⊥ h r	Zirconium	. 7	1 PPM	Pressed Pellet	XRAY FLUORESCENC
80911 21	Sn Tin	11	20 PPM	HCL:HNO3 (3.1)	INDUC. COUP. PLASMA	980911 50 K	0 I	Cerium		2 PPM 2 DDM	Pressed Pellet	XRAY FLUORESCENC
80911 22 1	V Tungsten	11	20 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA	980911 58 F	ie (iu f	Furonium	6	0 5 DDM		NEUTRON ACTIVATI
80911 23 1	a Lanthanum	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980911 59 1	a I	Lanthanum	6	1 DDM		NEUTRON ACTIVATI
80911 24 /	Aluminum	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980911 60 L	u I	Lutetium	6	0.2 PPM		NEUTRON ACTIVATI
80011 25 1	la Magnaajum	11	0.01.007	101-10107 (7-1)		000044 (4 11						
00711 22 P RAQ11 24 /	ng magnestum	11		TULIHNUS (3:1)	INDUC. COUP. PLASMA	980911 61 N	a)	Neodymium	6	10 PPM		NEUTRON ACTIVATI
ROO11 27 1	la Cattium	11		$\frac{1}{100} \frac{1}{100} \frac{1}$	INDUC. COUP. PLASMA	980911 62 50	c 5	Scandium	6	0.1 PPM		NEUTRON ACTIVATI
80911 28	Potassium	11			INDUC. COUP. PLASMA	080011 4/ 17	00 t	samarıum Torbium	6	U.1 PPM		NEUTRON ACTIVATI
80911 29	Sr Strontium	11	1 PPM	HCL:HNO3 (3.1)	INDUC. COUP. PLASMA	080011 45 1	ט ו ה ז	Thorium	0 4	I PPM		NEUTRON ACTIVATION
80911 30	Yttrium	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980911 66 U	יי ו נ	Uranium	6	0.5 PPM 1 PPM		NEUIKON ACTIVATIO
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50911 31 (a Gallium	11	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	. 980911 67 Ył	b Y	Ytterbium	6	1 PPM		NEUTRON ACTIVATIO
50911 32 1	.i Lithium	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA							
50911 55 P	ID N10D1UM	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA							
DUYII 54 5	c Scandium	11	5 PPM	HUL:HNU5 (3:1)	INDUC. COUP. PLASMA							
20711221 80011241	a lantalum	11	TU PPM	HUL:HNU5 (3:1)	INDUC. COUP. PLASMA							
80911 36 1	i Titanium	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA INDUC. COUP. PLASMA							

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REPORT: V98-01535.0 (COMPLETE)			 REFERENC	Œ:				
CLIENT: MR. STEVE TRAYNOR PROJECT: ARSENAULT				 SUBMITTE DATE RECEIV	D BY: S. /ED: 26-AU	traynor G-98 da'	IE PRINTED:	15-SEP-98	
SAMPLE TYPES NUMBER R ROCK 11	R SIZE FRACTIONS 2 -150	NUMBER	SAMPLE PREPARATIONS NUMBER CRUSH ONLY 4 CRUSH, SPLIT 10 PULVERIZATION 14						
REMARKS: In the whole rock and and R2 98R368 were fo total values of majo results were checked	alysis, samples R2 98R366 bund with unusually low r oxides and LOI. The with a retest. RRD 9/8/6	6 98.							
REPORT COPIES TO: BOX 4375 ************************************	**************************************	INVOICE	TO: BOX 4375 ************************************						

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CLIENT: /	MR. STEVE TRAY	NOR						••••••													PR	OJECT	: AR	SENAU	LT		
REPORT:	V98-01535.0 (COMPLETE)]	DATE RECE	IVED: 20	S-AUG-S	8	DATE	PRINTED	: 15-SEP-9	8 PAGE	1A(1/8)		•••••			
SAMPLE	ELEMENT A	u30 Ag	Cu	CUOL	Pb Zi	n Mo	Ni	Co Cd	Bi	As :	Sb Hg	Fe	Mn Te	e Ba Ci	r V	Sn	W La	AL I	Mg Ca	Na k	(Sr	Ŷ	Ga	Li N	b Sc Ta	a Ti	Zr
NUMBER	UNITS	PPB PPM	PPM	PCT P	PM PPI	N PPM	I PPM	PPM PPM	PPM F	PPM P	PM PPM	PCT	PPM PPM	i PPM PPI	1 PPM F	PM PP	m ppm	PCT P	ст рст	PCT PC1	r ppm	PPM P	PM F	PM PP	m ppm ppi	1 PCT	PPM
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98R367		26 <,2	1026		5 2	0 3	27	17 <,2	<5	<5	<5 0.013	2.78	251 <10	538	3 57 <	<20 <2	0 2	2.00 2.	31 0.90	0.08 0.16	5 12	4	<2	9	4 <5 <10	0.10	<1
98R368		31 <.2	841		20 1	44	13	93 <.2	5	58	<5 0 . 025 :	>10.00	757 <10) <1 1!	5 4 <	<20 <2	06	0.29 0.	32 6.59	0.03 0.03	3 59	5	<2	<1	5 <5 <10	0.02	1
98R369		12 <.2	426		52	06	, 11	15 <.2	<5	<5	<5 0.016	3.41	284 <10) 51 39	783 <	:20 <2	04	2.52 3.	07 0.48	0.04 0.23	59	6	5	11 ·	4 11 <1	0.04	<1
98R371		<5 <.2	145		35	3 <1	10	7 <.2	<5	<5	<5 <.010	3.55	524 <10) 5 1(5 13 <	<20 <2	0 10	1.14 1.	15 6.94	0.19 0.0	7 134	6	<2	1	4 <5 <1	0.05	5
98r372		12 0.3	1968		86	2 18	5 5	9 0.6	<5	8	<5 0.022	8.58	2097 <10) <mark>8</mark> 2	7 8 <	<20 <2	07	0.31 0.	03 6.06	0.02 0.0	1 19	9	<2	<1	4 <5 <1	0.03	6
98R373		31 0.2	1576		6 1	52	2 3	4 <.2	<5	5	<5 0.059	6.15	1077 <10) 6 2	5 5 <	<20 <2	09	0.30 0.	01 4.67	0.02 <.0	1 2	9	<2	<1	3 <5 <1	0.03	6
98R374		<5 <.2	65		85	5 3	; 23	14 <.2	<5	8	<5 0.013	3.40	871 <10) 82 6	9 27 -	:20 <2	0 14	2.24 1.	88 0.39	0.03 0.74	4 <u>6</u>	7	<2	9	3 <5 <1	0.10	
98R375		57 2.2	7879		27 4	3 12	2 16	13 1.6	<5	7	<5 0.018	2.19	478 <10) 121 3	7 34 •	<20 <2	0 13	1.31 2.	71 2.78	0.06 0.1	1 95	12	<2	29	5 <5 <1	0.16	<1 .4
98R376	1	479 0.7	>10000	1.5	5 5]	2 <1		0 <.2	<>	<>	<> 0.112	1.0/	04 <1L	J 8 9.	5 4 4	<2U <2	U 1	U.48 U.	47 0.15	0.05 0.04	•	4	<2	2	2 3 3 1	1 0-05	S S I

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CLIENT: MR REPORT: V9	2. STEVE TR/ 28-01535.0	aynor (compl	LETE)									DATE	RECE	I VED :	: 26-A	UG-98	3	DATE	PRINT	ED: 1	5-SEP-	98 PA(ΞĒ	PROJE	ECT: 8)	ARSENAULT		
SAMPLE	ELEMENT	si02	TiO2 Al	.203	Fe203* MnC) MgO	CaC) Na20 K	20 P205	LOI	Total	Cr203	Ba	Sr		NЬ 🔅	Zr Rh	Се	Fu 8	inini Dati Li	u Ma	Sc	 					
NUMBER	UNITS	PCT	PCT	PCT	PCT PCT	PCT	PCT	ГРСТ Р	ст рст	РСТ	PCT	PCT	PPM	PPM	PPM P	PPM PF	PM PPM	I PPM I	PPM P	PM PPI	M PPM	PPM PPN	1 PPN	1 PPM	PPM	PPM		
98R366		30.31	0.12 3	5.97	21.21 0.26	5 2.06	22.43	6 0.29 0.	06 0.15	<0.05	80.86	<0_01	20	385	7	2 2	25 /											
98R367														505		L L	- -											
98R368		39.55	0.14 2	2.41	24.51 0.16	5 2.58	12.95	i 0.52 <.	05 0.12	5.86	88.82	<0.01	<10	89	9	2 4	1 2	22	<.5	13 < 3	2 <10	2615) 	21	6	-1		
98R369																- 200			100 March 100 Ma			2.0 (.)	1	- 6	0			
98r371		44.02	0.34 9	9.12	14.22 0.16	6.14	15.97	' 1.97 0.	28 0.26	6.48	98.94	<0.01	<10	276	11	77	793	38 ⁻	1.0	17 <.2	2 20	10.2 4.1	<1	6.7	7	<1		
98R372																												
98R373		49.48	0.08 1	.02	25.04 0.48	3 1.57	18.93	; 0 . 82 <.	05 0.14	<0.05	97.57	<0.01	<10	10	10	2 3	57 <2	24 (0.6	15 <.2	2 <10	1.7 1.4	 	1.6	4	<1 ·		
98R374		65.47	0.66 15	.06	5.62 0.22	2 3.31	1.87	0.56 3.	53 0.09	3.48	99_91	0.03	502	37	25	11 18	9 124	<u>85</u> ·	1.0	45 0.3	35	15.4 5.9	ଁ ୧ <1	15.0	4	2		
98R375										00000																		
98r376		88.73	0.14 4	.47	2.49 <.01	0.87	0.85	1.14 0.	31 0.04	1.17	100.22	0.03	49	51	5	32	1 7	· 5 <	<.5	3 <.2	? <10	6.5 0.5	<1	0.8	<1	<1		
98r377		67.53	0.55 11	.97	3.73 0.05	4.29	3.75	0.03 3.	13 0.16	4.29	99.53	0.03	715	189	25	11 15	n 11n	72 1	113	ζ <u>α</u> η 7	24		1	17.0				

ITS In Bo	ntertek Testing Service	ðs	Lab Report
LIENT: MR. STEVE TRAYNOR EPORT: V98-01535.0 (COMPLETE))	DATE RECEIVED: 26-AUG-98 DATE PRINTE	PROJECT: ARSENAULT D: 15-SEP-98 PAGE 2A(3/ 8)
TANDARD ELEMENT AU3O AG AME UNITS PPB PPM	Cu CuOL Pb Zn Mo Nî Co Cd Bî As Sb Hg PPM PCT PPM PPM PPM PPM PPM PPM PPM PPM PPM	Fe Mn Te Ba Cr V Sn W La Al PCT PPM PPM PPM PPM PPM PPM PPM PCT	Mg Ca Na K Sr Y Ga Li Nb Sc Ta Ti Zr PCT PCT PCT PCT PPM PPM PPM PPM PPM PPM PCT PPM
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annet Ref.Material 2554 - umber of Analyses 1 - ean Value 2554 - tandard Deviation ccepted Value 2520 -		· ·	
ANMET STD SY-3 Ander of Analyses ean Value tandard Deviation crented Value			
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NMET STREAM-SED - <.2 mber of Analyses - 1 ean Value - 0.1 candard Deviation -	36 - 29 150 1 18 12 0.5 <5	3.38 3240 <10	.82 1.63 0.03 0.08 28 22 <2 8 4 <5 <10 0.03 <1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 .82 1.63 0.03 0.08 28 22 1 8 4 3 5 0.03 0.5

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CLIENT: MR. STEVE TR REPORT: V98-01535.0	AYNOR (COM	PLETE)										DATE	RECEIN	/ED: 26-	AUG-98	C	DATE PR	INTED:	15-SEP	-98 P/	AGE	PROJECT 2B(4/ 8)	: ARSE	NAULT	
					· · · ·												 								
STANDARD ELEMENT	SiO	2 TiO2 Al2	03 Fe2	03* MnC) MgO	CaO	Na2O	K20 F	205	LOI	Total	Cr203	Ba	Sr Y	Nb Z	Rb	Ce Eu	ı La	Lu Nd	Sc	Sm T	b Th I	U Yb		
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Gannet Ref.Material		-	- 888	-	•	-		-		-		-		- 334	- 👸	-	•			- 3	H .	-	-		
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IENT: MR. STEVE TRAYNOR PORT: V98-01535.0 (COMPLETE)				DATE RECE	IVED: 20	5-aug-98	DATE	E PRINTED	: 15-SEP-98	PAGE 34	PROJECT:	ARSENAULT	
ANDARD ELEMENT AU3O Ag ME UNITS PPB PPM	Cu CuOL Pb PPM PCT PPM	Zn Mo Ni (PPM PPM PPM PI	Co Cd Bi / M PPM PPM PF	as SD Hg Pm PPm PPm	Fe Min Te PCT PPM PPM	e Ba Ci I PPM PPM	• V SI 1 PPM PPI	n W La M PPM PPI	a Al 1 PCT F	Mg Ca I CT PCT P(la K S CT PCT Pf	ir Y Ga M PPM PPM	Li ND S PPM PPM PI	Sc Ta Ti PM PPM PCT P
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CLIENT: MR. STEVE TRAYNOR REPORT: V98-01535.0 (COMPLETE)	ĊĊ		.	DATE RECEIVED: 2	6-AUG-98 (DATE PRINTED: 15-	SEP-98 PAGE	PROJECT: A 3B(6/ 8)	RSENAULT
STANDARD ELEMENT SiO2 TIO2 Al2O3 NAME UNITS PCT PCT PCT Granite - Cert.Ref.M Number of Analyses Mean Value Standard Deviation Accepted Value Number of Analyses Mean Value Standard Deviation	3 Fe2O3* MnO MgO T PCT PCT PCT - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 4 - - -	CaO Na2O K2O P2O5 PCT PCT PCT PCT - - - -	LOI Total C PCT PCT -	r203 Ba Sr PCT PPM PPM PP - 1385 570 1 - 1 1 - 1385 570 1 - 1000 348 4 - 1 1 - 1000 348 4 - 1000 348 4	Y Nb Zr Rb M PPM PPM PPM 5 23 243 188 1 1 1 1 5 23 243 188 4 21 235 185 1 19 755 73 1 1 1 1 1 9 755 73 0 22 760 78	Ce Eu La Lu PPM PPM PPM PPM P 	NCI SC SIN T PPM PPM PPM PP 	b Th U M PPM PPM P 	Yb PM

IENT: MR. PORT: V98	STEVE TRAYNOR -01535.0 (COMP	LETE)										: "	DATE RECE	IVED:	26-1	NUG-98	D	ATE P	RINTED	: 15-si	P-98	PAGE	PROJE	CT: ARSE B)	NAULT	
MPLE MBER	ELEMENT Au30 UNITS PPB	Ag PPM	Cu PPM	CUOL PCT I	Pb PPM P	zn i Pm pi	Mo Ni PM PPM	Co PPM	Cd B PPM PP	i As M PPM f	Sb Hg PPM PPM	Fe PCT	Mn Te PPM PPM	Ba I PPM I	Cr PPM F	V Sn PPM PPM	n W IPPMI	La PPM	AL PCT P	Mg CT F	Ca N CT PC	a K T PCT	Sr Y PPM PPM	Ga Lī PPM PPM	Nb Sc PPM PPM	Ta Ti PPM PCT
366 licate	17	< . 2	1093		10	13	29	25	<.2	6 16	<5 0.020	>10.00	1179 <10	19	17	4 <20	<20	2 0	.37 0.	19 >10.	00 0.0	1 0.04	172 4	<2 <1	5 <5	<10 0.02
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CLIENT: MR REPORT: V98	. STEVE TR 3-01535.0	aynor (compli	ETE)		-	-						DATE	RECE I VE	D: 26-A	JG~98	DAT	EPRIN	TED:	15-SEP-	98 PA(SE 4	PROJECT: B(8/ 8)	ARSENAUL	.T	
SAMPLE NUMBER 98R366 Duplicate	ELEMENT UNITS	SiO2 PCT 30.31	rio2 A PCT	l203 PCT 3.97	Fe203* Mn0 PCT PCT 21.21 0.26	Mg0 PCT 2.06	CaO Na2 PCT PC 22.43 0.2	0 K20 17 PC 19 0.00	D P205 T PCT 5 0.15	LOI PCT <0.05 <0.05	Total PCT 80.86	Cr203 PCT <0.01	Ba S PPM PP 29 38	г Ү I M РРМ РI 5 7	ND Zr PM PPM I 2 25	Rb C PPM PP 4	e Eu M PPM	La I PPM PI	Lu Nd M PPM	SC ST PPM PPM	n Tb I PPM) Th L I PPM PPN	i yd i ppm		
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Geochemical Lab Report

MR. STEVE TRAYNOR BOX 4375 WHITEHORSE, YUKON Y1A 3T5

		nterte	k Tes	ting Ser	vices					Geochemi Lab Report	ical
REPORT: V98-	01534.0 (COMPLETE)		•		REF	ERENCE :				
CLIENT: MR. PROJECT: ARS	STEVE TRAYNOR SENAULT					SUB Date R	MITTED BY: S. ECEIVED: 26-A	TRAYNOR UG-98 DATE PRINTE	D: 7-SEP-98		
	CI EMENT	NUMBER OF		EVIDACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	s numbe
(FFROVED	ELEBENT	ANALISES	DETECTION	EXTRACTION	RETION	S SOIL	54	1 -80	54	DRY, SIEVE -80	54
280903 1 Au	130 Gold	54	5 PPB	Fire Assay of 30g	30g Fire Assay - AA						
180903 ZAU 080903 ZAU	JWTI lest weight JSilver	54 54	0.01 GM	HCL HNO3 (3.1)		REPORT COPIES TO-	308 4375		INVOICE	TO. BOY /375	
780903 4 Cu	u Copper	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA				INVOICE	10. BOX 4375	
9 80903 5 Pb	b Lead	54	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	*****	******	*****	*****	****	****
980903 6 Zr	n Zinc	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	This rep	ort must not	be reproduced except	in full. The	data presented in th	is
080003 7 M	n Molytodenum	54	1 PPM	HCL + HNO3 (3+1)		report 1 applicab	S SPECITIC TO	those samples ident	"ified under "	Sample Number" and is	6
280903 8 N	i Nickel	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	otherwis	e indicated		a expressed o	in a uny basis unitess	
980903 9 Co	o Cobalt	. 54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	******	****	*****	****	*****	****
980903 10 Co	d Cadmium	54	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
780903 11 Bi	i Bismuth	54	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
10070J 12 A	s Arsenic	24	J PPM		INDUC. COUP. PLASMA						
980903 13 st	o Antimony	54	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 14 Fe	e Iron	54	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
780903 15 Mr 280903 14 Tr	n Manganese	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
200903 10 10 280903 17 R	e lellurium a Barium	24 54	10 PPM 1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 18 Ci	r Chromium	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
			•								
980903 19 V	Vanadium	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
20903 20 SI	Tunasten	24 54	20 PPM 20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA INDUC. COUP PLASMA						
980903 22 La	a Lanthanum	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 23 A	l Aluminum	54	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 24 Mg	g Magnesium	54	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
080007 75 0-		E/	0.01.007	UCL - UNOZ /Z-41							
280903 26 Na	a catchun a Sodium	54		HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 27 K	Potassium	54	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 28 Sr	r Strontium	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 29 Y	Yttrium	54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
780903 30 Ga	a Gallium	54	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
280003 31 13	i lithium	57		HCI .HNOZ (Z.1)							
280903 32 NH	n ⊾runu⊪ o Niobium	54 54	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
080003 33 6/	Scandium	54	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
00,700 00 00				······································							
780903 34 Ta	a Tantalum	54	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980903 34 Ta 980903 35 Ti	a Tantalum i Titanium	54 54	10 PPM 0.01 PCT	HCL:HNO3 (3:1) HCL:HNO3 (3:1)	INDUC. COUP. PLASMA INDUC. COUP. PLASMA						

- ()	TS	Inter Bonda	rtel ar C	k T legg		tin	g S	Sei	rv	ice	2S						- E .a					E		C I F	Jeod Lab Repo	chemica ort
CLIENT: M	IR. STEVE TRAYNOR				<i>و</i>											~~			· · · ·			PRO	JECT:	ARSEN	AULT	
REPORT: V	/98-01534.0 (COM	PLETE)									••••••	DATE	RECEI	VED:	26-AUG	-98	DATE	PRINTE	D: 7-SEP	-98	PAGE	1 OF	5		····	
SAMPLE	ELEMENT Au30	Au Wt1 Ag	Cu F	Þb Zn	Mo N	Co	Cd B	i As	Sb	Fe	Mn	Te B	a Cr	V	sn W	La /	AL M	g Ca	Na	K Sr	Y	Sa Li	Nb	Sc T	a Ti	Zr
NUMBER	UNITS PPB	GM PPM	PPM PF	PM PPM	PPM PPN	1 PPM F	PPM PPI	1 PPM	PPM	PCT	PPM P	PM PPI	M PPM	PPM P	PM PPM	PPM PC	ст рс	т рст	PCT PC	T PPM	PPM P	PM PPM	PPM	PPM PPI	M PCT	PPM
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0+00N BL	<5	30.92 <.2	239	7 56	2 28	3 12 •	<.2 <	5 12	<5	2.89	474 <	10 11	3 33	56 <	20 <20	18 1.7	76 1.1	9 0.40	0.02 0.0	9 19	8	3 11	<1	<5 <1	0 0.13	*1 •
0+00N 025	5E <5	30.76 <.2	209	5 51	2 28	3 14 •	<.2 <	> 11	<5 -	2.96	472 <	10 8	8 36	72 <u><</u>	20 <20	11 2.2	25 1.8	6 0.46	0.02 0.0	9 17	6	4 13	<1	6 <1	0.0.14	<1
0+00N 050	DE <5	20.09 <.2	164	8 91	3 30) 15	<.2 <	> 11	<5	3.50	548 <	10 9	5 33	58 5	20 <20	11 1.9	95 1.2	4 0.54	0.02 0.1	0 20	5	4 12	<1	<5 <1	0 0.12	<1
0+00N 075	5E 6	30.13 <.2	131 3	30 139	6 35	5 13 U	J.8 <	> 40 - 40	<5 .r	4.55	702 <	10 10	> 55	50 <	20 <20	20 2.0	05 1.2	1 0.58	0.02 0.1	1 25	10	4 12	· <1	<5 <1	0.0.14	<1
0+00N 125	DE <5	5.34 <.2	300 9	75 509	2 31	J 19 .	l.î: <	> 19	<5	4.14	849 <	10 9	(52	<u> </u>	20 <20	18 2	54 1.8	5 1.10	0.02 0.1	8 40	19	4 10		20 <1	U U.14	× 1
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0+00N 175			87	19 00	2 1	+ 1J 1 17	··· ` / ? / /	5 /0	-5	3.71 4 26 1	130 N	10 10	7 7 7	51 2	20 ~20	35 2 (nz 1 4	8 0.70		5 72	22	4 14 / 0	21	5 21	0 0.12	<u></u>
)E <5			12 56	- ॉ 1 ॉ	10 13 a	27 2	5 25	-5	7.EU ' 3.33	589 2	10 7	3 20	45 <	20 <20	18 1 4	62 1 1	0 0 53		0 21	7		 	<5 <1		
0+00N 200	5E <5	30.09 4.2	63	10 50	2 30	0 17		5 31	<5	3.84	635 <	10 8	8 45	65 <	20 <20	19 2 /	65 2 2	1 0 81	0.02.0.1	5 28	10	6 17	, °¦	<5 <1	0.18	<u>~</u> 1
0+00N 250)⊑ 13	30.27 < 2	68	16 74	1 4	0 15	<2 <	5 42	<5	4.11 1	162 <	10.8	1 34	53 <	20 <20	26 2.2	23 1.7	5.0.59	0.02 0.0	9 25	14	5 11	<1	<5 <1	0.0.12	<1
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1+005 025	5E <5	5 20.06 <.2	197	13 72	2 4	4 14	<.2 <	5 25	<5	4.08	807 <	10 13	0 40	55 <	20 <20	35 2.	11 1.2	9 0.70	0.03 0.1	6 40	22	4 11	<1	7 <1	0 0.13	<1
1+00s 050		5 30.42 <.2	303	11 69	3 4	5 16	<.2 <	5 14	<5	3.59	592 <	10 15	4 43	57 <	20 <20	21 1.8	80 1.0	3 0.62	0.03 0.1	3 37	12	4 12	<1	5 <1	0 0.13	5
1+005 100	0E <5	5 30.10 <.2	160	14 61	2 3	4 13	<.2 <	5 24	<5	3.77	414 <	:10 6	9 32	44 <	20 <20	14 1.9	95 1.1	0 0.56	0.02 0.0	9 28	7	3 10	· <1	<5 <1	0 0.10	<1
1+00s 125	5E 24	30.04 <.2	116	14 64	1 38	8 15	<.2 <	5 26	<5	3.87	661 <	10 8	6 31	47 <	20 <20	18 2.0	05 1.1	6 0.57	0.02 0.1	1 31	9	4 10	· <1	<5 <1	0 0.10	<1
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1+00s 200	0E <5	5 15.14 <.2	181	25 60	22	9 15).3 <	5 15	<5	3.71 1	272 <	:10 16	7 22	32 <	20 <20	39 1.8	88 0.8	5 0.83	0.01 0.1	3 38	15	3 10	<1	<5 <1	0 0.02	<1
1+00s 225	5E <5	5 25.36 <.2	63	25 83	2 5	0 22	<.2 <	5 32	<5	4.74 1	242 <	10 9	6 37	52 <	20 <20	31 2.2	21 1.2	5 0.87	0.01 0.1	2 41	15	4 12	: <1	<5 <1	0 0.11	<1
1+00s 250	0E <5	5 15.15 <.2	87	28 108	3 6	9 34	<.2 <	5 56	<5	7.13 1	365 <	:10 9	0 34	43 <	20 <20	30 2.0	08 1.4	5 0.51	0.01 0.1	3 27	21	3 13	<1	5 <1	0.06	<1
2+00S BL	<5	5 15.01 <.2	58	14 67	23	7 16	<.2 <	5 18	<5	3.82	462 <	:10 11	1 41	53 <	20 <20	22 2.0	07 1.2	0 0.53	0.02 0.1	3 24	11	4 11	<1	<5 <1	0 0.14	1
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2+003 21.	 NF	5 30 DR < 2	108	13 10A	23	4 15	;;	5 1R	~5	3.99	618 2	10 0		57	20 ~20	20 2 0	10 1 2	5 N K1	0.01 0.1	4 25	10	5 11	21 21	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	1 0 12	24 24
2+005 300	~_ `_ 5¤ ~*	5 15.94 < 2	204	9 142	24	18).5 <	5 17	<5	3.95	680 <	10 7	7 37	50 8	20 <20	41 2 7	30 1 6	1 0 71	0.02 0 1	3 20	23	5 12	21 21	<5 21	0.13	<1
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5.5. S. S. S. S. S. S. S. S. S.

-9	TS	Inte Bond	rtek ar Cl	Te c Te egg	sti	ng S	Serv	vice	es										Geo Lab Rep	chemical ort
CLIENT: M REPORT: V	R. STEVE TRAYNOR 98-01534.0 (CON	R APLETE)	-						D	ATE RECE	IVED: 26	AUG-98	DA	TE PRINTE	D: 7-SEP-	98 PA	F 3E 20	ROJECT:	ARSENAULT	
			and a	e de la composición d				arta. 1					, 	 	: men beer				the state	
SAMPLE	ELEMENT AU30) Au Wt1 Ag	Cu Pł	o Zn Ma	> Ni C	o Cd B	As S	b Fe	Mn Te	Ba Cr	V Sn	W La	AL	Mg Ca	ı Na k	(Sr)	í Ga	Li Nb	Sc Ta Ti	Zr
NUMBER	UNITS PPE	3 GM PPM	PPM PPN	1 PPM PPN	1 PPM PP	m PPM PPN	I PPM PP	M PCT	PPM PPM	PPM PPM	PPM PPM	PPM PPM	PCT	PCT PCT	PCT PC1	PPM PPI	1 PPM F	PPM PPM I	PPM PPM PCT	PPM
2.000 750	.e	- 15 /1 - 3	- 357 (· 47 ·	· / · · ·	7 - 7 - 4	. 70 -	E / 00	750	94 70	/5 /20	<u>~</u> 20 22	.	1 25 0 47	0.02.0.1/	74 1(,	10 21	-5 -10 0 11	-1
2+005 300		7 70 00 < 7	200 0	<i>י וסיק</i> סלר	2 42 I 2 1.6 2	1 2 2 2	; 07 <	5 / 8/	706 -10	00 30	43 ~20	<20 22	2.00	2 08 0 61		20 10	J 4 (5	16 <1	<5 <10 0.11	_>। ∠1
2+005 375		30.00 <.2	. <u>272</u> . 609 1/	, 70 -	3 40 2 3 41 1	J 、 C 、 8 < 7 く	; <u>-</u> ;	5 4 41	721 <10	90 J4	47 ×20 57 <20	<20 20) 2.00 /	1 34 1 00		2 1 1 2 40 1	1 5	14 11	<5 <10 0.13	2
2+005 400	ис об арт 17	3 30.00 <.2	457 1	5 55 5	3 34 1	4<2 <	5 22 <	5 4.03	552 <10	89 44	61 <20	<20 15	2.82	2.79 0.81	0.01 0.13	· · ·	7 8	17 <1	6 <10 0.15	<1
2+005 450	F 1	30.97 < 2	83 8	3 63 2	2 27 1	1 <.2 <	5 22 <	5 3.07	459 <10	83 30	49 <20	<20 15	1.69	0.98 0.32	2 0.01 0.13	s 15 a	5 4	9 <1	<5 <10 0.11	<1
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3+00s 025	ie <	5 30.45 <.2	2 75 1	2 98 2	2 35 1	6 0.3 <	5 21 <	5 3.62	772 <10	121 37	51 <20	<20 22	1.85	1.16 0.46	5 0 . 02 0.14	18 10) 4	10 <1	<5 <10 0.13	<1
3+00s 050)E <	5 15.54 <.2	2 125 14	4 129 2	2 43 1	5 0.4 <	5 16 <	5 3.52	464 <10	145 41	55 <20	<20 28	1.98	1.11 0.48	3 0.02 0.10	5 21 14	4 4	11 <1	<5 <10 0.14	4
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3+00S 100)E (6 10.28 <.2	2 83 1	279	3 30	9 <.2 <	5 30 <	5 3.14	636 <10	114 38	52 <20	<20 17	1.84	1.06 0.57	0.01 0.12	2 24 3	7 4	11 <1	<5 <10 0.10	<1
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3+005 125	έε </td <td>5 25.56 <.2</td> <td>2 135 1</td> <td>9 124 4</td> <td>4 24 1</td> <td>20.2 <</td> <td>5 19 <</td> <td>5 3.42</td> <td>470 <10</td> <td>71 25</td> <td>52 <20</td> <td><20 14</td> <td>1.70</td> <td>1.14 0.59</td> <td>0.01 0.11</td> <td>22</td> <td>73</td> <td>11 <1</td> <td><5 <10 0.11</td> <td><1</td>	5 25.56 <.2	2 135 1	9 124 4	4 24 1	20.2 <	5 19 <	5 3.42	470 <10	71 25	52 <20	<20 14	1.70	1.14 0.59	0.01 0.11	22	73	11 <1	<5 <10 0.11	<1
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3+005 175		4 30.22 <.2	(1/9 1) 107 1	1 04 . 0 177 1	5 33 I 5 73 1	4 <.2 < 2 0 5 4) 14 S	5 3.23 5 7 07	571 410	11/ 74	49 <20	<20 13	1 1 . 00	0.90 0.40 1 17 0 97		o 24 (⊧ 73 (10 11	<5 <10 0.11	S1 24
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3+00s 250)e 10	0 5.79 <.2	2 753 1	096 (6361	8 0.4 <	5 21 <	5 4.53	623 <10	94 32	57 <20	<20 39	2.49	1.54 0.61	0.01 0.13	3 24 18	3 4	19 <1	8 <10 0.03	<1
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3+00S 400)E (6 15.08 <.2	2 399 9	9 62 4 7 EE -	4 <i>21</i> 1 7 20 1	4 <,2 <	> 34 <	5 5.6/	/8/ <10	84 37	60 <20	<20 15	1.86	1.02 0.25		12	> >	9 <1	<5 <10 0.11	<1
3+005 423		5 30.64 <.2	2 DUU 2 1072 -	()) . (45)) 20 I / 70 I	2 3.2 S	· · · · ·	5 7 00	470 10	12 34 61. 33	49 ×20 52 200	<20 10	2.10	1.12 0.23	0.010.14	10 :	2 4 . E	7	<5 <10 0.10	<u></u>
37005 450	JE <	J 10:40°<.2	. 1032 (י נס נ	+ 24 1	U N.2 <	, 16 ,	, ,,,,,	471 NIU	04 33	JC 720	~ <u>2</u> 0 10	, 2.20	1.00 0.09	- 0.04 U.II	1 16 (11	~> ~10 0.12	

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CLIENT: MR. REPORT: V98	STEVE TRA' -01534.0 ((NOR Compl	ete)			-00								DATE	RECE	I VED :	26-AU	G-98	DA	ATE PR	INTED	; 7-9	EP-98	PAG	SE 3	PROJE OF 5	CT:	ARSENAU	JLT		
STANDARD	ELEMENT A	Au30 A PPB	u Wt1 GM F	Ag Cl PM PPN	J Pb 1 PPM	Zn l PPM P	MO NI PM PPN	i Co 1 PPM F	Cd E PPM Pf	Bi As PM PPM	Sb PPM	Fe PCT	Mn PPM F	Te B PPM PP	a Cr M PPM	V PPM	Sn PPM PP	W La M PPM	AL 1 PCT	Mg PCT	Ca PCT	Na PCT	K S PCT PI	Sr) PM PPI	(Ga 1 PPM	Li PPM F	ND PM P	SC Ta PM PPM	Ti PCT	Zr PPM	
ANALYTICAL	BLANK	<5	- <	.2 <	 <2	<1	<1 <1	1 <1	<.2 ·	<5 <5	<5 •	< . 01	<1	<10 <	1 <1	<1	<20 <2	0 <1	<.01	<.01	<.01	<.01 ·	< . 01	<1 <'	1 <2	<1	<1	<5 <10	<.01	<1	
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Number of A	nalyses	3	-	2 2	2 2	2	2	22	2	2 2	2	2	2	2	22	2	2	2 2	2 2	2	2	2	2	2	2 2	2	2	2 2	2	2	
Mean Value		3	- ().1 0.!	51	0.5 0	.5 0.5	5 0.5 (0.1	33	3	.005	0.5	50.	5 0.5	0.5	10 1	0 0.5	5.005	.005	.005	.005	.005 0	.5 0.!	5 1	0.5 ().5	35	.005	0.5	
Standard Da	viction	_		_ 2000	×.					- 3343	_ 1		-		- 606	8 -	2000-528 - 0.0000 - 2.00 - 2.0	- 333	- 12		-		- 3		- 88	-	•	-	- 1		
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Number of A	Analyses	1	1	- 333			- 333	-		- 3355	-		-		-	•		- 333	-		-		- 33		- 200	-		- 33	- 10		
Mean Value		2507	32.51	- 333	-	•	- 333	88 73 -		- 88	-		-		- 333	÷ -		- 333	88 88 -		-		- 33		- 333	8 - 8		- 33	- 8		
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Accepted Va	alue	2520	•	-	-	•	-		•	-	-	•	-	-	-	-	1	-	-	-	-	•			-	-			-		
Gannet Ref.	.Material	980	30.29	-		•	-	-		-	-	•	-		-	-		-	-		-		- 33		-	-	-	- 4	-		
Number of A	Analyses	1	1	-	•	•	- 🐰	- -			-		- '		-	- -		- 33	-		-		- 33		- 🞆	-		- 333	- 8		
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Standard D	eviation	-		- 2000	•		-	- %		- 333	-		-		- 33	-		- 33	- 10		-		- 33		- 🎆			- 200	-		
Accepted Va	alue	1070	-	-	-	-		-			-		-		-	-	•	-	-	•	-		-		-	-		-	-		

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_IENT: MR. EPORT: V98-	STEVE TR/ 01534.0 (AYNOR (COMP	LETE)											DATE	RECEIV	D: 26-/	UG-98	DAT	TE PRII	NTED:	7-SEI	P- 98	PAGE	2 4 OF	5	AKSENAULI	
TANDARD Ame	ELEMENT UNITS	Au30 PPB	AU Wt1 GM	Ag PPM	Cu PPM	Pb PPM	Zn PPM F	Mo I PPM Pi	li (PM PF	Co Cd B PM PPM PP	i As M PPM P	Sb Fe PM PCT	Min PPM F	Te Ba PPM PP1	a Cr M PPM PI	V Sn M PPM I	W La PPM PPM	AL PCT	Mg PCT	Ca PCT I	Na PCT PI	K Sr CT PPM	y PPM	Ga L PPM PF	.i Nb PM PPM P	SC TA T PM PPM PC	i Zr T PPM
ANMET STRE# umber of Ar ean Value	AM-SED nalyses	- - -	-	<.2 1 0.1	38 1 38	35 1 35	162 1 162	2 ; 1 2 ;	20 ' 1 20 '	15 0.7 < 1 1 15 0.7	5 20 1 1 3 20	<5 3.81 1 1 3 3.81	3612 • 1 3612	10 269 1 5 269	9 27 4 1 1 9 27 4	47 <20 1 1 47 10	<pre><20 21 1 1 10 21</pre>	1.26 (1 1.26 (0.87 1 1 0.87 1	.80 0 1 .80 0	.03 0.0 1 .03 0.0	08 30 1 1 08 30	24 1 24	2 1 2	9 <1 1 1 9 0.5	<5 <10 0.0 1 1 3 5 0.0	4 <1 1 1 4 0.5
tandard Dev ccepted Va	viation lue	-	•	- 0.3	- 36	- 34	- 165	- 2	- 18		17	2 3.50	- 3740	-	28			-	-	-	*		-	-			

	TS	Inte Bon	o c erte dar (ek Clo	T	es s	sti	ng	S	bei	CV	ic	es						1													G La Re	eoc ab epc	chemica ort
CLIENT: MR. REPORT: V98	STEVE TRAYNOR -01534.0 (COM	PLETE)			UL	·			••••					DA	te ri	ECEI	VED:	26-A	UG-S	98	DAT	E PRI	NTED	: 7-	SEP-	98	PAGE	: 5	proj of 5	ECT:	ARS	ENAUI	LT	
SAMPLE	ELEMENT Au30 UNITS PPB	Au Wt1 GM Pl	Ag Cu Pm PPM	Pb PPM	Zn PPM	Mo PPM F	Ni PPM F	Co Cd PPM PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Mn PPM	Te PPM	Ba PPM	Cr PPM	V PPM F	Sn PPM P	W Pm F	La / PPM P(AL CT	Mg PCT	Ca PCT	Na PCT	K PCT	Sr PPM	y PPM	Ga PPM	Li PPM	Nb PPM	Sc PPM	Ta PPM	Ti PCT	Zr PPM
0±00N 125E	<5	5 34 <	2 300	95	509	2	30	19 1.1	<5	19	<5	4.14	849	<10	97	52	66 <	:20 <	20	18 2.3	34 1	.83 1	.16	0.02	0.18	40	19	4	16	1	20	<10	0.14	<1
Duplicate		<	.2 310	99	532	2	31	20 1.1	<5	20	<5	4.32	875	<10	101	56	68 <	<20 <	20	18 2.4	43 1	.92 1	.20	0.02	0.18	41	20	4	17	3	21	<10	0.14	<1
2+005 BL	<5	i 15.01 <	.2 58	5 14	67	2	37	16 <.2	<5	18	<5	3.82	462	<10	111	41	53	<20 <	20	22 2.0	07 1	1,20 0	.53	0,02	0.13	24	11	4	11	<1	<5	<10	0.14	1
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2+00S 100E Duplicate	21	25.66 < <	.2 579 .2 580) 11) 12	97 98	3 3	40 40	20 0.3 19 <.2	<5 <5	15 16	<5 <5	4.31 4.32	500 502	<10 <10	110 108	34 35	52 52	<20 < <20 <	<20 <20	29 2. 28 2.	28 1 25 1	1.55 0 1.55 0	.58 .57	0.02 0.01	0.18 0.18	20 19	14 14	4 4	12 12	<1 1	5 5	<10 <10	0.13 0.12	<1 <1
2+005 4505	10	ງ <u>3</u> ∩ 97 <	2 87	68	63	2	27	11 <.2	<5	22	<5	3.07	459	<10	83	30	49	<20 <	<20	. 15 1.4	69 ().98 (.32	0.01	0.13	15	6	4	9	<1	<5	<10	0.11	<1
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3±000 125E	~"	5 25 56 4	2 135	6 19	124	4	74	12 0.2	<5	19	<5	3.42	470	<10	71	25	52	<20 <	<20	14 1.	70 1	1.14 C	.59	0.01	0.11	22	7	3	11	<1	<5	<10	0.11	<1
Duplicate		<	.2 134	19	125	3	24	12 0.3	<5	19	<5	3.43	481	<10	73	25	53	<20 <	<20	14 1.	71	1.15 C	.60	0.01	0.12	22	7	3	11	<1	<5	<10	0.11	<1
3+005 350E	<"	5 5 5 8 <	(2 547	s 10	84	6	35	14 <.2	<5	39	<5	4.22	562	<10	120	42	60	<20 <	<20	24 2.	34 1	1.39 (.31	0.01	0.15	14	8	5	12	<1	<5	<10	0.10	<1
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MR. STEVE TRAYNOR BOX 4375 WHITEHORSE, YUKON Y1A 3T5

		S B_{Bc}	ndar C	K IES	ung Ser	vices		-					Lab Rep) ort	
EPORT: N	/98-0174	6.0 (COMPLETE)						REFERENCE:						
IENT: M	IR. STEV	e traynor							SUBMITTED BY: S. TRA	YNOR		••••••			
ROJECT:	ARSENAU	LT				· · · ·		DAT	E RECEIVED: 24-SEP-98	8 DA	TE PRINTED:	6-0CT-98			
te Proved	ELE	MENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELE	NUM MENT AN	BER OF ALYSES	LOWER DETECTION	EXTRAC	FION	METHOD	
31005 1	1 Au30	Gold	12	5 PPB	Fire Assay of 30g	30g Fire Assay -	AA 981005 37 s	Si02	Silica (SiO2)	5	0.01 PCT	BORATE F	JSION	INDUC. COU	P. PL/
31005 2	2 Au Wt1	Test Weight	12	0.01 GM	FIRE ASSAY	FIRE ASSAY-AA	981005 38 1	rio2	Titanium (TiO2)	5	0.01 PCT	BORATE F	JSION	INDUC. COU	P. PL/
31005 3	3 Ag	Silver	12	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 39 /	AL203	Alumina (Al2O3)	5	0.01 PCT	BORATE FI	JSION	INDUC. COU	P. PL/
31005 4	4 Cu	Copper	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 40 I	Fe203*	Total Iron (Fe2O3)	5	0.01 PCT	BORATE FU	JSION	INDUC. COU	P. PL/
31005 5	Pb	Lead	12	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 41 N	1n0	Manganese (MnO)	5	0.01 PCT	BORATE FL	JSION	INDUC. COU	P. PL/
51005 6	5 Zn	ZINC	12	1 PPM	HCL:HNOS (3:1)	INDUC. COUP. PLAS	MA 981005 42 M	1g0	Magnesium (MgO)	5	0.01 PCT	BORATE FL	JSION	INDUC. COU	P. PL/
31005 7	7 Mo	Molybdenum	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÅ 981005 43 (CaO	Calcium (CaO)	5	0.01 PCT	BORATE FI	ISTON		D DI
1005 8	3 Ni	Nickel	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 44 N	la20	Sodium (Na2O)	5	0.01 PCT	BORATE FL	ISTON	INDUC COU	
1005 9	9 Co	Cobalt	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 45 M	(20	Potassium (K2O)	5	0.05 PCT	BORATE FL	ISION	INDUC, COU	P. PL
81005 10) Cd	Cadmium	12	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 46 F	·205	Phosphorous (P205)	5	0.03 PCT	BORATE FL	JSION	INDUC. COU	P. PL
31005 11	l Bi	Bismuth	12	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ 981005 47 l	.01	Loss on Ignition	5	0.05 PCT	Ignition	1000 Deg.	GRAVIMETRI	C
31005 12	2 As	Arsenic	12	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ 981005 48 1	fotal	Whole Rock Total	5	0.01 PCT	•			-
31005 13	3 Sb	Antimony	12	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 49 0	Cr203	Chromium Oxide	5	0.01 PCT		ISTON		
31005 14	4 Fe	Iron	12	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 50 E	Ba	Barium	5	10 PPM	Pressed F	Pellet	XRAY FILIOR	FSCEN
31005 15	5 Mn	Manganese	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ 981005 51 s	Sr	Strontium	5	1 PPM	Pressed F	Pellet	XRAY FLUOR	ESCEN
31005 16	5 Te	Tellurium	12	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ 981005 52 Y	1	Yttrium	5	1 PPM	Pressed F	Pellet	XRAY FLUOR	ESCEN
31005 17	7 Ba	Barium	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ 981005 53 N	b	Niobium	5	2 PPM	Pressed F	Pellet	XRAY FLUOR	ESCEN
31005 18	3 Cr	Chromium	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 54 Z	2r	Zirconium	5	1 PPM	Pressed F	Pellet	XRAY FLUOR	ESCEN
31005 19	7 V	Vanadium	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA 981005 55 R	٤b	Rubidium	5	2 PPM	Pressed (ellet		FSCEN
31005 20) Sn	Tin	12	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ			-	2	11000001		ARAT I LOOK	LOCEN
31005 21	1 W	Tungsten	12	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ								
31005 22	2 La	Lanthanum	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ SAMPLE TYF	PES .	NUMBER SIZ	ZE FRACT	IONS	NUMBER	SAMPLE PR	REPARATIONS	NUMBE
31005 23	S AL	Aluminum	12	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ				•••••				
31005 24	4 Mg	Magnesium	12	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLAS	MA R ROCK		12 2	-150		12	CRUSH/SPL	IT & PULV.	\$
31005 25	5 Ca	Calcium	12	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ						IUIAL JAP	WLE FREF	•
31005 26	5 Na	Sodium	12	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ								
31005 27	7 K	Potassium	12	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÀ REPORT COP	PIES TO	D: BOX 4375			INVOICE T	O: BOX 437	5	
31005 28	3 Sr	Strontium	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MĄ		:						
31005 29	7 Y	Yttrium	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MĄ *	*****	******	******	******	******	*******	********	***
31005 30) Ga	Gallium	12	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MA	This I	report must not be re	eproduce	d except in	full. The	data prese	ented in this	6
31005 31	l Li	Lithium	12	1 PPM	HCL:HNO3 (3:1)	INDUC, COUP. PLAS	MA	applic	able only to the series	no les as	received a	tu under "S Xoressed or	ample Numb	ver" and is	
31005 32	2 Nb	Niobium	12	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ	other	vise indicated	pico do	i decived e	npi esseu Ol	a ury Das	na unicess	
31005 33	3 Sc	Scandium	12	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÅ *	*****	******	******	********	******	*******	******	***
31005 34	i Ta	Tantalum	12	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLAS	MÁ								
81005 35	5 Ti	Titanium	12	0.01 PCT	HCL:HNO3 (3:1)	INDUC, COUP. PLAS	MÁ								
					······································										

		Inte	erte dar (k Cle	T gg	est	ing	Se	erv	vice	S S											J			Ge La Re	och b por	nemi t	cal
CLIENT: REPORT:	MR. STEVE TRAYNOR	PLETE)										DATE F	RECEIV	/ED:	24-SEP	-98	DATE		FD:	6-001-98		GF 1	PROJ	ECT: /	ARSENAULT	•		•••••
						120000 0000000		5 . 888							3000005		8					ч с і						
SAMPLE NUMBER	ELEMENT AU30 UNITS PPB	AUWT1A GMPP	Ig Cu M PPM	Pb PPM P	Zn M PPM PP	IO NI M PPM	Co Cd PPM PPM	Bi A PPM PPI	s Sł M PPN	D Fe 1 PCT	Mn PPM I	Te E PPM PF	3a Cr >M PPM	V PPM	Sn PPM PI	W La M PPM	AL PCT	Mg PCT	Ca PCT	Na k PCT PC1	Sr PPM I	Y DDM D	Ga L	i Nb	Sc Ta	Ті РСТ р	Zr SiO	2 TiO2
																									rrn rrn	FUI P	FRI FG	1 501
98R398	10	31.31 <.	2 43	5	10 1	8 31	12 <.2	<5 <	5 <5	5 1.70	315	<10 1	3 153	28	<20 <2	20 12	0.92	0.33 1	1.04 C	.03 0.16	o 13	6	<2	32	<5 <10	80.0	2 72.2	3 0.46
98R400	7 9	32.20 <. 31.46 <	2 84 2 518) 7	18	5 55 4 20	24 <,2 31 < 2	<১ ১ <১ ১	5 <5 5 <5	5 4.54	185 154	<10 3 <10 /	59 122 10 107	37	<20 <2	20 14	1.38	0.81 (0.52 (16	8	<2 /2	72	<5 <10	80.0	5 65.3	5 0.87
98R400	, 25	15.82 2.	1 4689	11	32	5 13	13 <.2	-> <5	, 7 <5	5 >10.00	209 •	<10	9 36	, J.	<20 <2	20 9	0.47	0.24 1	.55 0	.03 0.05	35	с 6	\$2 <</td <td>33 12</td> <td><5 <10 <5 <10</td> <td>0.11</td> <td>1 33 N</td> <td>6 0 36</td>	33 12	<5 <10 <5 <10	0.11	1 33 N	6 0 36
98R402	23	15.39 1.	3 1970	12	23	6 15	88 <.2	<5	? <5	5 >10.00	185	<10	4 55	<1	<20 <2	20 18	0.42	0.18 1	.12 0	.04 0.06	25	5	~2 <	1 3	<5 <10	0.05	<1 <1	0.30
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APPENDIX D

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> PETROGRAPHIC (THIN SECTION) REPORT

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24 - 2023 Winfield Drive Abbotsford, BC V3G 1K5 fax From: Date: Oct 8 1998 Bruce Northcote leve Traynor Number of Pages: 8 67) 667-6784 (for Vancouver Phone: (604) 859-4618 Petrographics) Fax: (604) 859-4619 Remarks Π Dear Steve. The following is a fax copy of petrographic descriptions for your samples 98R375, 376, 396, 407. A hard copy will follow via courier with photomicrographs and your thin sections and offcuts. To quickly respond to some of your questions, 375 and 376 both look like intermediate to mafic \square metavolcanics, although 376 has abundant quartz, which may have been introduced - textures in the quartz are more consistent with veins than quartzite, chert or purely metamorphic segregations. B The copper mineralization in 396 consists of malachite, which occurs in late veinlets. I could not * Note. This simple is not from the Arsonault, It is from a different orrea in the Yukon. Cost statement find primary Cu minerals, Several of the samples contain late carbonate and chlorite, and in one case K-spar veinlets which the cut across the metamorphic fabric, but the chalcopyrite (where present) shows no obvious relationship to these and appears to belong to an earlier phase of mineralization. All of the samples have been affected to some degree by shearing. Please feel free to contact me with any questions of concerns. E Sincerely. Nattat Bruce Northcote

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for Steve Traynor

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Prepared by K.E. Northcote & Associates for Vancouver Petrographics October 13, 1998

[1] 98R375 Greenstone (→amphibolite)

Summary description

Metamorphic rock consisting mainly of actinolite and plagioclase with lesser chlorite, quartz, and epidote. At least two generations of carbonate can be identified -- one parallel to fabric, which has undergone some deformation, and late crosscutting microveins. Chlorite is also observed in late crosscutting veins. Plagioclase is overprinted with fine sericite and locally partly replaced by carbonate.

Copper mineralization consists of finely scattered chalcopyrite, some of which is enclosed by plagioclase, quartz, epidote, and amphibole and is not obviously related to the late veining.

Protolith was probably an intermediate volcanic.

Microscopic description

Transmitted light

Plagioclase; 45-50%, anhedral (0.01 to 1.0 mm). Interlocking plagioclase in roughly lensoidal segregations (affected by shearing). Has a strong dusting of sericite alteration. Some local carbonate replacement. Myrmekitic intergrowths of quartz noted locally.

Amphibole (tremolite-actinolite); 25-30%, euhedral to subhedral (0.01 to 1.0 mm). Elongate laths with planar preferred orientation. Thin metamorphic segregations developed, disrupted by shearing. Very pale green pleochroic, maximum extinction angle 17°, biaxial (-) with moderately high 2V. Properties consistent with tremolite-actinolite.

Carbonate; most occurs in irregular veinlets in amphibole segregations, following the overall fabric, but a few carbonate (+quartz) microveins run perpendicular to the fabric and crosscut the previous generation. Most of these microveins have undergone some minor, local deformation. Chlorite is commonly associated [carbonate reacts with cold, dilute HCI -- calcite].

Sericite; <5%, anhedral (microcrystalline). Strong dusting of sericite alteration in plagioclase.

Quartz; 3-5%, anhedral (0.05 to 0.5 mm). A few quartz lensoids parallel to fabric and some quartz is intermixed with the plagioclase. Some elongate "segregations" parallel to fabric may represent deformed veins. Generally the quartz is strongly strained in these, compared to that interlocking with the plagioclase.

Chlorite; 2-3%, anhedral (<0.01 to 0.8 mm). Most is coarse, oriented parallel to foliation, but some is in veins cutting across the metamorphic fabric.

[1] Continued

Epidote; <1%, anhedral (0.01 to 0.1 mm). Sparse epidote, mainly in plagioclase.

Biotite; traces, anhedral (0.05 to 0.1 mm). Pale reddish-brown flakes in plagioclase segregations, oriented parallel to fabric.

Tourmaline; trace, subhedral (0.2 mm). Very sparse. Brownish-green core and pale rims.

<u>Veins</u>:

Carbonate veins as noted above; both parallel to fabric and minor late, crosscutting microveins which cut amphibole, plagioclase crystals and earlier fabric-parallel carbonate. Some chlorite and quartz associated.

K-feldspar; a veinlet containing K-feldspar (<1.0 mm wide) is observed cutting across the fabric in the stained offcut.

Reflected light

Sphene; 1-2%, anhedral to euhedral (<0.01 to 0.1 mm). Scattered throughout. Some encloses rutile.

Rutile; \leq 1%, anhedral (<0.01 to 0.1 mm). Scattered crystals, commonly enclosed by sphene.

Hematite; traces, anhedral (<0.01 to 0.1 mm). Hematite with chlorite, carbonate, and guartz in a deformed, discontinuous vein (?), parallel to overall fabric.

Chalcopyrite; traces, anhedral (<0.01 to 0.1 mm). Scattered diffuse clusters. Most in plagioclase and quartz but also observed in amphibole. Some is enclosed by euhedral, unaltered grains of amphibole.

Pyrite, euhedral (0.01 mm). Very sparse.



Photomicrograph 98R XXII 17 Reflected light Scale 0.1 mm_____, Pictured: Malachite occupies cavity in chalcopyrite. Blue mineral is covellite.

Summary description

Slivers of greenschist alternate with bands of quartz. The greenschist portion of the sample consists of plagioclase, epidote, chlorite, calcic clinoamphibole, and remnants of biotite. Chlorite and amphibole produce a weak foliation. Protolith was probably a mafic to intermediate volcanic or intrusive.

Quartz bands consist of interlocking quartz with widely varying grain size. Generally without crystalloblastic texture. Most is strained. Possibly originally veins(?).

Copper mineralization consists of interstitial chalcopyrite in quartz-rich portions, and unevenly disseminated chalcopyrite in greenschist "slivers." Some alteration of chalcopyrite to covellite.

[2] Continued

Microscopic description

Transmitted light

Quartz; 60-65%, anhedral (<0.01 to 2.0 mm). Interlocking quartz in lenses or deformed veins alternating with bands of feldspathic material. Quartz ranges from strongly to weakly strained. Some recrystallization has occurred around grain edges. Lesser quartz is intermixed with plagioclase in the feldspathic / chloritic segregations. Quartz bands probably represent introduced material rather than purely metamorphic segregations, based on texture (generally not crystalloblastic).

Chlorite; 5-7%, anhedral to subhedral (0.01 to 1.0 mm). Ragged bladed chlorite intermixed with plagioclase, epidote, and amphibole. Chlorite has a very rough preferred orientation which contributes to foliation. Observed partially replacing biotite in some cases.

Amphibole; 3-5%, anhedral to subhedral (<0.01 to 2.0 mm). Ragged amphibole laths have very rough preferred orientation in slivers of greenschist. Green to pale brown pleochroic, biaxial (+) interference figures obtained -- probably hornblende.

Epidote; 3-5%, anhedral (<0.01 to 2.0 mm). Irregular grains of epidote with chlorite and amphibole.

Biotite; <0.5%, subhedral (0.01 to 0.5 mm). Partly (largely) replaced by chlorite. No preferred orientation discerned.

Sericite / muscovite; \leq 1%, anhedral (microcrystalline to 0.1 mm). Plagioclase is dusted with sericite alteration. Very minor coarser colourless mica occurs with biotite.

Malachite; trace, anhedral (<0.05 mm). Alteration of chalcopyrite.

Reflected light

Chalcopyrite; 1-2%, anhedral (<0.01 to 0.5 mm). Coarse and interstitial in quartz-rich portion of sample and irregularly disseminated in greenschist portion of sample. Some associated with lesser pyrrhotite.

Rutile; traces+, anhedral (<0.01 to 0.2 mm). Scattered grains, mainly in greenschist portions of section.

Pyrite; traces+, anhedral to euhedral (0.01 to 0.5 mm). Sparsely disseminated, mainly in greenschist slivers.

Pyrrhotite; traces, anhedral (0.01 to 0.2 mm). Sparse, associated with chalcopyrite

[2] Continued

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Covellite; traces, anhedral (<0.01 to 0.1 mm). Alteration of chalcopyrite.

Unknown; traces, anhedral (≤ 0.01 mm). Alteration product of chalcopyrite, with covellite. Bluish-grey colour. Too fine for reliable identification. Possibly chalcocite.

Hematite; traces+, anhedral (<0.01 to 0.1 mm). Locally forms rims around chalcopyrite and pyrite.

[4] 98R407 Amphibolite



Photomicrograph 98R XXII 19 Reflected light Scale 0.1 mm Pictured: Euhedral amphibole enclosed by chalcopyrite; sphalerite rims on chalcopyrite

Summary description

Consists largely of green pleochroic amphibole laths with preferred orientation. Minor, scattered, roughly equant grains of pale green to pinkish-brown pleochroic clinopyroxene is probably diopside. Minor plagioclase and small quartz lensoids are present.

Contains interstitial carbonate (calcite) in diffuse streaks parallel to the dominant fabric. Chalcopyrite is also interstitial with respect to the euhedral-to-subhedral amphibole, and is generally observed with carbonate. Locally, sphalerite forms thin rims on chalcopyrite.

[4] Continued

Microscopic description

Transmitted light

Amphibole; 80-90%, anhedral to euhedral (<0.01 to 1.0 mm). Section consists largely of pale green amphibole laths with preferred orientation. Biaxial (-) with high 2V (~80°). Green to bluish-green pleochroic. Maximum extinction angle approximately 17°. Calcic clinoamphibole -- actinolite or hornblende.

Clinopyroxene (diopside?); <5%, anhedral, subhedral (0.1 to 0.5 mm). Similar in colour to amphibole but with a pinkish tint in one orientation. Occurs as scattered, roughly equant grains. Higher relief than the amphibole. Biaxial (+), 2V 50-60°. Maximum extinction angle approaches 45°. Characteristic pyroxene cleavages at near 90°.

Carbonate; 3-5%, anhedral to euhedral (<0.01 to 1.0 mm). Interstitial to amphibole, in diffuse and discontinuous bands parallel to fabric. Calcite -- reacts with cold, dilute HCI.

Plagioclase / albite; 1-2%, anhedral (0.01 to 1.0 mm). Interstitial to amphibole in small segregations. Most has apparently associated chalcopyrite and carbonate.

Quartz; 1-2%, anhedral (<0.01 to 0.5 mm). Strained quartz in small lensoidal aggregates.

Epidote; ≤1%, anhedral (<0.01 to 0.2 mm). Sparsely scattered irregular grains.

Reflected light

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Chalcopyrite; 3-5%, anhedral (<0.01 to 1.0 mm). Interstitial to amphibole. Some is rimmed with sphalerite. Arranged in narrow and diffuse bands, commonly but not exclusively with carbonate.

Sphalerite; traces+, anhedral (<0.01 to 0.05 mm). Sphalerite observed as thin rims on chalcopyrite.

Sphene; <1%, anhedral (<0.01 to 0.1 mm). Disseminated.

