

REPORT ON GEOLOGY, GEOCHEMISTRY
ASSAY RESULTS

BRAN CLAIM

Record No. 3424

OMINECA MINING DIVISION

N.T.S. 93F/14E

Latitude: 53⁰ 55'W

Longitude: 125⁰ 06'W

OWNER: J.C. STEPHEN

OPERATOR: DOME EXPLORATION (CANADA) LTD.

by

K.A. D'ARCY

J.C. STEPHEN

November 13, 1981

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO.

9776

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY AND CONCLUSIONS	1
INTRODUCTION	2
CLAIM REGISTER	4
GEOLOGY: ROCK UNITS	7
ROCK DESCRIPTIONS	8
GEOCHEMISTRY	14
CONCLUSIONS AND RECOMMENDATIONS	16
STATEMENT OF EXPENDITURES	17
APPENDIX I - PETROGRAPHIC REPORTS	
APPENDIX II - SAMPLE DATA SHEETS	
APPENDIX III - SAMPLE HANDLING PROCEDURES	

LIST OF ILLUSTRATIONS

			<u>Page</u>
FIGURE I	LOCATION MAP	Scale 1:250,000	3
MAP I	BRAN CLAIM GROUP GEOLOGY	Scale 1:1000	IN POCKET
MAP II	BRAN CLAIM GROUP GEOCHEMISTRY	Scale 1:5000	IN POCKET
MAP III	AIR PHOTO ENLARGEMENT	Scale 1:5000	IN POCKET

REPORT ON GEOLOGY, GEOCHEMISTRY

ASSAY RESULTS

BRAN CLAIM

SUMMARY AND CONCLUSIONS

Assay of a mineralized float fragment found in 1980 lead to staking the BRAN claim. Geological mapping, a soil sample survey, prospecting and rock sampling was done during May, 1981.

A north west trending creek valley follows the trend of a fault zone which contains intermittent carbonate-quartz veining.

No assays of economic significance have been obtained from bedrock exposures of vein material or from pyritized fractured volcanics. Float fragments of similar vein type material have assayed as high as 330 oz per ton silver.

No mineralization has been found in place, and because of the limited tonnage indicated by the type of occurrence, no further work is recommended for the current exploration program.

The property may be of interest to a small company on an option basis.

INTRODUCTION

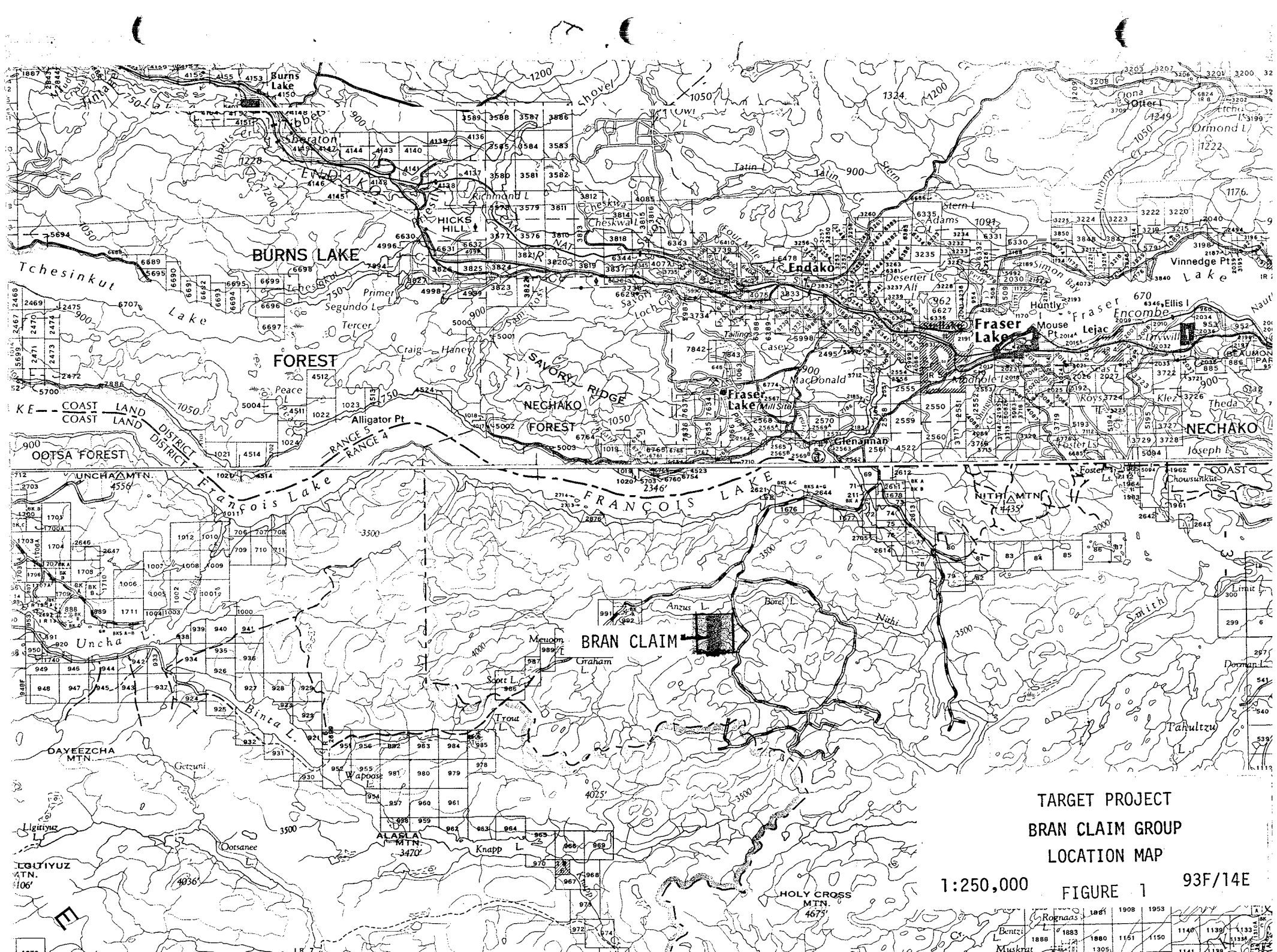
Location and Access

The BRAN 1 claim is located immediately south of Anzus Lake which is 22 kilometres southwest of Fraser Lake on Highway 16. See Figure 1 Location Map.

Logging roads in the area have been recently rebuilt but access may be conveniently gained from Fraser Lake via the east end of Francois Lake to the narrows between Anzus and Borel Lake. From the narrows to the legal claim post at the south east corner of the property, access is by way of a somewhat rough road for which a 4-wheel drive vehicle is recommended.

Physiography

The claim occupies a portion of the Nechako Plateau which is an area of moderate relief covered by extensive glacial till deposits. Rock exposure is limited with the best exposure being along the canyon like portion of the creek valley on the claim block.



TARGET PROJECT
BRAN CLAIM GROUP
LOCATION MAP

1:250,000 FIGURE 1 93F/14E

	1961	1908	1953
Bentz	1883	1151	1150
Muskkrat	1305		
Rognaas	1140	1139	1133
	1141	1139	1133

CLAIM REGISTER

<u>Name</u>	<u>Record Number</u>	<u>Anniversary Date</u>
BRAN 1	3424	November 14

HISTORY

No indication of previous exploration was evident on the claim although exploration has been conducted on silver, lead, zinc, copper mineralization occurring north of Cabin Lake, 6 kilometres southeast of the property.

A reconnaissance silt sample program was conducted in the region by Target Project for uranium during 1977. Follow-up work was done in 1978, 1979. In 1980, selected samples were analyzed for gold and arsenic. A sample immediately south of Anzus Lake returned 155 ppm arsenic. This anomalous value was investigated by prospecting which located the vein structure in "Bran" creek. A sample of mineralized float assayed 220 oz per ton silver and lead to staking the BRAN claim.

Target Project is a prospecting program funded by Dome Exploration (Canada) Ltd. and conducted by J.C. Stephen Explorations Ltd.

SUMMARY OF WORK

Prospecting was conducted over the BRAN claim, an area of 4 square kilometres by geologist Jean Pautler. Detailed compass survey and geological mapping of the "Bran" creek canyon was done by geologist Kim D'Arcy and Julia O'Connor. This mapping is shown on Map I at a scale of 1:1000.

Float and vein exposures were "grab" or chip sampled for assay purposes and results for 16 samples are shown on Map I.

Soil sampling was conducted on a tape and compass grid. A total of 221 samples were analyzed for zinc, silver, arsenic and gold and results are shown on Map II at a scale of 1:5000. Soil sampling covered one square kilometre in the central part of the claim plus a portion of the south boundary.

Map III is a reproduction of a 1:5000 scale enlargement of air photo BC 7560-278 showing the general character of the claim topography.

GEOLOGY

(Kim D'Arcy)

Method of Mapping

The creek course was surveyed by tape and brunton compass to provide a base map at a scale of 1:1000. Outcrop areas were then mapped together with vein fault zones.

Chip samples were taken across significant vein exposures for assay and representative pieces of float vein material was also sampled. Mineralized pieces were assayed while several were run geochemically.

Rock Units

TABLE OF FORMATIONS

4		CONGLOMERATE
	4a	Hematitic conglomerate
	4b	Conglomerate breccia
	4c	Basaltic conglomerate
3	3a,3b	Dacite Tuff
	3c	Dacite Porphyry
	3d	Fine dacite porphyry
	3e	Dacite Dykes
2		Andesite Tuff
	2a	Coarse Andesite Tuff
1		Basalt

BRAN GROUP

Rock Descriptions

Unit 1 - Basalt

This is fine grained, dark, present in subordinate amounts apparently as flows in sequences where andesitic tuffs are the dominant rock type.

Unit 2 - Andesite Tuff

This is a dominant rock type in the area. It is a fine grained, dark green tuff containing fragments of andesite and porphyritic andesite,(see thin section Report 2). It is generally pyritized and slightly altered.

2a-Coarse Andesite Tuff

This is a coarse grained dark green rock with pale phenocrysts/fragments several millimetres in size. It was previously mapped as granodiorite. Due to its observed relationship to the finer tuffs (it generally overlies the fine tuff and a distinct contact was never observed) it has been mapped as a coarse tuff.

Unit 3 - Dacite Tuff

Dacite tuff as a whole are also a dominant rock type in the area. The fine tuff is the most abundant of these tuffs. These are fine grained grey-green rocks which may be magnetic and are altered. A thin section was done of this rock type. (Report 3)

3a-Dacite Tuff - Medium Fragments

This rock type is buff coloured with fairly homogeneously sized fragments. It is distinctly different in appearance from the fine tuff and distinct contacts may be observed. No thin section was done of this rock type.

3b-Dacite Tuff - Coarse Fragments

The coarse tuff is present only in minor amounts and is only observed at the north western end of the creek. The rock is pale buff in colour with coarse fragments of white, angular dacite. The rock is altered. It is found overlying a conglomerate. Thin section work was performed on this rock. (Report 3b)

3c-Dacite Porphyry

This is a dark green porphyritic rock present in minor amounts generally with the coarse andesite tuff. (It underlies the tuff at the north western end of the creek) Thin section work was done (Report 3c) indicating that it is a hypabyssal porphyry with strongly altered phenocrysts. It has an unusual texture. Again, the phenocrysts are homogeneous in size and distribution and the rock looks bluish on a fresh surface to greenish on a weathered surface.

3d-Fine Dacite Porphyry

Again, this is a minor rock type, found at the south eastern end of the creek associated with fine dacite tuffs. It is an equigranular looking hypabyssal rock. Thin section work was done on this. (Report 2c)

3e-Dacite Dykes

Minor rock type, pale green to black in colour with an aphanitic cherty appearance. Dykes are generally no more than 0.5 metres wide. It is observed underlying the fine andesite tuffs.

4a-Hematitic Conglomerate

This rock type is minor in occurrence and found only at the extreme north western end of the mapped area of the creek. It

has a grey-purple clay rich matrix with large rounded pebbles of hematite and volcanics. This rock weathers to a red colour.

4b-Conglomerate Breccia

This is the most abundant conglomerate in the area. It also has a grey-purple matrix which is clay rich and contains small subrounded to subangular fragments of volcanics and hematite. It weathers to a greenish-purple colour. In some places this rock looks almost like a breccia.

It is found overlying the coarse dacite tuff at the north western end of the creek but is also observed in association with (apparently underlying) the andesite tuffs in the central area of the creek.

4c-Basaltic Conglomerate

This is also a minor rock type with a basaltic looking matrix containing large rounded pebbles which appear basaltic in composition. It is found in the south eastern end of the creek overlain by fine andesite tuffs.

Petrographic reports are provided as Appendix I

The sequence is generally basalt, andesitic tuffs, dacite tuffs, conglomerate. However, in the central part of the creek, andesitic tuffs overlie dacitic tuffs.

It is difficult to correlate the units but it seems likely that fine and medium dacite tuffs were overlain by the andesitic tuffs and in turn are overlain by the coarse dacitic tuff. Conglomerate (b) was probably formed last and deposited in topographic lows.

The fine porphyry (3d) was probably late, possibly intruded as a larger dyke but there is little outcrop. The coarse porphyry (3c) was also probably late but is also present in such minor amounts that it is difficult to determine much about it.

However, these and the dykes (unit 3e) appear to have similar orientations and seem to reflect a major fracture system or fault.

Vein Fault Structure and Mineralization

Carbonate and quartz carbonate vein filling occupies a system of joints and faulting trending approximately 290° and dipping vertically. In portions of the best vein filling, quartz or carbonate material would generally occupy widths of 20 cm or less but in some sections, fault gouge, sheared rock and vein material will aggregate widths up to 1 metre or more where parallel structures occur. Examples occur between survey stations F and G and at station O. See Photo 1.



Photo 1 - Chip sampling vein zone between stations F and G

At locations such as station H northeast trending faults intersect the vein fault system without apparent significant offset of either system. These northeast trending faults contain minor carbonate filling up to 10 cm wide as above station CC.

Vein float material returning assays of 37.9 oz, 220 oz and 331 oz silver per ton were located in the vicinity of stations W, X, Y. A similar large mineralized float was later found between stations F and G.

The vein fault system does not appear to be a single strong break but rather a series of breaks which tend to fade out into a series of tight joints or curve off to the north west in a "horsetail" structure. In some areas, as at station G and between J and K, the dacite is relatively well fractured and contains pyrite both on fracture planes and disseminated.

No significant sulphide mineralization was found in outcropping vein material and the best assays of this material were in the order of 0.60 oz per ton silver.

High grade float material contains sphalerite, tetrahedrite and minor galena. The vein material, however, appears otherwise identical to that in outcrops.

The vein fault structure appears to be generally independent of the volcanic rock types but is not known to cut the conglomerate.

GEOCHEMISTRY

Procedure

Soil sampling was done on tape and compass lines at 100 metre intervals with samples taken at 50 metre stations. Several lines were irregular due to inexperience of the crew.

The intention was to sample the B horizon at each station but this proved difficult due to frozen ground conditions in May. Some sample locations were missed due to swamp areas. Sample data sheets are provided as Appendix II. The sampling conditions, as known to the writer, (J.C.S.) and shallow depth of many samples, suggests that a large proportion of the samples should be recorded from the A horizon rather than B horizon as noted.

Samples were taken with a grub hoe and material was placed in a Kraft paper bag marked with the grid location. A piece of flagging marked with the same grid location was tied at the sample site.

Samples were shipped in the raw state to Chemex Labs Ltd., North Vancouver for analysis. These samples were dried, sifted to -35 mesh and pulverized to 100 mesh before analysis. Methods are given briefly in Appendix III.

Results and Interpretation

No anomalous values were obtained for silver except for two isolated values of 0.8 ppm and one of 2.4 ppm along the trend of the creek valley and approximately on the trend of the vein-fault zone.

Zinc values are generally in the 30 - 50 ppm range with a few values in the 70 - 90 ppm range which are fairly generally scattered with a tendency for more of these values to be "down ice" to the east of the creek valley.

The higher zinc values greater than 100 ppm to a high of 485 ppm occur along the trend of the creek valley or as widely scattered samples down ice to the east.

One anomalous (?) gold value of 80 ppb was obtained.

Arsenic values are generally quite low, generally around 10 ppm with a high of 65 ppm. These values do not account for the original high silt value of 155 ppm near Anzus Lake. Later silt sampling did not return anomalous arsenic values.

The geochemical results for soil sampling do not provide useful anomalies. This is probably due mainly to the glacial till cover and partly due to poor quality samples from frozen soil.

CONCLUSIONS AND RECOMMENDATIONS

Although not discussed in this report, the Target Project also carried out detailed prospecting for precious metals in the immediate region. No mineral showings of significance were located.

Geochemical sampling on the BRAN claim has not been of value in locating a source of the high grade float found in BRAN creek.

Mapping and chip sampling along BRAN creek has not located high grade material in place and the character of the float fragments is such that a source of only very small tonnage may be expected.

It is concluded that the probable mineralized target is too small to be attractive as an exploration target for this program.

Respectfully submitted

J.C. STEPHEN EXPLORATIONS LTD.


J.C. Stephen

STATEMENT OF EXPENDITURES

Wages and Benefits

<u>Name</u>	<u>Date</u>	<u>Rate</u>	<u>Amount</u>	
J. O'Connor	May 16-31	\$1750.m+15%	\$1,038	
K. D'Arcy	May 16-31	\$1750/m+15%	1,038	
J. Lawton	May 16-31	\$1000/m+15%	593	
L. Fasullo	May 16-31	\$1000/m+15%	593	
J. Pautler	May 20-29	\$1950/m+15%	723	
M. Masson	May 16-18	\$1750/m+15%	194	
J.C. Stephen	May 16,20, 21,31	\$150/day	<u>600</u>	\$4,779

Food and Camp Supplies

77 man days @ \$10 770

Geochemistry and Assaying

	<u>No. of Samples</u>	<u>Elements</u>	<u>Rate</u>	<u>Cost</u>	
111111	52 Geochem	Zn,Ag,As,Au	\$10.25	\$ 533	
111301	117	Zn,Ag,As,Au	\$10.25	1,199	
111302	52	Zn,Ag,As,Au	\$10.25	533	
111303	13 Assays	Au,Ag	\$ 8.50	110	
	3 Assays	Au,Ag+ 1 of Zn,Pb,Cu	\$13.50	<u>40</u>	2,415

5 Thin Sections and Petrographic Reports

255

TOTAL

\$8,219

NOTE: Not Included - Truck Rental

- Check Sampling and Assaying

- Preparation Photos, Maps, Reports

STATEMENT OF QUALIFICATIONS

KIMBERLEY D'ARCY

Education B.Sc. Geology 1981
Queen's University

Experience J.C. Stephen Explorations Ltd.
May 1980 -
Junior Geologist

K.A. D'Arcy, Geologist

STATEMENT OF QUALIFICATIONS

J.C. STEPHEN

Academic

1950 Associate Member British Institute Engineering Technology
1950-1951 One year Geology University of Alberta

Experience Summary

1947-1955 Development and production experience in engineering and geology at Central Patricia Gold Mines, Eldorado Mining and Refining, Madsen Gold Mines, Hasaga Gold Mines, Pickle Crow Gold Mines as Surveyor, Assistant to the Engineer, Geologist.
1955-1959 Regional exploration experience with Pickle Crow Gold Mines, Combined Developments Ltd., R.G. Crosby and Associates, Jay-Kay Syndicate as Field Geologist.
1959-1961 Municipal construction including monolithic concrete tunnels as Senior Inspector.
1962-1968 Regional exploration with Mastodon Highland Bell Mines as field geologist.
1968-1976 Regional exploration with Bacon and Crowhurst Ltd., as supervisor of exploration syndicates.
1977-Present President J.C. Stephen Explorations Ltd.

During May 1981 I supervised mapping and sampling on the BRAN claim group.

J.C. Stephen Explorations Ltd.


J.C. Stephen

APPENDIX I

PETROGRAPHIC REPORTS



Vancouver Petrographics Ltd.

JAMES VINNELL, Manager

JOHN G. PAYNE, Ph. D. Geologist

P.O. BOX 39

8887 NASH STREET

FORT LANGLEY, B.C.

VOX 1JO

Report for: J.C. Stephen,
J.C. Stephen Explorations Ltd.,
1458 Rupert Street,
NORTH VANCOUVER, B.C., V7J 1G1

PHONE (604) 888-1323

Invoice 2892

Samples: Five samples labelled 2, 2c, 3, 3b, and 4

The samples are grouped as follows:

1. Tuffaceous rocks

composition from andesite to dacite, with a variety of fragments of andesite and dacite as well as fragments of plagioclase and quartz phenocrysts

#2 : fine grained tuff, variable texture, fragments of andesite, porphyritic andesite, and of quartz and plagioclase grains in a groundmass dominated by plagioclase, possibly with quartz, and lesser sericite, biotite, and Ti-oxide. The presence of andesite fragments and of biotite and Ti-oxide in the groundmass suggests that this rock is more mafic than the other tuffaceous rocks, and it is given the name andesite. Probably it is intermediate between andesite and dacite.

#3 : fine dacite tuff, scattered fragments of quartz and plagioclase grains in groundmass dominated by plagioclase and sericite. The rock contains moderately abundant pores.

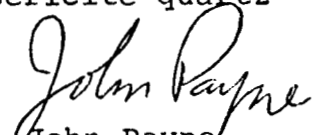
#3b: coarse dacitic tuff, abundant fragments of various types of dacite and of plagioclase phenocrysts, minor fragments of quartz and muscovite phenocrysts in a groundmass dominated by plagioclase and sericite, with patches of very fine grained opaque.

2. Hypabyssal intrusive rocks

composition dacitic, porphyritic with plagioclase, hornblende, and minor biotite phenocrysts in a groundmass of plagioclase, quartz, (chlorite), and moderately abundant opaque, apatite and Ti-oxide; moderately to strongly altered, especially phenocrysts

#2c : hypabyssal dacite porphyry, plagioclase phenocrysts altered to sericite-epidote?; hornblende phenocrysts altered to actinolite-epidote-chlorite-(calcite) in various assemblages. Secondary patches of coarse grained quartz-calcite with actinolite needles in calcite and a few patches of chlorite.

#4 : hypabyssal dacite porphyry, groundmass finer than for #2c; plagioclase phenocrysts altered to kaolinite-sericite±limonite; hornblende phenocrysts altered to calcite-sericite-quartz


John Payne,
October 1981

Sample #2 Altered Andesite Tuff

The rock is a variable fine grained tuff, probably of andesitic composition, which has been somewhat altered with addition of sericite and pyrite. The rock contains several fragments up to 2 mm across. Some fragments are difficult to distinguish from groundmass; variations in composition in patches from 1 to 3 mm exist which may be original fragments or just variations in groundmass composition in an inhomogeneous rock.

definite fragments	
quartz grains	4- 5%
plagioclase grains	2- 3
epidote-rich patches	1- 2
lathy andesite	3- 5
porphyritic andesite	1- 2
groundmass	
plagioclase-quartz	45-50
sericite	15-20
biotite	7-10
Ti-oxide rich patches	5- 7
pyrite	1- 2

Quartz forms subangular grains from 0.15 to 0.5 mm in size. These probably represent fragments of original phenocrysts in dacite.

Plagioclase forms grains from 0.3 to 0.5 mm in size; some are partly altered to fine grained epidote. These are original plagioclase phenocrysts in andesite or dacite.

Epidote-rich patches consist mainly of epidote and opaque, possibly with Ti-oxide. Grains average 0.3-0.5 mm in size. Epidote commonly forms prismatic grains up to 0.2 mm long in a very fine grained groundmass of epidote and opaque. Some of these may represent altered mafic phenocrysts, or possibly even plagioclase phenocrysts.

Rock fragments include two types of andesite. They form fragments up to 2 mm across. The first type consists of plagioclase laths averaging 0.1-0.2 mm in grain size in a very fine grained groundmass of plagioclase and epidote. The second contains a few plagioclase phenocrysts up to 0.7 mm long in a very fine grained groundmass dominated by plagioclase laths averaging 0.1 mm long. The latter are in subparallel orientation suggesting that the fragment is part of an andesite flow.

The groundmass has a variable composition, with irregular patches containing more or less sericite, biotite, and Ti-oxide. Much of the groundmass consists of extremely fine grained (0.01 mm) plagioclase possibly with quartz. Sericite occurs in the groundmass as scattered grains and patches up to a few mm across which are mainly sericite. Possibly sericite is an alteration of the plagioclase-rich groundmass. A few patches appear to be composed mainly of extremely fine grained quartz, and may represent cherty sediments, possibly of exhalite origin. Biotite occurs as extremely fine grained patches, possibly of secondary origin; patches are up to 0.2 mm across and grade gradually to rapidly into the plagioclase-rich groundmass. Some patches contain abundant Ti-oxide; these average 0.1-0.15 mm in size, and grade into the plagioclase-rich groundmass.

Pyrite forms scattered anhedral grains averaging 0.1-0.3 mm in size, with a few up to 1 mm across.

One fragment 0.3 mm across consists of a very fine grained aggregate of muscovite.

Sample #2c

Hypabyssal Dacite Porphyry

The sample contains plagioclase and lesser hornblende and minor biotite phenocrysts in a groundmass dominated by plagioclase with lesser quartz, chlorite, opaque, and epidote. Scattered coarse grained patches consist of quartz-calcite-(actinolite-chlorite). The yellow stain on the offcut block is due to sericite alteration of plagioclase phenocrysts and groundmass; no K-feldspar was identified in the rock.

phenocrysts

plagioclase	35-40%
hornblende	8-10
biotite	½- 1

groundmass

plagioclase	35-40
quartz	5- 7
chlorite	3- 5
epidote	½- 1
opaque	2- 3 (moderately abundant magnetite)
apatite	minor

patches

quartz	2- 3
calcite	1- 1½
actinolite	0.3
chlorite	minor

Plagioclase forms subhedral prismatic phenocrysts averaging 0.5-1.5 mm in size, with a few over 2 mm long. Grains are slightly overgrown by irregular patches of plagioclase in the groundmass, giving the phenocrysts ragged outlines. Alteration is to extremely fine grained sericite and epidote? (very high relief dusty inclusions).

Hornblende forms subhedral to euhedral grains averaging 0.5-1.5 mm in size. They are variably altered. Some altered grains consists mainly of actinolite with minor epidote patches. Others appear to be replaced further along the borders of grains to very fine grained chlorite, and a few grains consist mainly of chlorite with minor actinolite and minor to moderately abundant epidote. Calcite occurs in a few altered grains.

Biotite forms a few phenocrysts from 0.5 to 1 mm in size. They are completely altered to pseudomorphic chlorite with minor patches of epidote and Ti-oxide.

The groundmass is dominated by plagioclase, which forms an aggregate of anhedral to prismatic grains averaging 0.05-0.2 mm in length. They are slightly to moderately altered to dusty sericite and epidote. Quartz forms scattered interstitial grains averaging 0.03-0.05 mm in size. Chlorite forms patches averaging 0.05-0.3 mm in size. Pleochroism of chlorite is from pale to light-medium green. Epidote forms irregular grains and clusters of grains averaging 0.05-0.15 mm in size; clusters commonly are associated with opaque grains and clusters. Opaque forms equant grains averaging 0.03-0.05 mm in size, with a few up to 0.3 mm in size. The latter occur in clusters with epidote and minor apatite. Apatite forms grains from 0.05-0.15 mm in size, with a few elongate grains up to 0.4 mm long.

Alteration patches up to 3 mm across consist of aggregates of coarse to medium grained quartz and calcite, with abundant acicular to elongate prismatic actinolite grains in calcite, and scattered patches of chlorite. Actinolite grains average 0.3-0.5 mm in length, with a few up to 1 mm long. Chlorite occurs in a very fine grained aggregate.

Sample #3

Fine Dacite Tuff

The rock contains scattered fragments of quartz and plagioclase crystals, probably original phenocrysts, in an extremely fine grained groundmass dominated by plagioclase and sericite, with minor opaque (hematite?) and Ti-oxide. The rock contains moderately abundant pores up to 1 mm in size, averaging 0.1-0.2 mm.

fragments

quartz	1%
plagioclase	0.5-1
groundmass	
plagioclase	65-70
sericite	20-25
hematite	2- 3
Ti-oxide	1- 2
pores	5- 7
epidote	one grain (origin uncertain)

Quartz forms subangular to angular fragments averaging 0.05-0.3 mm in size, with a few up to 0.7 mm across. These are of single grains or locally of quartz aggregates of a few grains.

Plagioclase forms grains from 0.2-0.6 mm in size with subhedral outlines, probably representing original plagioclase phenocrysts. They are mainly unaltered to very slightly altered to dusty sericite? and opaque.

The groundmass consists mainly of extremely fine grained (0.01-0.02 mm) plagioclase in equant aggregates, with local patches up to 0.03 mm in grain size. Intergrown relatively uniformly with plagioclase is very fine grained sericite flakes. Locally sericite occurs in sericite-rich patches up to 0.5 mm in size. A few muscovite flakes up to 0.15 mm long are present. Sericite shows no preferred orientation.

Hematite? forms disseminated grains and clusters of grains averaging 0.03-0.05 mm in grain size, and also forms dusty grains scattered through the groundmass.

Ti-oxide forms patches averaging 0.05-0.1 mm in size, composed of very fine grained aggregates.

Epidote forms one subrounded grain 0.1 mm across; it may be a fragment or may be of secondary origin.

The rock contains moderately abundant pores averaging 0.05-0.3 mm in size, with a few over 1 mm across. Borders generally are irregular, but a few have subhedral to euhedral outlines, suggesting that the pores once held a mineral which has since been completely removed. Probably most pores represent original cavities in the rock.

The rock is cut by a few limonite veinlets with alteration halos in which limonite is intergrown with sericite of the groundmass. These probably are of weathering origin.

Sample #3b

Coarse Dacitic Tuff

The sample contains fragments of several types of dacitic rocks, and fragments of plagioclase and of quartz grains in an extremely fine grained groundmass of plagioclase and sericite with patches of opaque.

fragments

dacite	
Type A	15-20%
Type B	7-10
Type C	1- 2
Type D	½- 1
plagioclase	7-10
quartz	½- 1
muscovite	minor
groundmass	
plagioclase	30-35
sericite	25-30
opaque	2- 3

Type A dacite forms fragments up to several mm across. It is a porphyritic dacite with 10-25% phenocrysts of plagioclase up to 1 mm in size in a very fine grained groundmass of plagioclase and sericite.

Type B dacite is a fine grained rock composed of equant grains of plagioclase and quartz averaging 0.05-0.2 mm in size, with abundant opaque grains up to 0.5 mm in size and Ti-oxide grains up to 0.15 mm across. Some fragments appear to have the texture of a vein, with more abundant quartz and opaque relative to plagioclase and sericite.

Type C dacite is an extremely fine grained rock with abundant epidote alteration. Some fragments contain scattered plagioclase laths up to 0.3 mm in size.

Type D dacite is a very fine to extremely fine grained rock composed of cherty quartz or quartz-plagioclase.

Some fragments are difficult to classify. As well, some fragments appear to have a very similar texture to the groundmass, with borders of fragments outlined by slightly different contents of sericite (generally higher along the contacts).

Plagioclase forms scattered to locally abundant crystal fragments from 0.3 to 1 mm in size. These are slightly altered to extremely fine grained sericite.

Quartz forms angular grains averaging 0.2-0.5 mm in size, with a few up to 1 mm across.

Muscovite forms a few grains and clusters of grains from 0.3-0.6 mm in size.

The groundmass consists of extremely fine grained plagioclase with variable amounts of extremely fine to very fine grained sericite and patches of opaque. Sericite locally is very abundant, and the texture suggests that some of these patches may be sericite-rich fragments, possibly pumice in origin. However, these appear to grade into normal groundmass. Opaque forms clusers up to 1 mm in size of clusters of equant grains averaging 0.03-0.05 mm in size. These are partly intergrown with groundmass plagioclase and sericite.

Sample #4Hypabyssal Dacite Porphyry (Plagioclase, Hornblende),
strongly altered phenocrysts

The rock contains plagioclase and hornblende phenocrysts in a groundmass dominated by plagioclase and lesser quartz, with moderately abundant apatite and opaque as accessory minerals. Plagioclase is altered to kaolinite-sericite-limonite. Hornblende is altered to a variety of combinations of sericite-calcite-quartz.

phenocrysts

plagioclase	35-40%
hornblende	10-12
biotite	minor

groundmass

plagioclase	35-40
quartz	8-10
opaque	2- 2½
Ti-oxide	1- 1½
apatite	1- 1½

Plagioclase forms euhedral prismatic grains from 0.5 to 1.2 mm in size. These are in random orientation throughout the rock. They are completely altered to very fine grained to extremely fine grained aggregates of kaolinite-sericite with or without limonite as very fine grained patches. Most grains contain more kaolinite than sericite, but a few contain more abundant sericite.

Hornblende forms euhedral prismatic phenocrysts up to 1.2 mm in size. They are also randomly distributed through the rock. Alteration shows a variety of assemblages and textures. Some grains are altered to patches of very fine grained sericite in the cores, with thin rims composed of fine to very fine grained quartz and lesser interstitial sericite. It is difficult to determine if the quartz is part of the original grain or is a reaction with the groundmass during alteration. Other grains contain cores of fine to medium grained calcite with patches of sericite and rims of quartz. Some do not have the quartz rim, and others do not have the zone of sericite. A few are replaced entirely by fine to medium grained aggregates of calcite. Associated with hornblende are abundant grains of apatite and opaque, either along hornblende grain borders or in inclusions.

Biotite forms a few ragged phenocrysts up to 0.5 mm in size. These are replaced by irregular aggregates of muscovite.

In the groundmass, plagioclase occurs as irregular aggregates of grains averaging 0.03-0.05 mm in size. They are slightly altered to very fine grained sericite. This probably is what causes the yellow stain in the offcut block, rather than K-feldspar; however, it is possible that the groundmass contains extremely fine grained K-feldspar. Dusty opaque masks the texture of altered plagioclase.

Quartz forms equant anhedral grains averaging 0.03-0.05 mm in size intergrown with plagioclase.

Opaque forms grains averaging 0.05-0.1 mm in size, and locally forms clusters of grains up to 0.5 mm across. Apatite commonly is associated with opaque as subhedral grains averaging 0.05-0.1 mm in size. A few apatite grains are up to 0.4 mm long. Ti-oxide forms scattered grains averaging 0.05-0.2 mm in size, commonly associated with irregular opaque grains and patches.

APPENDIX II

SAMPLE DATA SHEETS

SAMPLER JAMES LAWTON + LOUIS FASULLO

PROJECT TARGET GRAN CLAIMS

DATE MAY 20 1981 A.D.

NTS 93 F/14 EAST

LINE 2nd LINE

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Ag	As	Au	Zn
81 TAGR	7+00N 15+00E	6"	B	brown	medium			200	pines, alders	slope to east.	0.1	6	<10	34 ✓
"	7+00N 14+00E	7"	"	brown grey	fine to medium	15%			"		0.1	5	<10	28 ✓
"	7+00N 13+00E	4"	"	"	"	10%			"	second growth, several burnt trees ground frozen	0.1	2.5	<10	42 ✓
"	7+00N 12+00E	7"	"	"	"				"	ground frozen, sample taken under tree roots	0.1	5	<10	62 ✓
"	7+00N 11+00E	7"	"	"	fine			60°	"	taken 40 meters above creek on canyon wall north canyon wall	0.1	5	<10	24 ✓
"	7+00N 10+00E	5"	"	"	fine to medium	40%		65°	pines	taken 25 to 30 meters above creek on north canyon wall.	0.1	6	<10	32 ✓
"	7+00N 9+00E	7"	"	"	"	50%		60°	"	taken 50 meters above creek on south canyon wall.	0.1	6	<10	56 ✓
"	7+00N 8+00E	6"	"	"	"			flatish	"	second growth, frozen ground.	0.2	6	<10	62 ✓
"	7+00N 7+00E	4"	E	grey	coarse	50%			"	glacial till, frozen, taken 10 meters from tributary creek	0.1	6	<10	42 ✓
"	7+00N 6+00E	4"	B	brown grey	medium			flat	"	glacial till, taken under tree roots near a swampy hollow.	0.1	7	<10	44 ✓
"	7+00N 5+00E	8"	A	black	"	80%			pines and alders	water saturated, lots of moss and humus	0.2	7	10	54 ✓
"	8+00N 5+00E	4"	B	light brown	FINE - MEDIUM	20%		25-30°	"		0.1	5	<10	36 ✓
"	8+00N 6+00E	7	B	GREY- brown	MEDIUM			25°	"	SOILS FROZEN	0.2	7	<10	38 ✓
"	8+00N 7+00E	3	B	"	"	20%		1	"	THIN LAYER OF B - GLACIAL TILL	0.1	5	<10	44 ✓
"	8+00N 8+00E	6	B	"	"	15		40°	"	FROZEN B LAYER TILLISH BROWN LAYER	0.1	4	<10	36 ✓
"	8+00N 9+00E	1	O	"	1/2-3	40%		60°	light MOSS	LITTLE SOIL MIXED WITH WEATHERED ROCKS 1/2 - 3 inch DIAMETER	0.3	6	<10	88 ✓
"	8+00N 10+00E	4	B	"	1/2-3			60°	"		0.1	5	<10	32 ✓
"	8+00N 11+00E	1	O					45°	MOSS	GLACIAL TILL NO SOIL				
"	8+00N 12+00E	3	O					10°	3in HUMUS		0.1	6	<10	58 ✓
"	8+00N 13+00E	3-4	B			20%		FLAT	"	FROZEN SOIL 2 in A LAYER	0.1	5	<10	22 ✓

SAMPLER LOUIE FASULLO
DATE MAY 22/81

PROJECT TAGRET

NTS 93 F-14 E
LINE 9
AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth INCH	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				AU	AS	AG	ZN
81TABR	9+00N 15+00E	12	B	SANDY BROWN	FINE	10		20°	PINE ALDER		<10	10	0.1	76
"	9+00N 14+50E	1	C			30%			"	LARGE AMOUNT AMOUNT GLACIAL TILL	<10	7	0.1	74
"	9+00N 14+00	1	C	—	—	30%				LOCATED ON LARGE OUTCROP	<10	9	0.1	62
"	9+00N 13+50E	3	A			20%				12 INCHES DOWN FOUND NO SOIL IN B HORIZ.	<10	7	0.1	36
"	9+00N 13+00E	9	B	LIGHT BROWN	" SANDY	15%		9 GENTLE	PINE ALDER		<10	7	0.1	36
"	9+00N 12+50E	8	B	"	"	10%		"	"	SECOND GROWTH	<10	9	0.1	52
"	9+00N 12+00E	13	B	"	"	"		30%	"	- NEAR LARGE OUTCROP. - SECOND GROWTH	<10	10	0.1	40
"	9+00N 11+50E	3	B	BROWN - GRAY	FINE - PEBBLE	"			"	- SOIL HAS ASH IN IT - NEAR OUTCROP - FEELS LIKE CLAYISH MATERIAL.	<10	9	0.1	62
"	9+00N 11+00E	5	D	LIGHT BROWN	FINE	10%		9 GENTLE SLOPE	"	AT BASE OF OUTCROP WHICH HAS BEEN WEATHERED	<10	9	0.1	48
"	9+00N 10+50E	5	B	"	SANDY TEXTURE	15%		40°	"	SECOND GROWTH ON SIDE MTN. MAY HAVE ZONE OF LEACHING.	<10	6	0.1	46
"	9+00N 10+00E	5	B	"	" FINE	10%			"		<10	10	0.1	56
"	9+00N 9+41E	1	O	BROWN - BLACK	"			50°	—	BOTTOM STEER VALLEY	10	7	0.1	108
"	9+00N 8+50E	—	—					"	PINE	BOTTOM STEER VALLEY	<10	9	0.8	76
"	9+00N 8+00E	4	A			40%		60°	"	SECOND GROWTH	<10	11	0.1	50
"	9+00N 7+50E	3	B	BROWN - GRAY	FINE	15%		25°	"	SECOND GROWTH B MIXED WITH ASH.	<10	9	0.1	44
"	9+00N 7+00E	4	B	"	"	10%		3	"	SMALL LEACHED ZONE. FEEL CLAYISH WET.	<10	9	0.1	54
"	9+00N 6+50E	8	B			50%		30%	"	SECOND GROWTH 7 INCHES HUMUS.	<10	9	0.1	42
"	9+00N 6+00E	8	B	LIGHT BROWN		20%		20°	"	1 INCH OF CHARCOAL	10	11	0.1	66
"	9+00N 5+50E	4	B	"	"	20%			"		<10	11	0.1	48
"	9+00N 5+00E	3	C	GRAY				10°	"	CLAY SOIL	<10	11	0.1	34

J.C. STEPHEN EXPLORATIONS LTD.

GEOCHEMICAL DATA SHEET - SOIL SAMPLING

NTS 93 F/14 East

SAMPLER JAMES LAWTON

LINE X 7

DATE MAY 18 1981

PROJECT TARGET BRAN-CLAIMS

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Au	As	Ag	Zn
81 XTABR	7+00N 15+00E	12"	B	brown	fine to medium	15		—	pinns and alders	ground frozen, layer of ash 1/2 inch thick above B	40	10	0.1	42
"	7+00N 14+50E	7"	B	brown-grey	"	10		—	"		40	11	0.1	54
"	7+00N 14+00E	6"	B	grey	"			30°	"	ground frozen, glacial till	40	11	0.1	24
"	7+00N 13+50E	8"	B	brown	"	10			"	ground frozen	40	11	0.1	56
"	7+00N 13+00E	12"	"	sandy brown	"	20			pinns	taken at edge of canyon.	40	10	0.1	20
"	7+00N 12+50E	10"	"	greyish brown	"	20		60°	pinns	taken on north side of creek 30m above it.	40	16	0.1	38
"	7+00N 12+00E	12"	"	"	"			"	"	taken on south side of creek 28m above it.	40	12	0.8	108
"	7+00N 11+50E	6"	"	brown	"	10			"	taken on south side of creek 30m " " ground frozen 12 inches in B.	40	10	0.1	44
"	7+00N 11+00E	12"	"	"	"	30		"	pinns and alders	ground frozen, lots of roots	40	10	0.1	56
"	7+00N 10+50E	12"	B	brown	fine to medium	20		30°	"		40	10	0.1	66
"	6+50N 10+00E	14"	"	grey				—	"	lots of windfall, lots of clay and humus	-	-	-	-
"	7+00N 9+50E	7"	"	grey		30%		20°	pinns	glacial till	40	9	0.1	54
"	7+00N 9+00E	8"	"	"		50%		—	"	ground frozen, glacial till	40	9	0.1	68
"	7+00N 8+50E	8"	"	"		50%		—	alders	glacial till, lots of roots	40	7	0.1	40
"	7+00N 8+00E	6"	B	brown	sandy			10°	pinns	mixed with lots of pebbles	40	11	0.1	62
"	7+00N 7+50E	5"	B	brown	sandy				"	near edge of tributary canyon, roots B mixed with pebbles	40	11	0.1	68
"	7+00N 7+00E	10"	"	grey				30°	"	ground frozen, glacial till, taken on slope of tributary canyon.	10	11	0.1	34
"	7+00N 6+50E	6"	B	light brown	fine to coarse			—	"	1" charcoal layer, mixed with glacial till second growth.	40	10	0.1	92
"	7+00N 6+00E	7"	B	"	sandy				"	near edge of 2nd tributary gully ash layer near surface	40	11	0.1	86
"	7+00N 5+50E	8"	B	"	"	40		40°	"	taken on east side of gully, ground frozen second growth, 10m from stream, ash layer	40	10	0.1	74

SAMPLER LOUIE FINSULLO

PROJECT TAN

NTS 93F/13E

DATE July 27/81

LINE _____

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Al	As	Ag	Zn
31	8+00N	3	C	GREY	F-M	30		GEN TLE	PINE	SECOND GROWTH	10	11	0.1	42
"	14+50E	7	B	BROWN	"	20		"	"		<10	10	0.1	42
"	8+00N	5	B	BROWN	"	10		"	"	SECOND GROWTH. UNDER TREE ROOTS	<10	11	0.1	34
"	13+50E	3	B	"	"	"		FLAT	"	"	<10	10	0.1	64
"	13+00E	7	B	LIGHT BROWN	"	15		"	"	GLACIAL TILL -SANDY TEXTURE	<10	11	0.1	56
"	12+50E	6	B	"	"	"		"	"	SANDY PEBBLES IN B HORIZON	<10	10	0.1	62
"	12+00E	7	B	GREY -BROWN	"	10		STEEP	"		<10	9	0.1	30
"	11+50E	2		GREY	"	"		"	"	GLACIAL TILL NO B HORIZON	10	10	0.1	26
"	10+50E	8	B		MED	25		"	"	TILLISH	<10	16	0.5	245
"	10+00E	5	B	LIGHT BROWN		10		"	"	SECOND GROWTH LUNCH CHARCOAL	<10	12	0.1	46
"	9+50E	5	B		SANDY	10		FLAT	"	NEAR BASE OF TREE	<10	12	0.1	38
"	9+00E	3	B	"	FINE			ROLLING	"	TILLISH	<10	11	0.1	345
"	8+50E	3	"	"		10		"	"	SECOND GROWTH LUNCH ASH	<10	11	0.1	74
"	8+00E	3	"	"	MED	10		STEEP	"		<10	16	0.1	38
"	7+50E	2	A	GREY				"	"	NO B HORIZON	<10	10	0.1	38
"	7+00E	3	C	"		10		"	"	SECOND GROWTH TILLISH	<10	11	0.1	44
"	6+50E					10		"	PINE	CLAYISH SOIL	<10	10	0.1	28
"	6+00E	4	B	LIGHT BROWN		10		FLAT	"	B MIXED WITH TLLG SECOND GROWTH	<10	10	0.1	46
"	5+50	3	C			20		"	PINE	CHARCOAL PRESENT CLAY + ROCK "	<10	10	0.1	42
"	5+00	6	B		FINE			FLAT	"		<10	11	0.1	56

SAMPLER LOVE FASULLO
DATE May 28/51

PROJECT BRAND

NTS

LINE

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS						
				Colour	Part Size	% ORG.	Ph				Au	As	Ag	Zn			
51 TAGR	11+00N 15+00	9	B	GREY BROWN	SANDY	10		GENTLE	PINE ALDER								
"	14+50	6	B	"	"	15			"	SANDY-SILT - UNDER ROOT	<10	7	0.1				76
"	13+00E 14+00	13	B	LIGHT BROWN				STEEP	"	UNDER ROOTS	<10	9	0.1				76
"	12+50E	5	B			5		"	"		<10	10	0.1				72
"	12+00E	10	A					"	"	REGROWTH UNDER ROOT SOIL POORLY DEVELOPED	<10	9	0.1				46
"	11+50E	5	B	GREY		20		"	"	UNDER TREE	10	10	0.1				40
"	11+00E																
"	10+50E	12	B	LIGHT BROWN	F- PEBBLES	50				VERY ORGANIC	<10	9	0.1				56
"	10+00	5	B	GREY	F	30			PINE		<10	9	0.1				34
"	9+50E	3	B	GREY		"			"	MIXED WITH ROOTS	<10	10	0.1				36
"	9+00E	12	C			30				SECOND GROWTH - UNDER TREE	<10	7	0.1				44
"	8+50E	3	B	BROWN -RED		20		GENTLE	"	UNDER TREE (WIND FALK)	<10	12	0.1				46
"	8+00E	5	B	GREY		20		STEEP		"	<10	10	0.1				36
"	7+50E	2	B	"	FINE	20		"	ALDER		<10	9	0.1				34
"	7+00E	3	B	"	SANDY	30	3	"	PINE		<10	9	0.1				36
"	6+50E	3	B	LIGHT BROWN		20		GENTLE	"	UNDER ROOTS	10	9	0.1				48
"	6+00E					60		"	PINE	NO D	<10	10	0.5				78
"	5+50	8			CLAY LIKE	30		"	"	GLACIAL TILL SECOND GROWTH	<10	7	0.1				64
"	5+00E	8				30		STEEP		" NO B	<10	7	0.1				56

SAMPLER FASULLO PAULIER

PROJECT TARGET-BRAN CLAIMS GROUP

NTS 93 F/14 East

DATE MAY 27 1981

LINE 12

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Au	As	Ag	Zn
S1 TABR	12+00N 15+00E			grey	fine to pebble	15%		/	pine & alders	glacial till, second growth, 3" charcoal	10	10	0.1	70
"	12+00N 14+50E	5"	B	grey	"	20%		gentle to med.	"	second growth, near tree roots	<10	7	0.1	64
"	12+00N 14+00E		B	light brown	fine	10%		gentle	"	second growth, & andesitic flow nearby	<10	7	0.1	54
"	12+00N 13+00E		B	greyish brown	sandy-clay	20%		gentle	"	water saturated	<10	6	0.1	76
"	12+00N 12+50E		C	light brown	fine to med.	5%		moderate	"	weathered andesite fragments	<10	7	0.1	86
"	12+00N 12+00E		B	light brown	fine	10%		moderate	"	"	<10	7	0.1	52
"	12+00N 12+50E		C	grey	fine clay	10%		gentle	"	"	<10	7	0.1	34
"	12+00N 10+00E		C	grey	clay	20%		"	"	taken under roots	10	5	0.1	32
"	12+00N 9+50E		C	grey brown	fine clay	25%		"	"	"	<10	5	0.1	44
"	12+00N 7+00E	7"	B	light brown	fine sands	15%		/	"	taken on small mound	<10	9	0.2	62
"	12+00N 8+50E		C	greyish brown	fine clay			moderate	pine	"	<10	9	0.1	48
"	12+00N 8+00E	10"	B	brown grey	fine			moderate	pine & alders	3" humus	<10	9	0.1	42
"	12+00N 7+50E	7"	C	grey brown	fine			"	pine	2" humus	<10	6	0.1	36
"	12+00N 7+00E		C	grey brown				/	"	second growth, frozen	<10	7	0.1	36
"	12+00N 6+50E		B	light brown	fine to med.			/	"	exposed by windfall, second growth	<10	10	0.1	44
"	12+00N 6+00E	11"	C	grey brown	very fine			/	"	"	<10	7	0.1	46
"	12+00N 5+50E	15"	B	brown		30%		/	pine & alders	second growth, 5" humus then charcoal	<10	6	0.1	52

SAMPLER PSULLO
DATE MAY 29 1961

PROJECT TINSET

NTS SEF/14E
LINE _____
AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				AM	As	Ag	Zn
11-5001	15+5001									NO SAMPLE				
	15+5002	11"								Thin ...	<10	5	0.1	110
	15+5003	12"								Thin ...	<10	5	0.1	56
	13+5004	12'				10				" " " "	10	4	0.1	92
	12+5005	5	B	Light	FINE MED	15%				B mixed with ...	<10	7	0.1	68
	2+5006	1	B			0				" "	10	5	0.1	46
	1+5007	4	B			15%		STEEP		SECOND ...	<10	7	0.1	46
	1+5008	1	B					FLAT		FINE ...	10	7	0.1	38
	10+5009	5				10				" "	<10	7	0.1	44
	7+5010	1	B			10				" "	<10	7	0.1	54
	9+5011	4	B	SPONGY	POOR	10					<10	6	0.1	36
	8+5012	3	B							NEAR LARSS	20	6	0.1	44
	8+5013	4	B							SPONGY	<10	6	0.1	34
	1+5014	3		Light		10				B mixed ...	<10	5	0.1	38
	1+5015					10				" "	10	7	0.1	34
	2+5016	1								SPONGY	<10	7	0.1	38
	5+5017	1								" "	<10	7	0.1	62
	5+5018	3	B			10				SPONGY	<10	11	0.1	56

SAMPLER JAMES LAWTON LOUIS PASILLO

PROJECT TARGET - BRAN CLAIMS GROUP

NTS 93 F/14 East

LINE 10

DATE MAY 25 1981

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Au	As	Ag	Zn
81 TABR	10400N 15+00E	7"	B	brown grey	fine to medium	20%		25°	pinus	pebbles in B	<10	4	0.1	98
"	10400N 14+50E	12"			"	10%		20°	"	second growth, layer of ash and charcoal	10	3	0.1	38
"	10400N 12+50E	4"				20%		25°	pinus & birch	bit of rock, minimal soil	<10	4	0.1	110
"	10400N 11+50E	6"	B	Brown	"	20%		—	pinus	at the top of a hill, lots of roots and rocks	<10	4	0.1	46
"	10400N 11+00E	6"				30%		30°	birch	lots of weathered rock	<10	3	0.1	64
"	10400N 10+00E	5"			medium	20%		30°	pinus & alders	lots of rock very little soil	<10	3	0.1	32
"	10400N 9+50E	12"		grey	clayish	10%		45°	pinus	lots of roots	<10	5	0.1	44
"	10400N 9+00E	6"				20%		—	"	next to creek, lots of till	<10	20	0.1	136
"	10400N 8+00E	8"		grey		10%		80°	"	20 meters above stream	<10	5	0.1	52
"	10400N 7+50E	8"	B	brown	fine to medium	20%		—	pinus & alders	second growth	<10	5	0.1	66
"	10400N 7+00E	12"		grey brown		40%		10°	alders	lots of stones	<10	4	0.2	58
"	10400N 6+50E	7"		grey		30%		10°	pinus	ground frozen, lots of till, taken under roots	<10	3	0.1	44
"	10400N 6+00E	6"	B	brown	"	20%		15°	pinus & alders	lots of roots	<10	4	0.1	52
"	10400N 5+50E	5"	B	"	"	20%		20°	"	lots of roots	<10	5	0.1	36
"	10400N 5+00E	12"	"	"	"	15%		20°	"	lots of roots	<10	5	0.1	44

SAMPLER LAWTON & PASULLO

NTS 93 F/14 East

DATE MAY 28 1981

PROJECT TARGET - BRAN CLAIMS GROUP

LINE 14400 W

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Au	As	Ag	Zn
81 TABE	14400N 15400E	18"			fine to medium	20%		30°	pinus	ground frozen, glacial till	410	3	0.1	102
"	14400N 14430E	12"		grey	"	10%		"	pinus & alders	lots of roots	410	4	0.1	34
"	14400N 14400E	10"		grey	"	20%		"	"	lots of rocks, still half frozen	410	3	0.1	28
"	14400N 13400E	12"		grey	"	20%		"	"	stones present in sample, layer of charcoal	410	3	0.1	34
"	14400N 12450E	18"		"		20%		20°	"	lots of roots and rocks	410	4	0.1	36
"	14400N 12400E			"	sandy	30%		/	"	taken under tree roots, water saturated	410	3	0.1	48
"	14400N 11400E	12"			pebbles to fine			/	"	extensive till	410	4	0.1	50
"	14400N 10430E	8"				10%		15°	"	second growth	410	3	0.1	44
"	14400N 10400E	14"	B	brown	fine	20%		60°	pinus	lots of roots	410	3	0.1	20
"	14400N 9450E					30%		/	pinus & alders	taken near creek	410	4	0.1	34
"	14400N 9400E	6"		grayish brown	fine to medium	20%		60°	"	lots of roots	410	4	0.1	32
"	14400N 8450E	6"		brown	fine	20%		60°	pinus	layer of ash?	410	3	0.1	26
"	14400N 8400E	6"		brown		20%		/	pinus & alders	lots of roots	410	4	0.1	46
"	14400N 7450E	6"	B	brown		20%		/	"	second growth, lots of roots	410	4	0.1	44
"	14400N 7400E		B	light brown to gray		20%		/	"	lots of roots	410	3	0.1	28
"	14400N 6450E	8"		grey		10%		20°	"	lots of roots	410	3	0.1	42
"	14400N 6400E	4"		brown to green		20%		/	pinus	taken in swamp	410	5	0.1	64
"	14400N 5450E	10"	B	brown	fine	20%		/	pinus & alders	lots of roots	410	4	0.1	36
"	14400N 5400E	6"	B	"		10%		/	"	lots of roots	410	3	0.1	84

SAMPLER MARK MASSON

DATE MAY 17/81

PROJECT TARGET - BRAN CLAIM

NTS 93 F/14E

LINE _____

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Ag	As	Aw	TL
21-TA-BR	0+80N 27+00E	6"	?	grey	fine	50%		moor	AREA OF GRAVEL AND SAND	0.1	5	<10	26	
"	0+00N 12+50E								NO SAMPLE	-	-	70	-	
"	0+00N 9+00E	11"	?	brown	fine	20%		moor	AREA OF GRAVEL AND SAND	0.1	5	<10	62	
"	0+00N 13+50E								NO SAMPLE	-	-	70	-	
"	0+00N 18+00E	3"	?	grey	fine	20%		grass	GRAVELLY TILL	0.1	5	<10	36	
"	0+00N 18+00E	5"	?	grey	fine	20%				0.1	5	<10	162	
"	0+00N 18+00E	3"	?	brown	fine	30%				0.2	5	<10	74	
"	0+00N 18+00E									0.1	55	<10	300	
"	0+00N 18+00E	11"	?		fine sand	50%		grass	GRAVELLY TILL	0.2	6	<10	62	
"	0+00N 18+00E									-	-	-	-	
21-TA-BR	0+00N 18+00E	5"	?	grey	fine					0.1	5	<10	44	
"	0+00N 18+00E	5"	?	grey	fine					0.2	5	<10	58	
"	0+00N 18+00E									-	-	-	-	
31-TA-BR	10+00E 1+00N		?			70%		moor	AT CORNER OF BRAN CLAIM	0.1	7	<10	50	
"	0+00N	5"	?	grey	fine			low	SAMPLE	0.1	5	20	40	
"	0+00N	5"	?	grey	dry			low		0.1	5	<10	34	
"	0+00N									-	-	70	-	
"	0+00N	5"	?			100%			NO SAMPLE	-	-	-	-	
"	0+00N								NO SAMPLE	-	-	-	-	
"	0+00N	5"	?	grey	fine	50%			TILL	0.1	5	<10	52	

NTS 93F/14E
 LINE _____
 AIR PHOTO NO. _____

SAMPLER FASULLO
 DATE MAY 20/81

PROJECT TARGET

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				AD	As		
81TABR	5+00E	5	B	LIGHT BROWN	Fine	20		30°	PINE ALDER					
	5+00E			BROWN greyish	-Med						0.1	5	<10	36
	6+00E	6	B	BROWN	MED			25°	"	CHARCOAL LAYER	0.2	7	<10	35
	7+00E	3		"		20		"	"	GLACIAL TILL	0.1	5	<10	44
	8+00E	4	B	"		10			PINE	TILLISH B	0.1	4	<10	36
	8+00E									GLACIAL TILL	0.1	6	<10	70
	9+00E	3				40					0.3	6	<10	88
	10+00E	7	B	BROWN grey	MED				"	ALDER	0.1	5	<10	32
	11+00E													
	12+00E									INFORMATION MISSING PLACED	0.1	6	<10	58
	13+00E										0.1	5	<10	22
	14+00E										0.1	7	<10	56
	15+00E										0.1	5	<10	126

SAMPLER D'ARCY O'CONNOR, PARTNER

PROJECT TARGET

NTS 93F/14E

DATE 28/5/81

LINE 1300

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Au	As	Ag	Zn
21 TABR	15 E		NO	SAMPLE TAKE N				GENTLE SLOPE		MOSS HOLDERS (SLIDE FROM TOP OF HILL)	40	-	-	-
	14+50E	1'	C	BROWN CLAYEY (V.FINE)		20		GENTLE	"	" 3" HUMUS "	40	3	0.1	62
	14+00 E	10"	B	BROWN MED. SANDY		15		"	MOSS SPRUCE ALDERS	ROCK FRAGMENTS, ROOTS	80	3	0.1	86
	13+50	1'	TILL	BROWN CLAYEY		60		30°	"	MANY "ROCK" FRAGMENTS, TREE ROOTS	40	3	0.1	112
	13+00	10"	TILL	BROWN SANDY (MED)		25		GENTLE (30°)	"	" " " " " "	40	4	0.1	52
	12+50	6"	TILL	BROWN CLAYEY		10		"	"	" " " " " "	40	4	0.1	42
	12+00	8"	TILL	BROWN CLAY		10		"	"	FIR PLN	40	3	0.1	54
	11+50	1'	TILL	BROWN CLAY		15		"	"	ROCKY	40	3	0.1	44
	11+00	6"	C	GREY CLAY		15		GENTLE	"	WOOD - NO ROCKS, BUT ROOTS	40	3	0.1	30
	10+50	8"	C	GREY CLAY		10		10°	"	ROOTS, ROCKS	40	4	0.1	32
	11+50	8"	C	GREY CLAY		40		10°	"	"	40	3	0.1	30
	9+00	10"	TILL	BLACK SANDY (MED)		30		40°	SPRUCE MOSS	ROOTS, ROCKS	40	4	0.1	32
	8+50									NO SAMPLE, ALL MOSS	-	-	-	-
	8+0	8"	C	GREY BLACK SANDY (MED)		30		45°	"	ROOTS, ROCK FRAGMENTS	40	5	0.1	46
	7+50	10"	?	BLACK SANDY		102		10°	MOSS SPRUCE ALDERS	MUDDY - VERY WET	40	4	0.1	48
	7+0	6"	TILL	GREY BROWN SANDY		20%		25°	"	ROCKY, ROOTS	40	3	0.1	44
	6+50	4"	B	BROWN SANDY		30%		5°	"	LOTS OF MOSS, ROOTS	40	5	0.1	50
	6+0	8"	C	GREY BROWN CLAY		40%		10°	"	MUDDY, ORGANIC	40	4	0.1	32
	5+50	10"	B	BROWN SANDY		20%		10°	"	MOSSY, ROOTS	40	7	0.1	36
	5+0	8"	B+C	BROWN SANDY		15		20°	"	R ~ 1" thick - moss + roots	40	4	0.1	54

APPENDIX III

SAMPLE HANDLING PROCEDURES

SAMPLE HANDLING PROCEDURE

3. TARGET PROJECT: All samples for ppb Au, ppm Ag, As.
Soils & Silts - Dry, screen -35 mesh and pulverize to -100 mesh for analyses. Ppb Au by aqua-regia digestion and chemical extraction followed by atomic absorption analyses. Ppm Ag, As by perchloric-nitric acid digestion and atomic absorption analyses.

PPM Arsenic: a 1.0 gram sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with KI and mixed. A portion of the reduced solution is converted to arsine with NaBH_4 and the arsenic content determined using flameless atomic absorption.

Detection limit - 1 PPM

PPB Gold: 5 gm samples ashed @800°C for one hour, digested with aqua regia - twice to dryness - taken up in 25% HCl^- , the gold then extracted as the bromide complex into MIBK and analyzed via A.A.

Detection limit - 10 PPB

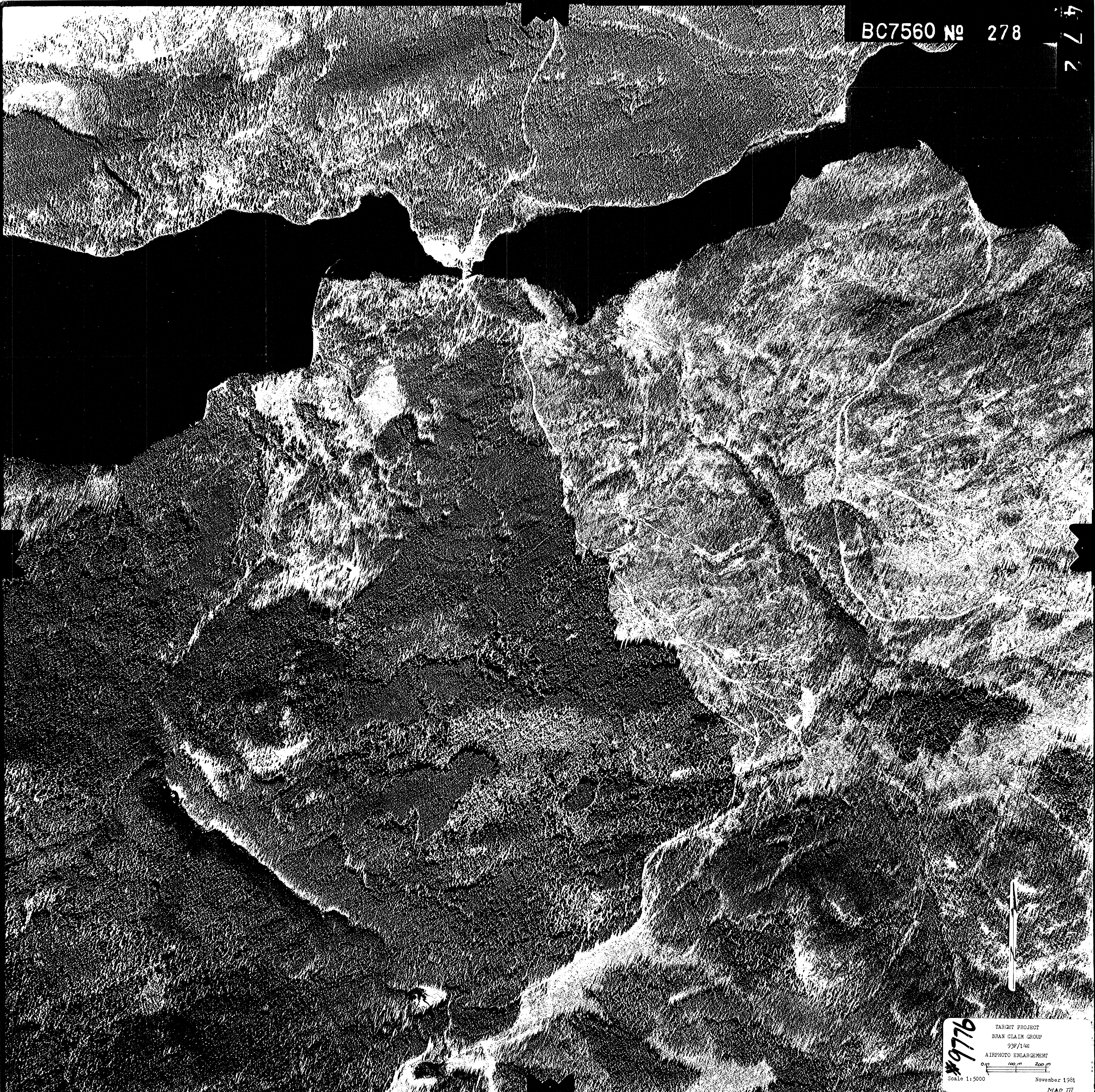
ASSAY PROCEDURES

Gold: - Fire Assay Method.

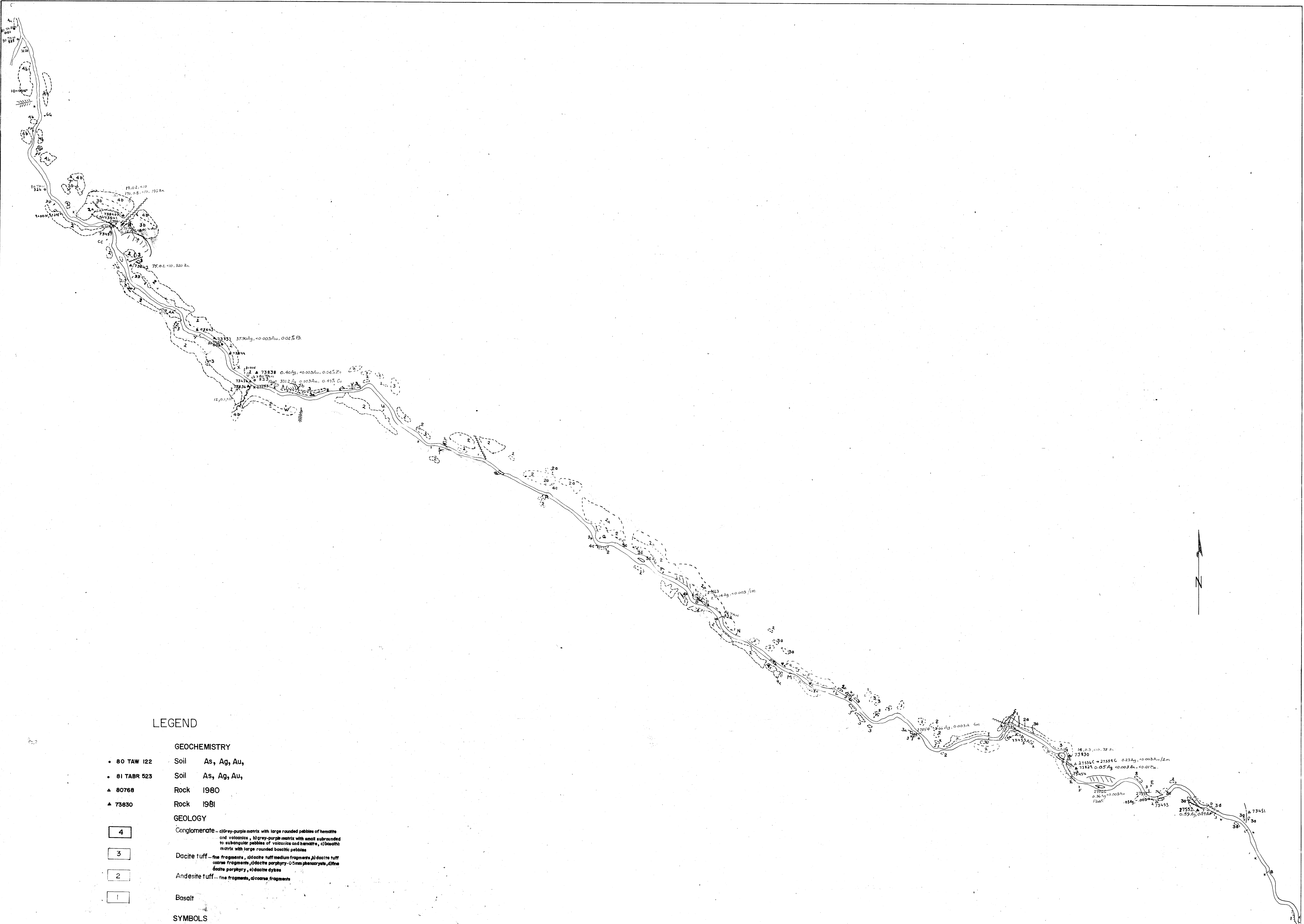
0.5 assay ton sub samples are fused in litharge, carbonate and silicious fluxes. The lead button containing the precious metals is cupelled in a muffle furnace. The combined Ag & Au is weighed on a microbalance, parted, annealed and again weighed as Au. The difference in the two weighing is Ag.

BC7560 No 278

774

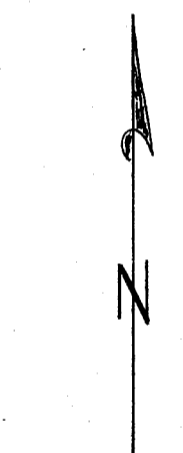


9776
TARGET PROJECT
BRAN CLAIM GROUP
938/148
AIRPHOTO ENLARGEMENT
0 m 100 m 200 m
Scale 1:5000
November 1961
MAP III



LEGEND

- | | | |
|----------------|--|-------------|
| • 80 TAW 122 | Soil | As, Ag, Au, |
| • 81 TABR 523 | Soil | As, Ag, Au, |
| ▲ 80768 | Rock | 1980 |
| ▲ 73830 | Rock | 1981 |
| GEOLOGY | | |
| 4 | Conglomerate - a) grey-purple matrix with large rounded pebbles of hematite and volcanics, b) grey-purple matrix with small subrounded to subangular pebbles of volcanics and hematite, c) basaltic matrix with large rounded basaltic pebbles | |
| 3 | Dacite tuff - fine fragments, a) dacite tuff medium fragments, b) dacite tuff coarse fragments, c) dacite porphyry, d) 5mm phenocrysts, e) fine dacite porphyry, f) dacite dykes | |
| 2 | Andesite tuff - fine fragments, a) coarse fragments | |
| 1 | Basalt | |
| SYMBOLS | | |
| | Calcite veins | |
| ~~~~~ | Creek | |
| ~~~~~ | Water fall | |
| ~~~~~ | Slide area | |
| --- | Contact | |
| ~~~~~ | Fault | |
| ~~~~~ | Gully | |
| x ^h | Small outcrop | |



MINERAL RESOURCES BRANCH
 ANNUAL REPORT
 NO. 9776

J.C. STEPHEN EXPLORATIONS LTD.
 TARGET PROJECT
 BRAN CLAIM GROUP
 GEOLOGY
 MAP SHEET 93F/14E
 SCALE 1:1,000
 0m 10m 50m
 SEPT. 1981
 MAP 1

