

672685

ANALYTICAL REQUEST SHEET

CAMP NAME & NUMBER ECHO #2 - BROWNLEE DATE JUNE 18, 1982

<u>SAMPLE NUMBER SERIES</u>	<u>ELEMENTS REQUESTED</u>
82E 56, 100- 106 ¹⁰⁷ , 115-118 82E 56, 62, 85, 100-107, 115-118	<u>Au, As, Cu, Pb, Zn</u>
82E 57-99, 108-114 82E 57-61, 86-99, 108-114	<u>Au, As</u>
<u>82 V1</u>	<u>Au, As, Cu, Pb, Zn</u>

BROWNLEE CAMP
 NUMBER SOIL SAMPLES = 63 (82 - E - 56 → 82 - E - 118)
 NUMBER SILT SAMPLES = 1

ELEANOR :

MORE SOIL SAMPLES FOR YOU TO SIFT !!

WE HAD A DEFECTIVE BOTTLE OF ACID (V. WEAK). TRY THAT "DOLOMITE MARBLE" FROM LAST WEEK. I BET THAT IT'S REALLY CALCITE. (AND WHO KNOWS WHAT ELSE WE SCREWED UP ON).

ALSO, TO FILL IN ALL YOUR SPARE TIME (BETWEEN SIFTING SAMPLES), WE'VE GOT A MINERAL FOR YOU TO IDENTIFY. (THE BLACK, PRISMATIC, HARD BUT BRITTLE CRYSTALS IN THE PIECE OF QTZ-MUSCOVITE VEIN FLOAT FOUND ON THE ULTRAMAFIC OUTCROP.) IF YOU HAVE ANY IDEAS, LET US KNOW.

ALSO, WE'LL NEVER LISTEN TO FIVE NEW TAPES A WEEK. HOW ABOUT IF YOU SEND IN TWO AND WE'LL SEND OUT TWO.

ALSO, HAVE A NICE WEEK AND ANOTHER DRINK FOR US AT THE PUB.

HENRY.

**J.C. STEPHEN
EXPLORATIONS LTD.**

WEEKLY CAMP REPORT

PROJECT NEWEX CAMP NAME ECHO #2 - BROWNLEE

NTS MAP SHEET 104 M 10E DATES JUNE 12-18, 1982

AIR PHOTOS BC 5686 #016 & #108 LAT. & LONG. 59°38'N 134°28'W

SILT SAMPLE SERIES 82V1 1 SAMPLE

SOIL SAMPLE SERIES 82E56 - 82E118 62 SAMPLES

ROCK SPECIMEN NUMBERS 80614 - 80623 9 SAMPLES

GEOLOGY

ROCK UNITS

UNIT 1 - CHLORITE SCHIST (Specimen forgotten)

The chlorite schist, as at Fantail Lake, is well-foliated and contains variable amounts of quartz. Locally, the chlorite is replaced by muscovite and biotite. It commonly contains minor pyrite. The abundant milky quartz swaths commonly contain minor pyrite. These swaths range up to 40 cm in width and 15 m long and parallel the schist foliations.

No ~~marble~~ or quartzite ^{was} beds were seen. Some calcite marble (Unit 1a - Specimen HAB2-2-15) was found, locally silicified (Specimen HAB2-2-16).

UNIT 2 - SERPENTINITE (Specimen HAB2-2-10)

Two small serpentinite bodies were found. The larger is more than 400 m long and up to 30 m wide. Its western extremity was not determined. The serpentinite is composed predominantly of serpentine and magnetite with some talc. It weathers to a dull grey. Most of the serpentinite has been altered to a quartz-ankerite rock in which mariposite is locally abundant (Sample: Specimens 80618; 80620). This altered serpentinite weathers to a deep red-brown.

A small body of chloritic basalt is associated with one serpentinite mass. Structural relations between the serpentinite, basalt and chlorite schist are not clear; no major faults are present. The chlorite schist is contorted and pyritic near the serpentinite.

UNIT 3 - VOLCANICS (Specimens ^{crystal tuff} HAB2-2-12, ^{andesite tuff} 13, ^{dacite} 7)

A great variety of extrusive flow and fragmental rocks were found. Their compositions ranged from rhyolite to basalt, with dacite and andesite most common. ~~Most~~ They include lapilli tuffs, crystal tuffs, breccias and massive (presumably flow) volcanics. None ~~w~~ are vesicular, although vesicular fragments were found in breccia. Their contacts and foliations (where present) are uniformly oriented at $120^{\circ}/70^{\circ}$ NE. Thicknesses seldom exceed 20 m. Two sub-units were mapped separately, because of their extent or significance.

SUB-UNIT 3a - CHLORITIC BRECCIA (Specimen HA-82-2-3)

This thick ^{sub}unit is prominently exposed along the fault scarp for much of its length. Subrounded clasts of purple and green volcanics, up to 3 cm in diameter, lie

in a chlorite ± epidote ± diopside(?) matrix. Fragment size varies with location, as does degree of foliation (which parallels contacts and is always poorer than the foliation in the chlorite schist). The chloritic breccia is moderately magnetic, with rare visible magnetite crystals.

SUB-UNIT 3b - RHYOLITE (Specimen HA82-2-11)

The rhyolite is white, fine-grained, very silicious, with ~~no~~ minor disseminated pyrite, and ~~no~~ ^{is} massive (no evidence of flow banding). It is resistant to weathering, giving white angular blocks. It occurs as one to ten meter ^{thick} layers lying parallel to bedding and with various volcanic ~~and~~ limestone bands between. It is not clear whether the rhyolite forms flows or sills. The limestone band (Sample & Specimen 80622), which is a fine-grained, blue-grey, fresh-appearing and lacking visible sulphides, is brecciated and silicified over a meter at its contact with the rhyolite. This altered limestone (Sample & Specimen ^{2 specimens} 80616) weathers a deep red-brown, but lacks visible sulphides. The interbedded volcanics and limestone are also one to ten meters thick.

Isolated rhyolite dikes and flows(?) occur rarely throughout the volcanics.
Note: 30+m of thin bedded limestone, locally with white sulphate(?) precipitate, occurs 5km NW of camp. This may be the same stratigraphic horizon as the rhyolite.

UNIT 4 - DIORITE (Specimen HA-82-2-8)

The diorite, a continuation of the one mapped near Fantail Lake, is composed mainly of pyroxene, plagioclase and K-spar. It is chloritized and moderately magnetic. It is in fault contact to the north-east with volcanics but appears to be intrusive into the chlorite schist.

UNIT 5 - DIKES (Specimens HA82-2-1, 4, 13)

Many dikes of various composition are intrusive into the volcanics throughout their outcrop length, and to a lesser extent into the chlorite schist. Most appear to strike northerly and dip steeply, but ~~these~~ ^{is} are also the orientation of which observation is easiest. Most are porphyritic or andesitic ~~fine-gra~~ equigranular.

No attempt has been made to show dikes on the map, as they would only confuse it.

STRUCTURE

FOLDING:

A series of arcuate ridges south-west of Brownlee Lake may be due to tight folding of the chlorite schist. Foliation orientations bear this out with the southern limb foliations striking 160° (if I remember correctly from Fantail) and the northern limb's striking 120° . From minor folds near the core of the fold, it appears to be a synform plunging shallowly to the east.

The volcanics are unfolded.

FAULTING:

The major NW-trending fault mapped at Fantail Lake continues through this area. There is no alteration along it except for a few hundred meters immediately north of camp and possibly on the hillside (across the lake) 5 km NW of camp. Its orientation coincides with that of the volcanics to the NE, raising the possibility that it is a regional unconformity, not a fault.

A smaller NW-trending fault has been inferred to follow a deep gully 200 m SE of the main NW fault. It bounds one edge of the smaller ultramafic body. Diorite and chlorite schist are altered near it (see specimens 80617 (Diorite) and 80615 (schist)). The serpentinite is altered to quartz-carbonate-mariposite next to it. Movement, if any, was small; the diorite/schist contact is not significantly displaced.

ECONOMIC POTENTIAL

1. Ultramafics - good carbonate-mariposite alteration in two widespread locations. Potential for veins.
2. Axial trace of fold in chlorite schist - potential for veins, similar to Giant Yellowknife.
3. Rhyolite (submarine extrusive?) - potential for Kuroko-type massive sulphide (although no sulphide or barite float were found).
4. Brecciated, rusty weathering limestone adjacent to rhyolite - probably small tonnage.
5. Alteration along N-W-trending fault - only significant for a few hundred meters above camp. Potential for veins.
6. Alteration along secondary fault - potential for veins.

As usual, geochem should show if any optimism should exist.

CAMP LOCATION:

This campsite is readily accessible by helicopter, has plentiful firewood and an endless supply of poles. The water is inhabited by little creatures that swim around in your glass, but neither of us has died yet, so the water supply must be adequate. It may dry up later in the season, but there are lots of other, bigger ponds in the neighborhood. The bugs may be bad later in the summer.

MISCELLANEOUS:

No signs of earlier prospecting were encountered.

More prospecting could be done from this location, but geochem results will show if it is worthwhile.

To divide the volcanics would require three dozen different green pencil crayons and a magnifying glass. (maybe a microscope).

Soil sample quality is generally excellent.

NTS 104 M 10E

SAMPLER ECHO

PROJECT NEWEX - FAN BROWNLEE CAMP

LINE

DATE

AIR PHOTO NO. BC 5686 #16:108

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS				
				Colour	Part Size	% ORG.	Ph				AS	Au	Cu	Pb	Zn
E-56		15cm	B	Rd Br	Sand	10		Mod	Alders	All samples 200m apart on contour	24	210	19	8	95
E57		20cm	B	Rd Br	sand silt	5		Mod	Willow	"	14	210			
E-58		15cm	B	Rd Br	sand	5		Mod	Alders	"	33	10			
E59		20cm	B	Yel Br	silt	5		Mod	Fir	"	29	210			
E-60		15cm	B	Rd Br	silt	10		Gentle	Fir	"	15	210			
E61		15cm	B	Rd Br	silt-clay	10		Gentle	Fir	"	16	210			
E-62		10cm	B	Rd Br	Sand	15		Mod	Fir	"	16	210			
E63		30cm	A+B	Br Bl	silt	15		Mod	Fir/Grass	All samples 200m apart on trend of fault	11	210			
E-64		20cm	B	Rd Br	Sand	15		Mod	Fir	Rocky	100	40			
E65		25cm	A+C	Grey	Sand	15		Mod	Fir	Rocky	14	210			
E-66		20cm	A+B	Br	Sand	20		Mod	Fir	Rocky	32	10			
E67		20cm	B	Yel Br	silt	10		Mod	Fir	Rocky	23	210			
E-68		20cm	B	Br	Sand	20		Mod	Fir	"	14	20			
E69		20cm	B	Br	clay	15		Gentle	Fir	"	14	210			
E-70		15cm	B	Yel Br	Silt-clay	5		Gentle	Fir	"	16	210			
E71		30cm	B	Br	silt	10		Gentle	Fir/Grass	Rocky	33	210			
E72		25cm	B	Br	sand silt	10		Mod	Fir	Rocky	32	210			
E73		20cm	B	Rd Br	silt	10		Gentle	Fir		10	210			
E74		10cm	B	Yel Br	Sand	5		Gentle	Alder Fir		10	210			
E75		15cm	B	Rd Br	silt	5		Gentle	Fir		6	210			

NTS 104 m 10 E

SAMPLER ECHO

LINE _____

DATE JUNE 1982

PROJECT NEWEX - BROWNLEE

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS				Zn
				Colour	Part Size	% ORG.	Ph				As	Au	Cu	Pb	
E76		5 cm	B	Rd Br.	sand	5		gentle	Fir Alder	NW fault near Brownlee Lake. All samples	150	410			
E-77		15 cm	B	Rd Br	silt	5		gentle	Alders	200 m apart. - SW slope base	19	410			
E-78		20 cm	B	Rd Br	sand-silt	5		gentle	willow		10	410			
E-79		15 cm	B	Rd Br	sand	5		gentle	Willow		10	410			
E-80		15 cm	B	Rd Br	silt	15		gentle	willow		5	410			
E-81		20 cm	B	Rd Br	silt	10		gentle	Willow		9	410			
E-82		15 cm	B	Rd Br	sand-silt	5		gentle	willow		7	410			
E-83		20 cm	B	Rd Br	sand	5		Mod.	Willow	Rocky sample	7	10			
E-84		20 cm	B	Rd Br	sand	5		Mod.	Spruce		9	410			
E-85		15 cm	B	Rd Br	sand	10		Mod.	Spruce	Last of series starting 82E76	10	410			
E 86		15 cm	B	Red Br.	sand	10		Mod	Fir		15	410			
E 87		15 cm	B	Red Br	silt	5		Gentle	Alder Grass		9	410			
E-88		15 cm	B	Rd Br	silt	10		Gentle	Willow	North slope of ultramafic intru.	4	410			
E-89		15 cm	B	Rd Br	sand-silt	5		Gentle	Fir	"	7	20			
E-90		15 cm	B	Rd Br	sand	10		Mod	Fir	Rocky sample. "	18	410			
E-91		15 cm	B	Rd Br	sand	5		Gentle	Spruce	"	4	410			
E-92		15 cm	B	Rd Br	sand	10		Gentle	willow	"	15	410			
E 93		10 cm	B	Rd Br	silt	5		Gentle	Alder	South slope of ultramafic intru.	5	410			
E 94		15 cm	B	Rd Br	silt	10		Mod	Pine/Grass	"	14	410			
E 95		15 cm	B	Rd Br	silt	5		Gentle	Fir	"	11	410			

NTS 104M10E

SAMPLER ECHO

LINE _____

DATE JUNE 1982

PROJECT NEWEX - BROWNLEE

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS				
				Colour	Part Size	% ORG.	Ph				As	Ag	Cu	Pb	Zn
	E-96	20cm	B	Rd Br	sand-silt	5		Mod	Pine-grass	South slope of ultramafic intru.	6	10			
	E-97	25cm	B	Br	sand	5		Mod	Alders	"	27	410			
	E-98	30cm	C	Br	sand	10		Mod	Alders-grass	Rocky sample	15	410			
	E-99	25cm	B	Yel Br	silt	5		Mod	grass	"	14	410			
	E-100	10cm	B	Br	sand	5		Mod	Spruce	Rocky sample	40	10	46	10	87
	E-101	10cm	B	Rd Br	sand	10		Gentle	Fir		20	10	38	9	77
	E-102	20cm	B	Rd Br	sand	5		Mod	Alder	Samples 200m apart along NW fault	12	410	16	8	85
	E-103	25cm	B	Rd Br	sand	15		Mod	Alder	Rocky sample	40	410	38	11	135
	E-104	25cm	B	Br	sand	10		Mod	Spruce		15	20	23	70	95
	E-105	15cm	B	Rd Br	sand-silt	15		Gentle	Fir-grass	Rocky sample	28	10	34	14	100
	E-106	20cm	B	Rd Br	sand-silt	5		Gentle	Fir-grass		19	10	34	12	178
	E-107	20cm	B	Br	sand	15		Mod	Pine	Rocky sample	15	410	44	13	117
	E-108	15cm	B	Rd Br	sand-silt	10		Gentle	Fir	Base of N-facing slope / fold axis	12	410			
	E-109	15cm	B	Rd Br	silt	5		Gentle	Grass	South slope base - near pond	5	410			
	E-110	15cm	B	Rd Br	sand-rocks	10		Mod	Willow	Rocky sample	45	410			
	E-111	15cm	B	Rd Br	silt	5		gentle	Willow		9	410			
	E-112	20cm	B	Rd Br	silt	5		gentle	Willow	base of S-facing slope	7	410			
	E-113	15cm	B	Rd Br	sand-silt	10		gentle	Fir		11	20			
	E-114	15cm	B	Rd Br	silt-clay	5		gentle	Spruce		10	410			
	E-115	25cm	B	Rd Br	sand	5		Mod	Fir/Alder		6	20	7	2	43

CAMP ECHO

JUNE 19/82

Just went thru your report + rock specimens. Couldn't be better unless it was full of Free Gold - most informative and saves us endless time here.

Thanks

Carr