KENNCO EXPLORATIONS, (WESTERN) LIMITED
AT POINT OF MAILING

1006

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

ARBEE PROSPECT

Comprising the following Mineral Claims:

ARBEE 35, 39, 54, 55 .

D-R 1 - 8

J B 3 - 6, 19 - 24

Located in Skeena Mining Division, 56 - 130 NE

KENNCO EXPLORATIONS, (WESTERN) LIMITED
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Geological and Geochemical Report

ARBEE PROSPECT

Skeena M.D., B.C., 56 - 130 NE and SE

Introduction:

During the latter part of July and August, 1966 , the Arbee Prospect, 42 miles north of Stewart, B.C., including four ARBEE claims, 8 D & R claims, and ten John Bull claims, all owned by Don Ross of Ketchikan, Alaska, was examined by Kennco Explorations (Western) Ltd. The examination included geological mapping, geochemical testing of streams and soils, and some rock sampling. Several student assistants and prospectors were employed at different times as indicated on the accompanying affidavit. The work was supervised by Charles S. Ney, P.Eng. At the request of the present owner of the claims, Don Ross, the report on this examination is submitted for assessment.

Location:

The property is located about the head of Mitchell Creek, and mainly south of the glacier occupying Mitchell Valley. Elevation ranges from 3000 to about 6000 feet a.s.l. Most of the area is above timber line, and much of it has been quite recently (within the last few decades) been exposed from ice cover.

Mitchell Creek is tributary to Sulphurets Creek, and this to Unuk River which reaches tidewater at Burroughs Bay in Alaska, about fifty miles southwest of the Arbee. The nearest town is Stewart, B.C. about 42 air miles S 13° E from the Arbee.

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Methods Employed:

Geological data were compiled from traverses made with a compass and rangefinder. These traverses provide the basis for Map 2 on a scale of 400 feet to one inch. Some additional observations are controlled by air photographs and are shown on Map 1 on a scale of one-half mile to one inch. The rangefinder is effective in open country, and is particularly useful for one man working alone.

Geochemical sampling on the property was directed mainly to surveying the stream pattern. Silt samples were taken at irregular intervals on the principal streams shown in map 2, and these sites were located by rangefinder. Samples on streams in surrounding areas are shown on map 1 as located from air photographs. Soil or disintegrated rock samples were taken in a portion of the area where overburden prevented observation of bedrock, and where bedrock was sheared and oxidized.

All geochemical samples were dried and screened (80 mesh) in a field lab at Bowser Lake. Rough tests were made for molybdenum at this point. Subsequently the Kennco's lab in North Vancouver, where analyses were made for copper, zinc , and lead as well as for molybdenum.

Geology:

Hazelton Group - The country rocks surrounding the Arbee are volcanics presumably of the Hazelton Group and they have not been differentiated by the writer. The most common rock type appears to be coarse pyroclastic material of intermediate to somewhat basic composition. North of Mitchell Glacier these rocks strike

northeasterly and dip at a low angle to the northwest. South of the glacier and east of the tributary valley known as the 'Big Ditch', a uniform mass of plagioclase feldspar porphyry occupies the upper portion of the ridge. This may be a thick flow, or possibly a sill, and it is believed to be part of the Hazelton Group. It is separated from the underlying sheared altered rocks by a low east dipping plane on which there has been some thrust faulting.

Alteration Zones:- Most of the ground occupied by the Arbee etc. claims is underlain by altered and pyritized rocks, generally more or less sheared. These rocks are found at lower elevations both north and south of the lower portion of the glacier, and they extend to high ground (6200 ft.) on the south side in the vicinity of the main Arbee mineralized area. Similar blocks of altered ground, not necessarily sheared, but generally pyritized, occur adjacent to Sulphurets Glacier, and are traceable several miles to the southeast in the vicinity of Brucejack Lake.

The altered rocks grade westward, in the area of map 2, into Hazelton Group volcanics. To the east inthis area they grade into a characteristic granular quartz-sericite-pyrite schist. This schist terminates abruptly on the east against and probably under the feldspar porphyry mass. The writer could not decide whether this schist was an intrusive unit, subsequently sheared and altered, or whether it simply represents a type of shear-zone alteration developed out of Hazelton volcanics. The latter explanation seems the more probable.

Syenite and Monzonite:- North of Mitchell Glacier, adjacent

to a steep creek called 'Copper Gulch' there is a distinctive body of porphyry varying in composition from monzonite to syenite. The syenite contains tabular crystals of orthoclase up to one inch long set with preferred orientation in a dark gray fine grained groundmass. It is similar in appearance to many of the syenite porphyry intrusions which are found in the Stikine River area. It contains disseminated chalcopyrite.

Schistosity: Schistosity is steep dipping on the Arbee property and there are two predominant strike directions - N 50 - 60° E and S 60-70° E . The two directions alternate over various parts of the area, and they may represent a conjugate set produced by one direction of stress.

Silicification: In an area 2000 x 1000 feet more or less central to the Arbee property, the quartz-sericite-pyrite schist is intensely invaded by small irregular deformed quartz veinlets. The average veinlet is about one quarter inch wide, and the veinlets may bulk 50 - 60 percent of the rock. Elsewhere throughout the area of schist indicated in map 2, the veining comprises 5 to 15 percent of the rock. The veinlets themselves are seldom mineralized, but molybdenite is found in areas of moderate veining.

Recent Slumping: Several small landslides have occurred on the Arbee property in quartz-pyrite schist. The jagged cliff known as the Rooster's Comb is composed of jumbled blocks of schist up to several tens of feet across, the whole mass having slumped along a well defined scarp line with a sharply arcuate trend, 200 to 800 feet back from the cliff edge.

Several other lines of slip - actually normal fault scarps -

curve across the slopes above the Campsite. One is particularly evident across the alluvial flat on which the camp is situated, the open crack extending many tens of feet down into bedrock.

It is thought that these slumpings are the result of stresses produced by the very rapid vertical lowering of the level of adjacent glaciers, which had been supporting the steepened valley walls. The Rooster's Comb slide faces a small branch glacier which has shrunk vertically several hundred feet in the recent past. The campsite slides face the main Mitchell Glacier, which has ablated more than 500 feet probably within the last few decades.

The Rooster's Comb slide appears to have arrested itself, and the scarp line is slightly worn down. The campsite scarps appear very fresh, and the slide may well be presently active.

Geochemistry

Regional Data: Regional geochemical data are shown on map 1, with copper and molybdenum silt values shown in parts per million at each site. High copper values are to be found generally throughout the altered areas, and particularly in the porphyry intrusion north of Mitchell Glacier. Moderate molybdenum values occur generally with copper, and highs are notable in the northerly part of the porphyry stock. High molybdenum values with low or moderate copper are found generally through the Arbee property.

Local Data: Map 2 shows the results of stream sediment sampling on the main portion of the Arbee property, and of soil samples. The creek flowing in the Big Ditch is represented by site 86000 with 56 ppm. Mo, and by 85760 half a mile upstream, which shows a cutoff to 1 ppm. Mo. The westerly tributary to the Big Ditch,

emerging from ice east of Moly Lake area (site 115) shows a good anomalous value of 186 ppm. The main creek draining the area above the campsite is represented by sites 85743 and 86001, with 239 and 221 ppm. Mo respectively. The smaller tributaries in Moly Lake area, represented by sites 769 and 770 are likewise high. Samples on creeks to the west, sites 765 - 768,are only weakly anomalous. A small creek originating in the highly silicified rocks west of the Rooster's Comb (site 87141) is highly anomalous at 279 ppm. Mo.

Samples of soil and disintegrated rock along the east side of the Big Ditch, sites 85752 - 758 show that the sheared pyritic rock in this area contains very little molybdenum, but sometimes zinc, lead, and in one case copper. Samples around the Rooster's Comb, sites 124 - 129, and 745 are moderately high in molybdenum as would be expected from observed traces of mineralization. They are also somewhat anomalous in copper. Samples 142 - 146 across the middle of the main altered area are in residual debris, and they indicate that some molybdenum must be present in the underlying rock. Sample 138, about 1500 feet west of the campsite, gives the surprisingly anomalous value of 340 ppm. Mo as well as 2090 ppm. Pb. The writer has not investigated this site, and some checking and prospecting would be warranted.

Conclusions:

Observable molybdenum mineralization is present over an area 2500 x 3500 feet underlain by strongly altered pyritized rocks. The best known mineralization appears to be associated with a characteristic granular quartz-pyrite-sericite schist. The more intensely quartz veined rocks do not appear to be as well mineralized

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Arbee Prospect

Summary of Costs entailed in Examination made July and August, 1966

Wages:	C.S. Ney, Geologist July 14, 22 - 25, August 20, 22	
	7 days @ $35	- $245
	N. Ross, Sr. Asst. July 14, 22, 23 ,	
	3 days at $20	- $ 60
	G. Martin, Asst. July 22, Aug. 20, 22	
	3 days @ $15	- $ 45
	M. Alexander, prosp. July 20 - 25	
	5 days at $15	- $ 75
	J. Van Koughnett, prosp. July 20 - 24	
	4 days @ $20	- $ 80
	I. Hutzkal, prosp. July 20-25, Aug. 26	
	5 days @ $20	- $100
	[illegible]. Beaty, prosp. July 21 - 25, Aug 26	
	5 days @ $15	- $ 75
Geochemical Sample Analyses:		
	80 samples tested for Mo, Cu, Pb, [illegible] -	$ 240
Outfitting Costs:		$ 250
Helicopter Access:	6 hrs. @ 102	$ 612
	Total	1782

Signed: Charles S. Ney P. Eng.

Charles S. Ney P. Eng.

KENNCO EXPLORATIONS, (WESTERN) LIMITED
AT POINT OF MAILING

Geological and Geochemical Report

ARBEE PROSPECT

Table of Contents

Maps.

Map 1 Scale 1" equals approx 2400 feet.

2 Geology and Geochemistry

Map 2 Scale 1" to 400 feet.

1 Rock and Soil Samples (incl. local geology)

as those in which quartz veining comprises 5 - 15 percent of the rock. Some of the geochemical samples however would suggest that mineralization should be sought in some of those areas east and southeast of the campsite which are more covered by detritus than the Moly Lake area where bedrock has been well exposed by recently melted glacier ice.

The Arbee molybdenum mineralized zone is part of a very large area of alteration extending beyond the limits of the claims. This alteration contains several known copper showings.

North of Mitchell Glacier copper mineralization in a syenite-monzonite stock is of a different character from that elsewhere in the district. Geochemical data suggest that high up on the intrusion there may be combined molybdenum and copper mineralization of some consequence.

Charles S. Ney P. Eng.

C. S. Ney,
Houston, B.C.
June 9, 1967 .


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DAWSON-ROSS
CAN
TED
LEE
PATTY
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33723 CA 1C
33725 CA 3
33726 CA 4C
33727 CA 5C
33728 CA 6
33729 CA 7
33730 CA 8
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Approx. True North

BC 2180 Ont

LEGEND

Ice + Snow

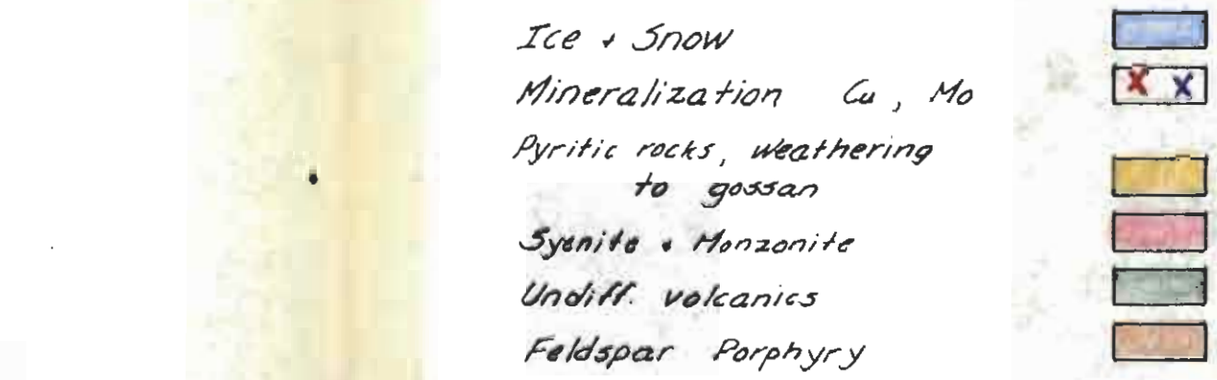
Mineralization Cu, Mo

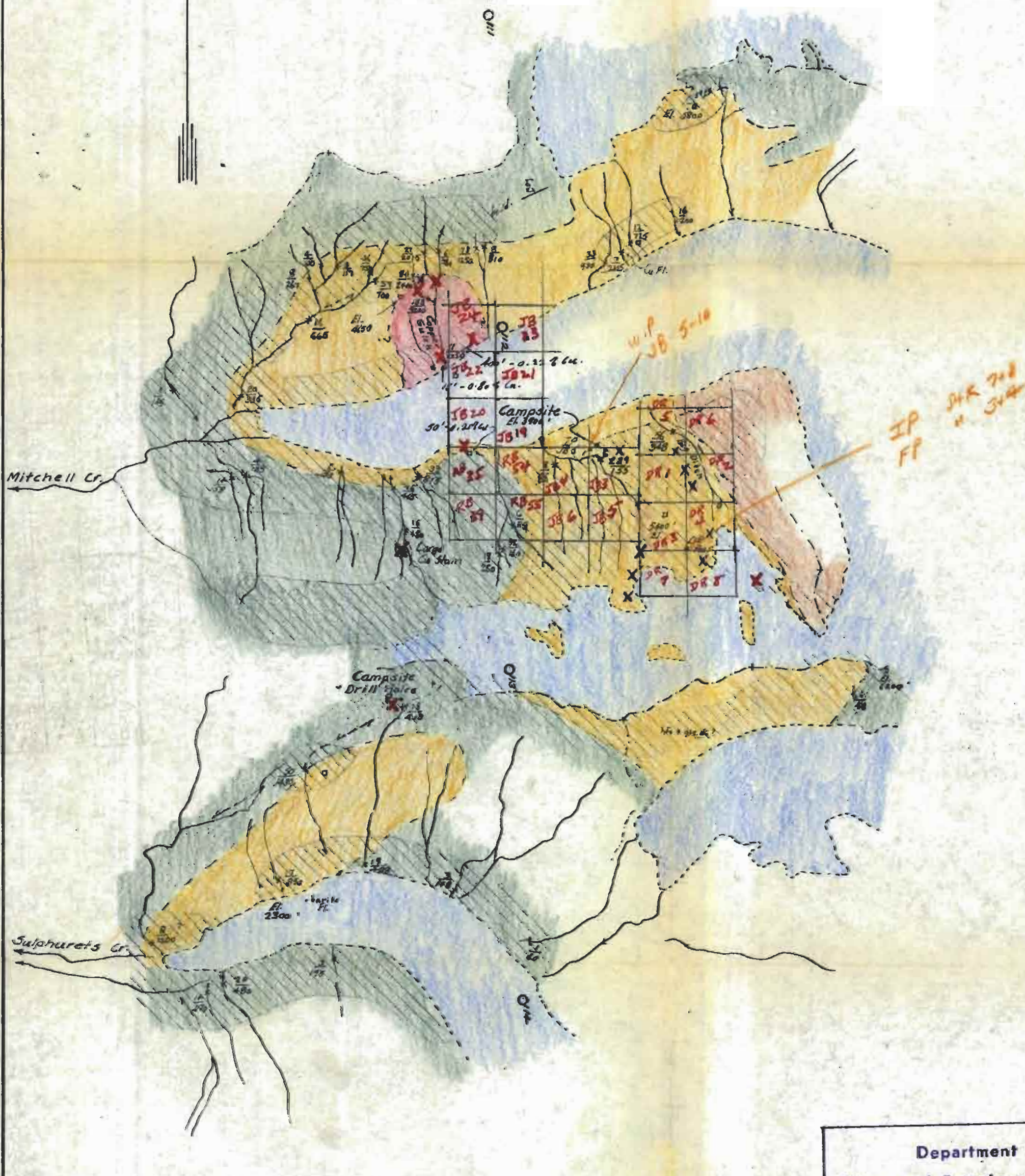
Pyritic rocks, weathering to gossan

Syenite + Monzonite

Undiff. volcanics

Feldspar Porphyry





LEGEND cont'd

Ridge

Summit +

Air Photo Linear

Stream Sample Site

Values in ppm Mo/Cu Au/1200

Area Prospected, 1966

1006

Map by Charles Kirkey, P.Eng.

Claims as indicated by D. Ross C.S.M.

Topography From Air Photos

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 1006 MAP 2

KENNCO EXPLORATIONS (WESTERN) LIMITED

ARBEE PROSPECT

SKEENA M.D., B.C.

Geology and Geochemistry

DATE:	DRAWN BY: C.S.N.	PLATE NO: 2.1.
REVISED BY: C.S.N.	DATE: June 9, 67	SCALE: 1" = 2400' approx.

JB 20 | JB 19 | Mitchell Glacier | DR 5 | DR 6

DR 1 | DR 2

RB 35 | RB 54 | JB 4 | JB 3

RB 39 | RB 55 | JB 6 | JB 5

APPROX. TRUE NORTH

Witness Post J.B. 5-10

CAMPSITE

Loon Approx. 14908 - Grab - 0.004 % MoS_2

Loon Approx. 14904 - Grab - 0.03 % MoS_2

14930 - 30' - 0.062% MoS_2

14885 - 16' - 0.017 % MoS_2

14886 - 37' - 0.05 "

14887 - 44' - 0.03 "

14888 - 42' - 0.096 "

14889 - 40' - 0.066 "

14890 - 70' - 0.03 "

14891 - 50' - 0.022 "

14929 - 24' - 0.006 % MoS_2

14900 - 30' - 0.040 % MoS_2

14899 - 50' - 0.060 % MoS_2

Moly Lake

14892 - 38' - 0.036 % MoS_2

14893 - 50' - 0.007 % MoS_2

14894 - 30' - 0.009 % MoS_2

14895 - 50' - 0.030 % MoS_2

14896 - 15' - 0.04 % MoS_2

14897 - 21' - 0.006 % MoS_2

Fresh Feldspar Porphyry (Locally sheared & altered)

DR 3 | DR 4 | DR 7 | DR 8

Ice

Fresh Feldspar Porphyry

El 6250' ± 20'

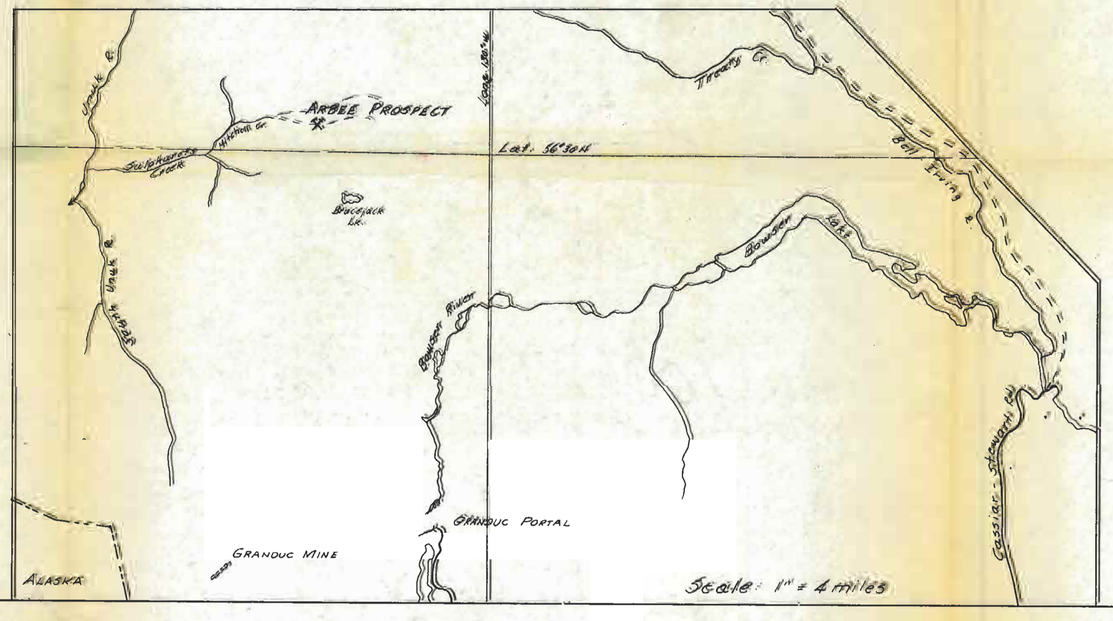
LEGEND

- Ice + Nevé
- Molybdenum Mineralization
- Intensely Quartz-veined schist
- Quartz sericite pyrite schist
- Volc. Agglom. variably altered not much sheared
- Feldspar porphyry
- Schistosity
- Subsidence Fracture
- Rock sample (Rad.; width, % MoS_2)
- Soil Sample:
  - Values: Mo: 10-100 ppm; 100 + "; Cu: 50-200; 200 +; Pb ≥ 350 ppm.
- Stream Sediment Sample

GEOCHEMICAL SAMPLES

Sample No.	Mo: ppm	Cu: ppm.	Zn: ppm.	Pb: ppm.
85742	12	165	290	0
43	239	155	150	44
45	336	36	146	164
~~46~~	~~666~~	~~86~~	~~130~~	~~11~~ Lost.
752	11	110	44	79
53	6	11	52	38
54	6	7	52	49
55	6	7	82	42
56	6	7	30	37
57	6	30	115	16
58	6	10	80	36
59	4	500	1393	26
60	1	45	77	22
61	71	1800	2611	711
62	100	1823	1155	85
63	100	1082	1350	38
64	6	1123	1123	0
65	100	1125	3112	2
66	91	1132	1123	18
67	100	1500	1105	0
68	115	1083	80	43
69	1935	3335	3493	60
700	2314	1500	1112	45
785	100	76	1117	2814
786				
86000	56	348	140	0
001	221	168	160	52
002	19	170	123	68
003	12	198	84	11
004	8	85	98	64

Sample No.	Mo: ppm	Cu: "	Zn: "	Pb: "
87115	186	333	224	0
122				
123				
124	46	130	147	17
125	20	105	150	11
126	40	380	140	10
127	13	165	112	16
128	65	198	130	57
129	98	100	135	52
130	111	45	90	195
131	4	25	103	76
132	4	48	115	41
133	48	39	117	48
1341	54	37	71	60
1355	29	39	73	65
1356	82	50	93	33
1371				
1388	345	286	61	2090
1399	54	158	69	71
1400	218	178	153	41
141	279	117	106	351
142	59	234	55	44
143	120	58	40	61
144	146	103	69	33
145	54	63	65	33
146	53	43	55	38



Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1006 MAP 1

1006

Mapped by: [illegible] P.Eng.
Claims as indicated by D. Ross, F.G.A.

Compass & Rangefinder Survey

KENNCO EXPLORATIONS (WESTERN) LIMITED

ARBEE PROSPECT

SKEENA M.D., B.C.

ROCK & SOIL SAMPLES

DATE: Sept 18/67	DRAWN BY: C.S.H.	PLATE NO. 2
REVISED BY: C.S.H.	DATE: Jan. 9, 68	SCALE: 1" = 400'