

0422d

Geology and Geochemistry Assessment Report

NB-1, NB-2 Claims

Cariboo Mining Division

NTS 93A/11

Lat:  $52^{\circ} 41' N$

Long:  $121^{\circ} 22' E$

Owner and Operator: Esso Minerals Canada

by Jack Marr

Esso Minerals Canada

#600 - 1281 West Georgia Street

Vancouver, B.C.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

Date: September 10, 1984

**13,154**

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INTRODUCTION

1. The NB-1 and NB-2 claims are contiguous blocks, each composed of 20 units, located just <sup>South east</sup> ~~south of the southwest~~ end of Cariboo Lake. This is shown on Map 1 (next page).

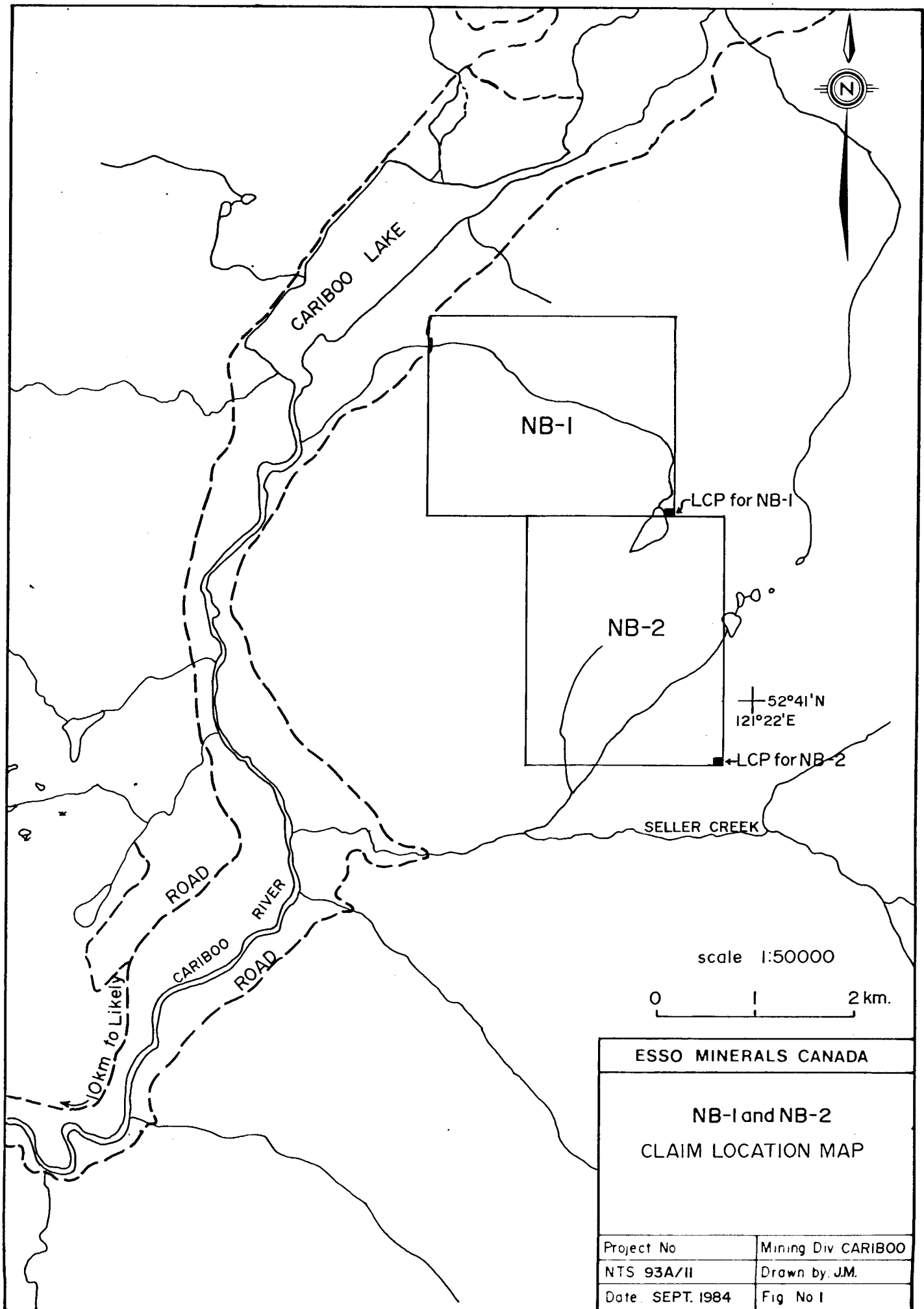
The claims lie on gently west sloping ground. The area has been extensively logged and this work is continuing.

Overburden is generally shallow and the numerous logging roads have provided good rock exposure. Access to the area is provided from Likely, some 15 km to the southwest, by a good gravel road.

2. The NB claims were staked from August 3 - 6, 1983 by Esso personnel and recorded August 16th. There is no record of significant work having been done in the area prior to that date.

One year of assessment credits is being applied to extend the claims expiry date to August 1985.

3. The geological mapping and geochemical sampling described here were conducted by the personnel indicated between September 15th and September 21st, 1983. Maps 2, 3 and 4 in the attached pocket, show the results of this work. There was no camp on the claims.



GEOLOGICAL REPORT

In terms of regional geology, the claim area is most adequately indicated on G.S.C. Open File 920 (Struik, 1982). The area is underlain by a sequence of Hadrynian to ? Paleozoic metasediments and metavolcanics, intruded by a stock of Leucocratic megacrystic quartz monzonite. These units lie near a thrust fault to the west which brings Late Paleozoic and younger strata over the metamorphic rocks.

This situation is shown in more detail on Map 2 which outlines the geology of the claims area. The Harvey Creek Succession can be divided as shown into three parts, representing a transition from south to north. The southernmost units are mainly light green chlorite-sericite phyllites of volcanic origin, probably of a volcanoclastic nature. These appear to underlie a transitional sequence of phyllites with sericitic tuff interbeds which are in turn overlain by a thick sequence of phyllites, quartzites and argillaceous quartzites. Dip of this sequence is mainly to the north or northwest. Although little of the structure can be observed, there is a strong possibility that the units are complexly and probably isoclinally folded.

The metamorphic fabric in the megacrystic orthogneiss has the same direction as that in the intruded rocks, indicating the premetamorphic age of the intrusive. The irregular shape of the orthogneiss outcrop pattern suggests it be some form of complex sill.

### MINERALIZATION

Minor occurrences of pyrite, locally with minor chalcopyrite or galena, are widespread in the area, particularly through the central part of NB-1. There appears to be some association with the northern margin of the orthogneiss. There are two types of occurrence.

In the first type, pyrite is associated with irregular quartz veining in buff coloured iron carbonate-sericite+chlorite-mariposite alteration zones, chiefly in the phyllite. These are marked on Map 2 by an asterisk. So far, assays of this material have yielded only minor values in gold and silver.

A second type of mineralization found on the property consists of vuggy white bull quartz with minor sphalerite, galena and pyrite. The best samples of this material have been found as boulders in Wilby Creek.

GEOCHEMICAL REPORT

Results of stream sediment and soil sampling in the area of the claims are shown on Map 3 (in pocket). Map 4 is the sample location map corresponding to Map 3.

LITHOGEOCHEMISTRY

Sampling of bedrock or float was essentially confined either to the iron carbonate alteration zones or to the quartz veins previously discussed. Sample location points and tabulated assay information for Au, Ag, As, Cu, Pb, Sb and Zn are shown on Map 2.

Thirteen rock samples were collected from the altered rock or quartz veins within it. Values of 308, 411 and 308 ppb gold were found in three samples, all others had less than 70 ppb Au. Values of up to 800 ppm As, 5.4 ppm Ag and 300 ppm Pb were found in the altered rock.

Two boulders of the white bull quartz with minor sulphides were found in Wilby Creek. One of these (sample 15571) had an assay of 445 ppb Au, 6.7 ppm Ag and 263 ppm As.

In general, 2 kilo chips or samples composed of several fragments, were collected in plastic bags from the locations shown and shipped to Min-En Laboratories in North Vancouver. There, grinding, pulverising and analysis by I.C.P. took place (Inductively Coupled Argon Plasma), following nitric-perchloric acid digestion.

#### STREAM SEDIMENT GEOCHEMISTRY

Eighteen Heavy Mineral Samples were collected in the area as shown by the filled squares on Map 3. Samples were dug from the active part of each stream and - 20 mesh sieved concentrates to a roughly 2 kilo sample size were produced on the spot. These samples were shipped to Min-En as above and I.C.P. analysis performed on the non-magnetic portion of heavy mineral concentrates. Results are listed in the order Au, Ag, As, Sb, Hg. Gold analyses were done by fire assay.

Results generally indicate an enhanced background for elements such as As and Sb but modest gold values.

Map 3 also shows results for a number of conventional silt samples from the area, represented by open squares. Sample numbers are again shown on Map 4. These samples also represent stream sediment dug from the active part of the creek but with analysis on the - 80 mesh portion by Min-En using similar methods.



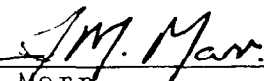
SOIL GEOCHEMISTRY

Map 2 also indicates analyses on soil samples which were collected in an attempt to trace the carbonate - sericite altered zones. The lines were concentrated near Wilby Creek where altered float was most abundant. Samples were of 'B' horizon soils, collected in Kraft paper bags and dried before shipping to Min-En Laboratories in Vancouver. The - 80 mesh portion was analyzed by I.C.P. for the elements shown, after nitric-perchloric acid digestion. Control for the soil lines was provided by blown-up air photos.

A detailed line was done across an altered zone seen in outcrop. Results show that As, Co and Cu give the best response in soils. Anomalies on the soil lines are sporadic, mainly showing values in As or Pb, with no well-defined trends. Sample 1506 was collected in an area with abundant altered float and the results confirm the suite of anomalous metals found on the detailed line.

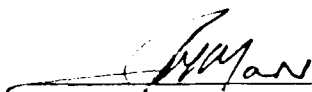
ITEMIZED COST STATEMENT

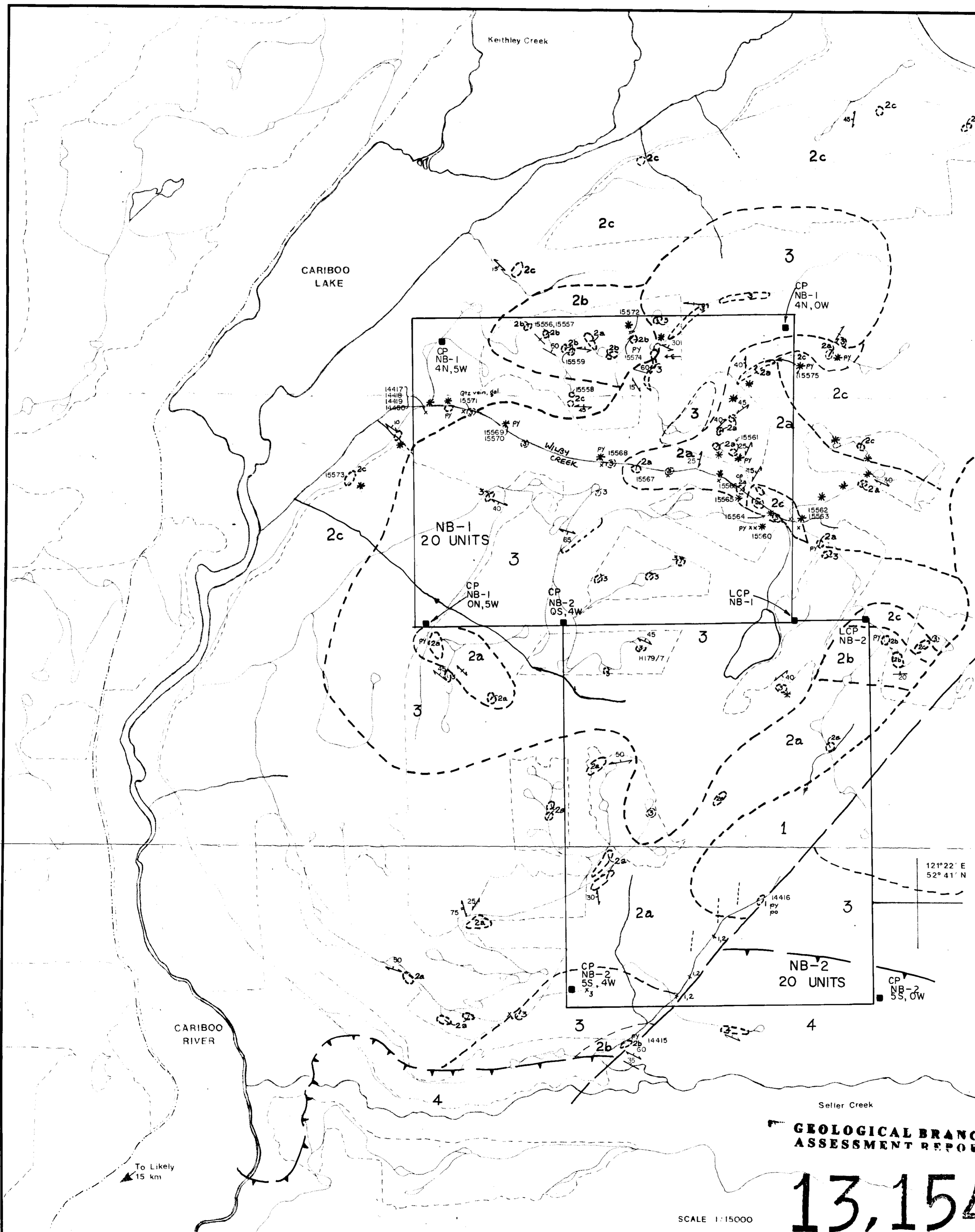
Senior geologist (J. Marr) Sept 15 - 21, 1983	
7 days @ \$250/day	\$1,750
Geologist (N. Humphries) Sept 16 - 21, 1983	
6 days @ \$124/day	\$744
Geochemical Sampler (A. Hoppenrath) Sept 16 - 21, 1983	
6 days @ \$72/day	\$432
Vehicle (fuel, oil, mileage, rental)	\$400
Accommodation (18 man days X \$40/day)	\$720
Analytical Costs	
13 Rock @ \$20.00	\$260
8 Heavy Mineral @ \$25	\$200
124 Soils @ \$6.85	\$850
Misc. Support staff and supplies	<u>\$144</u>
Total Applicable	\$5,500
<hr/>	
Present Assessment Credits	\$4,000
Esso Resources Canada Limited PAC Account	<u>\$1,500</u>
	\$5,500

  
Jack Marr

I, John M. Marr, of 2630 Haywood Avenue, West Vancouver, B.C. state my qualifications in regard to this report to be as follows:

1. I graduated with a B.Sc. (Hons.) degree in Geology from the University of St. Andrews, Scotland in 1968.
2. I obtained an M.Sc. degree from the University of Manitoba in 1970.
3. I have been practising my profession as an exploration geologist since that date in Canada and Australia.

  
J. M. Marr



SAMPLE NO.	(ppb)							REMARKS
	Au	Ag	As	Cu	Pb	Sb	Zn	
14415	68	0.9	70	31	56	9	45	Rusty ser. phyll w/ 1% py.
14416	34	0.9	70	24	67	8	70	Qtzite w/ 3% diss. py.
14417	68	2.6	186	29	113	24	71	Carb-ser. alt. sed w/ 1% py.
14418	68	5.4	140	65	1550	22	959	As above w/ tr. sph, gal.
14419	68	0.8	84	270	43	9	16	Qtzite w/ 5% py, tr. cp.
14450	34	1.7	182	19	55	8	73	Qtz vein w/ py.
15555	34	3.4	248	40	273	43	54	Carb-ser. alt. sed
15556	34	0.9	75	88	118	5	24	Vuggy oxid. qtz vein in phyll.
15557	34	1.3	31	148	83	10	30	Arg. phyll. w/ 1% py
15558	-	1.8	121	17	30	7	30	Graph. phyll.
15559	34	2.9	82	115	57	0	13	Arg. phyll.
15560	137	2.6	315	51	125	36	107	Carb-ser alt. sed w/ 1% py
15561	103	2.4	174	15	67	20	47	Ser-chi phyll w/ carb alt.
15562	34	3.8	263	18	96	22	55	Qtz veins in phyll.
15563	-	2.0	256	49	120	33	97	Carb-ser alt. phyll.
15564	34	4.3	306	24	122	35	101	Carb-ser alt. gneiss.
15565	34	4.7	359	60	175	58	149	Carb. alt. sed.
15566	68	4.1	220	81	175	31	126	Ser. phyll. w/ 1% py.
15567	34	0	147	22	133	34	116	Ser. phyll.
15568	34	4.5	637	141	302	79	230	Carb. alt. sed (?)
15569	34	2.2	387	129	166	46	177	Ser. phyll w/ 2% py
15570	34	1.2	263	15	71	16	42	Vuggy oxid. qtz vein
15571	445	6.7	270	12	474	13	947	Oxid. qtz vein w/ gal, sph.
15572	308	4.4	804	166	200	44	205	Carb-ser alt. phyll.
15573	-	2.5	261	56	133	36	62	Mass. rusty alt. (?) carb.
15574	411	2.2	216	30	104	22	40	Vuggy oxid. qtz veins
15575	308	4.0	625	155	231	59	279	Carb-ser alt. graph. phyll.

- LEGEND**
- 4** UPPER TRIASSIC  
Platy black phyllitic slate, siltstone
  - DEVONIAN (?)**
  - 3** QUESNEL LAKE GNEISS  
Leucocratic  
Megacrystic, gneissic quartz monzonite
  - PALEOZOIC (?) Snowshoe Group**
  - 2** HARVEY CREEK SUCCESSION  
2c Metasediments:  
Dark grey quartzite, grey phyllite, graphitic phyllite.  
2b Mixed metasediments - metavolcanics:  
Phyllite and siltstone with common sericitic tuff (?) interbeds, rare dark grey limestone.  
2a Mainly metavolcanics: Light-medium green sericite - chlorite phyllite.
  - 1** HADRYIAN (?)  
KEITHLEY CREEK SUCCESSION  
Light medium grey phyllitic quartzite, slate.
  - \*** Rusty weathering, buff-cream coloured carbonate-sericite alteration, ± chlorite and mariposite. Some massive carbonate may be primary carbonate.
  - Outcrop
  - x** Near outcrop or angular float
  - - -** Geological contacts inferred
  - 30** Bedding
  - 10** Cleavage attitude, first phase
  - 5** Younger crenulation cleavage
  - 20** Plunge of small-scale fold axis
  - Claim Post
  - - -** Assumed fault
  - - -** Assumed Thrust fault
  - 15556** Rock sample location

**ESSO MINERALS CANADA**

**NB CLAIM BLOCK GEOLOGY**

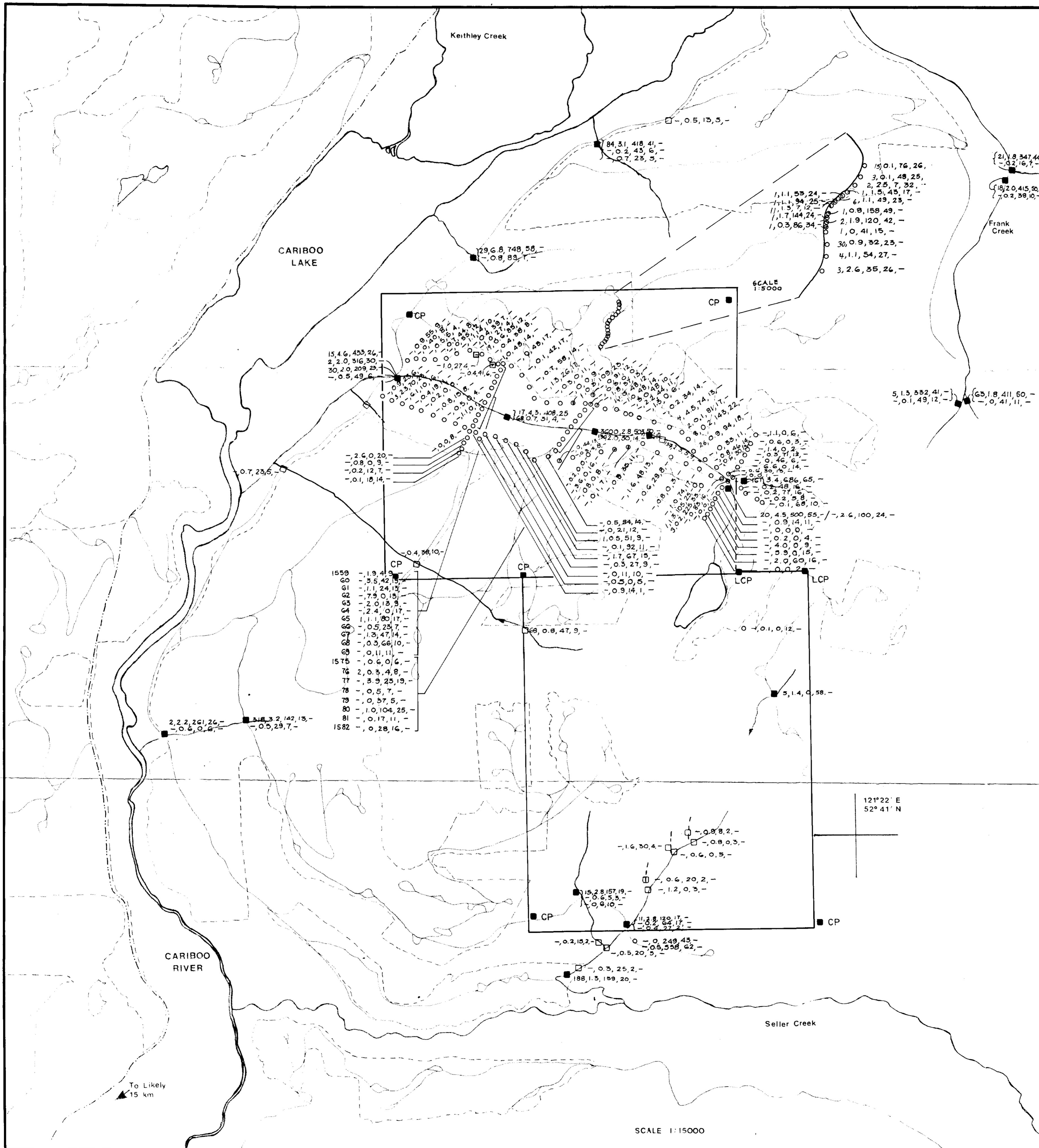
Project No. 2146 J	Mining Division CARIBOO
NTS 93A/11,14	Drawn By: J.M.
Date: Sept. 1984	Map No. 2

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SCALE 1:15000

To Likely  
15 km



**LEGEND**

Symbols Used

- Heavy Mineral Sample
- Silt Sample
- Soil Sample

**RESULTS**

Au, Ag, As, Sb, Hg

All values in ppm except Au, Hg in ppb.

All numbers prefixed 3J



200 0 200 400 600 800 1000

**GEOLOGICAL BRANCH  
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**ESSO MINERALS CANADA**

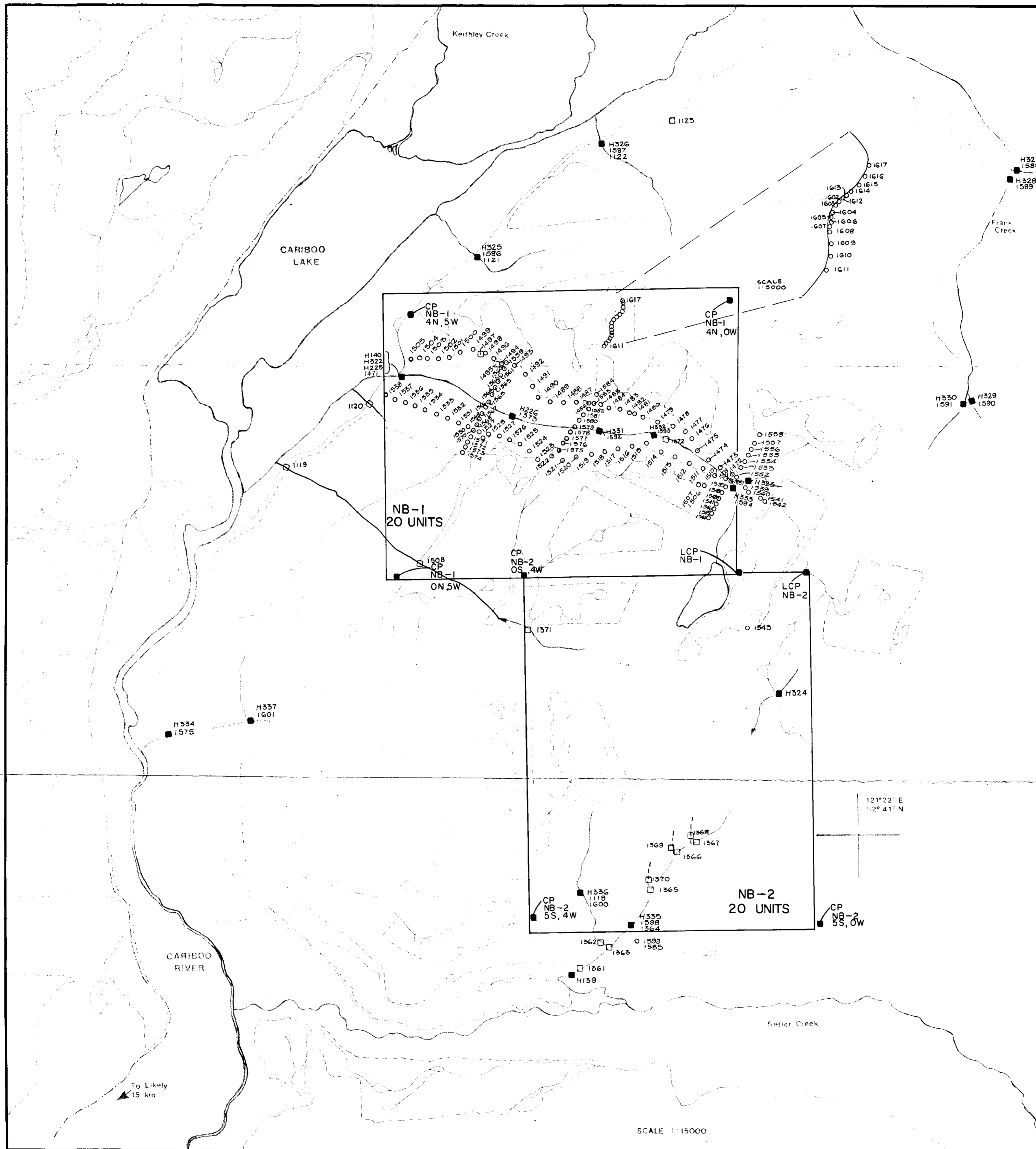
**NB CLAIM BLOCK  
GEOCHEMICAL  
RESULTS**

Project No. 2146 J Mining Division CARIBOO

NTS 93A/11,14 Drawn By: J.M.

Date: Sept. 1984 Map No. 3

SCALE 1:15000



**LEGEND**

Symbols Used

- Heavy Mineral Sample
- Silt Sample
- Soil Sample
- All numbers prefixed 3J



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

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**ESSO MINERALS CANADA**

**NB CLAIM BLOCK  
SAMPLE  
LOCATION MAP**

Project No.	2146J	Mining Division	CARIBOO
NTS 93A/11,14		Drawn By:	J.M.
Date:	Sep 1984	Map No.	4