5352

ELK PROJECT

GEOCHEMICAL PROGRAM

24 MILES WEST OF PORT HARDY AIRPORT, B. C.
LAT. 50° 45' N. LONG. 128° 04' W.

N.T.S. 102I & 92L

102I/9E & 16E

BY

D. ARSCOTT, P.ENG.

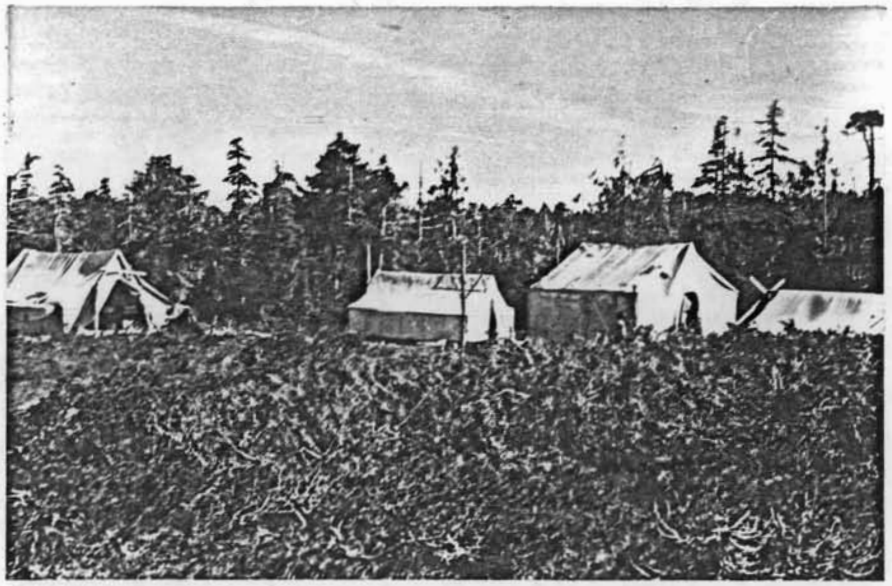
FOR

CHEVRON STANDARD LIMITED
MINERALS STAFF

Vancouver, B. C.
November 30th., 1974.

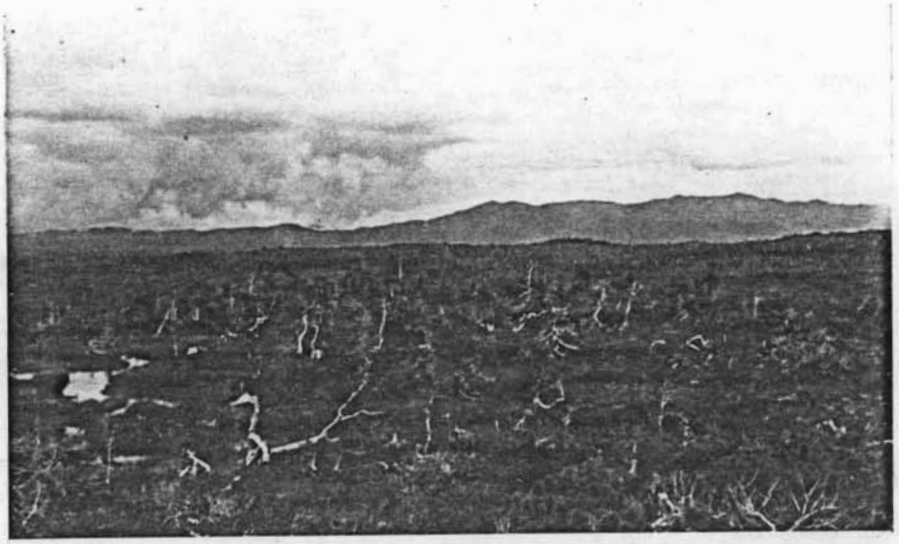
CONTENTS

LIST OF ILLUSTRATIONS



Elk Claims 1974 Campsite

Elk Claims - View North from Camp



Elk Claims

Elk Claims. Former Homestead

I N T R O D U C T I O N

GENERAL

A variety of features on the Elk mineral claims suggest an environment suitable for the discovery of a low-grade Cu-Mo deposit of the Island Copper type. With this principal target type in mind, a reconnaissance exploration program was designed to further establish the potential of the property.

Certain features, including a scarceness of outcrop, a moderately acid, peaty, surface soil and the widespread occurrence of pyrite and pyrrhotite, weighed against the otherwise valid techniques of soil sampling and induced polarization, at least, at the reconnaissance stage. Instead, a program of basal till sampling was conducted, using special equipment developed by Christopher Gleeson and Roch Cormier. This method had the advantage of reducing secondary geochemical dispersion effects, measuring overburden depths, and, in 20% of the holes, providing bedrock chips. The drilling and sampling done was under the direction of Roch Cormier by Phillip Brameld of Adcura Ltd., Ottawa.

Some regular (surface) soil sampling was carried out by Bernie Corrigan of W. Meyer & Associates, but restricted to the southern edge of the property where soil development is more normal.

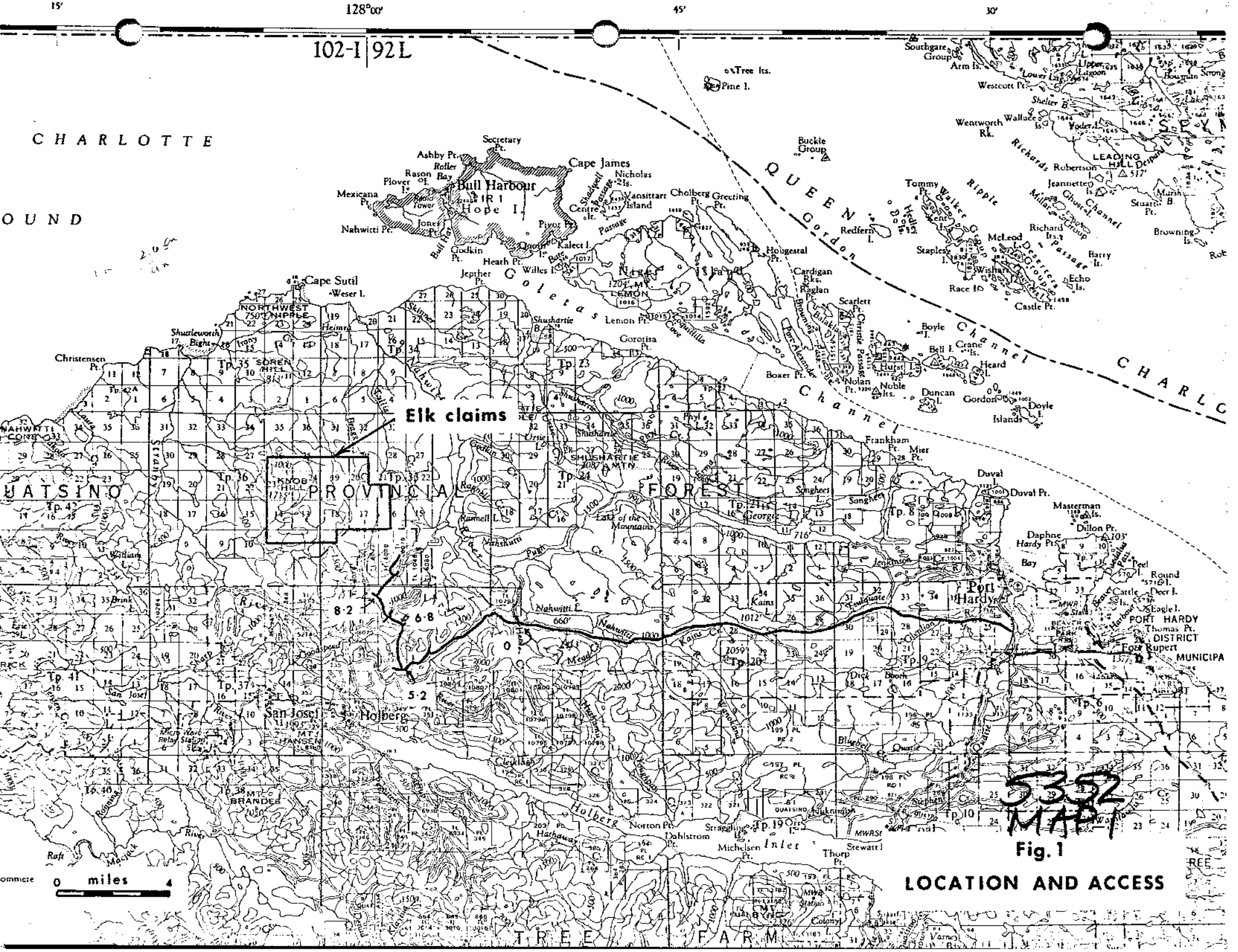
In addition, the previous geological mapping was extended by Michael Fox, of Chevron, and the old drill core re-examined by Brad Pearson, an independent consultant.

LOCATION & ACCESS

The Elk property is centered on Knob Hill, a subtle topographic high, 24 air miles west of Port Hardy Airport on Vancouver Island, B.C.

Access is either via Vancouver Island Helicopters of Port Hardy (Bell Jet Ranger), or via logging roads to within a three-hour hike of Knob Hill. The latter route is shown in detail on Figure 1. The hike is not especially strenuous except for a half-hour climb from the end of the logging road which takes one up through thick timber to the "plateau" surrounding Knob Hill.

Port Hardy is serviced twice daily from Vancouver by Pacific Western Airlines, weather permitting.


102-I|92L
128°00'
45'
30'
15'
CHARLOTTE
OUND
Elk claims
QUEEN
Gordon
Channel
CHARLO
Cape Sutil
Cape James
Hull Harbour
Hope I.
Goletas
Channel
Lemon Pt.
Gorotisa Pt.
Shushartie Bay
SHUSHARTIE MTN.
QUATSINO PROVINCIAL FOREST
Port Hardy
PORT HARDY
DISTRICT
MUNICIPA
San Josef
Holberg
Nahwitti L.
Kains L.
Songhees
Duval
Masterman Is.
Dillon Pt.
Frankham Pt.
Mier Pt.
Boxer Pt.
Nolan Pt.
Noble Is.
Duncan I.
Gordon I.
Doyle Islands
Boyle I.
Crane Is.
Bell I
Hurst I.
Heard I.
Scarlett Pt.
Christie Passage
Cardigan Rks.
Raglan Pt.
Browning Pass
Balaklava Is.
Tommy Pt.
Walker Group
Redfern I.
McLeod Is.
Deserters Group
Stapleton I.
Wishart I.
Race Pt.
Castle Pt.
Barry I.
Echo Is.
Richard Is.
Jeannette Is.
Ripple Passage
Richards Channel
Robertson I.
Wentworth Rk.
Wallace Is.
Yoder I.
LEADING HILL Deepwa
Southgate Group
Arm Is.
Westcott Pt.
Upper Lagoon
Lower Lagoon
Shelter B.
Tree Its.
Pine I.
Buckle Group
Secretary Pt.
Ashby Pt.
Roller
Rason Bay
Plover I.
Mexicana Pt.
Radio Tower
Nahwitti Pt.
Jones Pt.
Ball Head
Godkin Pt.
Heath Pt.
Pivot Pt.
Kalect I.
Willes I.
Jepther Pt.
Cape Sutil
Weser I.
NORTHWEST 750' AMPHLE
Shuttleworth Bight
Christensen Pt.
Heimre L.
Shushartie B.
Shushartie R.
Gorotisa Cr.
Ursie L.
Ursie Cr.
Goetzin Cr.
Rammell L.
Rammell Cr.
Nahwitti R.
Nahwitti Lake
Nahwitti Cone
Lake of the Mountains
Pugsley Cr.
Jenkinson Cr.
Kains Cr.
Kains L.
Tsulquate
Tsulquate R.
Quatse R.
Quatse
Bluebell Cr.
Bluebell
Dick
Boom
Cattle Cr.
Cattle
Deer I.
Round I.
Peel I.
Eagle I.
Thomas Pt.
Fort Rupert
Daphne Hardy Pts.
Hardy Bay
Beaver Harbour
Beaver Harbour Park
MWR Stat
Holberg Inlet
Michelsen Pt.
Dahlstrom Pt.
Norton Pt.
Straggling Pt.
Hathaway Cr.
Cleaklash Cr.
Cleaklash
Mead Cr.
Mead
Goodspeed
Sharp
Brink
Raft
Macquick
Micro Wave Relay Station
MT. HANSEN
MT. BRANDES
MT. COLONY
Stewart I.
Thorpe Pt.
Stephan
Quatsino
Quatsino Narrows
MWR Stat
Tp. 34
Tp. 35 SOREN HILL
Tp. 36
Tp. 38
Tp. 41
Tp. 42
Tp. 42A
Tp. 23
Tp. 24
Tp. 20
Tp. 19
Tp. 10
Tp. 9
Tp. 8
Tp. 6
KNOB HILL 1715'
8·2
6·8
5·2
0
0 miles 4
TREE FARM
5352
MAP
Fig. 1
LOCATION AND ACCESS

5352
MAP 2

Fig. 2

TOPOGRAPHY

Elk claims

OWNERSHIP & CLAIMS

The Elk claims are held under option by the Standard Oil Company of British Columbia Ltd., from Cominex Holdings Ltd. The 158 claims currently held are:

Name				Record No.			
Elk	3	-	42 incl.	34624	-	34663	incl.
	43	-	62 "	37794	-	37813	"
	63	-	90 "	34684	-	34711	"
	95	-	104 "	34712	-	34721	"
	117	-	136 "	34730	-	34747	"
	341	-	400 "	34996	-	35037	"

GEOGRAPHY

The terrain of the area is unusual for the Coast. The property covers what is essentially a plateau at an elevation of 1,300 feet. Relief across most of the property does not exceed 500 feet.

The vegetation is also unusual. It consists mainly of widely-spaced scrub jackpine on a boggy, puddle-riddled surface that is not unlike muskeg. Labrador tea in some of the scrubby groves and our pH measurements attest to a fairly high surface soil acidity (pH's 4.9 to 6.5).

The climate, on the other hand, is typical of the West Coast. Precipitation is high, fog is common,and frequent high winds rip across the plateau in autumn. However, the low elevation restricts what would otherwise be a heavy snowfall.

GEOMORPHOLOGY

Glacial till covers 80% of the property. Its depth averages 8.8 feet and rarely exceeds 17 feet. A typical profile looks like this:

0
4' Peat
6' Clay
8' Boulders
9' Basal Till

The clay and boulder layers may interchange and, at times, be absent. The boulders, where present, are quite densely packed and severely hamper drill penetration at numerous stations.

The direction of ice movement is uncertain, but large erratics are present near the centre of the Elk property which appear to have a source one mile to the northeast.

An interesting feature of the geomorphology is the radial drainage from Knob Hill, which was at first suggested as representing either a shallow underlying intrusive stock, or a volcanic dome. Neither interpretation now seems likely. The hill may simply represent a patch of rather resistant ignimbrite.

HISTORY OF PREVIOUS WORK

The discovery of the 280 million ton Island Copper orebody initiated interest in the Bonanza volcanic belt in 1968, and exploration has since remained at a relatively high level.

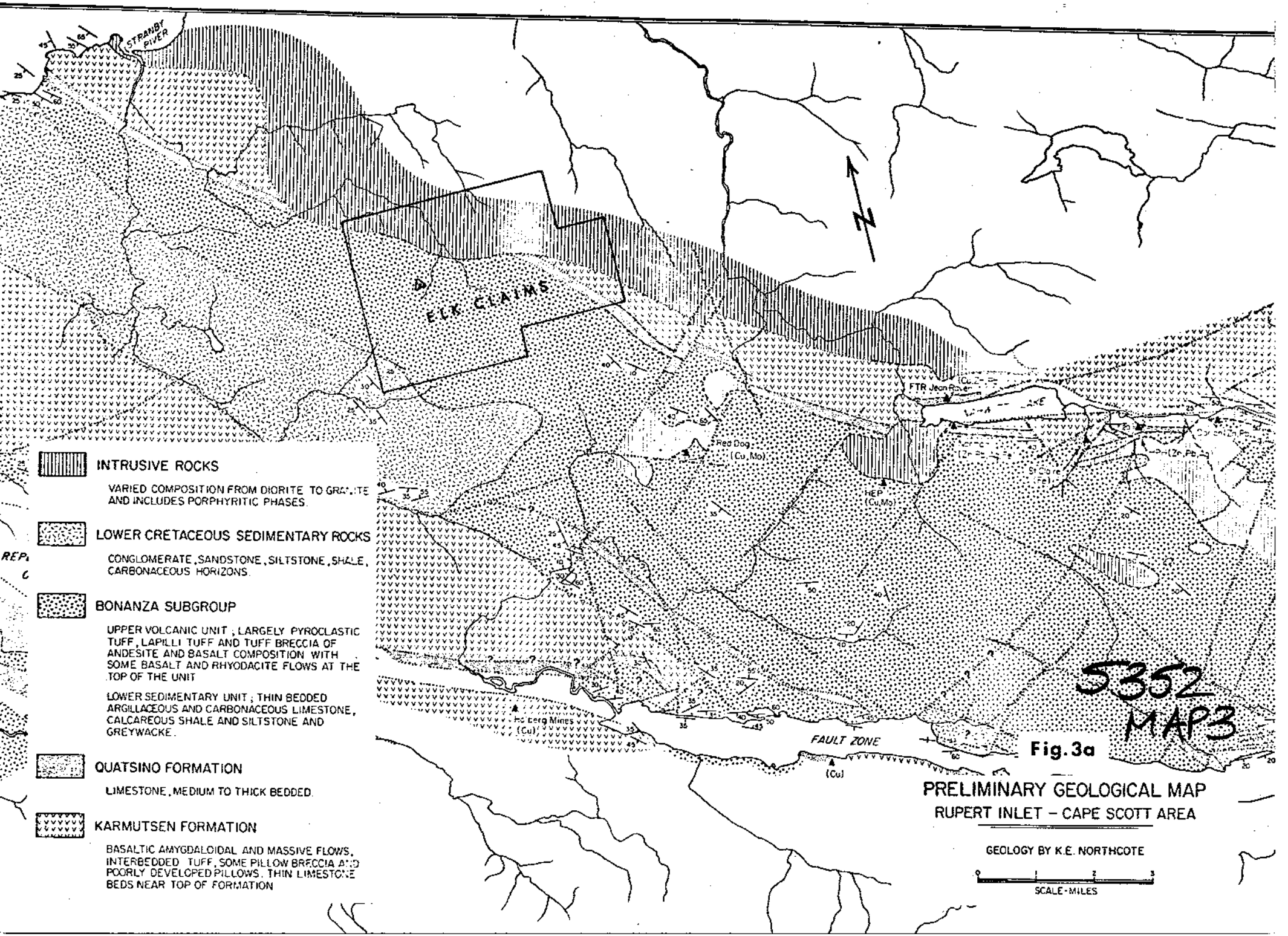
The staking of the Elk mineral claims in February 1972 was quickly followed by a magnetometer survey, rock chip samplin g and geological mapping.

These surveys revealed a high degree of rock alteration, anomalous rock-chip metal contents, and two areas of disturbed magnetism, all of which led to a drilling program in the Fall of the same year. A total of 3,177 feet of diamond drilling was carried out, comprising four widely-spaced, vertical BQ size holes. Large amounts of disseminated sulphide were encountered in all holes, but the best intersection did not exceed 0.1% Cu over 80 feet.

R E G I O N A L D E S C R I P T I O N

GEOLOGY (See Figure 3a)

The essential feature is a belt of Bonanza volcanics (Upper Triassic to Lower Jurassic) which trend northwesterly 25 miles from the Island Copper deposit at Rupert Inlet to the sea. These volcanics are approximately calc-alkaline in general type, and mainly andesitic in composition. They have been subjected to low-grade regional metamorphism (zeolite sub-facies) and have been intruded by intermediate to felsic stocks with which they may be co-magnetic.


STRANBY RIVER
ELK CLAIMS
FTR Jean River
LAKE
Red Dog
(Cu, Mo)
HEP
(Cu, Mo)
(Zn, Pb)
(Fe)
FAULT ZONE
(Cu)
INTRUSIVE ROCKS
VARIED COMPOSITION FROM DIORITE TO GRANITE AND INCLUDES PORPHYRITIC PHASES.
LOWER CRETACEOUS SEDIMENTARY ROCKS
CONGLOMERATE, SANDSTONE, SILTSTONE, SHALE, CARBONACEOUS HORIZONS.
BONANZA SUBGROUP
UPPER VOLCANIC UNIT; LARGELY PYROCLASTIC TUFF, LAPILLI TUFF AND TUFF BRECCIA OF ANDESITE AND BASALT COMPOSITION WITH SOME BASALT AND RHYODACITE FLOWS AT THE TOP OF THE UNIT
LOWER SEDIMENTARY UNIT; THIN BEDDED ARGILLACEOUS AND CARBONACEOUS LIMESTONE, CALCAREOUS SHALE AND SILTSTONE AND GREYWACKE.
QUATSINO FORMATION
LIMESTONE, MEDIUM TO THICK BEDDED.
KARMUTSEN FORMATION
BASALTIC AMYGDALOIDAL AND MASSIVE FLOWS, INTERBEDDED TUFF, SOME PILLOW BRECCIA AND POORLY DEVELOPED PILLOWS. THIN LIMESTONE BEDS NEAR TOP OF FORMATION
5352
MAP 3
Fig. 3a
PRELIMINARY GEOLOGICAL MAP
RUPERT INLET – CAPE SCOTT AREA
GEOLOGY BY K.E. NORTHCOTE
SCALE - MILES

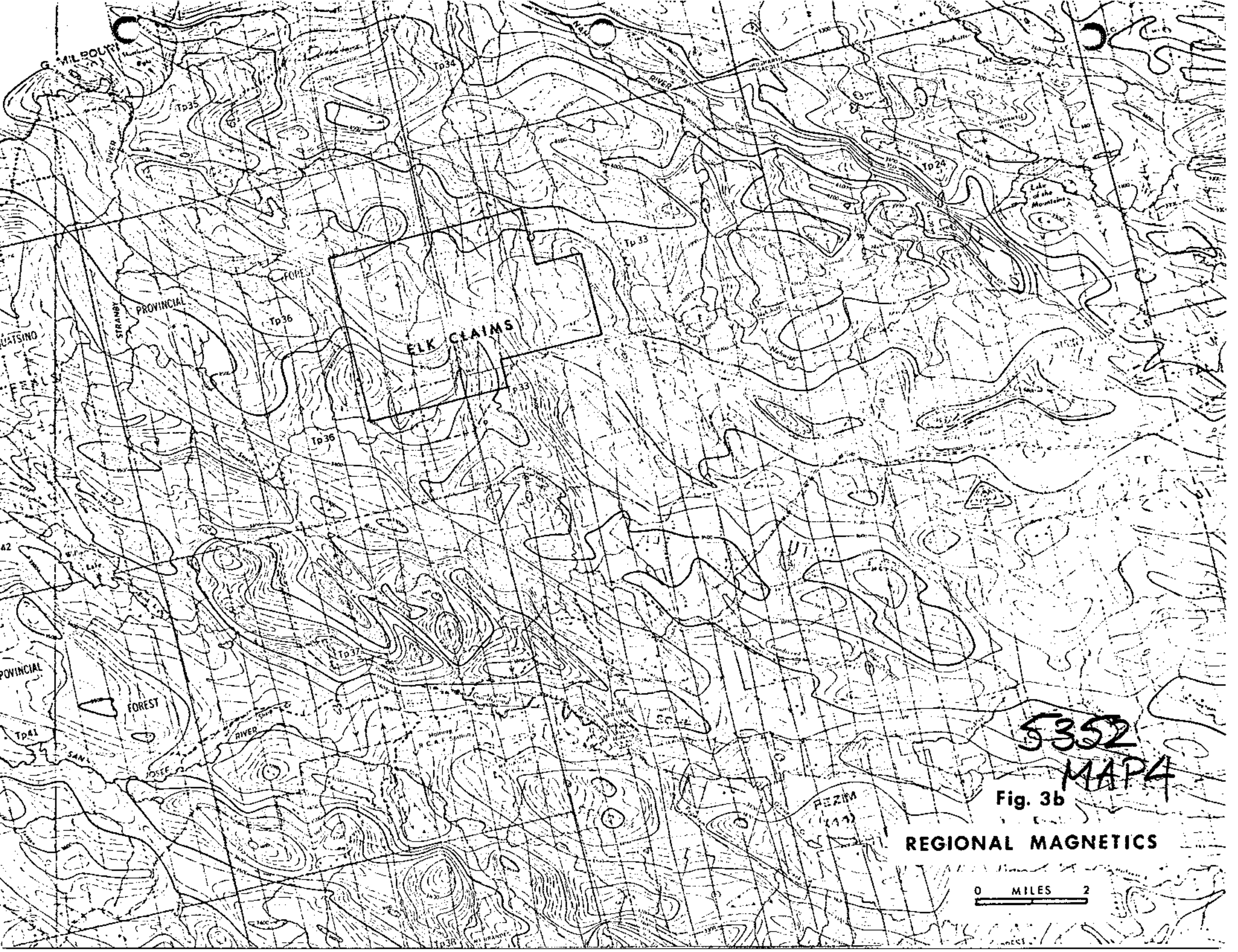


Fig. 3b

REGIONAL MAGNETICS

0 MILES 2

The predominant regional structure appears to be one of gentle folding, and broad scale block faulting. Bedding attitudes are rare and difficult to discern in the volcanics, but are believed, in general, to strike northwesterly and dip to the southwest.

Brad Pearson makes an interesting reference to the pyrite-clay-silica alteration zone which appears to extend the entire length of the volcanic belt. (See references.)

MAGNETICS

The belt of Bonanza volcanics is well outlined on the aeromagnetic map (Figure 3b). In fact, quite distinctive levels of magnetism are associated with each rock type, as follows:

Cretaceous sediments	- 3300 to 3600 gammas
Bonanza sediments & volcanics	- 3300 to 4000 "
Island intrusions	- 3600 to 4200 "
Karmutsen volcanics	- 4000 to 6000 "

Also, it is interesting to note that all four Cu - Mo deposits plotted by Northcote within the belt lie between the 3900 and 4000 gamma levels, and all seven skarn deposits between 4100 and 4500 gamma levels. It seems likely that this represents a fairly consistent expression of intrusive contacts rather than a particular stratigraphic horizon.

Our higher priority targets on the Elk (Areas #1 and #2) coincide with the 3900 gamma regional contour.

MINERALIZATION

A number of metallic mineral deposits are present within the Bonanza volcanics. They have been categorized principally as Cu - Mo porphyries or as Cu - Fe and Fe - Pb - Zn skarns, although some Au and Cu quartz veins are also present.

The Island Copper orebody (280 million tons grading 0.5% Cu and 0.03% MoS_2) consists mainly of disseminated pyrite, chalcopyrite, and molybdenite, in what has been referred to as a silicified andesite. A substantial portion of the ore occurs within and at the margins of a quartz monzonite dyke, and all rock types present do contain minor amounts of Cu. The configuration of

the ore is complicated by two series of faults, with associated phyllitic alteration. However, the overall trend of the mineralization is N 70° W, parallel to the strike of both the volcanics and of the quartz monzonite dyke. The Island Copper deposit may not actually be of the "porphyry copper" type. (See report by Brad Pearson).

L O C A L D E S C R I P T I O N

GEOLOGY

The overall picture is one of highly altered Bonanza volcanics, intruded to the northeast by diorites, and unconformably overlain to the southwest by cretaceous sediments. Small felsic to intermediate dykes are fairly common within the Bonanza.

The Bonanza rocks are altered to a high degree and wide extent but zoning is difficult to define because of the paucity of outcrop. Alteration products include sericite, chlorite, clay minerals, epidote, biotite, quartz, pyrite and pyrrhotite. The pervasiveness of the alteration makes lithologic identification difficult within the volcanics. However, a comprehensive set of thin sections, provided by the earlier work of Peter Folk, differentiates the rock types fairly well.

Almost all rock specimens contain 1% to 5% pyrite, and pyrrhotite is very common. Chalcopyrite and sphalerite are seen occasionally in minor amounts. One diamond drill hole (72-1) showed 80' of 0.10% Cu, 0.09 oz./ton Ag. Some float has been found (by P. Folk) in Area #2 (Figure 7) which assayed 0.2% Cu, consisting of a highly altered lithic tuff mineralized with chalcopyrite and pyrrhotite.

Structure remains difficult to delineate. Except for the rhyodacite unit, bedding attitudes are almost non-existent. Attitudes in the rhyodacite imply a north to northwesterly strike but dips vary radically in both directions. This fact, as well as magnetic and geochemical indications, denies the simplicity implied by the lithology and geomorphology. For example, the magnetic and geochemical patterns suggest northwesterly trending faults, in one case, with a possible 5,000 foot right lateral off-set.

An important structural relationship is present in diamond drill hole 72 - 1, where the volcanic beds are seen to be dipping 55°, and the sedimentary beds, 30°. This has several implications. First, it tends to support the evidence that the latter beds are indeed sedimentary, the dip difference of 25 ° being most reasonable. Second, the sedimentary bed, if extrapolated to the surface using a reasonable strike direction, should outcrop within the rhyodacite unit. The importance of this latter relationship is immediately apparent when we remember the higher Cu values in the sedimentary section of the hole, and the better geochemical results over the rhyodacite.

MAGNETICS

The 1972 property magnetometer survey revealed quite distinctive patterns, both in relation to average magnetic level, and to magnetic relief. For example, the contacts of the Bonanza rocks with the intrusives and with the Cretaceous sediments both show up quite well. So also does some apparent faulting. The previously mentioned major fault, with a possible 5,000 foot offset, is interpreted as lying along the SE side of Area #2 (Figure 7). In fact, there is an exact coincidence of anomaly boundaries along this line. The possible offset results if one compares the "disturbed" magnetic pattern of Area #2 with that of the Knob Hill vicinity. They are similar. Although these disturbed patterns could be of surficial origin (magnetite-rich boulders) they could equally be due to magnetite in bedrock and/or intrusive complexity. Core in diamond drill hole 72 - 3 (near Knob Hill) shows 15% magnetite at a 192' depth, diorite dykes at 155', 170', and 795', and what appears to be a major diorite body at 861'. Finally, there are variable amounts of magnetic pyrrhotite observable in outcrop, and in small amounts throughout drill hole 72 - 3.

It is clear that magnetometer work will be one of our better exploration tools on this property providing we can remove any surficial interference effects, either by statistical filtering, or by "off-ground" measurements.

GEOCHEMISTRY

(i) GENERAL

The geochemical analyses are not as high as one would wish, although grouping of high values is generally good. Correlation of anomalous metal contents was fair between Cu and Mo, poor between Cu and Zn, and nil between Mo and Zn. Fifty-one of the 653 samples were re-run for Pb, Au and Ag without significant results.

(ii) COMPARISON OF SAMPLE TYPES

Data showing various available comparisons are presented in Tables I to V. Cu content is very low in the "surface" soil, that is, immediately below the organic surface layer. It tends to be moderate and uniform throughout the till layers, and slightly lower in the underlying bedrock. Zinc shows a similar pattern except that there is little difference between basal till and bedrock.

Molybdenum, on the other hand, is often concentrated at the surface, variable and low in the till, and of unpredictable content in the underlying bedrock. Its mode of dispersion is obviously more complex.

Copper and molybdenum show an appropriate, and fairly uniform, enrichment in heavy mineral separates, but Zn is similar or less in this fraction. There would seem to be no special advantage in analysing heavy mineral fractions on this property with such mineralogical information as we have.

(iii) ESTABLISHMENT OF THRESHOLDS

The available empirical data is not especially encouraging. With overburden and bedrock metal contents generally similar, it would seem that none of the geochemical values are high enough to reflect underlying mineralization of ore grade. However, it is important to remember that:

(a) The available comparisons are few and are certainly in background areas. The same relationships would not necessarily hold, or at least not to the same extent, over any ore that might be present.
(b) Island Copper Mines reports a relatively modest 880 ppm Cu in "C" horizon immediately over their orebody, and
(c) Typical thresholds over volcanics on Vancouver Island are normally considered to be between 100 and 150 ppm.
(d) Ore would not necessarily intersect the bedrock surface.
(e) The sample spacing is quite wide. Statistical methods were used to establish a threshold for plotting purposes.. In most cases, the cumulative log probability plots (see Figure 4) indicated a different type of distribution for about the upper 10% of the metal values.

TABLE I

METAL CONTENT VS. DEPTH IN OVERBURDEN

LOCATION	DEPTH FT.	MATERIAL	Cu PPM	Mo PPM	Zn PPM
OE/ON	7	Gravelly till	76	1	147
"	8.5	" "	85	ND	136
"	10.5	Basal till	78	1	128
"	11.5	" "	74	ND	133
"	12.0	Bedrock Chips	32	5	107
8W/19N	1.5	Clay	7	1	18
"	2.0	Sub-outcrop	99	1	71
"	2.5	Bedrock chips	54	2	78

TABLE II

SURFACE SOIL VS. BASAL TILL

LOCATION	NO OF SAMPLES		Cu, ppm		Mo, ppm		Zn, ppm	
	SURFACE	TILL	SURFACE	TILL	SURFACE	TILL	SURFACE	TILL
16E 20S	1	1	30	51	3	ND	45	140
" 28S	1	1	17	53	1	3	30	137
" 32S	1	1	3	66	1	3	40	82
8E 8S	1	1	31	136	1	2	21	136
" 28S	1	1	15	75	3	2	21	260
Overall Average * Background	460	193	32	75	5.0	2.3	45	160

* The "surface" soils are mostly from steep topography at the S end of the grid.

TABLE III

BASAL TILL VS. DIAMOND DRILL HOLES

LOCATION (VICINITY)	Cu, ppm		Mo, ppm		Zn, ppm	
	TILL	UPPER HOLE	TILL	UPPER HOLE	TILL	UPPER HOLE
DDH 72-1	280	128	4	1	280	392
DDH 72-2	130	160	1	<1	130	89
DDH 72-3	160	118				

TABLE IV

BASAL TILL VS. BEDROCK CHIPS

LOCATION	SIZE FRACTION OF TILL	Cu, ppm		Mo, ppm		Zn, ppm	
		TILL	CHIPS	TILL	CHIPS	TILL	CHIPS
0E/0N	-100 mesh	51	32	1	5	108	107
0E/12N	"	44	20	ND	1	83	62
0E/20N	"	260	40	1	4	103	90

TABLE V

TOTAL MINUS 80 MESH VS. HEAVY MINERAL FRACTION

LOCATION	TYPE	Cu, ppm		Mo, ppm		Zn, ppm	
		-80	H.M.	-80	H.M.	-80	H.M.
16E/20S	Surface soil	30	148	3	10	45	110
" 28S	"	17	175	1	8	30	70
" 32S	"	3	145	1	7	40	78
16E/24S	Basal till	63	115	2	5	186	142
" 32S	"	66	170	3	ND	82	90
" 36S	"	53	110	1	6	178	76
" 39S	"	50	138	ND	5	160	133
0E/0N	"	51	62	1	6	108	86

The following table shows the thresholds chosen and the associated percentage of values thereby rendered "anomalous":

TABLE VI

STATISTICALLY BASED THRESHOLDS

	"SURFACE" SOILS		BASAL TILL	
METAL	THRESHOLD	% ANOMALOUS	THRESHOLD	% ANOMALOUS
Cu	65 ppm	11	120 ppm	10
Mo	10 ppm	14	4.8 ppm	10
Zn	105 ppm	7	320	7

Contouring on Figures 6a, b and c could thus be correlated between surface soils and basal till samples.

(iv) MOBILITY

The evidence from a limited number (30) of pH determinations suggests that Cu mobility should be moderate in the basal till. On the other hand, the presence of a slight enrichment of Cu values in basal till over bedrock indicates a low Cu mobility. Since the latter relationship is an empirical one, we can give it greater credence and therefore be fairly confident of a minimum secondary dispersion of Cu in the till.

Zinc, as it theoretically should, shows a slightly greater but not excessive mobility in the till.

By contrast, both these metals on empirical as well as theoretical evidence are highly mobile in the surface soil confirming our original suspicions.

The situation with Mo is reversed. It appears to be mobile in the till and concentrated at the surface. It is also more erratic in distribution.

D I S C U S S I O N S

TARGET TYPE SOUGHT

Our primary objective has been the discovery of a low-grade Cu-Mo deppsit of the Island Copper type usually classified, on the basis of grades, alteration and intrusive association, as a "porphyry copper" deposit.

However, for several reasons, our concept of what we are looking for should be enlarged. To begin with, there is a possibility that the Island Copper

orebody is a re-mobilized sedimentary copper deposit. The evidence for this is summarized by Brad Pearson in his current report. Secondly, we should not overlook the favorability of the environment for deposits of volcanogenic type. The evidence for this possibility (partly plagiarized from Brad Pearson), can be formulated as follows:

1. The Bonanza volcanics are sub-aqueous with compositions ranging from andesite to rhyodacite. The sequence, though not classic in "Kuroko" form, is nevertheless permissive of this type of deposit.
2. The felsic Island intrusions may well be co-magmatic with the Bonanza volcanics, the intrusive stocks representing former volcanic centres.
3. Fragmental pyrrhotite, in one case associated with a bleb of chalcopyrite, has been observed in diamond drill holes, 72 - 1 and 72 - 3.
4. The only geochemical Zn highs on the Elk property are in the vicinity of the rhyodacite unit and the best "grouping" of Cu, Zn and Mo occur in this vicinity.

The main, and important objection to the possible presence of volcanogenic deposits in this belt is the lack of any massive sulphides not identifiable as of either skarn or vein origin but the possibility should not be overlooked.

TARGETS IDENTIFIED

Specific drill targets have not yet been identified but our area of interest has been considerably narrowed.

In a general sense, the most promising target is the rhyodacite unit. It correlates structurally with the highest grade drill section, shows a fairly good geochemical response in Cu, Mo and Zn, and lies close both to the important regional magnetic contour and to the main intrusive. Finally, it represents the possible locus of volcanogenic sulphide deposition.

On a principally geochemical basis, we may identify higher priority areas as follows:

Area #1 consists of a series of Cu, Mo and Zn highs strung along the sub-outcrop trend of the rhyodacite. Most of the Mo rock chip highs and a fair degree of

pyritization are present along this trend. Peak values in the basal till are 218 ppm Cu, 58 ppm Mo, and 920 ppm Zn.

Area #2 has the most known Cu mineralization. Poorly correlated Cu and Zn highs occupy an area of high magnetic relief just outside, and probably stratigraphically above, the rhyodacite unit. Peak values in this case are 300 ppm Cu, 5 ppm Mo, and 410 ppm Zn.

Area #3 is characterized by coincident Cu and Mo basal till anomalies, both open to the west and lying in an "embayment" in the magnetic relief. It is at the south edge of the area of high magnetic disturbance referred to previously as the "Knob Hill Anomaly". Some trace chalcopyrite-molybdenite mineralization has been located 2000 feet to the southwest in one of the rare outcrops in this vicinity.

Area #4 consists of a hodge-podge of Cu, Mo and Zn anomalies in heterogeneous "B" horizon soil on steep terrain at the south end of the grid.

Although there is somewhat more outcrop in this area, and it is fairly highly pyritized and otherwise altered, no more than a trace of cahlcopyrite has been observed. Also, the high mobility of Cu and Zn in the surface soils, which establish the anomalies in this area combined with the appearance of these anomalies on the low slopes of a drainage basin, make the results somewhat questionable. Copper is particularly low with a peak of 98 ppm, Zn peaks at 365 ppm, and Mo at 15 ppm. Correlations between metals are fair.

EXPLORATION TECHNIQUES

The overburden drilling approach achieved its purpose in that it has supplied useful information in an area where the surface soils would undoubtedly have given us rather poor results although at rather high cost. The cost per hole averaged $70.00, and the cost per foot of depth, $8.00 (total cost exclusive of mobilization and helicopter servicing). These costs are attributable to the high density of boulders in the till and labor problems, in that order. The equipment itself functioned well but it would behoove us to use heavier duty drill rods in this terrain.

With the desirability of improving our knowledge of structure and lithology, some thought has been given to light-weight (Winkie) drilling but, presumably, the boulder problem would remain a severe one and costs could also be very high.

It might be possible to sample geochemically restricted areas of the plateau surface by ordinary geochemical means. There are occasional small mounds of "B" horizon soil at the surface which remind one of the frost boils found in colder regions. In general, though, their frequency of occurrence is too low for anything but broad scale reconnaissance.

Magnetometer work is promising in that it reflects intrusive activity. However, as mentioned earlier, there is some possibility of interference from surficial materials.

Induced Polarization could prove useful on a very local basis provided we can first learn more about the distribution of the abundant non-productive sulphides.

Electro-magnetic methods are valid if we accept the possibility of volcanogenic massive sulphides being present, and, perhaps, to aid interpretation of structure.

C O N C L U S I O N S

Although this year's work has narrowed the area of interest, the mineral potential of this property remains somewhat enigmatic.

It is unlikely that any major tonnage of low-grade Cu - Mo mineralization reaches the bedrock surface anywhere in the area surveyed. However, the possibility of a non-outcropping low-grade deposit, or of zones of massive sulphide, is by no means ruled out and exploration should be continued.

Further work should focus principally on the rhyodacite (and/or argillite) unit with guidance provided by the basal till sampling.

RECOMMENDATIONS

1.	Overburden Drilling		
	(a) Fill-in, Areas 1, 2, and 3	100 holes @ $77.00	$ 7,700
	(b) Extension along rhyodacite	90 " @ $77.00	6,930
	(c) Fill-in along (b)	30 " @ $77.00	2,310
2.	Geophysics		
	(a) "Raised" ground magnetometer survey over volcanics 50 line miles @ $150/line mile		7,500
	(b) Ground E.M. over rhyodacite 28 line miles @ $400/line mile		11,200
	(c) As an alternative to (a) and (b), aero-magnetic survey and E.M. by helicopter. Cost comparable		
3.	Additional line-cutting: 36 line miles @ $200/line mile		7,200
4.	Additional mapping: 1 month @ $1,500		1,500
5.	Petrographic work on rhyodacite: 50 specimens @ $20.00 ea.		1,000
6.	Assay costs: 220 assays @ $3.00 ea.		660
7.	Mobilization and servicing costs for all above work		8,000
			$ 54,000
		Contingencies 10%	5,400
		Total Program Estimate	$ 59,400

David Arscott

APPENDIX

R E F E R E N C E S

REGIONAL GEOLOGY

Northcote, K. Rupert Inlet, Cape Scott Area, Geology Exploration & Mining

Muller J., Northcote, K., and Carlisle, D. Geology and Mineral Deposits of Alert Bay - Cape Scott Map Area, G.S.C. Paper 74-8, 1974.

Muller, J., & Carson, D. Geology and Mineral Possibilities of Vancouver Island, Canadian Mining Journal, May 1969, p. 66.

Muller, J. Northern Vancouver Island, G.S.C. Papers 70-1, Pt.A p.44 and 69-1 Pt.A.

Jeletsky, J. Mesozoic and Tertiary Stratigraphy of Northern Vancouver Island, G.S.C. Paper 69-1, Pt. A., p. 126.

Island Copper Deposit

Northcote, K. Island Copper Deposit, Geology, Exploration & Mining, 1970, p. 267.

Young, M. & Rugg, E. Island Copper Deposit - A paper presented at CIM Annual Convention, Kamloops, B.C. October, 1970.

Red Dog Deposit

Northcote, K. Red Dog, Geology, Exploration & Mining, 1970, p. 259.

Elk Mineral Claims

Pearson, B.C. Report on Elk Group, December, 1974.

Veerman, H. Final Report for 1972, Elk Property, November 1972.

Folk, P. Geological Report Elk Property, July 1972.

Overburden Drilling

Gleeson, C., & Cormier, R. Evaluation by Geochemistry of Geophysical Anomalies and Geological Targets Using Overburden Sampling at Depth.

G E O C H E M I C A L T E C H N I Q U E S

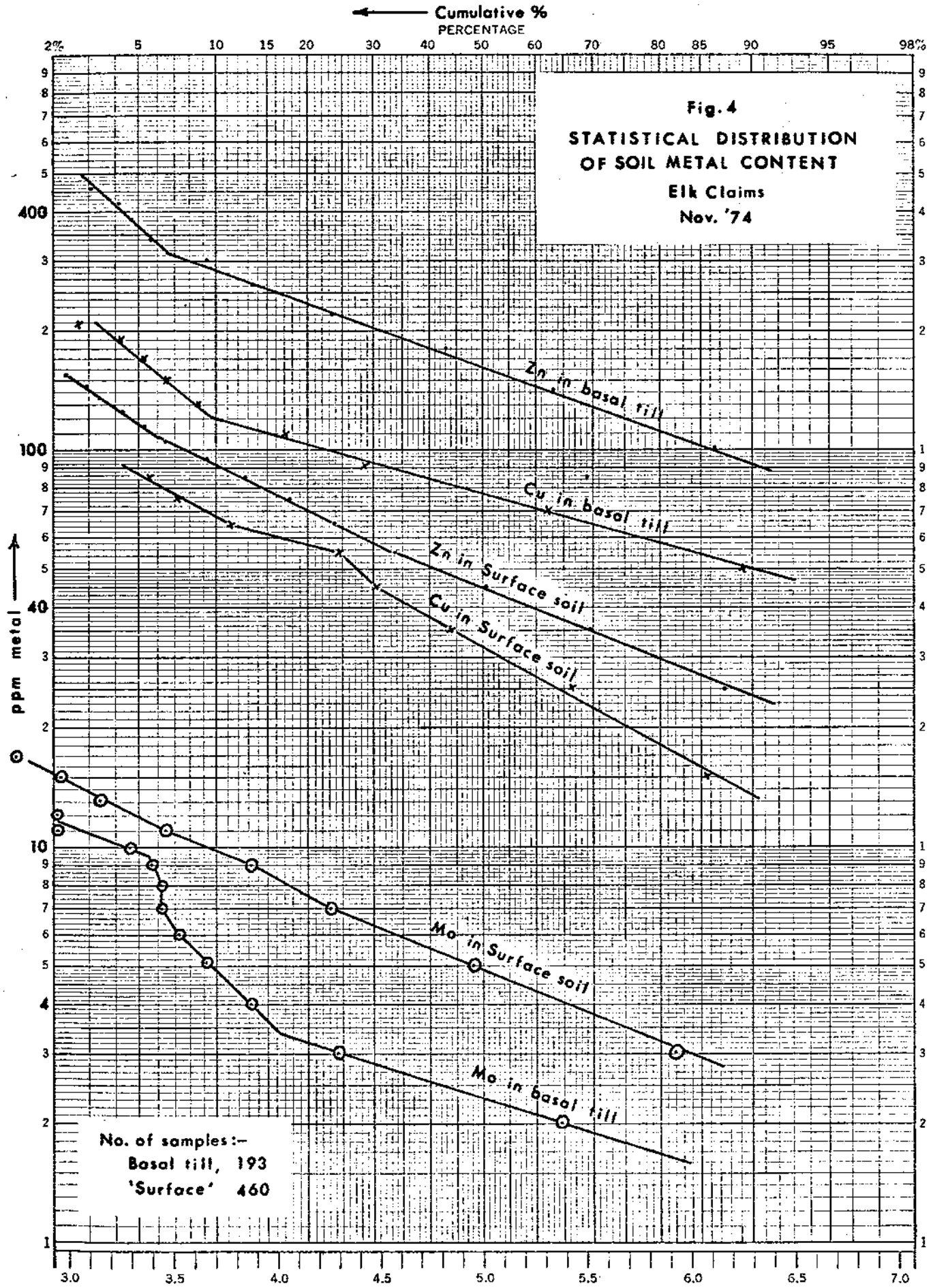
SAMPLING

Overburden drilling for basal till sam;ling made us of Pionjar hammer drills and a specially designed sampling tool, the major advantages of this equipment being portability and the acquisition of uncontaminated samples. The method is described more fully in the report by Gleeson and Cormier (See references.)

"B" horizon sampling was carried out by using a small hoe, samples being taken from just below the organic layer and then transferred to standard paper geochemical bags for transportation.

ANALYSES

The majority of the analyses involved hot aqua regia extraction and atomic absorption analysis of the -80 mesh fraction of the samples. All laboratory work was conducted by Bondar-Clegg & Co. Ltd. (Vancouver, B.C.)



C915

BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction: Pb, Ag; Hot Aqua Regia / Au; Fire Assay & Hot Aqua Regia

Report No. 24 - 896

Method: atomic Absorption

From: Chevron Standard Ltd.

Fraction Used: -

Date: Nov. 29 19 74

SAMPLE NO.	Pb ppm	Ag ppm	Au ppb	pH	SAMPLE NO.	Pb ppm	Ag ppm	Au ppb	pH
4BR - 3091	13	1.1	L10	6.5	16E - 52S	16	2.4	15	4.9
3092	36	1.3	10	6.4	53S	14	7.0	L10	4.9
3093	24	1.1	L10	6.0	55S	12	1.0	L10	4.9
3094	65	2.6	15	6.4	56S	9	0.8	L20	5.0
3095	24	1.4	L10	5.5	57S	13	0.8	10	4.9
3096	40	1.0	L10	6.6	58S	14	1.2	10	5.1
4RV - 3001	37	1.6	L10	5.5	59S	12	1.0	15	5.0
4BR - 3052	24	1.1	10	5.7	60S	11	1.1	10	4.9
3053	39	1.0	L10	4.5	61S	13	1.1	10	5.3
3054	14	1.0	30	6.1	62S	14	1.1	L20	5.1
3055	22	1.0	L10	6.1	63S	8	0.7	L10	5.0
3056	24	1.4	15	6.4	64S	14	0.9	10	5.1
3057	27	1.3	20	6.3	65S	40	1.6	10	5.4
3058	78	2.4	15	6.0	66S	33	1.4	L10	4.9
3059	19	1.2	180	6.0	67S	40	1.2	L10	5.1
3060	19	1.1	L10	6.4	68S	50	1.3	L10	5.1
3061	24	1.0	L20	4.8	69S	62	1.4	L10	4.9
3062	22	1.6	L10	5.8	70S	48	1.0	10	5.1
3103	21	1.3	10	5.7	71S	27	1.2	15	5.0
3102	8	1.0	L10	4.8	72S	48	1.2	L10	4.9
3101	16	1.8	L10	5.2	73S	135	1.3	10	4.4
3100	40	1.9	10	5.9					
3099	53	1.2	15	5.7					
3098	16	1.3	L10	6.2					
3097	16	1.2	L10	5.7					
3049	21	1.3	L10	6.0					
3141	100	2.0	25	5.4	L denotes 'less than'				
3140	20	1.1	L10	5.6					
3139	20	1.1	L10	6.5					
3138	20	1.1	L10	7.0					

V- ELK C415

BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction: Hot Aqua Regia
Method: Atomic Absorption
Fraction Used: -80 mesh

Report No. 24 - 731
From: Chevron Standard Limited
Date: October 10 1974

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
BL 0 - 55S	1	16	1		4E - 66S	21	43	8	
56S	80	55	12		67S	27	26	7	
58S	26	32	3		68S	25	28	6	
59S	50	30	10		69S	57	52	4	
60S	54	61	10		70S	50	35	6	
61S	30	24	10		71S	24	39	7	
62S	76	37	8		72S	46	44	5	
63S	57	34	6		73S	23	19	7	
64S	ND	4	2		74S	22	23	4	
65S	66	35	6		75S	64	46	8	
66E	65	37	8		76S	34	43	5	
67S	21	24	7		77S	38	22	22	
68S	50	59	5		78S	48	25	4	
69S	58	82	4		79S	40	26	6	
70S	20	17	11		80S	62	65	5	
71S	48	46	16		82S	16	55	8	
72S	72	72	21		83S	20	41	5	
73S	88	74	12		84S	32	84	3	
74S	12	28	4		8E - 52W	73	35	7	
75S	7	13	1		53S	78	26	8	
76S	24	14	4		54S	10	15	1	
78S	58	50	4		56S	38	91	2	
79S	40	62	5		58S	70	20	9	
80S	38	37	7		60S	57	14	7	
4E - 59S	20	35	2		61S	50	71	4	
60S	10	56	5		62S	20	20	2	
61S	23	90	1		63S	8	30	3	
63S	28	80	4		64S	104	112	6	
64S	7	26	3		65S	6	24	2	
65S	12	14	4		66S	35	77	5	

Geochemical Lab Report

Report No. 24 - 731

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
8E - 67S	9	38	3		16E - 63S	9	8	1	
68S	72	110	5		64S	27	68	3	
69S	5	6	20		65S	98	150	6	
70S	15	24	1		66S	80	200	4	
71S	88	182	3		67S	48	150	5	
12E - 51S	42	31	3		68S	84	208	5	
52S	53	28	5		69S	79	255	3	
53S	40	33	5		70S	86	188	2	
54S	48	42	5		71S	77	81	4	
55S	100	44	3		72S	27	70	5	
56S	23	42	5		73S	61	95	7	
57S	12	25	5		20E - 44S	41	23	8	
58S	10	20	2		45S	48	34	6	
59S	44	36	10		46S	15	20	4	
60S	55	33	15		47S	30	28	6	
63S	56	27	8		48S	12	10	1	
64S	4	9	1		49S	52	37	5	
65S	18	13	2		50S	10	24	2	
66S	37	38	2		51S	20	61	5	
67S	127	240	2		52S	20	28	9	
68S	39	118	3		53S	24	22	12	
69S	51	144	2		54S	62	35	11	
70S	56	140	2		55S	58	39	9	
71N	47	106	5		56S	82	26	15	
73S	60	125	3		57W	72	31	14	
16E - 52S	72	37	7		58S	61	30	13	
53S	48	18	6		59S	28	29	8	
55S	33	22	9		60S	44	37	6	
56S	40	136	7		61S	49	25	9	
57S	52	32	7		62S	32	100	5	
58S	77	32	16		63S	18	98	5	
59S	42	27	12		64S	13	40	2	
60S	23	27	8		65S	13	28	3	
61S	69	75	9		66S	62	320	5	
62S	53	41	8		67S	82	365	4	

BONDAR CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 24 - 731

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
20E - 69S	48	155	5		24E - 75S	2	12	1	
71S	28	80	6		28E -49S	32	16	8	
72S	17	54	3		50S	61	38	6	
74S	28	99	5		52S	17	72	1	
75S	32	56	4		54S	28	51	5	
24E - 41S	20	56	3		55S	37	60	4	
42S	5	20	2		56S	37	43	4	
43S	86	53	7		57S	18	39	3	
44S	48	40	6		58S	36	108	1	
45S	62	39	10		59S	26	80	5	
46S	72	41	8		60S	13	72	1	
47S	35	40	11		61S	45	46	5	
48S	17	40	11		62S	58	65	5	
49S	21	75	3		63S	6	33	1	
50S	25	62	6		64S	36	30	11	
51S	61	40	7		65S	58	68	3	
52S	28	85	5		66S	20	142	2	
53S	22	113	9		67S	63	119	5	
54S	56	61	8		68S	18	72	1	
55S	57	46	8		69S	28	39	2	
56S	13	50	5		70N	13	40	2	
57S	60	124	8		71S	73	60	4	
58S	44	32	9		72S	32	85	2	
59S	59	57	10		73S	6	13	ND	
60S	32	87	2		74S	2	28	ND	
61S	25	158	2		75S	20	36	3	
62S	7	73	1		76S	20	36	1	
65S	90	170	3		77S	6	27	ND	
67S	32	56	2		78S	35	47	1	
68S	31	76	2		79S	36	49	1	
69S	12	77	2		80S	30	55	2	
71S	41	72	4		81S	22	26	3	
72S	42	78	3		82S	20	28	1	
73S	16	51	3		83S	52	53	2	
74S	4	39	2		84S	41	48	2	

BONDAR CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 24 - 731 Page No. 4

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
28E - 85S	16	34	ND		32E - 71S	20	60	1	
86S	18	36	ND		72S	16	52	1	
88S	28	64	1		73S	46	90	2	
89S	14	48	ND		74S	26	60	3	
90S	27	84	1		75S	44	79	2	
32E - 39S	26	28	4		76N	36	58	4	
40S	4	28	ND		77S	25	41	3	
41S	42	72	2		78S	33	50	3	
42S	3	17	1		79S	22	47	3	
43S	35	42	4		80S	28	46	3	
44S	70	48	5		81S	50	58	3	
45S	41	55	5		82S	38	59	2	
47S	50	55	2		83S	26	32	4	
48S	36	60	3		84S	28	32	5	
49S	27	58	2		85S	20	38	3	
51S	12	37	3		86S	22	39	2	
52S	6	30	2		89S	10	20	1	
53S	44	50	5		90S	14	30	3	
54S	44	42	3		36E - 51S	13	23	3	
55S	28	25	1		52S	17	22	3	
56S	26	40	3		53S	28	26	1	
57S	23	32	2		54S	28	34	3	
58S	12	39	7		55S	21	17	3	
59S	22	26	3		56S	14	12	1	
60S	26	38	2		57S	15	17	3	
61S	36	38	5		58S	32	36	3	
62S	28	40	10		59S	43	35	5	
63S	25	36	5		60S	32	38	4	
64S	57	52	8		61S	20	24	5	
65S	46	96	7		62S	26	60	4	
66S	96	102	6		63S	6	23	3	
67S	53	85	5		64S	21	18	3	
68S	60	87	4		65S	32	98	3	
69S	12	57	3		66S	36	45	4	
70S	29	82	3		67S	17	34	3	

BONDAR CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 24 - 731

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.				
36E - 68S	36	34	2						
69S	8	30	1						
70S	6	13	5						
71S	12	28	1						
72S	11	40	2						
73S	16	46	2						
40E - 49S	36	52	2						
50S	5	25	1						
51S	21	24	5						
52S	1	17	1		ND denotes 'not detected'				
53S	29	40	4						
54S	4	20	4						
55S	52	48	8						
56S	27	36	3						
57S	40	40	7						
58S	32	38	6						
59S	30	32	3						
60S	38	40	4						
61S	22	48	5						
62S	41	56	4						
63S	NS	NS	NS						
64S	59	54	6						
65S	8	18	2						
66S	12	11	1						
67S	14	42	2						
68S	16	26	2						
70S	16	22	3						
71S	36	36	5						
72S	19	73	3						
73S	6	24	5						
12E - 72S	66	134	2						

C415

BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0881 TELEX: 04-54554

Geochemical Lab Report

Extraction: Hot Aqua Regia

Method: Atomic Absorption

Fraction Used: -80 mesh

Report No.: 24 - 814

From: Chevron Standard

Date: October 24, 1974

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm'		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
4RV - 3001	90	350	3		4BR - 3095	30	205	4	
3002	53	195	1		3096	30	138	ND	
3003	37	205	1						
3004	40	160	2						
3005	38	160	1						
3006	56	75	1		ND denotes 'not detected'				
3007	30	920	12						
3008	135	460	2						
3009	180	170	25						
3010	37	100	ND						
3011	39	89	ND						
3012	44	68	2						
3013	43	290	1						
3014	53	152	1						
3015	90	57	10						
3016	39	100	1						
3017	74	82	2						
3018	68	58	5						
3019	74	75	1						
3020	40	76	1						
3021	60	80	1						
3022	19	295	ND						
3023	45	170	1						
3024	80	175	1						
3025	60	195	1						
3026	44	165	2						
3027	56	200	1						
3028	105	132	1						
3029	47	74	1						
3030	92	170	38						

BONDAR-CLEGG & COMPANY LTD.
1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction Hot Aqua Regia
Method Atomic Absorption
Fraction Used -80 mesh

Report No. 24 - 767
From Chevron Standard Ltd.
Date Ocotber 22 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
3035	53	137	3		44E - 61S	10	65	6	
3039	67	48	10		62	26	57	4	
3040	97	116	3		63	10	25	2	
3041	142	114	6		64	37	43	6	
3042	108	114	4		65	38	37	5	
3043	66	165	1		66	30	50	4	
3044	64	216	1		67	43	49	3	
3045	58	177	1		68	24	36	4	
3046	56	170	2		69	1	2	1	
3047	112	116	2		70	7	29	10	
3048	176	182	3		71	10	30	1	
3049	64	118	1		72	37	59	4	
3050	300	174	8		73	18	14	2	
3051	52	106	2		74	44	66	4	
3052	66	134	3		75	27	55	3	
3053	121	187	2		76	4	10	ND	
3054	116	134	2		77	5	23	ND	
3055	66	210	2		78	37	40	3	
3056	116	356	2		79	18	56	2	
3057	77	387	4		80	5	20	2	
3058	198	470	5		48E - 60S	17	46	5	
3059	74	300	2		61	23	41	5	
3060	30	260	1		62	16	39	4	
3061	40	410	1		63	27	22	4	
3062	84	154	3		64	8	12	2	
3063	83	161	5		65	15	24	3	
3064	60	152	2		66	53	47	4	
3065	58	800	3		67	14	29	4	
3066	67	460	2		68	2	6	ND	
44E - 60S	28	48	4		69	18	98	13	

V-18

BONDAR-CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 24 - 767

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
48E - 70S	6	18	ND		52E - 88S	26	39	6	
71	10	18	ND		89	3	24	1	
72	24	44	3		56E - 62S	26	66	3	
73	22	60	2		63	21	20	1	
74	38	78	3		65A	34	50	4	
75	44	98	2		65B	26	34	4	
76	70	90	1		67	40	52	5	
77	15	32	ND		68	7	30	1	
78	40	60	4		69	43	64	6	
79	7	16	ND		71	3	34	ND	
80	38	124	1		72	12	50	2	
52E - 64S	48	60	5		73	52	80	4	
65	2	12	1		74	3	10	ND	
66	39	46	3		75	6	12	ND	
67	23	98	1		76	4	7	1	
68	34	42	3		77	47	60	3	
69	1	4	ND		78	4	3	1	
70	14	30	3		79	23	33	2	
71	24	68	14		80	27	52	2	
72	8	28	19		81	18	32	1	
73	3	19	5		82	19	127	1	
74	18	31	1		83	60	200	2	
75	18	21	1		84	40	76	2	
76	21	61	1		85	7	13	ND	
77	2	7	1		86	56	55	4	
78	4	8	ND		87	56	48	3	
79	ND	5	ND		88	20	14	2	
80	17	61	1		89	43	42	4	
81	16	18	1		90	39	40	3	
82	2	12	1		4W - 65S	52	38	4	
83	13	30	2		66	70	62	7	
84	21	26	3		67	12	26	2	
85	38	51	5		68	29	40	8	
86	31	42	3		69	28	38	10	
87	16	20	3		70	32	40	8	

Geochemical Lab Report

Report No. 24 - 767

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
4W - 71S	25	100	4		12W - 72S	16	45	3	
72	30	88	3		73	19	30	3	
73	42	86	4		74	16	20	5	
74	18	72	1		75	15	37	5	
75	30	96	2		16W - 64S	43	44	5	
76	19	21	3		66	10	7	2	
77	38	55	3		67	100	13	3	
78	20	73	3		68	26	36	7	
79	46	77	6		69	9	26	3	
80	17	28	2		70	24	36	5	
8W - 60S	34	8	1		71	18	20	4	
62	16	16	2		72	14	21	3	
64	18	24	1		73	10	20	2	
65	6	12	1		74	24	40	8	
66	23	36	5		75	50	45	5	
67	52	50	6						
68	27	34	4						
69	26	23	3		ND denotes 'not detected'				
70	11	47	3						
71	3	23	1						
72	12	48	2						
73	2	6	ND						
74	6	10	2						
75	4	12	1						
76	20	16	3						
77	36	36	8						
78	32	20	5						
79	32	34	6						
12W - 65S	56	47	5						
66	21	29	6						
67	9	13	2						
68	32	86	2						
69	15	34	3						
70	9	47	4						
71	10	27	2						

BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction Hot Aqua Regia

Method Atomic Absorption

Fraction Used

Report No. 24 - 821

From Chevron Standard Ltd.

Date October 21 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.
4BR-3033 S 16E	148	110	10	✓	16E / 20S (S)
3034 16E	115	142	5		24S
3035S 16E	175	70	8		28S (S)
3036 16E	170	90	ND		32S
3036S 16E	145	78	7		32S (S)
3037 16E	110	76	6		36S
3038 16E	138	133	5		39S

ND denotes 'not detected'

See our 24 - 730, October 3, for Comparative Values.

ELK 82-13

BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

RECEIVED
OCT 15 1974
Mine
VAN

Geochemical Lab Report

Extraction Hot Aqua Regia Report No. 24 - 782 CHEVRON

Method Atomic Absorption From Chevron Standard Ltd.

Fraction Used -80 mesh Date October 11 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm					REMARKS
4BR + 3067 - 40E+28S 17'	20	112	1					
4BR + 3068 - 40E + 24S 11'	60	210	3					
4BR + 3069 - 40E + 20S	144	200	3	✓				
4BR + 3070 - 40E + 16S	102	445	4	✓				
4BR + 3071 - 40E + 12S 23'	101	265	5					
4BR + 3072 - 40E + 8S 17'	58	295	2	✓				
4BR + 3073 - 40E + 4S 18'	50	160	1					
4BR + 3074 - 40E + BL0+00 20'	111	215	2	✓				
4BR + 3075 - 40E + 5+50N 6'	32	136	1					
4BR + 3076 - 40E + 8N 6'	52	410	2					
4BR + 3077 - 40E + 12N 5.6'	61	116	2					
4BR + 3078 - 40E + 16N 5.5'	37	138	2					
4BR + 3079 - 40E + 20N 6'	60	118	1					
4BR + 3080 - 40E + 24S 6'	112	156	3	✓				
4BR + 3081 - 40E + 28S 5'	63	105	2					
4BR + 3082 - 40E + 32N 5'	38	60	1					
4BR + 3083 - 40E + 36N 7'	42	64	3					
4BR + 3084 - 40E + 40N 6.5'	63	65	2					
4BR + 3085 - 40E + 44N 5'	52	51	1					
4BR + 3086 - 40E + 48N 6'	30	52	1					
4BR + 3087 - 40E + 48N 6'	32	47	1					
4BR + 3088 - 40E + 44N 5'	44	46	1					
4BR + 3089 - 40E + 40N 6.5'	44	50	1					
4BR + 3090 - 40E + 36N 6'	132	208	2	✓				
4BR + 3091 - 40E + 32N 5'	44	84	1					
4BR + 3092 - 40E +24N 5'	88	245	3					
4BR + 3093 - 40E + 20N 5'	77	134	4					
4BR + 3094 - 40E + 16N 6.5'	218	300	9	✓				

BONDAR-CLEGG & COMPANY LTD.
1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0881 TELEX: 04-54554

Geochemical Lab Report

Extraction Hot Aqua Regia

Method Atomic Absorption

Fraction Used -80 mesh

Report No. 24 - 730

From Chevron Standard Ltd.

Date October 3 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
4BR - 3001	66	130	2		4BR - 3028	124	310	1	
3002	74	161	ND		3029	78	164	1	
3003	65	96	2		3030	95	181	2	
3004	51	128	2		3031	53	140	ND	
3005	63	183	1		3031 S	50	55	3	
3006	46	113	1		3032	84	157	1	
3007	71	205	1		3033	51	140	ND	
3008	65	113	1		3033 S	30	45	3	
3009	41	216	2		3034	63	186	2	
3010	49	141	ND		3035 S	17	30	1	
3011	82	144	2		3036	66	82	3	
3012	60	43	4		3036 S	3	40	1	
3013	91	205	1		3037	53	178	1	
3014	78	69	10		3038	50	160	ND	
3015	71	128	2						
3016	57	231	1						
3017	76	308	2						
3018	58	196	1		ND denotes 'not detected'				
3019	57	272	1						
3020	75	260	2						
3020S	15	21	3						
3021	79	172	1						
3022	58	150	1						
3022 S	27	47	1						
3023	63	130	1						
3024	68	104	2						
3025	71	130	2						
3025 S	31	21	1						
3026	57	142	2						
3027	136	136	2						

BONDAR-CLEGG & COMPANY LTD.
1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-354554

C415

Geochemical Lab Report

Extraction: Hot Aqua Regia
Report No.: 24 - 402
Method: Atomic Absorption
From: Chevron Standard
Fraction Used: -80 mesh & -100 mesh
Date: July 26 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm					REMARKS
4AL 3006	77	98	1					
3007	60	125	ND					
3008	44	83	ND					
3009	55	74	1					
3010	260	103	1					
3011	72	122	2					
3012	64	96	1					
3013	53	86	3					
3014	54	86	ND					
3015	67	78	3					
3016	53	79	2					
3017	29	101	1					
3018	57	99	1					
3019	61	74	1					
3021	76	103	3					
3022	73	91	1					
3015R	25	46	5					
L8W - 19+10N	13	15	ND					ND denotes 'not detected'
								cc Mr. R. Cormier

BONDAR-CLEGG & COMPANY LTD.
1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction Hot Aqua Regia — Report No. 24 - 387

Method Atomic Absorption — From Chevron Std. Oil Company

Fraction Used -100 mesh — Date July 23, 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm					REMARKS
4AL 3001	76	147	1					ND denotes 'not detected'
3002	85	136	ND					
3003	78	128	1					
3004	74	133	ND					
3005(-80)	68	134	1					
3005(-100)*	51	108	1					*Sample split crushed
3005 R	32	107	5					to - 100 mesh
3008 R	20	62	1					
3010 R	40	90	4					
L0+20W 24+00N	68	124	2					
4AL 3005 HM (-10+80)	62	86	6					
4AL 3020 L8W STN 19+00N 2.5'	54	78	2					
4CM2 L8W STN 19 N B Zone	7	18	1					
4CM3 L8W STN 19 N 2 - 2.5'	99	71	1					

BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction: Hot Aqua Regia — Report No.: 24 - 855

Method: Atomic Absorption — From: Chevron Standard Ltd.

Fraction Used: -80 mesh — Date: Nov. 1 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm					REMARKS
4BR 3142	25	226	2	16W/4S				
3143	97	180	1	12S				
3144	100	189	1	16S				
3145	80	180	2	20S				
3146	66	260	2	24S				
3147	58	192	1	28S				
3148	68	156	2	32S				
3149	60	124	1	36S				
3150	52	72	4	40S				
3151	96	71	9	44S				
3152	84	61	10	48S				
3153	92	186	3	8W 48S				
3154	94	89	10	44S				
3155	74	128	2	40S				
3156	52	114	1	35S				
3157	90	128	3	32S				
3158	50	111	2	28S				
3159	69	185	2	16S				
3160	106	176	2	12S				
3161	170	215	2	8S				

BONDAR-CLEGG & COMPANY LTD.
1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction: Hot Aqua Regia
Method: Atomic Absorption
Fraction Used: -80 mesh

Report No.: 24 - 846
From: Chevron Standard Ltd.
Date: November 1 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm					REMARKS
4BR 3111	66	182	2	32W/36N				
3112	144	82	3	32N				
3113	60	84	2	28N				
3114	52	100	2	24N				
3115	60	176	2	20N				
3116	95	124	2	16N				
3117	53	115	1	12N				
3118	184	124	6	8N				
3119	135	124	4	4N				
3120	320	102	2	ON				
3121	58	112	1	32W 12S				
3122	68	206	1	16S				
3123	65	172	2	20S				
3124	35	129	1	28S				
3125	70	144	1	32S				
3126	84	116	2	36S				
3127	62	148	1	40S				
3128	71	117	2	44S				
3129	107	148	3	48S				
3130	86	145	3	24W48S				
3131	110	174	1	44S				
3132	68	116	2	40S				
3133	40	149	ND	36S				ND denotes 'not detected'
3134	50	107	1	32S				
3135	19	49	1	28S				
3136	77	249	1	24S				
3137	116	225	2	20S				
3138	62	230	1	16S				
3139	87	200	2	12S				
3140	63	208	1	8S				
3141	430	269	25	4S				

BONDAR-CLEGG & COMPANY LTD.

1600 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX 04-54554

Geochemical Lab Report

Elk C415

Extraction: Hot Aqua Regia

Method: Atomic Absorption

Fraction Used: -80 mesh

Report No.: 24 - 831

From: Chevron Standard Limited

Date: Oct. 31 19 74

SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm		SAMPLE NO.	Cu ppm	Zn ppm	Mo ppm	
4RV - 3031	130	620	4		4BR -3108	34	76	2	
3032	85	110	20		3109	33	86	1	
3033	57	148	6		3110	54	92	1	
3034	46	69	13						
3035	126	87	58						
3036	55	83	2						
3037	55	80	2						
3038	56	94	2						
3039	50	57	3						
3040	68	90	4						
3041	58	80	2						
3042	48	65	1						
3043	39	46	2						
3044	68	100	1						
3045	66	90	2						
3046	34	26	1						
3047	200	120	5						
3048	53	80	2						
3049	88	125	3						
4BR - 3097	74	110	4						
3098	74	120	3						
3099	85	142	1						
3100	160	128	4						
3101	55	90	3						
3102	30	30	6						
3103	68	112	3						
3104	110	255	1						
3105	63	208	1						
3106	69	120	2						
3107	100	144	2						

To: Chevron Standard Oil

PAGE No. 1

REPORT No A24 - 783

DATE: Oct. 11, 1974

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

Minerals Staff
833 Marine Building
355 Burrard Street
Vancouver, B.C.
V6C 2H3

Samples submitted: Oct. 4, 1974
Results completed: Oct. 11, 1974

OCT 15 1974

Minerals Staff
CHEVRON STANDARD LTD.
VANCOUVER

I hereby certify that the following are the results of assays made by us upon the herein described ore samples.

MARKED	GOLD		SILVER								TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
PE 1 (Brad Pearson	trace		0.02								

Registered Assayer, Province of British Columbia

1974 ELK PROGRAM

EXPENDITURES BREAKDOWN

FIELD EXPENSES			
Groceries		$ 2,643.13	
Drilling Equipment		756.50	
Camp & Field Supplies		1,270.26	
Equipment Rentals		1,272.50	
Freight Costs		399.14	$ 6,341.53
LABORATORY EXPENSES			
Analyses		1,896.01	
Petrographic		282.00	2,178.01
TRAVEL EXPENSES			
Air Fares		3,461.00	
Air Charters		6,740.53	
Truck Rentals		676.64	
Hotels, Meals, Taxis		1,443.30	12,321.47
OFFICE EXPENSES			
Reproduction		88.20	
Telephone		109.47	
Accounting		245.40	
Consulting Fees		100.00	
Miscellaneous		30.25	573.32
	TOTAL EXPENSES		$ 21,414.33
LABOUR COSTS			
Adcura Ltd., Ottawa	- overburden drilling fees	13,360.00	
W. Meyer & Assoc. Vancouver	- soil sampling fees	10,675.00	
Chevron Standard Limited	- mapping & management	4,459.78	
B. D. Pearson	- consulting fees	1,800.00	30,294.78
	TOTAL 1974 PROGRAM COST		$ 51,709.11

David Arscott

1974 ELK PROGRAM

CHEVRON STANDARD LIMITED

LABOUR COSTS

Name	Position	Address	* Effective Daily Rate	No. Days	Cost
E. D. Dodson	Manager	833-355 Burrard St., Vancouver, B.C. V6C 2H3	$ 164.90	4	$ 659.60
David Arscott	Supervisor	do	99.138	33	3,271.56
Michael Fox	Geologist	do	81.07	4½	364.82
Ian A. Brooks	Field Asst.	do	40.95	4	163.80
			Total		$4,459.78

I hereby certify that the above figures represent labour costs of work carried out during the 1974 Elk Mineral Claims program by personnel of Chevron Standard Limited.

* This figure is the effective daily rate calculated from the actual internal company accounting cost which is shown in the last column.

David Arscott

Vancouver, B.C.
December 31st., 1974.

DAVID ARSCOTT, P.ENG.

ADCURA LTD.

A DIVISION OF
BONDAR-CLEGG & COMPANY LTD.

TELEPHONE (613) 237-3110
764 BELFAST ROAD
OTTAWA, ONTARIO, CANADA
K1G 0Z5

January 6, 1975.

Mr. David Arscott,
Chevron Standard Limited,
833 Marine Bldg.,
355 Burrard Street,
Vancouver 1, B.C.

Dear Mr. Arscott:

Re: Assessment work, Elk Mineral Claims, 1974

This letter is to confirm that the following individuals were employed by Adcura Ltd., and that they conducted a geological survey on the above mentioned claims during the period July 1, 1974 to October 31, 1974:

	NAME & ADDRESS	DAILY RATE	TOTAL DAYS	GROSS PAY
1)	ALLARD, Leo, 1253 5th Street, Val D'Or, Quebec.	$32.00	5	$160.00
2)	BRAMELD, Philip, Box 107, RR #1, Hammond, Ontario.	50.00	47	2,350.00
3)	CAMPBELL, Craig, 2386 Joliffe Street, Ottawa, Ontario.	30.00	23	690.00
4)	CHRISTENSON, Peter, 63 - 10th Street, Roxboro, Quebec.	23.00	5	115.00
5)	CORMIER, Roch, 239 Beaudoin Street Gatineau Mills, Quebec.	65.00	13	845.00
6)	JOHNSON, Hugh, 228E 20th Street, North Vancouver, B.C.	30.00	14	420.00

.../2

	NAME & ADDRESS	DAILY RATE	TOTAL DAYS	GROSS PAY
7)	VAINOLA, Robert, 2101 St. Laurent Blvd., Ottawa, Ontario.	$30.00	23	$690.00
	TOTAL		130	$5,270.00

I hereby certify, that to the best of my knowledge, the above information is correct.

SIGNED

Malcolm Clegg,
Secretary-Treasurer.

MC/cj

APPENDIX 2

AFFIDAVIT re COST of SURVEY

I, W. Meyer, do solemnly declare that the linecutting and soil sampling survey on the ELK Claims was done during July, September and October 1974. The work was carried out by W. Meyer & Associates Ltd. for Chevron-Standard Ltd. at a total labour cost of $10,675.00.

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

W. MEYER, P. ENG.
W. Meyer & Associates Ltd.

PERSONNEL and DATES

Name	Dates of Work	Days
P.W. Dunsford 2564 Panorama Dr. North Vancouver, B.C.	July 11-15; 24, 25 Sept. 6	8
B. Corrigan 787 East 6th Avenue Vancouver, B.C.	July 12-31; Sep. 9-26	38
M. Folk 2858 128th Street White Rock, B.C.	July 12-31; Sep. 9-26	38
M. McKillop 1443 Crown Street Vancouver, B.C.	July 12-31	20
C. Czerwinski 3744 W. 18th Avenue Vancouver, B.C.	July 12-31	20
R. Newby Box 12 Coal Harbour, B.C.	July 12-24	13
P. Christensen 63-10th Street Quebec	July 16-23	9
W. Mitchell 444 Carrall Street Vancouver, B.C.	Sep. 11-30 Oct. 1-29	51

C E R T I F I C A T E

I, David Philip Arscott, am a Professional Engineer registered in British Columbia, presently employed by Chevron Standard Ltd., 833 - 355 Burrard Street, Vancouver, B.C.

I was responsible for the direction and co-ordination of the described property program on the Elk claims between May and October, 1974, and certify all stated costs to be correct to the best of my knowledge.

D. Arscott

D. ARSCOTT, P.Eng.
30 November 1974

DIAMOND DRILL CORE LOGGING

ELK MINERAL CLAIMS

PORT HARDY AREA
VANCOUVER ISLAND, B. C.

BY

B. D. PEARSON, P.ENG.

Vancouver, B.C.
September 1975

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth: 718'

Page No: 1 Of 12
Core Size: B
Scale: 1" = 10'
Logged By: B. D. Pearson

Section	ALTERATION: Zeolite	ALTERATION: Sericite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
0				Overburden		Overburden - not recovered.									
10															
20															
30					* Sulfides strongly oxidized.	32'-37': Coarse fragmental Dacite to Andesite. Cream to light grey color. Some angular Pyrth. frags. to 0.5" diam. with dissem. Pyrth. Angular to sub-rounded volc. frags. to +1". Pyrth. very mag.	1 - 2	-37.5							
40					Nature and attitude of cont.; concentration due to fracturing Apparently - Irregular	37'-76': Strong zeolite alteration and veining. Rock near top is probably P.g. Andesitic tuff, with groundmass pervasively saussuritized. Lower parts appear to be coarsely fragmental.									
50					High-angle fault zone. Zeolitic flour, possibly some chlorite.		0.5	-48-							
					Small vug with euhedral zeolite crystals		?	-57-							

Ave Core Rec'y/Hole 99.3%

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: ELK
Date Started:
Date Finished:
Total Depth:

Page No: 2 Of 12
Core Size: B
Scale: 1" = 10'
Logged By: T.B.D.P.

Section	ALTERATION: Zeolit.	Sericite	Biotit.	Chlorite	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
60										37'-76' (Cont.)									
70					Weak / Very Strong				3" silic vein zone at 15° to core axis.		< 0.5	67							
80					Weak				Weak fracture zones.	76'-127': Coarse fragmental. Angular to subrounded fragments to 1" diam. (Exceptionally, to 3".) Some may be larger, but diam. of core makes them appear as layers. Composition ranges from Andesite to Rhyolite. Outlines sometimes obscured by pervasive sauss. alteration. Some small fragments contain up to 50% disem. Pyrrh., but average sulfide content is low.		77						
90									2" zone of fg. disem. biotite.			87							
									Blocky frags in fracture zone.			96							
100									6" zone of very fine grain banded tuff at 37° to core axis. Grades downward into coarse fragmental.	Note on Biotite: Where it occurs, rock is light-chocolate brown color. Mineral is very fine grained, almost certainly secondary. In chloritized zone, fragments are a distinctive tan color. Pyrite is disem. along fractures in chloritic zone.	< 1	107							
110												117							

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 3 Of 12
Core Size: B
Scale: 1"=10'
Logged By: B.D.P.

Section	ALTERATION: Zeolite	Sericite	Biotite	Chlorite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
120					Wk			COMMENTS: Ave Core Rec'y/Hole									
								76'-127': Continued. Note on sulfides: Pyrrh. is scarce, with fragments of the fragmental rock. Pyrite is found only along late fractures.									
130					Nil			127'-129': Feldspar Microporphyry. Much Biotite gives it a strongly brown color. Alteration has wide boundaries indistinct. May be a large fragment.		127							
								129'-137': Massive green (Chloritic) and brown (Biotitic) fragmental. Rhy.-Dac. Frags. to 2".									
								137'-138': Core missing. Fragments indicate core ground.									
140								138'-144': Massive with disseminated Biotite. Mottling suggests fragmental. Pyrite / Pyrrh. - n.s. At 142', whisps of fg. Pyrite suggest disrupted bedding.	1-2	137							
								144'-145': Massive grey-green fg. volc. - grades into -									
150					Very Weak		Edges of fragment often indistinct.	144'-159': Coarse fragmental, cream to light grey color. At 157', several 1"-3" frags. of feldspar microporphyry with Biotite in matrix of frags. Rock grades down over 2' (157'-159') into -	1-2 (Pyrrh) ← (Py) → 1-4	147							
160							Tuffaceous bedding with Biotite, contact about 35° to core axis.	159'-165': Mottled, light grey fg. volcanic. Grain size diminishes downwards. Nearly sharp base at 60° to core axis.		157							
								165'-~179': Tuff, grey, brown, green, with numerous small grey feldspar phenos. Bottom contact gradational.		167.5							
170					Nil to Very Weak		Tuffaceous bedding at ~45°.	176'-179': Small patches of Pyrrh. are bordered by Chlorite.									
							Tuff-breccia contact gradational.			177.5							
							4" streak Pyrh. at 30°	179'-510': Volcanic breccia (see next page)									

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 4 Of 12
Core Size: B
Scale: 1" = 10'
Logged By: B. D. P.

Section	ALTERATION: Zeolite	Biotite	Chlorite	Fracturing	Geology	COMMENTS:	Mineralogy & Structure	Descriptive Geology	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
180				Strong(k)				179'-510': Volcanic breccia, spectacularly developed. Fragments angular to subrounded, up to several inches across. Some sections have Pyrrh. as fragments and in matrix. (188'-196' and 296'-298'). At 195', one subrounded Pyrrh. fragment contains one small patch of Chalcopyrite.										
190							0.1" vein at 15° (Prob. hausmannite)				-196.5								
							Closely packed angular fragments especially conspicuous here. Very heterogeneous.												
							Pyrrh. & Chalcop.												
200								Short sections are dominantly tuffaceous (228'-234' and 291'-296').			197.2								
							Pyrrh. predom. in matrix of breccia, as patches and dissem. surrounded by Chlorite.	There are high-angle Zeolite veins and alteration in the intervals 182'-185' and 301'-303'.											
210				Nil				Fragments above 298' are more heterogeneous. Irregular veinlets of Pyrrh. are conspicuous at 304'-306'. Biotite largely confined to individual fragments.		1 - 2	-208									
220								190'-192': Some of fragments are very fine-grained, and light tan with a whitish altered border. Suspect orthoclase with later alteration.			-218								
230								In sections which are dominantly tuffaceous, fragment boundaries are generally indistinct.			-228								
							WK. fracture with Geol.				-238								

Hole No:
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 5 Of 12
Core Size: B
Scale: 1" = 10'
Logged By: B. D. P.

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
240							1" thick zone of very thin, parallel zeolite veins at 25° to core axis.	179'-510': Volcanic Breccia (cont.)									
250							3" frag. contains ~10% Pyrrh.	Most of this section is very light grey. 276.5'-278' is exception, being very dark grey, save for several irreg. thin light streaks.	1-2	248							
260							Conspic. Patches of Pyrite, Others of Pyrrh.			258							
							frag. texture especially distinct.										
270							Largely tuffaceous. May be some fragments			268							
							See note on color.		0.5-1	278							
280							Occasional suggestion of fragmental texture. largely tuffaceous										
290								295.5'-298'; Irreg. patches and whisps of Pyrrh. in dark (probably Chloritic) ground-mass. Some Biotite developed.	10	288						
									1	298							

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 6 of 12
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

COMMENTS:

Ave Core Rec'y/Hole

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
300					Virtually Nil		Set of thin (0.1") Zeolite veins at 10° to core axis. Part of section entirely altered to clay.	179'-510': Volcanic Breccia (cont.)	1	301							
310							Several very white Plg. frags. Albitite?	303'-316': Sulfides as Pyrrh. dissem., and randomly oriented planar concentrations (as opposed to discrete sharply-bounded veins.). Occasional angular patch suggests fragment. (See 314').	5-10	308							
320							Pyrrh. prominent.		2-4	318							
330							Biotite suggests fragments.		0.5-2	328							
340								343'-345': Small, mostly anhedral, white feldspar phenos. are conspicuous in Biotite-rich groundmass.	2-4	338							
350								(See [illegible], 123'-129')		348							
360								352'-365': Black irreg. patches of coarsely crystalline Actinolite (?) as radiating crystalline aggregates. Minor Pyrrh. inside clusters. Aggregates have grown in matrix, often adjacent to a fragment.	1-2	358							

Very minor Pyrite scattered throughout Pyrrh.

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 7 of 12
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole

Mineralogy & Structure	Descriptive Geology
	179'-510': Volcanic Breccia (cont.)
Groundmass much darker in this section.	Fragmental texture much more obvious below 363', groundmass much darker. Light grey again by 370'.
Patchy chlorite developed in groundmass, often with Pyrrh.	
← Thin (<1") Biolitic tuffaceous band at 65°	
← Prominent patches of Pyrrh.	
← Small white Feldspar phenos. prominent.	
← 0.5" Zeolite vein at 15°	

% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
1-2	360							
	368							
2-4	378							
	388							
10								
2-4	398							
2-4	408							
	418							

Largely Pyrrh. Minor Pyrite locally.

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj O: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 8 Of 12 O
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology
420					Nil	Volcanic Breccia		179'-510': Volcanic Breccia (cont.)
430								
440								Below 448', core is generally darker in color. Although obviously a mixture of tuff and breccia, many fragments have indistinct outlines. However, some are sharply outlined.
450								Probably significant is the first appearance of Epidote below 460'. Individual [illegible] and thin [illegible] sections [illegible] probably [illegible]
460								
470							Core cut has 3' length by 0.1" Zeolite vein sub-parallel with axis.	
480								

COMMENTS:

Ave Core Rec'y/Hole

% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
2 - 3	428							
	438							
	448							
	458							
	468							
	478							

Hole No:
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination:
Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Core Size:
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
480										179'-510': Volcanic Tuff breccia (cont.)									
490	/				Weak						1	488							
500	X				Moderate					508'-510': Largely tuffaceous with some small fragments of Pyroh.		498							
510					Weak to Mod.				Thin epidote veinlets with calcite crystals.	515'-562': Epidote-altered Tuff, locally with subrounded fragments.	1-2 except locally where shown.	508							
520										Below 520' core is dark grey to black, presumably due to increase in content of fig. mafics. slightly magnetic. Faintly, some fg. Magnetite as well as ferrohastite.		518							
530					Nil							528							
540												538							

Hole No: C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 10 of 12
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology
540					Nil			510'-562': Epidote-Altered Tuff (cont.)
550								
560								562'-566': Brown (Biotitic) and grey f.g. Tuff with fluidal banding at 60°-90° to axis of core. Some poorly defined fragments at top.
570								566'-577': Porphyritic Tuff, in part with f.g. Biotite.
580							Sharp contact at 25° to core axis.	577'-598': Grey Tuff, v.f.g. with infrequent small mottled patches (0.2" diam. max.) (Fragments?) Sulfides dissem., very fine grained, and generally sparse. Rare small clots.
590					Nil		0.1" Zeolite vein at 7° to core axis has 1" bleached zone on either side.	598': Contact zone is peculiar. Angular fragments from the lower unit sit within the overlying f.g. tuff. Does not appear to be a sub-aqueous phenomenon.
600							1" zone with Strong Pyrrh. dissem. See note on contact.	598'-606': See over

% Sulphides	Drilling Interval	% Core Recovered	Sample Interval # No	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
2-4	542							
	552							
1	562							
	576							
2-4	588							
	596							
	598							

Ave Core Rec'y/Hole

COMMENTS:

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proje[illegible] Elk
Date Started:
Date Finished:
Total Depth:

Page No: 11 Of 12
Core Size: B
Scale: 1"=10'
Logged By: B.D.P.

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
600								598'-606': Porphyritic Fragmental Tuff, rich in Biotite. Fragments small (0.1"-0.5") and only occasionally well-defined.	2-4								
610					Weak			Note: Block at 608' was mistakenly labelled 618' by drillers, and all subsequent blocks mislabelled. Corrected figures are given in this log.	1-2	608							
620					Nil		Contact sharp but highly irregular. Grey Tuff below contact is partially Bleached within ½" of contact. Contact sharp and planar at 22° to core axis. Contact sharp and planar at 60°. Contact sharp and planar at 25°	606'-620': Grey tuff with small (<0.02") irreg. green patches and feldspar microphenocrysts. Infrequent scattered fragments rounded to angular <1" across. The upper foot and lower 2" are fine grained.	<1	618							
630					Weak			620'-623' and 625'-663': Fragmental tuff, with indistinct, strongly Biotitic fragments.* Biotite diminishes during interval 644'-652' and below 654'.		628							
640								622'-625': Andesite - Dike?- fg. light green. Sharp contacts. Enclosing rocks are identical in appearance and are classed as one unit. Small black Biotite flakes in Andesite totally unlike hydrothermal Biotite [illegible] its identification as a Dike.	2-4	638							
650					Core has been split, but apparently weak.		652'. Thin section identified as extrusive Latite. Presence of Chalcopyrite confirmed.	625'-664': Fragmental tuff (cont.) * Groundmass often rich in Biotite. Mineral common as disseminated and irreg. Pyrite, Minor Pyrite, possibly some Chalcopyrite.		648							
										658							

COMMENTS:

Ave Core Rec'y/Hole

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project ELK
Date Started:
Date Finished:
Total Depth:

Page No: 12 Of 12
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION: Zeolite	Epidote	Biotite	Chlorite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
660							Core split. Attitude and nature of contact uncertain but abrupt.	625'-664': Fragmental Tuff (cont.) This unit appears to be a Tuffite in the sense used by Ridler.									
670								664'-718': Andesite, very fine grain, dark grey-green, with numerous weak irreg. veinlets of Pyrrh. and intermixed minor Pyrite. Both sulphides also occur as disseminations. ~~Rock appears to be a flow and not a tuff.~~ It is similar, almost identical to one of the important host-rocks at Island Copper.		-668							
680							Sedimentary banding at 60°-65°, beautifully developed.	At 683' sedimentary laminations are beautifully developed.		-678 -679 -683							
690							Two specimens taken at 687' for thin-section study, indicate that this unit is an argillite, with 30%-50% f.g. actinolite, 30% alkali feldspar, 4%-20% Chlorite.	Thin erratically-orientated dark grey quartz veins are sparsely developed in this rock type (again a parallel with Island Copper) and contain a moderate (5%) amount of sulfide. Note: Rock has a chevty appearance. Can it be? Locally (see at left) it contains Biotite. Should be thin-sectioned.	2 - 4	-693						
700										-703							
710							See note	712'-713': Light grey section composed entirely of small crystals (visible under 10x) of Feldspar plus 5% Pyrrh.		-713							
720								End of hole.		-718							

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth: 759'.

Page No: 1 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D. Pearson

Section	ALTERATION: Epidote	ALTERATION: Zeolite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
0						0-6': Overburden.									
6						6'-117.5': Epidote-altered Andesite Tuff-Breccia. Numerous irreg. frag-ments (most of them rich in Epidote) in a medium-green f.g. matrix often porphyritic in Feldspar. Sulfide is Pyrite.		6							
10			Weak												
20			Mod.	C	Set of weak closely-spaced Zeolite veins with red (Hematitic?) stain.		< 0.1 increasing	18							
30								28							
40			Weak		1" zone of Calcite and Zeolite veins at 20°-25°? (Veins are monomineralic.)	Porphyritic Mostly fine-grained, Porph. in sections.	2-3	38							
50			Str.				Str.	48							
			Wk. Str.	C		60'-Thin-section identified as brecciated Andesite flow with Plagioclase phenocrysts. Epidote veinlets developed in interstices of breccia.	2-3	58							

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 2 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION: Epidote	ALTERATION: Zeolite	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology
60						6'-117.5': Epidote-Altered Tuff (cont.) Most frags. are altered to Epidote.
70						
80			Weak			
90						
100						Actually, an assortment of lithologies, including porphyritic felsic + mafic volcanics. Mafics are rare. Porphyries minor. Epidote rare.
110			Weak		Steep (15° to c.a. axis) zone of zeolite veining and clay alteration (possibly some faulting).	117.5'-118.2': Subrounded white frags. in matrix (clast?) in sparse Chl; v. rich in pyrite. Some thin chloritic seams at upper contact.
					Chloritic slip at 45°	118.2'-122', 123'-126': Heterogeneous fragments, rounded to subrounded, of volcanic and cherty banded rock, to 2" diam.
					Frag. contact.	

COMMENTS:

Ave Core Rec'y/Hole

% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
1	68							
1-2	78							
2-3	88							
1	98							
1	108							
1	118							

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 3 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	Epidote	Zeolite			Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
120								122'-123': Rhyodacite with small mafic clots, may be large boulder.									
126							← Gradational contact										
130								126'-197': Andesite Tuff-Breccia similar to 6'-117.5'. Unit becomes lighter in color downward. Bottom contact abrupt at 38° to core axis, marked by thin sheared vein.		128							
140								Groundmass generally lighter grey to white below 126'. Fragments only hazily defined. May be Dacitic over much of this interval.		138							
150										148							
160										158							
170										168							
										178							

Hole No: 2
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 4 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B. D. P.

ALTERATION: Epidote | Chlorite | Zeolite
Fracturing | Geology

COMMENTS:

Ave Core Rec'y/Hole

Section	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS2 Assay	Au Assay	Ag Assay
180		126'-197': And.- Tuff Breccia (cont.) Fragmental texture more sharply defined over bottom several feet.									
190				188							
197	Contact abrupt at 38°	Probably dikes.									
200	Contact sharp at 26°	197'-200': Fine-grained green Andesite, with scattered darker fragments of similar material.									
205	Contact sharp at approx. 15°.	200'-205': Dacite crystal tuff with scattered Andesite fragments to 2" in diam.									
210	Contact sharp at 10°	205'-210': Same as 197'-200'.	1 - B	208							
220		210'-224': Same as 200'-205', but with some rounded Andesite fragments up to 6" in diam. Where darker, identical with rock at collar.		218							
224											
225		224'-225': Probably same but darker.									
227		225'-227': Chloritic clay with white (Qtz-Cal.) vein material. Prob. some Zeolite									
230		227'-245': Andesite Tuff, fine-grained, dark grey, slightly porphyritic. Fragments are small (<0.2") numerous, and with a distinctive light tan (clay?) alteration	—	228							
240				238							

Weak to Absent
Nil to Weak
Mod. to Strong

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 5 Of 13
Core Size: TB
Scale: 1"=10'
Logged By: TB.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
240					227'-245': Andesite Tuff (cont.)									
245				← Contact sharp at 55°	245'-262': Dacite Crystal Tuff, same as 200'-205'. Some f.g. Andesite fragments to 4" diam. Fine-grained (chill?) border at base.		-247							
250														
260				← Contact sharp but irreg. at approx. 45°	262'-270': Andesite Tuff, f.g. dark grey, with several large, irreg. subrounded fragments of overlying unit near top.									
270				← Sharp but irreg.	270'-282': Dacite Crystal Tuff, but altered and veined. Dirty-looking. Sheared 276'-278'.									
280				← Gradational over 1".										
282					282'-321': Dacite to Andesite. Some silicification, shearing, veining. Very complex: locally with Feldspar phenocrysts.									
290	Altered during defms.													
300														

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 6 Of 13
Core Size: B
Scale: 1"=10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag. Assay
				Mineralogy & Structure	Descriptive Geology									

300
310
320
321
325
330
340
350

Altered during deposition.

← Sedimentary contact at approx. 55°.

← Sed. contact at 50°.

321'-325': Fresh Andesite Crystal Tuff

325'-389': Porphyritic Dacite to Andesite. Upper 2' complex with fragments (?) and silica (?).

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 7 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
360					325'-389': Porph. Dacite to Andesite (cont.)									
370														
380														
390				1" Qtz. (chert?)-pyrite zone at 60°.	389'-397': Same as overlying unit. Top 2' similar to Top 2' of overlying unit.									
400					397'-423': Same, with variable degrees of Feldspar phenocryst development and bleaching. Upper foot as in top of overlying units. This section may contain several units.									
410														
420														

COMMENTS:

Ave Core Rec'y/Hole

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 8 Of 13
Core Size: B
Scale: 1"=10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
420				← Gradational contact.	423'-503': Andesite, porphyritic in feldspar, with reasonably consistently fine grained medium to dark green groundmass. Upper contact is gradational. At 503' there are a few angular fragments.									
423														
430														
440														
450														
460														
470														
480														

COMMENTS:

Ave Core Rec'y/Hole

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj O: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 9 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval # No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
480					423'-503': Andesite (cont.)									
490					488' - Thin section indicates rock is an extrusive Trachyte porphyry with altered plagioclase phenocrysts.									
500														
503					503-548': Andesite - same as above, but badly shattered, faulted and with Chloritic alteration.									
510					Below 516', rock appears more heterogeneous with possible flowage texture. Possibly an ash flow.									
520				Qtz. veining and fracturing. Calcite.										
530														
540														

COMMENTS:

Ave Core Rec'y/Hole

Hole No: 2
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: KIH
Date Started:
Date Finished:
Total Depth:

Page No: 10 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
				Mineralogy & Structure	Descriptive Geology									
540				503'-548': Andesite (cont.)										
548														
550				548'-627': Andesite to Dacite Ash-flow Tuffs.										
560														
570														
580														
590														

Hole No: 2
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 11 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval % Core Recovered	Sample Interval & No. % Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
600					548'-627': Andesite to Dacite Ash Flow Tuffs (cont.)							
610												
620												
627												
630					627'-637': Porphyritic Andesite Crystal Tuff. Upper 4" fine-grained.							
637												
640					637'-703': Andesite, fine-grained, dark green and grey, with numerous irreg. bedding(?) lines.							
650												
660												

COMMENTS:

Ave Core Rec'y/Hole

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 12 Of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay

COMMENTS:

Ave Core Rec'y/Hole

660
670
680
690
700
703
710
720
730

637'-703': Andesite (cont.)

703'-708': Chloritized Fault Zone with 2 quartz and Calcite filling. Rock shattered and Chloritized from 695' to 712'.

708'-734': Andesite (same as 637'-703')

Hole No. C-2
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth: 759'

Page No: 13 of 13
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval # No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
				Mineralogy & Structure	Descriptive Geology									

720
730
734
740
750
759
791

708'-734' : Andesite (cont.)

734'-750' : Andesite - same rock as above, but sericitized and chloritized. Almost a powder.

750'-759' : Andesite - Same as 637'-703' and 708'-734'. Unaltered.

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 1 Of 1
Core Size: B
Scale: 1" = 10'
Logged By: B.D. Pearson

Section	ALTERATION	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay

Mineralogy & Structure

Descriptive Geology

0-13': Overburden

13'-25': Andesite Crystal Tuff - grey, fragments to 0.1", less than 10% by volume. Grades down into

25'-90': Andesite Tuff-Breccia. Fragments indistinct, rarely to 1" in size,

0
10
13
20
25
30
40
43
44
50
60

1' Zeolite vein at 23°

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj. O: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 2 Of 17
Core Size: B
Scale: 1"=10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
				Mineralogy & Structure	Descriptive Geology									

60
70
80
90
100
110
116

25'-90': Andesite Tuff-Breccia (cont.)

94'-85': Distinctive layer at 22°.

← See note

← Contact gradational

90'-116': Dacite Breccia. Fragments darker than groundmass, irreg. with diffuse borders.

116'-123': Crystal Tuff

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 3 Of 10
Core Size: B
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
120					116'-123': Crystal Tuff (cont.)									
123					123'-129': Complex zone with silica, much disseminated Pyrrhotite and radiating clusters of coarse Actinolite crystals. Similar sections occur at 230'-236' and 343'-355' and in DDH-1 at 362'-365'.									
129														
130														
140					129'-147': Dacite tuff with mottled dark inreg. fragments and much Pyrite as disseminations and veinlets. Minor Pyrrhotite.									
147				← gradational contact.										
150					147'-154': Andesite Tuff, dark grey to black, fine grained. Probably welded.									
154				← Contact sharp at 20°										
160				← Contact is 0.1" Actinolite veinlet	154'-163': Rhyodacite Crystal Tuff, white Feldspar phenocrysts and small (0.1"-0.2") dark green mafic clots. Bottom contact is sharp and highly irregular, marked by 0.1" veinlet of small black Actinolite crystals.									
163														
170				← Some gradational mixing and pyrite. Probably small scale repetition of section.	163'-170': Andesite Tuff - same as 147'-154'. Crude indistinct banding at 50°									
180					170'-186': Rhyodacite Crystal Tuff - [illegible] 174'-182'.									

Hole No. C-8
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 4 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: B. D. P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y, Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
180					170'-186': Rhyodacite Crystal Tuff (cont.)									
186			un	*Contact is some irreg. Qtz "Actinolite veinlet as at 163'.	186'-198?': Andesite Tuff - Same as 147'-154', 163'-170'. All sorts of flow attitudes. Contact gradational and arbitrary over several feet. Underlying section is certainly part of same cooling unit.									
198					198'-266': Dacite to Rhyodacite Tuff-Breccia. Fine-grained, light grey matrix with 20% dark irregular fragments (to 1" max. diam.) with diffuse borders. Below 223', matrix contains Feldspar phenocrysts. Below 219', fragments appear rounded and are indistinct.									
200					187' - Thin section identified as Trachyte from centre of flow or margin of sill.									
210					192' - Thin-section identified as sericitized Ash tuff. Note: This specimen contains 8% Apatite, 60% Sericite, 15% Magnetite, 15% Alkali Feldspar. This rock is exposed in outcrop where Folk called it an Ignimbrite. Magnetite content makes it appear very basic.									
250														

Hole No. C
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 5 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: T.B.D.?

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay

COMMENTS:

Ave Core Rec'y/Hole

198'-266': Dacite to Rhyodacite Tuff-Breccia (cont.)

Contact at 266' is sharp but highly irregular, with irreg. seams of underlying f.g. black rock penetrating up 4"-5" into overlying unit.

← See note on contact

266'-341': Andesite, light to medium green. Groundmass fine-grained at both margins for 8' at top and 5' at bottom. Well-developed crystal structure internally. Crystals anhedral max. 0.02". Several fragments noted at 303'. Rather thick for dike. Probably sill.

Hole No. C 3
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Kik
Date Started:
Date Finished:
Total Depth:

Page No: 6 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: S.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
300					255'-341': Andesite (cont.) sill?									
310														
320														
330														
341			~	← Sharp irreg. contact.	341'-350': Rhyodacite? – medium to light grey, locally with Feldspar phenocrysts. Similar to Dacite to Rhyodacite unit in section 198'-268'. Section from 341' to 350' identical with section from 250' to 330', containing [illegible] of flaky chlorite, with Pyrite and [illegible]									

Hole No. C-2
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 7 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: S.D.T.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
360					341'-378': Rhyodacite (cont.)									
370														
380														
390														
398				← Contact sharp at 45° " " " but irreg. ← at abt 20-40°	378'-398': Andesite, same as 266'-341'; fine-grained at margins, crystalline at center. A dike, or very thin sill.									
410					398'-430': Rhyodacite to basalt. Same as 192'-236', 341'-396'. Core from 497' to 500' and 630'-to 630' are identical with 280'-[illegible] 348'-395' containing [illegible] veins relating actinolite crystals [illegible] 547', [illegible] Biotite is [illegible] Patches [illegible] brecciated in part.									
430														

Hole No: 3
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 9 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: W.J.P.

Section	ALTERATION	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
				Mineralogy & Structure	Descriptive Geology									
400				374'-570': Rhyodacite to Dacite (cont.)										
450														
500														
550														
600														
650														

Hole No: 3
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 9 Of 19
Core Size: BQ
Scale: 1" = 10'
Logged By: R.D.P.

Section	ALTERATION	Fracturing	Geology	COMMENTS:	Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay
				Mineralogy & Structure	Descriptive Geology								
100				360'-520': Rhyodacite to Dacite (cont.)									
150													
200													
250													
300													

Hole No: 3
Casing Collar Elev:
Co-Ordinates:
Inclination:
Ground Elev:
N. E.
Bearing:
Project: Elk
Date Started:
Date Finished:
Total Depth:
Page No: 10 Of 17
Core Size: B.
Scale: 1"=10'
Logged By: E.D.R.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology
560					398'-570' : Rhyodacite to Dacite (cont.)
570				Highly irreg. contact.	570'-588' : Chalk-White f.g. Porphyry. Glowing-ash deposit? Bottom contact extremely irregular over 6' zone, with 3' section of f.g. Dacite containing 0.1" mafic clots.
					588'-590' : Silica-rich mottled rock - grades down into -
					590'-604' : Mottled Andesite, dark grey, with numerous dark streaks. Some coarse-grained Actinolite patches in interval 598'-600'. Possibly a dike intrusive.

Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
COMMENTS:									

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proje[illegible] Lik
Date Started:
Date Finished:
Total Depth:

Core Size: "B"
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology
600					590'-604' : Mottled Andesite (cont.)
604					604'-623' : Rhyodacite (Crystal Tuff?)
617					604'-622' — light grey with pinkish-green mottled patches. Margins of unit are light grey with small feldspar phenos. At 606' upper contact is diffuse for a few inches. Lower contact sharp but highly irregular over 1' of core length. No bleaching. Upper contact lighter in color, apparently quartz in size. Probably right side up.
623					623'-633' : Andesite (flow?)
633					633'-638' : Dark green Andesite Tuff.
638					638'-671' : Dacite Flow Breccia

% Sulphides	Drilling Interval	% Core Recovered	Sample Interval # No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay

Ave Core Rec'y/Hole

COMMENTS:

Hole No. C-2
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proje[illegible] Elk
Date Started:
Date Finished:
Total Depth:

Page No: 12 Of 1[illegible]
Core Size: B
Scale: 1" = 10'
Logged By: E.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
670					COMMENTS: Ave Core Rec'y/Hole									
675					628'-677': Dacite Flow Breccia (cont.)									
677					677'-691': Porphyritic Dacite to Andesite. Top foot and lower two feet show brown matrix; rest is light green.									
691 CAS					691'-714': Andesite flow breccia. Lower contact siliceous.									
700														
715					714'-715': Andesite flow breccia.									
720					715'-722': Andesite Crystal Tuff. Lower contact sharp, but irregular.									
725														

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Core Size: BQ
Scale: 1" = 10'
Logged By: B.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval# No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
720														
725					716'-722': Andesite Crystal Tuff (cont.)									
					722'-737': Andesite flows.									
735														
737														
740				Crushed ingr at 73	737'-743': Andesite crystal tuff, very fine grained in section.									
745					743'-753': Andesite Flow Breccia. High-angle fracturing with light chloritic clay core interval 747'-748'.									
750														
753					753'-775': Andesite to Dacite Tuff. Fine-grained groundmass with 5%-7% small (1mm) felsitic phenocrysts and [illegible] Scarce subrounded [illegible] clasts 2" in diam. Small [illegible] [illegible] Bottom contact irregular [illegible]									
770														
775					775'-781': Breccia with approx. 10% matrix (chloritic) [illegible]									
780														

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 14 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: B.T.K.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
700					775'-814': Diorite (cont.)									
710														
720														
730														
740														
750														
760														
770														
780														
790														
800														
810														
820														
830														
840														

814'-819': Andesite (Tuff?). Upper contact irreg. Lower appears to be planar at approx. 45°. Possibly a dike but no marginal alteration or chill texture.

819'-821': Diorite, but complex. Much more mafic than section from 775'-814', but very variable. Lower contact sharp but undulating at approx. 45°.

821'-831': Andesite to basalt. Fine-grained medium grey with green mottled patches. Lower [illegible] gently curved [illegible]

831'-[illegible]:

Hole No.
Casing Collar Elev: Ground Elev: Proj: Elk
Co-Ordinates: N. E. Date Started:
Inclination: Date Finished:
Bearing: Total Depth:

Page No: 15 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: B.D.F.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval # No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
250														
260					251'-261': Rhyolite - Rhyodacite fine grained sticky white, with small diffuse mafic spots throughout. No internal banding, but upper 2" shows continuing laminations parallel with the contact. Fading in last 2".									
261				← large fracture at approx. 30°										
270				← 1" fracture at 30°	261'-270': Diorite with variable mafic content. Complex. 1" Pyrrhotite band with minor Pyrite at 267' at 30°.									
				← Core [illegible]										
					270'-[illegible]: [illegible]									

Hole No.
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Project: Elk
Date Started:
Date Finished:
Total Depth:

Page No: 16 Of 17.
Core Size:
Scale: 1" = 10'
Logged By: T.D.P.

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
910					891'-943': Andesite (top 5') diorite porphyry TUFF.									
920					943'-944': Diorite - fine to med. grained 40% mafics.									
					Complex Zone 944'-945': Diorite - medium to coarse grained, 5% mafics.									
					945'-950': Same as 943'-944'.									
930					950'-950.5': Andesite, same as 891'-943'.									
					950.5'-951': Diorite, same as 943'-944'.									
					951'-953': Andesite as in 950'-950.5', Feldspars are blocky, up to 3.5".									
940					953'-977': Diorite, very complex.									
				Contact steep but highly irregular.										
				Contact at 50°.										
950														

COMMENTS:

Ave Core Rec'y/Hole

Hole No:
Casing Collar Elev: Ground Elev:
Co-Ordinates: N. E.
Inclination: Bearing:

Proj: RIK
Date Started:
Date Finished:
Total Depth:

Page No: 17 Of 17
Core Size: B
Scale: 1" = 10'
Logged By: [illegible]

Section	ALTERATION	Fracturing	Geology	Mineralogy & Structure	Descriptive Geology
950					951'-979': Diorite (cont.)
970					
971				← Contact plane at 60°	979'-981': Andesite Flow Breccia. Lower contact sharp at 60°.
981					981'-986': Andesite Tuff. Lower contact irregular.
990					986'-998': Complex Diorite.
1010					

Ave Core Rec'y/Hole	% Sulphides	Drilling Interval	% Core Recovered	Sample Interval & No.	% Rec'y. Sample Int.	Cu. Assay	MoS_2 Assay	Au Assay	Ag Assay
COMMENTS:									

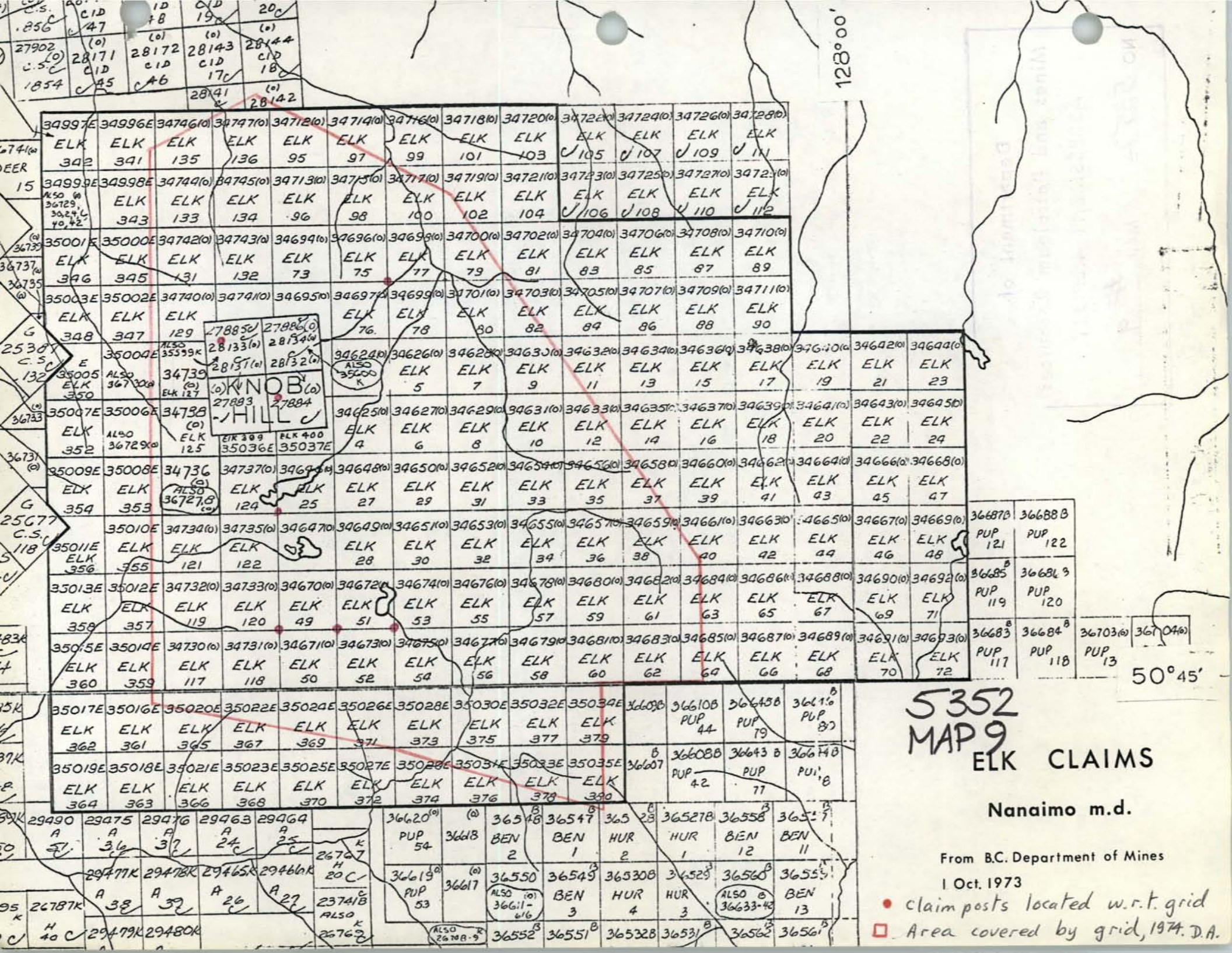
ELK CLAIMS
1974 PROGRAM

Bedrock Chip Samplets Analysed

Sam. #	Station	ppm, Cu	ppm, Zn	ppm, Mo
4AL 3005R	OE/ON	32	107	5
4AL 3008R	OE/12N	20	62	1
4AL 3110R	OE/20N	40	90	4
4RV 3015R	16E/44N	25	46	5

Bedrock Chip Samplets Not Analysed

Sam. #	Station	Comments
4BR 3126 R	32W/36S	Tuff, grey, v.f.g. (andesitic?) Tr.py.
4BR 3118 R	32W/8N	Tuff, grey, v.f.g. (silicified andesite)
4BR 3114 R	32W/24N	Tuff, dark grey, andesitic. Tr.py.
	32W/36N	Tuff, andesitic. Some epidote and silicification
4BR 3135 R	24W/28S	Tuff, f.g., very highly weathered.
4BR 3099 R	24W/12N	Diorite, light grey, 8% py.
4BR 3142 R	16W/4S	Tuff, light grey, rhyolitic? Highly weathered
4RV 3045 R	16W/12N	Tuff, dark green, andesitic, epdiotised
4RV 3041 R	16W/28N	Granodiorite, pale green, weathered
4RV 3039 R	16W/36N	Tuff, pale green, weakly epidotized
4BR 3008 R	0/32S	Tuff, pale green, chloritized
4BR 3015 R	8E/48S	Tuff, andesitic, highly weathered
4RV 3026 R	8E/12N	Quartz diorite, f.g.
4RV 3032 R	8E/36N	Rhyolite?, grey, 1% py.
4RV 3033 R	8E/40N	Rhyolite?, grey, 1% py.
4BR 3032 R	16E/16S	Basalt, black, 2% py.
4BR 3030 R	16E/8S	Tuff, pale green, mod. chloritic alteration
4RV 3021 R	16E/20N	Tuff, rhyolitic
4RV 3016 R	16E/40N	Basaltic andesite, black, tuffaceous?
4RV 3015 R	16E/44N	Tuff, white, rhyolitic 1% py.
4RV 3003 R	24E/8N	Tuff, grey, rhyolitic? 5% py.
4RV 3005 R	24E/16N	Tuff, f.g., rhyolitic, somewhat weathered
4RV 3007 R	24E/24N	Tuff, f.g., rhyolitic, 7% py.
4BR 3057 R	32E/20S	Tuff, rhyolitic 2% py.
4BR 3067 R	40E/28S	Tuff, pale green, mod.(epidote?) alteration


128°00'
50°45'
KNOB HILL
ELK 399
ELK 400
5352
MAP 9
ELK CLAIMS
Nanaimo m.d.
From B.C. Department of Mines
1 Oct. 1973
• claim posts located w.r.t. grid
□ Area covered by grid, 1974. D.A.

56 W | 48 W | 40 W | 32 W | 24 W | 16 W | 8 W | 0 | 8 E | 16 E | 24 E | 32 E | 40 E | 48 E | 56 E

Declination 22° W

80 N
70 N
60 N
50 N
40 N
30 N
20 N
10 N
0 N Base Line
10 S
20 S
30 S
40 S
50 S
60 S

60 N Tie Line

60 S Tie Line

(approx) DDH 72-3

KNOB HILL

CAMP

DDH 72-2 (approx)

Cable Route

(approx) DDH 72-4

(approx) DDH 72-1

5352

MAP 6

Fig - 6 (a)

LEGEND

24 • 36 Copper in ppm, in surface soil and basal till respectively

Contour at threshold, 65 & 120 ppm respectively

Contour of top 30% of values at 45 & 90 ppm respectively

To accompany report "Elk Project, Geochemical program" by D. Arscott, 30 Nov. 1974

David Arscott

CHEVRON STANDARD LIMITED

ELK PROJECT

C415

COPPER GEOCHEMISTRY

800 0 800 1600 feet

Scale

November 1974

GLOBAL DRAFTING

56 W | 48 W | 40 W | 32 W | 24 W | 16 W | 8 W | 0 | 8 E | 16 E | 24 E | 32 E | 40 E | 48 E | 56 E

N

Declination 22° W

80 N
70 N
60 N
50 N
40 N
30 N
20 N
10 N
0 N Base Line
10 S
20 S
30 S
40 S
50 S
60 S

60 N Tie Line

60 S Tie Line

approx. ⊙ DDH 72-3

KNOB HILL

CAMP

Cable Ruins

DDH 72-2 (approx.)

DDH 72-4 (approx.)

(approx.) DDH 72-1

LEGEND

6 • 8	Molybdenum content in ppm in surface soil and basal till respectively
⬭	Contour at threshold (10 & 4.8 ppm respectively)
⬭ (dashed)	Contour of top 30% of values (6.5 & 2.8 ppm respectively)
ND	Not detectable

To accompany report "Elk Project Geochemical Program, by D. Arscott
30 Nov. 1974

David Arscott

5352
Fig – 6 (b) MAP 7

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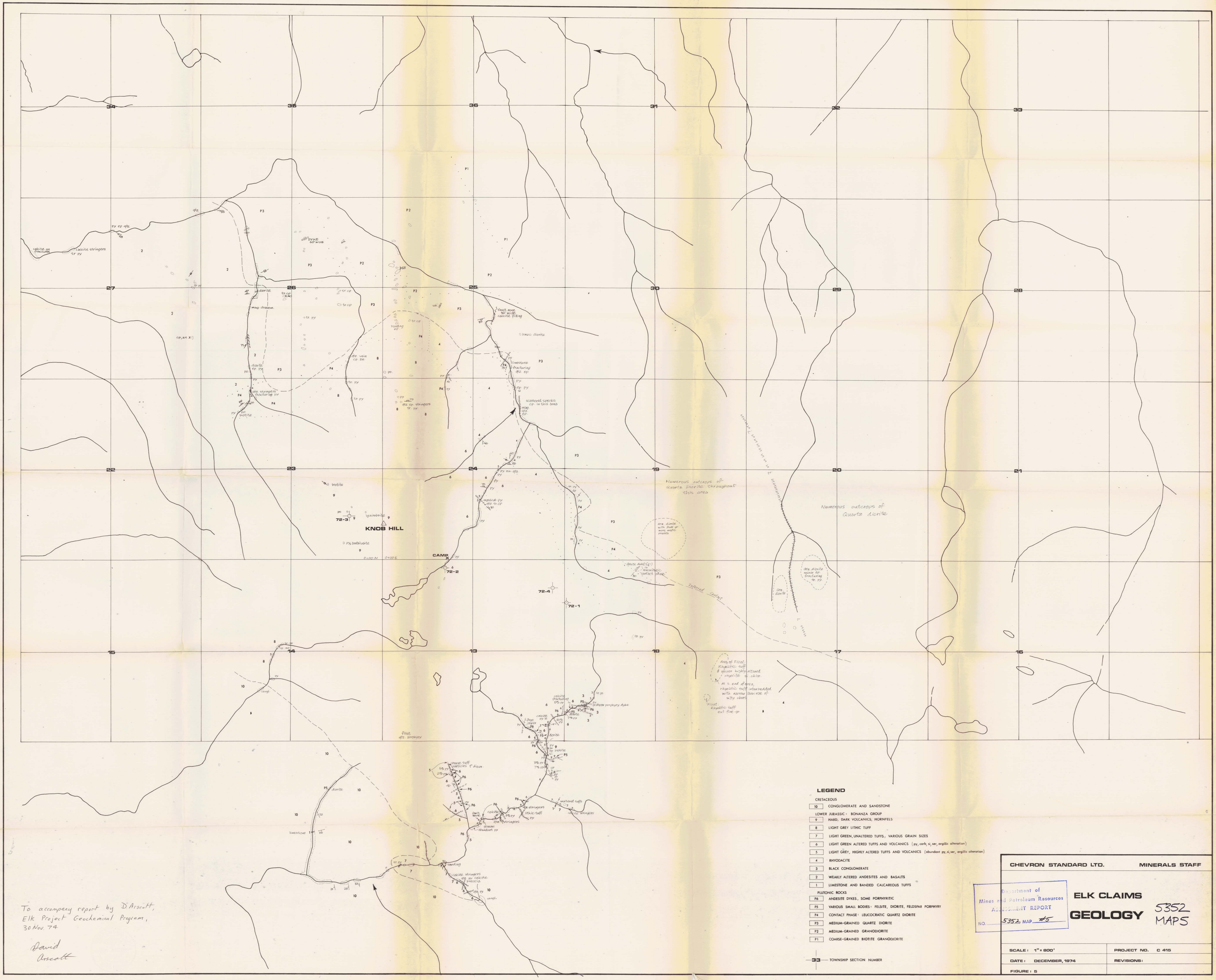
C415

MOLYBDENUM GEOCHEMISTRY

800 0 800 1600 feet
Scale

November 1974

GLOBAL DRAFTING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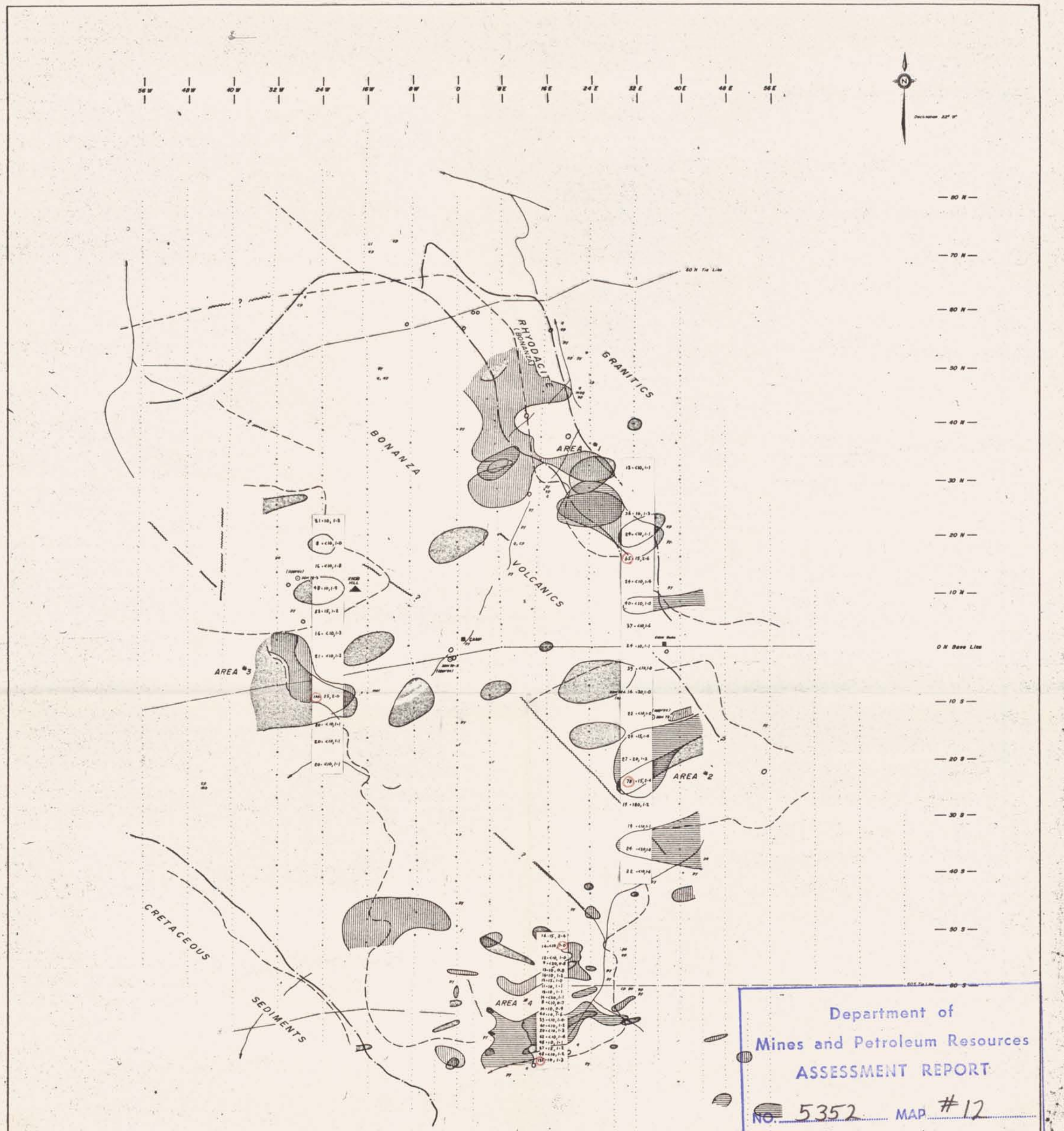
14
13
18
17
16
KNOB HILL
CAMP
72-3
72-2
72-4
72-1
Numerous outcrops of Quartz Diorite throughout this area
Numerous outcrops of Quartz Diorite
LEGEND
CRETACEOUS
10 CONGLOMERATE AND SANDSTONE
LOWER JURASSIC: BONANZA GROUP
9 HARD, DARK VOLCANICS, HORNFELS
8 LIGHT GREY LITHIC TUFF
7 LIGHT GREEN, UNALTERED TUFFS; VARIOUS GRAIN SIZES
6 LIGHT GREEN ALTERED TUFFS AND VOLCANICS (py, carb, si, ser, argillic alteration)
5 LIGHT GREY, HIGHLY ALTERED TUFFS AND VOLCANICS (abundant py, si, ser, argillic alteration)
4 RHYODACITE
3 BLACK CONGLOMERATE
2 WEAKLY ALTERED ANDESITES AND BASALTS
1 LIMESTONE AND BANDED CALCAREOUS TUFFS
PLUTONIC ROCKS
P6 ANDESITE DYKES, SOME PORPHYRITIC
P5 VARIOUS SMALL BODIES: FELSITE, DIORITE, FELDSPAR PORPHYRY
P4 CONTACT PHASE: LEUCOCRATIC QUARTZ DIORITE
P3 MEDIUM-GRAINED QUARTZ DIORITE
P2 MEDIUM-GRAINED GRANODIORITE
P1 COARSE-GRAINED BIOTITE GRANODIORITE
33 TOWNSHIP SECTION NUMBER
CHEVRON STANDARD LTD.
MINERALS STAFF
Department of Mines and Petroleum Resources ASSESSMENT REPORT
NO. 5352 MAP #5
ELK CLAIMS
GEOLOGY
5352 MAPS
SCALE: 1" = 800'
PROJECT NO. C 415
DATE: DECEMBER, 1974
REVISIONS:
FIGURE: 5
To accompany report by D. Arscott, Elk Project Geochemical Program, 30 Nov. 74.
David Arscott



5352
MAP 12

Fig - 7

LEGEND

- Geological contacts
- Faults, interpreted
- Cu / Mo / Zn — Soil anomalies
- Interpreted magnetic boundaries
- 72-1 — 1972 Diamond Drill holes
- Cu / Mo / Zn — Rock chip anomalies (position approximate)

Pb, ppm — 29 - 10, 1-1 — Ag, ppm / Au, ppb

mal	malachite
cp	chalcopyrite
sp	sphalerite
py	pyrite
po	pyrrhotite
s	sulphides
q	quartz
cl	chlorite
ep	epidote
mag	magnetite
r	rusty

○ Anomalous in Pb, Au, or Ag

GLOBAL DRAFTING

CHEVRON STANDARD LIMITED

ELK PROJECT

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COMPILATION (Pb, Au, Ag TEST)

800 0 800 1600 feet

Scale

November 1974

56 W | 48 W | 40 W | 32 W | 24 W | 16 W | 8 W | 0 | 8 E | 16 E | 24 E | 32 E | 40 E | 48 E | 56 E

Declination 22° W

80 N | 70 N | 60 N | 50 N | 40 N | 30 N | 20 N | 10 N | 0 N Base Line | 10 S | 20 S | 30 S | 40 S | 50 S | 60 S

60 N Tie Line

60 S Tie Line

KNOB HILL

(approx) DDH 72-3

DDH 72-2 (approx)

CAMP

Cabin Ruins

DDH 72-4 (approx)

DDH 72-1 (approx)

5352

MAP 8

Fig - 6 (c)

LEGEND

30 · 55 — Zinc content in ppm, surface soil and basal till respectively

Contour of threshold (105 & 320 ppm respectively)

Contour of threshold (60 & 200 ppm respectively)

To accompany report by D. Arscott
'Elk Project Geochemical Program'
30 Nov. 1974

David Arscott

CHEVRON STANDARD LIMITED

ELK PROJECT

C415

ZINC GEOCHEMISTRY

800 0 800 1600 feet
Scale

November 1974

GLOBAL DRAFTING

56 W 48 W 40 W 32 W 24 W 16 W 8 W 0 8 E 16 E 24 E 32 E 40 E 48 E 56 E

Declination 22° W

80 N
70 N
60 N
50 N
40 N
30 N
20 N
10 N
0 N Base Line
10 S
20 S
30 S
40 S
50 S
60 S

60 N Tie Line

60 S Tie Line

RHYODACITE (BONANZA)

GRANITICS

BONANZA VOLCANICS

CRETACEOUS SEDIMENTS

AREA #1

AREA #2

AREA #3

AREA #4

(approx) DDH 72-3

KNOB HILL

CAMP

DDH 72-2 (approx)

DDH 72-4 (approx)

(approx) DDH 72-1

Cabin Ruins

cl ep
cp
q cp
py
q, ep
q ep
py
ep py
q mag ep
cp
py
q, cp
ep
py
py
po
s mal
cp mo
py
q
cp po ep py

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5352 MAP #11

LEGEND

Geological contacts
Faults, interpreted
Cu Mo Zn Soil anomalies
Interpreted magnetic boundaries
72-1 1972 Diamond Drill holes
Cu Mo Zn Rock chip anomalies (position approximate)

mal malachite
cp chalcopyrite
sp sphalerite
py pyrite
po pyrrhotite
s sulphides
q quartz
cl chlorite
ep epidote
mag magnetite
r rusty

GLOBAL DRAFTING

To accompany report by D. Arscott,
'Elk Project Geochemical Program',
30 Nov. 1974

David Arscott

5352
Fig - 7 MAP 11

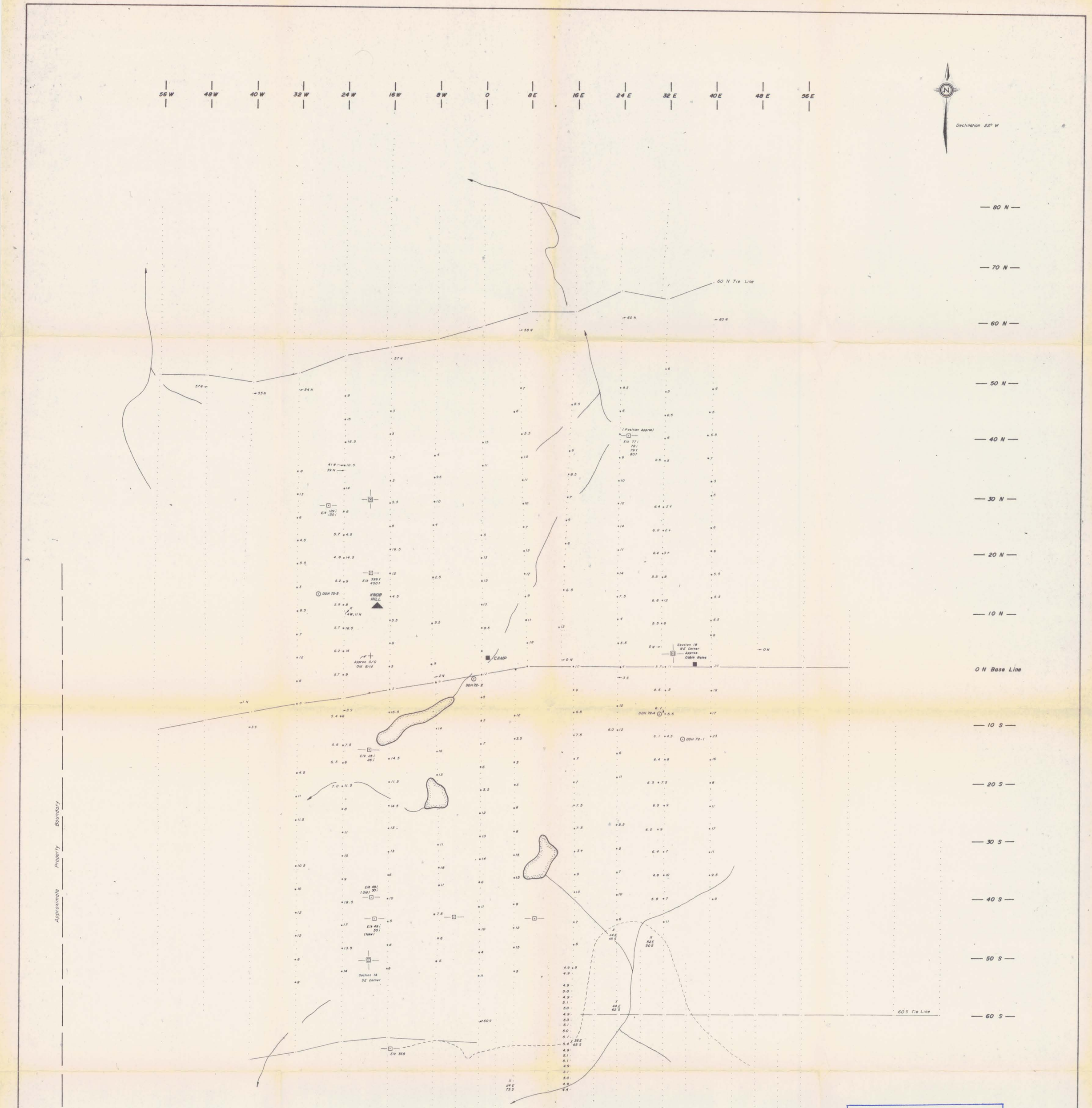
CHEVRON STANDARD LIMITED

ELK PROJECT
C415

COMPILATION

800 0 800 1600 feet
Scale

November 1974



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5352 MAP #10

5352

MAP 10

Fig – 6 (d)

LEGEND

- 5.8 • Soil acidity in pH
- •10 Depth of overburden, feet.
- ⊙ Diamond drill hole location (approx.)
- x Former grid station
- Claim posts
- Section posts
- Creeks
- North edge of heavy timber

To accompany report by D. Arscott,
'Elk Project Geochemical Program',
30 Nov. 1974.

David Arscott

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ELK PROJECT
C415

MISCELLANEOUS PROPERTY DATA

800 0 800 1600 feet
Scale

November 1974

GLOBAL DRAFTING