



41P14SE0306 63.3293 MIDLOTHIAN

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GEOPHYSICAL ENGINEERING LIMITED

NORTH BAY, ONTARIO

PRELIMINARY GEOLOGICAL REPORT

ON THE

LARCHE-ROUSSEAU OPTION

CG-87

HALLIDAY AND MIDLOTHIAN TOWNSHIPS, ONTARIO

FOR

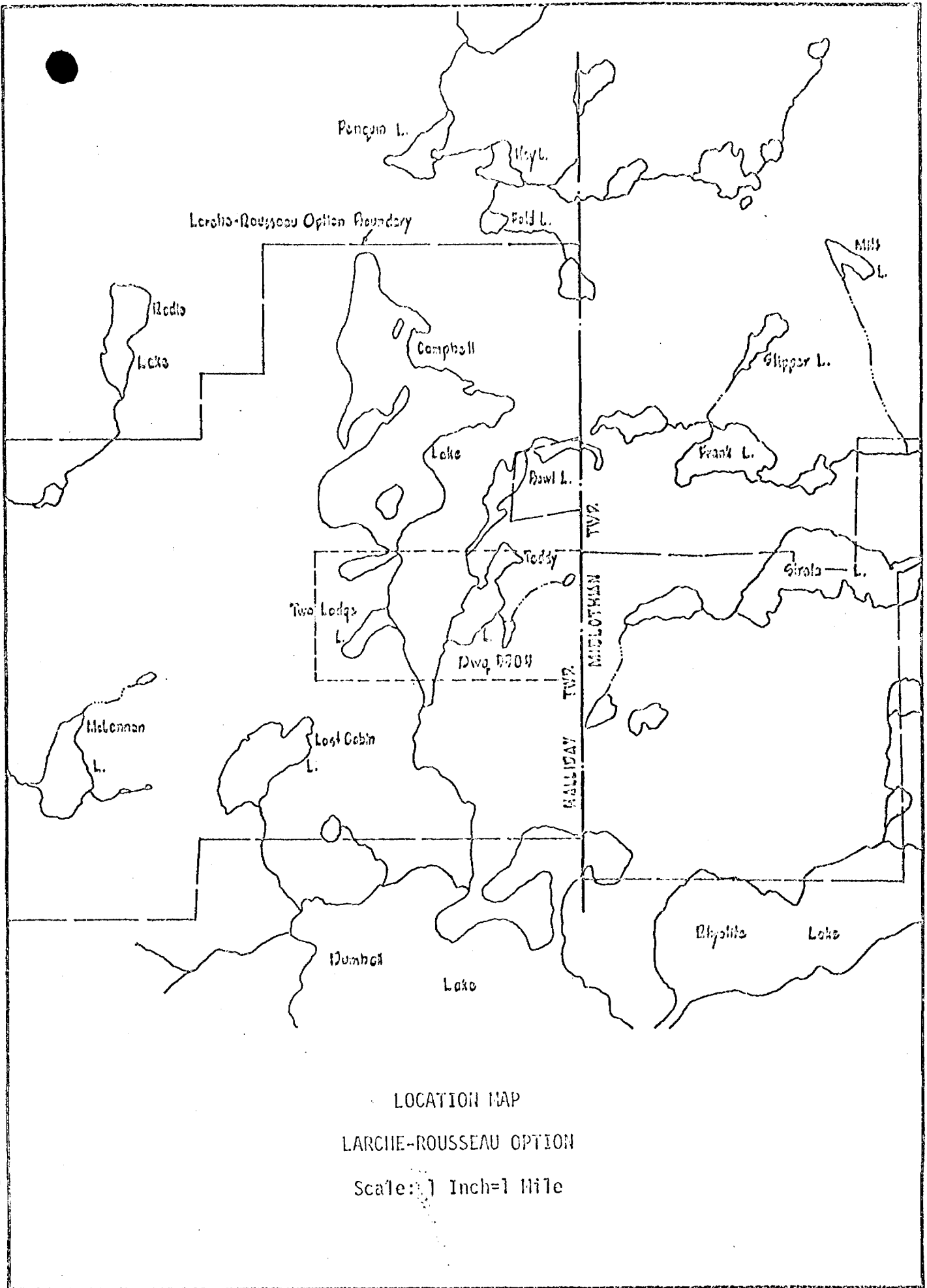
TECK CORPORATION LIMITED

N.T.S. 41 P/14

FEBRUARY 13, 1975

REPORT NO. 536 N.B.

JOHN R. GOODWIN



LOCATION MAP

LARCHIE-ROUSSEAU OPTION

Scale: 1 Inch=1 Mile

SUMMARY

Detail mapping of the north west portion of this property including three mineral showings mapped at 1"=5 feet were completed in November 1974.

All the lithologic units mapped are fine grained ash flow tuff to block tuff, with possible flow equivalents, of dacite to rhyolite composition emplaced by glowing avalanche or ignimbrite processes in a subaqueous environment.

The mineral occurrences are interpreted as representing brief time-stratigraphic horizons of synvolcanic sulphides and chert. These deposits were then brecciated with minor dislocation by slump and/or ignimbrite processes before significant accumulations of chert and sulphides indicated by limited concentration and extent in the pile.

Local foliation and alteration intensity appears to exclude delineating possible sulphide feeder zones.

Further investigation of this property should include at least one D.D.H. under Area C.

DWG # 5505 Preliminary Geology
5505-1 Detail Geology Area A
5505-2 Detail Geology Area B
5505-3 Detail Geology Area C

INTRODUCTION

This 99 claim group is located in Halliday and Midlothian Townships 40 miles south-southeast of Timmins and approximately 24 miles west of Matachewan in the Larder Lake Mining Division, Ontario.

Summer access to the property is by logging roads or float equipped bush planes to Campbell Lake. In winter, the logging roads are not kept open, however the haulage road from Matachewan to the United Asbestos mine 4 miles east of Campbell Lake will be open year around and the last portion could be completed by snowmobile.

Two grids are established on the property. The Canadian Arrow 200' grid bearing 145° covers that part of the property south of Campbell Lake and east to the Halliday-Midlothian Township boundary. Glen Copper established a 400 foot north-south grid from Sirola Lake west to the Halliday-Midlothian Township boundary. Newmont Mining extended this 400 foot grid to the west end of the claim group south-east of Campbell Lake. Geophysical Engineering and Surveys Limited established a 200 foot north-south grid by cutting lines between the existing Newmont 400 foot grid.

Preliminary geological mapping was done at 1" = 100' on the Canadian Arrow grid covering a belt 3,000 feet wide south from Campbell Lake and extending 5,600 feet west from the Halliday-Midlothian Township boundary excluding a

small area in the south east corner.

HISTORY

- 1933 P.H. Silami - prospecting, trenching and sampling a 6 to 20 foot wide N75°E trending shear zone located between Campbell Lake and the east boundary of Halliday Township. Assays indicated low gold content with 9 oz. silver and 2.5% copper. Zinc occurrences were also reported in the area.
- 1954 Sylvanite Gold Mines - investigated quartz-carbonate alteration zones in Timiskaming? sediments located immediately north of this property.
- 1950-1952 Lamothe - prospected and blasted coarse rhyolite breccias in the general area. W.S. Savage (1952) sampled pits and reported assays of up to \$6.00 per ton gold and 2% zinc. Zinc was reported to occur in breccia interstices.
- 1964 Halliday Mines - did geological and magnetometer surveys on 24 claims in the west portion of the Campbell Lake group. Diamond drilling of three holes north of McLennan Lake and one hole in the small bay at the southwest end of Campbell Lake encountered no gold-bearing zones.
- 1965 Stairs Mining and Exploration - drilled the pyrite-slate-graphite zone where it extends

north and east into their claim group in Midlothian Twp. This program included two holes under Bowl Lake and one under the south end of Campbell Lake.

1964-1966

Ontario Department of Mines - did geological mapping of Halliday and Midlothian Townships by E.G. Bright (O.D.M. Geol. Report # 79, 1970)

1967-1968

Texas Gulf Inc. - flew airborne E.M. over the general Sothman-Halliday area. The survey outlined the pyrite-bearing graphitic slate unit. This zone was subsequently drilled in the western portion of Halliday Township, several miles along strike to the west of the property. Barren sulphide iron formation was encountered.

1968-1970

J.P. Larche and A. Rousseau - prospected and staked the sphalerite bearing rhyolite breccias of the Halliday "dome" area. They exposed extensive zinc showings in altered rhyolite-dacite breccias in the Campbell, Teddy and Patricia Lakes area.

1970-1972

Canadian Arrow Mines Ltd. - optioned 35 contiguous claims covering the area between the south end of Campbell Lake and including Teddy Lake and Two Lodge Lake to the north

end of Log Cabin Lake. Magnetic, electromagnetic, geological and geochemical surveys followed by a detailed I.P. survey were conducted with diamond drilling of the most promising areas. The results were not encouraging and the options were terminated.

1971-1972

Glen Copper Ltd. - conducted I.P. surveys on an option south of Patricia Lake in Midlothian Township. Eight drill holes failed to encounter any significant zinc mineralization. The program was terminated and the option dropped due to lack of funds.

1972-1973

Newmont Mining Ltd. - optioned most of the present 99 claim block and conducted magnetometer, broadside E.M. survey, detailed horizontal loop E.M., and geological mapping on a 400 foot north-south grid. Gravity and seismic check surveys were conducted over zones of sulphide mineralization. Several diamond drill holes were drilled but the program stopped prior to completion and the option was terminated.

TOPOGRAPHY

Relief does not generally exceed 50 feet with few outcrop exposures in the western portion while the eastern portion in Midlothian Twp. has slightly higher relief with more rock

exposure between Patricia and Teddy Lakes. The area is blanketed by Pleistocene to Recent glacial deposits with numerous small outcrops and more prominent north-easterly trending ridges. The deeper valleys are filled with glacial tills and recent sediments which remain wet and swampy. The map area is drained by small creeks and a series of shallow lakes into the Grassy River system to the southwest.

GENERAL GEOLOGY

The map area consists of a thick sequence of Precambrian dacite-rhyolite and probable andesitic pyroclastic tuffs and breccias with possible flow equivalents. The variety of fragment size, poor contacts and unsorted nature of these units suggests a glowing avalanche or ignimbrite process of transport and deposition.

Mapping by Newmont Mines Ltd. (1972-1973) indicated scattered intrusions of quartz porphyry on the property but this rock type has not been observed by the writer to date. Several dark felsic dykes are mapped on the property. Quartz carbonate veins are common on the property but are more abundant south and east of Teddy Lake. All rock units appear to have pervasive sericite and carbonate alteration with more intense alteration along strong shear zones. Strong chlorite alteration has been observed at the mineral showing immediately south of Campbell Lake only.

The volcanics are overlain disconformably? to the north by a long narrow east-west trending belt of Timiskaming?

sediments consisting of conglomerate, greywackes, a pyrite-marcasite graphitic black slate unit and undifferentiated limey sediments.

TERMINOLOGY

The terminology used in this report is based on definitions outlined in U.S.G.S. Professional Paper # 336 (1961) by Clarence Ross and Robert Smith. The size classification of volcanic fragmental materials according to Wentworth and William (1932) was used with the following size categories.

- Ash - fragments less than 4mm.
- Lapilli- fragments from 4mm to 32mm.
- Block - fragments larger than 32mm.

IGNIMBRITES

The predominant volcanic units are interpreted as glowing avalanche or ignimbrite deposits with possible flow equivalents of rhyolite-dacite and possible andesite composition. The identification of these units is based on careful examination of weathered and fresh surfaces to determine grain size, composition, presence of pumice, density of fragments, mineralization, alteration and structural overprint. The fragments may consist of juvenile lava still liquid or plastic when ejected and of broken rock of any sort from the walls of the vent or the underlying bedrock. Fragment size varies from blocks several feet in diameter to microscopic grains and are rounded to angular,

with variable degrees of sorting. The fine grained fragmentals appear to be better sorted and less angular, but there are exceptions. The low proportion of matrix in most of the pyroclastic units along with some degree of sorting would suggest a subaqueous depositional environment. (Fiske and Matsuda, 1964)

DESCRIPTION OF FORMATIONS

Ash Tuff (Ash Flow Tuff - Welded Tuff)

The recognition of ash fragments smaller than 4 mm. in an area overprinted by pervasive carbonate and sericite alteration and local foliation is often an educated guess. The texture varies from massive and homogeneous to distinctly granular or felty with obvious heterogeneous composition. Ash shards? are most readily visible on weathered surfaces and appear as lighter coloured, randomly oriented, irregular shaped fragments with some apparent sorting in a dark finer grained matrix. Moderate sericite, carbonate or chlorite alteration and structural foliation often mask or obliterate these features. Exposures of ash tuff often contain a few scattered lapilli and block fragments of pumice and other felsic material. Some of the fine grained homogeneous units may in fact be welded tuffs or lava flows.

Lapilli Tuff - Lapilli Flow Tuff

This rock unit contains recognizable fragments of pyroclastic debris probably consisting of juvenile lava, broken bedrock and frequently pumice. The matrix appears to be finer

grained ash or dust material and generally is a darker colour than the fragments. These tuffs are very distinct in that the fragments are usually readily visible on a well exposed weathered surface and generally appear to be a harder and lighter coloured rock than the matrix except for the pumice fragments which are either dark spongy and porous looking, or collapsed and weathered out as narrow linear depressions. These units also appear partially sorted, but non bedded and contain an admixture of sizes and composition.

Block Tuff - Block Flow Tuff

These units have similar fragment and matrix variations as the lapilli tuffs, except the fragments are larger and generally show poorer sorting. Distinguishing block tuffs from ash tuffs in a poor exposure may be difficult if the fragments are very large since many blocks are composed of ash tuff or lava flow material and fragment outlines may not be apparent.

"Chert breccia zones"

Chert breccia zones are found at three mineralized locations on the property to date and are not classified as separate units as they are frequently admixed with pyroclastic material and sulphides. The chert fragments make up 20-40% of the fragmental material and appear derived from a massive and homogeneous source with only several fragments indicating faint banding or layering. The chert is light grey to a waxy pale green colour and in thin sections is nearly

95% aphanitic quartz with 2-3% carbonate crystals .25 mm. in diameter, disseminated sericite flakes, and 1-2% cubic pyrite.

The direct association of the chert breccia with mineralized zones is strongly supported by the three mineral exposures containing chert fragments mixed with pyroclastic material and sulphides as well as mineralized cherty zones or dykes in close proximity.

Schist Zones

Areas of strong shearing and foliation have produced schist zones with abundant sericite development. The rock is a pale creamy yellow to rusty brown colour depending on pyrite content, is friable, and separates into paper thin sheets. Alteration by sericite and carbonate frequently makes determination of the original rock type impossible.

Intrusives

One intense zone of quartz carbonate stockwork occurs east of Teddy Lake at 16+00E and between 16+00 and 17+00S on the Canadian Arrow grid. The quartz veins are basically barren of sulphides with only a few scattered grains of cubic pyrite.

Dark grey felsic dykes occur on the south shore of Teddy Lake and at 16+00W, 2+00N. The dyke material is very fine grain, siliceous and non-magnetic with a few tiny specks of pyrite. These dykes appear to have very sharp contacts with very little alteration.

COMPARISON TO PYROCLASTIC UNITS IN OTHER ECONOMIC DEPOSITS

In the Kidd Creek deposit "the rhyolitic fragments appear to have been largely derived from the brecciation of a preconsolidated rhyolitic sequence. This is evidenced by fragment heterogeneity and angularity combined with the presence of fragments of tuff, uncollapsed pumice and variably altered rhyolite". (Walter and Mannard, CIM Bulletin December 1974). The majority of volcanoclastic material found on this property appears to have similar physical characteristics although this writer has not seen the Kidd Creek section.

The Mattabi mine contains a footwall lapilli unit of loosely packed fragments up to 3cm. in a fine ash matrix deposited in discontinuous beds with no vertical gradation. This deposit also contains a 10 foot thick chert unit with .5-1 cm thick bands of alternating grey and white tuffaceous chert immediately below the ore body. The bomb or block tuff is close packed white to light pink in colour and appears brecciated near the deposit with 5% sulphide fragments developed locally.

The Horne mine contains finely banded and cross-bedded tuff units as well as rhyolite breccia up to 50 feet thick with some distinct bedding. Pyrite occurs in the breccia as small fragmental grains and angular fragments up to 2 feet in diameter. Fragments of massive magnetite and sphalerite are less common.

These deposits appear to have formed in a relatively

stable environment with some undisturbed graded and bedded tuffs and lightly modified chert and sulphide units with minor breccia or ignimbrite deposits. The area under study in this report does not appear to contain any original lithologies but is a composite of reworked primary deposits including several zones of dispersed sulphides and brecciated chert.

MINERALIZATION

Pyrite is ubiquitous throughout the entire ignimbrite sequence in amounts up to 2% as disseminated cubic grains.

The mineral showings are mainly vein filling, disseminated and replacement type occurrences of pyrite, sphalerite, galena and chalcopyrite in order of abundance in moderately to strongly altered ash, lapilli and block tuff units.

Detail Description of Area A

Location and Extent

Located immediately south of Campbell Lake on the Canadian Arrow grid at 0+00, 1+00N, this exposure contains a 10.5 by 25 meter chloritized sheared ignimbrite unit containing chert breccia zones with interstitial sulphides. The fragmental tuff grades into massive ash tuff to the north over three meters but the transition is more abrupt to the south. Diamond drill hole 71-1 by Canadian Arrow Mines Limited located at 0+10E, 1+80N bearing grid south at 45° was drilled to investigate this showing at depth and encountered ignimbrite units carrying up to 20% pyrite but only trace

amounts of base metal mineralization and no chert breccia was recognized in the core.

Geology

The host rocks in this area are block and lapilli tuff with some fragments up to 61 cm. in diameter and several pumice fragments to 7.5 cm. The individual block fragments have a definite foliation and it was noted that several are discordant to the local trend in that outcrop. This suggests either a fabric development prior to transport and deposition or that there has been some post-depositional movement of individual fragments during shearing and mineralization. The block fragments have moderately rounded corners and have the appearance of a leached zone or reaction rim on the perimeter.

Pale green grey to black chert breccia 6mm to 8cm. makes up 20% of the fragments. The texture and mineralogy of the chert does not vary throughout the deposit and the smaller fragments are partially rounded. The density of chert fragments is not directly proportional to sulphide abundance but breccia zones of tuff with chert do contain the more significant amounts of sulphides.

Alteration

This mineral zone is characterized by strong chlorite alteration pervading the matrix and tuff units which are light to moderately sheared. Carbonate veins and pods are more prevalent within this chlorite zone and sericite

becomes apparent only outside of the chlorite zone.

Mineralization

The sulphides occur as disseminated zones in shear planes and fractures and as massive interstitial pods up to seven cm. Pyrite makes up 50% of the sulphides as vein filling and disseminated cubic grain. Sphalerite is the next abundant at 40% and galena forms the remainder with only a trace of chalcopyrite. Some sphalerite pods appear to have a central zone of cubic pyrite surrounded by medium to coarse grained black sphalerite in turn surrounded by a six to twelve mm. rim of coarse crystalline siderite. One patch of massive galena 2.5 by 7.5 cm. occurs in the central portion of the chlorite zone. Sulphides and chert breccia would not exceed 20% of the outcrop area.

For lithologic and structural details see drawing # 5505-1.

Detail Description of Area B

Location and Extent

Located one hundred feet south of Area A on Canadian Arrow grid at 0+00, 0+00S, this exposure is a 6 meter wide breccia zone in sharp contact with barren ash tuff on the east and west with the north and south limits covered by overburden. Diamond drill hole 71-1 would intersect the eastern portion of this zone at depth but no base metal mineralization or chert breccia was encountered.

Geology

A massive competent ash tuff unit is in sharp

contact with a breccia zone of lapilli and block tuff with chert fragments and sulphides. This northern contact shows only minor alteration and may be a fault or sedimentary-stratigraphic contact. The western contact is a narrow fault or shear zone. A small exposure on the south end contains abundant, close-packed, well sorted lapilli chert fragments in a sericitic fine grained matrix. Pale waxy green chert breccia up to 7.5 cm. in diameter makes up 30-40% of the fragmental material while tuff fragments up to 10 cm. appear to be of dacite-rhyolite composition and uniform texture and alteration make up the remainder.

Alteration

This breccia zone is moderately to strongly sericitized and carbonatized with wispy sericite and pods of carbonate up to 5 cm. occurring interstitially. The surrounding massive ash tuff units are only moderately altered and chlorite is absent throughout the exposure.

Mineralization

The prominent sulphides occurring in this breccia zone are pyrite and sphalerite with the former making up 60-70% and light grey spalerite the remainder with a trace of chalcopyrite. Some massive pods of pyrite up to 5 cm. may be primary sedimentary pyrite as fragments but it also occurs as disseminated cubic grains and vein fillings. Sphalerite occurs as disseminated grains and pods interstitial to the chert and tuff fragments. Mineralized chert and tuff breccia would make up 50% of the outcrop area but may be more extensive,

under the overburden. For details of structure and lithology see drawing # 5505-2.

Detail Description of Area C

Location and Extent

This mineral exposure is located on the Canadian Arrow grid south of Teddy Lake at 8+00E, 29+00S and includes a group of discontinuous exposures in an area 22 by 20 meters with possible extensions covered by overburden. There are no drill holes under this zone so that the attitude and extent of mineralization at depth is not known.

Geology

Lapilli and block tuffs predominate with cherty zones associated with the better mineralized sections. The tuff fragments are fine grained, of dacite-rhyolite composition, and poorly sorted with angular to partially rounded edges. Chert breccia is dark grey to creamy white with the dark chert containing numerous tiny specks of pyrite, whereas the light chert is barren. Chert, making up 20-40% of the fragmental material, is lightly altered and occasionally contains fractures filled with carbonate and disseminated cubic pyrite. The eastern portion of this exposure contains a 40 to 45 cm. wide vertical dyke of lapilli to block tuff, chert fragments and sulphides in a block tuff. Thermal alteration along the contacts is not apparent, thus it may be a cool, wet, clastic intrusive? Some structural or stratigraphic control is suggested at the western end of the exposure where a series of parallel quartz carbonate veins through mineralized

tuff and chert breccia terminate abruptly at a very sharp contact with a massive homogeneous flow or ash tuff unit.

Alteration

The ignimbrite units in this area have moderate to strong sericite and carbonate alteration with patches and thin veins of carbonate. The sericite and carbonate alteration in the mineralized chert breccia zones is stronger with interstitial thin wispy sericite and 2 cm. pods of carbonate.

Mineralization

The chert breccia zones in this exposure contain 60-70% pyrite, 20% dark grey sphalerite, several 2 x 6 cm. pods of galena and a trace of chalcopyrite. These occur as fine disseminated grain, fracture fillings or remobilized interstitial pods. The chert and tuff fragments in the north central exposure are floating in a dark grey, fine grained, pyrite rich, matrix. Some fractures in the host ignimbrites adjacent to the breccia zones are filled with fine grained cubic pyrite and minor quartz carbonate.

The distribution of mineralized chert breccia in this exposure would not exceed 10%. For lithologic and structural details see drawing # 5505-3.

STRUCTURE

The main structural elements noted to date in the map area are fault and/or shear zones which result in the ridge

and valley topography. Some of the shear zones are closely related to faults but many shears occur as independent structural elements.

The major shear and foliation trends in the map area remain relatively constant between 040° to 060° with only a few local variations. The shear dips are essentially vertical to 70° north or south. The intensity of shearing varies from a faint foliation and mineral alignment to an intense paper thin schist.

Several small faults are interpreted on the property by topographic relief and vertical cliffs which probably reflects regional tectonic adjustment to folding. The relative strike or dip movement, if any, is not apparent due to compositional heterogeneity of flow tuff units.

The regional attitude of the pyroclastic units has not been determined due to indistinct contacts, discontinuous lithologic units and poor exposure in some areas. One lithologic contact on Canadian Arrow grid at 8+00E, 8+00S between block tuff and ash tuff strikes 070° with vertical dip. This is only one determination in a sequence of irregular, discontinuous, wedge shaped units typical of ignimbrites and is not necessarily the regional trend.

THIN SECTIONS

Twenty eight thin sections were prepared, seventeen from various locations in the mineralized area and the remainder from other parts of the property to assist in rock classification. The results were very disappointing due to devitrification, sericite and carbonate alteration. The amount of sericite

and carbonate is estimated at 30-40% as a fine grained mush evenly distributed through the rock and is more abundant around fragments in the mineralized areas.

Carbonate also occurs as well twinned interstitial masses and partially replaces strained quartz with corroded boundaries.

Thin sections did confirm the identification of the siliceous breccia in the mineralized areas as chert.

The rock is cryptocrystalline with over 95% quartz and 1-2% carbonate as individual crystals and aggregates with several tiny opaque cubes of pyrite. Fractures are filled with recrystallized quartz and carbonate.

Only several sections show the remnant outline of feldspar phenocrysts typical of crystal tuff or porphyry. The matrix is heavily altered and any glass shards present are completely devitrified so that primary mineralogy and texture is undetermined.

PRELIMINARY GEOLOGICAL INTERPRETATION

The area under investigation occurs in a belt of felsic pyroclastic and volcanic derived material over one mile wide and extending east-west across all of Halliday Township and at least one half of Midlothian Township. These volcanic units are interpreted as an accumulation of numerous glowing avalanche or ignimbrite deposits with some fragment sorting and low matrix content indicating a subaqueous

depositional environment. (Fiske & Matsuda, 1964).

On the Campbell Lake property the duration and intensity of synvolcanic mineralization and associated chert production was very restricted indicated by the small distribution of chert breccia and sulphides in each exposure. The site of sulphide and chert deposition is believed to be in close proximity to its present location because the sharp angularity of chert and tuff fragments indicate limited transportation. The sharp contacts and very restricted extent of chert breccia and sulphide zones would not exist in slumped deposits which involve considerable mixing with enclosing units. These sulphide rich chert breccia zones may represent time-stratigraphic horizons with one episode at Area A-B and another at Area C separated by 2,900 feet of barren ignimbrites deposited during renewed pyroclastic activity. Because the regional structure of the area has not been determined the sequence of episodes is not known.

CONCLUSION

This writer proposes weak fumarolic activity of limited extent and short duration with little displacement or transportation as the genesis for the three mineralized areas. Fumerole activity was terminated by renewed ignimbrite deposition with minimum displacement or mixing of the chert-sulphide zones with enclosing units. The chlorite zone in Area A may be a remnant of one feeder for

Area A and B but area C feeder is either eroded away or still deeply buried. There are no alteration or structural indications of a feeder zone joining Area A-B and Area C.

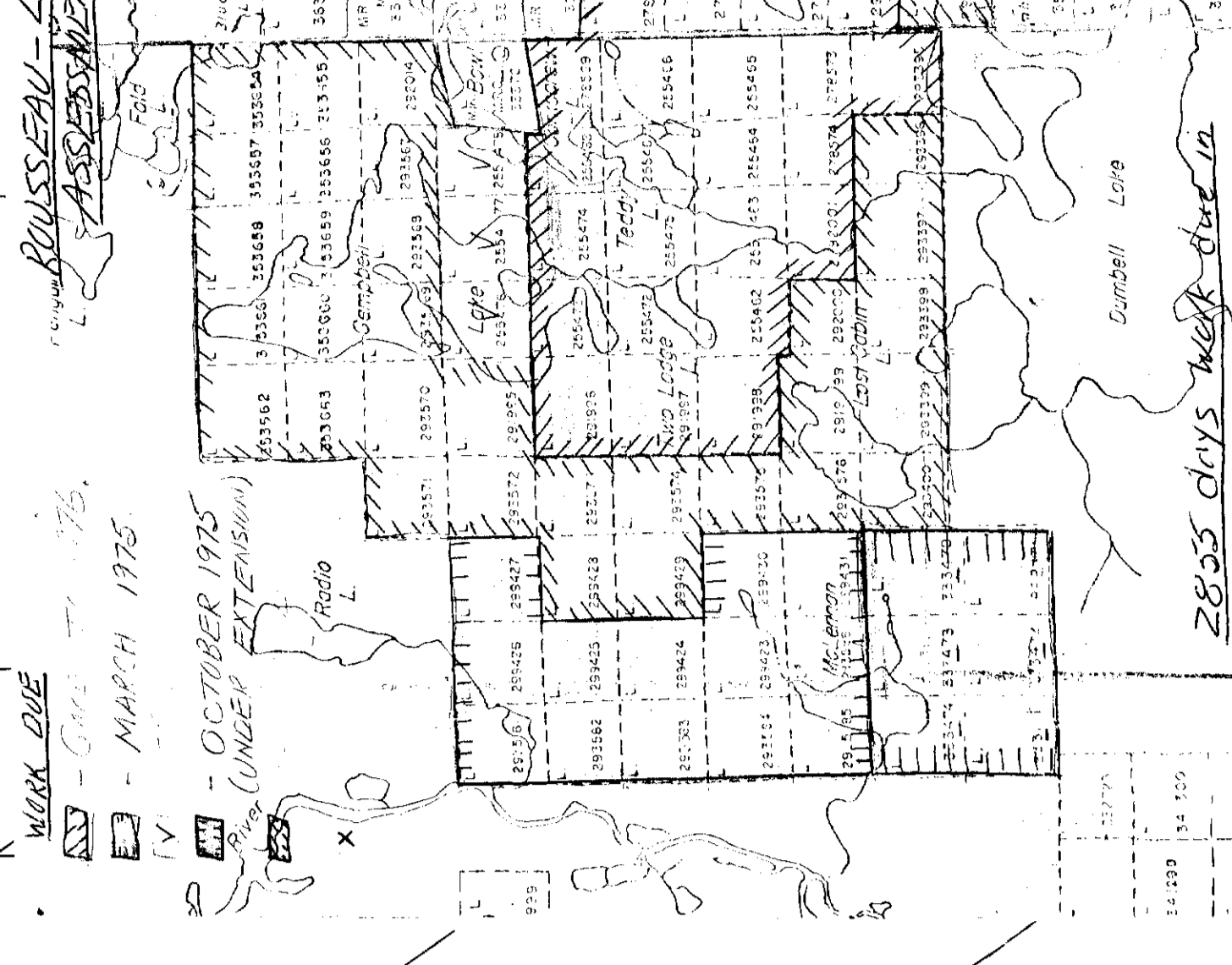
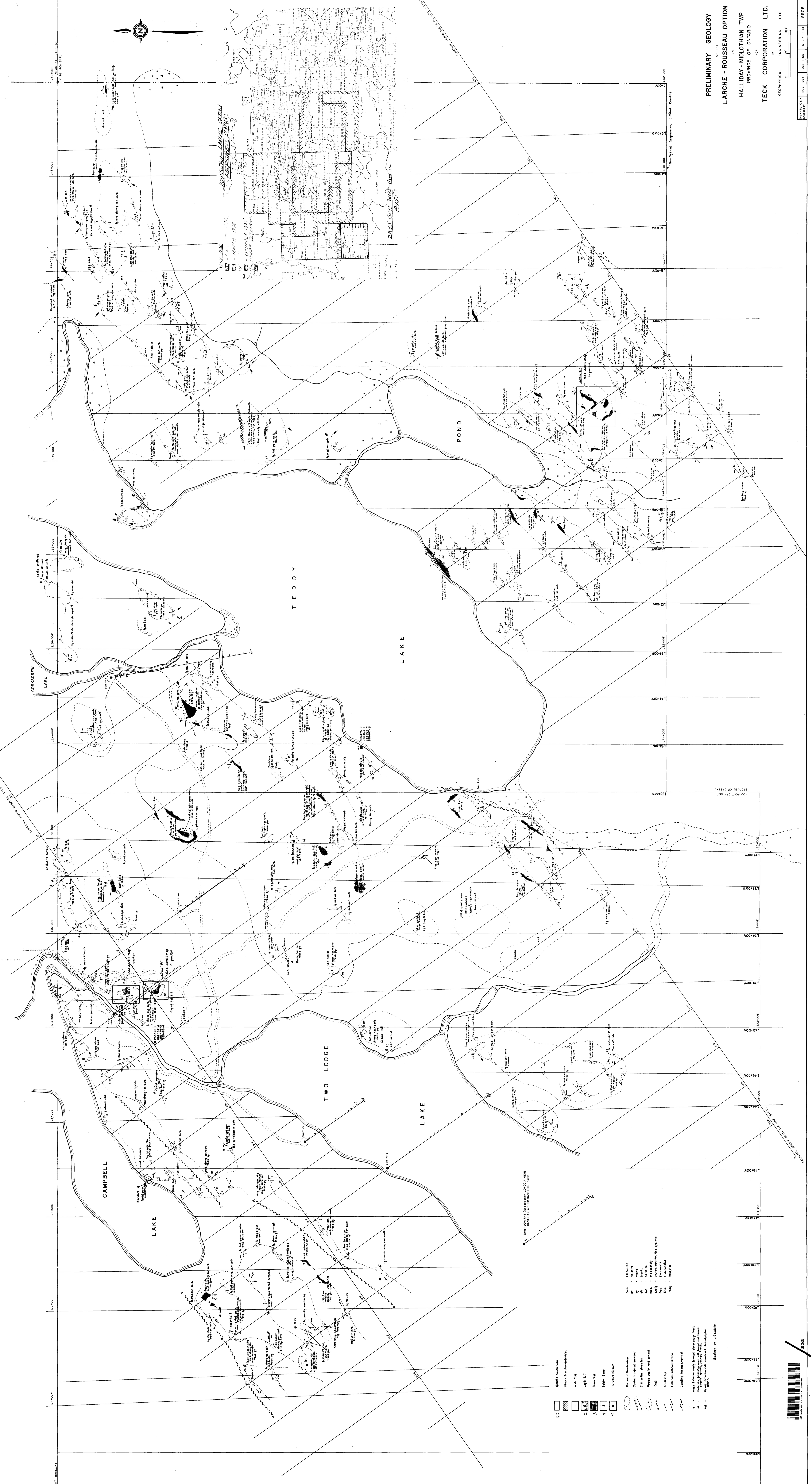
The extent of feeder development as a sulphide source and its location in the ignimbrite pile is not apparent from detail mapping.

RECOMMENDATIONS

(1) The mapping program should be continued with outcrop stripping and trenching of outcrops from Teddy to Sirola Lake. This program should be evaluated after two months work to assess any new data and the effectiveness of the program to find an ore body.

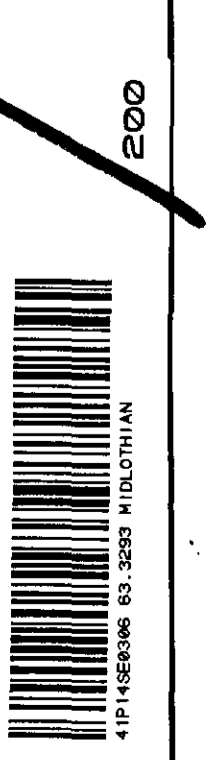
(2) Reconnaissance mapping of the claim in the western portion of the option should be initiated since the geology of that area is not known and assessment work is due in 1975. Estimated cost of mapping and stripping is \$ 15,500.00 per month.

(3) Area C has not been drilled by previous option holders and would appear to merit diamond drilling to determine the extent and source of mineralization at depth. The location and attitude of drilling will be determined after further evaluation of this area.



Legend

OG	Quality Symbols
1	Open Road - Asphalt
2	Asp. Top
3	Light Slope
4	Open Slope
5	Steep Slope
6	Intermittent Drain
7	Drainage Direction
8	Contour - 20m Interval
9	Contour - 10m Interval
10	Contour - 5m Interval
11	Contour - 2m Interval
12	Contour - 1m Interval
13	Contour - 0.5m Interval
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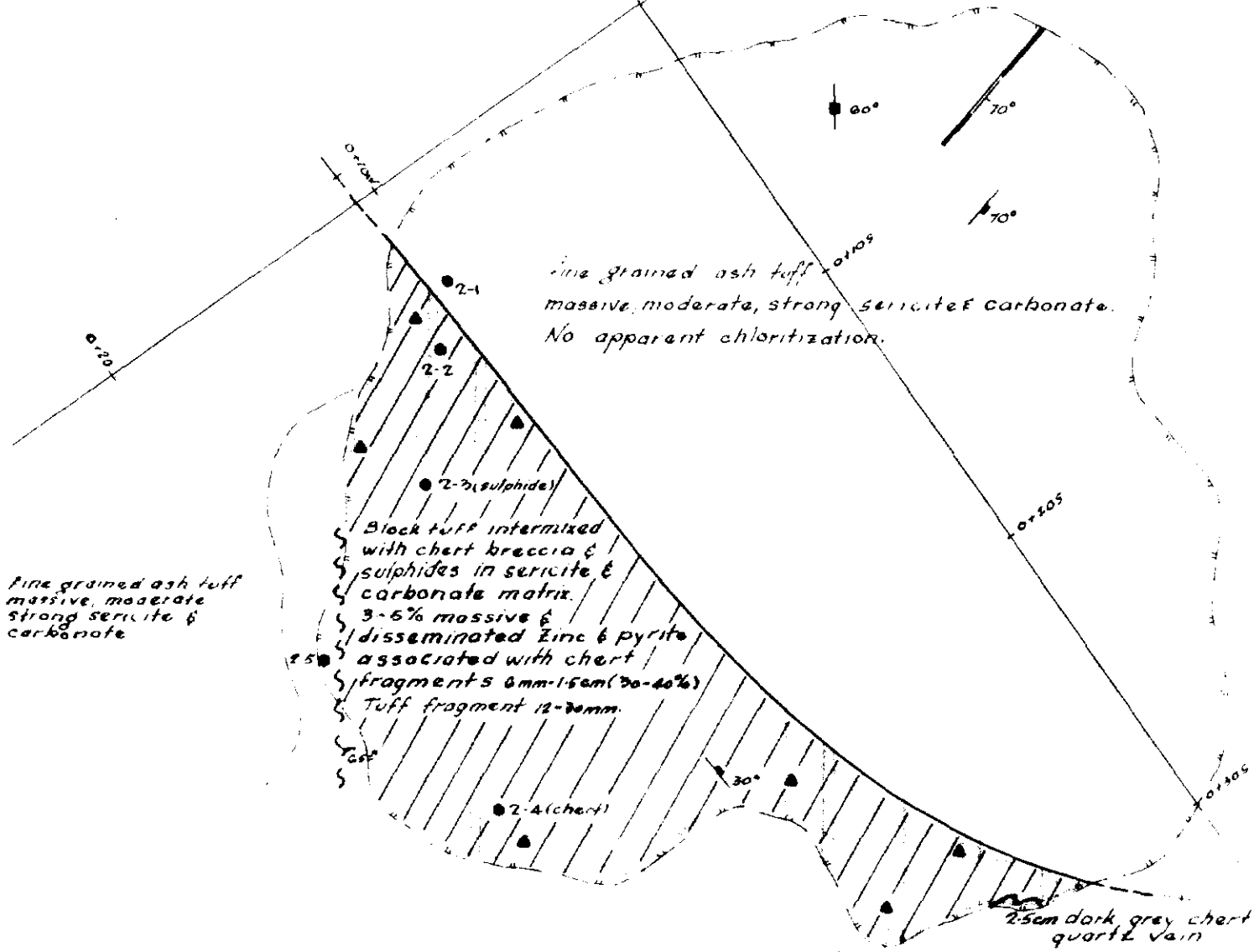


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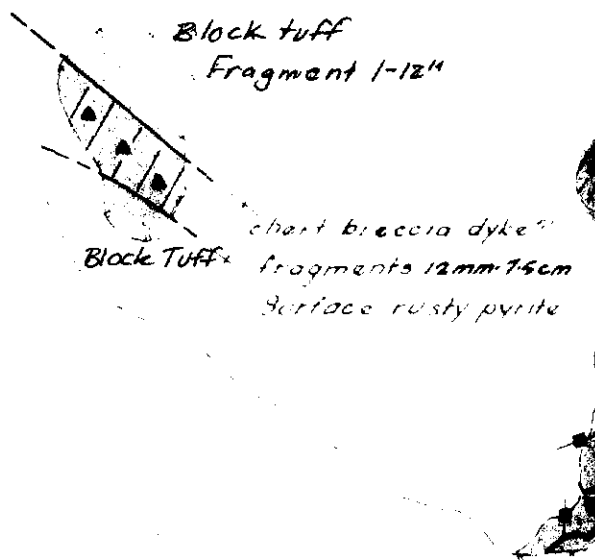


CANADIAN ARROW BASLINE 0700



fine grained ash tuff
massive, moderate
strong sericite &
carbonate

Block tuff
Fragment 1-12"



Abundant 0mm-2.5cm. chert fragments
close packed strong sericite & carbonate
Very little visible sulphide

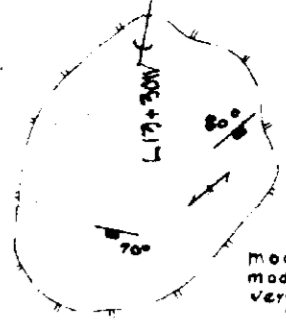
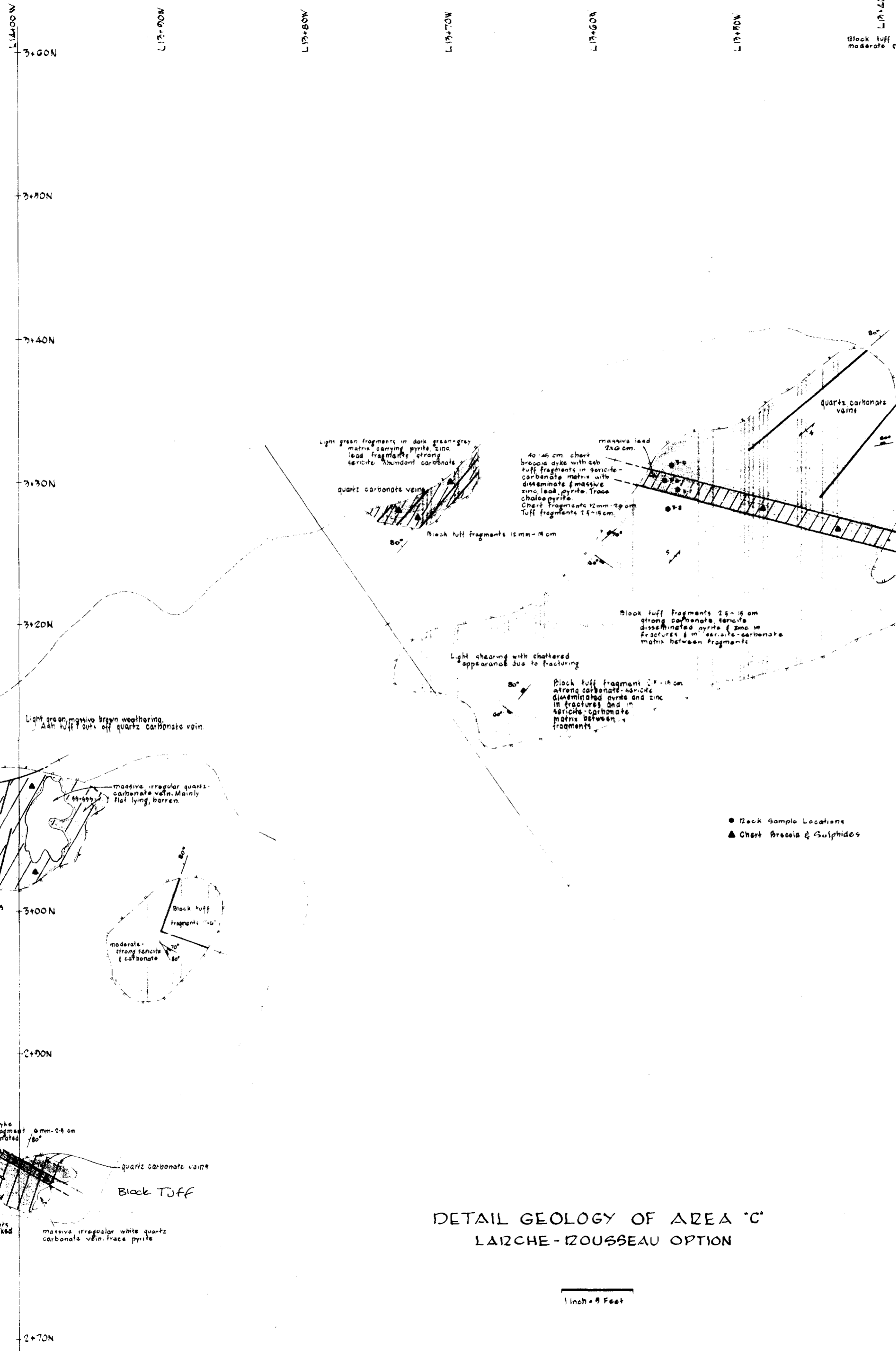
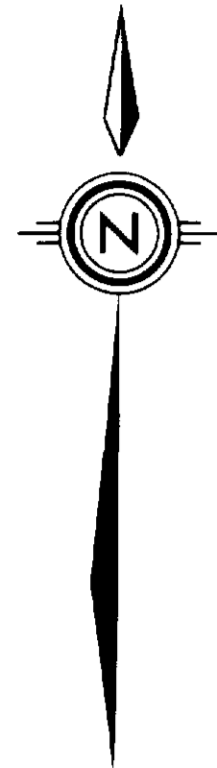
2.5cm dark grey-black cherty quartz vein
with .5% cubic pyrite. No chert fragments

Block Tuff

- Rock Sample Location
- ▲ Chert Breccia & Sulphides

DETAIL GEOLOGY OF AREA "B"
LAICHE-ZOUSSEAU OPTION





Block tuff fragments 5-30 cm moderate sericite (massive)

moderately sheared & fractured moderate-strong sericite-carbonate very rusty pyrite

Black tuff mixed with chert breccia massive disseminated pyrite, zinc, lead in sericite-carbonate matrix associated with chert fragments

Light green massive brown weathering. Ash tuff out off quartz carbonate vein

moderate-strong sericite & carbonate

chert breccia dyke with ash tuff fragments disseminated pyrite, zinc

lappin tuff fragments 15mm-25mm closed packed

massive irregular white quartz carbonate vein trace pyrite

light green fragments in dark green-grey matrix carrying pyrite, zinc, lead fragments strong sericite abundant carbonate

quartz carbonate vein

Black tuff fragments 12mm-18cm

massive lead 2x0.5cm
40-45cm chert breccia dyke with ash tuff fragments in sericite-carbonate matrix with disseminated massive zinc lead pyrite trace chalcocite
Chert fragments 12mm-20mm
Tuff fragments 1.5-15cm

Light shearing with chattered appearance due to fracturing

Black tuff fragment 2-10cm strong carbonate sericite disseminated pyrite and zinc in fractures and in sericite-carbonate matrix between fragments

Black tuff fragments 1.5-1.6cm strong carbonate sericite disseminated pyrite & zinc in fractures in sericite-carbonate matrix between fragments

Block Tuff

quartz carbonate vein

dyke appears cut off by this fracture

- Black Sample Locations
- ▲ Chert Breccia & Sulphides

DETAIL GEOLOGY OF AREA 'C' LAICHE - ZOUSSEAU OPTION

1 inch = 8 Feet

