GEOLOGICAL and GEOCHEMICAL REPORT

on

TOM and MOM CLAIMS

North Stewart River Area

106B-4, 64°~~10~~ 08', ~~132°00~~ 131° 53'

MAYO MINING DIVISION

By: J. T. Shearer

Supervised by: D. L. McKelvie, P.Eng.

for

McINTYRE MINES LIMITED

Field Work.....April 21 - Sept. 1, 1975

Report Completed.....January 9, 1976

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of $ 24000.00

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act

A.R. BAXTER
Supervising Mining Recorder

for Commissioner of Yukon Territory

090080

SUMMARY:

(1) Results of geological mapping, geochemical sampling, trenching and drilling are presented for assessment purposes.

(2) Investigations focused on a group of closely associated stratabound carbonate hosted sphalerite-galena occurrences.

(3) Geological mapping is based on six distinct stratigraphic units.

(4) Geochemical surveys did not indicate any major covered highgrade Pb-Zn occurrences.

(5) Intense isoclinal folding and erratic replacement dolomitization complicate efforts to delineate extensions of surface mineralization at depth.

INTRODUCTION:

In 1974 regional reconnaissance conducted by McIntyre Mines Limited was successful in finding a group of closely associated lead-zinc occurrences contained within a Late Precambrian carbonate unit near Bonnet Plume Lake, Yukon Territory. A comprehensive program of detailed geological mapping, stratigraphy, diamond drilling, trenching, and geochemistry was undertaken to evaluate these showings in 1975. The following report has been prepared to fulfill the requirement of the Yukon Quartz Mining Act governing the acceptance of geological and geochemical surveys for assessment purposes. Details of costs applicable to assessment work have been submitted previously.

Specialized solution-replacement dolomitization features, forming a linear breccia of alternating white dolospar and dark grey finely crystalline dolomite(Zebra breccia), are closely associated with almost all sphalerite occurrences. Usually zebra zones are roughly parallel to original bedding and replace a variety of original textures. These zones are commonly very discontinuous in detail although the largest, up to several hundred feet long and 200' thick, have a definite stratigraphic position.

PROPERTY:

On August 30, 1974, TOM 1 - 112 were recorded in the Mayo Mining Division, 106B-4. An additional 64 tie-on claims were recorded September 25, 1974 as the MOM claims. Maps 1 and 2 show the location of the claims.

These claims have been grouped as follows:

	CLAIM NAME	CLAIM NUMBER
(1)	TOM 1 - TOM 16 inclusive	Y-96561 - Y-96576 inclusive
(2)	TOM 17 - TOM 25 inclusive	Y-96577 - Y-96585 inclusive
	TOM 29 - TOM 35 "	Y-96589 - Y-96595 "
(3)	TOM 26 - TOM 28 inclusive	Y-96586 - Y-96588 inclusive
	TOM 36 - TOM 42 "	Y-96596 - Y-96602 "
	TOM 59 - TOM 62 "	Y-96619 - Y-96622 "
	TOM 77	Y-96637
	TOM 79	Y-96639

	CLAIM NAME	CLAIM NUMBER
(4)	TOM 43 - TOM 56 inclusive	Y-96603 - Y-96616 inclusive
	TOM 65	Y-96625
	TOM 67	Y-96627
(5)	TOM 57	Y-96617
	TOM 58	Y-96618
	TOM 71 - TOM 76 inclusive	Y-96631 - Y-96636 inclusive
	TOM 89 - TOM 94 "	Y-96649 - Y-96654 "
	TOM 109	Y-96669
	TOM 111	Y-96671
(6)	TOM 63	Y-96623
	TOM 64	Y-96624
	TOM 66	Y-96626
	TOM 68 - TOM 70 inclusive	Y-96628 - Y-96630 inclusive
	TOM 78	Y-96638
	TOM 80 - TOM 88 inclusive	Y-96640 - Y-96648 inclusive
(7)	TOM 95 - TOM 108 inclusive	Y-96655 - Y-96668 inclusive
	TOM 110	Y-96670
	TOM 112	Y-96672
(8)	MOM 1 - MOM 16 inclusive	Y-97030 - Y-97045 inclusive
(9)	MOM 17 - MOM 24 inclusive	Y-97046 - Y-97053 inclusive
(10)	MOM 25 - MOM 40 inclusive	Y-97054 - Y-97069 inclusive
(11)	MOM 45 - MOM 60 inclusive	Y-97074 - Y-07089 inclusive
(12)	MOM 41 - MOM 44 inclusive	Y-97070 - Y-97073 inclusive
	MOM 61 - MOM 64 "	Y-97090 - Y-97093 "

LOCATION and ACCESS:

The TOM Group is located approximately 125 air miles east of Mayo, Y.T. (N.T.S. - 106B-4, 64°10' 132°00'). Access is by fixed wing aircraft to Bonnet Plume Lake. Transportation from the large base camp on Bonnet Plume Lake to the TOM property, 20 miles south, was provided by a chartered Hiller 12E from Mayo Helicopters Limited.

GEOLOGY:

General:

Regional geology has been compiled by the Geological Survey of Canada and is available as 1:250,000 maps of Open File 205 by S. L. Blusson, 1974. Rocks underlying the claims have been assigned to the informal Late Precambrian "Grit Unit". This unit is described in G.S.C. Memoir 366 (1973) approximately 100 miles to the southeast as follows (Page 30): "

> "The "Grit Unit comprises about equal amounts of argillaceous and quartzose rocks and includes from 5 - 10 percent limestone and minor phyllite."
> "Blocky weathering limestone, in beds tens of feet thick, occurs at or near the top of the "Grit Unit"."

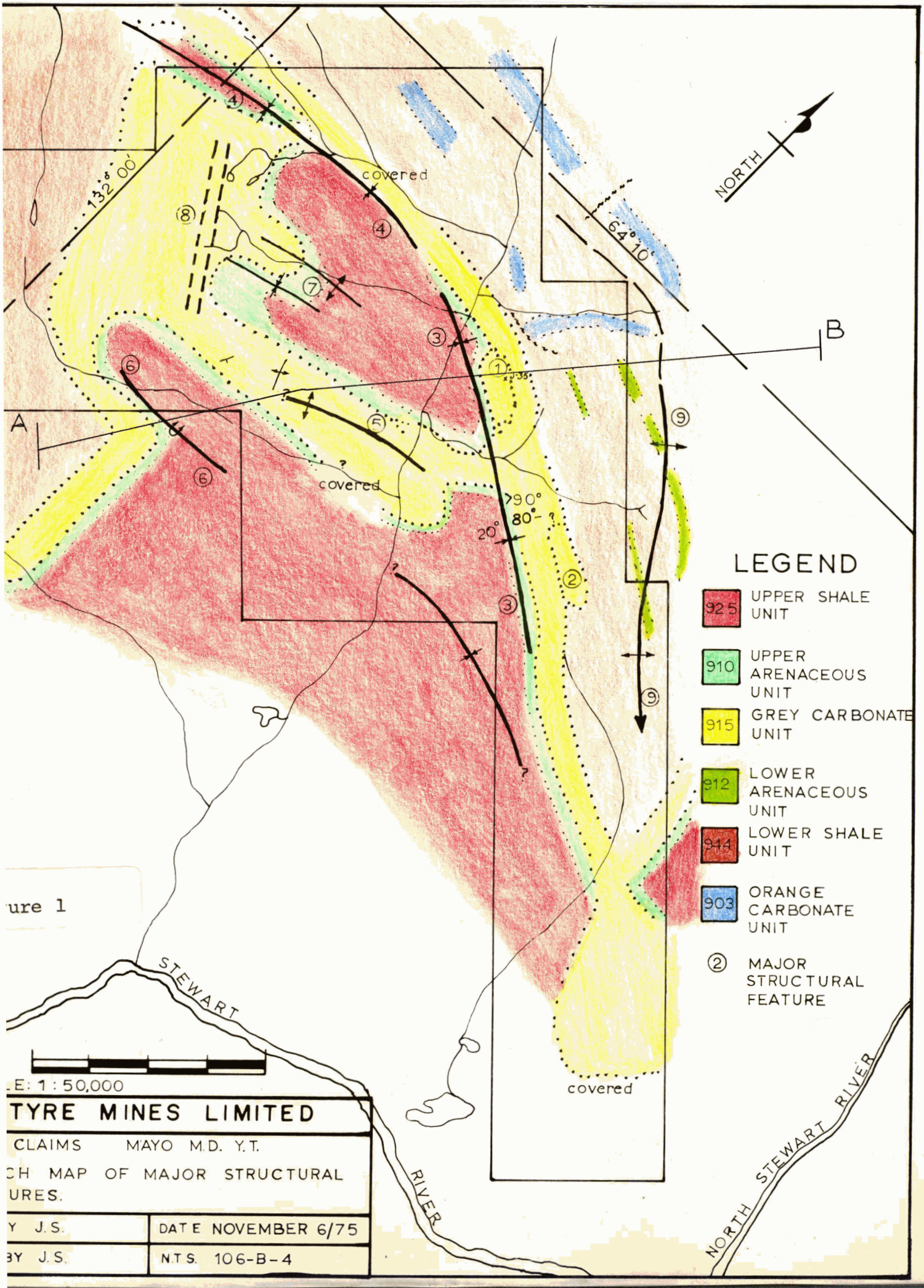
Strata of the "Grit Unit" can be traced from Alaska through the Yukon into British Columbia. In the Bonnet Plume region, the "Grit Unit" forms part of the extensive Selwyn Basin which is bounded by the major "Hess Valley fault" to the north.

The TOM GROUP and surrounding area is characterized by complex folding, secondary dolomitization and rapid facies changes. Seventeen stratigraphic sections were measured around the property. Geology maps discussed in this report are:

	MAP	SCALE	AREA
(a)	Entire Claim Group	1" = 1000'	37,000' x 29,000'
(b)	J-35 Area	1" = 200'	7,200' x 4,800'
(c)	AB-31 Area	1" = 200'	7,200' x 4,800'
(d)	J-38 Area	1" = 200'	6,500' x 6,000'

Mapping was done on an orthophotograph (1" = 1000', 100' contours) together with 1" = 200' topographic base maps (25' contours). The alpine terrain allowed fairly accurate location of reference points on the orthophoto and other base maps. For added control, altimeter readings and many chain, clinometer and compass traverses were carried out.

Classification of general carbonate rock types followed Folk, 1959 (Practical Petrographic Classification of Limestones) closely as possible. Field etching and use of a diamond saw aided in rock identification.


NORTH
132° 00'
64° 10'
A
B
covered
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80°
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LEGEND
925 UPPER SHALE UNIT
910 UPPER ARENACEOUS UNIT
915 GREY CARBONATE UNIT
912 LOWER ARENACEOUS UNIT
911 LOWER SHALE UNIT
903 ORANGE CARBONATE UNIT
② MAJOR STRUCTURAL FEATURE
STEWART RIVER
NORTH STEWART RIVER
E: 1:50,000
TYRE MINES LIMITED
CLAIMS MAYO M.D. Y.T.
CH MAP OF MAJOR STRUCTURAL URES.
Y J.S.
DATE NOVEMBER 6/75
BY J.S.
N.T.S. 106-B-4

Main structural elements are shown in Figure 1 and tabulated as Table I. Detail structure is very complex although the major components are easily recognized. Replacement dolomite may obscure small scale faulting but, in general, good examples of faulting are scarce. Notable exceptions are a major thrust fault bounding the Orange weathering carbonate unit in the NE, and a series of small displacement faults in the AB-31 map sheet.

TABLE I

Key For Sketch Map of Major Structural Features

(1) Repetition of upper carbonate unit by tight isoclinal and s-type folds at J-35. Approximately 600 - 800 feet of duplication.

(2) Repetition of Lower carbonate unit north of AB-31, approximately 700 - 900 feet of duplication.

(3) Major NW-SE syncline, the east limb is very steep to slightly overturned, the west limb has a gentle dip, many subsidiary folds were noted.

(4) A continuation of (3) in a more westerly direction.

(5) Major W-E anticline; towards the west the south limb becomes very steep.

(6) An almost recumbent synform, keeping the Upper shale unit on the east.

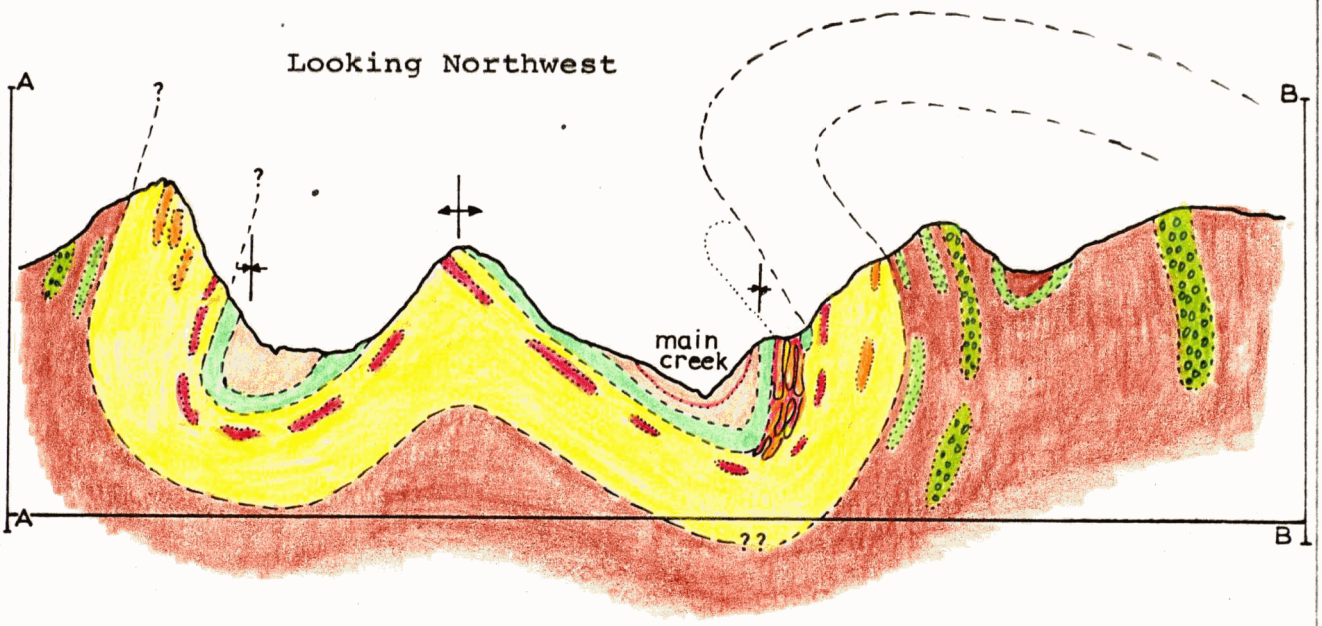
(7) Small amplitude associated synclines and anticlines.

(8) A narrow zone of intense deformation, tight isoclinal folds, warping and cheveron folds.

(9) A major NW-SE anticline paralleling (3)-(4) on the east. This structure accounts for the distribution of map units on the east boundary of the claims.

Major fold axes (#3, #5, #6, + #9) trend NW-SE but change to E-W on the West side of the main creek. A tremendous amount of intricate isoclinal and s-type folding is apparent at J-35 and elsewhere(#1, #2). Cross-section A-B(Figure 2) illustrates this deformation.

Figure 2



- Unit colours same as on geology maps -

SCALE ÷ 1:50,000
VERTICAL : 1:25,000

TOM CLAIMS - CROSS-SECTION AB

Slaty cleavage is commonly very well developed. Preliminary results show cleavage attitudes correspond to the adjacent major fold directions. Massive quartz veins are usually observed filling conjugate fracture pairs in the well indurated quartzites.

Stratigraphy - map units:

The entire stratigraphic section is well exposed and easily accessible. The apparently conformable sequence was differentiated into six major stratigraphic units as a basis for geological mapping. These units are listed in Table II.

TABLE II - Map Units

	Name	Thickness
(f)	Upper varicoloured shale unit	very thick, no top seen
(e)	Upper arenaceous unit	250' - 375' depending on shale interbeds
(d)	Grey weathering micrite unit	$900'^{\pm}$ - $1200'^{\pm}$
(c)	Lower arenaceous unit	discontinuous lenses
(b)	Lower shale unit	800' to Orange carbonate, no bottom seen below orange carbonate unit.
(a)	Orange weathering carbonate unit	$780'^{\pm}$ thick

The Orange weathering carbonate unit is enclosed by the Lower shale unit. Thickness of Lower shale between the Orange weathering carbonate and Grey weathering carbonate units is greater than 800' but is obscured by thrust faulting which almost brings the two carbonate units into contact with each other. The Lower Arenaceous unit is also enclosed by shale, with its thickest members occurring 400 - 500 feet below the Grey carbonate unit although relatively massive lenses of quartzite are found immediately underneath.

All lead-zinc showings are contained within the upper portion of the Grey micrite unit and the exploration program naturally focused on this interval. Intense isoclinal folding tended to distort measurements of true thickness but, taking this into consideration, the unit ranged from $900^{\pm}$ to $1200^{\pm}$ feet thick. The wide range in thickness may also be due in part to replacement dolomitization and accompaning solution brecciation.

The Upper arenaceous unit is always found immediately above the Grey micrite. Thicknesses of massive sandstone and pebble conglomerate strata vary considerably due to interbedded shale. Several thin bright red mudstone-slate horizons form a readily recognizable part of the Upper shale unit. Stratigraphic position of these redbeds ranges from 450' to 965' above the carbonate unit.

(a) Orange weathering carbonate unit: (780' thick)

Comparitively little work was done on this unit because of lack of the sparry dolomite alteration and associated lead-zinc mineralization. It is interesting to note that two small soil anomalies on the J-35 grid are located in Orange carbonate outcrop, although no obvious source could be found in the field. What appears from spot landings to be a monotonous sequence of flaggy, fine grained, massive dolomite is actually, on close inspection, a complex assemblage of orange weathering, thinly bedded, pyrite rich, greyish-green micrite. In most localities a considerable amount of grey weathering micrite is intercalated with the more obvious orange micrite. Thick beds of angular to subrounded, dark and light grey intraclasts in an orange weathering matrix are common. Occassionally pyrite cubes up to 0.5" are found.

(b) Lower shale unit: (Very thick, no bottom observed at TOM)

This map unit is composed dominately of dark brown weathering, sometimes rusty, laminated to thinly bedded, dark brown-green, light brown to apple green, mudstone-slate. Slaty cleavage is usually very well developed. The upper 200± feet is characterized by minor discontinuous limy, thinly laminated mudstone sequences, and very lenticular bodies of dark grey weathering, black, shaly oomicrite and oolitic limy shale. Some of these lenses exhibit spectacular, crowded, compound oolites.

Tight minor folding is commonly well developed although competent outcrops are scarce. Attitudes of minor fold axes are variable but generally correspond to major structures.

Arenaceous and conglomeratic beds were found to be discontinuous along strike and the Lower arenaceous unit is not a distinct stratigraphic unit in detail, but rather a convenient category for all coarser clastic members within the lower shale unit. Quartz in the form of detrital grains and as chert is the predominate mineral along with significant amounts of weathered feldspar and minor muscovite, apatite and pyroxene. Under the microscope, undulatory extinction of most quartz grains signifies a probable gneissic provenance. Many sandstones have up to 40% carbonate as matrix and/or cement, and, are often interbedded, on a small scale, with purer carbonates. In general the slightly arkosic well indurated quartzites are very similar to Upper arenaceous unit sandstones. A quartz pebble conglomerate with large angular carbonate clasts with oolite fragments forms a distinctive horizon. This rock type is widely distributed. Interestingly an identical conglomerate was noted <u>above</u> the Grey weathering micrite unit. It appears

that environments favouring intraclast and oolite formation prevailed for short periods which marked the beginning and end of a long, deeper water micritic carbonate deposition.

(d) Grey weathering carbonate unit: (900'$\pm$ - 1200'$\pm$)

Lead-zinc showings associated with specialized dolospar replacement features lead to a detailed examination of this unit. Several important subunits based on carbonate lithologies were used for detailed mapping. These are summarized as follows:

(1) Micrite: black, microcrystalline, also fine grained calcite, sandy.

(2) Intraclastic: intramicrite, well rounded to angular clasts

(3) Oolitic: variable quartz content

(4) Chert nodule horizons

(5) Dolomite, fine grained

(6) Dolomite, sparry white

(7) Zebra rock, zebra breccia, dolobreccia

(8) Leached or deeply weathered carbonate

By far, the bulk of the unit is thinly bedded to moderately thick bedded black micrite. In places the micrite has been recrystallized to fine grained calcite. Primary sedimentary structures, including ripples, graded and cross bedding, load and slump casts, and several unidentified unusual features, are common. Chert nodules, probably early diagenetic, occur in several horizons as small irregular balls and large pods elongated parallel to bedding.

Intraclastic and oolitic rocks occur throughout but are concentrated in the upper portions. Just north of the TOM Claims a well exposed intraclastic lense was found defining a large sharply crosscutting channelway in very sandy micrite facies.

Dolomite is widespread stratigraphically but particularly common toward the top, and, is perhaps concentrated in more intensely folded areas. Zebra dolomite is the most distinctive rock type on the property. It is composed of narrow alternating bands of black and white dolomite. The white dolospar is coarser grained than the dark layers. Pore-filling grain over-

growths are common near the vuggy sections of the white dolomite and many of the subsequently restricted vugs are infilled with uniform quartz. Zebra breccia zones have a most irregular surface distribution. The larger zebra pods are interconnected in a 3 dimensional network of finger-like "veins" of dolospar alteration.

A widely distributed and easily recognizable three foot thick rusty weathering, white, thinly bedded shale sequence associated with platy micrite was noted approximately 60 feet below the sphalerite mineralization. This shale bed is a good marker horizon and perhaps could be used as a datum plane in carbonate facies reconstructions.

(e) Upper Arenaceous unit: (250' - 375', variable shale content)

Portions of the Lower arenaceous unit are litholigical similar to the upper unit. These beds are recognizable from a distance by the characteristic yellow lichen cover that seems to grow best on very dense, well indurated quartzites. Thinly bedded quartzite and shale make up an important subunit immediately above the carbonate unit before massive thickly bedded quartzite and quartz pebble conglomerate become more common. Recessive shale beds compose approximately 50% of this sequence. Variations in thickness are due to the amount of shale between the thick massive coarser clastic beds.

(f) Upper shale unit: (very thick, no top seen in TOM area)

South of the TOM claims the red-maroon shales characterizing this unit can be seen interbedded with Hadrynian volcanics. On the TARA Claims similar but apparently thicker redbeds occur unconformably under early Paleozoic carbonates. Nowhere are redbeds seen below the Grey micrite unit to at least a measured 1000^{+} feet.

The lower part of the sequence, composed mainly of dark weathering, recessive greenish mudstone-slate, is superficially similar to the Lower shale unit. The redbeds range from 450' to 965' above the Grey micrite unit. This variation is thought to be a function of the extremely erratic nature of the volcano-chemical environment. Red shale grades over several feet to green shale and isolated green "nodule-like" bleached areas are common in redbed sequences. The number of distinct separate red shale beds will change over a relatively short distance. Some red shale specimens show a very high trace heavy metal content.

Mineral Occurrences:

Most of the massive lead-zinc showings are closely assoc-

iated with zebra breccia development. Sphalerite is the principal zinc mineral in the area. Several varieties are found ranging from dark green through yellow to red. Much of the green sphalerite is surprisingly monominerallic although dolomite gangue is more apparent under the microscope, as included grains and pieces, than it is in hand specimen. White hydrozincite and light brown to colourless Zn oxides are the usual alteration products of sphalerite. Galena occurs mainly at the high grade showings associated with green sphalerite but is also found as vug fillings with red ZnS.

Pyrite is noticeably absent in Pb-Zn mineralized hand-specimens although chunks of heavily oxidized ferruginous residue were noted at some showings.

GEOCHEMISTRY:

The claims are located in a rugged alpine environment. The highest peaks are slightly more than 7,000 feet and slope southeast to 3300' near the junction of the North Stewart and Stewart Rivers. Tree-line is between 4,000 and 4,500 feet elevation. Rock glaciers and other solifluction features are very common. Geological Survey of Canada reports indicate the Pleistocene glacial history to be related to a thick transection ice sheet network, with a source area to the east and southeast.

Locations of the five main soil grids are shown on Map 3. The two largest surveys, J-35 and J-41 were conducted mainly in lower timbered areas. Soil grids J-24, AB-37 and J-22 are completely above tree-line.

Ground Control and Sample Procedure:

All grids were set up with at least two cut baselines and several cross-tie lines for ease of sampling and correction in the field. One main baseline was cut with an ax using chain, compass and clinometer, and, located in conjunction with a prominent landmark from the orthophoto. From a heavily flagged tieline other baselines parallel to the main baseline were also cut, and, the relative location of these were checked by tie-lines at the ends of the baselines.

On the large grids, samples were taken at 400 foot intervals on lines 200 feet apart. This configuration was chosen to give maximum coverage perpendicular to the expected trend of zinc mineralization. Due to the nature of the vegetation, buckbrush always leaning downhill, it is not practical to sample

going up slope.

Samples were collected just below the A-B soil horizon interface (Podzolic soils) with a grubhoe or short handled shovel. The samples were then prepared and analysed as described in Appendix II. All sample sites were marked by numbered flagging or 2 foot wooden laths.

Histograms of zinc and lead results, shown in Appendix I, have threshold values of Zn— 185 ppm and Pb— 59 ppm. Silver values correlate with high zinc and lead values but also have a high background level. It is not possible to contour silver values in any coherent pattern.

Moderately well developed soil horizons were found over much of J-35 and J-41 areas. A typical soil profile for lower elevations is given below:

Typical Soil Profile

(Lower elevations, 10-20^{o} slopes)

Soil Horizon	Depth	Description
A	0" - 10"	Black, high organic content, moss and leaves, on north facing slopes can be frozen below 3".
Ae	8" - 11" intermittent	Grey leached zone.
B	10" - 14"	Light brown to reddish brown, moderate organic content, Fe oxide rich, generally well rounded pebbles of micrite or quartzite.
	14" - 18"	Gradual loss of reddish colour with depth.
C	18" -	Light grey, gravelly, fractured bedrock. Large clay fraction, no organic.

Results of continuous soil profile sampling, Appendix I, indicate a mixed soil development history with both residual and transported response. Generally, north facing slopes have a more residual character, whereas south facing slopes have a more transported aspect.

However, in the more alpine sections, soil development is limited to a very thin organic layer with light grey mixed

soil below. Permafrost was noted sporadically on north facing slopes.

Discussion of Results:

Distribution of anomalous values (Maps 8, 9, 11, 12) is closely associated with the numerous small Pb-Zn showings. Primary dispersion along surface drainage patterns, ie. slope wash gullys, creek valleys and talus trains accounted for most anomalies. Several new minor Pb-Zn sulphide occurrences were found by checking anomalous samples. Hydomorphic dispersion is important on the J-35 grid. Many of anomalous areas are centered on barren quartzites at the break in slope.

Countours of lead values were usually found to pinpoint primary mineralization. This shows up well on J-41 (Map 9b) where the lead contours correspond closely with a thin, weakly mineralized, horizon. Zinc anomalies with no associated high lead values were commonly observed to be hydromorphic when prospected in detail.

In sharp contrast to other soil grids, J-22, (Map 10, 10a, 10b), has a complex response in lead concentrations. Deep red hematite incrustations characterise the soil and outcrops in this area. Open folds and large cross-cutting zones of solution brecciation are common. No primary sulphide source was noted. It seems likely that the high values are due largely to local oxidizing conditions and the extreme porosity in the breccia zones.

TRENCHING:

Trenching was done using an Atlas Copco cobra BBM-43L rock drill, 40% Forcite, Amex II and B-Line detonating cord. Generally, most of the trenches encountered very broken material near surface and they had to be driven fairly deep to reach solid rock. Sketches of trenches and assay results are in Appendix III.

Trenching proved to be an excellent method of sampling and of cleaning away loose rubble in many of the more inaccessible areas, especially those lacking a water supply for diamond drilling.

DIAMOND DRILLING:

Contract diamond drilling was carried out by Connors

Drilling Limited using a BBS-1 for BQ core. Drill logs and assay results for holes DDH-75-23,27,31 and 32 are given in Appendix III.

A Winkie model GW-75 drill equipped with an EXT core-barrel assemblage completed holes DHW-75-19 and 21 on showing AB-37. Drill logs and assay values are given in Appendix III. Sporadic sphalerite mineralization on surface was not encountered in drilling. The Winkie proved very useful and flexible for drilling short holes around the scattered showings.

All EXT core was slabbed with a 10 inch diamond saw. Virtually all of the BQ core was split and representative intervals cut with the saw. The core was then examined using a 16X hand lens or 10-20X binocular microscope. Many sections were sanded to remove saw marks and etched in 10-26% HCl. Unusual intervals were stained for calcite-dolomite determination with $CuSO_4$.

CONCLUSIONS AND RECOMMENDATIONS:

A group of stratibound carbonate hosted zinc and lead occurrences were studied by geological and geochemical investigations. A close association of sphalerite and galena with replacement dolospar alteration was demonstrated. The common stratigraphic position of the mineralized zebra zones is within a short distance of the contact between the Grey weathering micrite and Upper arenaceous units.

Intense isoclinal folding and erratic dolomitization complicate efforts to delineate down dip extensions of major surface mineralization. Geochemical surveys failed to indicate any further high grade occurrences in the largely covered areas at lower elevations.

The area between DDH-75-31, 32 and DDH-75-23, 27 is covered by a considerable thickness of relatively flat lying Upper arenaceous clastics. This is the only large area where mineralization similar to other showings may be found, but, this could only be tested by a series of long drill holes.

Respectfully submitted,

J. T. Shearer, B.Sc.

JTS/nh

Supervised by D. L. McKelvie, P.Eng.

REFERENCES:

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Gabrielse, H.; Blusson, S.L.; Roddick, J. H. 1973. Geology of Flat River, Glacier Lake, and Wrigley Lake Map Areas, Dist. of Mackenzie and Y.T. Memoir 366, Geol. Survey of Canada.

Ricker, K. E. 1974 - Surficial Geology of the Nadaleen River Map Area, Y.T. - N.W.T. 106C Oepn File 207, Geol. Sur. of Canada

STATEMENT OF QUALIFICATIONS:

I, J. T. Shearer, of City of Vancouver, in Province of British Columbia, do hereby certify as follows:

(1) I am a graduate of the University of British Columbia (B.Sc. 1973 Honours Geology).

(2) I have been engaged in mining exploration in Canada as a geologist since 1973.

(3) I am an Associate member of the Geological Association of Canada.

J. T. Shearer

January 9, 1976
Vancouver, B.C.

STATEMENT OF QUALIFICATIONS:

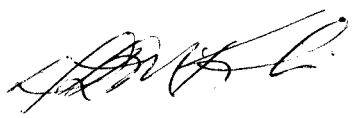
I, D. L. McKelvie, of 4420 Maple Lane, Delta, B. C., state that:

(1) I am a graduate of Queen's University, Kingston, Ontario, in Geological Sciences (Engineering), having obtained a Bachelor of Science degree in 1958.

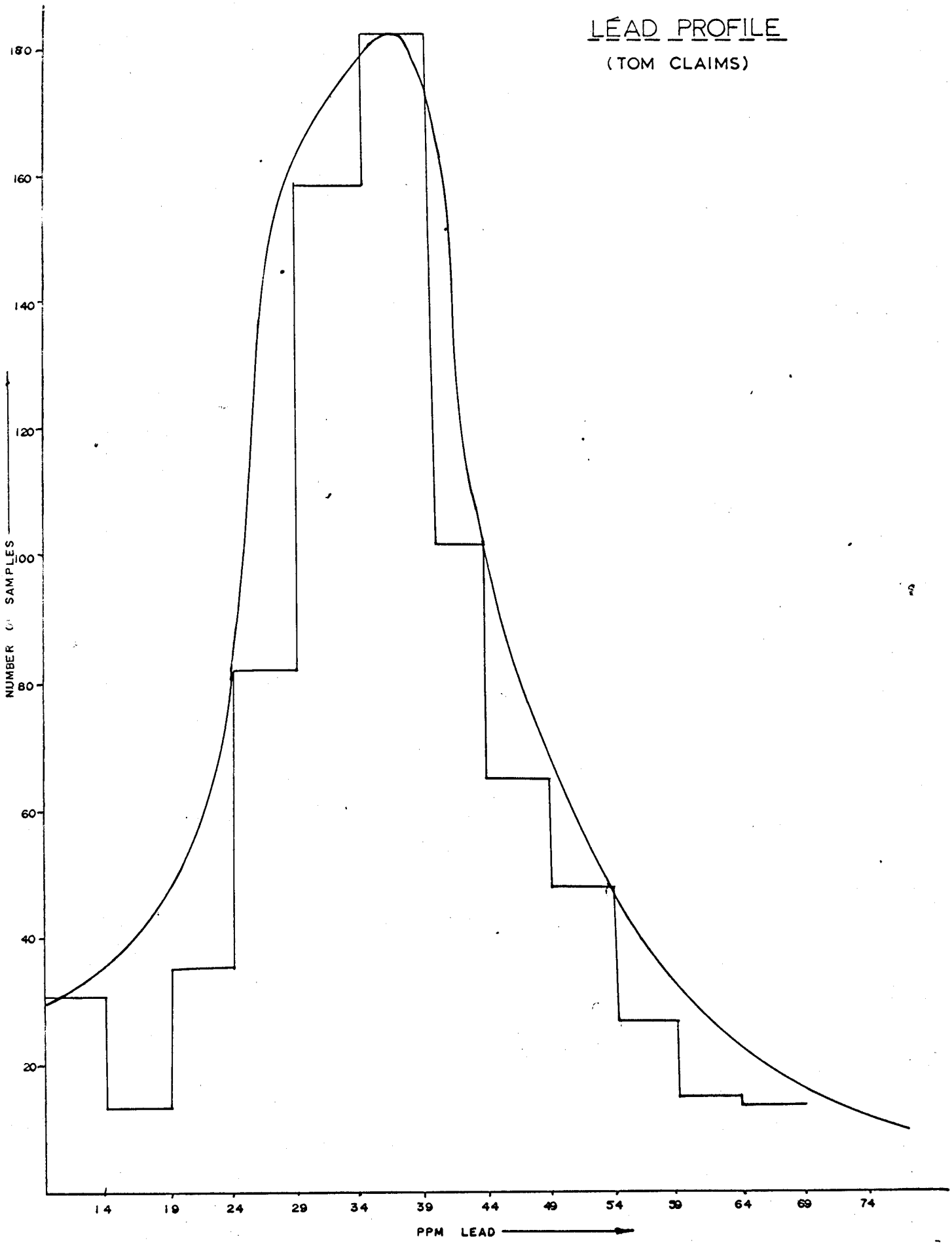
(2) I am a member of the Association of Professional Engineers of the Province of British Columbia, a member of the Association of Professional Engineers of the Province of Ontario, and, a fellow of the Geological Association of Canada.

(3) I have practised as a professional geologist since 1958 in the employ of McIntyre Mines Ltd., American Smelting and Refining Co., and Alrae Engineering Ltd.

(4) I have first hand knowledge of all the data contained in this report, and, that all work performed was under my management.



D. L. McKelvie, P.Eng.


LEAD PROFILE
(TOM CLAIMS)
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60
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20
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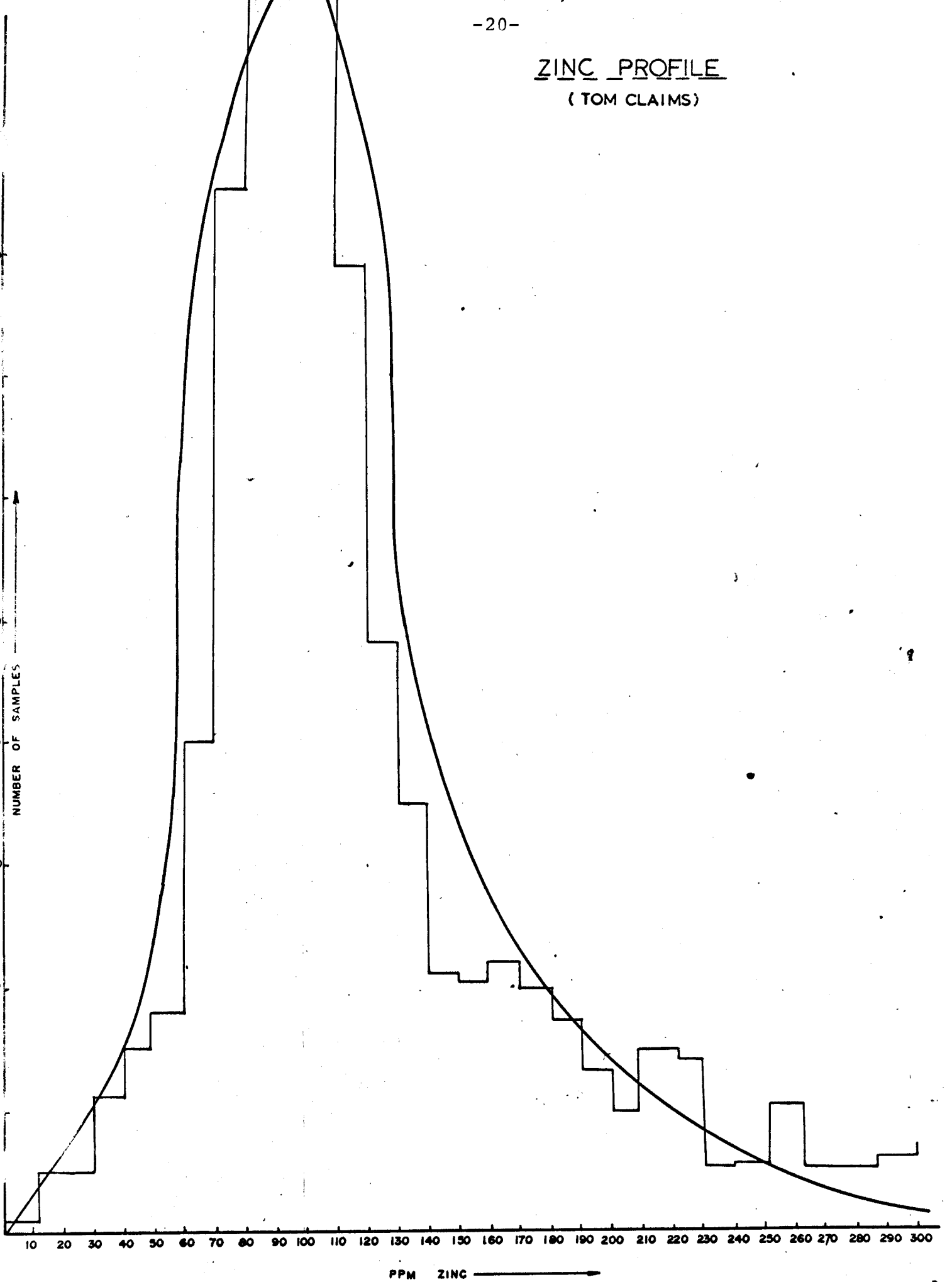
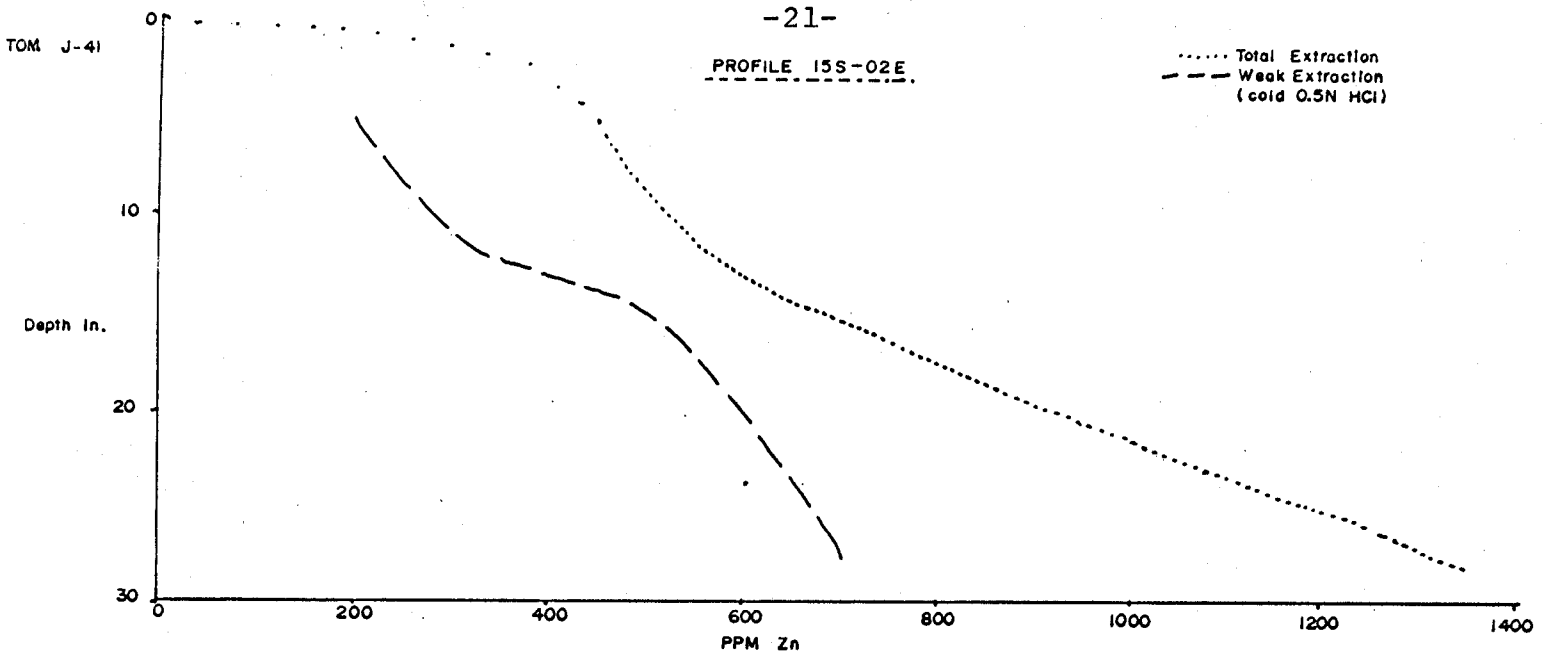
PPM LEAD

ZINC PROFILE

(TOM CLAIMS)



TOM J-41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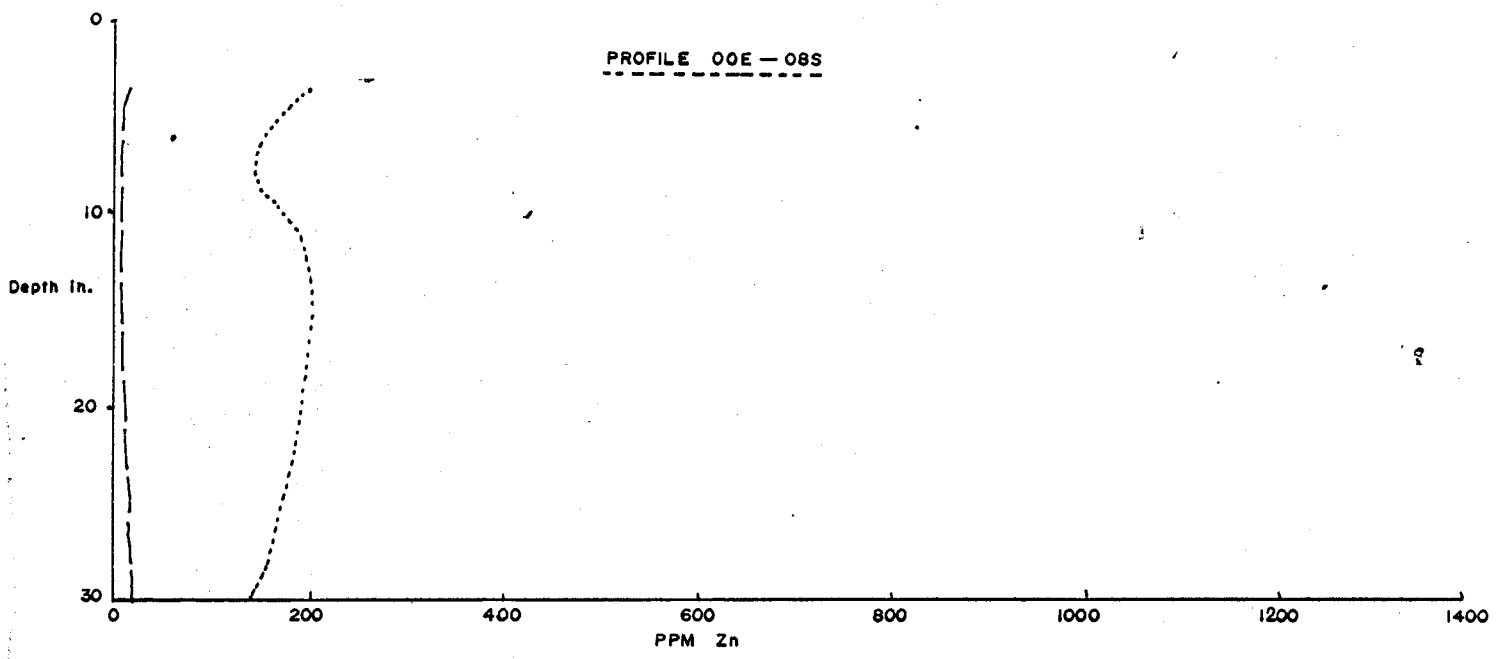
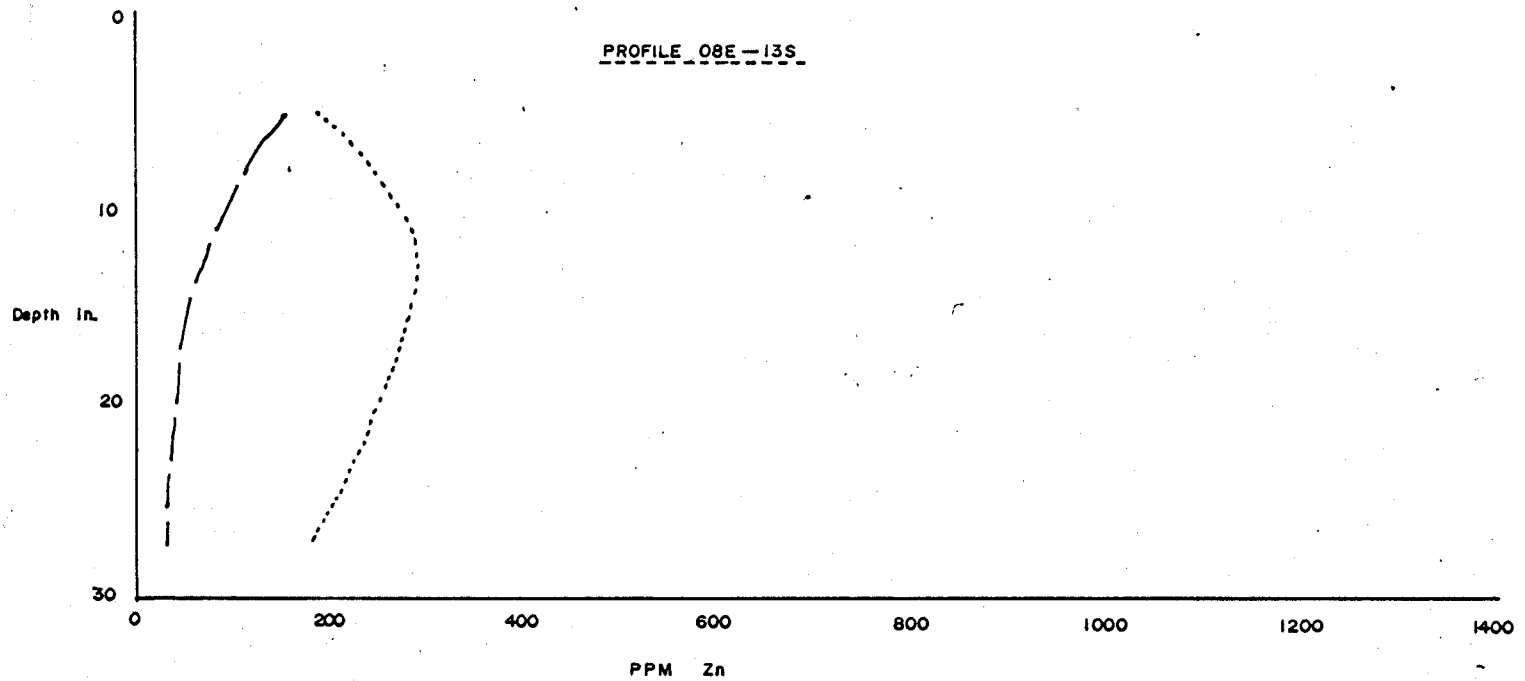
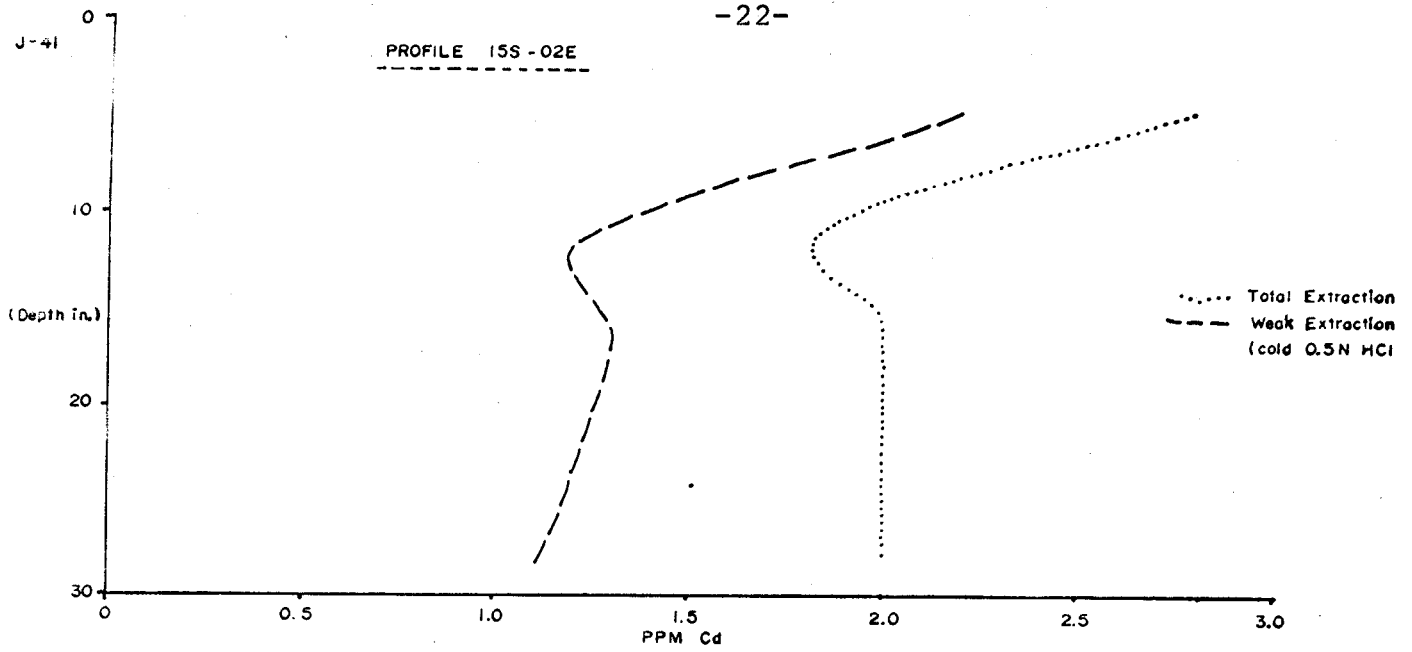
PPM Zn


PROFILE 00E—08S
Depth in.
0
10
20
30
0
200
400
600
800
1000
1200
1400
PPM Zn

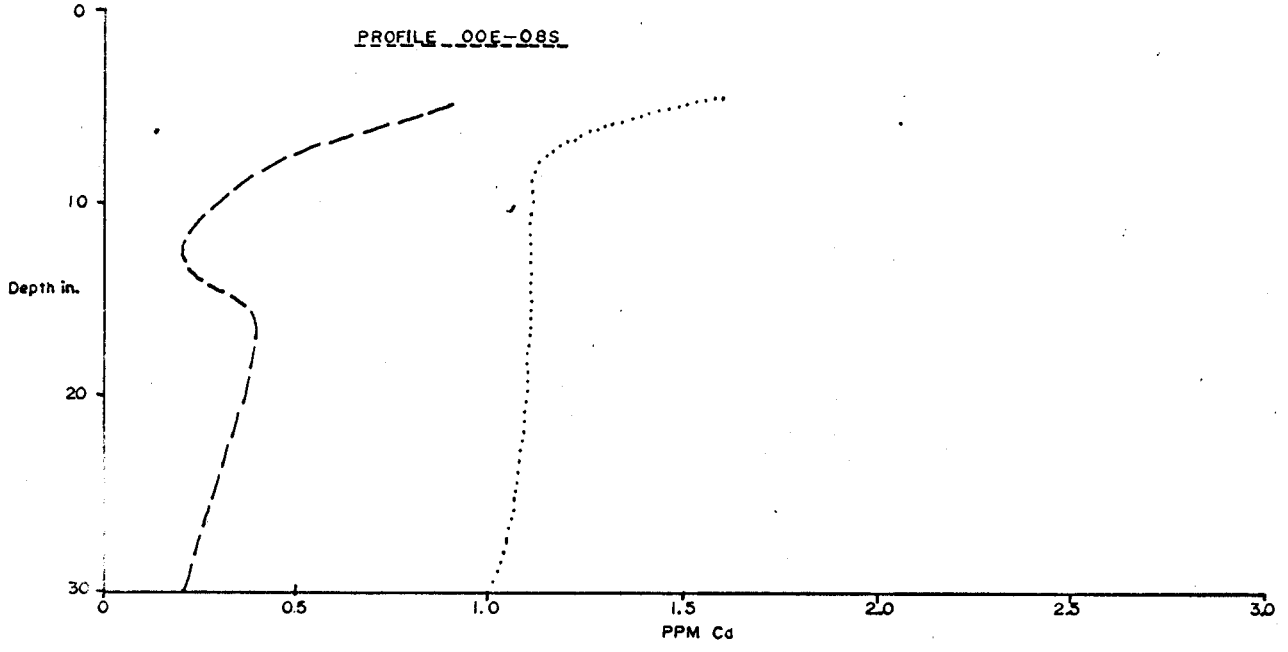

PROFILE 08E—13S
Depth in.
0
10
20
30
0
200
400
600
800
1000
1200
1400
PPM Zn

TOM J-41

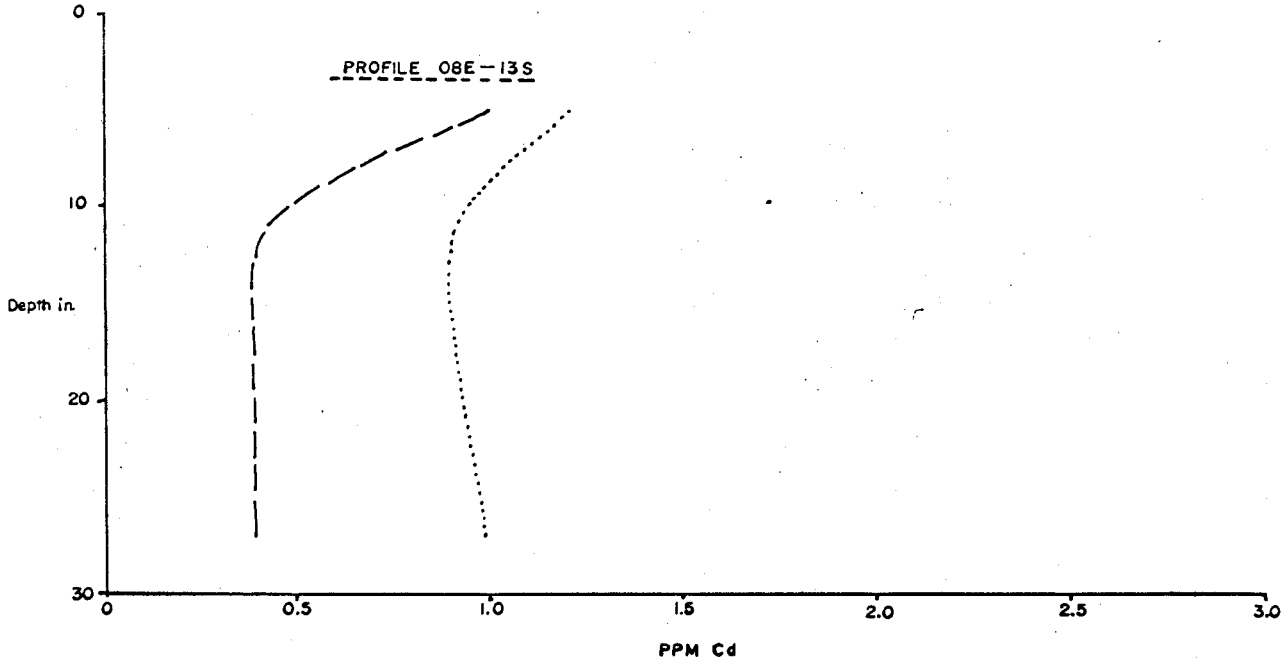
PROFILE 15S - 02E

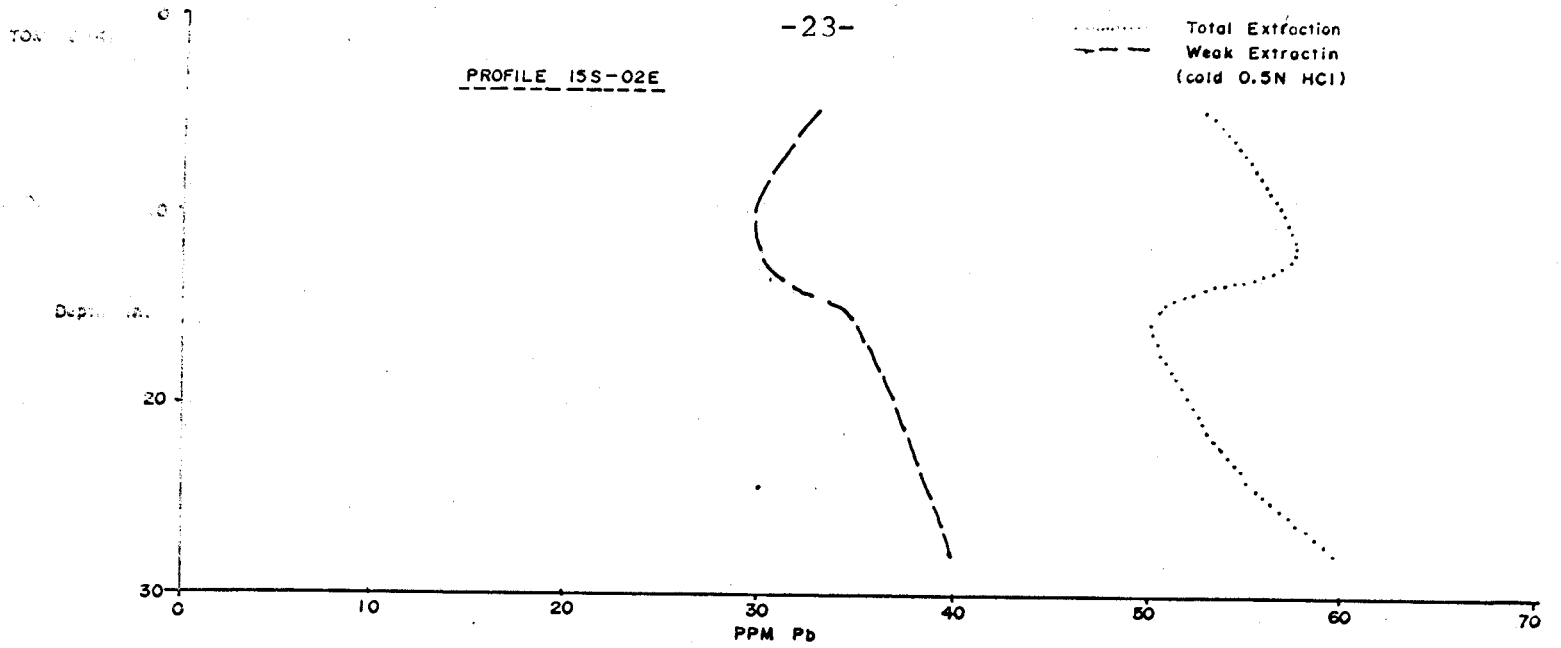


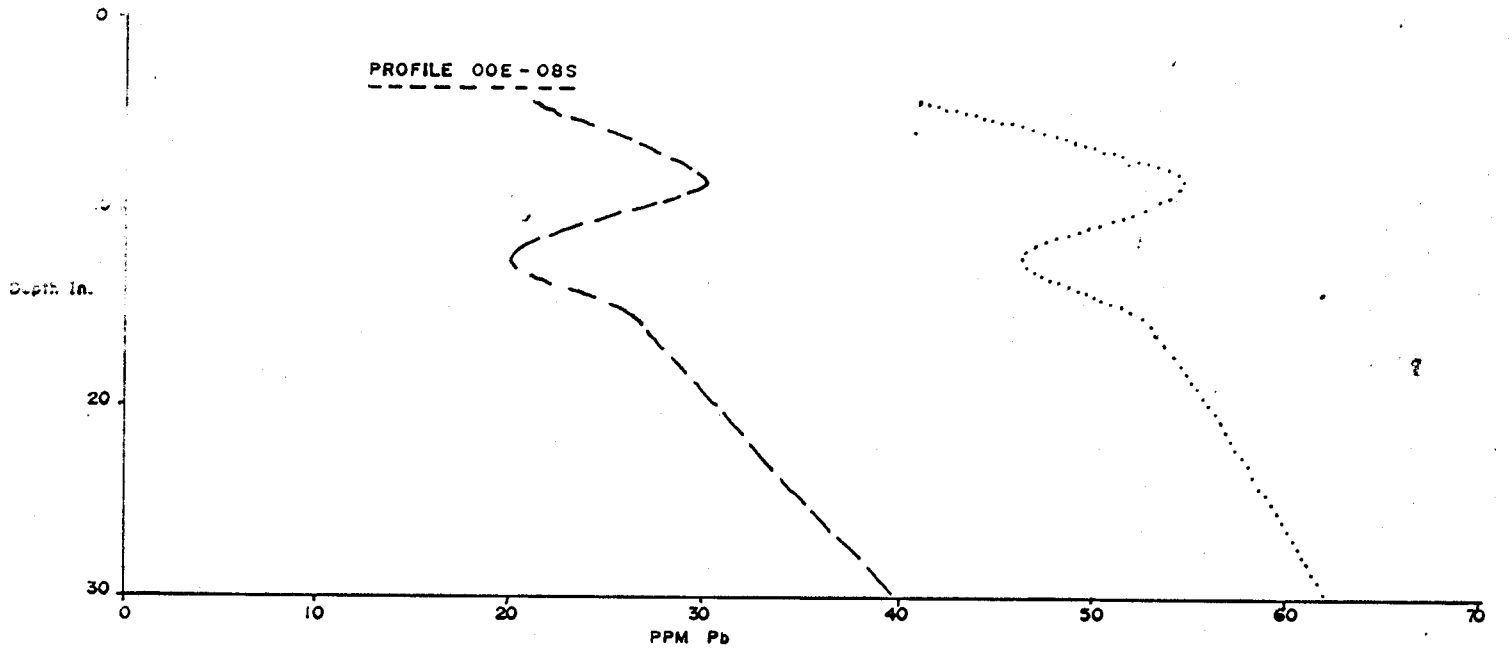
PROFILE 00E-08S

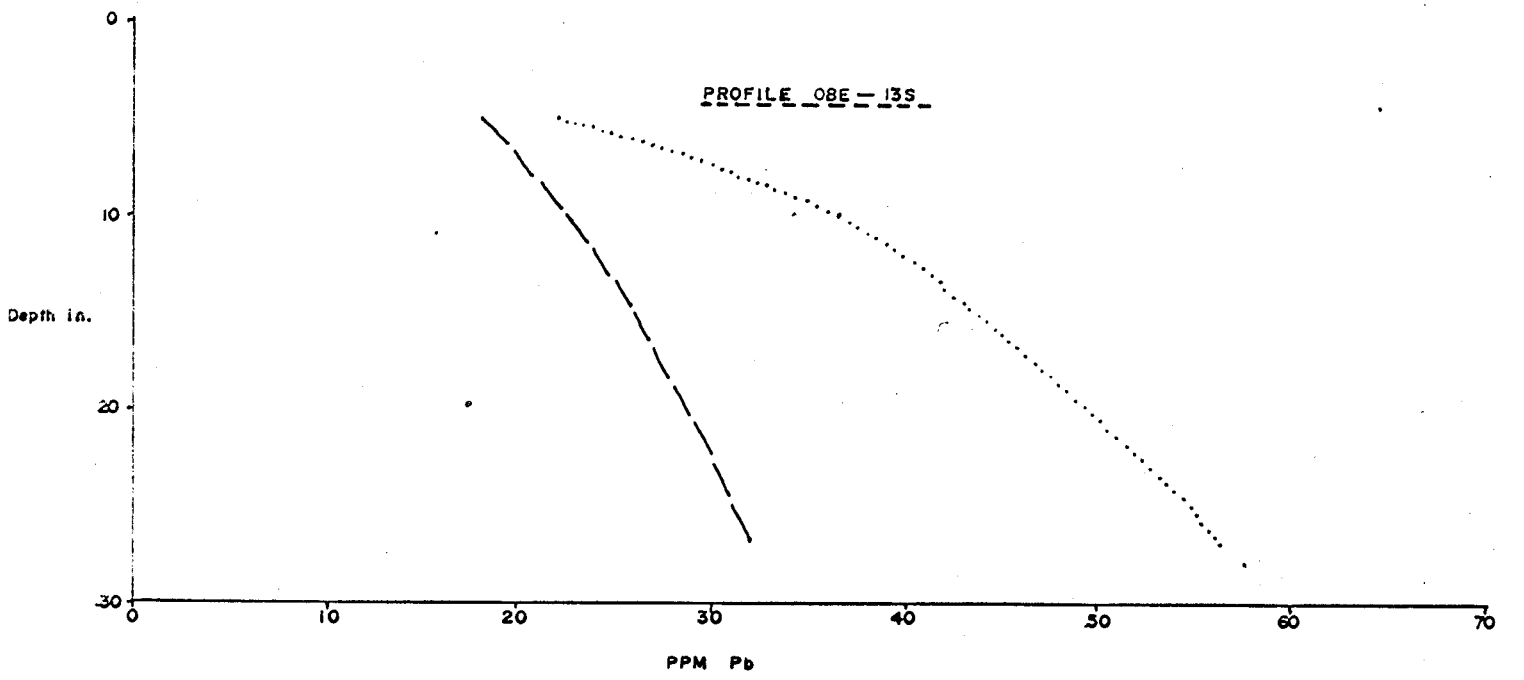


PROFILE 08E-13S




Total Extraction
Weak Extractin
(cold 0.5N HCl)
PROFILE 15S-02E
Depth in.
0
10
20
30
0
10
20
30
40
50
60
70
PPM Pb


PROFILE 00E-08S
Depth in.
0
10
20
30
0
10
20
30
40
50
60
70
PPM Pb


PROFILE 08E-13S
Depth in.
0
10
20
30
0
10
20
30
40
50
60
70
PPM Pb

VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER

January 5, 1976

TO: McIntyre Mines Ltd.,
1003 - 409 Granville Street,
Vancouver, B. C.,
V6C 1T2

Attention: Mr. Joe Shearer

FROM: Mr. Conway Chun,
Vangoechem Lab Ltd.,
1521 Pemberton Avenue,
North Vancouver, B. C.

SUBJECT: Analytical procedure used to determine acid soluble Pb, Zn, Ag, Cd, and background correction for Ag in geochemical samples.

Re: 1975 silt and soil geochemical program in Yukon.

1. Sample Preparation

(a) Geochemical soil or silt samples were received in the laboratory in wet-strength 3½ x 6½ Kraft paper bags.

(b) The wet samples were dried in a ventilated oven.

(c) The dried soil and silt samples were sifted by using a shaking machine with an 80-mesh stainless steel sieve. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a new bag for analysis later.

2. Methods of Digestion

(a) 0.50 gram of the minus 80-mesh samples was used. Samples were weighed out by using a top-loading balance.

(b) Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of the concentrated acids respectively).

.....2

(c) The digested samples were diluted with demineralized water to a fixed volume and shaken.

3. Method of Analysis

Pb, Zn, Ag, and Cd analyses were determined by using a Techtron Atomic Absorption Spectrophotometer Model AA4 or Model AA5 with their respective hollow cathode lamp. A Hydrogen Continuous lamp was used to determine the background correction for Ag. The digested samples were aspirated directly into an air and acetylene flame. The results, in parts per million, were calculated by comparing a set of standards to calibrate the atomic absorption unit.

4. The analyses were supervised or determined by Mr. Conway Chun and the laboratory staff.

Conway Chun
VANGEOCHEM LAB LTD.

CC:smb

APPENDIX IV

Names and Addresses of Employees

Name		
D. L. McKelvie	Geologist	4420 Maple Lane, Delta, B.C.
J. T. Shearer	Geologist	R.R.#1, Mason Ave., Pt. Coquitlam, B.C.
W. S. Heyworth	Driller	General Delivery, Merritt, B.C.
P. Lanfranco	Prospector	#34 - 429 West Pender, Vancouver, B.C.
Bryan Fraser	Student	11233 - 64th Ave., Vancouver, B.C.
D. E. Douglas	Cook	Port Moody Park, Port Moody,B.C.
M. A. Jerema	Student	10734 - 120th St., Surrey, B.C.
A. S. Robb	Student	Box 206, Princeton, B.C.
R. Trautman	Bull cook	301 - 808 Ryan Rd., Richmond, B.C.
R. L. Romero	Soil Sampler	General Delivery, Mayo, Y.T.
T. J. Bryan	Technician	180 N. Nicholson St., Prince George, B.C.
D. E. McLellan	Technician	11274 Kendale View, Delta,B.C.
G. McLaren	Student	11 Manorglen Cres., Agincourt, Ontario.
J. McCauley	Cook	102, 132 Power St., Penticton, B.C.
S. Angus	Student	12474 Crescent Rd., Surrey,B.C.
F. M. LaBrie	Soil Sample	Mayo, Y.T.
Emily Fitzpatrick	Bull Cook	P. O. Box 152, Mayo, Y.T.
Andrew Foster	Student	388 King George Terrace, Victoria, B.C.

EXPLORATION DEPARTMENT

Property TOM GROUP
Location 106-B-4
Claim No. TOM 105
Location of Core Bonnet Plume Lake

Surveys

At	Dip	Bearing
0	60°	084°

McINTYRE
PORCUPINE MINES LIMITED

106-B-4-003 DHW-75-19

Boxes of Core: 3EXT

DIAMOND DRILL LOG

Hole No. DHW-75-19 Sheet No. 1
Length of Hole 73'
Date Started July 17, 1975 Completed July 19, 1975
Core Logged by J. Shearer
Date July 19, 1975
Elevation 5300' Datum

Co-ordinates of Collar
North AB-37 Showing
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS Pb%	Zn%	ZnS%	ZnO%	Oz/ton Ag	Recov.
		Casing to 9'										
0	9	Soil, small boulders										
9	22.5	QUARTZITE, BLACK SHALE: friable. Virtually no core recovery. Light brown	5751	26.6	30	3.4	0.010	0.016	0.004	0.012	0.075	
		quartzite;carbonate matrix;fairly porous, black shale partings are common										
		bedding @ 75° to core axis.	5752	30	34	4'	0.010	0.027	0.007	0.020	0.057	
22.5	33.5	DOLOMITE: very brecciated upper contact has large sand grains, trace of										
		disseminated fine grained pyrite, 26' - 1½" limy quartzite. Trace of minor										>40%
		disseminated sphalerite with very small cubes of disseminated pyrite at 30.5'										
		This section is a dolomitized equivalent of the limy quartzite above.										
		Well rounded qtz grains float in sparry white sections, qtz 40%.										
33.5	36.5	DOLOMITE: mottled, oolite ghosts, qtz 20% grades into pure sparry white 36.5'	5753	34	41	7'	0.003	0.030	0.008	0.022	0.075	
36.5	43.?	DOLOMITE: sparry white; small 0.2" vugs; very faint oolite ghosts in small dark	5754	41	50	9'	0.007	0.012	0.005	0.007	0.072	
		patches, ZnO on fractures.										>50%
43.?	69	OODOLOMITE: mottled 40% well rounded qtz; 20% oolitic ghosts, no qtz in the	5755	50	54	4'	0.010	0.016	0.005	0.011	0.069	
		sparry white patches or bands but well rounded detrital qtz grains in darker	5756	54	60	6'	0.010	0.008	Tr.	0.008	0.068	
		sections, after 60' less sparry white	5757	60	66	6'	0.005	0.015	0.006	0.009	0.068	
69	73	DOLOMITE: uniform grey, finely grained short minor sparry patches.										
	73	END OF HOLE										

EXPLORATION DEPARTMENT

Property TOM GROUP
Location 106-B-4
Claim No. TOM 105
Location of Core Bonnet Plume Lake

Surveys

At	Dip	Bearing
0	60°	088

McINTYRE
PORCUPINE MINES LIMITED

106-B-4-003 DHW-75-21

Boxes of Core: 2 EXT

DIAMOND DRILL LOG

Hole No. DHW-75-21 Sheet No. 1
Length of Hole 43
Date Started July 21, 1975 Completed July 22/75
Core Logged by J. Shearer
Date July 1975
Elevation 53010 Datum —
Co-ordinates of Collar
North AB-37 Showing
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS
		Casing to 12'					
0	10	Soil overburden.					
10	14	DOLOMITE: coarse grained sparry white, ½" oblong fragments of black dolomite @ 11'					
14	24	DOLOMITE: light grey to brown mottled; med. crystalline suggestion of oolite ghosts; 10% commonly well rounded silt size qtz. grains, certain amount of recrystallization of qtz grains.					
24	43	DOLOMITE: light brown medium grained, very brecciated, speckled appearance is given by small black wispy fragments. Dense speckled dolomite is probably originally black shale. 6" section sparrry white with 0.4" layer of silicified dolomite @ 25'. @ 35.5' the section becomes light grey. Large patches of finely divided pyrite, large angular fragments of black laminated shale containing pyrite @ 37.5' - 43'.					
	43	END OF HOLE J. Shearer					

EXPLORATION DEPARTMENT

Property TOM GROUP
Location 106-B-4
Claim No. TOM 26
Location of Core Bonnet Plume Lake

Surveys

At	Dip	Bearing
0	49	268
300	49.5	268
600	45.5	268

McINTYRE
MCINTYRE MINES LIMITED

106-B-4-003 DDH-75-23

Boxes of Core: 31 BQ

DIAMOND DRILL LOG

Hole No. DDH-75-23 Sheet No. 1
Length of Hole 769.5'
Date Started July 26, 1975 Completed Aug. 3/75
Core Logged by J. Shearer
Date August 3, 1975
Elevation Datum
Co-ordinates of Collar
North
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS %Pb	%Zn	%ZnS	%ZnO	Oz/ton Ag
			19373	8	13	5	Tr	0.060	0.006	0.054	0.056
		Casing 10' BW	19374	13	18	5	0.005	0.044	0.003	0.041	0.053
			19375	18	23	5	0.005	0.018	0.008	0.010	0.054
6'	83.5'	ZEBRA BRECCIA: very vuggy banded zebra breccia; dark grey med. grained angular	19332	23	28	5	0.005	0.022	0.006	0.016	0.075
			19333	28	33	5	Tr	0.029	0.013	0.076	0.060
		fragments in a matrix of sparry white dolomite. Fragments are aligned at 58°	19334	33	38	5	Tr	0.012	0.005	0.007	0.075
			19335	38	43	5	0.010	0.010	0.008	0.002	0.060
		to core axis. Calcite, qtz and bitumen infilling of vugs, slickensides on	19336	43	48	5	0.010	0.008	0.006	0.002	0.060
			19337	48	53	5	0.015	0.010	0.009	0.001	0.060
		fracture surfaces, trace of ZnO on broken surface. Darker uniform section	19338	53	58	5	0.005	0.008	0.007	0.001	0.053
			19339	58	63	5	0.030	0.008	0.004	0.004	0.056
		at 35.5' - 41', short brecciated dolomite section at 68'.	19340	63	68	5	0.005	0.008	0.004	0.004	0.053
			19341	68	73	5	0.005	0.011	0.007	0.004	0.056
83.5'	97.5'	DOLOMITE: uniform finely crystalline light grey with network of black micro-	19342	73	78	5	0.005	0.006	0.005	0.001	0.060
		veinlets more shaly at end of section, minor disseminated pyrite.	19343	78	83	5	0.005	0.006	Tr.	Tr.	0.053
97.5	134.5	ZEBRA BRECCIA: indistinct banded dark grey fine grained fragments in sparry									
		white matrix, 10% small zebra-type vugs; commonly filled with white chalky									
		material, fragments are aligned approx. 70% to core axis.									
134.5	209.8	DOLOMITE: dark grey finely crystalline, irregular veins of sparry white									
		dolomite, minor mottled sections. Black Shale 3" section at 148'.									
		Gradational contact with Zebra sections.									
		Zebra sections at 159.5 - 165 Poor Zebra development.									
		Zebra sections at 178' - 179.5'; 184' - 186.5'; 190' - 191'									
209.8	241.2	DOLOMITE: light grey fine grained, bleached appearance, very vague rounded									
		breccia fragments in some sections, lower section is noticeably brecciated.									

EXPLORATION DEPARTMENT

Property
Location
Claim No.
Location of Core

Surveys

At	Dip	Bearing

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Hole No. DDH-75-23 Sheet No. 2
Length of Hole 769.5
Date Started July 26, 1975 Completed Aug. 3/75
Core Logged by
Date
Elevation Datum

Co-ordinates of Collar

North
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS Oz/ton %Pb	%Zn	%ZnS	%ZnO	Ag
		Section becomes more shaly at 231.8' - 237'. Laminations at 35° to core axis.									
		Several pyrite rich layers. Darker shaly section at 237' - 241.2'.									
241.2	249	SHALE: light grey green, abundant pyrite disseminated parallel to bedding.									
		Laminations at 87° to core axis. Calcareous shale conglomerate, large									
		carbonate intraclasts in non-calcareous matrix at 246', grades rapidly into									
		grey intramicrite; pyrite rimming qtz grains and disseminated through well									
		rounded intraclast									
249	328	SHALE: black non-fissile, non-calcareous abundant sand grains, soft sed.									
		deformation features well developed, becomes gradually more sandy, pyrite									
		content increases down section. Light grey dolomitized shale. Vaguely bedded,									
		bedding at 30° to core axis at 305'- 309.5'.									
328	721	DOLOMITE: very brecciated, light grey, med. crystalline dark grey dolomite	19344	332	337	5	0.005	0.152	0.110	0.042	0.068
			19345	337	342	5	0.010	0.150	0.076	0.074	0.049
		matrix. Thin seams of sphalerite occurring sparsely throughout, grades into	19346	342	347	5	0.015	0.485	0.415	0.070	0.053
			19347	347	352	5	0.020	0.880	0.700	0.180	0.056
		poorly developed Zebra breccia at 341', sparry white more common as matrix,	19348	352	357	5	0.005	0.196	0.140	0.056	0.053
			19349	357	362	5	0.005	0.008	0.004	0.004	0.048
		large angular fragments. Light grey uniform dolomite sections at 366'- 372';	19350	362	367	5	0.010	0.028	0.012	0.016	0.048
			T20	367	372	5	0.005	0.010	-	-	0.045
		376' - 415 predominately dark uniform dol. with minor, poorly developed	T21	441	451	10	0.010	0.020	-	-	0.045
			T22	486	496	10	0.005	0.016	-	-	0.045
		Zebra sections. Banding at 35° to core axis at 398'. oodolomite in good zebra	T23	506	516	10	0.003	0.076	-	-	0.045
			T24	540	550	10	0.003	0.049	-	-	0.045
		development at 415' - 418'. At 418' and down short grey uniform and mottled	T8	550	556	6	0.002	0.020	0.005	0.015	0.053

EXPLORATION DEPARTMENT

Property
Location
Claim No.
Location of Core

Surveys

At	Dip	Bearing

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Hole No. DDH-75-23 Sheet No. 3
Length of Hole 769.5
Date Started July 26, 1975 Completed Aug. 3/75
Core Logged by
Date
Elevation Datum

Co-ordinates of Collar

North
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS %Pb	%Zn	%ZnS	%ZnO	Oz/ton Ag
		section alternate with short Zebra section. Zebra development more pervasive	T9	594	604	10'	0.010	0.010	0.002	0.008	0.053
			T10	604	615	11'	0.010	0.008	0.004	0.004	0.060
		at 546' - 561'; 594' - 603'; 608' - 611'; (oodolomite at 562'); 630'-636';	T11	624	634	10'	0.008	0.029	0.013	0.016	0.075
			T12	661	671	10'	Tr.	0.016	0.006	0.010	0.053
		682'-687'; 692' - 706'. Zebra development predominates lower in section,	T13	671	681	10'	0.005	0.022	0.004	0.018	0.060
			T14	681	691	10'	0.010	0.010	0.005	0.005	0.045
		Zebra lamination at 35° to core axis.	T15	691	705	14'	0.005	0.010	0.004	0.006	0.064
			T16	705	716	11'	0.010	0.012	0.007	0.005	0.053
721	761	Zero core recovery, few pebbles and probable cave.									
761	762	ZEBRA BRECCIA: poorly developed.									
762	766	INTRAMICRITE: carbonate clasts ranging from 0.2' to several inches.									
766	769.5	ZEBRA BRECCIA: Poorly developed, most of section light grey finely crystalline									
		uniform dolomite.									
	769.5	END OF HOLE									

EXPLORATION DEPARTMENT

Property TOM GROUP
Location 106-B-4
Claim No. TOM 25
Location of Core Bonnet Plume Lake

Surveys

At	Dip	Bearing
0	89°	95°
350	82.5°	95°

McINTYRE
PORCUPINE MINES LIMITED

106-B-4-003 DDH-75-27

Boxes of Core: 21 BQ

DIAMOND DRILL LOG

Hole No. DDH-75-27 Sheet No. 1
Length of Hole 457
Date Started Aug. 5/75 Completed Aug. 10/75
Core Logged by J. Shearer
Date Aug. 10/75
Elevation Datum

Co-ordinates of Collar

North
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS
		Casing 8' - BW					
0	6	Soil & weathered outcrop.					
6	98.5	MICRITE: black, microcrystalline, abundant silt and sand size qtz. grains, disseminated pyrite and pyrite rimming qtz. grains. Brown shaly micrite @ 52.5' - 56'. Black micrite grades gradationally to black limy shale. Vague bedding @ 31° to core axis @ 81'. Bedding well developed near end of section @17' to core axis.					
98.5	141.8	QUARTZITE: grey silt sized qtz grains, thinly bedded. Bedding @ 6° to core axis, mod. carbonate content. Black shale section @ 111.5' - 115'; 128' - 137'. Numerous short sections of interbedded black shale and quartzite. Qtz grain-size increases near end of section, small disseminated pyrite patches throughout					
141.8	143.5	OOMICRITE: oolites and compound oolites up to 10.2', extremely vuggy and porous, many oolites are outlined by iron oxide, secondary brecciation near end of section.					
143.5	151	QUARTZITE: grey silt sized qtz grains, very limy, occasional thin qtz vein at 50° to core axis.					
151	209.5	SHALE: black well bedded, bedding @ 35° to core axis, gradational with short quartzite section @ 162' - 168'; 172' - 173'; 186' - 187' quartzite with					

EXPLORATION DEPARTMENT

Property .....
Location .....
Claim No. .....
Location of Core .....

Surveys

At	Dip	Bearing

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Hole No. DDH-75-27 Sheet No. 2
Length of Hole 457'
Date Started Aug. 5/75 Completed Aug. 10/75
Core Logged by .....
Date .....
Elevation ..... Datum .....

Co-ordinates of Collar

North .....
East .....

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS
		abundant shale parting @ 191' - 196'. Partings 41° to C.A. Well laminated shale at 206' @ 41° to core axis, gradational contact with conglomerate below.					
209.5	247	QUARTZ PEBBLE CONGLOMERATE: top of section abundant mud chip fragments, aligned parallel to bedding, abundant 0.3' qtz grains disseminated pyrite throughout, very well indurated, gradual decrease in grain size @ 224' to silt size qtz grains, speckled appearance, abundant angular shale fragments @240.5' - 246'.					
247	330.5	SHALE: black fissile, slicker sides on parting plains, abundant graphite, occasional ½" layer of abundant disseminated pyrite. Soft sediment deformation features well developed. Bedding @ 40° to core axis. Short quartzite sections @ 252.5'- 254'; 255'-257'; 263' - 264.8'; 282' - 282.8. Large irregular patches of detrital qtz grains @ 273' (soft sed. deformation). Large blobs of pyrite in silty black shale @ 276'. Lower part of section bedding is indistinct approximately 60° to C.A. Slump features well developed. Bedding highly disturbed @ 320'. Bedding at bottom of section @ 65° to C.A.					
330.5	397	QUARTZITE: light grey, silt sized qtz grains, very well indurated, non-calcareous, gradational contact with shale above. Well developed bedding in					

EXPLORATION DEPARTMENT

Property.....
Location.....
Claim No.....
Location of Core.....

Surveys		
At	Dip	Bearing

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Hole No. DDH-75-27 Sheet No. 3
Length of Hole 457'
Date Started Aug. 5/75 Completed Aug. 10/75
Core Logged by.....
Date.....
Elevation..... Datum.....
Co-ordinates of Collar
North.....
East.....

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS
		upper section @ 60° to C.A. Bedding generally poorly developed through					
		rest of section. Laminated shaly sections @ 350' - 353'. Gradational contact					
		with shale below.					
397	457	SHALE: black, disseminated pyrite throughout, generally well laminated @ 63°					
		to C.A., minor offsets at fractures.					
		@ 427' bedding crenulated approx. 60° to C.A. , noticable change @ 430' to					
		well laminated bedding 16° to C.A.					
		Intercalated quartzite near end of section.					
		Quartzite @ 442' - 454'; 455' - 457'. bedding at 454' 60° to C.A.					
	457	END OF HOLE J. Shearer					

EXPLORATION DEPARTMENT

Property TOM GROUP
Location 106-B-4
Claim No. TOM 70
Location of Core Bonnet Plume Lake

Surveys

At	Dip	Bearing
0	45	345
377'	45	345

McINTYRE
PORCUPINE MINES LIMITED

106-B-4-003 DDH-75-31

Boxes of Core: 17 BQ

DIAMOND DRILL LOG

Hole No. DDH-75-31 Sheet No. 1
Length of Hole 377'
Date Started August 13/75 Completed Aug. 22/75
Core Logged by J. Shearer
Date August 1975
Elevation ~5650 Datum
Co-ordinates of Collar
North
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS %Pb	%Zn	%ZnS	%ZnO	oz/ton Ag
		Casing 8' BW									
9	29	Quartzite (Boulders)(?):probably broken outcrop, light brown speckled with oxidized pyrite, fine sand size quartz grains, vague bedding? @20° to core axis, slightly calcareous.									
29	40	SHALE: black, very poor core recovery,soft fissile, iron oxide on fracture surfaces, fine pyrite disseminated throughout.									
40	52	QUARTZITE: light grey, very minor carbonate content. Black shale section @ 48' - 51' brecciated, some lamination @ 45° to C.A. grey quartzite @ 51' - 52'.									
52	60.5	DOLOMITE: brecciated probable alteration of clastics above. Small angular shale fragments throughout, minor oodolomite near end of section.	T17	57	62	5	0.005	0.054	0.038	0.016	0.045
			T18	62	67	5	0.010	0.025	0.012	0.013	0.060
60.5	85	DOLOMITE: mottled near top of section, light grey finely crystalline uniform dolomite below, minor disseminated sphalerite at 61.5'. Oodolomite sections @ 64' - 65' increasingly mottled appearance to end of section.	T19	67	72	5	0.005	0.019	0.014	0.005	0.053
85	91.2	SHALE: well laminated, laminations @ 60° to C.A., light grey green, non calcareous, soft sed. structures well developed.									
91.2	176	DOLOMITE: light grey, finely crystalline uniform grading @ 94.5' to Zebra breccia. @ 94.5' - 96.8'; 121.5' - 122.5'; 142' - 144', between short									

EXPLORATION DEPARTMENT

Property .....
Location .....
Claim No. .....
Location of Core .....

Surveys		
At	Dip	Bearing

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Hole No. DDH-75-31 Sheet No. 2
Length of Hole 377'
Date Started Aug. 13/75 Completed Aug. 22/75
Core Logged by J. Shearer
Date August 1975
Elevation ..... Datum .....

Co-ordinates of Collar

North .....
East .....

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS oz/ton %Pb	%Zn	%ZnS	%ZnO	Ag
		Zebra sections mottled and uniform dol. sections predominate.									
176	179.5	MICRITE: grey micro crystalline calcite bedding @ 90° to C.A. grading into									
		black well laminated non calcareous shale, laminations at 60° to C.A. thin									
		pyrite layers at bottom.									
179.5	252.5	ZEBRA BRECCIA: abundant sparry white matrix with dark med. grey fragments,	T1	187	197	10'	0.010	0.012	0.006	0.006	0.068
		short mottled and uniform sections, euhedral qtz crystals infilling vugs, trace	T2	199	201	3'	0.002	0.011	Tr.	0.011	0.060
		of sphalerite @ 193', hematite residue infilling stylolites, zebra laminations	T56	215	227	12'	0.010	0.008	-	-	0.045
		at 85° to C.A. Breccia and leached zone mineralized with minor amounts of	T3	227	238	11'	0.150	0.450	0.010	0.440	0.075
		sphal. and galena @ 236' - 250'.	T55	239	245	6'	0.450	4.440	-	-	0.075
252.5	267'	MICRITE: grey micro crystalline calcite, large patches and veins of sparry									
		white calcite, bottom 2 feet dolomitized bedding @ 86° to C.A.									
267	316.5	DOLOMITE: zebra breccia, trace of sphalerite @ 273 in sparry white, dark med.	T4	303	312	9'	0.010	0.007	0.003	0.004	0.053
		grained dolomite predominates over sparry white in upper section. Well									
		developed Zebra sections 293' - 298'; 299' - 301'; 303' - 313'.									
316.5	325.5	MICRITE: grey micro crystalline calcite, bedding well defined @ 65° to C.A.,									
		lower contact dolomitized.									
325.5	370.5	ZEBRA BRECCIA: abundant sparry white matrix, minor short mottled sections,	T5	327	337	10'	0.008	0.009	0.005	0.004	0.045
		trace of sphalerite pin heads @ 345'	T6	347	356	9'	0.010	0.036	0.007	0.029	0.045

EXPLORATION DEPARTMENT

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Property
Location
Claim No.
Location of Core

Surveys

At	Dip	Bearing

Hole No. DDH-75-31 Sheet No. 3
Length of Hole 377'
Date Started Aug. 13/75 Completed Aug. 22/75
Core Logged by J. Shearer
Date
Elevation Datum

Co-ordinates of Collar

North
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS Oz/ton %Pb	%Zn	%ZnS	%ZnO	Ag
370.5	372	MICRITE: grey micro crystalline calcite well bedded at 60° to C.A.	T-7	364	369	5'	0.010	0.016	0.007	0.009	0.053
372	376.8	ZEBRA BRECCIA: as above									
376.8	377	MICRITE: grey micro crystalline calcite, small chert balls aligned parallel									
		to bedding.									
	377	END OF HOLE J. Shearer									

EXPLORATION DEPARTMENT

Property TOM GROUP
Location 106-B-4
Claim No. TOM 56 (Y-96616)
Location of Core Bonnet Plume Lake

Surveys

At	Dip	Bearing
0	60°	162°
300	58°	162°
505	58°	162°

McINTYRE
PORCUPINE MINES LIMITED

106-B-4-003 DDH-75-32

Boxes of core: 21 BQ

DIAMOND DRILL LOG

Hole No. DDH-75-32 Sheet No. 1
Length of Hole 505'
Date Started August 16, 1975 Completed Aug. 20/75
Core Logged by J. Shearer
Date August 20/75
Elevation Datum
Co-ordinates of Collar
North Above Showing BF-75-1, 450 feet North along
East bearing of hole.

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS
		Casing to 9' - B.W.					
9'	90'	QUARTZITE: a well indurated, light brown to grey medium grained sandstone 9' - 23' oxidized, dark weathering, 23' in fresh rock. Qtz grains 0.2" and less brown colour due to finely disseminated, oxidized pyrite, 5% detrital feldspar crystals, gradually more arkosic down section. Trace muscovite starting at 60 feet, minor muscovite flakes, also slightly coarser qtz grains Qtz grains well rounded, abundant carbonate matrix 74.5' very arkosic feldspars altered to clay minerals, about 20% feldspar, 7% oxidized pyrite, 60% well rounded qtz grains, 13% carbonate cement. After 78 feet very little pyrite. Light grey in colour.					
90'	110.8'	BLACK SHALE: Silty, interlaminated, with shaly micrite laminations at 73° - 81° increasing down hole to core axis. ¼" layer of fine grained pyrite at 110.6 - convoluted bedding probably soft sed. formation - 96.5', 98.2', 110.6' 106.8' pyrite rimming qtz grains and dark indistinct carb. grains (pysolites?) at 106.8'					
110.8	124.5	MICRITE: Black silty to sandy black micro crystalline calcite small sparsely disseminated patches of fine grained pyrite, approx. 35% qtz in black shale					

EXPLORATION DEPARTMENT

Property .....
Location .....
Claim No. .....
Location of Core .....

Surveys

At	Dip	Bearing

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Hole No. DDH-75-32 Sheet No. 2
Length of Hole 505'
Date Started August 16, 1975 Completed Aug. 20/75
Core Logged by .....
Date .....
Elevation ..... Datum .....

Co-ordinates of Collar

North .....
East .....

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS
124.5'	221'	GREY QUARTZITE: fine grained, very limy carbonate matrix, trace of fine disseminated pyrite 40% carbonate 60% qtz. 126'-126,5' black shale. Slicker sides on fracture surface at 137', 137.2'-138 black shale. Short, lighter brown, less carbonate sections at 165.5. Vague laminations 85° to core axis, minor sand grains, salt and pepper appearance to non-limy sections. 170.2' - 1½" black shale; 175' - 178' black shale; 172.5' - micro channel way, qtz grains (well rounded) up to 0.3". 221' - lamination at 125° to core axis; 209.3' - 3" of black shale; 213.6' - 217' black shale.At 211' qtzite becomes more friable, very porous to end of section.					
221'	254.6'	BLACK SHALE: silty non-calcareous shale, minor interlaminated quartzite, lamination at 65° to core axis, 228' soft sed. deformation, bedding commonly disturbed along crosscutting fractures; 229.5 - 231 thinly bedded quartzite; 232 - 235 limy grey fine grained quartzite; 237.5 - 239.8 limy grey fine grained quartzite.					
254.6'	261.5'	BLACK MICRITE: Sandy with several short friable quartzite sections; 261.5 - gradational contact with black shale below some sections brecciated					
261.5'	278	SHALE: Black to light greenish grey colour. Dolomite veins at 20° to core axis,					

EXPLORATION DEPARTMENT

McINTYRE
PORCUPINE MINES LIMITED

DIAMOND DRILL LOG

Property
Location
Claim No.
Location of Core

Surveys

At	Dip	Bearing

Hole No. DDH-75-32 Sheet No. 3
Length of Hole 505'
Date Started August 16, 1975 Completed Aug. 20/75
Core Logged by
Date
Elevation Datum

Co-ordinates of Collar

North
East

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS Oz/ton %Pb	%Zn	%ZnS	%ZnO	Ag
		minor disseminated pyrite, patches of sparry white calcite common; light grey									
		green shale becomes more fissile at 274' - 278'.									
278'	284'	DOLOMITE: light grey uniform, med. fine crystalline, disturbed upper contact									
		with shale, irregular patches and veins of it. Sparry white, chalky white									
		mineral in vugs.									
284'	290.5'	DOLOMITE: Mottled, light grey med. crystalline mottled with sparry white	S758	285	290	5	0.005	0.010	0.004	0.006	0.130
		dolomite; hematite residue, minor ZnO at 290'(broken core, poor recovery)	S759	290	295	5	0.002	0.014	0.001	0.013	0.060
290.5'	331'	DOLOMITE: uniform grey, light to dark med. crystalline; 304' - very friable	S7510	295	300	5	0.005	0.006	0.003	0.003	0.090
		and vuggy; 304'-318' slightly bleached appearance; 313.5'- 316' - very limy	S7511	300	305	5	0.005	0.008	0.002	0.006	0.075
		shale, bedding at 75° to core axis (core very broken)	S7512	305	310	5	0.015	0.006	0.004	0.002	0.068
331'	340.5'	DOLOMITE: Mottled, abundant, sparry white patches in radial pattern around	S7513	310	315	5	0.010	0.006	0.002	0.004	0.068
		dark fragments, suggestion of oodolomite at 340', 352'. Shaly appearing	S7514	315	320	5	0.005	0.008	Tr.	0.008	0.075
		fragments in sparry white (5% vugs)	S7515	320	325	5	0.010	0.006	Tr.	0.006	0.068
340.5'	377.5'	ZEBRA BRECCIA: bottom of Zebra fragments, banded hematite in filled styolites,	S7516	325	330	5	0.002	0.007	0.004	0.003	0.063
		zebra lamination at 70° to core axis.	S7517	330	335	5	0.003	0.006	Tr	0.006	0.060
		346.5' - 347.5' - minor uniform grey dolomite sections.	S7518	335	340	5	Tr	0.007	0.003	0.004	0.090
		364' - 2" oodolomite, quartz filling in near oodolomite.	S7519	340	345	5	0.010	0.006	0.004	0.002	0.072
		364.2 - 365.8 - brecciated, uniform, grey dolomite	S7520	345	350	5	0.010	0.016	0.002	0.014	0.068

EXPLORATION DEPARTMENT

Property .....
Location .....
Claim No. .....
Location of Core .....

Surveys		
At	Dip	Bearing

McINTYRE
PORCUPINE MINES LIMITED

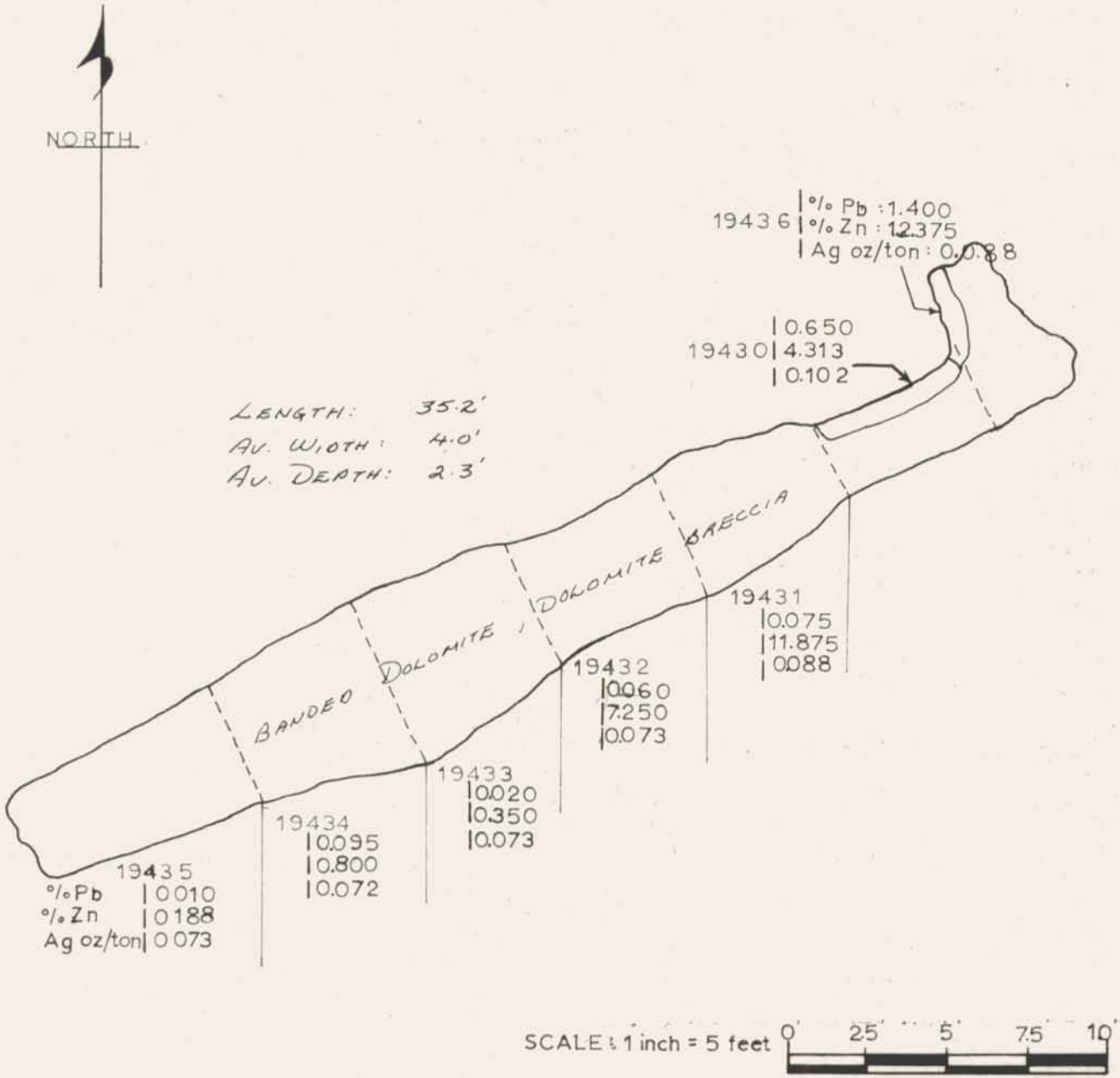
DIAMOND DRILL LOG

Hole No. DDH-75-32 Sheet No. 4
Length of Hole 505'
Date Started August 16, 1975 Completed Aug. 20/75
Core Logged by .....
Date .....
Elevation ..... Datum .....

Co-ordinates of Collar

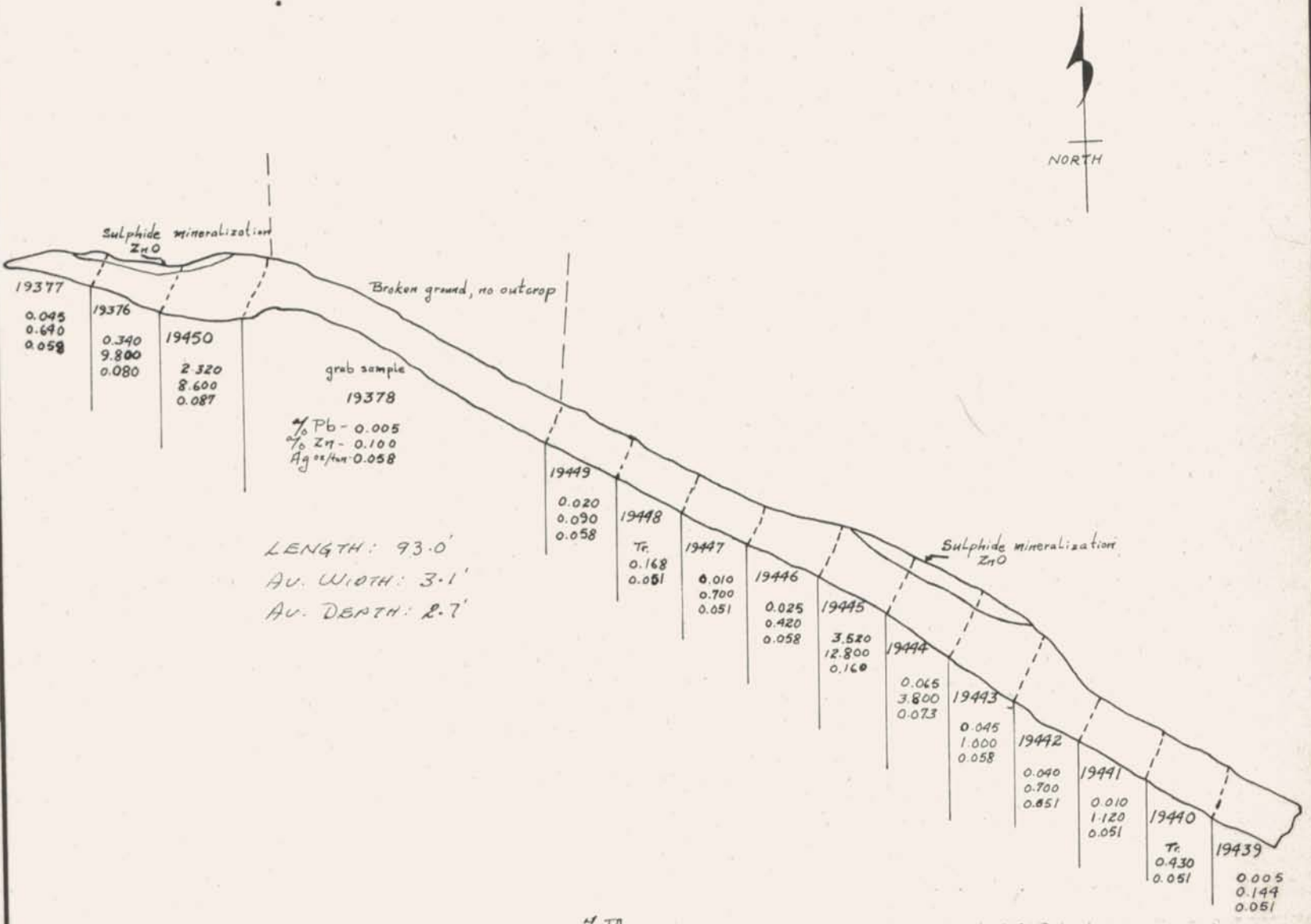
North .....
East .....

From	To	Description of Core	Sample No.	FOOTAGE From	FOOTAGE To	Width	CORE ASSAYS %Pb	%Zn	%ZnS	%ZnO	Oz/ton Ag
		367' - 370' - brecciated, uniform, grey dolomite									
		372' - 375' - brecciated, uniform, grey dolomite									
377.5	380.5	OODOLOMITE (Well preserved) crowded oolite ghosts, best developed 377.5'-378.5'									
380.5	505	ZEBRA BRECCIA (Same as above) 396' - 398' brown brecciated sections	T50	382	392	10	0.025	0.060	-	-	0.038
		probably shear zone; 398' section becomes more uniform grey, less sparry white;									
		420' - 427' brecciated dol., brown fragments with abundant sparry white;	T52	430	440	10	0.010	0.004	-	-	0.045
		dark uniform med. grey 427' - 431'; 432' - 435'; 337.5' abundant hematite on	T53	452	462	10	0.010	0.021	-	-	0.038
		fracture surfaces; 456 large calcite infill vugs; 479.2' - 480 brown thinly									
		bedded friable shale; very vuggy.									
		Zebra breccia 481' - 482'	T54	493	503	10	0.010	0.006	-	-	0.041
		Uniform grey dolomite 485'- 486'; some small minor vugs developed in sparry									
		white dolomite.									
	505	END OF HOLE									



SCALE: 1 inch = 5 feet 0 2.5 5 7.5 10

McINTYRE MINES LIMITED	
TOM 6 (Y96566) MAYO M.D. TRENCH-75-5 SAMPLE LOCATIONS, ASSAY VALUES	
WORK BY	DATE: AUG. 20/75
DRAWN BY T.B.	N.T.S.: 106-B-4

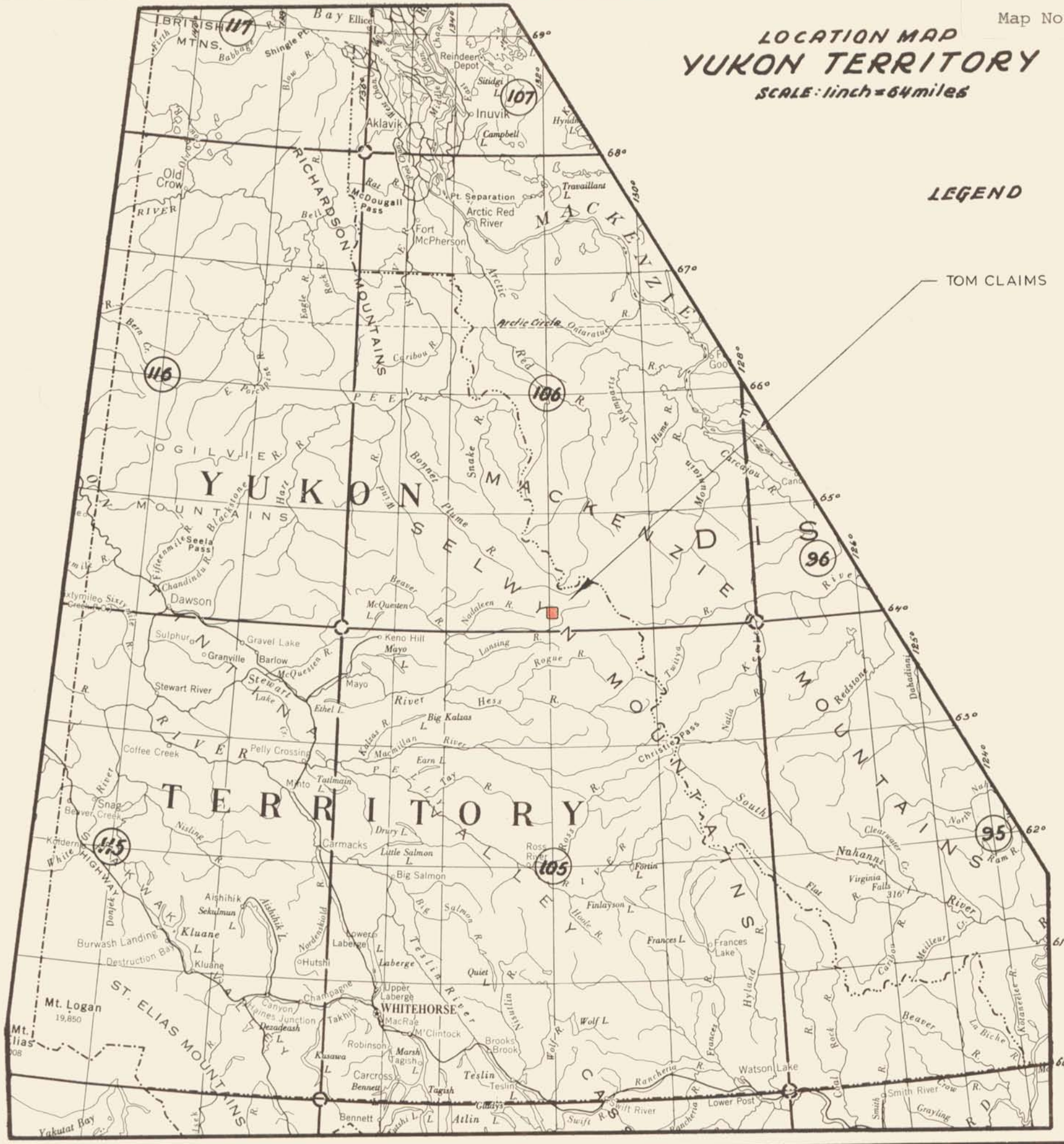


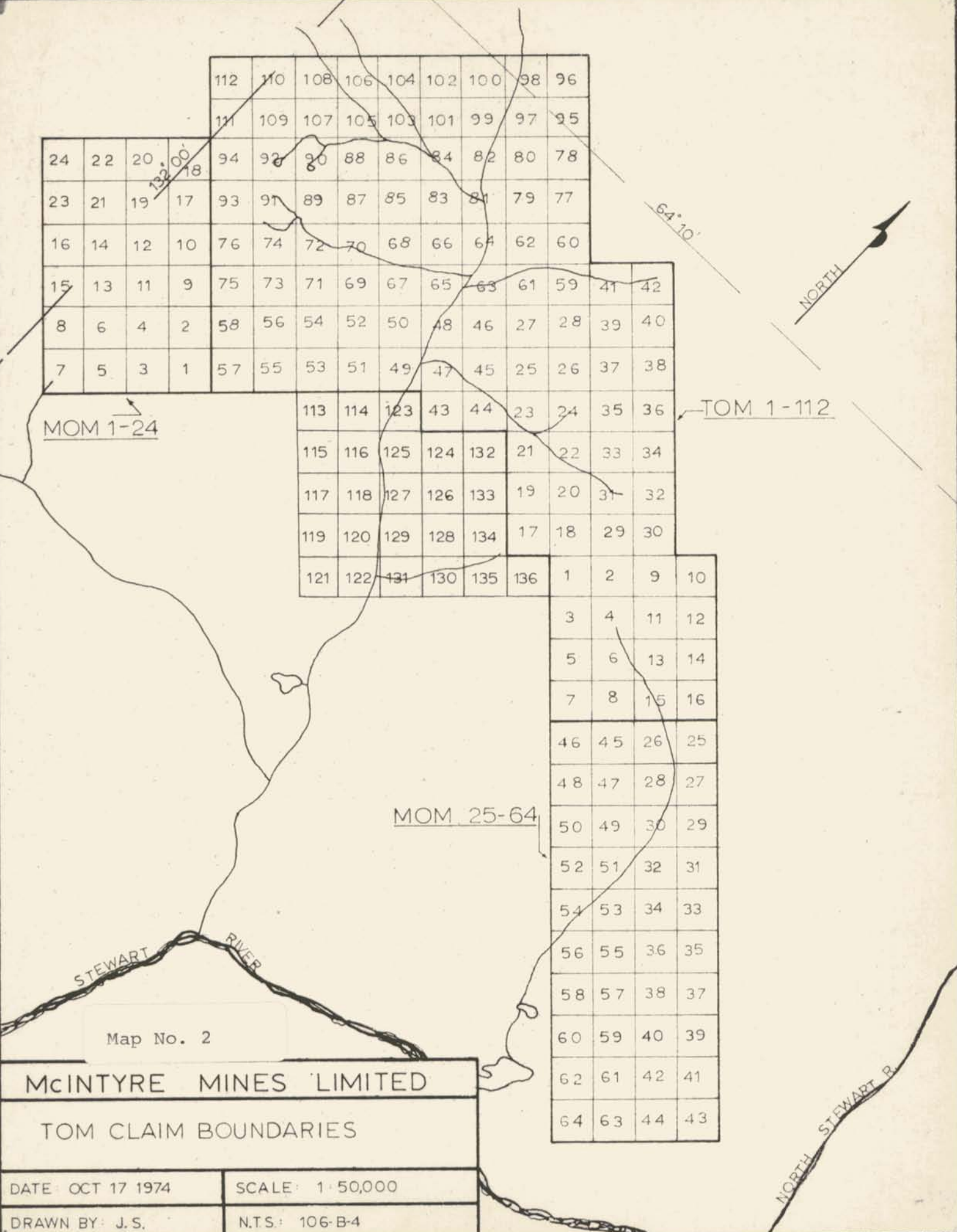
McINTYRE MINES LIMITED

TRENCH - 75 - 9 , TOM 4 (Y 96564)
SAMPLE LOCATIONS AND ASSAY RESULTS

WORK BY	DATE AUG 20/75
DRAWN BY J.S.	N.T.S. 106-B-4

LOCATION MAP
YUKON TERRITORY
SCALE: 1 inch = 64 miles





Map No. 2

McINTYRE MINES LIMITED

TOM CLAIM BOUNDARIES

DATE OCT 17 1974	SCALE 1:50,000
DRAWN BY: J.S.	N.T.S: 106-B-4

AB-37
SOIL GRID

J-24
SOIL GRID

J-38

J-35
NORTHWEST
EXTENTION

J-22
SOIL GRID

AB-31

J-41

LEGEND

CLAIM BOUNDARY

OUTLINE of GEOCHEMICAL GRID

STRATIGRAPHIC SECTION
MEASURMENT TRAVERSE

1"=200' GEOLOGICAL MAPS

0 500 1000 2000 3000 3500 4000

McINTYRE MINES LIMITED

TOM CLAIMS

COMPOSITE OVERLAY II

WORK BY	DATE OCT. 6, 1975
DRAWN BY: TB	NTS 106-B4

Map No. 3

STRATIGRAPHIC LEGEND

COLOUR			
			UPPER TERRIGENOUS UNIT
910	1		Quartz pebble conglomerate
910	2		Conglomerate : quartz pebbles , large angular carbonate and shale clasts
910	3		Quartzite : very well indurate , thick bedded, slightly arkosic, yellow lichen cover characteristic
909	3a		Siltstone : thin bedded , micaceous, plus intercalated quartzite and shale
925	4		Slate – Mudstone : deep red , platy cleavage usually well developed , thin laminated
943	4		Slate – Mudstone : green grey , platy cleavage usually well developed , thinly laminated
			CARBONATE UNIT
913	5		Micrite : light grey weathering , black to dark grey , usually silty
915	5	a	Micrite : Very sandy
915	5	b	Micrite : very shaly thinly laminated
915	5	c	Pelmicrite
915	5	d	Micrite with thin sandy layers
942	6		Intramicrite : very sandy, rounded to angular carbonate clasts, gradational with 1a
942	6	a	Intramicrite : little sand or silt usually well rounded clasts
942	6	b	Intrasparite : sparry matrix , angular to rounded fragments
942	7		Oomicrite : oolitic rocks , often intraclastic , and sandy
942	7	a	Oosparite : sparry matrix
915	8		Recrystallized micrite : coose medium crystalline black calcite
	9		Chert : usually ex elongate banded nodules, small spheres , thinly laminated beds
918	10		Oodolomite : dolomitized oolitic – pisolitic rock
918	11		Dolomite : tan yellow , finely crystalline
918	12		Dolomite : mottled grey and sparry white , often buff weathering
930	13		Zebra rock : fine grained dark grey dolomite brecciated in a linear fashion by sparry white dolomite
930	14		Zebra breccia : irregular zebra rock , commonly very vuggy
918	14		White dolospar : erratic in distribution , vuggy
918	15		Dolomite : dark grey-black , finely crystalline , occasionally coarse grained
	16		Calcite : very deeply weathered or leached
			LOWER TERRIGENOUS UNIT
912	17		Quartzite : well indurated , slightly arkosic , yellow lichen cover characteristic
918	18		Arkose : friable , intercalated with dark brown shale or mudstone
912	19		Quartz pebble conglomerate : well indurated , cyrodstone with Quartzite units
912	20		Conglomerate : quartz pebbles , large angular carbonate and shale fragments
944	21		Slate – Mudstone : dark brown , grey-green , usually thinly laminated, but often medium to thick bedded , minor limy shale and thick black micrite and dolomite beds
			ORANGE WEATHERING CARBONATE UNIT
903	22		Micrite : orange weathering , very pyritic , little dolomite content
904	23		Dolomite : orange gloggy weathering , finely disseminated pyrite common
	24		Micrite : grey weathering , black dark grey macrocrystalline calcite , sumilar to 5

- Cliff Face
- Talus Cones
- Outcrop Patterns (definite , near outcrop, talus)
- Geological contact (definite , approximate , assumed)
- Fault
- Fold axis , anticlinal, synclinal, direction of plunge
- Joint attitude
- Cleavage attitude
- Attitude of zebra laminations
- 45° Ap Strike and Dip of bedding (true , apparent)
- Sphalerite and Galena , ZnS
- Widespread talus cover
- L Ex Leached , brecciated carbonate , solution breccia Trench
- Drill hole BBS I
- Drill hole Winkie
- Recrystallization
- RR Red hematite stain
- Current direction (crossbedding)
- Claim post
- Disseminated sulphides

0 500 1000 2000 3000 3500 4000

1" = 1000'

McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.

GEOLOGY

WORK BY JS, BF	DATE NOV. 28, 1975
DRAWN BY JS, BF, TB	NTS 106-B/4

Map No. 4

STRATIGRAPHIC LEGEND

COLOUR		
		UPPER TERRIGENOUS UNIT
910	Tc	Quartz pebble conglomerate
910	Tcb	Conglomerate: quartz pebbles, large angular carbonate and shale clasts
910	Tq	Quartzite: very well indurate, thick bedded, slightly arkosic, yellow lichen cover characteristic
909	Tz	Siltstone, thin bedded, micaceous plus interculated quartzite and shale
923	Tj	Slate – Mudstone: deep red, platy cleavage usually well developed, thin laminated
943	Tj	Slate – Mudstone: green grey, platy cleavage usually well developed, thinly laminated
		CARBONATE UNIT
915	5	Micrite: light grey weathering, black to dark grey, usually silty
915	5a	Micrite: Very sandy
915	5b	Micrite: very shaly thinly laminated
915	5c	Pelmicrite
915	5d	Micrite with thin sandy layers
942	6	Intramicrite: very sandy, rounded to angular carbonate clasts, gradational with 5a
942	6a	Intramicrite: little sand or silt usually well rounded clasts
942	6b	Intrasparite: sparry matrix, angular to rounded fragments
942	7	Oomicrite: oolitic rocks, often intraclastic, and sandy
942	7a	Oosparite: sparry matrix
915	5	Neomorphitized micrite: coose medium crystalline black calcite
~5	9	Chert: usually as elongate banded nodules, small spherues, thinly laminated beds
918	10	Oodolomite: dolomitized oolitic-pisolitic rock
918	11	Dolomite: tan yellow, finely crystalline
918	12	Dolomite: mottled grey and sparry white, often buff weathering
930	13	Zebra rock: fine grained dark grey dolomite brecciated in a linear fashion by sparry white dolomite
930	13a	Zebra breccia: irregular zebra rock, commonly very vuggy
918	14	White dolospar: erratic in distribution, vuggy
918	15	Dolomite: dark grey-black, finely crystalline, occasionally coarse grained
	16	Calcite: very deeply weathered or leached
		LOWER TERRIGENOUS UNIT
912	Tq	Quartzite: well indurated, slightly arkosic, yellow lichen cover characteristic
913	Ta	Arkose: friable, intercalated with dark brown shale or mudstone
912	Tc	Quartz pebble conglomerate: well indurated, gradational with Quartzite units
912	Tcb	Conglomerate: quartz pebbles, large angular carbonate and shale fragments
944	Tj	Slate – Mudstone: dark brown, grey-green, usually thinly laminated, but often medium to thick bedded, minor limy shale and thick black micrite and pelmicrite beds

Cliff Face

Talus Cones

Outcrop Patterns (definite, near outcrop, talus)

Geological contact (definite, approximate, assumed)

Fault

Fold axis, anticlinal, synclinal, direction of plunge

Joint attitude

Cleavage attitude

Attitude of zebra laminations

Strike and Dip of bedding (true, apparent)

Sphalerite and Galena, ZnS

Widespread talus cover

Leached, brecciated carbonate, solution breccia

Trench

Drill hole BBS !

Drill hole Winkle

Recrystallization

Red hematite stain

Current direction (crossbedding)

Claim post

Disseminated sulphides

ORANGE WEATHERING CARBONATE UNIT

903	Dc	Micrite: orange weathering, very pyritic, little dolomite content.
904	Dc	Dosmite: orange goopy weathering, finely disseminated pyrite common
	Dc	Micrite: grey weathering, black-dark grey microcrystalline calcite, similar to 5

0 100 200 400 600 700 800

SCALE 1:9600

McINTYRE MINES LIMITED

TOM CLAIMS, MAYO M.D.

GEOLOGY J-35

WORK BY JS, BF	DATE NOV 28, 1974
DRAWN BY JS, BF, TB	NTS 106-B-4

Map No. 5

ROCK GLACIER

ROCK FALL ANGULAR QUARTZITE BOULDER

TALUS

GRASSY MEADOW

GRASS

Mostly Talus

Fine Talus

Scale 0 Quarter Yards

STRATIGRAPHIC LEGEND

COLOUR			
			UPPER TERRIGENOUS UNIT
910	1		Quartz pebble conglomerate
910		1a	Conglomerate : quartz pebbles , large angular carbonate and shale clasts
910	2		Quartzite : very well indurate , thick bedded, slightly arkosic, yellow lichen cover characteristic
909		2a	Siltstone : thin bedded , micaceous plus interpolated quartzite and shale
925	3		Slate – Mudstone : deep red , platy cleavage usually well developed thin laminated
943	4		Slate – Mudstone : green grey , platy cleavage usually well developed , thinly laminated
			CARBONATE UNIT
915	5		Micrite : light grey weathering , black to dark grey , usually silty
915		5a	Micrite: Very sandy
915		5b	Micrite: very shaly thinly laminated
915		5c	Pelmicrite
915		5d	Micrite with thin sandy layers
942	6		Intramicrite : very sandy , rounded to angular carbonate clasts , gradational with 1a
942		6a	Intramicrite : little sand or silt usually well rounded clasts
942		6b	Intrasparrite: sparry matrix , angular to rounded fragments
942	7		Oomicrite: oolitic rocks , often intraclastic , and sandy
942		7d	Oosparite : sparry matrix
915	8		Recrystallized micrite : coase medium crystalline black calcite
	9		Chert : usually as elongate banded nodules , small spheres , thinly laminated bedi
918	10		Dedolomite : dolomitized oolitic - pisolitic rock
918	11		Dolomite : tan yellow , finely crystalline
918	12		Dolomite : mottled grey and sparry white , often buff weathering
930	13		Zebra rock : fine grained dark grey dolomite brecciated in a linear fashion by sparry white dolomite
930		13a	Zebra breccia : irregular zebra rock , commonly very vuggy
918	14		White dolospar : erratic in distribution , vuggy
918	15		Dolomite : dark grey-black , finely crystalline , occasionally coarse grained
	16		Calcite : very deeply weathered or leached
			LOWER TERRIGENOUS UNIT
912	17		Quartzite : well indurated , slightly arkosic , yellow lichen cover characteristic
913		17a	Arkose : friable , interbedded with dark brown shale or mudstone
912	18		Quartz pebble conglomerate : well indurated , gradational with Quartzite units
912		18a	Conglomerate : quartz pebbles , large angular carbonate and shale fragments
944	19		Slate – Mudstone : dark brown , grey – green , usually thinly laminated , but often medium to thick bedded , minor limy shale and thick black micrite and oomicrite beds

- Cliff face
- Talus Cones
- Outcrop Patterns (definite , near outcrop, talus)
- Geological contact (definite , approximate , assumed)
- Fault
- Fold axis , anticlinal, synclinal , direction of plunge
- Joint attitude
- Cleavage attitude
- Attitude of zebra laminations
- 45° 45Ap Strike and Dip of bedding (true , apparent)
- Sphalerite and Galena , ZnS
- Widespread talus cover
- LBx Leached , brecciated carbonate , solution breccia
- Trench
- Drill hole BBS 1
- Drill hole Wrinkle
- XX Recrystallization
- RR Red hematite stain
- Current direction (crossbedding)
- Claim post
- Py Disseminated sulphides

0 100 200 400 600 700 800

1" = 200'

McINTYRE MINES LIMITED

TOM CLAIMS MAYO MD.

GEOLOGY AB-31

WORK BY JS, BF	DATE NOV. 25, 1975
DRAWN BY JS, BF, TB	NTS 106-B-4

Map No. 6

STRATIGRAPHIC LEGEND

COLOUR		
		UPPER TERRIGENOUS UNIT
91O	1	Quartz pebble conglomerate
91O	1a	Conglomerate : quartz pebbles , large angular carbonate and shale clasts
91O	1b	Quartzite : very well indurate, thick bedded , slightly arkosic, yellow lichen cover characteristic
909	2a	Siltstone : thin bedded , micaceous plus intercalated quartzite and shale
925	3	Slate – Mudstone : deep red, platy cleavage usually well developed thin laminated
943	4	Slate – Mudstone : green grey , platy cleavage usually well developed , thinly laminated
		CARBONATE UNIT
915	5	Micrite : light grey weathering , black to dark grey , usually silty
915	5a	Micrite : Very sandy
915	5b	Micrite : very shaly thinly laminated
915	5c	Pelmicrite
915	5d	Micrite with thin sandy layers
942	6	Intramicrite : very sandy , rounded to angular carbonate clasts , gradational with 1a
942	6a	Intramicrite : little sand or silt usually well rounded clasts
942	6b	Intrasparrite : sparry matrix , angular to rounded fragments
942	7	Oomicrite : oolitic rocks , often intraclastic , and sandy
942	7a	Oosparrite : sparry matrix
915	8	Recrystallized micrite : coose medium crystalline black calcite
	9	Chert : usually as elongate banded nodules , small spheres , thinly laminated beds
918	9a	Dedolomite : dolomitized oolitic - pisolitic rock
918	11	Dolomite : tan yellow , finely crystalline
918	12	Dolomite : mottled grey and sparry white , often buff weathering
930	13	Zebra rock : fine grained dark grey dolomite brecciated in a linear fashion by sparry white dolomite
93O	13a	Zebra breccia : irregular zebra rock , commonly very vuggy
918	14	White dolospar : erratic in distribution , vuggy
918	15	Dolomite : dark grey - black , finely crystalline , occasionally coarse grained
	16	Calcite : very deeply weathered or leached
		LOWER TERRIGENOUS UNIT
912	17	Quartzite : well indurated , slightly arkosic , yellow lichen cover characteristic
913	17a	Arkose : friable , intercalated with dark brown shale or mudstone
912	18	Quartz pebble conglomerate : well indurated , gradational with Quartzite units
912	18a	Conglomerate : quartz pebbles , large angular carbonate and shale fragments
944	19	Slate – Mudstone : dark brown , grey – green , usually thinly laminated , but often medium to thick bedded , minor limy shale and thick black micrite and oomicrite beds

- Cliff Foot
- Talus Cones
- Outcrop Patterns (definite , near outcrop , talus)
- Geological contact (definite , approximate , assumed)
- Fault
- Fold axis , anticlinal , synclinal ; direction of plunge
- Joint attitude
- Cleavage attitude
- Attitude of zebra laminations
- Strike and Dip of bedding (true , apparent)
- Sphalerite and Galena , ZnS
- Widespread talus cover
- Leached , brecciated carbonate , solution breccia
- Trench
- Drill hole BBS I
- Drill hole Winkie
- Red hematite stain
- Current direction (crossbedding)
- Claim post
- Disseminated sulphides

0 100 200 400 600 700 800

1" = 200'

McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.

GEOLOGY

J-38, J-24 and AB-37 AREAS

WORK BY JS., BF.	DATE NOV. 19, 1975
DRAWN BY JS., BF., TB.	NTS 106-B-4 , 106-C-1

Map No. 7

LEGEND

Pb (ppm)
Zn (ppm) } RESULTS
Ag (ppm)

A — A HORIZON
B — B HORIZON
AB — MIXED, NO HORIZON DEVELOPMENT
AO — A HORIZON, ORGANIC MATTER

DRY RUN-OFF GULLY

CLAIM POST

0 200 400 800 1200 1400 1600
1" = 400'

McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.
GEOCHEMICAL SOIL GRID and ASSAY RESULTS
J-35 AREA

WORK BY	DATE OCT. 31, 1975
DRAWN BY TB	NTS 106-B-4

Map No. 8

Map No. R4

DRAWN BY TB, JS	NTS 105-B-4
WORK BY	DATE NOV 14, 1975

McINTYRE MINES LIMITED

TOM CLAIMS MAP No.

CONTOUR OVERLAY Zn Pb RESULTS

J-35 AREA

0 200 400 800 1200 1400 1600

1" = 400'

CONTOUR LEGEND

ZINC

CONTOUR LINES 165, 250, 350, 500, 1000 ppm

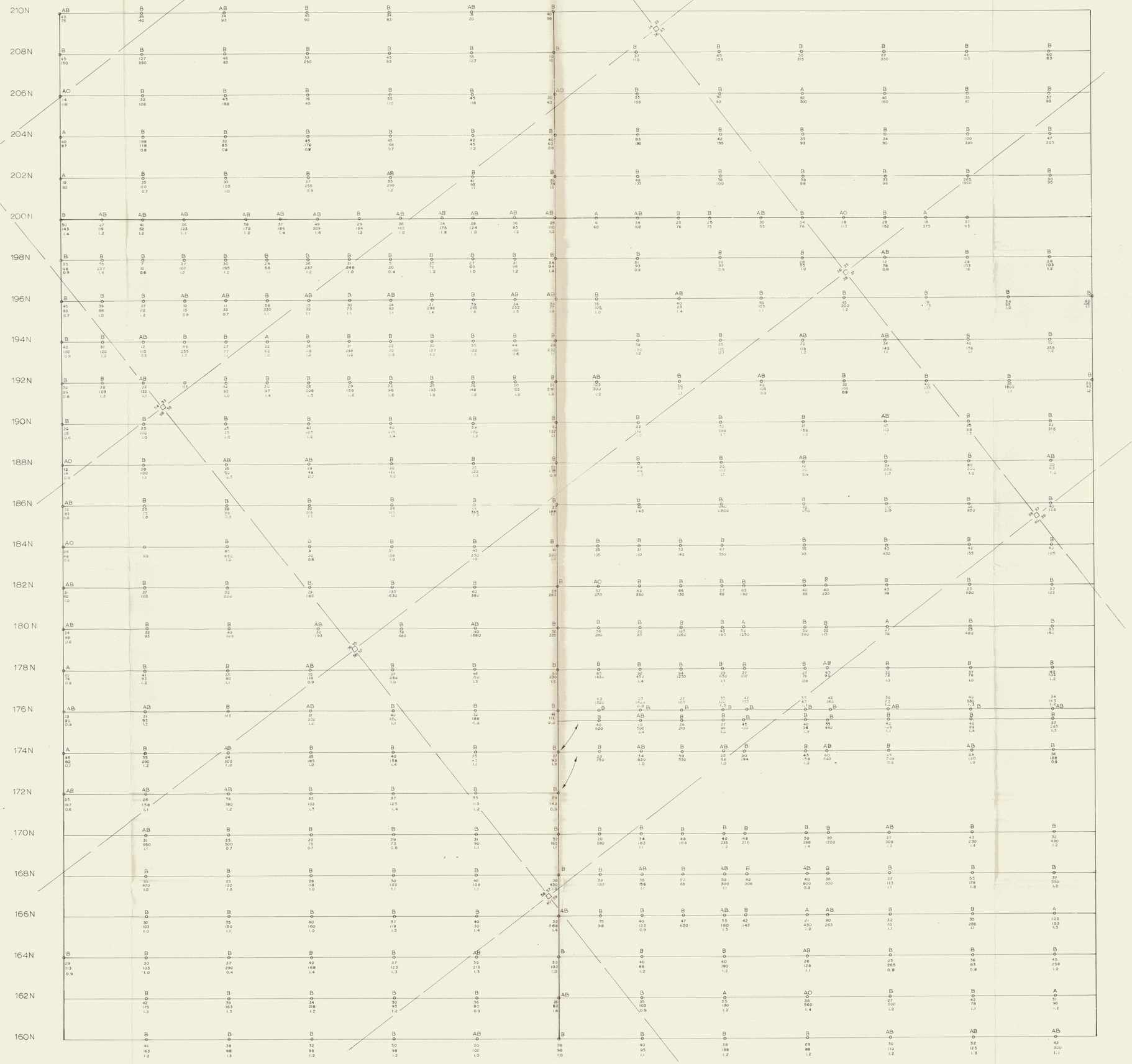
165 — 249 ppm

250 — 349 ppm

350 — 499 ppm

500 — 1000 ppm

> 1000 ppm



LEGEND

Pb (ppm) } Results
Zn (ppm)
Ag (ppm)

A — A HORIZON
B — B HORIZON
AB — MIXED, NO HORIZON DEVELOPMENT
AO — A HORIZON, ORGANIC MATTER

— CLAIM POST

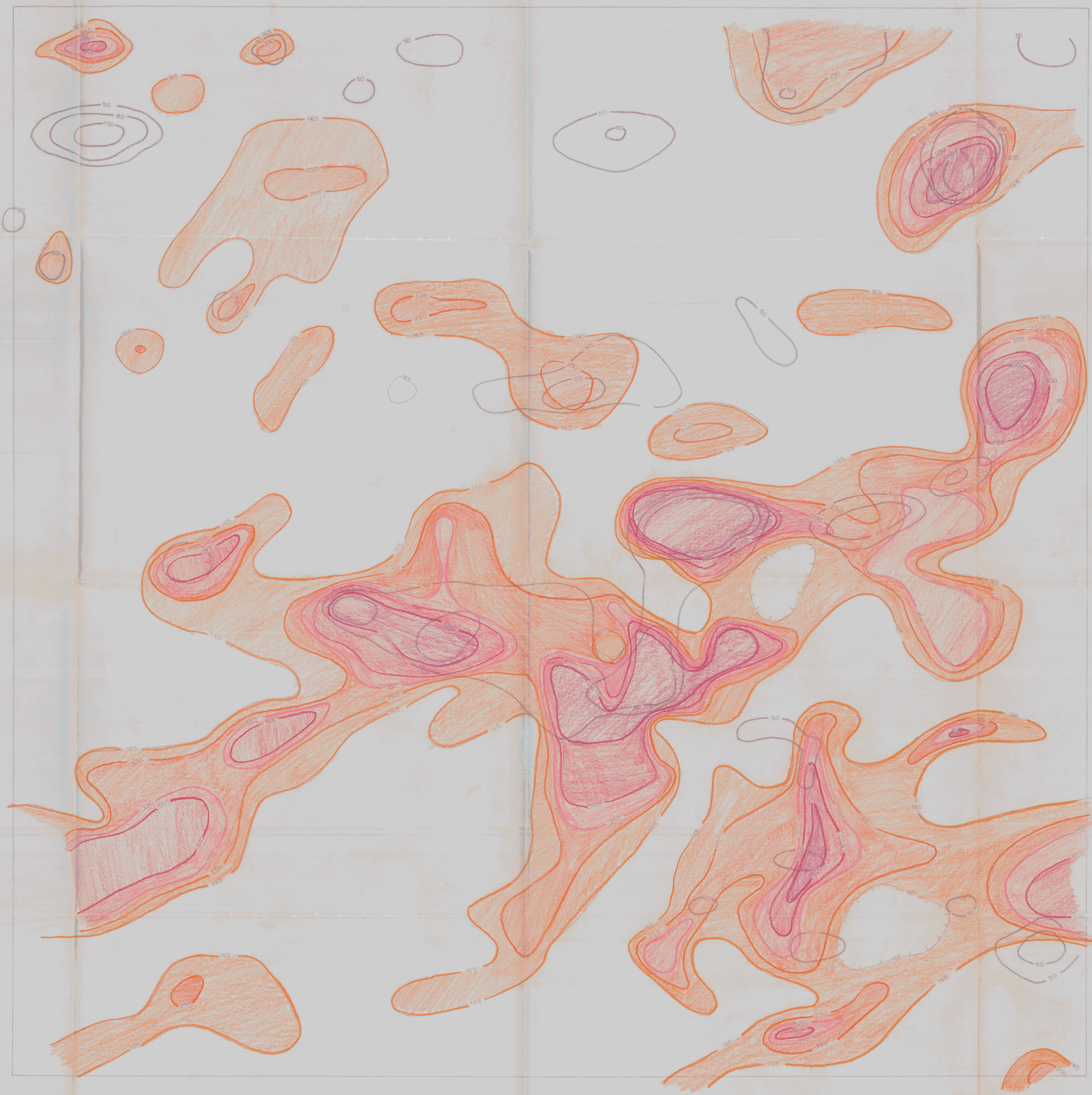
0 100 200 400 600 700 800
1"=200'

McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.
GEOCHEMICAL SOIL GRID J-4 AREA
SAMPLE LOCATIONS AND RESULTS

WORK BY	DATE OCT. 22,1975
DRAWN BY TB	NTS 106-B-4

Map No. 9



CONTOUR LEGEND

LEAD

CONTOUR LINES 50, 80, 150 ppm

913	50 – 79 ppm
910	80 – 149 ppm
909	> 150 ppm

ZINC

CONTOUR LINES 165, 250, 350, 500, 1000 ppm

918	165 – 249 ppm
921	250 – 349 ppm
929	350 – 499 ppm
924	500 – 1000 ppm
930	> 1000 ppm

0 100 200 400 600 700 800

McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.

CONTOUR OVERLAY for Pb & Zn RESULTS
J-41 AREA

WORK BY J.S.	DATE NOV 4, 1975
DRAWN BY T.B.	NTS 105-B-4

Map No. 9a

CONTOUR LEGEND

LEAD

CONTOUR LINES 50, 80, 150 ppm

50 – 79 ppm

80 – 149 ppm

> 150 ppm

ZINC

CONTOUR LINES 165, 250, 350, 500, 1000 ppm

918 165 – 249 ppm

921 250 – 349 ppm

929 350 – 499 ppm

924 500 – 1000 ppm

930 > 1000 ppm

0 100 200 400 600 700 800

1" = 200'

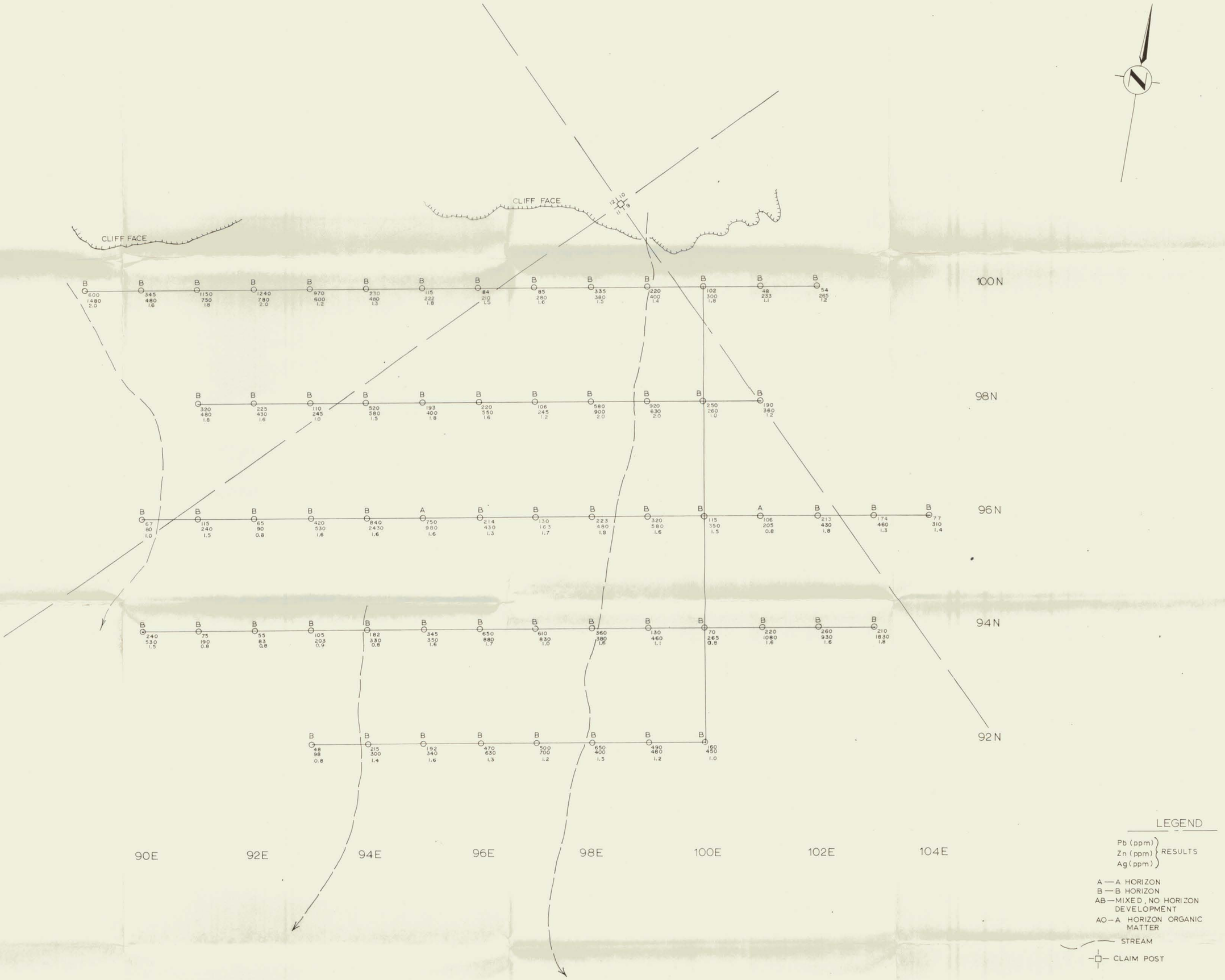
McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.

CONTOUR OVERLAY for Pb & Zn RESULTS
J-41 AREA

WORK BY JS	DATE NOV. 4, 1975
DRAWN BY TB	NTS 106-B-4

Map No. 9b



McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.

GEOCHEMICAL SOIL GRID, ASSAY RESULTS

J—22 AREA

WORK BY	DATE OCT. 31, 1975
DRAWN BY T.B.	NTS 106—B—4

Map No. 10

McINTYRE MINES LIMITED

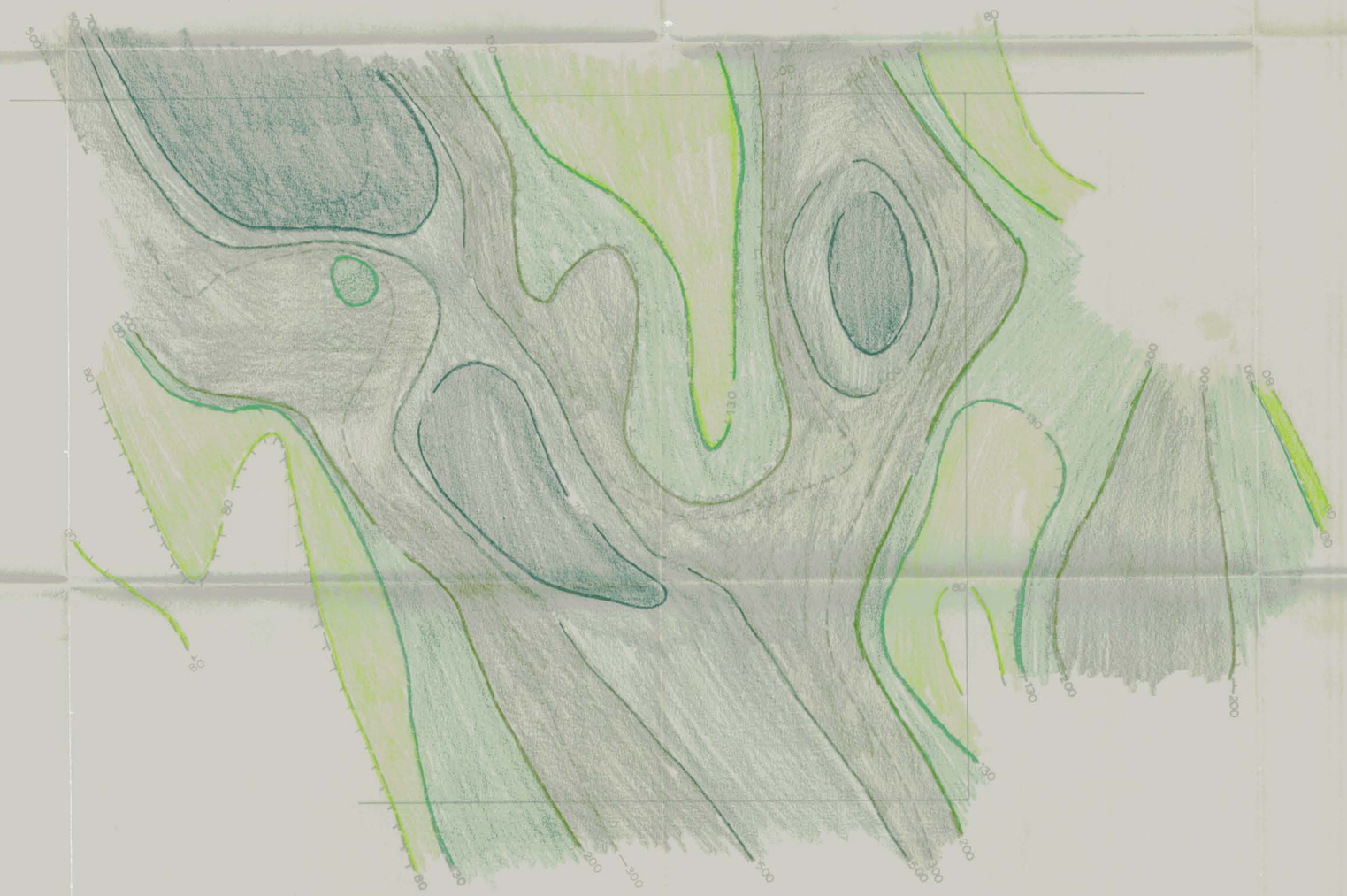
TOM CLAIMS MAYO M.D.

CONTOUR OVERLAY Zn RESULTS

J 22 AREA

WORK BY TB, BR, JS	DATE NOV. 12, 1975
DRAWN BY TB, JS	NTS 105-B-4

Map No. 10a



CONTOUR LEGEND

LEAD CONTOUR LINES 80, 130, 200, 300 500, 700, 1000

- 80 — 129 ppm
- 130 — 199 ppm
- 200 — 499 ppm
- 500 — 699 ppm
- 700 — 1000 ppm

0 50 100 200 300 350 400

1" = 100'

McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.

CONTOUR OVERLAY, Pb RESULTS

J-22 AREA

WORK BY TB, BR, JS	DATE NOV. 12, 1975
DRAWN BY TB, JS	NTS 106-B-4

Map No. 10b

LEGEND

Pb (ppm)
Zn (ppm) } RESULTS
Ag (ppm)

A — A HORIZON
B — B HORIZON
AB — MIXED, NO HORIZON DEVELOPMENT
AO — A HORIZON, ORGANIC MATTER

CREEK

OUTCROP

WINKIE DRILL HOLE

SOIL SAMPLE

CLAIM POST

0 20 40 80 120 140 180
1" = 40'

McINTYRE MINES LIMITED

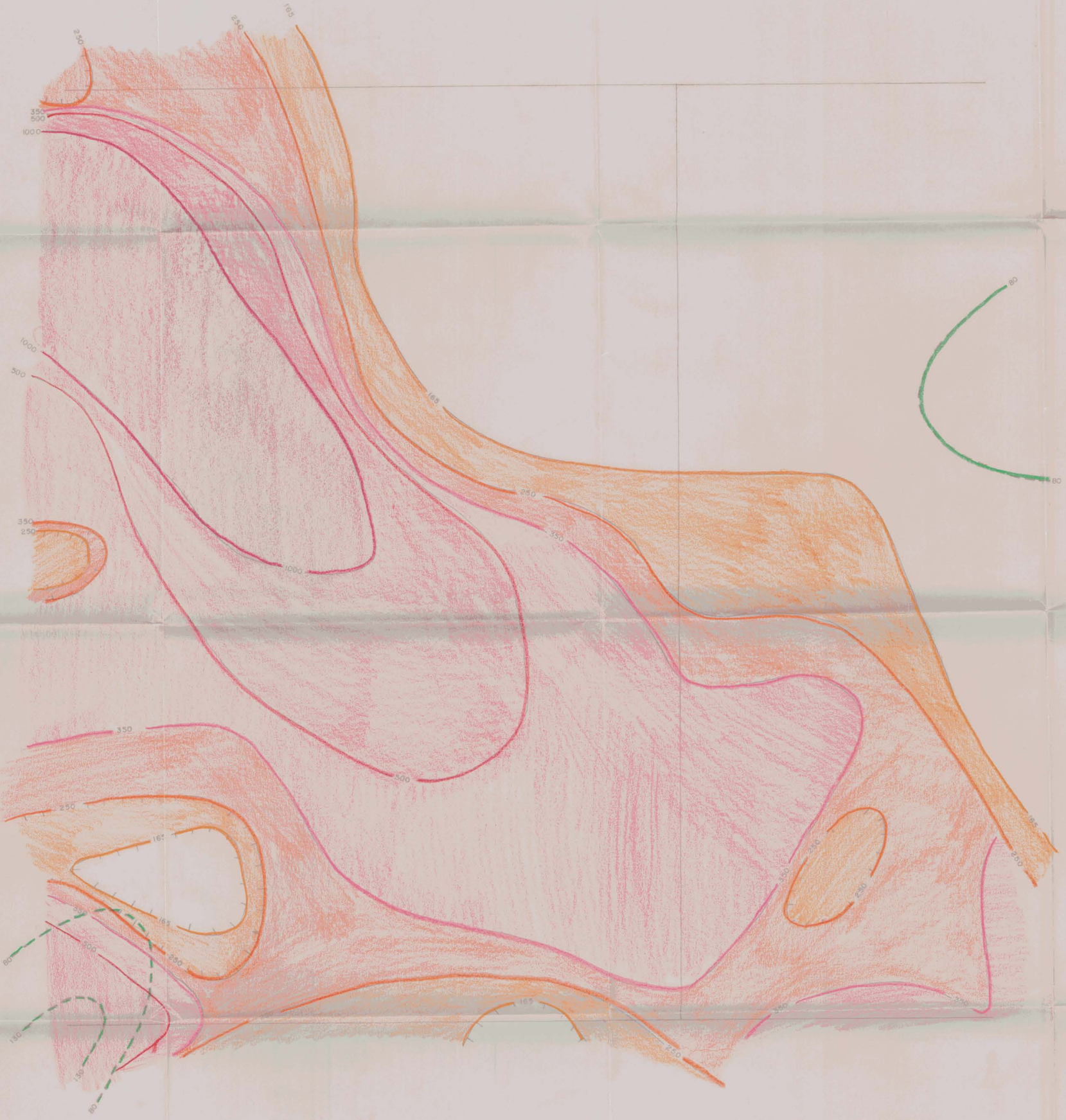
TOM CLAIMS MAYO M.D.

SOIL SAMPLE LOCATIONS, Pb&Zn RESULTS, GEOLOGY

AB-37

WORK BY TB, BR, JS	DATE OCT. 30, 1975
DRAWN BY T.B	NTS 106-B-4

Map No. 11



0 20 40 80 120 140 180
1" = 40'

McINTYRE MINES LIMITED

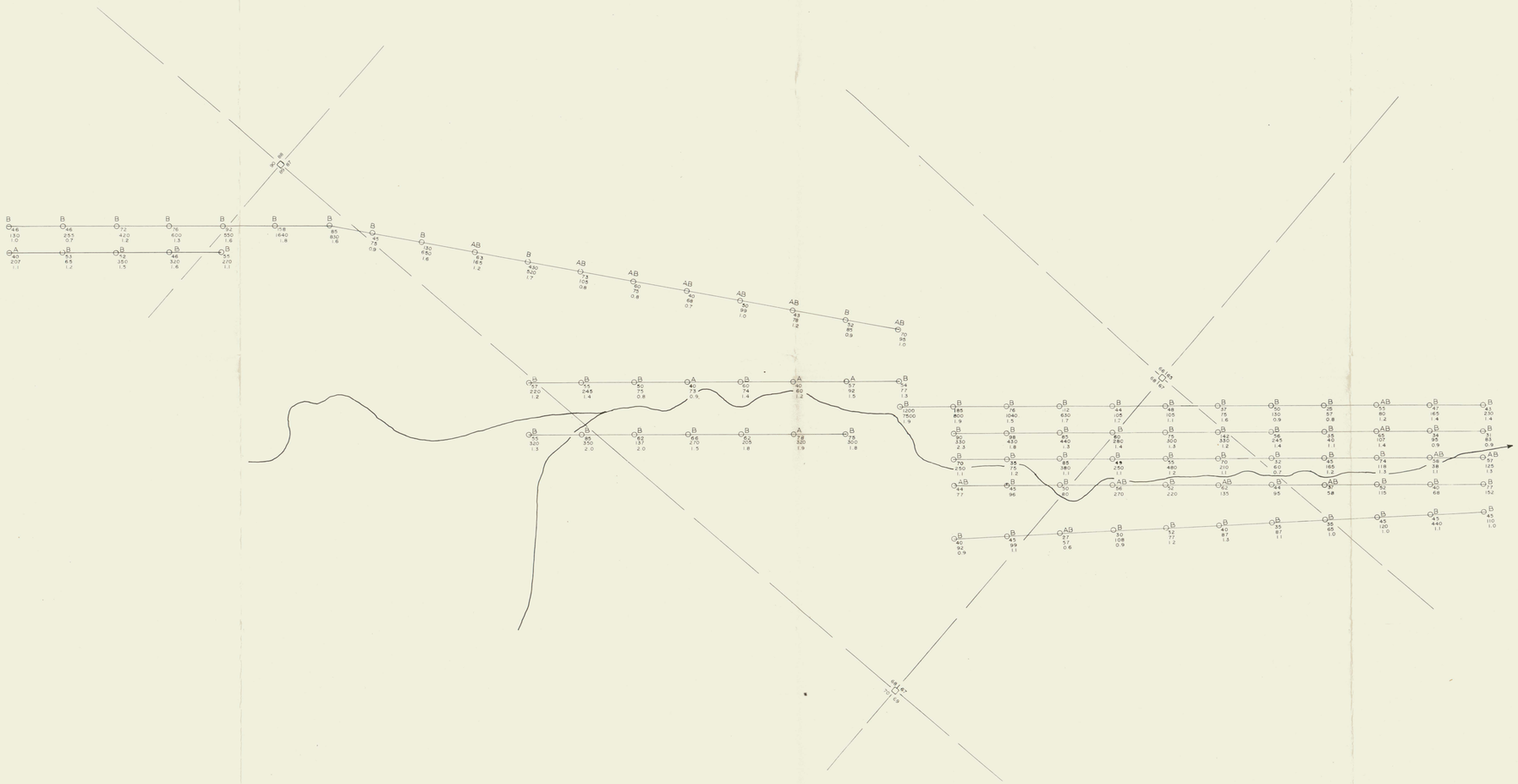
TOM CLAIMS MAYO MD

CONTOUR OVERLAY Pb&Zn RESULTS

AB-37 AREA

WORK BY JS	DATE NOV 10, 1975
DRAWN BY TB, JS	N.T.S. 106-B-4

Map No. 11a



McINTYRE MINES LIMITED

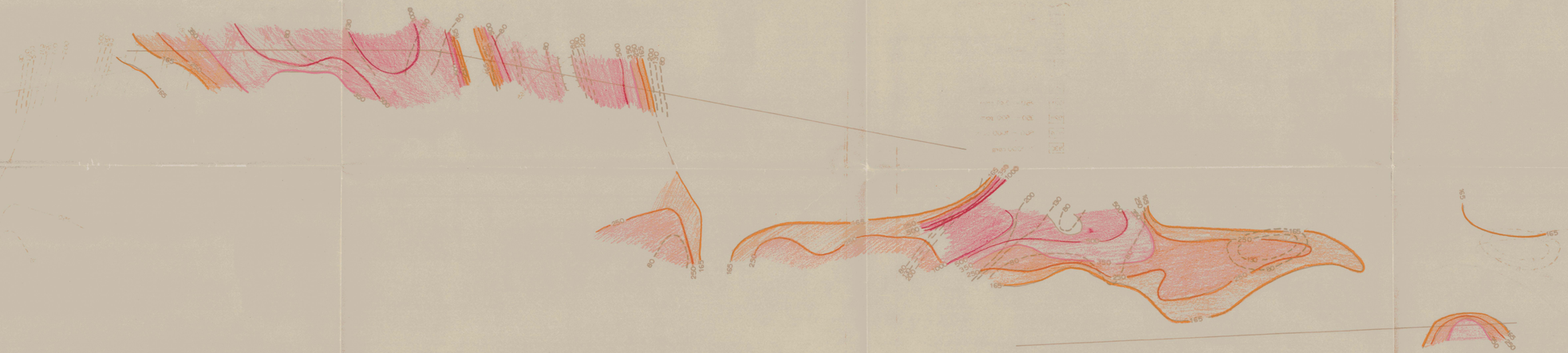
TOM CLAIMS MAYO M.D.

GEOCHEMICAL SOIL GRID J-24 EXTENTION

SAMPLE LOCATIONS and RESULTS

WORK BY	DATE OCT. 28, 1975
DRAWN BY T.B.	N.T.S. 106-B-4

Map No. 12



CONTOUR LEGEND

LEAD

CONTOUR LINES 80, 130, 200

913 80 — 129 ppm

910 130 — 200 ppm

911 > 200 ppm

ZINC

CONTOUR LINES 165, 250, 350, 500, 1000

915 165 — 249 ppm

925 250 — 349 ppm

935 350 — 500 ppm

945 500 — 1000 ppm

955 > 1000 ppm

0 100 200 400 600 700 800

1" = 200'

McINTYRE MINES LIMITED

TOM CLAIMS MAYO M.D.

CONTOUR OVERLAY Pb, Zn RESULTS

J 24 extention

WORK BY AR, BR	DATE NOV 13, 1975
DRAWN BY TB, JS	NTS 105-B-4

Map No. 12a