



31M05SE9705 63A.192 GILLIES LIMIT

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A GEOLOGICAL SURVEY OF THE BOMONT MINES PROPERTY

Gillies Limit, Cobalt Mining Area, Ontario

FOR

THE DIRECTORS

Haileybury, Ontario
July 25, 1954.

E. L. MacVeigh, B.A., M.S.

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SUMMARY

The property of Bomont Mines Limited consists of seven unpatented mining claims in the Gillies Limit section of the Cobalt Mining Area. The claims are a silver location three and a half miles south of the town of Cobalt on the Hound Chutes Road. Part of the ground was developed previously as the Trainmen Mine and some success reported in the locating underground of a cobalt and silver bearing vein. The very limited underground workings consist of 107' of vertical two compartment shaft and 236' of lateral work. These workings are in good conditions and are so located with respect to hydraulic air pipe line, road, and electric power line, that they present a very advantageous mining proposition. Moreover geological evidence indicates that the workings are strategically located to develop the most favourable part of the Bomont property as far as the likelihood of occurrence of cobalt and silver veins is concerned. This evidence is not only the presence of calcite veins of typical silver bearing type and a nearby vein structure of possible major importance, but also the general location of the shaft which is in greenstones near the hanging wall of the Nipissing diabase sill. Many factors add up to a good silver mining chance which could be explored rapidly and economically. Accompanying maps show in detail the recommendations for 400 feet of underground cross-cutting and drifting and 1250 feet of diamond drilling. The estimated cost of this exploration work including contracted mining work, Company supervision and all incidentals is \$40,000.00.

FOREWORD

A geological survey of the Bomont mining claims was carried out during May and June 1954. This followed a recent

land survey of the ground and the property outline as shown on the accompanying maps is closely located. During the land survey an azimuth bearing was fixed by iron pins close to the shaft and details of which show on an accompanying plan. The coordinate system as plotted on the underground plan originates at the No. 2 post of claim T.31052 which is 5000' North and 5000' East. The shaft and underground locations have not been calculated and will be subject to correction by underground survey when the mine is dewatered.

The purpose of the survey was to correlate geological information to aid continued exploration work underground which is proposed for the property. It was desired particularly to interpret the attitude of the Nipissing diabase sill with respect to the underground workings. The interpretation of the sill occurrence is shown on an accompanying vertical section. Four map sheets in all accompany the report. Assessment work accomplished by the geological survey is being filed in favour of the claims according to detail listed at the end of the report.

No access was had to the underground workings during the mapping which are water filled.

PROPERTY AND ACCESS

The Bomont mining property consists of the following seven unpatented mining claims in Gillies Limit, Cobalt Silver Area.

Claim		Assessment Work Completed
T. 31051	-	160 days
T. 31052	-	160 days
T. 31230	-	160 days
T. 31233	-	160 days
T. 34194	-	80 days
T. 34539	-	80 days
T. 34875	-	Nil

The claims total approximately 140 acres of ground and with the exception of claim T. 34875 were all land surveyed in 1954.

The claims are reached by driving $3\frac{1}{2}$ miles south of Cobalt on the Hound Chutes road and then taking a short turn off to the east. With the replacement of a small bridge car drive could be made to the Bomont shaft with a little road repair. The length of the road from the Bomont shaft to the Hound Chutes highway would be 2000 feet. The Ontario Hydro Power line passes one-half mile west of the shaft and the hydraulic air line is located 600' west of the shaft. At the present time a two inch air line connects the shaft with the main line of the hydraulic air system. A headframe at the shaft and two small buildings are present all in old condition. The shaft timbering is probably in good condition below the water line. The shaft collar is intact and underground workings generally should be found in good shape. A stream which drains Barth Lake flows close to the shaft and water could be piped underground from it for mining use.

Most of the property is fairly high relief and rock outcrops are common. The ground is well wooded with good sized poplar, spruce, birch, and pine.

Bomont is located one and three quarter miles southwest of the producing Silver Miller and Cobalt Lode mines in the same New Lake Basin geological structure.

SURVEY PROCEDURE

The geological mapping was carried out with the aid of out picket lines spaced at 200' distances along an east-west base line. All boundaries, base lines, and picket lines were chained

and stations established at 100' intervals. Using the stations as control points rock outcroppings were mapped in detail and lineals which are characteristic of vein occurrences in the area were traced and mapped. A prospecting of the property was carried out with the mapping and several veins of possible importance located. A total of 7.6 miles of line were out, chained, and picketed, including boundaries and base lines.

GEOLOGY

Geologically, the Bomont Mines Property occupies a position on the southwest rim of a basin shaped structure composed of underlying Nipissing diabase and overlying Keewatin greenstones and Cobalt sediments. For the most part the surface rocks are Keewatin greenstone with only one sizeable patch of Cobalt sediments near Barth Lake. The basin is three miles long by a mile and a half wide and the central part of the area is occupied by Lake New. The structure is referred to as the New Lake Basin. Basin structures are present at several important silver locations in the Cobalt and Gowganda Areas and may be more important than so far recognized. Within the basin structures subsidence probably exerted a maximum influence in cracking the diabase and adjacent rocks and it is the subsidence type of rock fracturing which is host to most of the commercial silver occurrences. This is possibly due to the time this type of fracturing took place: viz. when silver and cobalt bearing solutions were present.

In the subsidence of a basin structure rock fracturing may take place in two prominent directions, one direction as radiating cracks from the central area, and the other as tangential fracturing paralleling the edges of the basin and dipping normal to

the dip of the basin. Fracturing of both types appear to be recognisable on the Bomont claims and the more important of the two are indicated to be the fractures striking toward the central part of the basin, or radiating fracturing. The underground vein discovery in the Bomont workings and veins parallel and near it on surface appear to belong to this system. Ore deposits in such fractures can apparently be controlled to a considerable extent by pre-vein faults.

The rocks on the Bomont Property consist of Keewatin greenstones, Cobalt sediments, Nipissing diabase sill, and Keweenawan diabase dykes. On the west part of the property the Nipissing diabase sill outcrops as a north-south dyke like formation with steep contacts. To the north of Bomont the sill shows a more usual attitude, that of a flat dipping body inclined 26° to the southeast and evidence indicates the Nipissing diabase sill will underly the Bomont at shallow depths. West of the Nipissing diabase on Bomont is an occurrence of Cobalt sediments showing steep angle dips of 40° to 65° to the northeast. Such a steep attitude for Cobalt strata in the district is unusual and probably indicates down drag along a fault or tilting due to "floating" in the diabase. To the west of the Bomont the country is generally overburdened but the writer is advised that diamond drilling in this overburdened area intersected Nipissing diabase at rock surface. On the basis of the above evidence a vertical section has been drawn according to the accompanying plan. This shows a dyke-like intrusion of Nipissing diabase partially enveloping a remnant patch of Cobalt conglomerate and greenstone. The Bomont shaft location is thus located in an offshoot from the main diabase sill. The very coarse diabase found on the shaft dump is indicative that the main body of the sill is not very far below the present established 100 foot level in the

Bomont underground. Since practically all the silver produced in the Cobalt camp was found within 400' above and below the contacts of the Nipissing diabase sill, the Bomont shaft is thus well located for continued exploration.

The prospecting and mapping of the claims has shown a system of parallel "breaks" crossing the property in a north-west-southeast direction (see geological map). These "breaks" are fractures and veins with associated mineralization and occur north and east of the underground workings. The underground cross-out reached the most southerly vein of the zone and it is reported to be silver and cobalt bearing. Large pieces of greenstone showing cobalt on the Bomont shaft dump pretty well verify the underground reports of the values found. This vein may be traced on surface though no surface work has been done to open it up. As the southwest vein in a system of parallel veins occurring over a width of 200 feet, the underground workings on this feature give a vantage point for the exploration of the nearby vein features as shown on the accompanying diagrams.

The plan of the underground workings submitted with this report shows a projection of 400 feet of recommended lateral work and 1200 feet of diamond drilling all to be done in the vein zone described above. The recommended drifting and cross-cutting shown on the plan could be modified depending on vein appearances underground and drilling results. An initial amount of 400 feet of underground work however will be required to gain an estimate of the veins. On the north side of the vein zone of interest is a persistent boulder filled depression striking across the property in a direction north 65° west. Marginal to this depression are found vein occurrences and mineralization of a type associated with silver occurrence. A

continuation of the present cross-out underground for a distance of 215 feet to the northeast would cross the vein system and reach an indicated fault feature which may be of major importance.

The above described vein system occurs in greenstone above the Nipissing diabase sill. The sill as shown on the accompanying section is estimated to underly the east end of the mine workings at a depth of about 100 feet and to dip to the southeast. The surface rocks of the property are thus largely Keewatin greenstone outcrop. Traced to the southeast the above described vein system shows a second likely prospecting area in claim T.31051 and T.34539. Rock fracturing occurs in this part of the property and calcite veins are found at several places associated with the faulting shown on the accompanying geological map. Some low silver values were gained by sampling. Claims T.31051 and T.34539 are worthy of further surface work and possibly surface diamond drilling.

In addition to the above mentioned veins, an occurrence of possible importance was noted in the south part of the shaft claim (T.31230), at location - picket line 18W plus 230' north. This vein occurs in greenstone striking northwest-southeast and outcrops on the west side of a high bluff. The calcite and mineralization mark the vein as of possible importance.

The vein feature on which the Bomont shaft was sunk does not appear to be of commercial importance. The vein is a wide occurrence of quartz and calcite striking north-south and possibly near or occupying a fault zone. Near the shaft collar the vein appears to be barren of mineral but a few hundred feet south heavy sulphide mineralization of iron and copper are found. These occurrences have been explored by two test pits and a shaft of unknown depth.

RECOMMENDATIONS

While more than one section of the Bomont property has a chance for silver occurrence, the best indications are near the present underground workings and it is recommended that exploration proceed from the underground. The area of chief interest is marked with a red rectangle on the geological map.

On the plan of the Bomont underground are shown outlines for the diamond drilling of three flat drill holes extended across the vein zone. These are marked holes U-1, U-2, and U-3. A fourth drill hole, U-4, is shown on the vertical section designed to intersect the veins at lower horizons and closer to the top of the diabase sill. The four holes total 1250 feet of drilling and should be drilled as exploration to precede underground work. It may be found that more diamond drilling will be desirable. The drilling may be estimated at \$4.00 a foot including power and supervision. Some mining may be required in addition to accommodate the drills underground.

The underground mining recommended is a minimum of 400 feet of lateral work to be carried out in drifting and cross-cutting. Depending on vein appearances underground and the diamond drilling results, the mining work may be directed in various directions. However the presence of cobalt and silver occurring under such ideal conditions geologically as found at the Bomont property warrant this minimum mining exploration. The direct cost of the 400 feet of mining work may be estimated very roughly at \$35.00 a foot but will vary greatly depending on the rate at which the work is carried out and the general efficiency. The advantageous position in which the Bomont underground is situated will allow close estimates by a contractor. Inasmuch as there is no equipment, headframe, or building,

in useable condition on the Bomont property the Company would be well advised to contract the initial mining work to a contractor who will bring in his own portable equipment. Initial dewatering for diamond drilling purposes can be done locally or possibly contracted to the diamond drillers. The air line connecting the shaft with the main supply line is probably intact and useable, if so dewatering operations could commence on short notice. The shaft collar is in fair shape but may need a little repair work.

The direct costs of diamond drilling and mining including supervision and all expenses, if mining work is contracted, will probably cost about \$30,000.00. To take care of eventualities it is recommended that an amount of \$40,000.00 be provided for the program.

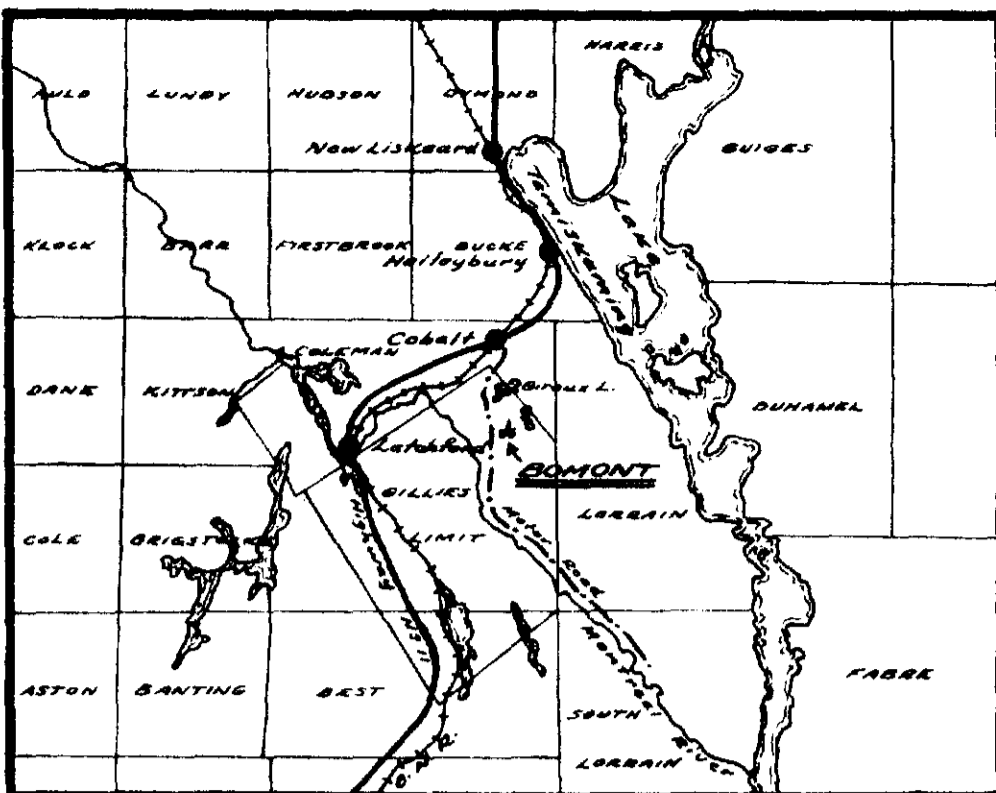
Respectfully submitted by



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E. L. MacVeigh, B.A., M.S.

Haileybury, Ontario
July 25th, 1954.

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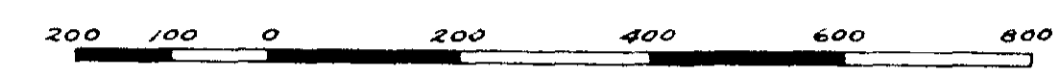
MAP SHOWING LOCATION OF
BOMONT MINES LTD.
SCALE: 1 inch = 8 miles

GEOLOGICAL MAP OF BOMONT MINES LIMITED

GILLIES LIMIT, COBALT MINING AREA, ONTARIO

(To accompany geological report by E.L. MacVeigh B.A., M.S.)

SCALE: 1 INCH = 200 FEET



- LEGEND**
- KEWEENAWAN**
- 5 Quartz, diabase etc.
 - Veins
 - 4 Nipissing diabase
- HURONIAN**
- 3 Slate-greywacke
- ALGOMAN**
- 2 Lamprophyre
- KEEWATIN**
- 1 Basalt and intermediate volcanics:
1a, pillow lavas; 1b, basalt; 1c, andesite
1d, tuffs; 1e, breccia and fragmental

- ABBREVIATIONS**
- F. gr., fine grains; M. gr., medium grain;
C. gr., coarse grain.

- Symbols**
- Diamond drill hole
 - Surveyed claim boundary
 - - - Approximate claim boundary
 - Picket line
 - Wagon road
 - Trail
 - Creek
 - Small creek
 - Boundary of rock outcrop
 - Boundary of swamp and low ground
 - Swamp
 - Abrupt rise in elevation
 - Trench
 - shaft or pit
 - Dump
 - Building
 - Fault
 - Contact defined
 - - - Contact approximate
 - Strike and dip of veins
 - Strike and dip of contacts and formations
 - △ Survey point
 - Claim corner



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Hammerstrom, July 11, 1954

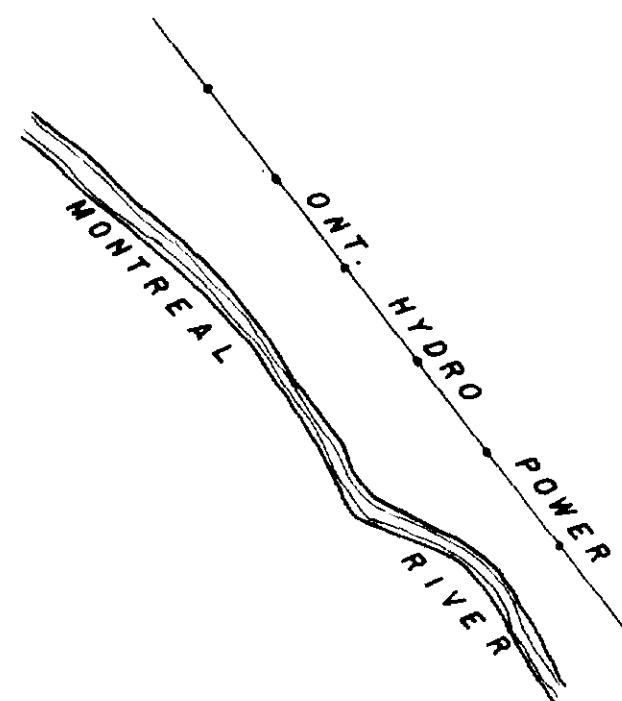
GILLIES LIMIT TWP.

COLEMAN TWP.

LEGEND

- A** NIPISSING DIABASE
- B** COBALT SEDIMENTS
- C** LAURENTIAN GRANITE
- D** KEEWATIN GREENSTONES

SILCO
SILVER MINES



LOCATION MAP

BOMONT MINING CLAIMS

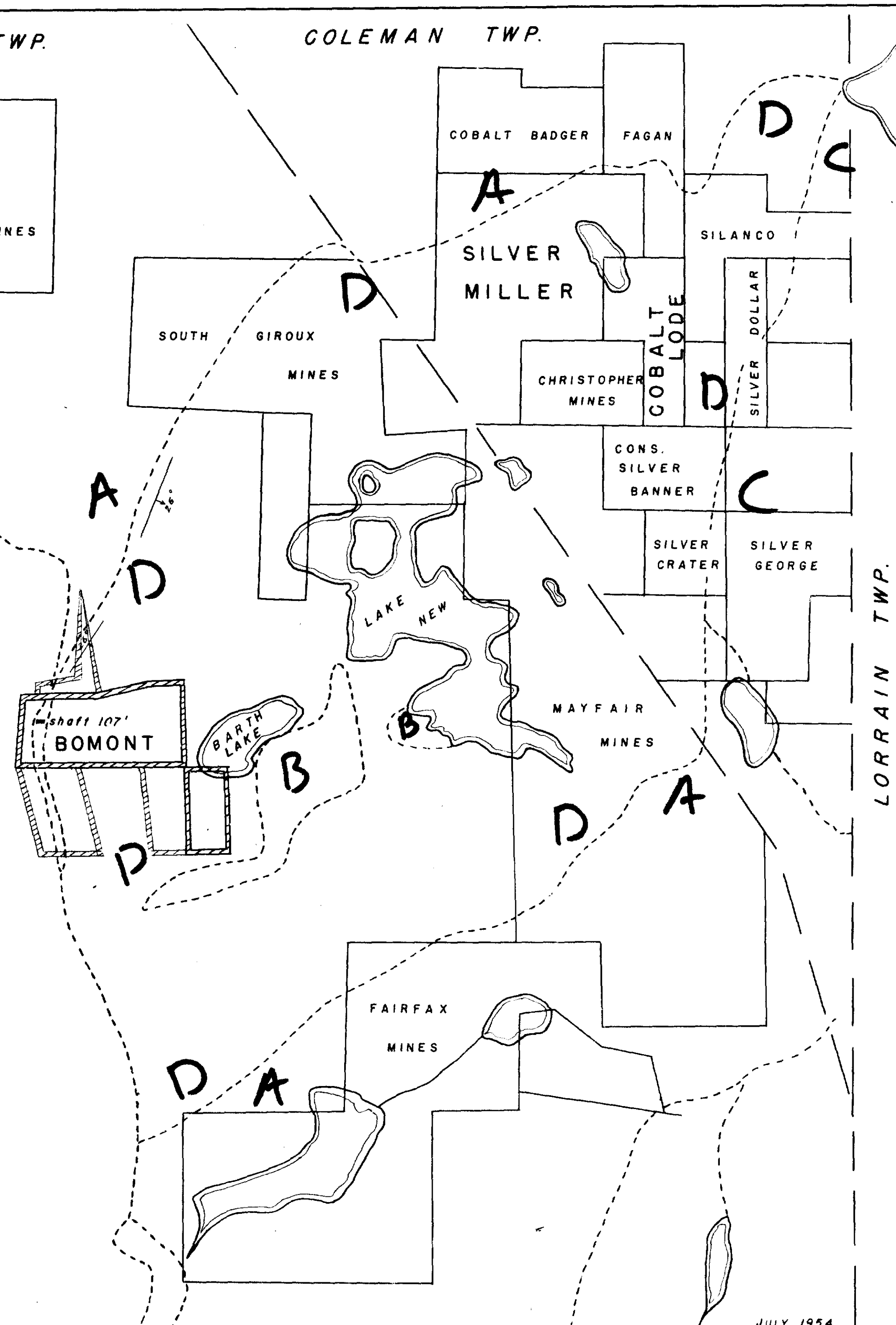
COBALT SILVER AREA
ONTARIO

SCALE 1" TO 1/4 MILE

HIGHWAY TO COBALT 3 MILES

COMPRESSED AIR LINE

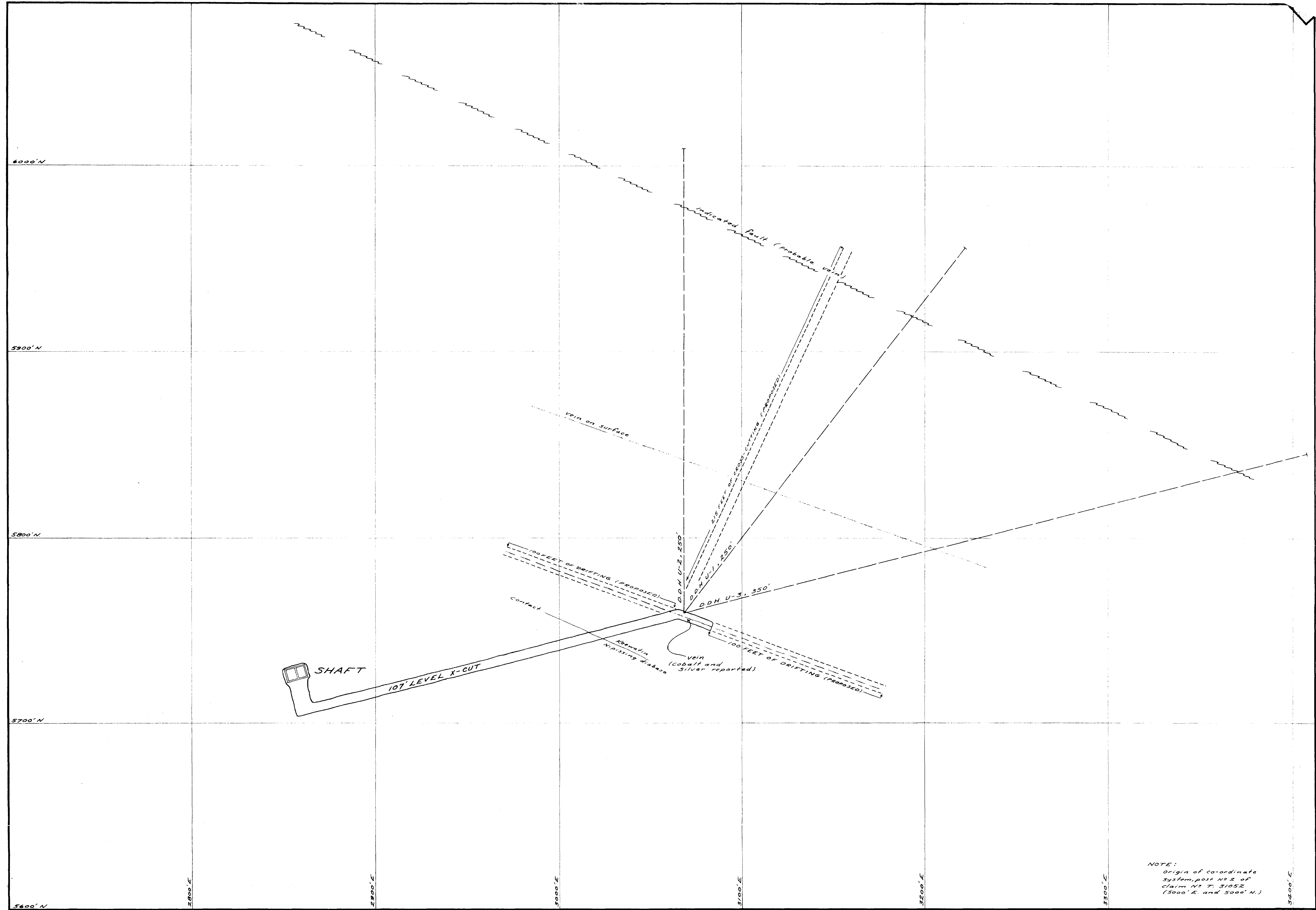
LORRAIN TWP.



JULY 1954



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NOTE:
 Origin of co-ordinate
 system, post No 2 of
 claim No T. 31052
 (5000' E. and 5000' N.)

PLAN OF UNDERGROUND WORKINGS
WITH RECOMMENDED DIAMOND DRILLING AND UNDERGROUND WORK

BOMONT MINES LIMITED

GILLIES LIMIT, COBALT MINING AREA, ONTARIO

(To accompany geological report by E.L. MacVeigh, B.A., M.S.)

SCALE: 1 INCH = 20 FEET



4 1/2 ft D
VERTICAL SECTION OF GEOLOGY AND MINE WORKINGS

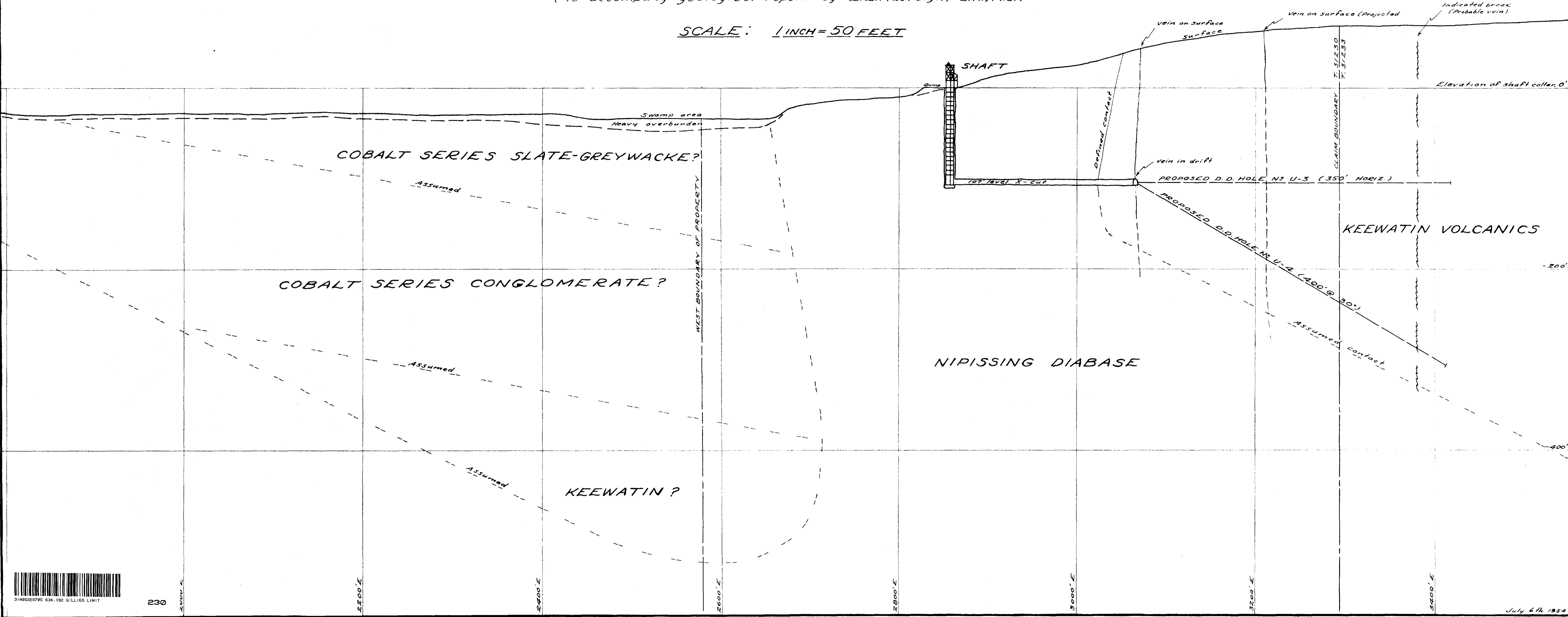
N. 76° E. AST. →

BOMONT MINES LIMITED

GILLIES LIMIT, COBALT MINING AREA, ONTARIO

(To accompany geological report by E.L. MacVeigh, B.A., M.S.)

SCALE: 1 INCH = 50 FEET



1 1/2 sq ft.

(5)

N. AST.

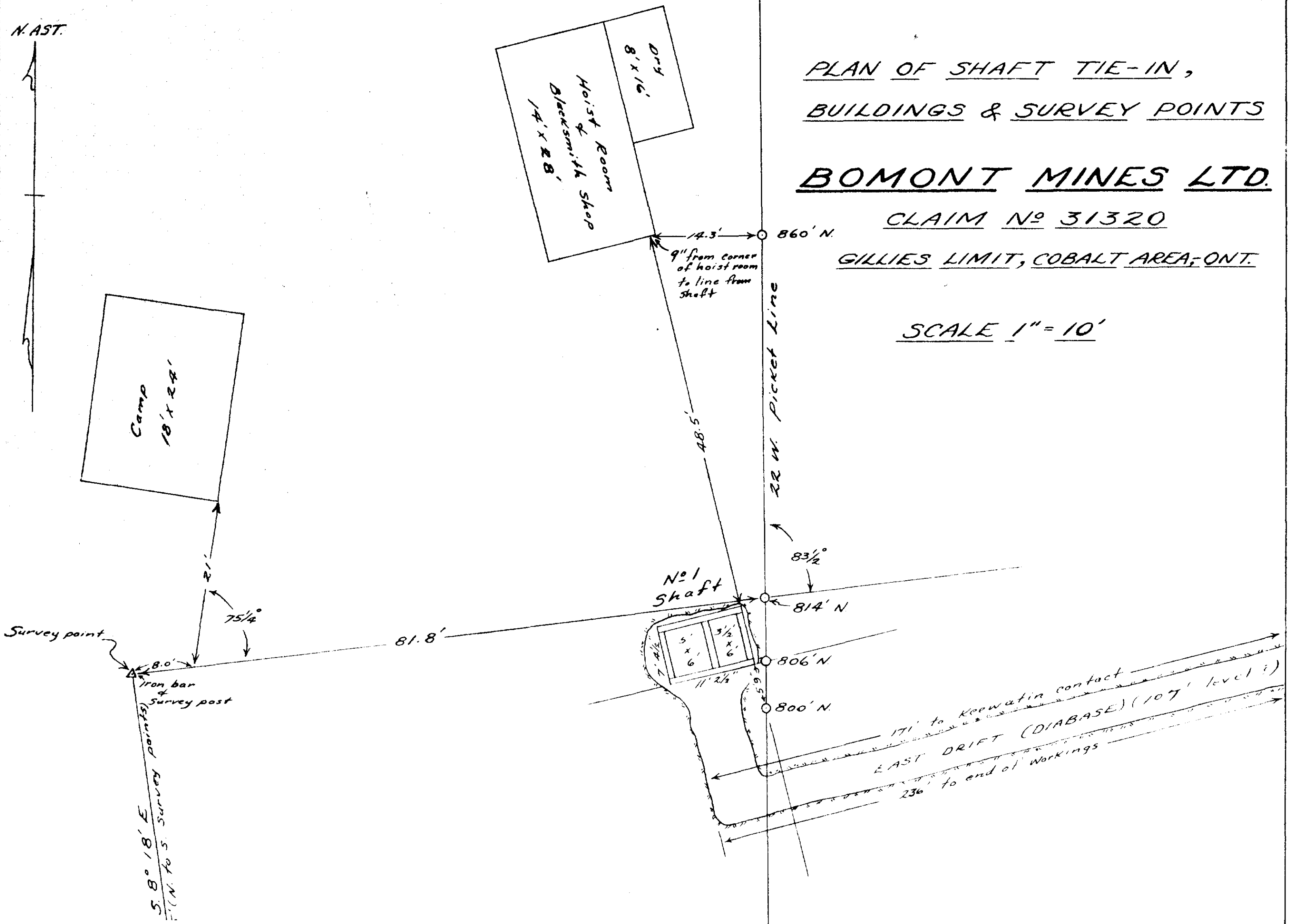
PLAN OF SHAFT TIE-IN,
BUILDINGS & SURVEY POINTS

BOMONT MINES LTD.

CLAIM No 31320

GILLIES LIMIT, COBALT AREA, ONT.

SCALE 1" = 10'



NOTE: Shaft 107 deep

A. Hammerstrom