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REPORT ON THE PROPERTY OF
JONSMITH GOLD MINES LIMITED
PARKIN TOWNSHIP - DISTRICT OF SUDBURY.

W. P. CORKING
JUNE 1947

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INTRODUCTION:

Encouraged by grab-sampling which assayed well in nickel, copper, platinum, gold and silver, the Directors of this Company recently undertook a short preliminary program of diamond drilling and surface examination on their property in the Sudbury District. The primary aim was to corroborate the grab-sampling and to provide data with which to estimate the extent and nature of further work. The following report deals with the results of this program and with recommendations regarding the next stages of development.

LOCATION AND PHYSICAL ASPECTS:

The Jonsmith property consists of 24 mining claims covering portions of Lots 3, 4, 5, 6 and 7, in Concessions 2 and 3, Parkin Township, District of Sudbury, Ontario. (See accompanying Claim Plan - Figure "D".) Three more have recently been staked. It lies some eight miles north-northeast of Capreol, and 22 miles north-northeast of Sudbury. Access is gained by 6.2 miles of

improved road from Capreol in the direction of Milnet followed by approximately 5 miles of tote road to the present camp. Small aircraft can land in 20 minutes from Sudbury on a small lake one half mile south of the property. The C.N.R. transcontinental line passes along the Vermilion river $3\frac{1}{2}$ miles to the east of the boundary. Good timber and water are plentiful on the ground.

RELATIONSHIP OF JONSMITH PROPERTY TO GENERAL SUDBURY GEDLOGY

The Sudbury basin possesses economic significance too well-known for description here. It consists of a boat-shaped mass of igneous rock lying above a steeply tilted series of sediments and volcanics, and overlain by a series of lightly disturbed, almost horizontal sediments. The igneous basin itself is about $1\frac{1}{2}$ miles thick, 36 miles long and 17 miles broad; it takes the form of a gentle syncline so that only the rim is exposed on surface. The outer shell of the basin consists of norite - a basic differentiate, and the inner shell of micropegmatite - an acid differentiate. Because of its association with many massive ore deposits, the norite is often referred to as thanickel eruptive. The ores of nickel, copper, platinum, gold, etc. are found either in bays around the margin

of the norite, or in "offsets" -- dike-like tongues which protude outward from the basin. On surface only two of the offsets (Foy and Copper Cliff) are actually continuous with the norite of the main body. Although variable from place to place, the average composition of the rock in the offsets approaches that of the norite and it is noteworthy that all of the offsets embrace numerous bodies of breccia.

Representatives of the offset deposits are Worthington, Frood, Stobie, Vermilion, Copper Cliff, Victoria mines, and of the basin deposits, Creighton, Gertrude, Murray and Falconbridge.

Certain low temperature lead-zinc deposits occur in the sediments of the interior of the basin.

The south boundary of the Jonsmith property lies $2\frac{1}{2}$ miles from the northeast corner of the nickel eruptive, at which point the Whistle ore deposit occurs. In this vicinity also, Ontario Nickel Mines Ltd., recently reported development of 800,000 tons of ore averaging 1.30% nickel, and 0.50% copper covering a strike length of 800 feet to a depth of 600 feet.

Traversing Parkin Township in a northwest-southeast direction, there are several dike-like bodies of

basic intrusive rock which are generally regarded as basic offsets from the Sudbury basin and these have been mapped as such.

Bodies of heavy sulphide mineralization similar in composition and habit to the Sudbury ores and containing combined values of ore grade in nickel, copper, platinum and gold occur within basic dike-rocks on the Jonsmith claims.

LOCAL GEOLOGY

The long axis of the Jonsmith block of claims extends for approximately 2 3/4 miles along the northwest-southeast strike of a series of sedimentary rocks. Underlying the sediments and forming the bedrock of the southwest third of the property is a band of greenstone (very old volcanics and intrusives). The contact of a large granite stock with the greenstone parallels the long axis of the claim block about 1 mile to the southeast. Several tongues of basic rock of the offset type intrude the sediments parallel to their strike. About 25% of the area is covered by glacial overburden, and it is interesting to note that large sand and gravel plains occur in the granite country to the east. At Milnet, some 3 1/2 miles east, an attempt is currently being made to develop placer gold reserves for dredge operation.

The gold here is reported to occur in gravel beds near the Vermilion River.

In this present program, two areas on the ground have been explored to a very limited extent by diamond drill. These are referred to hereinafter as Zone No. 1 and Zone No. 2.

ZONE NO. 1

Exposures consist of two old rock trenches in the east central part of patented claim S 5265 (see Figures B and D). Heavy pyrite, pyrrhotite, pentlandite, chalcopyrite mineralization occurs in tongues of comparatively fresh diorite. The structure is very complex and it is apparent that the diorite is not a continuous dike, but occurs rather as a series of fingers, which strike in a generally northwesterly direction. Where cut by diamond drill holes it has a near-vertical dip. It is intruded between the contact of a somewhat contorted band of limestones on the southwest and a series of cherty quartzites on the northeast. A zone up to 30 feet thick of highly silicified breccia has been developed in the quartzite along the contact between it and the diorite, and locally, there are inclusions of this breccia within the diorite. The breccia is well mineralized with very finely disseminated, barren pyrite.

The ore mineralization occurs in solid masses and lacey networks in the massive, unsheared diorite - probably related in distribution to certain flat jointing and to bends and irregularities in the form of the intrusives.

In Trench No. 1, the lenticular body of mineralization has a length of about 50 feet and a maximum width of about 20 feet. Three drill holes, some 30 feet (vertical) below this trench, gave the following results: (See Figure "E").

Hole No. 1.

21.4 feet of core length assaying

Nickel	-	1.76%
Copper	-	1.68%
Platinum	-	0.13 ozs./ton
Gold	-	0.03 ozs./ton.

(\$28.85 combined value per ton at present market price.)

Hole No. 2

24.2 feet core length assaying

Nickel	-	1.42%
Copper	-	1.44%
Platinum	-	0.12 ozs./ton
Gold	-	0.06 ozs./ton

(\$28.85 combined value per ton at present market price.)

Hole No. 3

This hole passed about 15 feet off the southeast end of the surface mineralization and the diorite in it was found to contain very little mineralization.

In trench No. 2 the surface mineralization forms a tapering wedge some 80 feet long and 15 feet wide at the base of the wedge. Three drill holes about 40 feet below this trench gave the following results:

Hole No. 4

13.9 feet of core length assaying

Nickel	-	)	Assays not
Copper	-	)	available at
Platinum	-	)	the time of
Gold	-	)	writing.

The mineralization in this hole is mainly concentrated within 3.2 feet of core and low values were obtained by the necessity of including, in the composite sample, scattered mineralization, which assayed well in gold alone, in two places. ($\frac{\$8.40}{2.5'}$ and $\frac{\$16.80}{1.7'}$)

Hole No. 5

This hole, in the northwestern end of the trench, cut no diorite and no mineralization of the ore type. This suggests a southeasterly rake.

Hole No. 6

A $7\frac{1}{2}$ foot length of mineralized diorite was sampled together with fairly good mineralization in the

silicified breccia, separated by 10 feet of barren breccia.

This whole section of 32.2 feet core length assayed

Nickel	-	0.78%
Copper	-	0.75%
Platinum	-	0.06 ozs./ton
Gold	-	0.01 ozs./ton

(\$12.84 combined value at present market prices.)

NOTE

In all of these holes, the core in the mineralized zones was split in short samples in the usual way, and assayed first for gold. Later, in order to obtain a more accurate assay of the four metals, composite samples were made up from aliquot parts of each sample within a given zone.

No attempt to channel sample the surface of this zone was made since surface oxydation would preclude the possibility of a representative sample. However, some grab samples were taken of the better looking material which gave values in Nickel, up to 1.40%; Copper 4.88%; Platinum .05 ozs.; and Gold 0.45 ozs.

A small amount of old test-pitting (Trench 3) was done in claim S 42676, starting about 100 feet southeast along the strike from No. 2 Trench. Here the geology is entirely different. A number of barren quartz ladder-veins out transversely across a highly carbonatized rock which lies

between two horizons of limestone. Two diamond drill holes were put down under this trench and though one of them cut nearly 30 feet of quartz-carbonate, (presumably a vein paralleling the hole) nothing of economic interest was found.

It should be noted that in the case of the mineralized diorite there is an almost complete lack of quartz and carbonate.

ZONE NO. 2

On surface this consists of a small amount of old rock work and stripping in claim S 39838. An undulating contact strikes west-northwesterly between limestone on the northeast and highly silicified breccia on the southwest. Within the limestone and near this contact, a very irregular strike-vein of quartz is exposed for about 50 feet, with a maximum width of 5 to 6 feet. Off the southeast end two trenches show that it either terminates or pinches to insignificant width. On surface the vein is open to the northwest. A large number of straight, parallel stringers branch off the main vein in a southwesterly direction giving a "half-feather" pattern to the quartz. (See Fig. C) One of these is a little wider than the rest and apparently the trenching follows this, rather than the main leader vein.

Lenses of heavy galena-sphalerite mineralization

with minor amounts of pyrite and chalcopyrite are found locally in the quartz, and the breccia is well mineralized with finely disseminated pyrite with occasionally a little coarse pyrite and arsenopyrite. The quantity of galena and sphalerite present in the lenses is intriguing but not to the degree that mining of lead and zinc might be considered. However, grab sampling of the better mineralization here, gave values up to \$8.05 in gold, with some silver and it was hoped that this might prove worth while.

Four drill holes under this trench met with discouraging results. Although the quantity of quartz vein-matter intersected corresponded with that on surface, the galena-sphalerite mineralization was found in only two short sections. In hole No. 10, 2.7 feet of quartz with galena, sphalerite, chalcopyrite and pyrite assayed \$3.50 in gold, and 2.30 ozs. in silver. Hole No. 11 cut 10 inches of quartz with other stringers containing a little arsenopyrite, chalcopyrite, galena and pyrrhotite which assayed \$5.25 in gold over 2.0 feet. Casual channel sampling in this vein zone gave the following assays in gold.

<u>Value</u>	<u>Width</u>
Trace	8.0 feet
\$0.70	8.0 feet
Trace	6.0 feet
\$9.80	6.0 feet
Trace	5.0 feet
\$1.40	6.0 feet

A fifth drill hole was aimed in the opposite direction across a narrow swamp. This cut limestone strata and

finally passed through an unmineralized contact into a massive grey rock, probably quartzite, but possibly a variant of the diorite in which the copper-nickel mineralization is found in Zone No. 1.

CONCLUSION

The feature of greatest interest on this property lies in Zone No. 1, where two lenses of copper - nickel - platinum - gold mineralization are found. The surface exposure of these two lenses has a combined area which indicates roughly 100 tons per vertical foot.

Of the six drill holes intended to intersect this zone (as nearly as possible at right angles to the strike and dip), four cut through mineralization of ore grade and width as follows:-

<u>Hole Number</u>	<u>Core Length</u> V	<u>Nickel</u>	<u>Copper</u>	<u>Platinum</u>	<u>Gold</u>
1	21.4 ft.	1.76%	1.68%	0.13 ozs.	0.03 ozs.
2	24.2 ft.	1.42%	1.44%	0.12 ozs.	0.06 ozs.
4	13.9 ft.	Assays not yet available.			Comb. values \$36.00
6	32.2 ft.	0.78%	0.75%	0.06 ozs.	0.01 ozs.

Of the other two holes, one passed through unmineralized host-rock and the other cut none of the host-rock.

The mineralogy and general characteristics of these bodies, although they are small, bears striking resemblance to the ores of the Sudbury nickel eruptive and are

associated with basic dike-like tongues of rock of the well-known offset type. Similar basic dikes strike northwesterly through the property and very little exploratory work has been done along this strike.

Under the foregoing circumstances, it is highly desirable that further work be carried out along the strike of this No. 1 Zone. The results already obtained from a very short program indicate reasonably good prospects of locating other bodies of nickel-copper - platinum - gold ore.

RECOMMENDATIONS

1. Since magnetic pyrrhotite forms such a prominent part of the mineralization, there can be little doubt that a magnetometer survey would indicate anomalous magnetic intensities in the vicinity of such bodies. It is recommended that a base line be cut northwesterly through the property and that a (Vertical type) magnetometer survey be carried out, taking readings at 100 foot intervals along lines 200 feet apart, at right angles to the base line.

2. On completion of this survey, diamond drilling should be carried out in accordance with the anomalous magnetic pattern. It is of course, not possible to estimate the footage that may be required until the survey is completed.

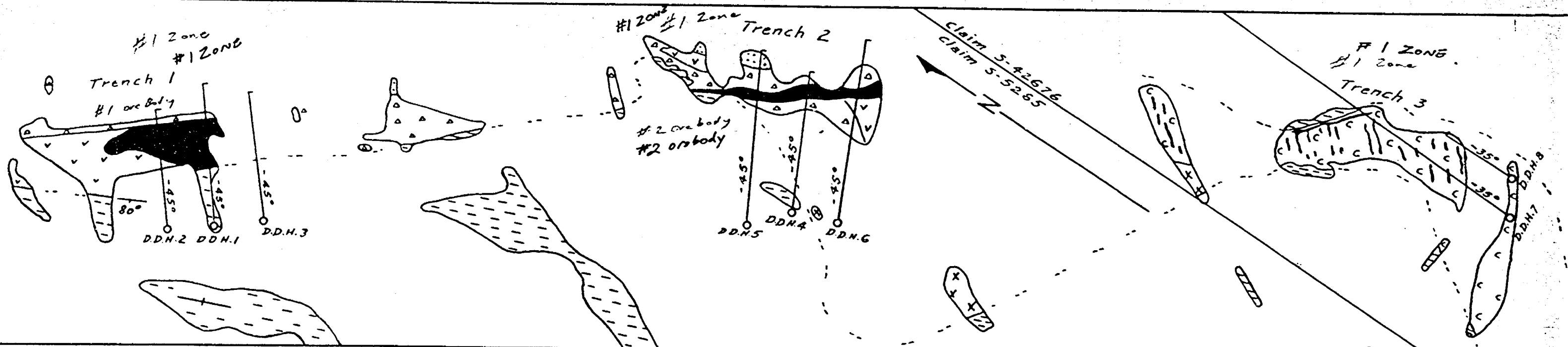
It should be stated that the present tote road from the Capreol-Milnet road to the camp is almost useless, at

present, for freighting purposes. Although much of the road is suitable for trucks, there is perhaps $\frac{1}{4}$ to $\frac{1}{2}$ mile of swamp, which makes it almost impassable, even for horses. The geophysical survey will not require much freighting and it is suggested that this party be supplied by air, and that the road and camp situation be dealt with, when the diamond drilling situation develops.

E. G. BISHOP and W. P. CORKING

June 27th, 1947

Halleybury, Ontario.



- | | | | |
|------------------------|----------------|--------------------|------------------|
| Quartz-carbonate veins | Carbonate rock | Diorite | Cherty quartzite |
| Sulphides | Amphibolite | Silicified breccia | Limestone |

Scale of Feet.
 1" = 40'
 0 40 80 120

Geological sketch map of the nickel-copper showing at No. 1 zone on the property of Jonsmith Gold Mines, Ltd, Parkin township.
 (Modified after company plans by W.P. Corking, June, 1947)



41155W0106 PARKIN34 PARKIN

(May 8, 1950)

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NICKEL-COPPER PROPERTY

of

JONSMITH GOLD MINES, LTD.

PARKIN TOWNSHIP

HISTORY AND DEVELOPMENT

In 1949 Jonsmith Gold Mines, Ltd. held a block of 30 mining claims in lots 3-7, Concessions 2 and 3, Parkin township. The property lies about 8 miles north-northeast of Capreol on the Canadian National railway and is reached by approximately 5 miles of tote road from Milnet station.

Interesting values in nickel, copper, and precious metals were obtained from surface grab samples of sulphide mineralization. This led the company to undertake a program of surface work and diamond drilling in 1947. Thirteen holes, aggregating 1670 feet, were drilled at that time. A magnetometer survey of the property was also made.

ACKNOWLEDGMENTS

The following summary has been prepared from the maps and report on the property prepared by W.P. Corking, consulting geologist, in June 1947. These were kindly furnished by the Company. The writer has not visited the property.

GEOLOGY

The general geology of Parkin township is shown on Map No.41c of the Ontario Department of Mines. The south

boundary of the Jonsmith property lies 2 - 5 miles north of the Whistle mine, located on the northeast corner of the Sudbury nickel irruptive. The long axis of the Jonsmith block of claims extends for approximately $2\frac{1}{2}$ miles along the northwesterly-southeasterly trending series of sedimentary rocks. Several tongues of basic rock of the Sudbury nickel irruptive "offset" type intrude the sediments parallel to their strike. Two areas on the property, referred to as the No.1 and No.2 zones, have been explored by diamond drilling.

NO.1 ZONE

This is represented on the surface by two old rock trenches in the east central part of claim S-5265 and No.3 trench on claim S-42676 (see Fig.). At trenches No.1 and No.2 heavy pyrite, pyrrhotite, pentlandite, and chalcopyrite mineralization occurs in tongues of comparatively fresh diorite. The diorite occurs as a series of fingers intruded between a contorted band of limestone on the southwest and cherty quartzite on the north east; A zone of highly silicified breccia, up to 30 feet in width, has been developed in the contact zone of the quartzite; locally there are inclusions of this breccia within the diorite. The ore mineralization occurs in solid masses and lacy networks in the massive diorite. In trench No.1 the lenticular body of mineralization has a length of 50 feet and a maximum width of 20 feet. In trench No.2 the surface mineralization is wedge-shaped, being 80 feet in length and 15 feet wide at the base of the wedge. At trench No.3 the geology is quite different. Here a number of quartz ladder veins cut across a highly

carbonatized rock which lies between two horizons of limestone.

Drilling Results. A summary of drilling results at trench No. 1, as given in the report by W.P. Corcking, is listed below. The location of the holes is shown on Fig. . The intersections were about 30 feet below the trench.

Hole No.	Core Length (feet)	Nickel (per cent)	Copper (per cent)	Platinum (oz/ton)	Gold (oz/ton)
1	21.4	1.76	1.68	0.13	0.03
2	24.2	1.42	1.44	0.12	0.06
3	1	little mineralization.			

Holes Nos. 4, 5, and 6 were drilled under trench No.2. Hole No.4 showed 13.9 feet of mineralized core but most of the mineralization was concentrated within 3.2 feet. At two places in this sample gold assays of \$8.40 per ton over 2.5 feet and \$16.80 per ton over 1.7 feet (gold valued at \$35.00 per ounce) were obtained. Hole No.5 cut no mineralization of the ore type. In hole No.6, 32.2 feet of core assayed 0.78 per cent nickel, 0.75 per cent copper, 0.06 ounces platinum per ton and 0.01 ounces gold per ton. Holes 7 and 8 did not show any values.

NO. 2 ZONE

The surface showing at No.2 zone consists of a small amount of old rock work and stripping on claim S-39838. This lies about 4200 feet north west of No.1 zone. It consists of a quartz vein that is exposed for 50 feet along the strike and has a maximum width of 6 feet. Stringers of quartz branch from the main vein. Lenses of heavy galena-sphalerite mineralization

and minor amounts of pyrite and chalcopyrite are found locally in the quartz. Grab samples of the mineralized material show gold values on assay. Six holes were drilled into this vein but revealed only non-commercial values in gold and silver.

September 7th, 1954.

The mine underground is serviced by a three compartment shaft, to a depth of 475 feet, with levels at the 190', 300', and 465' horizons. The shaft compartments are all 5'0" x 6'0". Compartment # 1, the skip compartment, is serviced by a 2 ton automatic dumping slip. Compartment # 2, the cage compartment, services men and material. Compartment # 3 is the manway compartment and power services way, with 6" compressed air, 2" water, two 3" pump discharged, two 2" level drain lines and the necessary power cables.

Drifts and crosscuts on the three levels totalled 1,955.0 lineal feet, 610.0 feet on the 190' level, 630' feet on the 300' level, and 715' on the 465' level at the time Jonsmith Mines Limited took over the underground operation. The aforementioned work was by Milnet Mines Limited, just that necessary to extract the indicated #1 and #2 ore bodies.

A loading pocket station at the 425' horizon plus ore pass raises to the 190 level, services the broken ore.

Empty stopes provide partial waste disposal, the remaining waste is decked to surface.

The mine water is pumped from the 465 pump station and averages 100 gallons per minute. Most of this water is made in the top 100.0 feet of the mine openings, with little or no water made on the 465 horizon.

GEOLOGICAL DATA AND ECONOMIC POSSIBILITIES

Jonsmith Mines Limited is located in Parkin Township, approximately four miles north of the northeast corner of the Sudbury Basin.

A quartz diorite dyke, the Norman-Parkin offset intrudes the property for more than a mile and it is along this dyke that ore deposits have been found.

The dyke is similar geologically and mineralogically to several others which radiate outwar from the rim of the Basin and which are the host rocks for several producing mines. Typical of these are the Nickel offsets Mine on the north side of the Basin; the Copper Cliff No.1 and No.2 and the Evans Mines on the south side and the Worthington Mine along the Worthington offset. The Frood Mines occurs along a quartz diorite dyke which is parallel to the rim of the Basin. The Whistle Mine, two miles south of Jonsmith Mines is a deposit along the Norman-Parkin offset and was formerly a producer of Nickel-copper ores. It is now owned by the International Nickel Company who plan to resume operations in the near future.

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POOR QUALITY ORIGINAL
TO FOLLOW**

September 7th, 1954

The Norman-Parkin offset on the Jonsmith Mines property is a quartz diorite dyke from forty feet to five hundred feet in width and strikes in a northeast direction for 4,000 feet where it bends to the northwest. It was along this northwest limb that the two ore bodies occur. The present surface surveys only extended a few hundred feet northwest of the mine workings and there is a suggestion that the dyke resumes its original course and continues for three claims to the north boundary of the property.

As in the other mines in the Sudbury area the ore occurs in breccia zones the result of either faulting or foldings. On the Jonsmith property the breccia zones were caused by northwest trending faults which shattered the quartz diorite host rock sufficiently to provide favourable receptacles for nickel bearing sulphides.

This breccia is also found in the Burton showing near the south boundary of the property where diamond drilling has revealed a narrow but high grade nickel-copper zone and where deeper drilling is now in progress.

The area north of the shaft warrants complete investigation to determine whether the northwest trending faults intersect the intrusive along the assumed northerly extension and produce favourable breccia zones.

The deepest level, the 465 foot horizon has a geological pattern similar to that on surface and it is highly probable that this will continue to depth. Thus the possibilities of locating new ore bodies below the 465 feet level are very favourable.

From the geological aspect the whole length of the dyke is prolific prospecting ground for nickel-copper deposits. At present a length of 5,200 feet has been mapped and there are indications that it continues for another 5,000 feet to the north boundary of the property.

Along the mapped portion of the dyke several anomalous zones were indicated by a magnetic survey and these corresponded to the areas outlined by a geochemical survey. These anomalies are probably significant indications of sulphide zones and warrant detailed investigation.

Milnet Mines Ltd. - Development and Production

Prior to 1952 Jonsmith Mines Limited completed a partial geological surface survey of their property and had outlined by closely spaced diamond drill holes the #1 and #2 ore bodies. Subsequently Milnet Mines Ltd. leased a block of ground 1000 feet x 500 feet to 500 feet in depth, embracing #1 and #2 ore bodies, for the purpose of mining the nickel-copper ore contained in this block.

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September 7th, 1954

During 1952 Milnet Mines constructed the aofresaid surface and underground plant and purchased the necessary equipment. Shaft sinking and the level stations were completed by Oct. 31, 1952. Development of the 190' and 300' levels was started with the first ore delivereries to Falconbridge Nicekl Mines Ltd. in the latter part of Dec., 1952. Development of and production from the #1 and #2 ore bodies from 465 level to surface continued to completion as of July 18, 1954. In Feb. 1954 Milnet Mines shipped to Falconbridge Nickel Mines 13,035 dry tons of ore with plant at approximately 80% of its hoisting capacity.

The #1 ore body as mined by Milnet Mines extended from surface to 350 feet below surface. The surface outcrop was 60 feet in length. The longest stoping length was 240 feet; the average stoping length was 120 feet. The surface outcrop of #2 ore body was 50 feet in legnth; the average stoping length was 55 feet. This vein structure persisted to below the 465' horizon. Stopping was completed from the 400' horizon to surface, below this the vein structure was below shipping grade, that is nickel 1.00%, copper 1.00%.

Milnet Mines Limited from Dec. 15, 1952 to July 18, 1954, mined and shipped to Falconbridge Nickel Mines a total of 157,755.70 dry tons of nickel, copper and precious metals ore. This ore assayed - nickel 1.49%, copper 1.54% (to date); gold 0.027 oz., platinum 0.066 oz., palladium 0.087 oz. and combined iridium, rhodium, and ruthenium 0.0032 oz. (to the end of Apr. 1954, the latest avaiabel assays)

Total contained metals in the above 157,755.70 dry tons were as follows :

Nickel	(to date)	4,711,119.0 lbs.
Copper	(to date)	4,846,847.0 lbs.
Gold	(To Apr. 30/54)	3,834.5 oz.
Platinum	"	9,299.6 oz.
Palladium	"	12,234.4 oz.
Iridium, Rhodium & Ruthenium	(")	457.7 oz.

Total recoverable metals in the above 157,755.70 dry tons were as follows.

Nickel	(to date)	3,837,088.0 lbs.
Copper	(to date)	3,762,967.0 lbs.
Gold	(to Apr. 30/54)	932.7 oz.
Platinum	"	5,860.9 oz.
Palladium	"	7,695.3 oz.
Iridium, Rhodium & Ruthenium	(")	285.9 oz.

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TO FOLLOW**

September 7th, 1954

Jonsmith - Current Exploration and Development

On July 19, 1954, Jonsmith Mines Limited purchased the surface and underground plant and equipment from Milnet Mines Limited.

On the same date Jonsmith resumed lateral work northwest and southeast on the 300' level, and southwest on the 465' level along strike of the favourable diorite. Underground diamond drilling at 50 foot intervals to probe the full width of the favourable diorite was started.

Jonsmith recently completed surface geological magnetic, electro-magnetic, and geochemical surveys on part of the Jonsmith Mines holdings; on receipt of this, surface diamond drilling was started on the "Burton showings". Other favourable areas are to be diamond drilled on completion of the drilling in the "Burton Showing" area.

A report by C. E. Bowker, Mine Manager, dated August 10th, 1954 estimated that to thoroughly prospect the favourable diorite along its known strike length and to 1,000 feet plus in depth would require an additional \$850,850.00. As this amount of money is not available to Jonsmith Mines Limited, monetary assistance was sought from the Materials Division of Emergency Procurement Services, Washington, D.C., U.S.A.

After discussions with officials of the above Division on Sept. 3, 1954, they suggested a more comprehensive report and to break the above exploration and development program into projects. The rating or priority of the projects to the bidirectly related to the speed of possible nickel ore deliveries.

Projects - Priority and Costs.

Project #1

- (a) Deepen the shaft to 1,000' horizon, cutting three levels at 175' intervals.
- (b) Drift out the favourable diorite on these three new levels, completing as a minimum 2,000 feet of drifting and cross-cutting on each of the new levels.
- (c) Diamond drill the 640', 815', and 990' horizons at close intervals.

The estimated cost of Project #1 is as follows :

- (a) Deepen the shaft to 1,000' horizon with stations at 175' intervals; shaft, stations and pump - 635 feet @ \$210.00 per ft. \$133,350.00

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September 7th, 1954.

The Norman-Murkin offset on the Jonsmith Mines property is a quartz diorite dyke from forty feet to five hundred feet in width and strikes in a northeast direction for 4,000 feet where it bends to the northwest. It was along this northwest limb that the two ore bodies occur. The present surface surveys only extended a few hundred feet northwest of the mine workings and there is a suggestion that the dyke resumes its original course and continues for three claims to the north boundary of the property.

As in the other mines in the Sudbury area the ore occurs in breccia zones the result of either faulting or folding. On the Jonsmith property the breccia zones were caused by northwest trending faults which shattered the quartz diorite host rock sufficiently to provide favourable receptacles for nickel bearing sulphides.

This breccia is also found in the Burton showing near the south boundary of the property where diamond drilling has revealed a narrow but high grade nickel-copper zone and where deeper drilling is now in progress.

The area north of the shaft warrants complete investigation to determine whether the northwest trending faults intersect the intrusive along the assumed northerly extension and produce favourable breccia zones.

The deepest level, the 465 foot horizon has a geological pattern similar to that on surface and it is highly probable that this will continue to depth. Thus the possibilities of locating new ore bodies below the 465 level are very favourable.

From a geological aspect the whole length of the dyke is prolific prospecting ground for nickel-copper deposits. At present a length of 5,200 feet has been mapped and there are indications that it continues for another 5,000 feet to the north boundary of the property.

Along the mapped portion of the dyke several anomalous zones were indicated by a magnetic survey and these corresponded to the areas outlined by a geochemical survey. These anomalies are probably significant indications of sulphide zones and warrant detailed investigation.

Milnet Mines Limited - Development and Production

Prior to 1952 Jonsmith Mines Limited completed a partial geological surface survey of their property and had outlined by closely spaced diamond drill holes the #1 and #2 ore bodies. Subsequently Milnet Mines Ltd. leased a block of ground 1,000 feet x 500 feet to 500 feet in depth, embracing #1 and #2 ore bodies, for the purpose of mining the nickel-copper ore contained in this block.

September 7th, 1954.

During 1952 Milnet Mines constructed the aforesaid surface and underground plant and purchased the necessary equipment. Shaft sinking and the level stations were completed by Oct. 31, 1952. Development of the 190' and 300' levels was started with the first ore deliveries to Falconbridge Nickel Mines Ltd. in the latter part of Dec. 1952. Development of and production from the #1 and #2 ore bodies from 465 level to surface continued to completion as of July 18, 1954. In Feb. 1954 Milnet Mines shipped to Falconbridge Nickel Mines 13,035 dry tons of ore with the plant at approximately 80% of its hoisting capacity.

The #1 ore body as mined by Milnet Mines extended from surface to 350 feet below surface. The surface outcrop was 60 feet in length. The longest stoping length was 240 feet; the average stoping length was 120 feet. The surface outcrop of #2 ore body was 50 feet in length; the average stoping length was 55 feet. This vein structure persisted to below the 465' horizon. Stopping was completed from the 400' horizon to surface, below this the vein structure was below shipping grade, but is nickel 1.00%, copper 1.00%.

Milnet Mines limited from Dec. 15, 1952, to July 18, 1954, mined and shipped to Falconbridge Nickel Mines a total of 157,755.70 dry tons of nickel, copper, and precious metals ore. This ore assayed - nickel 1.42%, copper 1.54% (to date); gold 0.027 oz., platinum 0.066 oz., palladium 0.037 oz., and combined iridium, rhodium, and ruthenium 0.0032 oz. (to the end of Apr. 1954, the latest available assay).

Total contained metals in the above 157,755.70 dry tons were as follows:

Nickel	(to date)	4,711,119.0 lbs.
Copper	(to date)	4,846,847.0 lbs.
Gold	(to Apr. 30/54)	3,834.5 oz.
Platinum	(")	9,299.6 oz.
Palladium	(")	12,234.4 oz.
Iridium, Rhodium, & Ruthenium	(")	457.7 oz.

Total recoverable metals in the above 157,755.70 dry tons were as follows:

Nickel	(to date)	3,837,088.0 lbs.
Copper	(to date)	3,762,967.0 lbs.
Gold	(to Apr. 30/54)	932.7 oz.
Platinum	(")	5,866.9 oz.
Palladium	(")	7,695.3 oz.
Iridium, Rhodium, & Ruthenium	(")	285.9 oz.

September 7th, 1954.

Jonsmith - Current Exploration and Development

On July 19, 1954, Jonsmith Mines Limited purchased the surface and underground plant and equipment from Filnet Mines Limited.

On the same date Jonsmith resumed lateral work northwest and southeast on the 300' level, and southwest on the 465' level, along strike of the favourable diorite. Underground diamond drilling at 50 foot intervals to probe the full width of the favourable diorite was started.

Jonsmith recently completed surface geological, magnetic, electro-magnetic, and geochemical surveys on part of the Jonsmith Mines holdings; on receipt of this, surface diamond drilling was started on the "Burton Showing". Other favourable areas are to be diamond drilled on completion of the drilling in the "Burton Showing" area.

A report by C. E. Souker, Mine Manager, dated August 10th, 1954, estimated that to thoroughly prospect the favourable diorite along its known strike length and to 1,000 feet plus in depth would require an additional \$250,850.00. As this amount of money is not available to Jonsmith Mines Limited, monetary assistance was sought from the Materials Division of Emergency Procurement Services, Washington, D. C., U. S. A.

After discussions with officials of the above Division on Sept. 3, 1954, they suggested a more comprehensive report and to break the above exploration and development program into projects. The rating or priority of the projects to be directly related to the speed of possible nickel ore deliveries.

Projects - Priority and Costs

Project #1

- (a) Deepen the shaft to 1,000' horizon, cutting three levels at 175' intervals.
- (b) Drift out the favourable diorite on these three new levels, completing as a minimum 2,000 feet of drifting and cross-cutting on each of the new levels.
- (c) Diamond drill the 640', 815', and 990' horizons at close intervals.

The estimated cost of Project #1 is as follows:

- (a) Deepen the shaft to 1,000' horizon with stations at 175' intervals; shaft, stations, and sump - 635 feet @ \$210.00 per ft. \$133,350.00

N.B.

To RESIDENT To the Joint Survey
Geologist, Sudbury Sudbury

* FOR ENLARGEMENT SEE: PARKIN-0034, #5 *

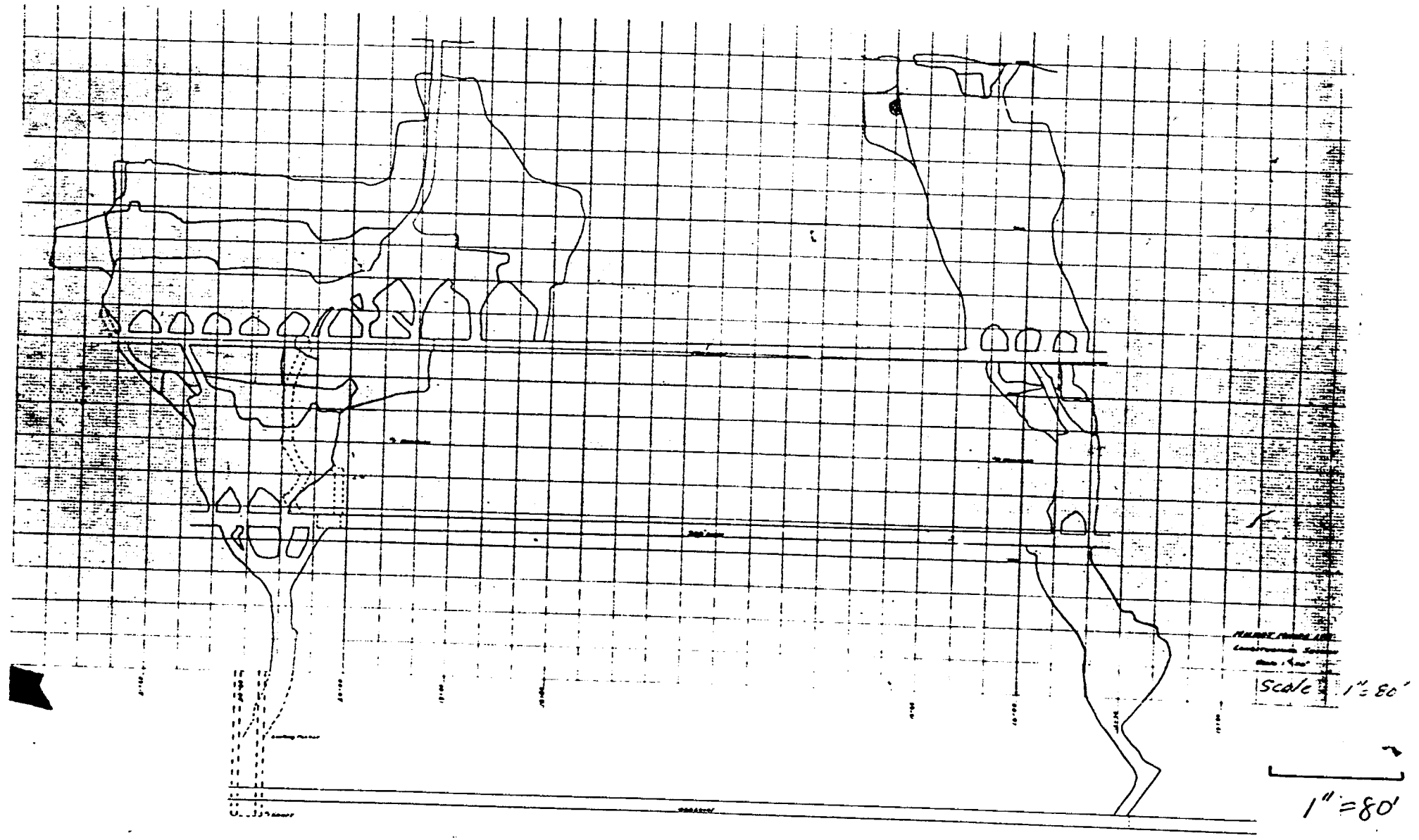


Fig 2

Longitudinal section through Milnet mine, Seniswith Mines Ltd, Parkin township. After plans of Milnet Mines Ltd

NOTE: THE FOLLOWING REPRESENTS H. WILSON'S
CALCULATIONS FOR TONNAGES + GRADE OF
NO. 1 AND NO. 2 ORESODIES ON JONSMITH
PROPERTY.

JONSMITH SAMPLES

Calculations for Average Grade of No. 1 Oreshoot.

<u>Section</u>	<u>Area</u>	<u>Length</u>	<u>Tons</u>	<u>Cu. %</u>	<u>T x %</u>	<u>Ni. %</u>	<u>T x %</u>	<u>Pt. ozs.</u>	<u>T x ozs.</u>
38-6-5	5,240	40	20,960	1.68	35,212.8	1.24	25,990.4	0.111	2,326.56
4-23 etc.	9,370	57	53,409	2.09	111,624.8	1.47	78,511.2	0.126	6,729.53
3-45-42	5,340	60	32,040	3.17	101,566.8	2.67	88,546.8	0.133	4,261.32
1-2-40	4,120	68	28,016	2.11	59,113.8	0.84	23,533.4	0.148	4,146.37
13	1,020	36	3,672	2.40	8,812.8	1.39	5,104.1	0.077	282.74
			<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		261'	138,097	2.29	316,331.0	1.58	218,685.9	0.128	17,746.52
					<u>TOTALS.</u>				
No. 1 Orebody			138,097	2.29	316,331.0	1.58	218,685.9	0.128	17,746.52
No. 2 Orebody			34,600	1.32	45,666.3	1.27	43,780.7		
			<hr/>	<hr/>	<hr/>	<hr/>	<hr/>		
			172,697	2.10	362,017.3	1.52	262,466.6		

Calculations for Average Grade of No. 2 Ore Shoot.

<u>Section</u>	<u>Area</u>	<u>Tons</u>	<u>Cu.%</u>	<u>T x %</u>	<u>Ni.%</u>	<u>T x %</u>
1	355	710	2.47	1,753.70	0.93	660.30
3	330	660	2.55	1,551.00	0.89	389.40
3	1,045	2,090	1.80	3,762.00	1.65	3,448.50
4	2,125	4,250	1.17	4,972.50	0.80	3,400.00
5	5,795	11,590	0.93	10,778.70	0.91	10,546.90
6	3,165	6,330	1.33	8,418.90	2.18	13,799.40
7	2,925	5,850	1.51	8,833.50	1.30	7,605.00
8	1,560	3,120	1.80	5,616.00	1.26	3,931.20
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		34,600	1.32	45,686.30	1.27	43,780.70
<u>TOTALS</u>						
No. 1 Orebody		138,097	2.29	316,331.00	1.53	218,685.90
2 "		34,600	1.32	45,686.30	1.27	43,780.70
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total		172,697	2.10	362,017.30	1.52	262,466.60

Calculations for Average Grade of Sections - No. 2 Orebody.

<u>Section</u>	<u>Hole No.</u>	<u>Length</u>	<u>Cu. %</u>	<u>% x L</u>	<u>Ni. %</u>	<u>% x L</u>
2	S-1	19.0	1.72	32.67	0.73	13.87
	S-2	<u>5.0</u>	<u>4.71</u>	<u>23.55</u>	<u>0.07</u>	<u>00.35</u>
		24.0	2.35	56.42	0.59	14.22
3	S-3	30.0	1.47	44.10	1.02	30.60
	S-4	<u>35.0</u>	<u>2.08</u>	<u>72.80</u>	<u>2.19</u>	<u>76.65</u>
		65.0	1.80	116.90	1.65	107.25
4	S-5	44.0	1.06	46.64	0.47	20.68
	S-6	61.0	1.06	64.66	1.14	69.54
	S-18	15.0	0.69	10.35	0.76	11.40
	S-22	30.0	1.53	45.90	0.59	17.70
	17	<u>11.9</u>	<u>1.61</u>	<u>21.54</u>	<u>0.65</u>	<u>10.12</u>
	151.9	1.17	189.09	0.80	129.44	
5	S-7	46.0	0.46	21.16	0.38	17.48
	S-8	65.0	1.20	78.00	1.55	100.75
	S-17	79.0	1.00	79.00	1.04	82.16
	47	47.3	1.33	62.91	1.07	50.61
	S-23	<u>72.0</u>	<u>0.64</u>	<u>46.08</u>	<u>0.43</u>	<u>30.96</u>
	309.3	0.93	287.15	0.91	281.96	
6	S-9	39.0	0.81	31.59	1.33	51.87
	S-16	74.0	1.72	127.28	2.82	208.67
	S-10	35.0	1.53	53.55	1.26	44.10
	S-24	<u>36.0</u>	<u>0.89</u>	<u>32.04</u>	<u>2.70</u>	<u>97.20</u>
	184.0	1.33	244.46	2.18	401.85	
7	S-12	15.0	1.33	19.95	0.35	5.25
	S-14	43.0	0.66	28.38	0.68	27.84
	S-25	<u>64.5</u>	<u>1.87</u>	<u>158.02</u>	<u>1.68</u>	<u>141.96</u>
	142.5	1.51	214.95	1.30	185.05	
8	S-26	42.5	0.67	28.48	0.66	28.05
	48	45.0	1.81	81.45	1.58	71.10
	S-27	<u>49.0</u>	<u>2.76</u>	<u>135.24</u>	<u>1.50</u>	<u>73.50</u>
	136.5	1.80	245.17	1.26	172.65	

Area
2125 A

Recalculating Creelman Averages - JONSMITH Sampling

No. 2 Ore Zone.

Sample No.	Ft.	Cu.	% x L	Ni.	% x L	Platinum		Palladium				
						Ft.	ozs. ozs. x L	Ft.	ozs.	ozs. x L		
<u>Hole S-1</u>						14.0' to 29.0'						
208	5.0	1.91		0.29		5.0	0.061		5.0	0.063		
209	5.0	1.83		1.00		5.0	0.051		5.0	0.028		
210	5.0	1.44		0.90		5.0	0.025		5.0	0.018		
	15.0	1.73		0.73		15.0	0.046		15.0	0.036		
<u>Hole S-3</u>						9' to 34.0'						
212	5.0	2.71		1.13	)	10.0	0.108	1.08	10.0	0.026	.260
213	5.0	1.57		1.63)							
214	5.0	2.48		1.95)							
215	5.0	0.16		0.28	)	10.0	0.174	1.74	10.0	0.058	.580
216	5.0	0.42		0.09	)	5.0	0.033	.165	5.0	0.045	2.255 0
	25.0	1.47		1.02		25.0	.119	2.985	25.0	0.043	1.055	
<u>Hole S-4</u>						38.0' to 73.0'						
217	5.0	0.73		0.41		5.0	0.033	.165	5.0	0.045	.225 0	
218	5.0	1.87		1.19)							
219	5.0	2.58		1.10	)	10.0	0.028	.280	10.0	0.049	.490
220	5.0	2.22		3.20)							
221	5.0	1.23		0.90	)	10.0	0.068	.680	10.0	0.039	.390
222	5.0	3.91		1.29)							
223	5.0	2.00		4.22	)	10.0	0.412	4.120	10.0	0.297	2.970
	35.0	2.08		2.19		35.0	0.150	5.245	35.0	0.116	4.075	
<u>Hole S-5</u>						6.0' to 27.0'						
239	10.0	0.46	4.60	0.15	1.50	10.0	0.065	.650	10.0	0.035	.350	
240	5.0	0.36	1.80	0.45	2.25	5.0	0.012	.060	5.0	0.007	.035	
241	6.0	2.35	15.90	1.04	6.24	6.0	0.068	.528	6.0	0.050	.300	
	21.0	1.06	22.30	0.47	9.99	21.0	0.059	1.238	21.0	0.033	.685	
<u>Hole S-6</u>						32.0' to 93.0'						
245	10.0	1.00	10.00	1.47	14.70	10.0	0.028	.280	10.0	0.033	.330	
246	10.0	0.88	8.80	0.47	4.70	10.0	0.031	.310	10.0	0.027	.270	
247	5.0	1.41	7.05	0.49	2.45							
248	5.0	2.87	14.35	2.36	11.80	10.0	0.039	.390	10.0	0.037	.370	
249	5.0	0.89	2.95	2.73	13.65)						
250	5.0	0.76	3.80	0.81	4.05)	10.0	0.053	.530	10.0	0.049	.490
251	5.0	1.46	7.30	0.87	4.35)						
252	5.0	0.48	2.40	0.70	3.50)	10.0	0.048	.480	10.0	0.032	.320
253	5.0	0.60	3.00	0.28	1.40)						
254	6.0	0.89	5.34	1.47	8.82)	11.0	0.064	.704	11.0	0.055	.605 0
	61.0	1.06	64.99	1.14	69.42	61.0	0.044	2.694	61.0	0.039	2.385	
<u>Hole S-7</u>						20.0' to 47.5'						
256	5.0	0.88	4.40	0.55	2.75							
257	5.0	0.49	2.45	0.57	2.85							
258	5.0	0.43	2.15	0.26	1.30							
259	5.0	0.28	1.40	0.30	1.50							
260	7.5	0.31	2.32	0.26	1.95							
	27.5	0.46	12.72	0.38	10.35							

0 Not weighted.

<u>Sample No.</u>	<u>Feet</u>	<u>Cu.</u>	<u>¢ x L</u>	<u>Ni.</u>	<u>¢ x L</u>	
<u>Hole S-8</u>						33.0' to 98.0'
265	5.0	1.09	5.45	1.22	6.10	
266	5.0	1.21	6.05	1.03	5.15	
267	5.0	1.00	5.00	0.19	0.95	
268	5.0	0.52	2.60	0.15	0.75	
269	10.0	0.71	7.10	0.28	2.80	
270	10.0	0.70	7.00	0.64	6.40	
271	5.0	1.12	5.60	2.36	11.80	
272	5.0	0.67	3.35	5.80	29.00	
273	5.0	2.39	11.95	4.54	22.70	
274	5.0	3.97	19.85	2.25	11.25	
275	<u>5.0</u>	<u>0.83</u>	<u>4.15</u>	<u>0.81</u>	<u>4.05</u>	
	65.0	1.20	78.10	1.55	100.95	
<u>Hole S-9</u>						16.0' to 33.0'
277	5.0	0.72	3.60	2.86	14.30	
278	5.0	1.02	5.10	0.90	4.50	
279	<u>7.0</u>	<u>0.72</u>	<u>5.04</u>	<u>0.55</u>	<u>3.85</u>	
	17.0	0.81	13.74	1.33	22.65	
<u>Hole S-10</u>						44.0' to 79.0'
283	5.0	1.70		3.08		
284	5.0	1.50		1.78		
285	5.0	1.48		2.57		
286	5.0	1.77		0.22		
287	5.0	1.23		0.45		
288	5.0	1.23		0.52		
289	<u>5.0</u>	<u>1.78</u>		<u>0.18</u>		
	35.0	1.53		1.26		
<u>Hole S-12</u>						54.0' to 69.0'
290	5.0	0.91		0.52		
291	5.0	0.99		0.18		
292	<u>5.0</u>	<u>2.09</u>		<u>0.36</u>		
	15.0	1.33		0.35		
<u>Hole S-14</u>						109.0' to 152.0'
294	10.0	1.23	12.30	0.33	3.30	
295	10.0	0.94	9.40	0.20	2.00	
296	5.0	0.95	4.75	0.92	4.60	
297	5.0	0.95	4.75	1.52	7.60	
298	5.0	0.44	2.20	1.87	7.85	
299	5.0	0.38	1.90	0.79	3.95	
300	<u>3.0</u>	<u>0.54</u>	<u>1.62</u>	<u>2.83</u>	<u>8.49</u>	
	43.0	0.86	36.92	0.88	37.79	

<u>Sample No.</u>	<u>Feet</u>	<u>Cu.</u>	<u>% x L</u>	<u>Ni.</u>	<u>% x L</u>	
<u>Hole S-16</u>						51.0' to 125.0'
301	5.0	1.41	7.05	5.03	25.15	
302	5.0	2.51	13.05	10.13	50.65	
303	5.0	1.42	7.10	1.72	8.60	
304	5.0	1.50	7.50	0.91	4.55	
305	5.0	0.54	2.70	1.24	6.20	
306	5.0	0.60	3.00	3.04	15.20	
307	5.0	0.34	1.70	6.02	3.01	
308	5.0	0.92	4.60	3.49	17.45	
309	5.0	1.23	6.40	1.42	7.10	
310	5.0	0.86	4.30	0.63	4.40	
311	5.0	1.07	5.35	1.79	8.95	
312	5.0	1.22	6.10	1.76	8.80	
313	5.0	2.00	10.00	3.21	16.05	
314	5.0	5.80	29.00	3.83	19.15	
315	<u>4.0</u>	<u>4.81</u>	<u>19.24</u>	<u>3.33</u>	<u>13.32</u>	
	74.0	1.72	127.09	2.82	208.58	
<u>Hole S-17</u>						33.0' to 112.0'
317	10.0	0.70	7.00	0.64	6.40	
318	10.0	0.90	9.00	0.68	6.80	
319	10.0	0.14	1.40	0.15	1.50	
320	10.0	0.48	4.80	1.12	11.20	
321	10.0	0.59	5.90	1.45	14.50	
322	10.0	0.86	8.60	0.86	8.60	
323	10.0	1.46	14.60	0.37	3.70	
324	5.0	3.66	18.30	4.17	20.85	
325	<u>4.0</u>	<u>2.33</u>	<u>9.32</u>	<u>2.16</u>	<u>8.64</u>	
	79.0	1.00	78.92	1.04	82.19	
<u>Hole S-18</u>						83.0' to 98.0'
327	5.0	0.81		0.61		
328	5.0	0.64		1.42		
329	<u>5.0</u>	<u>0.61</u>		<u>0.24</u>		
	15.0	0.69		0.76		
<u>Hole S-20</u>						28.0' to 43.0'
330	5.0	1.24		0.48		
331	5.0	3.90		1.34		
332	<u>5.0</u>	<u>2.28</u>		<u>0.97</u>		
	15.0	2.47		0.93		
<u>Hole S-22</u>						122.0' to 152.0'
333	10.0	1.51		0.59		
334	10.0	1.80		1.07		
335	<u>10.0</u>	<u>1.28</u>		<u>0.12</u>		
	30.0	1.53		0.59		

<u>Sample No.</u>	<u>Feet</u>	<u>Cu.</u>	<u>\$ x L</u>	<u>Ni.</u>	<u>\$ by L</u>	
<u>Hole S-23</u>						73.0' to 145.0'
339	10.0	0.57	3.70	0.74	7.40	
340	10.0	0.32	3.20	0.71	7.10	
341	10.0	0.17	1.70	0.04	0.40	
342	10.0	0.43	4.30	0.30	3.00	
343	7.0	0.12	0.84	0.05	0.35	
344	5.0	1.34	6.70	0.42	2.10	
345	5.0	1.71	8.55	0.62	3.10	
346	5.0	0.88	4.40	0.21	1.05	
347	5.0	1.16	5.80	0.81	4.05	
348	<u>5.0</u>	<u>1.42</u>	<u>7.10</u>	<u>0.48</u>	<u>2.40</u>	
	72.0	0.64	46.29	0.43	30.95	
<u>Hole S-24</u>						122.0' to 155.0'
356	5.0	0.63	3.15	1.99	9.95	
357	5.0	1.33	6.65	3.96	19.80	
358	5.0	0.84	4.20	3.61	18.05	
359	5.0	1.10	5.50	2.04	10.20	
360	5.0	0.54	2.70	3.89	19.45	
361	5.0	0.82	4.10	3.24	16.20	
362	<u>6.0</u>	<u>0.96</u>	<u>5.76</u>	<u>0.61</u>	<u>3.66</u>	
	36.0	0.89	32.06	2.70	97.31	
<u>Hole S-25</u>						108.0' to 192.5'
363	10.0	0.43	4.30	0.39	3.90	
364	10.0	0.89	8.90	0.33	3.30	
365	10.0	1.53	15.30	0.37	3.70	
366	5.0	1.96	9.80	0.22	1.10	
367	5.0	2.23	11.15	0.26	1.30	
368	5.0	2.80	14.00	1.10	5.50	
369	5.0	3.39	16.95	0.87	4.35	
370	5.0	2.54	12.70	0.94	4.70	
371	5.0	1.28	6.40	2.37	11.85	
372	5.0	1.64	8.20	1.85	9.25	
373	5.0	6.43	32.15	4.66	23.30	
374	5.0	1.29	6.45	3.61	18.05	
375	5.0	1.96	9.80	3.53	17.65	
376	<u>4.5</u>	<u>0.39</u>	<u>1.75</u>	<u>7.58</u>	<u>34.11</u>	
	84.5	1.87	157.85	1.68	142.06	
<u>Hole S-26</u>						190.0' to 232.5'
381	10.0	1.09	10.90	0.26	2.60	
382	10.0	0.60	6.00	1.12	11.20	
383	10.0	0.60	6.00	0.81	8.10	
384	10.0	0.49	4.90	0.24	2.40	
385	<u>2.5</u>	<u>0.40</u>	<u>1.00</u>	<u>1.43</u>	<u>3.58</u>	
	42.5	0.67	28.60	0.66	27.88	

Sample No.	Feet	Cu.	% x L	Ni.	% x L	Pt.oz.	Lxoz.	Pd.oz.	Lx oz.
<u>Hole S-27</u>									
						305.0' to 355.0'			
389	4.0	1.01	4.04	2.96	11.84				
390	5.0	7.98	39.90	2.44	12.20				
391	5.0	2.90	14.50	1.88	9.40				
392	5.0	1.01	5.05	0.16	0.80				
393	5.0	3.99	19.95	1.75	8.75				
394	5.0	1.89	9.45	0.30	1.50				
395	5.0	0.51	2.55	0.14	0.70				
396	5.0	3.07	15.35	3.88	18.90				
397	5.0	2.28	11.40	1.48	7.10				
398	<u>5.0</u>	<u>2.62</u>	<u>13.10</u>	<u>0.84</u>	<u>4.20</u>				
	49.0	2.76	135.29	1.50	73.39				
<u>Hole #17</u>									
67	1.4	1.22	1.71	0.13	0.18	.004	.0056	.018	.0252
68	2.0	5.60	11.20	2.66	5.32	.052	.1040	.028	.0560
69	5.0	1.02	5.10	0.31	1.55	.034	.1700	.013	.0650
70	<u>3.5</u>	<u>1.01</u>	<u>3.54</u>	<u>0.88</u>	<u>3.08</u>	<u>.018</u>	<u>.0630</u>	<u>.007</u>	<u>.0245</u>
	11.9	1.81	21.55	0.83	10.13	.029	.3426	.014	.1707
<u>Hole #18</u>									
						135.0' to 143.5'			
77	3.8	0.84	3.19	0.66	2.51	.021	.0797	.094	.357
	3.2								
78	<u>1.5</u>	<u>0.51</u>	<u>0.77</u>	<u>0.24</u>	<u>0.36</u>	<u>.011</u>	<u>.0165</u>	<u>.078</u>	<u>.117</u>
	8.5	0.47	3.96	0.34	2.87	.011	.0962	.055	.474
<u>Hole #19</u>									
						129.0' to 134.0'			
87	2.5	0.42	1.05	0.19	0.475	.002	.005	.012	.030
88	<u>2.5</u>	<u>0.75</u>	<u>1.88</u>	<u>0.67</u>	<u>1.675</u>	<u>.003</u>	<u>.007</u>	<u>.014</u>	<u>.035</u>
	5.0	0.58	2.93	0.43	2.150	.0025	.012	.013	.065

Comparison of Platinum Assays

<u>Hole No.</u>	<u>Ft.</u>	<u>Ledoux</u> <u>Composite Samples</u>		<u>Low (calculated)</u> <u>Jonsmith samples</u>		<u>Sample No.</u>
		<u>Pt. ozs.</u>	<u>ozs. x L.</u>	<u>ozs.</u>	<u>ozs. x L.</u>	
35	122.0	.10	12,200	.115	14.0300	129
1	26.0	.07	1,820	.079	2.0540	130
2	27.0	.21	5,670	.149	4.0230	131
3	8.0	.03	.240	.017	.1350	132
4	12.6	.19	2,394	.189	2.3814	133
5	30.5	.07	2,135	.045	1.3725	134
6	27.5	.09	2,475	.134	3.6850	135
13	25.0	.17	4,250	.077	1.9250	136
23	24.0	.21	5,040	.173	4.1520	137
27	57.0	.14	7,980	.068	3.8760	138
38	63.0	.04	2,520	.128	8.0640	139
40	30.0	.62	18,600	.566	16.9800	140
				.216 (out)		
42	77.0	.17	13,090	.171	13.1670	141
	<u>529.6</u>	<u>.148</u>	<u>78,414</u>	<u>.143</u>	<u>75.6452 (uncut)</u>	

If .30 substituted for assays in hole 40 out averages become

.130

.128

Ledoux P. M. Assays - Hole No. 35.

<u>Sample No.</u>	<u>Feet</u>	<u>Pt. ozs.</u>	<u>ozs. x L</u>	<u>Au. ozs.</u>	<u>ozs. x L.</u>
142	11.4	0.19	2.166	0.04	.456
143	29.5	0.04	1.180	nil	
144	5.3	0.12	.660	nil	
145	17.0	0.03	.510	nil	
146	12.9	0.06	.774	nil	
147	19.4	0.02	1.746	0.09	1.746
148	17.2	0.15	2.530	0.39	6.708
149	6.5	0.08	.820	0.12	.780
	<u>119.4</u>	<u>0.005</u>	<u>10.136</u>	<u>0.061</u>	<u>9.690</u>

Weighted Average Analysis - Composite Samples

No. 1 Orebody.

<u>Tons</u>	<u>ozs.Au/ton</u>	<u>% Cu.</u>	<u>% Ni.</u>	<u>% Fe.</u>	<u>% S.</u>	<u>% SiO₂</u>	<u>% insol.</u>
138,097	.039	2.28	1.43	16.90	9.91	34.99	49.40

<u>Analysis</u>	<u>%</u>	<u>Chalcopyrite %</u>	<u>Pentlandite %</u>	<u>Pyrrhotite %</u>	<u>Excess %</u>
Cu.	2.28	2.28			
Ni.	1.43		1.43		
Fe.	16.90	2.00	2.73	8.05	4.12
S.	9.91	2.29	2.34	5.28	
% of ore	30.50	6.55	6.80	13.33	4.12

Total sulfides = 30.50 less excess Fe. (4.12) = 26.38% of ore.

Core Stored
on property. (April, 1951)

DIAMOND DRILL RECORD

Hole No. 34 Sheet No. 1

Property JONSMITH GOLD MINES LTD
 Location PARKIN TWP SUDBURY
 Latitude 635' S of No 1 Post 42677
 Departure AND 525' W.
 Bearing N. 40° E.

	Dip
20'	64°
100	64
200	64
600	55
980	48
Total Footage	1038

Elev. Collar _____
 Datum _____
 Date Started JULY 22 1951
 Date Completed AUG 12 "
 Drilled by LONGYEAR
 Logged by E. O. LILGE.

Footage		Formation	Sample Number	Sample Width	Gold Sample	Gold Sludge	Remarks
From	To						
0	589	CONGLOMERATE <u>BRUCE</u> (BRUCE)					
589	728	LIMESTONE <u>ESPANOLA</u> (ESPANOLA)					
728	1038	FINE GRAINED SEDIMENTS SOME <u>SERPENT</u> (SERPENT) BRECCIATION					
		A SECTION FROM 900 TO END OF HOLE HAS ALMOST THE APPEARANCE OF A DIORITE. SOME HORNBLende PRESENT					
		1038 END OF HOLE.					
		NO MINERALIZED SECTIONS				NO SAMPLING	

Date of Examination _____

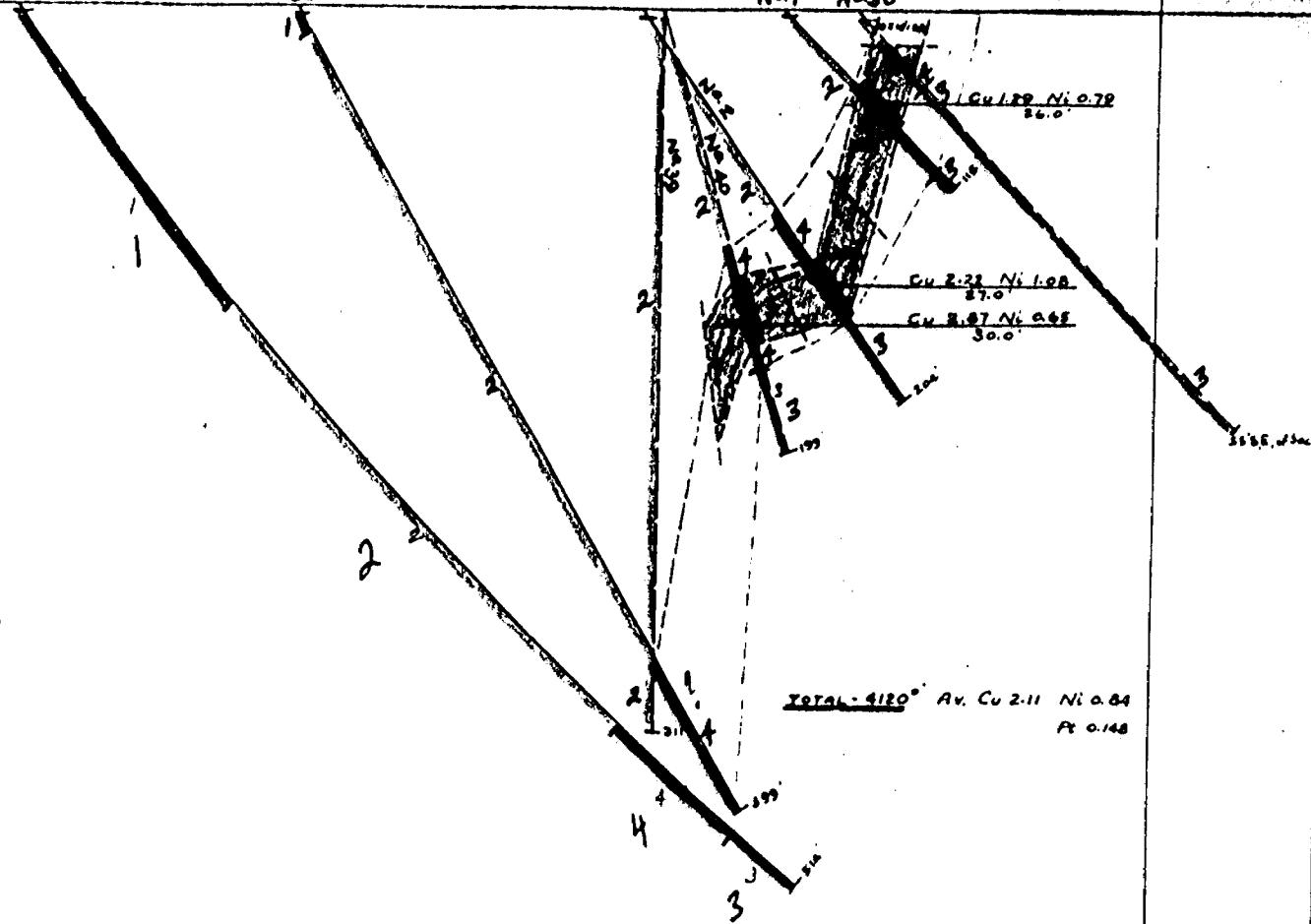
E. J. Hubman

No. 22

No. 32

No. 1

No. 30



Cu 1.22 Ni 0.72
26.0'

Cu 2.22 Ni 1.08
27.0'

Cu 2.87 Ni 0.85
30.0'

TOTAL - 4120' Av. Cu 2.11 Ni 0.84
Pt 0.148

1" = 80'

LEGEND PRECAMBRIAN

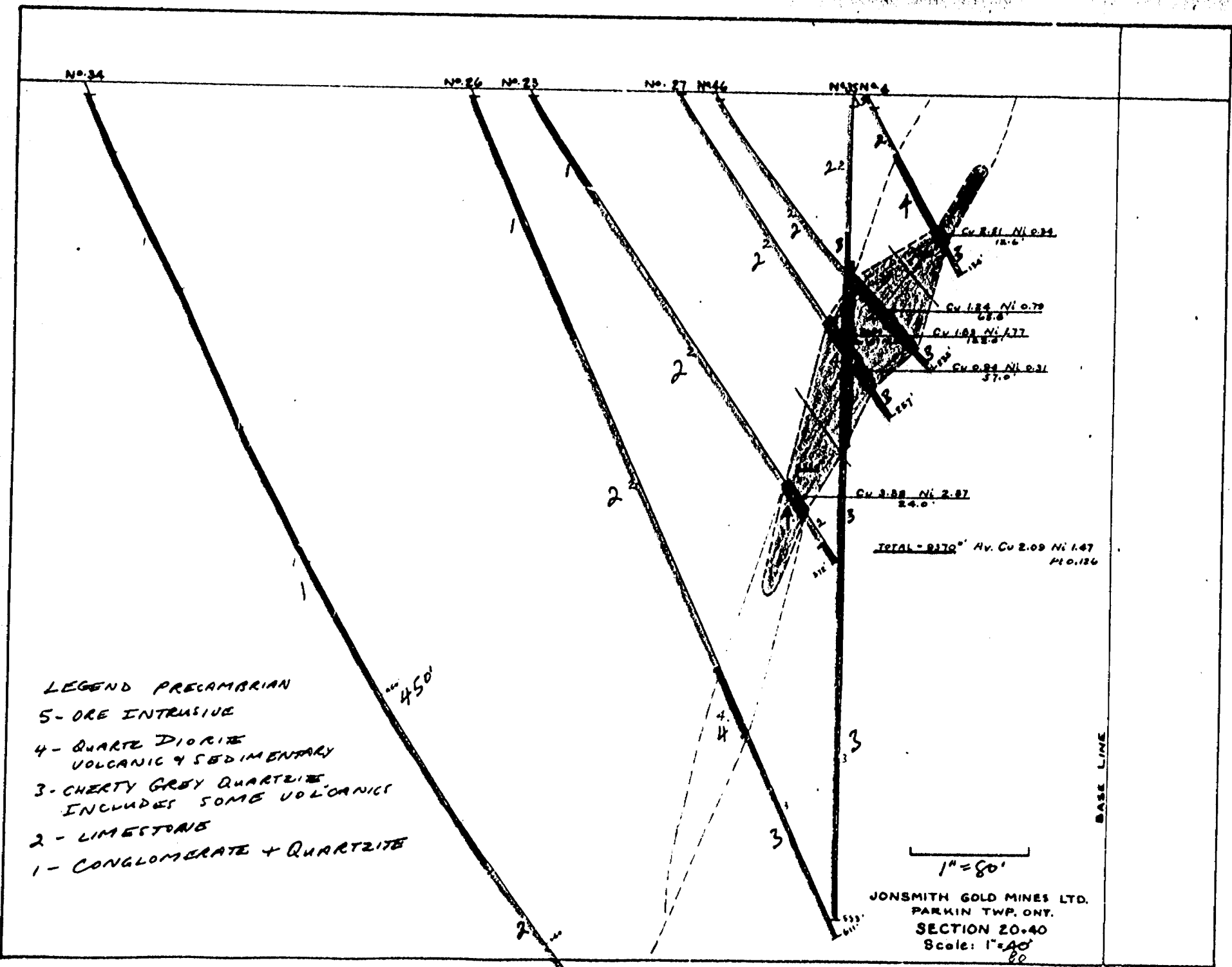
- 5 - DRE INTRUSIVE
- 4 - QUARTZ DIORITE
VOLCANIC SEDIMENTARY
- 3 - CHERTY GREY QUARTZITE, INCLUDING SOME VOLCANIC
- 2 - LIMESTONE
- 1 - Conglomerate + QUARTZITE

JONSMITH GOLD MINES LTD.
PARKIN TWP, ONT.

SECTION 19.25

Scale: 1" = 80'

BASE LINE



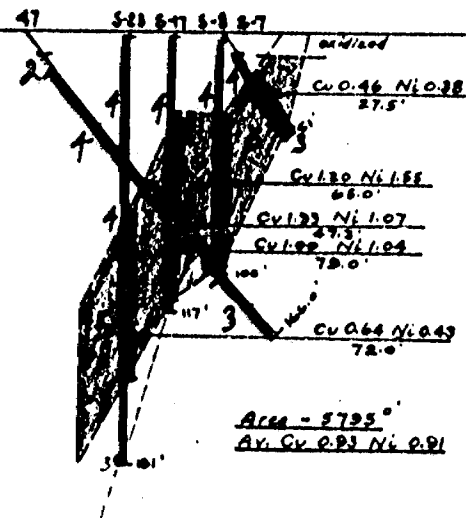
- LEGEND PRECAMBRIAN
- 5 - ORE INTRUSIVE
 - 4 - QUARTZ DIORITE VOLCANIC & SEDIMENTARY
 - 3 - CHERTY GREY QUARTZITE INCLUDES SOME VOLCANICS
 - 2 - LIMESTONE
 - 1 - CONGLOMERATE + QUARTZITE

TOTAL - 8170' Av. Cu 2.09 Ni 1.47
110.126

1" = 80'

JONSMITH GOLD MINES LTD.
PARKIN TWP. ONT.
SECTION 20.40
Scale: 1" = 80'

BASE LINE



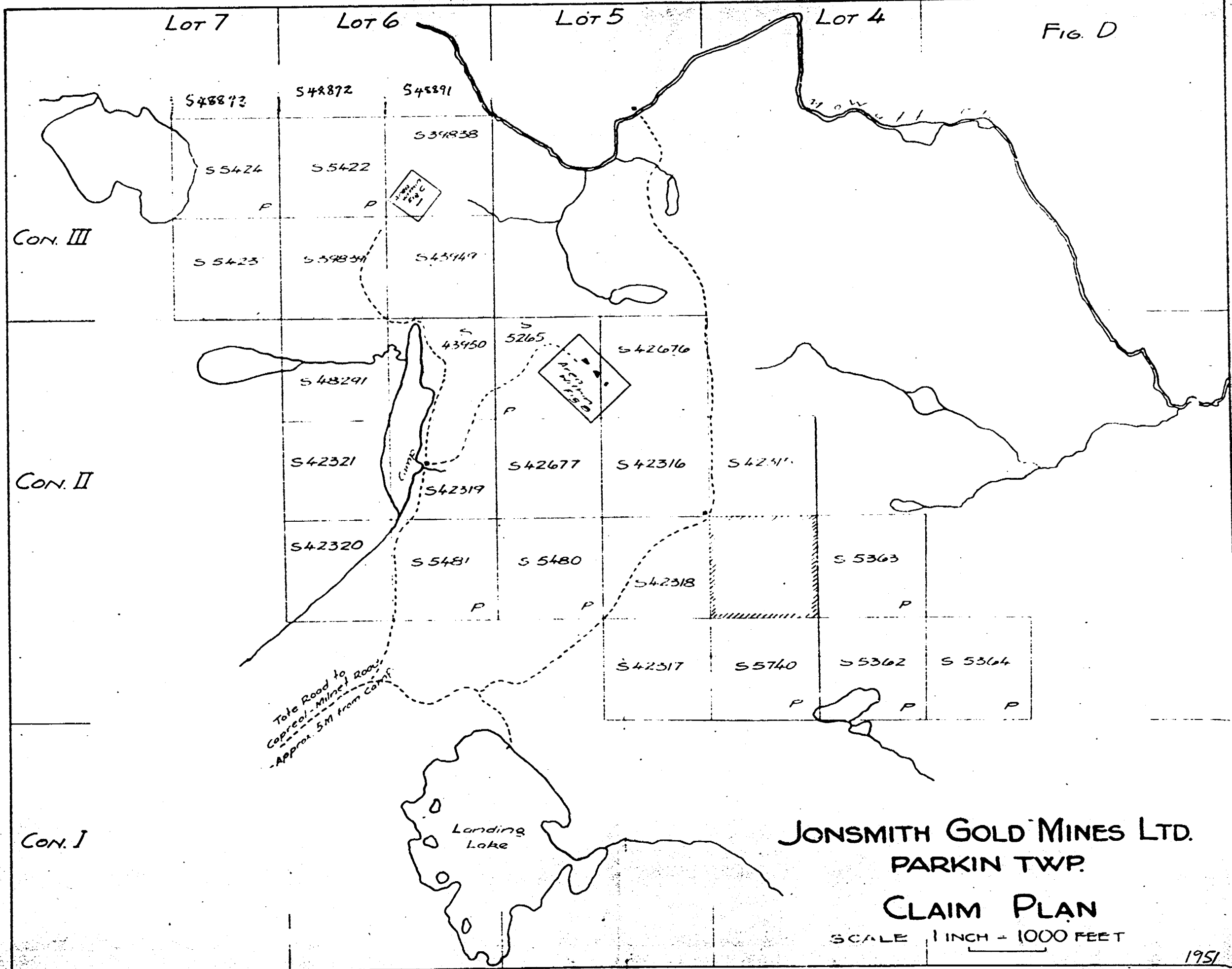
Area - 5795'
 Av. Cu 0.83 Ni 0.81

BASE LINE

- LEGEND PRECAMBRIAN
- 5 - ORE INTRUSIVE
 - 4 - QUARTZ DIORITE
VOLCANIC + SEDIMENTARY
 - 3 - CHERTY GREY QUARTZITE
INCLUDES SOME VOLCANIC
 - 2 - LIMESTONE
 - 1 - CONGLOMERATE + QUARTZITE

1" = 80'

JONSMITH GOLD MINES LTD.
 PARKIN TWP ONT
 SECTION 16-20
 Scale: 1" = 40'
 20



JONSMITH GOLD MINES LTD.
PARKIN TWP.
CLAIM PLAN
 SCALE 1 INCH = 1000 FEET



900

June 28, 1947

The President and Directors,
Jonsmith Gold Mines Limited,
17 Queen St. East,
Toronto, Ontario.

Gentlemen:

Herewith my Report on the Property of
your Company in Parkin Township, District of Sudbury,
covering the recent programme of development carried
out under my direction.

Yours very truly,

E. G. Bishop and
W. P. Corking.

WPC/TM

MONETA PORCUPINE MINES, LIMITED
(NO PERSONAL LIABILITY)

SUITE 1505 - 320 BAY STREET
TORONTO 1, ONT.

PLEASE REFER FILE:

PL 5065

November 5th, 1951.

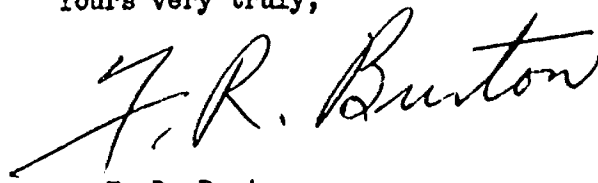
Dr. J. E. Thompson,
Ontario Department of Mines,
Parliament Bldgs.,
Toronto, Ont.

Dear Ed:

I attach Hal Wilson's calculations for the tonnages and grade of No. 1 and No.2 orebodies on the property of Jonsmith. I am also sending you Wilson's surface plan and his vertical sections. These are the only copies I have available of the plan and sections, so I may ask to have them back. In my opinion, Wilson has been ultra-conservative in estimating the tonnage. In my figures, after allowing for reasonable extensions of the oreshoot, I arrived at a figure of 180,460 tons with a grade of 2.09% copper and 1.55% nickel. Allowing for 10% dilution, this would be 198,506 tons. In calculating grade I have assumed that the dilution would not contain any metals, and I have also reduced the copper values by 12 percent and the nickel by 4 percent to take care of what I consider may be possible errors in core splitting. On the basis of these figures I arrive at a grade of 1.68% copper and 1.35% nickel, with 0.10 oz. platinum and 0.04 oz. gold. I might say that I think this would be the minimum grade, and I would expect that it would be somewhat higher.

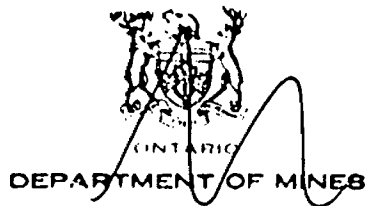
If there is any other information you require, I would be most pleased to supply it to you. All of our technical information is available for your inspection.

Yours very truly,



F. R. Burton

Encls.
/A



PARLIAMENT BUILDINGS
TORONTO, ONTARIO

(Copied on August 24, 1966)

Sept 7, 1954

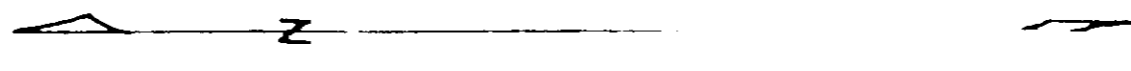
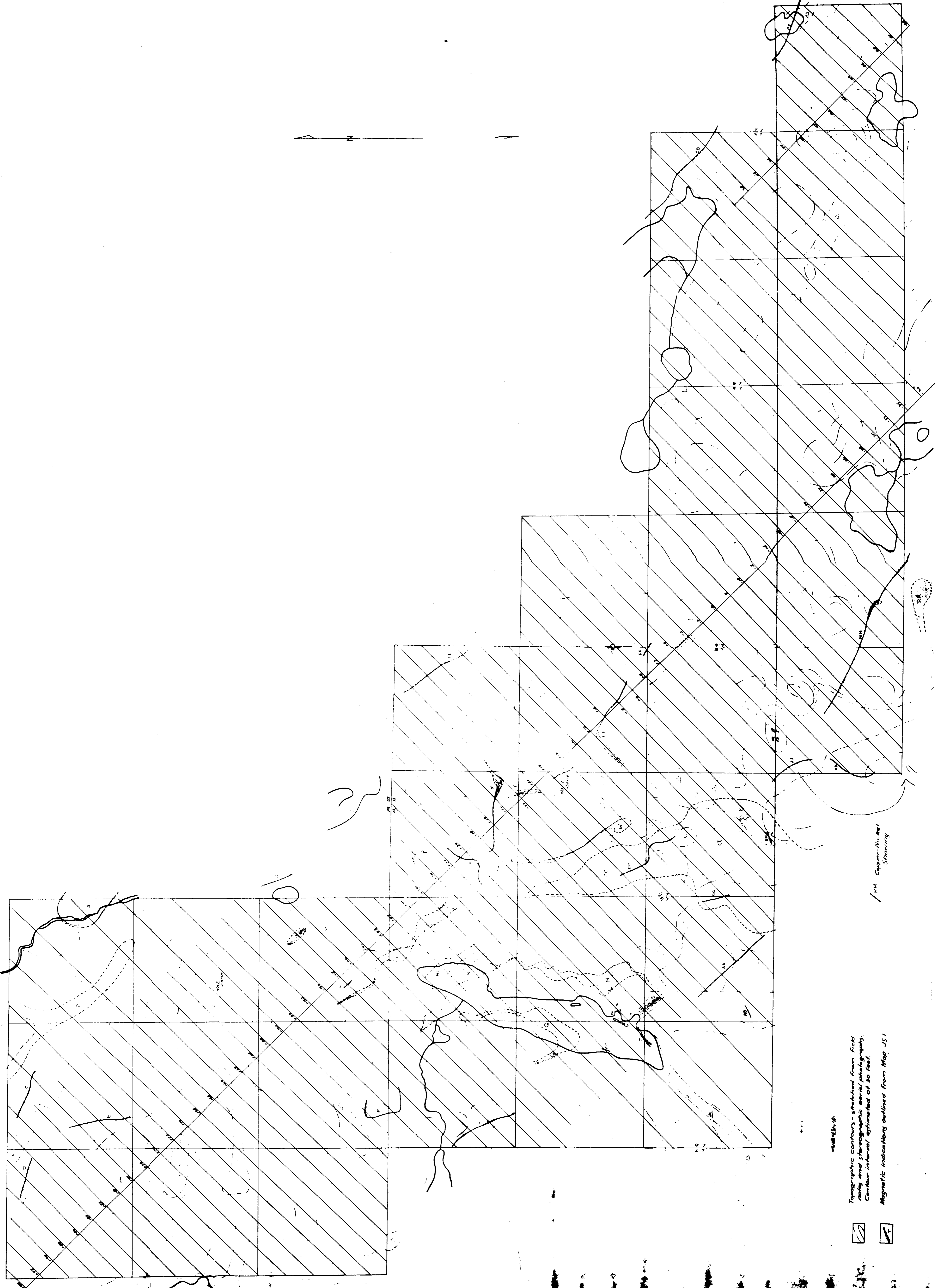
The President and Directors
JonSmith Mines Ltd.
Room 906
37 Bay Street
Toronto, Ontario

Gentlemen:-

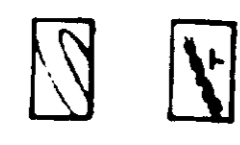
Enclosed is the report on JonSmith Mines Ltd.
along the lines suggested by officials of U. S.
Division of Emergency Procurement Services.

The JonSmith Mines Ltd. ^{comprises} is comprised of 29
claims, approximately 1160 acres, in the Township
of Parkin, Concession II and III, Lots 2 to 7,
District of Sudbury, Province of Ontario, Canada,
Sudbury Mining Division. The property is approxi-
mately 10 miles north of the town of Capreol
situated on the northeast rim of the Sudbury Basin.

The property is serviced by paved roads and
railroad to Capreol, thence by good gravel roads
to the mine property proper. Electric power is
supplied by Hydro-Electric Power Commission of
Ontario by 8.8 miles of 44,000 volt transmission
line, owned by the mine and built in 1952 at a
cost of \$104,000.00. Power is supplied at \$45.00
per K. W. year.



Topographic contours - sketched from field notes and stereographic aerial photographs. Contour interval - 50 feet.
 Magnetic declination outlined from Map J-1



1/4" Copper-Nickel Shoring

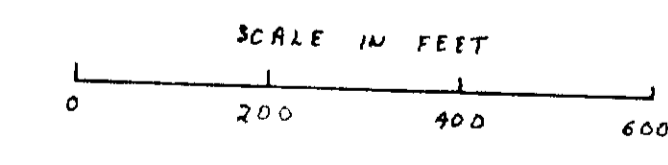
JONSMITH GOLD MINES LTD.
 PARKIN TOWNSHIP
 GEOPHYSICAL SURVEY
 TOPOGRAPHIC MAP WITH MAGNETIC INDICATIONS
 SCALE: 1 INCH = 400 FEET

★ PARKIN - 0034, #1





- OUTCROP
- GEOLOGICAL CONTACT: DEFINED (solid line), INFERRED (dashed line), ASSUMED (dotted line)
- STRIKE AND DIP OF BEDDING: INCLINED (diagonal slash), VERTICAL (vertical slash), UNDETERMINED (no slash)
- STRIKE AND DIP OF FOLIATION
- DRAG FOLD
- SWAMP
- BASELINE
- FAULT
- BUILDING
- SULPHIDE OCCURRENCE
- ORE ZONE
- DIORITE, OFFSET TYPE, INCLUDING BRECCIA ZONES
- FELSITIC ACID INTRUSIVE
- DIORITE: C. COARSE-GRAINED, EPIDOTIZED; F. FINE-GRAINED EPIDOTIZED; G. SILICEOUS AND BIOTITIC
- LIMESTONE
- QUARTZITE: B. DARK GREY, CHERTY; C. CONGLOMERATIC; D. WHITE TO LIGHT GREY
- CONGLOMERATE
- RHYOLITE
- GREENSTONE



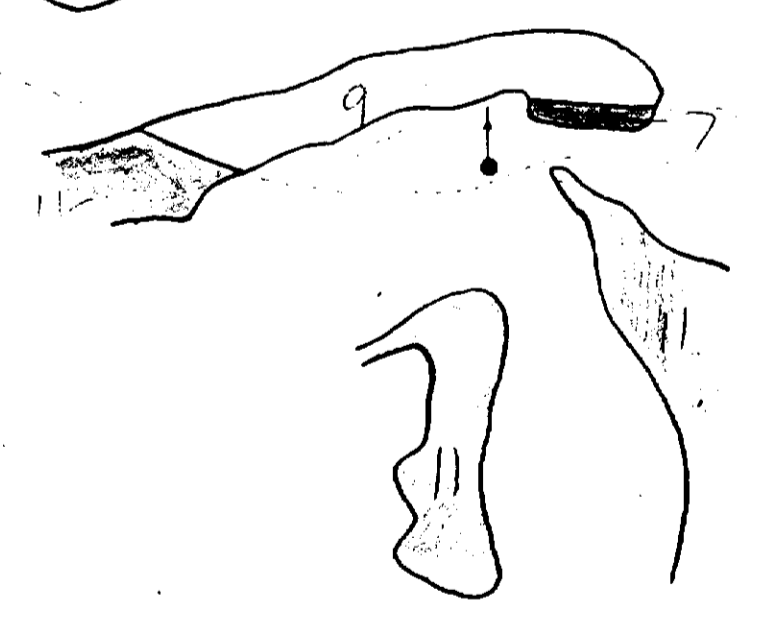
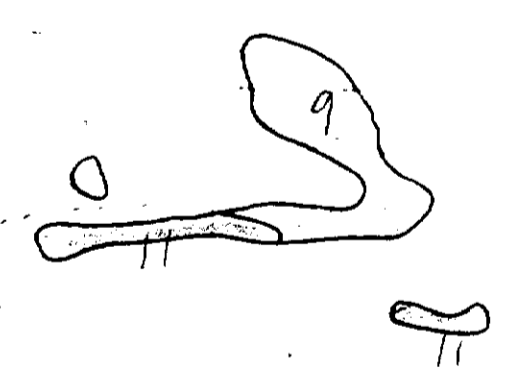
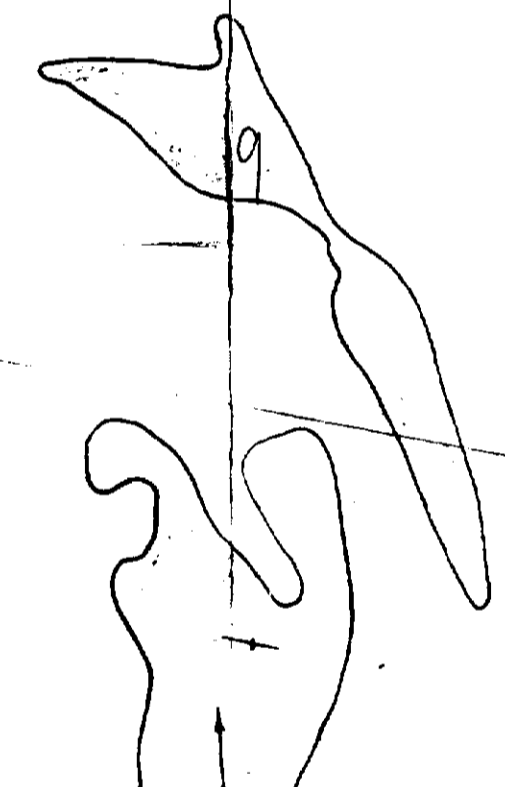
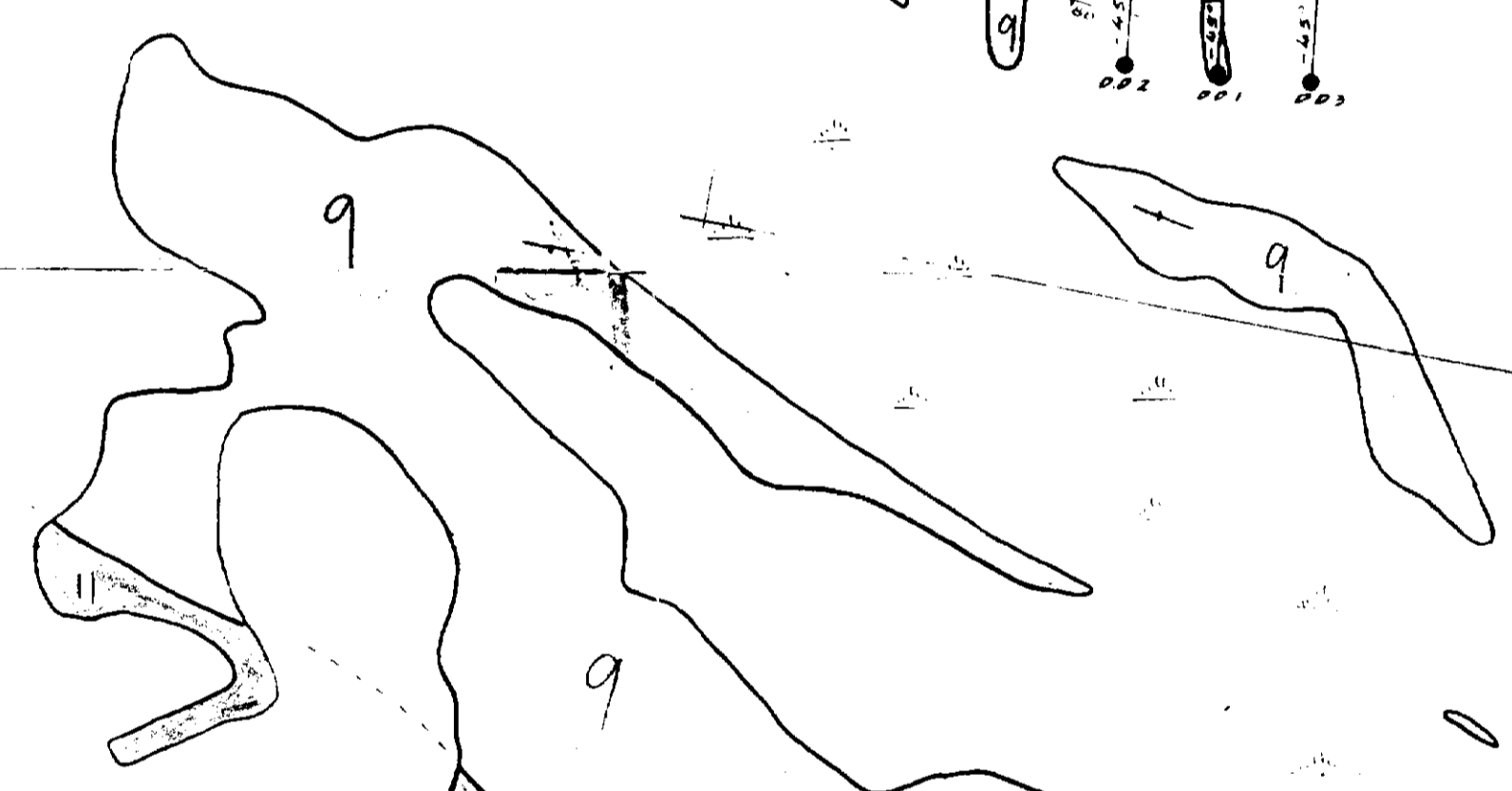
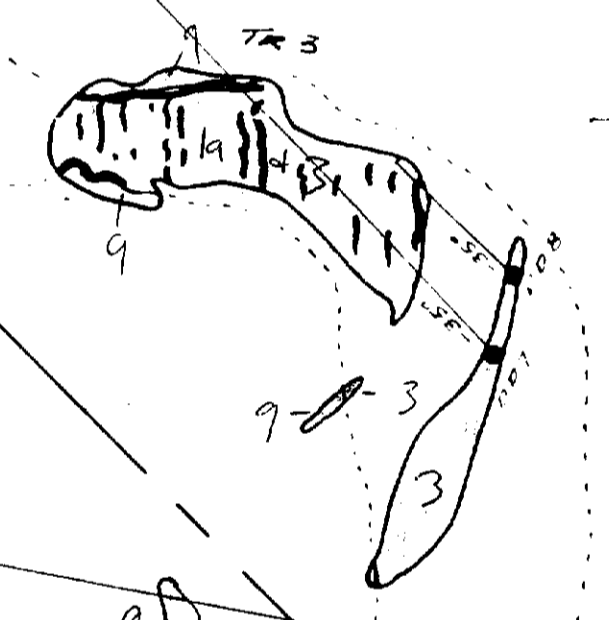
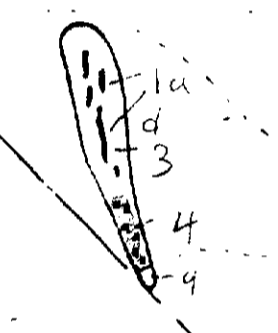
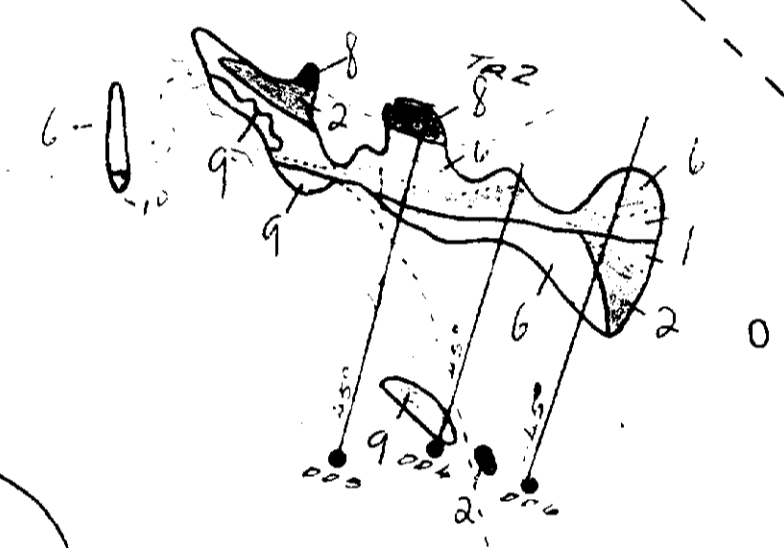
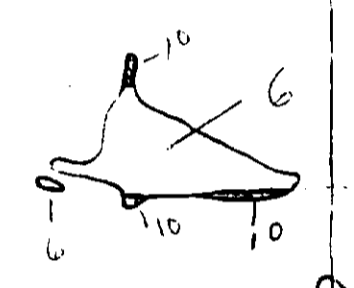
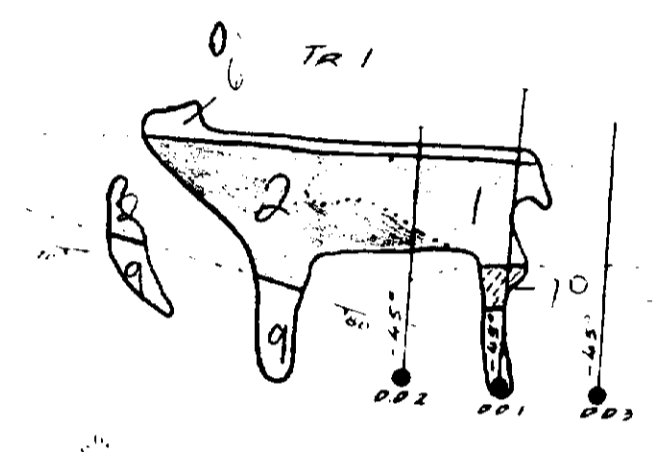
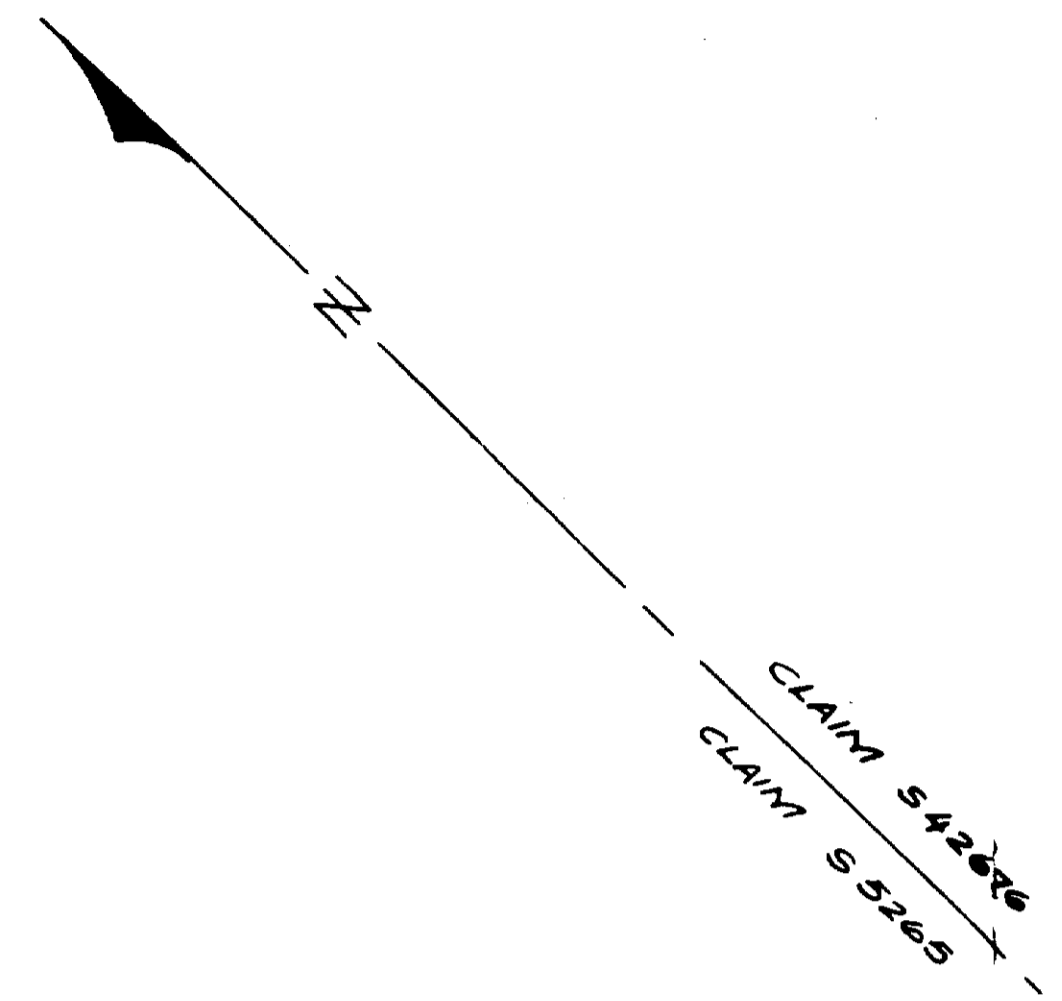
MILNET MINE AREA

PARKIN - 0034, #2



JONSMITH GOLD MINES LTD.
 PARKIN TWP.
 GEOLOGICAL OUTCROP MAP - NO 1 ZONE
 SHOWING DIAMOND DRILLING

SCALE: 1 INCH = 40 FEET



LEGEND

- 1a Quartz-Carbonate vein-matter
- 1 Mineralization-massive and heavily disseminated pyrite, pyrrhotite, chalcopyrite, pentlandite, etc.
- 2 Fresh diorite-diabase
- 3 Carbonate rock
- 4 Amphibolite-highly altered
- 5 Diorite intrusives-very coarse-grained
- 6 Silicified breccia
- 7 Chert
- 8 Cherty quartzite
- 9 Limestone with greywacke interbeds
- 10 Greywacke
- 11 Conglomerate
- Collar of old D.D.Hole



PARKIN - 0034, #3

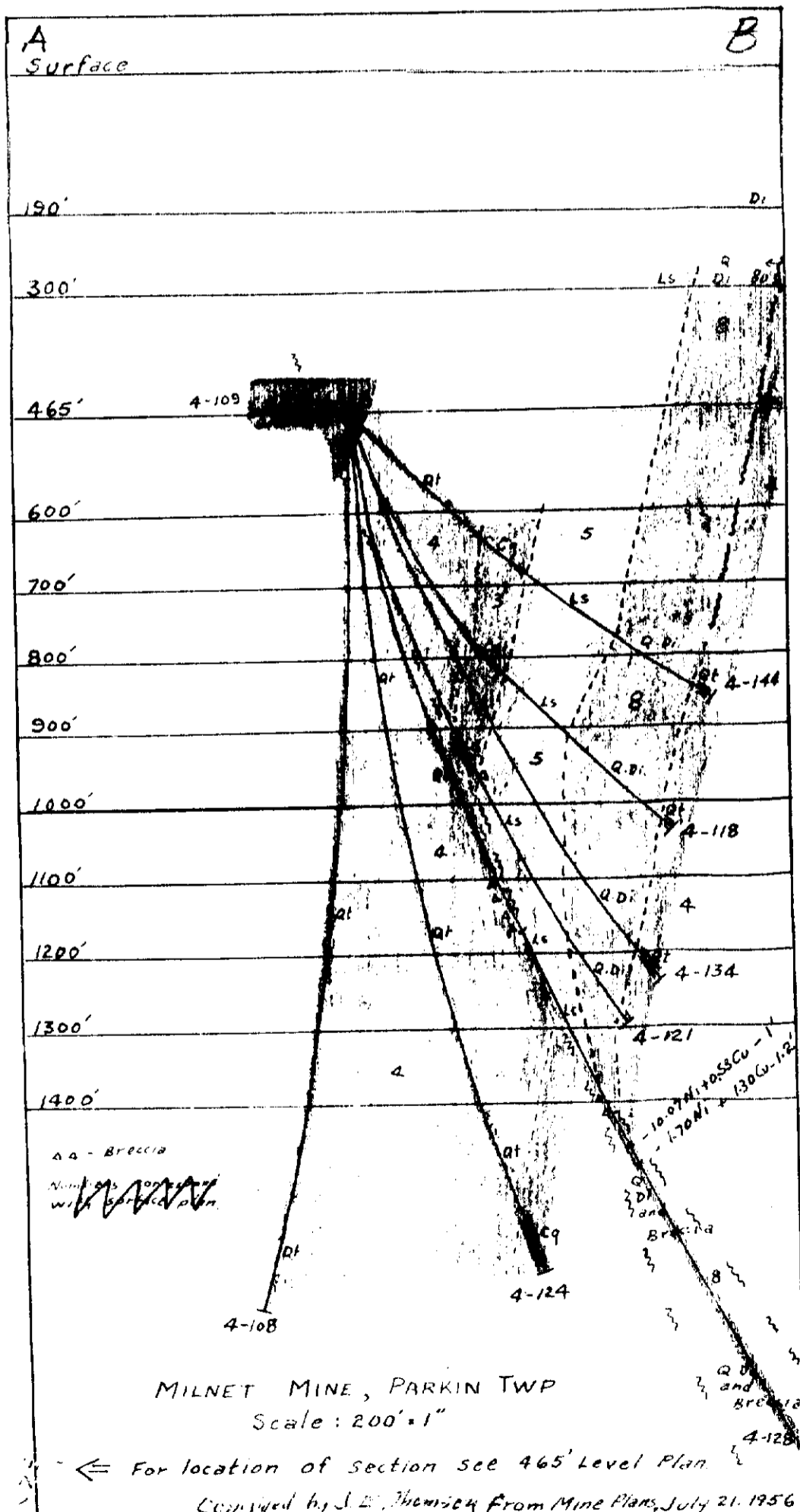
FIG B

W.P. Corling June 1947



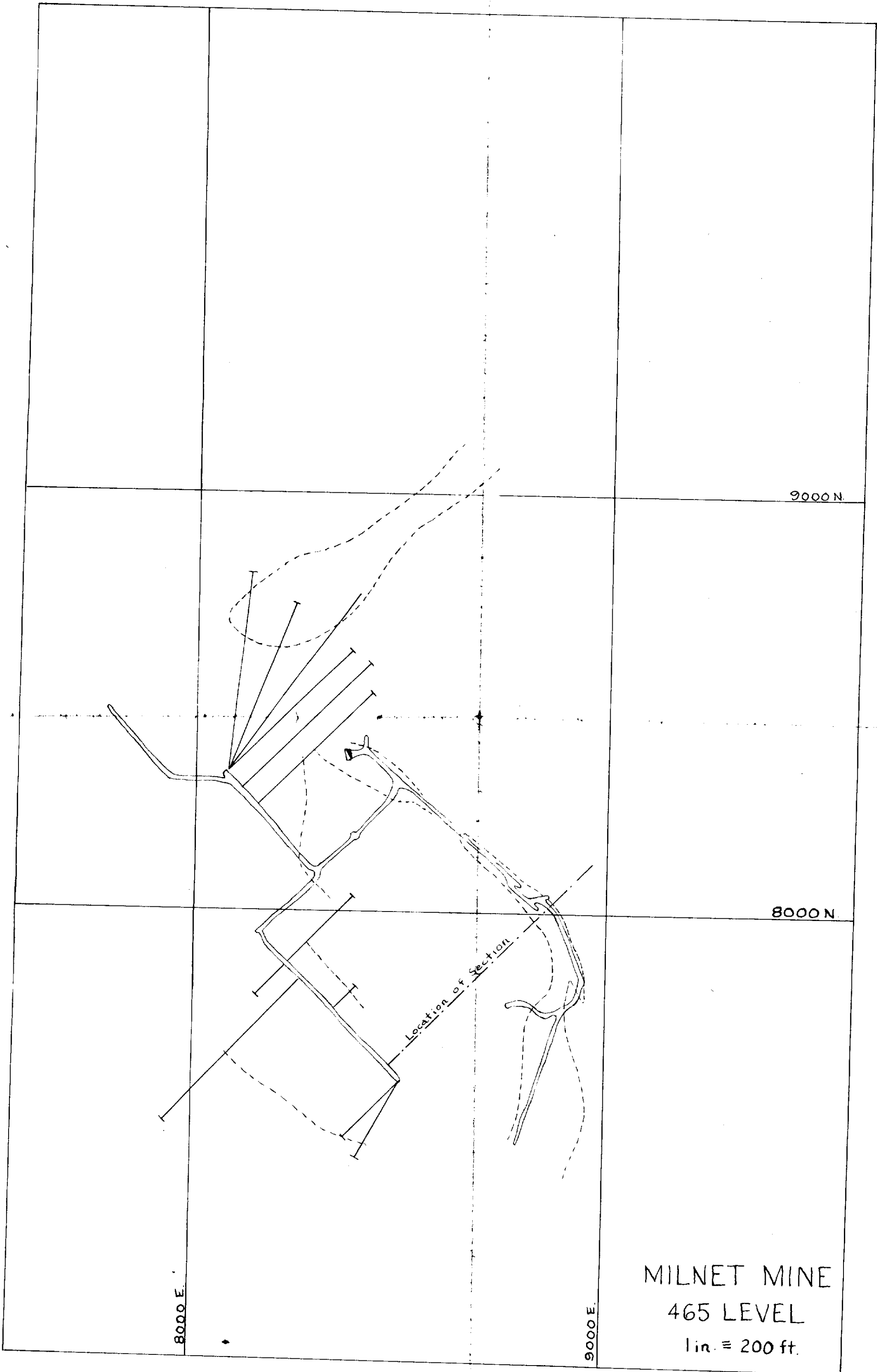
LEGEND

- Post Huronian
- 8 ● Quartz diorite (offset type) including breccia zones
 - 6 ● Diorite
- Huronian
- 5 ● Limestone
 - 4 ● Quartzite
 - 3 ● Conglomerate

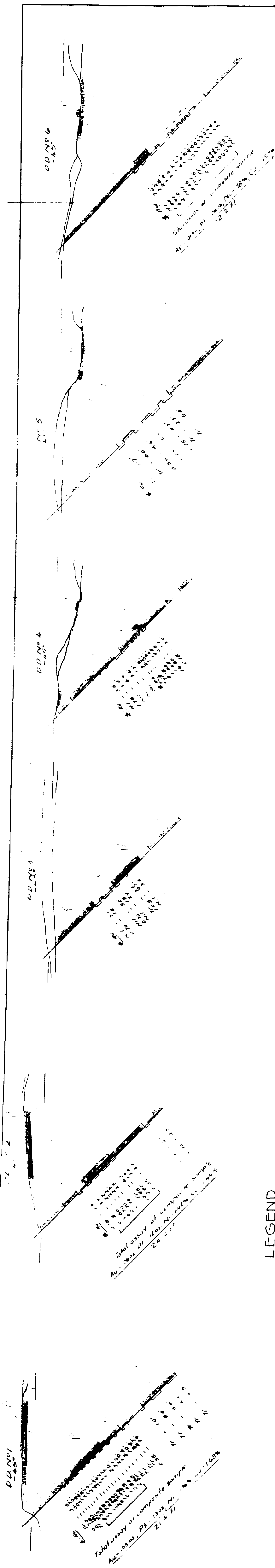


PARKIN-0034, #4





41155W0106 PARKIN34 PARKIN



LEGEND

- 1 Heavy sulphide mineralization
- 2 Chert
- 3 Silicified breccia
- 4 Chert
- 5 Cherty quartzite
- 6 Limestone
- 7 Greywacke

JONSMITH GOLD MINES LTD.
PARKIN TWP.

VERTICAL SECTIONS THROUGH DRILL HOLES
UNDER TR. 1 & TR. 2 - No 1 ZONE

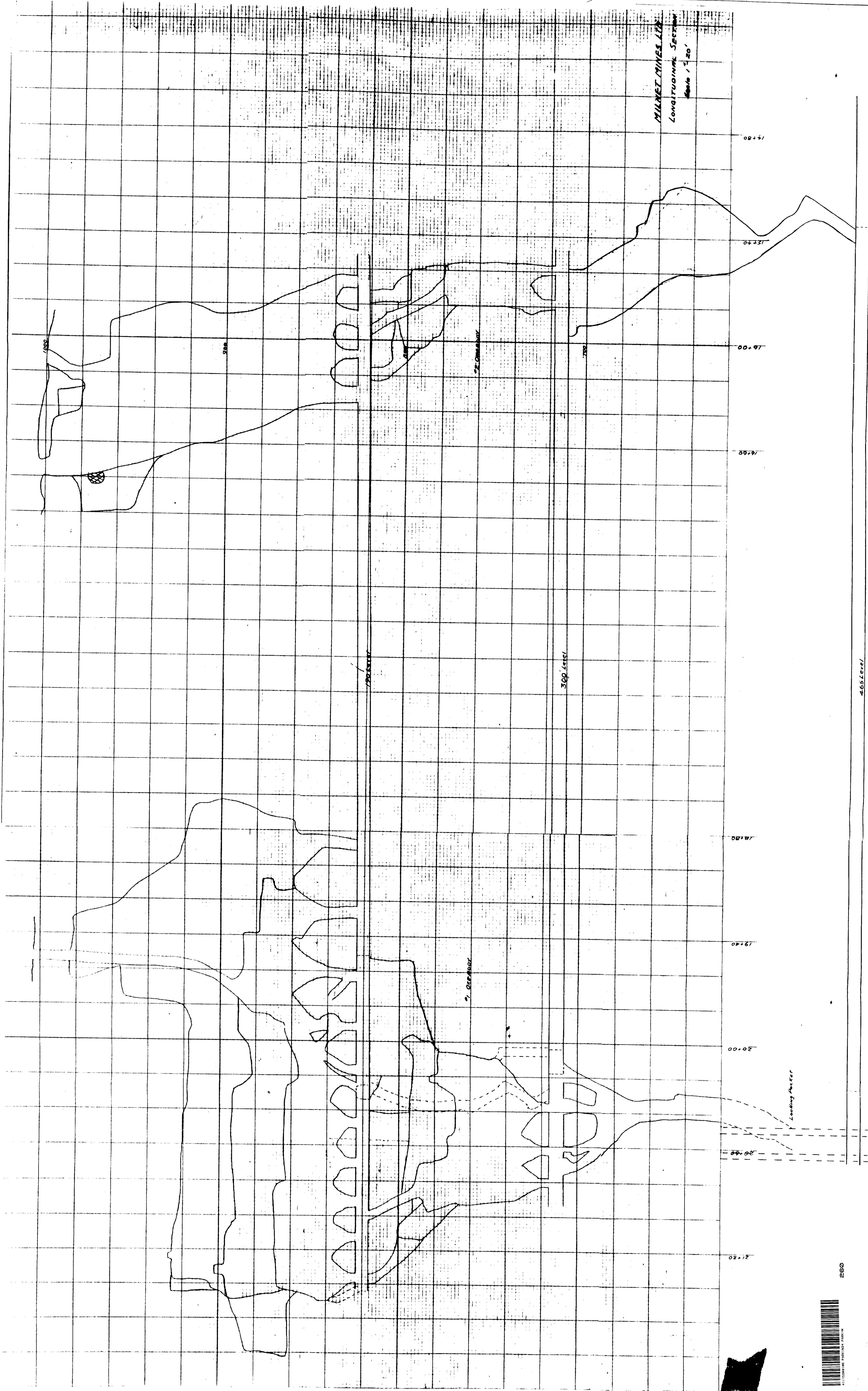
SCALE : 1 INCH = 20 FEET

FIG. E

W.P. Collins June 1947

PARKIN - 0034 #6





MILKET MINER LTR
 Lowertuunnuk Section
 Scale 1" = 20'

★ PARKIN - 0034, #5



260

SHAFT

Loading Area

300' 000

150' 000

SHAFT

SEA

SEA

14' 00

15' 40

16' 00

17' 40

18' 00

19' 40

20' 00

21' 20

22' 40

24' 00

25' 20

26' 40

28' 00

29' 20

30' 40

32' 00

33' 20

34' 40

36' 00

37' 20

38' 40

40' 00

41' 20

42' 40

44' 00

45' 20

46' 40

48' 00

49' 20

50' 40

52' 00

53' 20

54' 40

56' 00

57' 20

58' 40

60' 00

61' 20

62' 40

64' 00

65' 20

66' 40

68' 00

69' 20

70' 40

72' 00

73' 20

74' 40

76' 00

77' 20

78' 40

80' 00

81' 20

82' 40

84' 00

85' 20

86' 40

88' 00

89' 20

90' 40

92' 00

93' 20

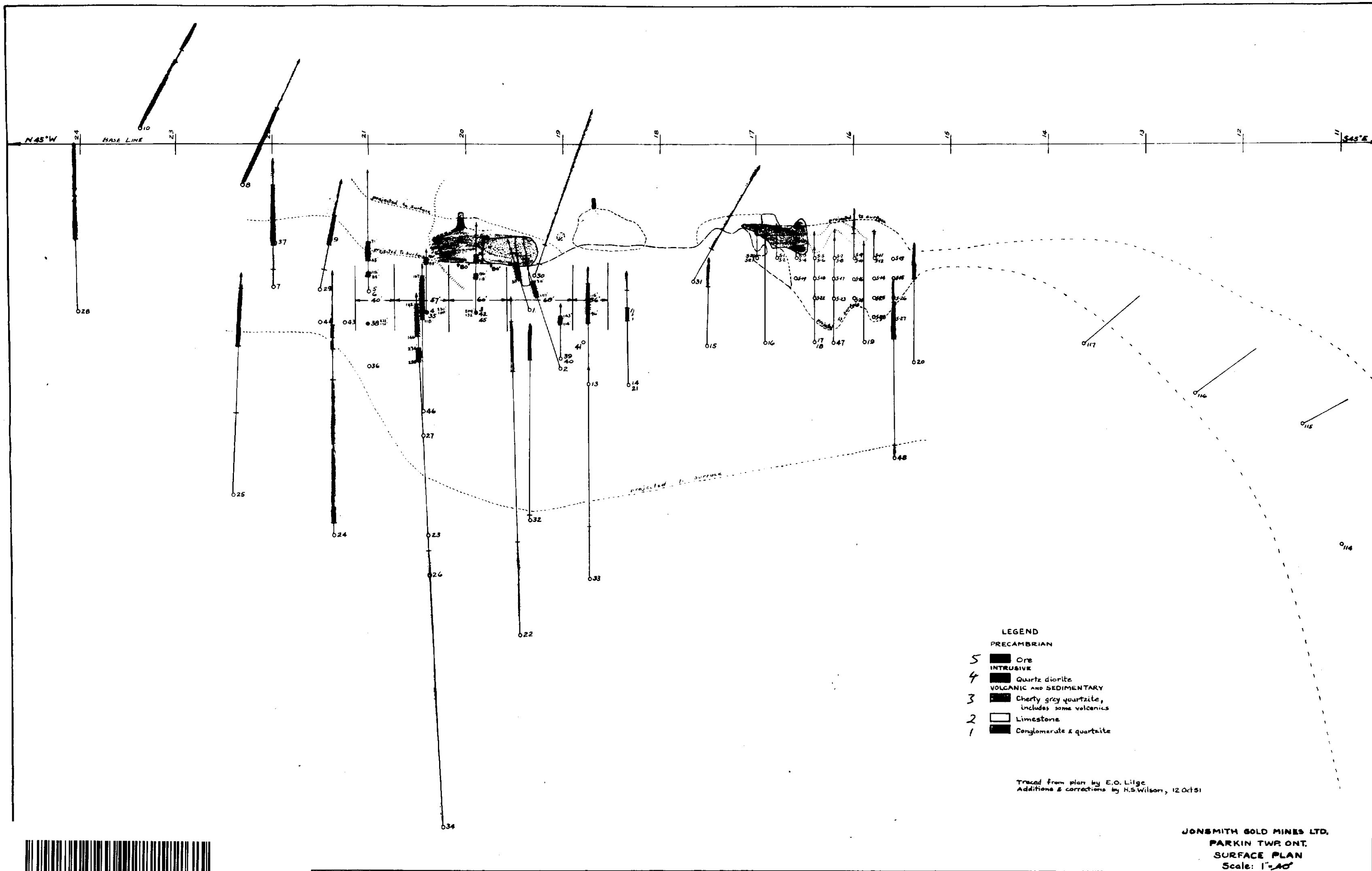
94' 40

96' 00

97' 20

98' 40

100' 00



LEGEND
 PRECAMBRIAN
 5 Ore
 4 INTRUSIVE
 VOLCANIC AND SEDIMENTARY
 3 Cherty grey quartzite,
 includes some volcanics
 2 Limestone
 1 Conglomerate & quartzite

Traced from plan by E.O. Lilje
 Additions & corrections by H.S. Wilson, 12 Oct 51

JONSMITH GOLD MINES LTD.
 PARKIN TWP. ONT.
 SURFACE PLAN
 Scale: 1"=40'



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PARKIN - 00347