N. S. D 63.2887

EXPLORATION PROGRAMME
BRIDGE HILL MINES LIMITED
CHESTER TOWNSHIP
SUDBURY MINING DIVISION
ONTARIO

Toronto, May 19th, 1971

W. Walker, F.G.A.C., P. Eng.

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SUMMARY

Bridge Hill Mines Limited has optioned 19 claims in Chester Township, Sudbury Mining Division, Ontario, about midway between Sudbury and Timmins, half a mile west of Highway 144. The old Gomak and Strathmore shafts, sunk for gold in the 1930's lie on the property. The interest in the property is two-fold, for gold and for porphyry type copper-gold mineralization.

An Induced Polarization Survey by McPhar Geophysics for Kingbridge Mines Ltd. shows two conductive zones, each about half a mile long, about 1,000 ft. apart, between Mill Pond and Arethusa Lake. North of Arethusa Lake, the north part of the southern anomaly is known to be associated with gold veins (other parts have yet to be examined). The porphyry deposits of the Southwest Pacific are copper-gold, in contrast with those of the Western Cordillera which are copper-molybdenum.

It is recommended that part of the vein system be stripped and a series of short holes drilled, so that a) alteration zoning of the type commonly associated with porphyry deposits be assessed, and b) a comparison be made of gold content in channel samples, bulk samples, and drill holes.

The cost is estimated at $6,000.00 for stripping, $6,000.00 for 500 feet of BEX drilling (5 x 100 ft.), and $3,000.00 for geological studies and contingencies, totalling $15,000.00.

Programme should be considered as sampling a combined geophysical and

geological environment. If the outcome is favourable, the work will require extension at surface and in depth.

INTRODUCTION

Your company has optioned a property in a mineral belt where porphyry copper mineralization has recently been discovered. This type of mineralization can occur at the same stage of geosynclinal development as those gold deposits which are known in so-called "younger" or "late tectonic" granites. The present programme is intended to test known vein systems and geophysical anomalies for copper-gold mineralization.

THE PROPERTY

The company has optioned nineteen contiguous mining claims in Chester Township, District of Sudbury, Sudbury Mining Division, Ontario, numbered as follows:

Patented claims:	S 19992
	S 20009
Unpatented claims:	S 220602 to S 220613 inclusive
	S 217460
	S 121594
	S 118910 to S 118912 inclusive
Total:	19 claims.

LOCATION AND ACCESS

Highways 560 passes through the northeast claim about 12 miles southwest of Gogama, and the new highway no. 144 is about half a mile to the east. Highway 144 links Gogama to Timmins (75 miles) and Sudbury (100 miles). The flagstop of

Makwa, on the main Toronto-Vancouver C.N.R. line, is 9 miles to the east.

ECONOMIC FACILITIES

Water: The 16 mile long Mesomikenda Lake crosses the east claim near the narrows, and presumably with appropriate authorization will be ample for all mining purposes.

Electricity: the local powerline to supply the town of Gogama crosses the east claim. The main EHV line passes 35 miles east of the property.

Manpower: the main mining centres of Timmins and Sudbury provide the local labour pool. Mining supplies have the same facilities.

Wood: Several major lumber companies operate within a 50 mile radius.

PREVIOUS WORK

Government and company records show that the main interest in the area by earlier workers has almost invariably been for gold. Nevertheless, in the few places where assays have been carried out on mineralized material for copper, it is usually present in quantities of interest to anyone exploring for large tonnage, low-grade deposits, such as have most of the major copper operations today. Additionally, Kindle (G.S.C. Mem. 192) also notes the presence of molybdenite.

Details of work prior to 1970 were noted in my report to Kingbridge Mines Limited, dated April 16th, 1970, (appended).

During 1970, Kingbridge undertook a Ronka EM16 electromagnetic survey over the property. Based on the results of the EM16 survey, McPhar Geophysics surveyed the more interesting western part of the property by Induced Polarization on lines at 800 feet spacing, with subsequent 400 feet fill-in lines. The results (appended)

show two parallel anomalous zones, 1,000 feet apart, between Mill Pond and Arethusa Lake. The northern zone is 2,000 feet long and the southern zone half a mile long, both open to the west (the southern one is open on the property, with the boundary 600 feet to the west). The anomalous zones have an average width of 400 feet. I have suggested that the anomalous zones may mark an outer pyrite zone, within which the copper-gold (or molybdenum) ore zone occurs in the model situation.

To keep the property in good standing, it was necessary to drill on EM16 data before the I.P. results were available. The results are summarized in X-Ray Assay Laboratories Certificate of Analysis No. 7121 (appended). Widespread low copper and gold values are noted. The highest gold values are 0.30 oz./ton from 71-73 feet, and 0.32 oz./ton from 115 to 127 feet. Reading, followed by Millar, shows surface values for the vicinity as follows on the appended Chesgo Mines Limited plan:

Channel sample	L	44" - $ 71.16
	M	10" - 96.60
	N	5" - 196.70
	O	45" - 30.38
	P	14" - 138.95

It would appear that gold values are lost in unrecovered sludge from broken ground in the drilling.

GENERAL GEOLOGY

The long-known greenstone belt which runs from Osway Township, about 20 miles to the west, to Connaught Township, about 20 miles to the east, is now described as part of the Abitibi orogenic fold belt (Goodwin and Ridler, 1970), laid down on an existing continental basement rather than on oceanic crust, as an island arc. The fold belt was formed during the Kenoran orogeny which extended from 2800 to 2450 million years ago (Walker, 1971). The widening out at Chester Township appears

to be related to the intrusion of a "younger" granite (Laird, 1932) late in the Kenoran cycle of orogenic development Laird and Godefroy (1947) both noted a quartz porphyrite phase. Under appropriate conditions, late tectonic granites are host to major low grade copper-gold and copper-molybdenum deposits. A porphyritic phase is a common if not essential part of the host rock.

ECONOMIC GEOLOGY

Chalcopyrite, sphalerite, pyrite, and pyrrhotite are commonly associated with the silver and gold in old reports on the area. These metals commonly form zones in porphyry copper-molybdenum deposits (viz. Jerome, 1966). Fourteen samples from Kingbridge drill core 70-1 have been studied microscopically under the direction of Dr. J. Guilbert at the University of Arizona. Dr. Guilbert has also examined samples from the Rush Lake area, 20 miles to the northwest in the same volcanic belt. In both cases he reports alteration zoning similar to that in the many porphyry copper deposits of the American cordillera which he has described (Lowell and Guilbert, 1970).

CONCLUSIONS AND RECOMMENDATIONS

The Kingbridge property falls within a geological and metallogenic area which has many of the hallmarks which typify the large low-grade porphyry copper deposits and has gold veins which may be economic. Some of these indications have been checked for Kingbridge Mines Ltd., and the results show two major induced polarization anomalies and alteration zoning features such as are associated with porphyry copper deposits.

It is now proposed to investigate the area of interest in more detail, both to attempt to delimit the alteration zoning pattern and hence any associated pattern of disseminated (porphyry type) mineralization, and in the same area to evaluate the gold veins.

To do this it is proposed to strip several hundred feet of overburden from the

vein system on the north flank of the southern anomaly, to take surface samples both for assay and microscopic study, and to drill a series of about six holes to a depth of about 100 feet and make similar studies on the core for correlation.

COSTS

Estimated allowances are about $6,000 for the stripping, $6,000.00 for the drilling, and $3,000.00 for geological studies and contingencies.

If the outcome is favourable, the work will require extension at surface and in depth.

Respectfully submitted

W. Walker, F.G.A.C., P. Eng.

REFERENCES

Godefroy, C. - Report on Strathmore Mines Limited, April 3rd, 1947. (Company report).

Goodwin, A.M. and Ridler, R.H. - The Abitibi orogenic belt. Geol. Surv. Can. Paper 70-40, pp. 1-30, 1970.

Jerome, S.E. - In Titley and Hicks, Eds. Geology of the porphyry copper deposits, Southwestern North America, University of Arizona Press, 1966.

Laird, H.C. - Geology of the Three Duck Lakes area. Ontario Department of Mines, vol. 41, pt. 3, 1932.

Lowell, J.D. and Guilbert, J.M. - Lateral and vertical alteration - mineralization zoning in porphyry ore deposits. Economic Geology vol. 65, No. 4, pp. 373-408, 1970.

Walker, W. - Time and place in orogeny: the Precambrian of Manitoba, Geol. Assoc. Can., Special Paper No. 9, in preparation.

X-RAY ASSAY LABORATORIES

LIMITED

45 LESMILL ROAD DON MILLS ONTARIO 445-5755

Certificate of Analysis

NO. 7121

TO. Kingbridge Mines Limited,
77 York Street,
TORONTO, Ontario.

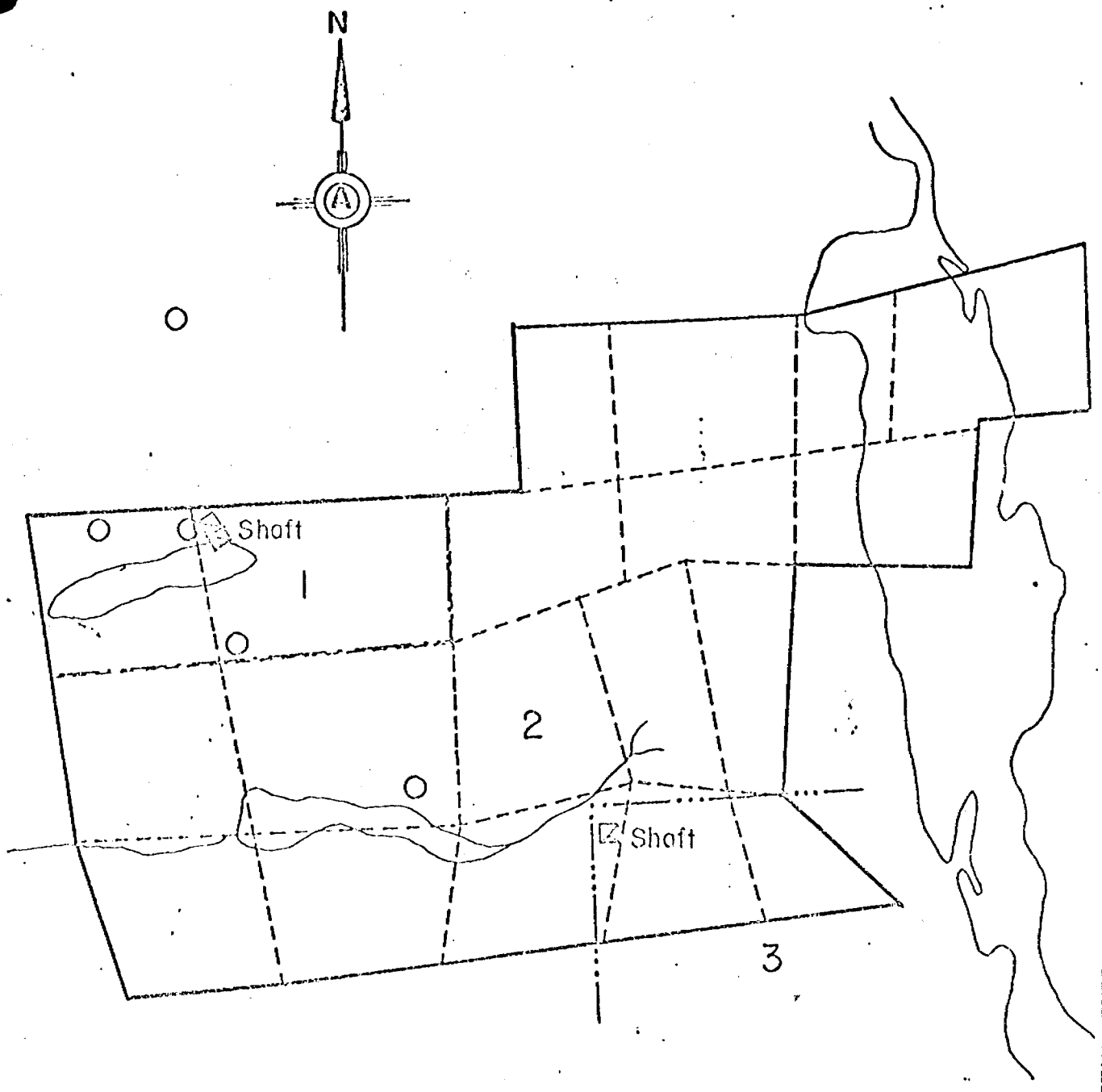
RECEIVED April 29, 1971 INVOICE NO. 7121

SAMPLE(S) OF 23 (S.Core &pulps) SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

Sample No.	% Cu	Au oz./ton	Ag oz./ton
55-71	0.02	Trace	Nil
71-73	0.67	0.30	Trace
73-75	0.04	0.01	Trace
71-81	0.26	0.04	Trace
75-77	0.13	0.04	Trace
77-79	0.20	0.08	Trace
79-81	0.12	0.01	Trace
81-115	0.03	Trace	Trace
115-127	0.28	0.32	Trace
115-117	0.22	0.01	Trace
117-119	0.04	Trace	Trace
119-121	0.08	Trace	Trace
121-123	Trace	Trace	Nil
123-125	0.03	0.01	Trace
125-127	0.06	0.06	Trace
363-365	0.03	Trace	Nil
404-409	0.18	0.01	Trace
409-418.6	Trace	Trace	Trace
418.6-428.6	0.01	Trace	Trace
428.6-438.6	Trace	Trace	Nil
438.6-448.6	Trace	Trace	Nil
448.6-456.6	0.01	Trace	Trace
456.6-463	0.01	0.01	Trace

X-RAY ASSAY LABORATORIES LIMITED

cc: W.Walker, 164 Ripigon



Bridge Hill Mines Bdy. ——

Former properties:—

Gomak 1

Chesgo 2

Strathmore 3

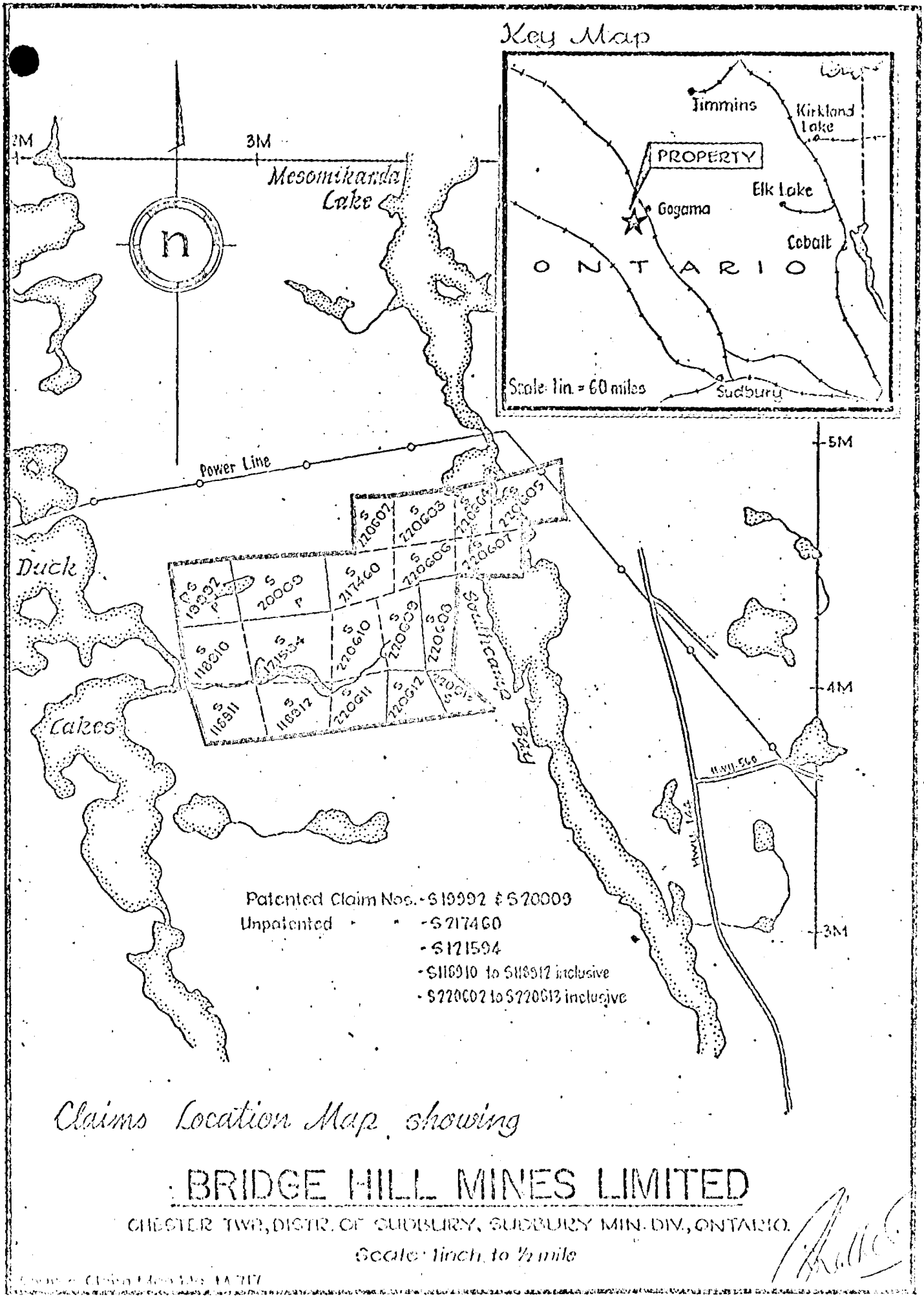
Copper occurrence O

0 ¼ ½ mile

SCALE 1" = 1320'

BRIDGE HILL MINES LIMITED

CHESTER TWP., DIST. OF SUDBURY, SUDBURY MINING DIV., ONTARIO.



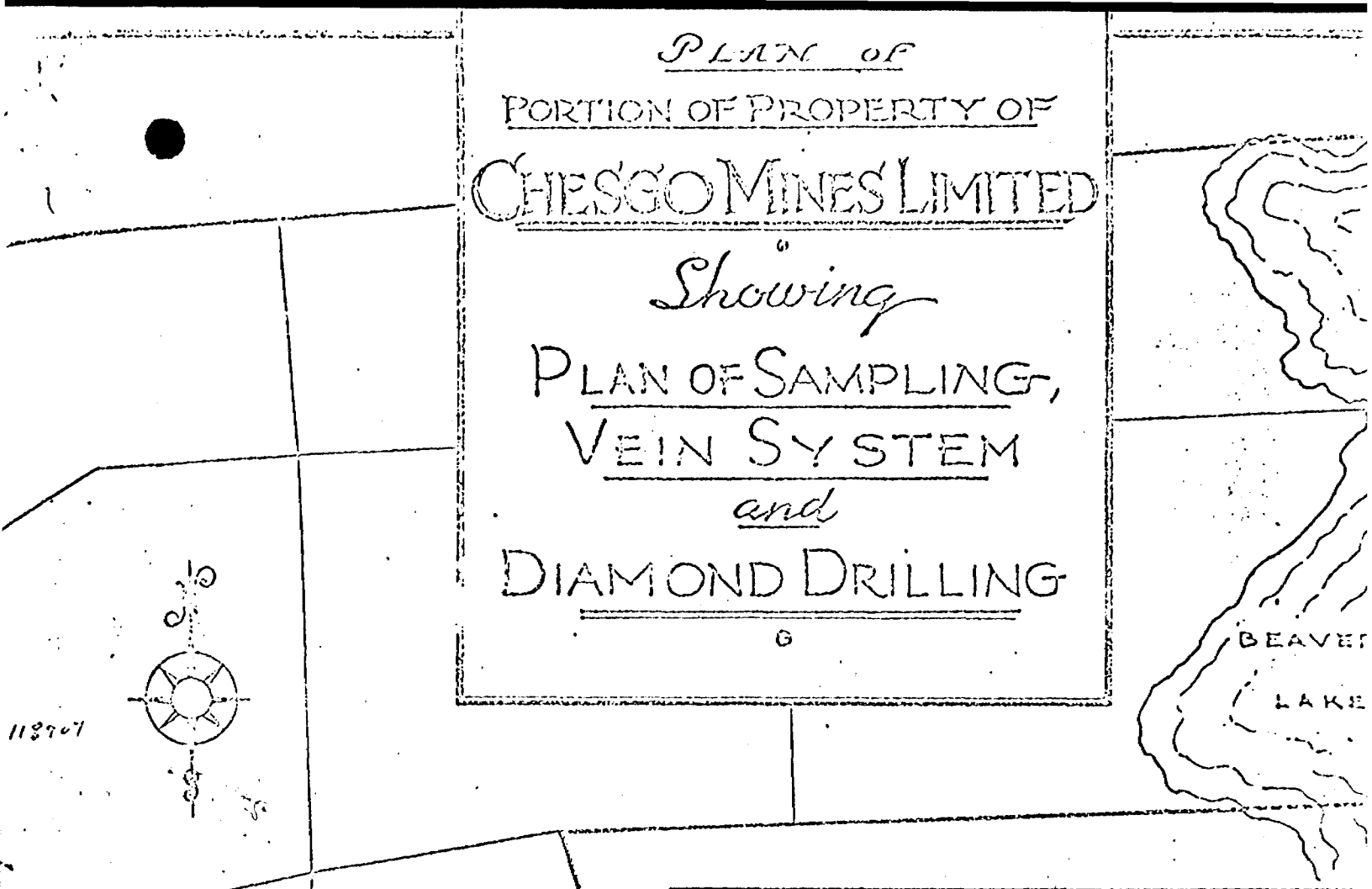
Claims Location Map showing

BRIDGE HILL MINES LIMITED

CHESTER TWP, DISTR. OF SUDBURY, SUDBURY MIN. DIV., ONTARIO.

Scale: 1inch to ½ mile

PLAN OF
PORTION OF PROPERTY OF
CHESCO MINES LIMITED
Showing
PLAN OF SAMPLING, VEIN SYSTEM and DIAMOND DRILLING



CHANNEL SAMPLE RESULTS

Channel Samples listed below correspond to those shown on plan.

			B., C., D. — OVERALL CHECK	
A.	500 lbs. bulk	$ 3.85		
B.	14"	8.05		
	13"	31.40	By J. C. Mahon, M.E.	
	19"	42.00	13"	$ 20.82
	13"	11.90	19"	73.50
	Grab	63.00	13"	54.95
C.	20"	11.20	14"	14.08
	21"	135.00	15"	136.42
	15"	9.20	15"	17.15
	15"	79.10	21"	236.42
D.	35"	32.20	20"	19.60
	8"	6.30	8"	11.02
	By R. D. Jones, M.E.		35"	56.35

E.	Depth 18'	60"	$50.40	Depth 45'	60"	$ 7.35
	Depth 20'	60"	25.90	Depth 45'	60"	15.05
	Depth 48'	60"	37.80	Depth 15'	Bulk	71.40

From Shaft — By R. D. Jones

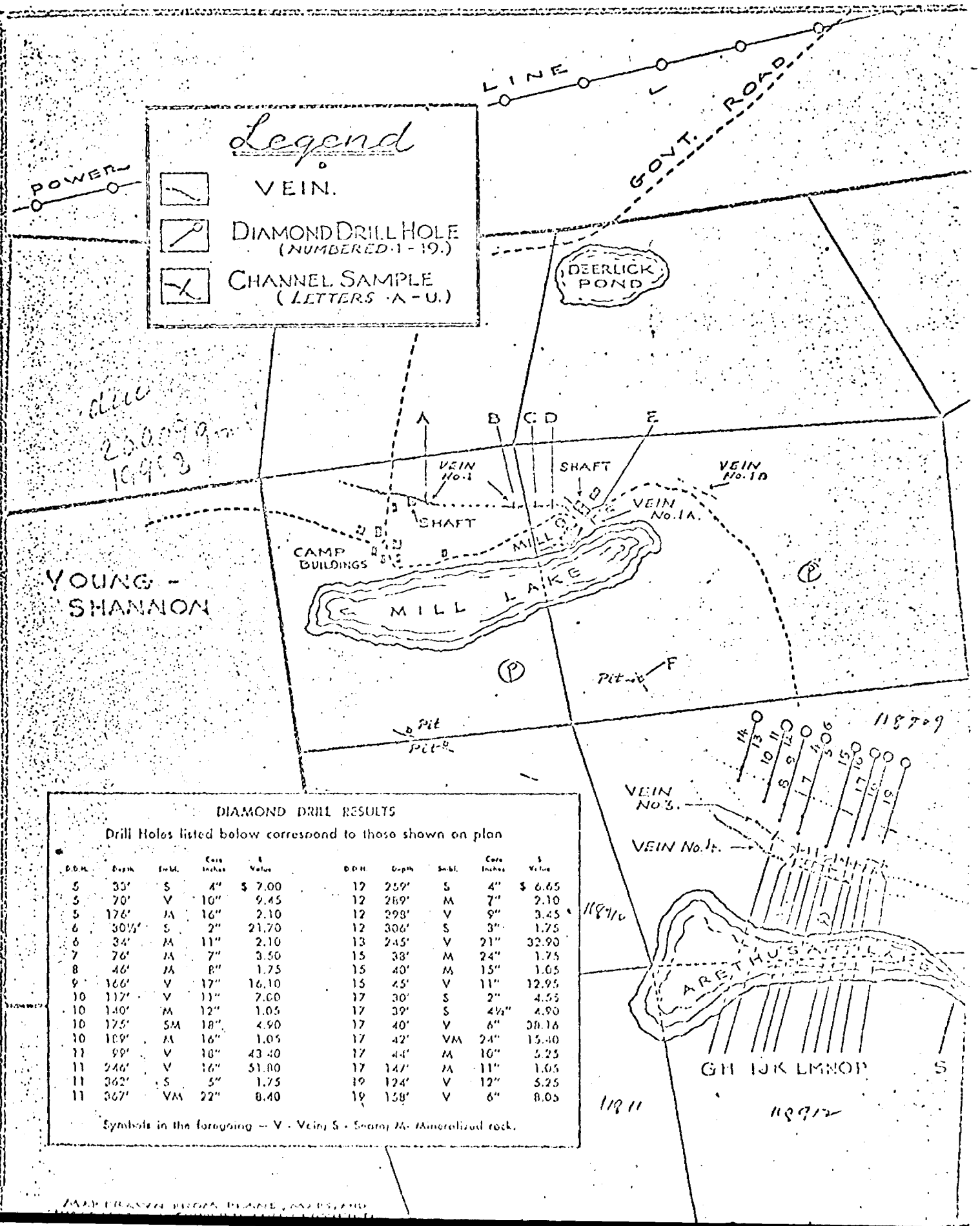
I	2"	$ 33.60	M	10"	$ 96.60
	4"	61.60	N	5"	156.70
J.	30"	14.70	O.	45"	30.38
K.	65"	10.68	P.	14"	136.50
	65"	5.00	Q.	43"	2.33
	37"	33.10	R.	58"	7.00
	45"	40.46	S.	12"	53.10
	18"	50.00	T.	16"	33.35
	44"	71.16	U.	12"	385.65

By A. L. Reading

0 1 2 3 6 9 1200 Feet

SCALE — 1/4 INCH = 100 FEET

(Page Size)



DIAMOND DRILL RESULTS

Drill Holes listed below correspond to those shown on plan

D.D.H.	Depth	Smbl.	Core Inches	$ Value	D.D.H.	Depth	Smbl.	Core Inches	$ Value
5	33'	S	4"	$ 7.00	12	259'	S	4"	$ 6.65
5	70'	V	10"	9.45	12	289'	M	7"	2.10
5	176'	M	16"	2.10	12	298'	V	9"	3.45
6	30½'	S	2"	21.70	12	306'	S	3"	1.75
6	34'	M	11"	2.10	13	245'	V	21"	32.90
7	76'	M	7"	3.50	15	38'	M	24"	1.75
8	46'	M	8"	1.75	15	40'	M	15"	1.05
9	166'	V	17"	16.10	15	45'	V	11"	12.95
10	117'	V	11"	7.00	17	30'	S	2"	4.55
10	140'	M	12"	1.05	17	39'	S	4½"	4.90
10	175'	SM	18"	4.90	17	40'	V	6"	38.16
10	189'	M	16"	1.05	17	42'	VM	24"	15.40
11	99'	V	10"	43.40	17	44'	M	10"	5.25
11	246'	V	16"	51.80	17	147'	M	11"	1.05
11	362'	S	5"	1.75	19	124'	V	12"	5.25
11	367'	VM	22"	8.40	19	158'	V	6"	8.05

Symbols in the foregoing — V - Vein; S - Seam; M- Mineralized rock.

MAP DRAWN FROM PLANE TABLE SURVEY