



41P14NE0023 63.3216 MIDLOTHIAN

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THE HANNA MINING COMPANY

MIDLOTHIAN PROJECT

Report On

DIAMOND DRILLING

by

NELSON HOGG

June 1, 1974

see D.D. # 27 MIDLOTHIAN JWP

THE HANNA MINING COMPANY

MIDLOTHIAN PROJECT

DIAMOND DRILLING - 1974

SUMMARY:

Six holes with a total length of 1,776 feet were drilled by Continental Diamond Drilling Company for The Hanna Mining Company in Midlothian Township. The drilling tested two conductive zones outlined by electromagnetic surveys in 1973. In five of the six holes the anomaly was explained by sulphide mineralization generally accompanied by graphitic material, but with no base metal values. In the case of hole no.74-2, only graphite was encountered. In hole no. 74-4, a core length of 264 feet had sulphide mineralization ranging from 10% to 80%, and the hole was abandoned in sulphides.

All sulphides except in hole no.3 are pyrite, often with a radiating, colloform texture. In hole no.3 pyrrhotite occurs in an ultramafic section.

There is evidence in holes 4, 5, and 6 of deep weathering, resulting in very poor core recovery. At a vertical depth of 250 to 300 feet, carbonate is leached from the volcanic agglomerate, and the pyrite is oxidized.

INTRODUCTION:

In 1973 The Hanna Mining Company acquired, by staking and option, a group of 123 claims in Midlothian Township, extending from the area east of the Stairs Mine, to the southwest corner of the township.

This property was covered by a grid of picket lines at 400 foot intervals and was thoroughly investigated by geological mapping, a magnetometer survey, and two types of electromagnetic survey. The results of this work were submitted to the Ministry of Natural Resources in March, 1974. The electromagnetic surveys outlined two strong conductive zones which had not previously been tested by drilling. One zone is located south of Rhyolite Lake between base lines 150+00 South and 170+00 South, and has a length of about 5,600 feet. The other zone is close to base line 90+00 South, following the north edge of a swamp along Weary Creek, and has a length of about 1,400 feet.

DRILLING PROGRAM:

Continental Diamond Drilling Company Limited, of Rouyn, was engaged to do the diamond drilling. The month of March was spent mobilizing and setting up to drill. Drilling started on April 8 and was completed on May 5. During that time six holes with a total depth of 1,776 feet were completed. Two plans showing location of the holes are enclosed with this report; the statistical data are presented in the following table:

Hole No.	Claim No.	Picket Line	Station	Bearing	Inclination	Overburden	Total Depth
74-1	367017	56+00W	162+508	North	-45°	87	220
74-2	367018	24+00W	161+508	North	-45°	8	200
74-3	367009	16+00W	160+008	North	-46°	10	274
74-4	388624	20+00E	91+208	South	-45°	10	395
74-5	388619	32+00E	88+508	South	-46°	44	200
74-6	373064	20+00E	97+508	North	-50°	16	487'
Total						125'	1776'

Holes 1, 2, and 3 tested the anomalous zone south of Rhyolite Lake. Surface mapping in this area had indicated a zone of dacitic lavas, tuffs and breccias intruded by ultramafic sills. On line 16+00West, where hole no. 3 was drilled, stringers of pyrrhotite and pyrite were exposed in surface trenches. Drilling revealed more ultramafic rocks, and well-bedded tuffs and argillites that are not exposed on surface. Good indications of the top of beds by grain gradation were observed in hole #1. Tops are to the south in these beds, whereas the regional surface geology suggests that the volcanics face north, becoming younger toward the contact with Temiskaming sediments.

In hole number 1, a 4-foot band of massive, colloform pyrite, is overlain by 4 feet of limestone which is in turn overlain by 110 feet of black carbonaceous tuff.

In hole number 2, the conductive zone is a black carbonaceous tuff with little sulphide mineralization, in a sequence of dacitic flows and tuffs.

In hole number 3, the same carbonaceous tuff and dacitic volcanics were intersected but pyrite and pyrrhotite in stringers and disseminated grains occur in fractured dacite for a core length of 53 feet. Disseminated pyrrhotite also occurs in serpentinized peridotite from 185 feet to the end of the hole at 274 feet.

Holes 4, 5 and 6 were drilled to test an anomalous electromagnetic zone that roughly follows base line 90+00South from line 16+00 East to line 36+00 East. The west end of this zone was identified by the Turam Survey, but did not give a distinct anomaly on the ABEM Gun.

The results of drilling suggest that the anomalous zone is marked by deep surface weathering and it seems probable that the sulphide zone is too deep to be detected by the horizontal-loop equipment using a 200 foot coil spacing.

Hole number 4, on line 20+00 East collared in a felsic volcanic breccia characterized by rounded fragments of gray and black rhyolitic material in a calcite matrix. From 181 to 292 feet is a zone of pyritic mineralization in which pyrite and carbon replace carbonate in the matrix of breccia and pyrite occurs in massive, colloform bands. The total pyrite

content of this section is in the order of 30%. Core recovery is good to a depth of 275 feet, but below that point the hole entered a zone of surface weathering in which the felsic fragments, and to some extent the pyrite, occur as unconsolidated rubble. From 292 to 330 feet the weathered material is rhyolitic breccia, and although core recovery was poor, no pyrite was recovered. From 330 feet to 395 feet most of the core recovered is pyrite, but core recovery was poor, and at 395 feet the hole had to be abandoned.

Hole number 6 was drilled on line 20+00 East from the south, to penetrate the sulphide zone not tested by hole number 4. It collared in intermediate tuffs and flows. Grain gradation in one thick dacitic flow indicates that tops of strata are to the south. From 388 to 446 feet is a gabbro and at 446 feet the hole entered a zone of sulphide mineralization similar to the sulphide zone in hole #4. Surface weathering has affected the core from 418 to the end of the hole at 487 feet where the hole had to be abandoned. The zone of pyritic mineralization was probably not completely covered by holes 4 and 6, but only a small gap was left, and the nature of pyritic mineralization on the two sides is similar.

Hole number 5 was drilled on line 32+00 East on the easterly extension of the same anomalous zone tested by holes 4 and 6. It collared in rhyolitic breccia which is similar mineralogically to the breccia in hole number 4, but with more angular fragments. The zone of pyritic mineralization was intersected from 124 to 169 feet. It was marked by surface weathering and poor core recovery and had to be cemented. From 169 to the end at 200 feet the rock is rhyolitic tuff and breccia.

RESULTS:

No base metal values accompany the pyrite and pyrrhotite mineralization. In cases where core recovery was poor, sludge samples were taken and these have somewhat higher values in copper and zinc than the split core. However, this is due to the concentrating effect in the sampling process because proper equipment for sludge sampling was not available.

Six samples were tested by semi-quantitative spectrographic analysis but they revealed nothing of special interest.

Assay results are tabulated in Appendix "A", and cross-sections at 1 inch equals 40 feet, with assays, are also enclosed with the report.

..... Nelson Hogg
Nelson Hogg
..... June 5, 1974
date

THE HANNA MINING COMPANY

"APPENDIX A"

MIDLOTHIAN PROJECT

SUMMARY OF ASSAYS

Hole No.	Sample No.	Type of Sample	Footage		ft.	Assay					Cost
			From	To		Au oz/ton	Cu %	Zn %	Ni %	S %	
74-1	1526	Split Core	99	103	4	.005	.01	.01	.01		19.50
74-3	1527	"	83.4	88	4.6	nil			.01		8.75
	1528	"	88	91.5	3.5	nil			.01		7.75
	1529	"	91.5	94.4	2.5	nil			.01		7.75
	1530	"	94.4	96.8	2.4	nil			.01		7.75
	1543	"	96.8	104.4	7.6	nil			.01		7.75
	1531	"	104.4	110.8	6.4	nil			.01		7.75
	1532	"	110.8	117.9	7.1	nil			.01		7.75
	1533	"	117.9	122.7	4.8	nil			.01		7.75
	1534	"	122.7	127.7	5.0	nil			.01		7.75
	1544	"	136.0	137.0	1.0	nil			.03		7.75
	1535	"	157.5	167.4	4.9	nil			.04		7.75
	1536	"	201.0	206.7	5.7	nil	.01		.21		12.00
	1537	"	206.7	211.0	4.3	nil	.02		.16		12.00
	1538	"	211.0	216.0	5.0	nil	.01		.15		12.00
	1539	"	216.0	219.1	3.1	nil	nil		.29		12.00
	1540	"	219.1	221.2	2.1	nil	nil		.26		12.00
	1541	"	221.2	225.2	4.0	.005	nil		.21		12.00
	1542	"	225.2	226.7	1.5	nil	nil		.20		12.00

Hole No.	Sample No.	Type of Sample	Footage		Ft.	Assay					Cost
			From	To		Au oz/ton	Cu ppm	Zn ppm	Ni %	S %	
74-4	1545	Split Core	137.5	141.8	4.3	nil	58	180	-	14.41	\$14.25
	1546	"	145.2	150.5	5.3	nil	50	110	-	15.44	14.25
	1547	"	152.3	157.8	5.5	nil	32	72	-	14.56	14.25
	1548	"	183.0	195.0	12.0	nil	40	78	-	9.83	14.25
	1549	"	284.2	244.5	10.3	nil	29	90	-	32.66	14.25
	1550	"	262.1	267.6	5.6	nil	35	96	-	28.06	14.25
	1446	Sludge	317	326	9	nil	518	552	-	-	8.25
	1447	"	326	336	10	nil	660	590			8.25
	1553	Split Core	330.3	340	9.7	nil	30	39			8.25
	1448	Sludge	336	346	10	nil	535	518			8.25
	1449	"	346	356	10	nil	98	122			8.25
	1450	"	356	366	10	nil	42	82			8.25
	1451	"	366	376	10	nil	60	98			8.25
	1452	"	376	390	14	nil	134	196			8.25
	1453	"	390	395	5	nil	86	122			8.25
	1554	Split Core	371	382	11	.005	38	58			8.25
74-5	1457	Sludge	130	140	10	nil	79	350			8.25
	1458	"	140	150	10	nil	68	406			8.25
	1459	"	144	147	3	nil	66	150			8.25
	1555	Split Core	144	146	2	nil	50	33			8.25
	1556	"	146	156	10	nil	58	25			8.25
	1557	"	156	162	6	nil	60	38			8.25
	1558	"	162	165.5	3.5	nil	39	70			8.25
	1559	"	165.5	169.2	3.7	nil	50	72			8.25
	1560	"	169.2	173.1	3.9	nil	22	80			8.25

Hole No.	Sample No.	Type of Sample	Footage		Ft.	Assay					Cost
			From	To		Au oz/ton	Cu ppm	Zn ppm	Ni %	S %	
74-6	1561	Split Core	446	456	10	nil					4.25
	1562	"	456	469	13	.005	90	58			8.25
	1563	"	469	487	8	.01	88	40			8.25
	1564	Sludge	452	462	10	nil	228	230			8.25
	1565	"	462	472	10	.005	262	232			8.25
	1566	"	472	482	10	.005	290	242			8.25
	1567	"	482	487	5	.005	290	305			8.25
	1568	"	442	452	10	nil	188	120			8.25
Total 52 Samples						52	39	32	18	6	\$494.00

SEMI-QUANTITATIVE SPECTROGRAPHIC ANALYSES

Drill Hole No.	74-4	74-4	74-4	74-4	74-4	7405
Sample No.	1546	1548	1549	1550	1554	1555
From -	145.2	188.0	284.2	262.0	871.0	144.0
To -	150.5	195.0	244.5	267.6	882.0	146.0
Feet	5.8	12.0	10.8	5.6	11.0	2.0
Arsenic			2	2	3	3
Boron	2	2	2	1		
Cobalt			1	1	2	2
Copper	1	1	1	1	1	1
Lead			1	1	2	2
Iron	10	10	11	11	12	12
Manganese	6	6	5	5	3	3
Molybdenum	1	1	1	1	1	1
Nickel	1	1	2	2	3	3
Titanium	5	6	4	3	1	1
Vanadium		3	3			
Zinc					2	2
Zirconium	1	1	1	1		

CODE: 1.Tr. -Less than .01% 7. .2 - 1%

2. .005 - .03% 8. .5 - 3%

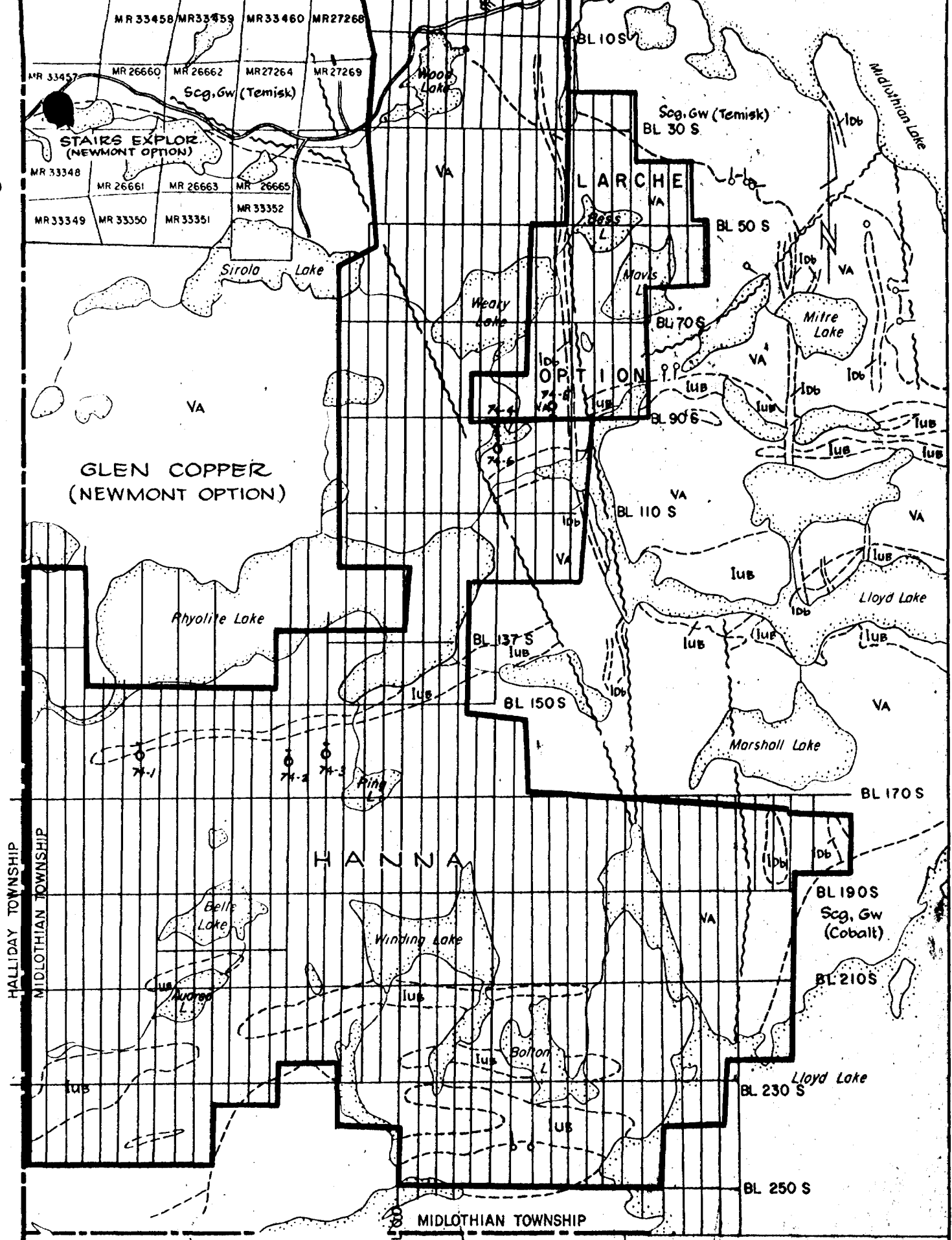
3. .01 - .05% 9. 1 - 5%

4. .02 - .1% 10. 2 - 10%

5. .05 - .3% 11. 5 - 30%

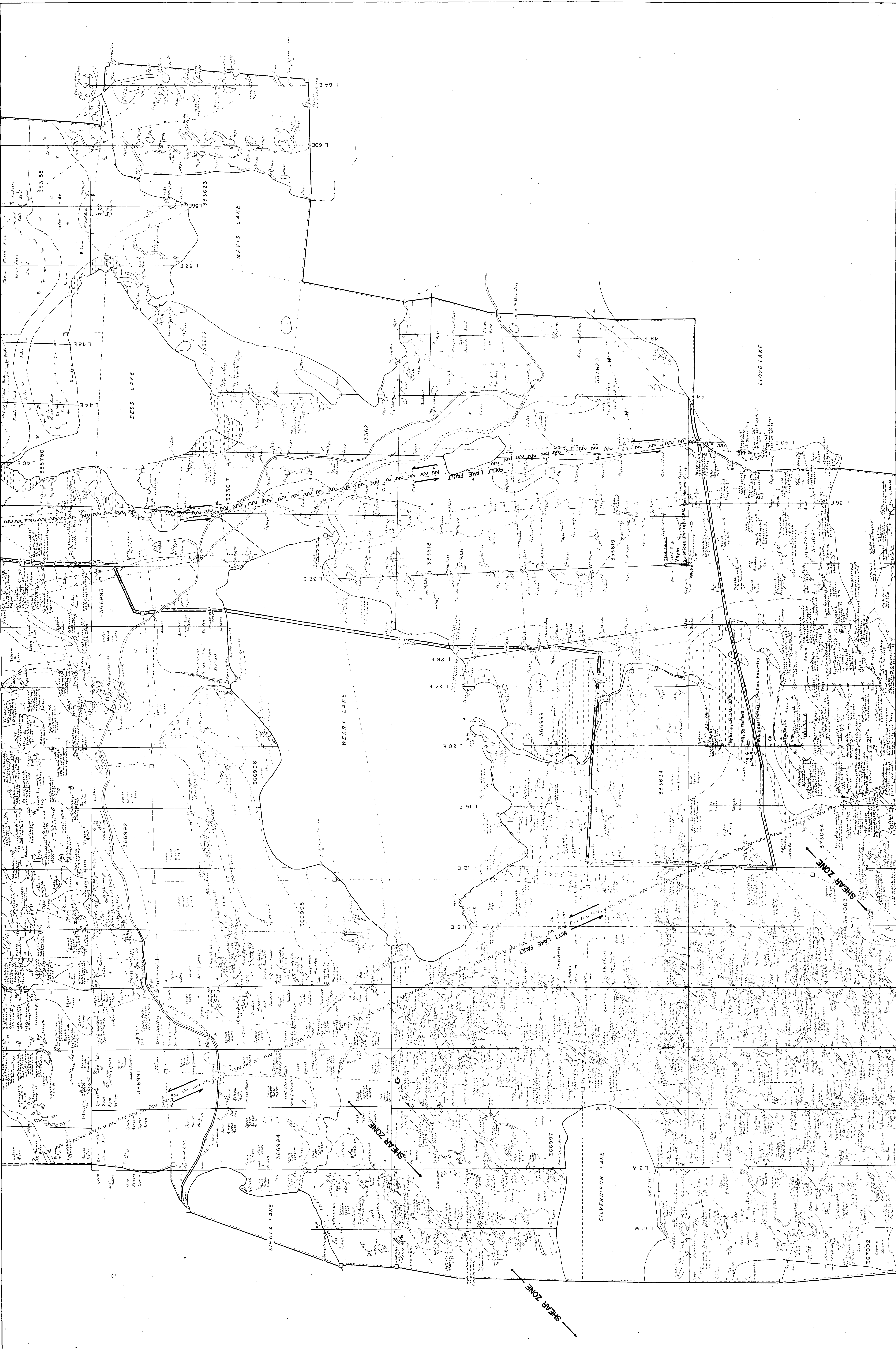
6. .1 - .5% 12. More than 10%

Cost of Assays - 6 Y 315. = \$90.00



	Scg. Gw (Cobalt)	Conglomerate, Graywacke
	lubb	Diabase
	lusb	Serpentinized Peridotite, Dunite
	Scg. Gw (Temisk)	Conglomerate, Graywacke
	VA	Felsic Volcanics, Rhyolite, Dacite

THE HANNA MINING COMPANY
MIDLOTHIAN PROJECT
LARDER LAKE MINING DIVISION
 ONTARIO
GENERAL PROJECT MAP
 Scale: 1in = 1/2mi
 Work by _____
 Date _____
 NTS No 41-P-14



THE HANNA MINING COMPANY
MIDLOTHIAN PROJECT
 LAMBER LAKE MINING DIVISION
 ONTARIO

GEOLOGIC MAP

SCALE 1" = 200'
 0 200 400 600 Feet

Work by: *Alfred [Signature]*
 Date: *6.3.39/6*
 Interpretation by: *[Signature]*
 Date: *12 Sept.*
 Revised: *[Signature]*
 M.S. No. 41-P-15

SYMBOLS

- Swamp
- Small outcrop
- Outcrop
- Interpreted bedrock
- Top of bed
- Bedding, top unknown (inclined, vertical)
- Strike and dip of schistosity (inclined, vertical)
- Strike and dip of greenschist (inclined, vertical)
- Fault, assumed
- Anticlinal axis
- Synclinal axis
- Mineral occurrence
- Tractor road
- Diamond drill hole

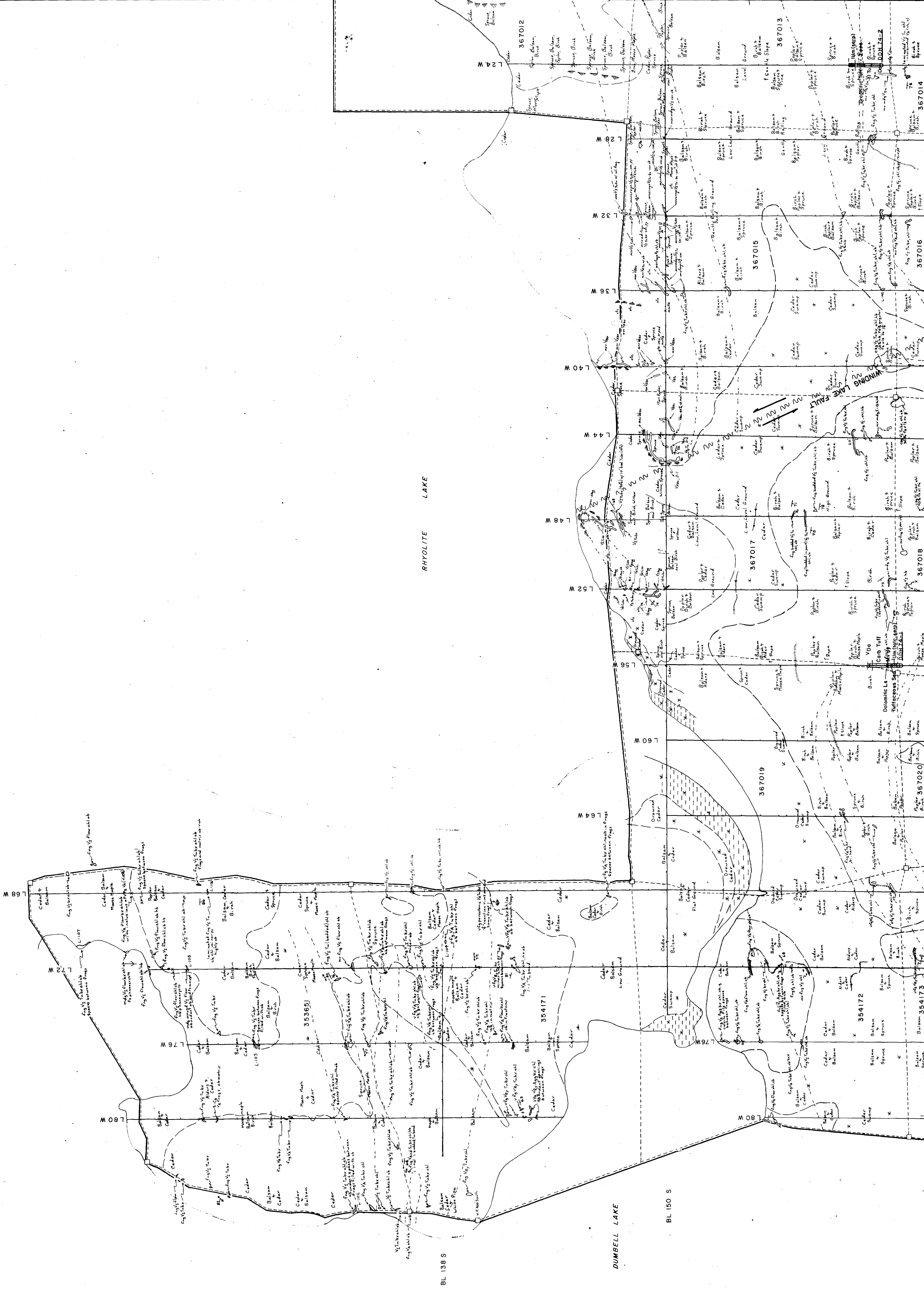
LEGEND

- Quartz Veins (qv), Carbonate Veins (cb v)
- Diabase Dykes (I-Db)
- Lamprophyre (I-Lamp)
- Sediments-Conglomerate (S-Cg), Graywacke (S-Gw)
- Basic and Intermediate Igneous Rocks - Gabbro (I-Gb), Ultramafic (I-Um), Serpentine (I-Serp)
- Porphyry (V-Pb), Rhyolite (V-Rh), Rhyolite Breccia (V-Rb), Massive, Fine-Grained Rhyolite (V-Ry)
- Rhyolite Flow Breccia (V-Ryb)
- Rhyolite Tuff Breccia (V-Ryub)
- Acid Volcanic Tuff Breccia (VATubx)
- Andesite (V-And), Dacite (V-Dac), Flow Breccia, Tuff Breccia, Flow, Pillowed Flow, etc

SHEET INDEX

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8	9					

PROPERTY LOCATION MAP



THE HANNA MINING COMPANY
 MIDLOTHIAN PROJECT
 LARDER LAKE MINING DIVISION
 ONTARIO

GEOLOGIC MAP

SCALE 1" = 200'
 0 200 400 600 Feet

Work by: *[Signature]* Interpretation by: *[Signature]*
 Date: 03.29.14

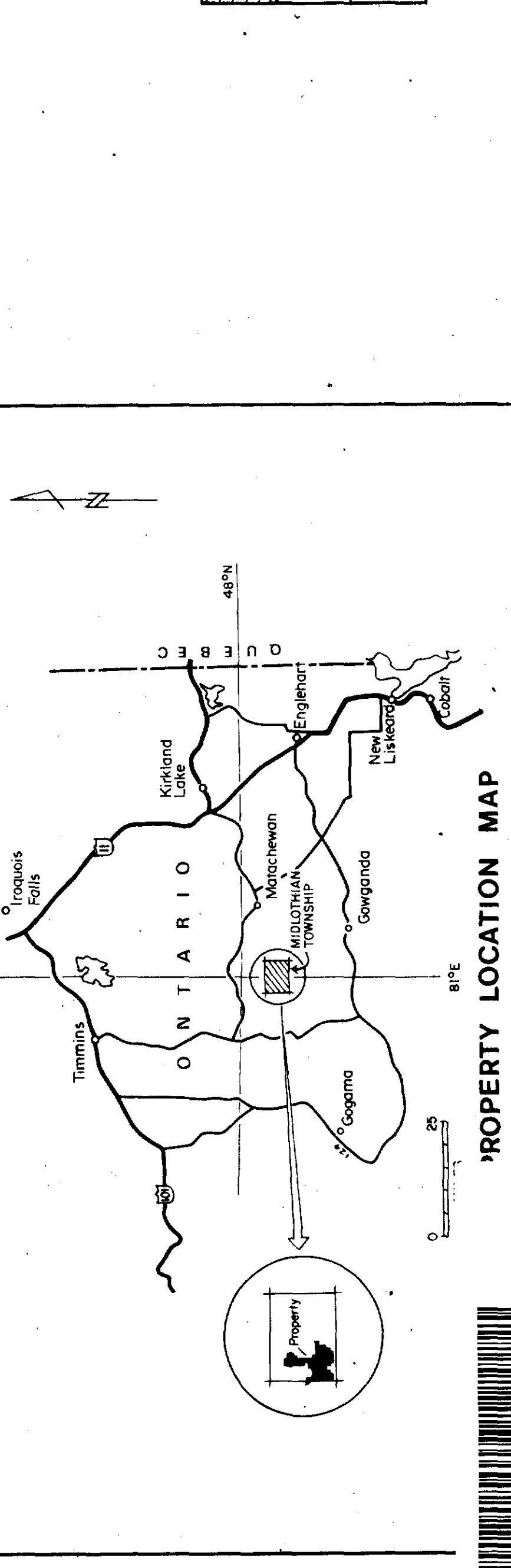
NTS. No. 41P-15

- SYMBOLS**
- Swamp
 - Small outcrop
 - Outcrop
 - Interpreted bedrock
 - Top of bed
 - Bedding, top unknown (inclined, vertical)
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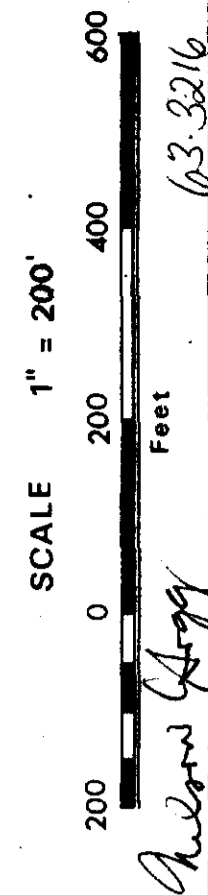
- LEGEND**
- Quartz Veins (qv), Carbonate Veins (cb v)
 - Diorase Dikes (L-Ds)
 - Lamprophyre (L-Lmp)
 - Seismic Argillite (S-Arg)
 - Basic and Intermediate Igneous Rocks - Gabbro (L-Gb), Ultramafic Rocks (L-Um), Serpentinite (L-Serp)
 - Porphyritic Rhyolite (VRyq), Porphyritic Rhyolite Breccia (VRyqB)
 - Massive Fine-Grained Rhyolite (VRy)
 - Rhyolite Tuff Breccia (VRyTb)
 - Acid Volcanic Tuff Breccia (VRyTb)
 - Andesite Breccia (VRyTb)
 - Andesite Breccia Flow, Shallow Flow, etc.
 - Carbonate Veins (cb v)
 - Diorase Dikes (L-Ds)
 - Lamprophyre (L-Lmp)
 - Seismic Argillite (S-Arg)
 - Basic and Intermediate Igneous Rocks - Gabbro (L-Gb), Ultramafic Rocks (L-Um), Serpentinite (L-Serp)
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SHEET INDEX

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8	9					



GEOLOGIC MAP



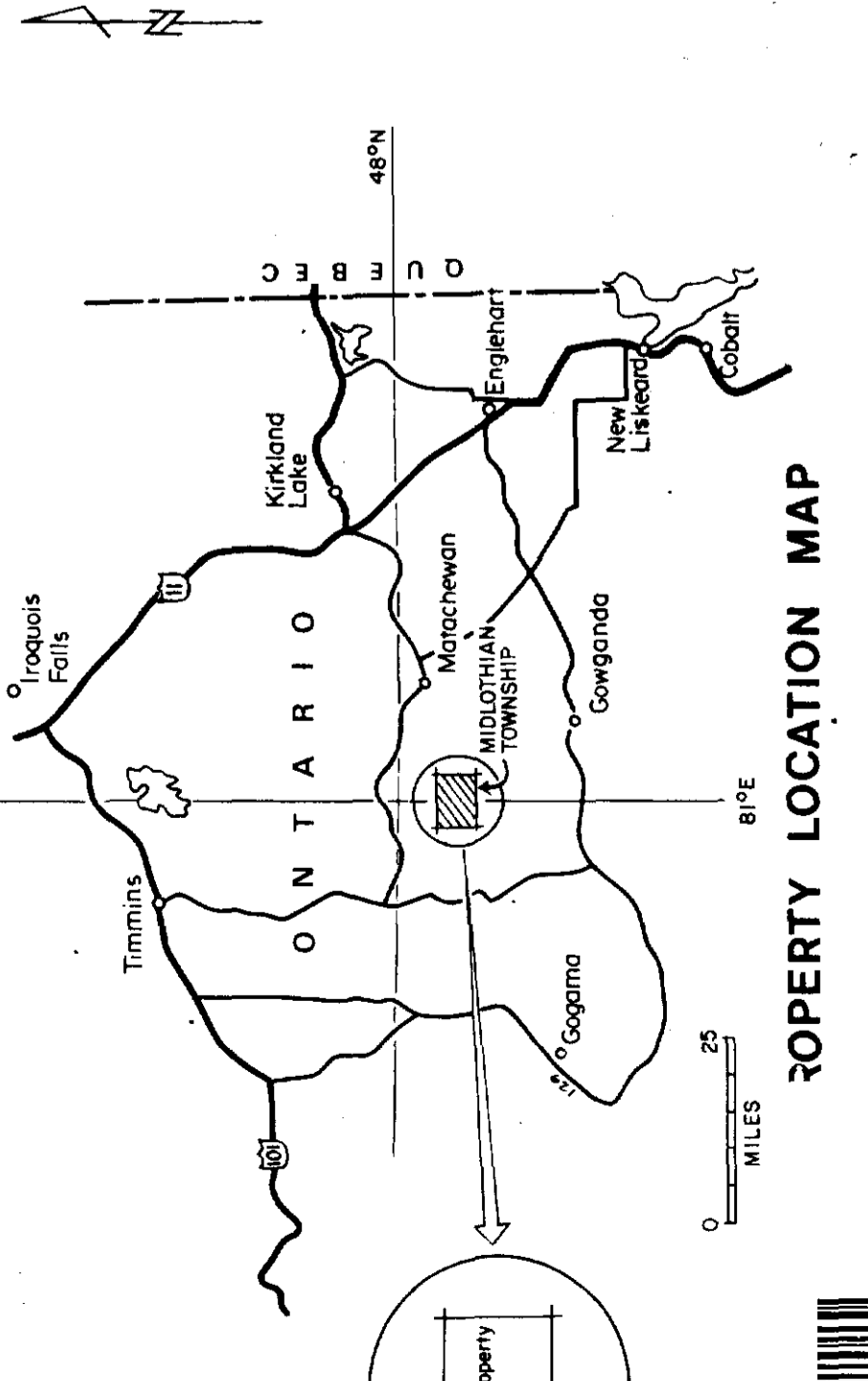
Work by *Richard G. Goff* Interpretation by *Richard G. Goff*
 Date *10/16/64* Project No. *41-P-15*

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 - Fault, assumed
 - Archeological site
 - Mineral occurrence
 - Tractor road
 - Diamond drill hole

- LEGEND**
- Quartz Veins (qv), Carbonate Veins (cbv)
 - Diorite Dykes (I-Dd)
 - Lamprophyre (L-Lmp)
 - Sedimentary (S-Sd)
 - Basic and intermediate igneous rocks - Gabbro (I-Gb), Ultramafic Rocks (I-Um), Serpentinite (I-Serp)
 - Porphyritic Rhyolite (VRy), Porphyritic Rhyolite Breccia (VRyB)
 - Massive, Fine-Grained Rhyolite (VRy)
 - Rhyolite Flow Breccia (VRyBf)
 - Rhyolite Tuff Breccia (VRyBt)
 - Acid volcanic tuff Breccia (VAUbx)
 - Andesite (VAud), Dacite (VDAc), Basalt, Flow, etc.

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7	8	9

SHEET INDEX



PROPERTY LOCATION MAP

