42A01SE0146 12 OTTO

DIAMOND DRILLING

TOWNSHIP: Otto

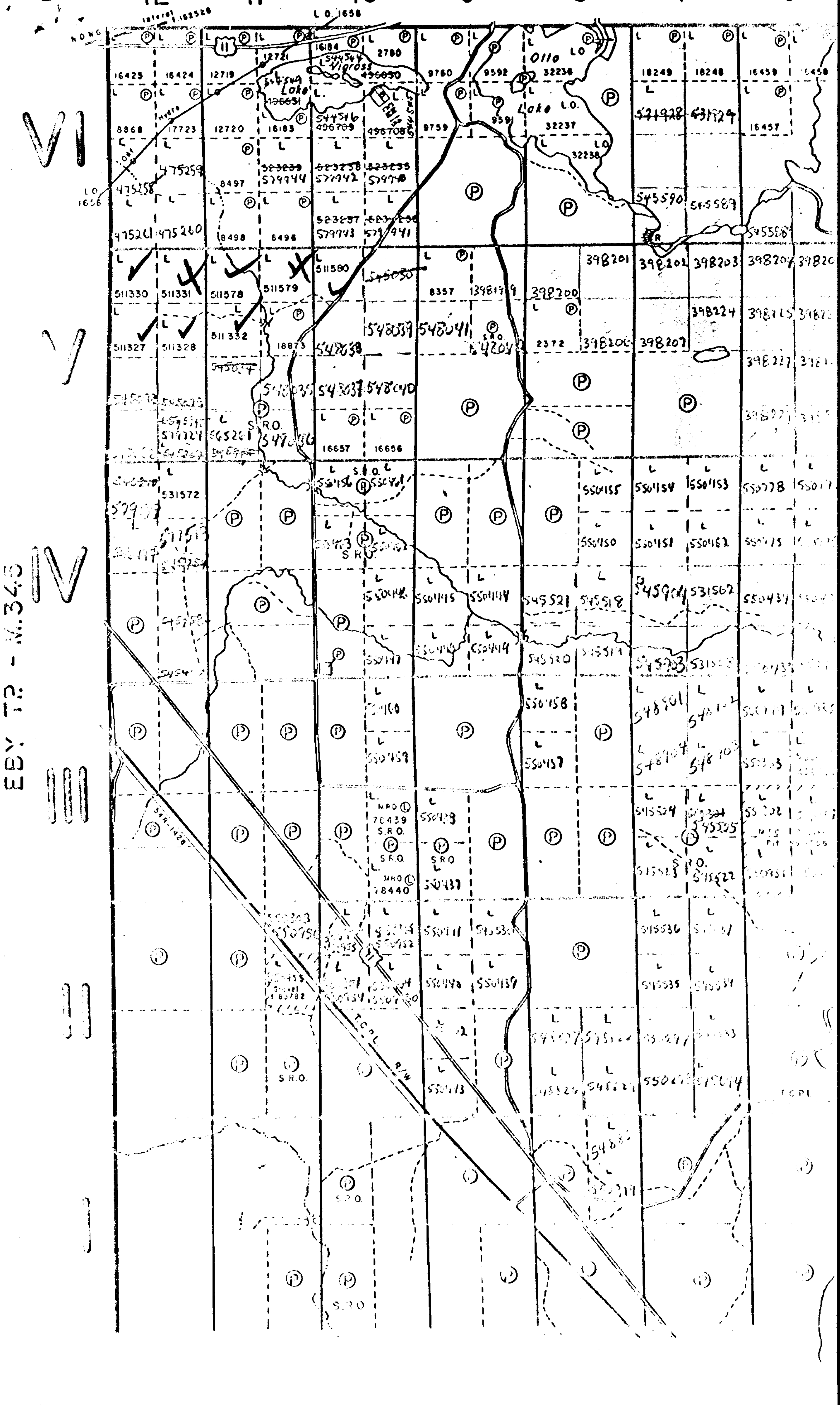
REPORT NO.: 12

WORK PERFORMED BY: Noranda Exploration (A. Allsop)

CLAIM NO.	HOLE NO.	FOOTAGE	DATE	NOTE
L 511579	80 - 1	433.1	Aug/80	(1)
	80 - 2	400.0	Aug/80	(1)
L 511331	80 - 3	410.0	Aug/80	(1)
		3/1243.1'		

NOTES: (1) #111-81

Ottawa Twp M379 #111-81 ARNOLD ALLSOPP



DIAMOND DRILL CORE LOG

LATITUDE 6+00S

DEPARTURE L21E

ELEVATION

BEARING N15°W

DIP AT COLLAR -50°

TESTS DEPTH	DIP	MAGNETIC BEARING	CORRECTED BEARING
350°	-52°		

TOTAL DEPTH OF HOLE 433.1'

PROPERTY (Croxall-Allsopp Option)

CLAIM NO. L-511579

HOLE NO. Otto 80-1

CORE SIZE AQ

STARTED

FINISHED Aug. 1980

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
0	13.0	CASING										
13.0	64.1	ANDESITE: - dark green, fine grained, weakly carbonatized volcanic;										
		black horneblende phenocrysts up to 0.1" long visible in less										
		altered zones; considerable silicification, brecciation.										
		23.0-25.3 - Strongly brecciated; 90% pale green angular fragments										
		up to 0.5" diameter; dark green chloritic matrix; trace py.										
		26.3-29.0 - silicified, slightly brecciated.										
		34.2-36.1 - strong brecciation; quartz-carbonate stringers up to										
		½" wide.										
		44.3-47.6 - strongly silicified, brecciated; pale green cherty										
		bleached zones bordering dark green chloritic stringers.										
64.1	76.7	SILICEOUS SEDIMENTS: - pale green and pale grey chert and	7106	NIL						64.0	69.0	5
		siliceous tuff; several ½" chert bands at 70° to core axis;										
		60-70% grey quartz; 10% dark green chloritic stringers; rare										

CONTRACTOR BENOIT DIAMOND DRILLING

LOGGED BY Pete S. LeBaron

Peter S. LeBaron

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-1

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		mafic bands and volcanic fragments; 3-5% py in fine stringers.										
		72.3-76.7 - ground core.										
76.7	118.3	ANDESITE: - massive, dark green, fine-medium grained andesite;										
		dioritic in places with 40% medium grained pyrox and horn-										
		blende, 60% pale green plagioclase; many grey quartz stringers										
		white carbonate; trace pyrite.										
118.3	120.5	TUFF: - siliceous pale grey tuff, 5% disseminated pyrite; brecci-	7107	NIL						118.3	120.5	2.2
		ated with quartz stringers, fragments up to 2" of dark green										
		chloritic volcanic.										
120.5	156.0	ANDESITE: as above.										
		133.3-150.1 - carbonatized andesite - fine network of white to	7108	NIL						148.0	150.0	2
		pale brown Fe-Mg carbonate stringers (20-30%) in dark green										
		chloritic volcanic - finely brecciated appearance; trace py.										
156.0	161.7	BASIC SYENITE DIKE: - fine grained, dark red-brown intrusive, 40%										
		dark green hornblende, 60% red-brown feldspar, trace py;										
		irregular contract from 156.0-156.6; sharp contact at 161.7',										
		80° to core axis.										
161.7	213.8	ANDESITE										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-1

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		161.7-202.8 - medium grained dioritic, massive.										
		202.8-213.8 - silicified, brecciated; dark green chloritic										
		stringers.										
213.8	216.9	GRAPHITE: - graphite cut by 30% fine quartz and calcite stringers;	7109	NIL						213.8	216.9	3.1
		3-5% very fine grained py; ground core 214.2-216.9.										
216.9	227.9	SILICEOUS TUFF:- fine grained, pale green, brecciated with quartz-	7110	NIL						216.9	220.0	3.1
		carbonate matrix; 3% emerald-green fuchsite; 5-7% very fine										
		grained disseminated py.										
		217.6-218.6 - brecciated tuff, 20-30% graphitic matrix.										
227.9	237.5	GRAPHITIC ARGILLITE - black, very fine grained sediments; 40-50%	7111	.005						231.1	234.1	3
		graphite, 20% quartz-carbonate stringers; 5% py.										
		231.8-233.3 - 10-15% fine grained disseminated py in bands up to										
		½" wide at 50° to core axis.										
237.5	243.5	SILICEOUS TUFF - as above.	7112	NIL						237.5	240.0	2.5
243.5	323.4	GRAPHITIC ARGILLITE - grey, very fine grained, 10-20% graphite,										
		20-30% quartz-carbonate stringers, 3-5% py.										
		252.9-259.3 - 40-50% quartz-carbonate in veins up to 2" wide;	7113	.002						255.0	258.0	3
		1-3% py.										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO.

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		267.1-268.5 - 5-10% cubic py.	7114	NIL						266.6	269.2	2.6
		273.0-274.5 - finely laminated graphitic argillite, bedding at										
		60°-70° to core axis.										
		276.3-276.6 - Green carbonate - siliceous tuff bands with weak	7115	.002						276.3	278.6	2.3
		green carbonate alteration; 3-5% fuchsite, 5-7% py, 30-40%										
		quartz-carbonate stringers.										
		282.9-283.3 - same as above										
		291.6-292.0 - " " "	7116	NIL						291.6	294.3	2.7
		293.0-294.2 - " " "										
		296.4-296.6 - " " "										
		296.8-297.0 - " " "	7117	NIL						296.4	298.7	2.3
		298.0-298.7 - " " "										
		302.7-306.1 - " " "										
		317.6-320.0 - " " "	7118	.002						317.6	320.0	2.4
323.4	343.0	GREEN CARBONATE										
		323.4-336.6 - weak green carbonate alteration of siliceous tuff;	7119	NIL						328.3	331.8	3.5
		grey with patches of pale green; <3% fuchsite, 3-5% py;										
		graphitic breccia zones at 325.5-326.4 and 331.8-332.9.										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-1

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		336.6-343.0 - moderate green carbonate alteration of intermediate	7120	NIL						336.6	340.0	3.4
		to basic volcanic; 3-5% fuchsite, trace py, 40% mafic										
		minerals; weak foliation 40-50° to core axis.										
343.0	430.5	BASALT - massive dark green, chloritic, weak carbonate alteration;										
		many fine quartz-carbonate stringers 50 to 70° to core axis;										
		trace py; medium-grained, gabbroic texture; weak schistosity										
		at 50-60° to core axis; weakly magnetic.										
		390.6-392.2 - strong quartz-carbonate veining at 10° to core axis;	7121	.002						390.4	392.2	1.8
		50% quartz-carbonate, trace py.										
		411.1-414.6 - 20-30% quartz-carbonate stringers, 3-5% py	7122	NIL						411.1	414.6	3.5
		427.3-430.5 - 5% disseminated cubic py.	7123	NIL						427.1	430.0	2.9
430.5	433.1	SILICEOUS TUFF: - dark grey, siliceous, fine grained; brecciated	7124	NIL						430.5	433.1	2.6
		with fine network of chloritic stringers; moderately magnetic;										
		5% very fine grained magnetite in tuff, 5-10% magnetite in										
		chloritic matrix; 3-5% disseminated py.										
	433.1	END OF HOLE										

DIAMOND DRILL CORE LOG

LATITUDE 1+40N

DEPARTURE L18E

ELEVATION

BEARING N15°W

DIP AT COLLAR -50°

TESTS DEPTH	DIP	MAGNETIC BEARING	CORRECTED BEARING
350°	-47°		

TOTAL DEPTH OF HOLE 400'

PROPERTY (Croxall-Allsopp Option)

CLAIM NO. L-511579

HOLE NO. Otto 80-2

CORE SIZE AQ

STARTED

FINISHED Aug. 1980

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
0	90.0	CASING										
90.0	105.0	GRAPHITIC ROCKS										
		90.0-93.1 - dull green-grey brecciated, chloritic basic volcanic	6153	NIL						91.4	93.1	1.7
		with 50-60% graphite-carbonate stringers, 3% dissminated py.										
		93.1-97.4 - black graphite 90%; white quartz-carbonate stringers	6154	NIL						96.1	98.8	2.7
		10%; trace py.										
		97.4-98.8 - pink quartz-carbonate 95%, graphite.										
		98.8-102.5 - graphite 95%, carbonate stringers 5%.										
		102.5-105.0 - white quartz-carbonate 80%, graphite 20%, trace py.	6158	NIL						102.5	105.0	2.5
105.0	111.6	INTRUSIVE - (Diorite?) - pale green, fine-medium grained silicified										
		sections with 30% dark chloritic spots 1/16" diameter; 10%										
		fine grained pale brown leucoxene; many quartz-carbonate	6155	NIL						105.0	107.0	2.0
		stringers, graphite on slips 30° to core axis; trace py.										
		105.0-107.0 - 30% quartz-carbonate stringers in diorite; 3-5% py.										

CONTRACTOR BENOIT DIAMOND DRILLING

LOGGED BY

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-2

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
111.6	122.5	GRAPHITIC ROCKS - dark grey, finely laminated graphitic argillite;	6156	NIL						111.6	113.1	1.5
		alternating black graphitic and pale grey carbonate-pyrite										
		bearing laminae; trace py in graphitic bands,	6157	0.002						115.0	116.5	1.5
		up to 90% py in carbonate bands; 5-10% py in										
		total rock; bedding core axis angle 70°.										
		122.0-122.5 - brecciated contact with bedded tuff; carbonate matrix.	6159	NIL						120.0	122.5	2.5
122.5	167.0	FINE-GRAINED SEDIMENTS - Argillite (tuffaceous?) grey, bedded 65°										
		to core axis; very fine grained, alternating dark grey and										
		light grey bands ½" to ¼" wide; some slumpage features; trace										
		disseminated py throughout; many fine calcite stringers;										
		slight graphite on some slips.										
		141.9-143.3 - 40-50% quartz-carbonate stringers in tuff breccia.	6160	NIL						141.9	143.3	1.4
		159.8-161.2 - graphitic section, 20-30% calcite, 5% py.	6161	NIL						159.8	161.2	1.4
167.0	221.1	GRAPHITIC BRECCIA - sub-rounded pale grey tuff fragments to 3"										
		diameter in a dark grey graphitic matrix cut by many calcite	6162	0.002						167.0	170.0	3
		stringers.										
		- py occurs as coarse patches and fine disseminated grains.										
		- flow and slumpage textures suggest unconsolidated sediments at	6163	0.002						181.1	182.6	1.5

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-2

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		time of brecciation.										
		- average py content 5%; samples 6161-67 contain 10 to 15% py as	6164	NIL						195.8	198.7	2.9
		coarse patches replacing calcite fragments and stringers.	6165	0.002						200.0	205.0	5
			6166	0.002						207.0	210.0	3
			6167	0.005						217.2	221.1	3.9
221.1	261.3	TUFF-BRECCIA - dark green-grey intermediate comp. tuff fragments										
		.01" to 0.5" diameter, angular to sub-rounded in a pale										
		brown-green aphanitic matrix; some sections strongly brecciated										
		with up to 40% matrix; others relatively undisturbed appear as										
		massive andesitic tuff, 5% carbonate and trace py throughout;										
		speckled appearance due to 10% fine grained pale brown leucox-										
		ene; many calcite stringers at 10°-30° core axis angle.										
		235.9-236.6 - 5-10% disseminated py with chlorite-carbonate strgs.	6168	NIL						235.0	236.6	1.6
		259.4-261.3 - 10-15% disseminated py, increasing toward contact	6169	NIL						259.4	261.3	1.9
		with graphitic rock at 261.3.										
261.3	263.1	GRAPHITE - black graphitic breccia with 10-20% pale grey sub-	6170	0.005						261.3	263.1	1.8
		rounded tuffaceous fragments, 20% fine, contorted calcite										
		stringers, and 10% cubic py as disseminated grains and patches;										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-2

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		foliation 70° to core axis.										
263.1	268.5	TUFF (ANDESITIC) - strongly altered (quartz-chlorite-carbonate),										
		mottled dark green pale green; 10% leucoxene; many quartz,										
		calcite and chloritic stringers.										
		263.1-264.3 - 3-5% disseminated py.										
268.5	325.5	GRAPHITIC SEDIMENTS - very fine grained graphitic argillite, black	6171	NIL						270.8	273.8	3
		to grey; some non-graphite sections of very hard, siliceous										
		mudstone (tuffaceous?); disturbed bedding at 70° to core	6172	NIL						273.8	278.0	4.2
		axis, some soft sediment brecciation; calcite stringers and	6173	NIL						285.0	287.0	2
		3-5% very fine grained disseminated py throughout.										
		268.6-269.2 - pale green, fine grained felsite dike; 5% dissemin-										
		ated py, 5-10% emerald green fuchsite; fine quartz and	6174	NIL						315.0	320.0	5
		calcite stringers.										
		270.8-271.2 - same as 268.6-269.2										
		271.6-272.0 - " " " "										
		273.1-273.8 - " " " "										
		276.3-276.0 - " " " "										
		318.5-318.7 - pale grey chert band, 5-10% py.										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-2

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
325.5	331.0	PORPHYRITIC ANDESITE - green grey, massive; dark green to black										
		phenocrysts of pyrox and hornblende (.01 to .1") 30 to 40%;										
		grey, aphanitic groundmass; trace disseminated cubic py; rare										
		quartz-carbonate stringers 1/8 - 1/4" wide.										
		325.5-237.5 - 3-5% disseminated py.	6175	NIL						325.5	327.5	2
331.0	336.6	GRAPHITIC SEDIMENTS - grey, very fine grained siliceous mudstone										
		with up to 80% graphite stringers, 10% calcite stringers;										
		3-5% disseminated py.										
		333.0-336.6 - 5-10% disseminated coarse cubic py.	6176	NIL						333.0	336.6	3.6
336.6	338.8	SILICEOUS TUFF - fine grained, pale grey; 10-15% very fine grained	6177	NIL						336.6	338.8	2.2
		to medium grained py; many quartz stringers ¼" wide.										
338.8	342.5	PORPHYRITIC ANDESITE - as above.										
342.5	346.0	SILICEOUS TUFF - dark green, fine grained; 10% leucoxene, trace py;										
		many siliceous stringers; weakly brecciated.										
346.0	351.3	PORPHYRITIC ANDESITE - as above.										
351.3	356.0	ANDESITIC TUFF - fine grained, grey silicified tuff, fine glassy										
		quartz grains, trace disseminated py; many patches and										
		stringers of white quartz; 5% fine grained leucoxene.										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-2

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
356.0	358.0	GRAPHITE - 50% graphite, 40% quartz stringers, minor calcite;	6178	NIL						356.0	358.3	2.3
		green fuchsite in quartz stringers < 5%; < 5% disseminated py										
		in graphite.										
358.3	363.9	PORPHYRITIC ANDESITE - as above with 3-5% disseminated py.	6179	NIL						360.8	363.0	2.2
363.9	370.3	GRAPHITIC SEDIMENTS	6180	NIL						364.0	367.6	3.6
		363.9-367.6 - breccia-pale brown cherty fragments in grey graphitic										
		matrix; 5-10% disseminated py, many fine quartz and carbonate										
		stringers.										
		367.6-370.3 - 80% graphite in black argillite; fine calcite										
		stringers, 3-5% py.										
370.3	400.0	ANDESITE										
		370.3-375.8 - ground core; green-grey, fine grained silicified										
		andesite; 5-7% leucoxene, pale green siliceous stringers up										
		to 2" wide; fine, dark chloritic stringers.										
		375.8-400.0 - fine-medium grained massive andesite; speckled appear-										
		ance due to 10% dark green pyroxene and 5-7% pale brown										
		leuoxene; trace py.										
	400.0	END OF HOLE.										

DIAMOND DRILL CORE LOG

LATITUDE 5+60N

DEPARTURE L9W

ELEVATION

BEARING N15°W

DIP AT COLLAR -50°

TESTS DEPTH	DIP	MAGNETIC BEARING	CORRECTED BEARING
350°	-46°		

TOTAL DEPTH OF HOLE 410.0

PROPERTY (Croxall-Allsopp Option)

CLAIM NO. L-511331

HOLE NO. Otto 80-3

CORE SIZE AQ

STARTED

FINISHED Aug. 1980

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
0	46.2	CASING										
46.2	86.0	ANDESITE - highly altered, dark green intermediate volcanic; horn-										
		blende and pyrox phenocrysts visible in less altered sections;										
		silicified brecciated with many fine chloritic and quartz-										
		carbonate stringers, very fine grained py to 5% in breccia										
		zones; trace py throughout.										
		50-52.3 - ground core.										
		58.0-58.7 - strongly silicified, brecciated; red hematite stain in										
		½" wide siliceous stringers.										
		60.0-61.8 - ground core.										
		79.0-81.5 - strongly brecciated; brown stain from Fe carbonate in	6181	NIL						78.8	81.6	2.8
		quartz-carbonate stringers; 3-5% py.										
86.0	88.0	TUFF - silicic, pale grey; fine grained, very hard; 5-10% fine	6182	0.005						86.0	88.0	2
		grained disseminated cubic py.										

CONTRACTOR BENOIT DIAMOND DRILLING

LOGGED BY

Peter S. LeBaron

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-3

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
88.0	99.4	ANDESITE - highly altered, as above.										
		91.0-99.4 - 5-10% Fe carbonate.										
99.4	107.9	TUFF - highly altered, pale grey-green tuff; weak foliation at	6183	NIL						100.0	102.0	2
		30-45° to core axis (white quartz-carbonate bands and pale										
		green mafic bands <.1" wide); 5-10% fine grained disseminated										
		cubic py.	6184	NIL						106.0	108.0	2
		100.4-102.0 - "green carbonate" - silicified and carbonatized rock										
		with 5% fuchsite (giving rock emerald green colour); 10% fine										
		grained disseminated py.										
107.9	121.3	FINE GRAINED SEDIMENTS - pale grey argillite, white to pale green										
		cherty tuff-breccia; 5-10% fine grained disseminated py.										
		throughout tuff-breccia.										
		116.8-121.3 - green-grey fine grained andesite tuff; 3-5% py, 3-5%										
		leucoxene.										
121.3	402.5	GRAPHITIC ROCKS - dark grey graphitic argillite, pale grey-green										
		pyritic tuff; many quartz-carbonate stringers and breccia										
		zones with graphite-carbonate matrix; 3-5% py in graphitic										
		argillite, 5-10% py in tuff; laminations in argillite at 50°										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-3

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		to core axis.										
		123.5-124.1 - green-grey, fine grained silicic tuff, 5-7% py.										
		131.0-135.3 - tuff-breccia, 10% graphite-quartz-carbonate matrix,	6185	0.002						137.2	140.0	2.8
		3-5% py.										
		140.0-144.0 - same as 131.0-135.3.	6186	0.002						141.0	144.1	4.1
		144.0-168.5 - graphitic breccia; tuff and argillite fragments;	6187	0.005						155.0	159.0	4
		30-50% graphite in matrix; 3-5% py.	6188	NIL						165.0	168.0	3
		168.5-203.5 - tuff-breccia; 10-30% graphite matrix; grey siliceous	6189	NIL						186.0	189.0	3
		tuff with 5-7% py; graphite-carbonate stringers a5 30°-45° to	6190	NIL						201.0	203.5	2.5
		core axis; py disseminated and in fractures.										
		203.5-251.4 - grey to black graphitic argillite and breccia; many	6191	0.002						210.0	217.8	2.8
		quartz-carbonate stringers; laminations in argillite at	6192	NIL						231.5	235.0	3.5
		20-30° to core axis; 5% py plus trace cp in carbonate	6193	NIL						235.0	238.3	3.3
		stringers.										
		232.5 - ¾" quartz-carbonate stringer with 5% coarse cp; no cp in	6194	0.002						246.2	250.0	3.8
		graphitic wall rock.										
		251.4-255.4 - pale green siliceous tuff; 3-5% carbonate (Fe-Mg),	6195	NIL						251.4	255.4	4
		10-15% disseminated cubic py; rare graphitic fragments;										

DIAMOND DRILL CORE LOG

PROPERTY (Croxall-Allsopp Option)

HOLE NO. Otto 80-3

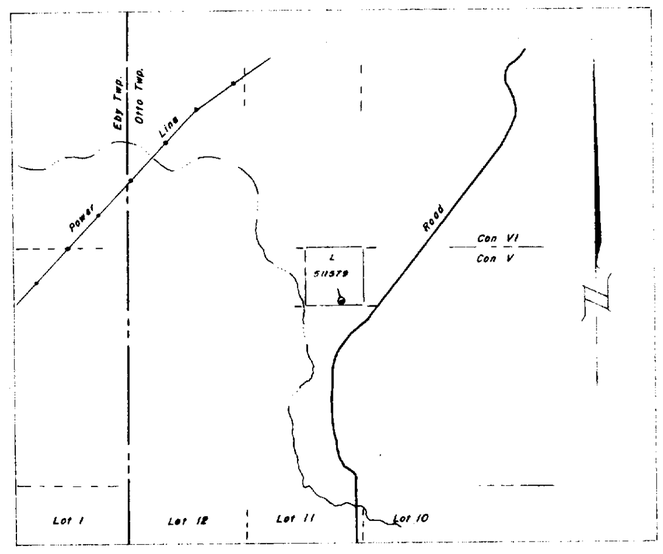
FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
		graphite band at 254.2-254.8.										
		264.0-269.5 - graphitic tuff-breccia; 10% graphitic stringers in	6196	.002						266.6	269.0	2.4
		pale grey siliceous tuff; 5-10% very fine grained py in tuff;										
		stringers parallel to core axis.										
		269.5-285.4 - graphitic argillite - laminations 30° to core axis;										
		5-7% py.										
		285.4-289.7 - vuggy quartz-carbonate breccia zone in graphitic	6197	NIL						285.0	288.0	3
		argillite; 3% py, trace cp.										
		306.2-318.4 - pale green siliceous tuff; 10-30% graphite, quartz	6198	NIL						320.5	322.5	2
		and carbonate stringers; 5-7% py.										
		318.4-325.5 - graphitic argillite, brecciated; 20-30% quartz-car-	6199	NIL						331.2	334.0	2.8
		bonate stringers; 5-7% py.										
		325.5-334.7 - graphitic argillite, 60-70% quartz-carbonate string-	6200	NIL						346.0	343.2	3.2
		ers; 3-5% py, trace cp.										
		334.7-402.5 - graphitic argillite; pale green siliceous tuff at	7101	.002						355.0	385.5	3.5
		338.0-339.2, 342.9-344.3, 350-350.6, 351.8-353.2, 390.5-391.1,	7102	NIL						370.0	375.0	5
		393.0-396.5; 5-10% py in tuff, 3-5% py in argillite.	7103	NIL						393.0	395.0	2
			7104	NIL						397.5	402.5	5

DIAMOND DRILL CORE LOG

PROPERTY Otto 1-79 (Croxall-Allsopp Option)

HOLE NO. Otto 80-3

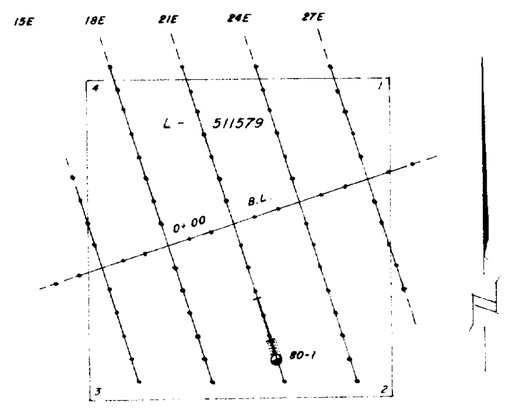
FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	ASSAYS AU OZ	AG OZ	% CU	% ZN	% NI		CORE LENGTH FROM	TO	ACC. WIDTH
402.5	410.0	ANDESITIC TUFF - dark green-grey, fine grained, altered tuff	7105	NIL						402.5	405.0	2.5
		quartz-carbonate stringers 1/8" - 1/4" wide parallel to weak										
		schistosity at 45° to core axis; speckled appearance due to										
		5-7% pale brown leucoxene and 30-40% dark green mafic minerals										
		aligned parallel to schistosity; 1/4" band of fine grained py										
		at contact with graphitic sediments.										
	410.0	END OF HOLE.										

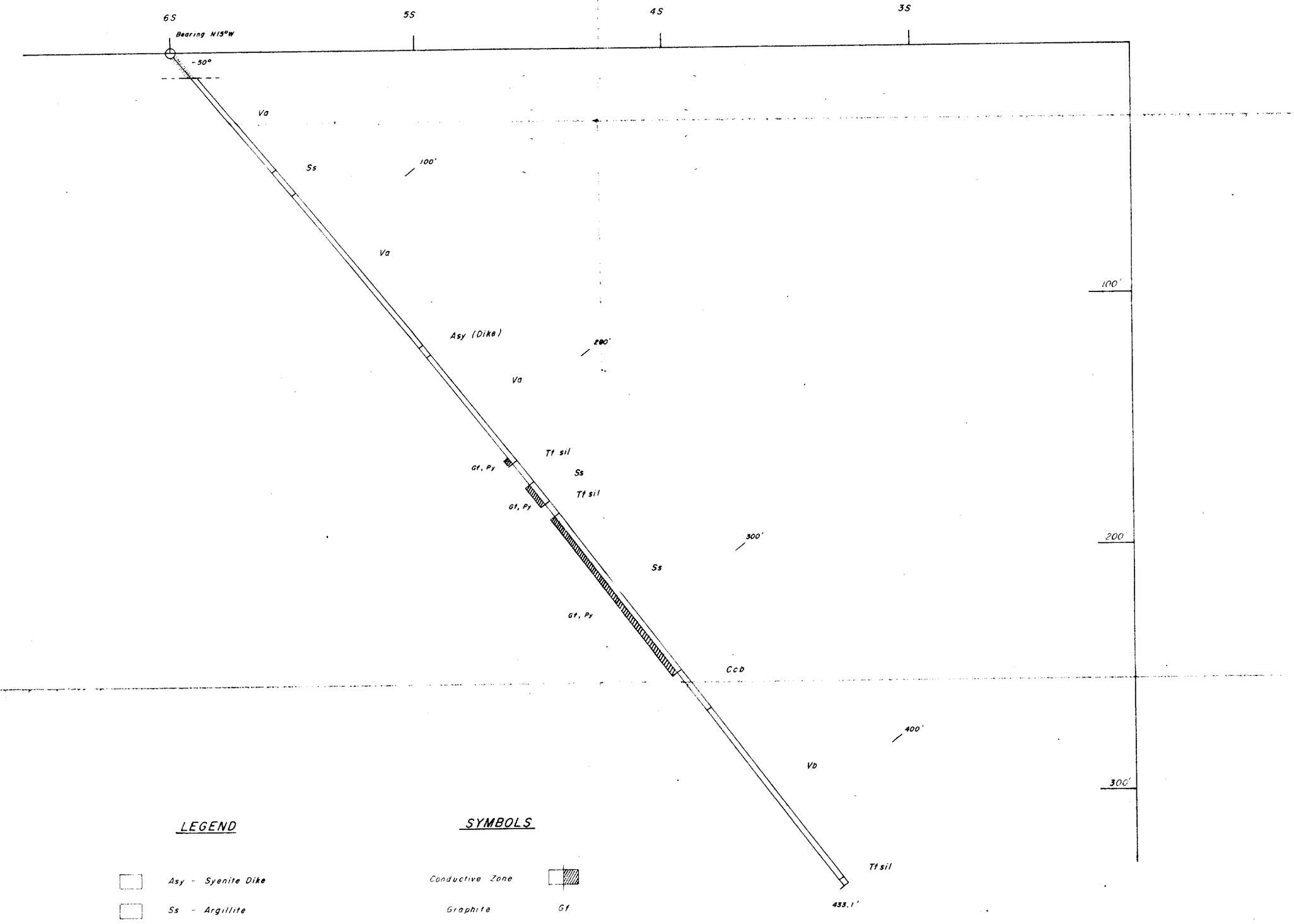


LOCATION PLAN

Otto 1-79

Scale 1"=2640'





LEGEND

- Asy - Syenite Dike
- Ss - Argillite
- Tf sil - Siliceous Tuff
- Va - Andesite
- Vb - Basalt
- Ccb - Green Carbonate

SYMBOLS

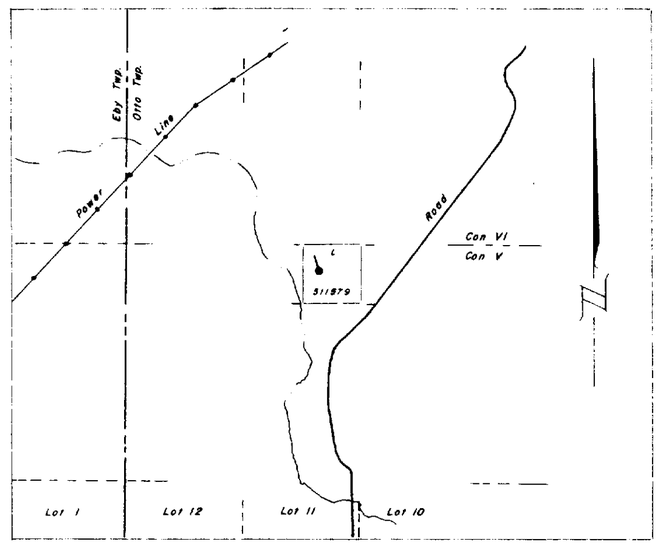
- Conductive Zone
- Graphite — Gf
- Pyrite — Py

NORANDA EXPLORATION CO. LTD.	
D.D.H. No. Otto 80-1	
VERTICAL CROSS SECTION ON Line 21E	
DRAWN: L. A. Waddell	DATE: August 80 SCALE: 1"=30'
CHECKED:	PROPERTY Otto 1-79
DRAWING NO:	Croxall - Allsopp Option
SHEET NO: OF	

42A01SE0146 12 OTTO

200

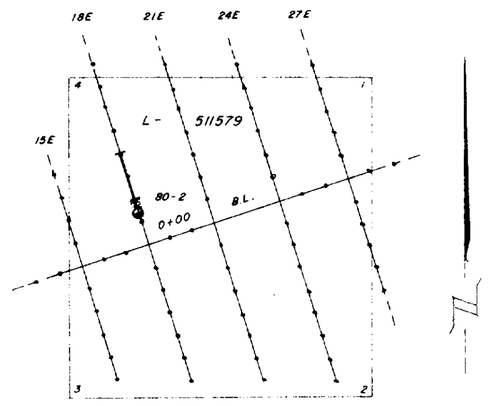
TRANSTEX 15 400-3-78

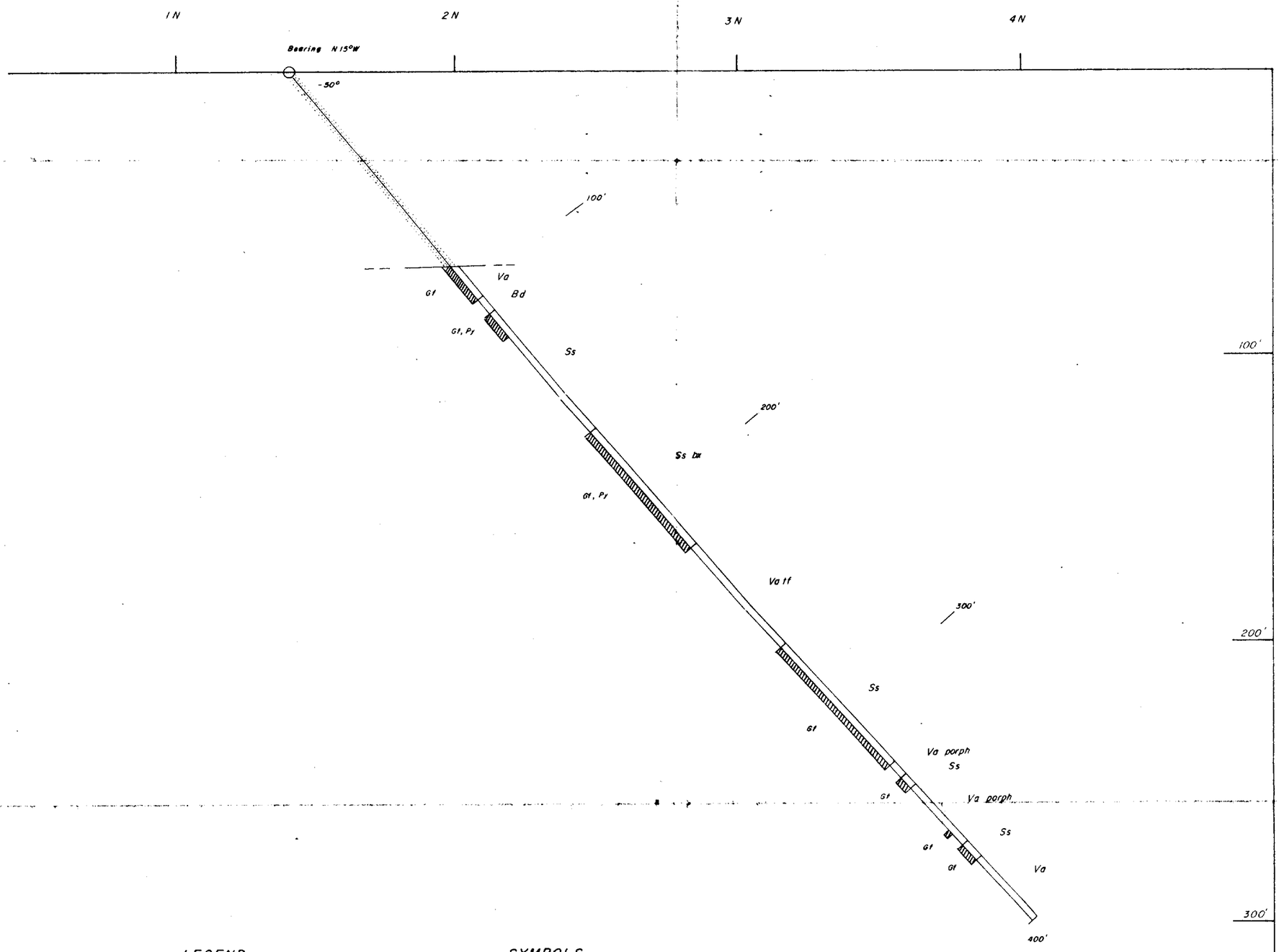


LOCATION PLAN

Otto 1-79

Scale 1"=2640'





LEGEND

- Bd - Diorite
- Ss - Argillite bx - Breccia
- Vatf - Andesite Tuff
- Va porph - Andesite porphyry
- Va - Andesite

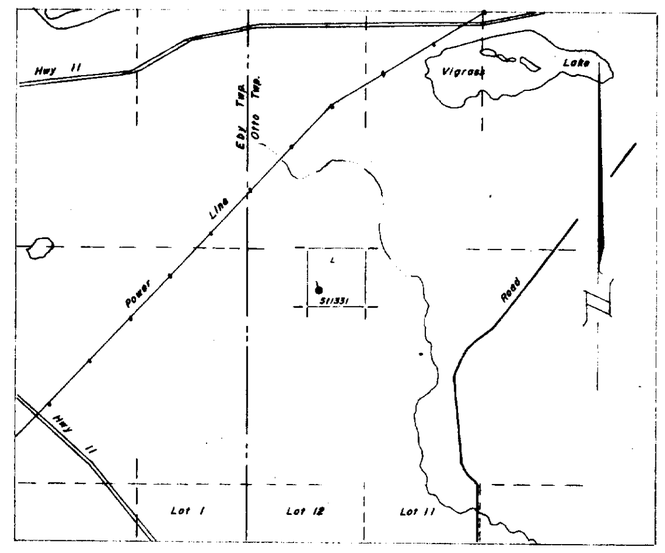
SYMBOLS

Conductive Zone	
Graphite	Gt
Pyrite	Py

NORANDA EXPLORATION CO. LTD.	
D.D.H. No. Otto 80-2	
VERTICAL CROSS SECTION ON Line 18E	
DRAWN: L. A. Waddell	DATE: August 80 SCALE: 1"=30'
CHECKED:	PROPERTY Otto 1-79
DRAWING NO:	Croxall - Allsopp Option
SHEET NO: OF	

42A01SE0146 12 OTTO

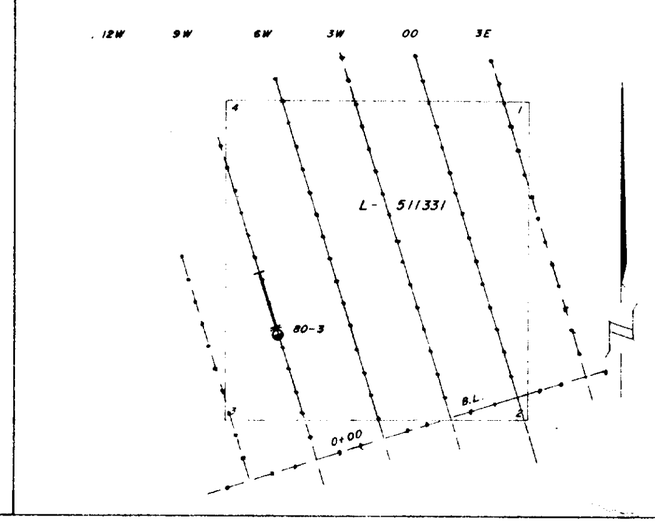
TRANSTEX 15 400-3-78

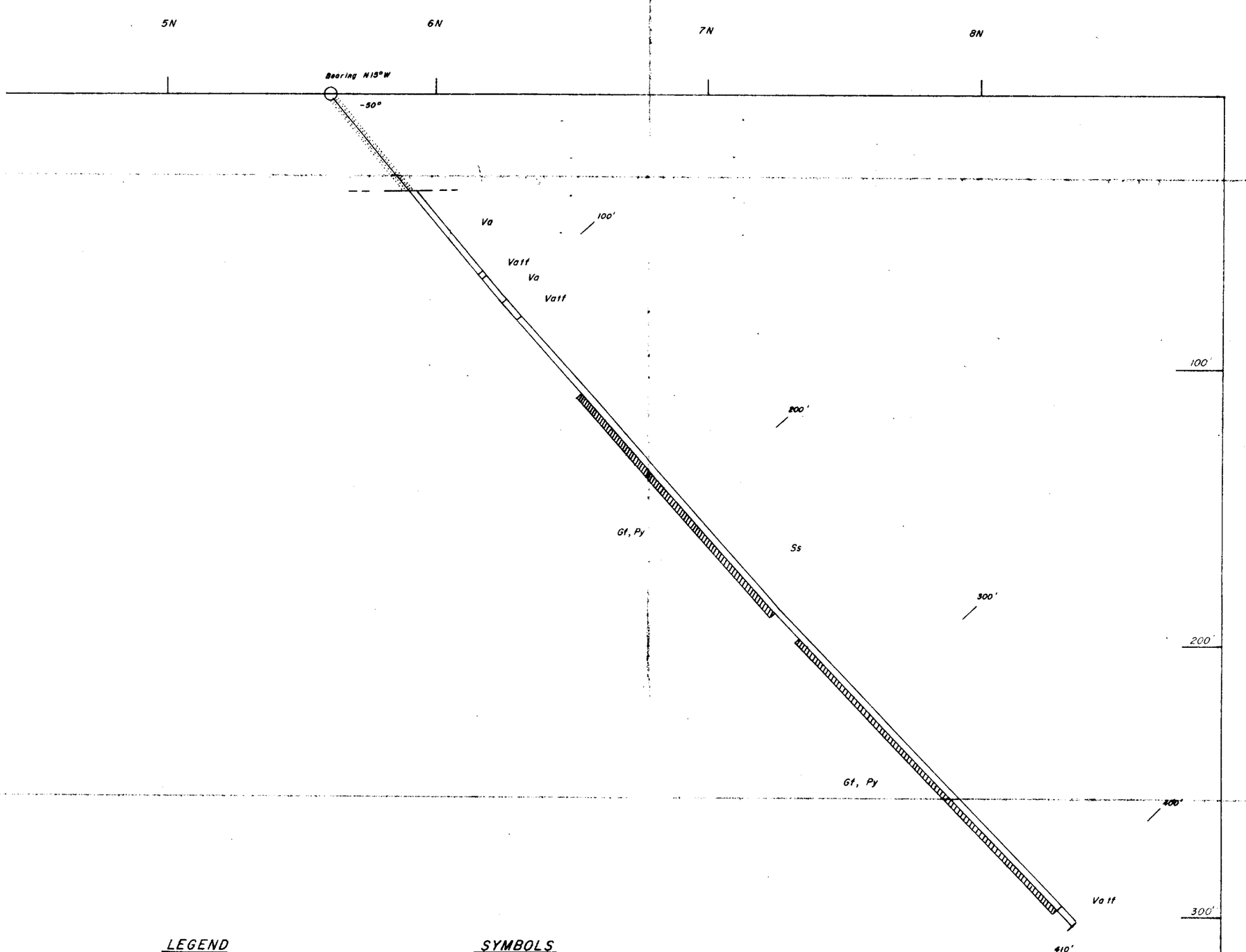


LOCATION PLAN

Otto 1-79

Scale 1" = 2640'





LEGEND

- Ss - Argillite
- Vatf - Andesite Tuff
- Va - Andesite

SYMBOLS

- Conductive Zone
- Graphite — Gf
- Pyrite — Py

NORANDA EXPLORATION CO. LTD.	
D.D.H. No. Otto 80-3	
VERTICAL CROSS SECTION ON Line 9W	
DRAWN: L. A. Waddell	DATE: August 80 SCALE: 1"=30'
CHECKED:	PROPERTY Otto 1-79
DRAWING NO:	Croxall - Allsopp Option
SHEET NO: OF	

42A01SE0146 12 OTTO

TRANSTEX 15 400-3-72