Outokumpu Mines Ltd.

Diamond Drilling Report

on the

Carman-Langmuir Property

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Outokumpu Mines Ltd.
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Table of Contents

Appendices

Appendix 1: Diamond Drill Hole Logs

Appendix 2: Grid Map, Diamond Drill Hole Plan Map, Diamond Drill Hole Sections

1.0 Introduction

Bradley Bros. Limited was contracted by Outokumpu Mines Ltd. to diamond drill 7 holes on the Carman-Langmuir property located in Carman and Langmuir Townships, Porcupine Mining Division, District of Cochrane. The property is comprised of 20 contiguous unpatented mining claims totaling 54 units owned by Outokumpu Mines Ltd. and 6 contiguous unpatented mining claims totaling 6 units that are under option to Outokumpu Mines Ltd from J.P. Bergeron(Fig. 1).

A total of 2065 metres of BQ diamond drilling was completed in 7 diamond drill holes between January 8 and February 7, 1996. All of the core was logged by Outokumpu personnel at the Outokumpu Mines Ltd office in Timmins, Ontario. Copies of all of the logs are attached in appendix 1 at the back of this report.

The objective of this program was to test the komatiitic stratigraphy on the property. The diamond drilling was concentrated on the komatiitic succession approximately 2 to 3 kilometres north of the Langmuir #2 Nickel Mine (Fig. 1). Coincident high magnetic anomalies and electromagnetic conductors were targeted within this diamond drill program.

2.0 Location, Access, and Topography

The Carman-Langmuir property is located in Carman (G-4000) and Langmuir (G-3226) Townships, District of Cochrane, Porcupine Mining Division. The property is situated approximately 20 kilometres south-southeast of the City of Timmins. The claim block is located in south-central Carman Township and north-central Langmuir Township.

The property is accessed by the Langmuir Mine Road that connects to Stringers Road which originates in South Porcupine. The property was accessed via a winter road off of the Langmuir Mine Road. All roads used were pre-existing exploration or lumber roads.

The area is dominated by muskeg swamp and beaver ponds separated by outcrop ridges and eskers which comprise approximately 10 percent of the property. Outcrop exposure is approximately 5 percent and is limited to areas dominated by the ridges.

3.0 Property

The Carman-Langmuir property consists of 26 contiguous unpatented mining claims comprising 60 units in Carman and Langmuir Townships (table 1). Twenty of the unpatented mining claims are 100% owned by Outokumpu Mines Ltd. and the remaining 6 unpatented claims are under option to Outokumpu Mines Ltd. from J.P. Bergeron.

Komatiite Nickel Exploration Projects: Shaw Dome and Bartlett Dome

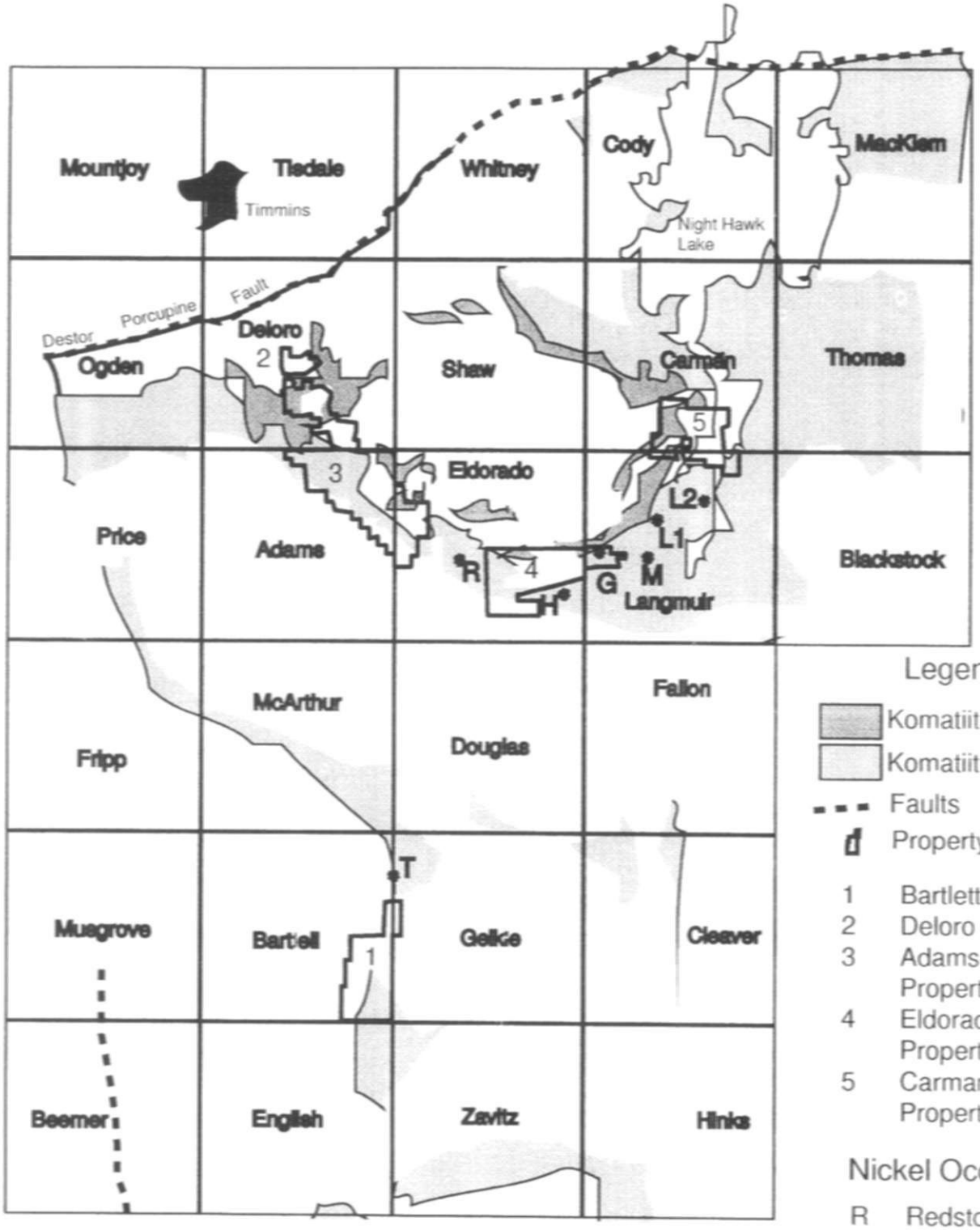


Figure 1: Location Map of Outokumpu Mines Ltd. Timmins Claims Grassroots Exploration Program.

Legend

- Komatiitic Dunite
- Komatiitic Peridotite
- Faults
- Property Boundary

1 Bartlett Property
2 Deloro Property
3 Adams-Deloro-Eldorado Property
4 Eldorado-Langmuir Property
5 Carman-Langmuir Property

Nickel Occurences

R Redstone Mine
L1 Langmuir #1 Mine
L2 Langmuir #2 Mine
H Hart Deposit
M McWatters Deposit
T Texmont Mine
G Galata

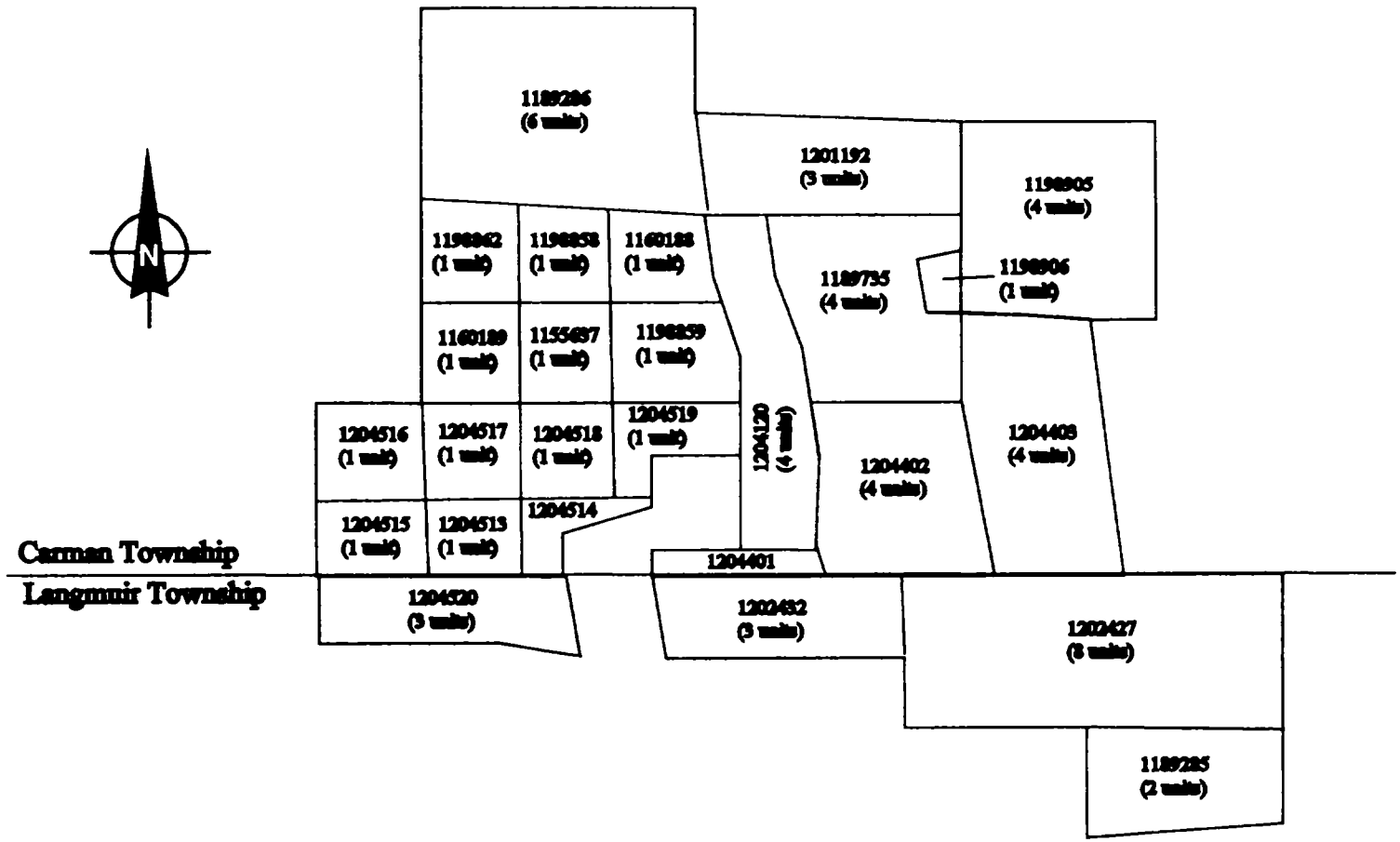


Figure 2: Carman-Langmuir Claim Block

Claim Number	Township	Number of Unit	Ownership
1189186	Carman	6	
1189735	Carman	4	
1198905	Carman	4	
1198906	Carman	1	
1201192	Carman	3	
1204120	Carman	4	
1204401	Carman	1	
1204402	Carman	4	
1204403	Carman	4	
1204513	Carman	1	
1204514	Carman	1	
1204515	Carman	1	
1204516	Carman	1	
1204517	Carman	1	
1204518	Carman	1	
1204519	Carman	1	
1189285	Langmuir	2	
1202427	Langmuir	8	
1202432	Langmuir	3	
1204520	Langmuir	3	
1155637	Carman	1	
1160188	Carman	1	
1160189	Carman	1	
1198858	Carman	1	
1198859	Carman	1	
1198862	Carman	1	

Table 1: Outokumpu Mines Ltd. Property Holdings: Carman-Langmuir property.

4.0 Regional Geology

The Carman-Langmuir property is located in the southwestern portion of the Abitibi greenstone belt (Fig. 3). The Abitibi greenstone belt is characterized by east-west trending metasedimentary rocks and metavolcanic rocks that have been intruded by a series of felsic to intermediate plutons and diabase dykes.

The area south of the Destor-Porcupine Fault in the Timmins camp is comprised of a series of calc-alkalic mafic to felsic volcanic rocks, overlain by a series of thick sulphide and oxide iron formations, overlain by komatiitic dunites to basalts which are intercalated with minor proportions of tholeiitic volcanics, and is topped by a thick sequence of komatiitic basalts and tholeiitic mafic to intermediate volcanics. The entire sequence has been intruded by numerous granitic and granodoritic intrusions, tholeiitic dykes and sills, and several generations of diabase dykes.

5.0 Property Geology

The property consists of a succession of calc-alkalic intermediate volcanic rocks, overlain by a discontinuous and sporadic series of dominantly oxide and sulphide iron formation, overlain by a series of komatiitic dunites, peridotites, pyroxenites, and basalts. This stratigraphy is repeated in Carman Township resulting in an inner and an outer komatiite horizons. Diabase dykes cross-cut all other rock types.

The volcanic rocks top to the east as indicated by spinifex textures within the komatiitic flows, strikes roughly north-south, and dips steeply to the east as indicated by flow contacts, geophysics, and diamond drill sections. The rocks have been cut by several episodes of brittle faulting which has offset much of the iron formation stratigraphy.

No nickel mineralization has been discovered on the property to date.

6.0 Diamond Drilling

Seven diamond drill holes were completed for a total of 2065 metres of BQ diamond drill core (table 2). The diamond drill core was picked up daily from the drill and transported to the Outokumpu Mines Ltd. office in Timmins, Ontario. The core was than logged and sampled by Outokumpu personnel. Complete diamond drill logs with plans and sections have been attached to the back of this report in appendices 1 and 2.

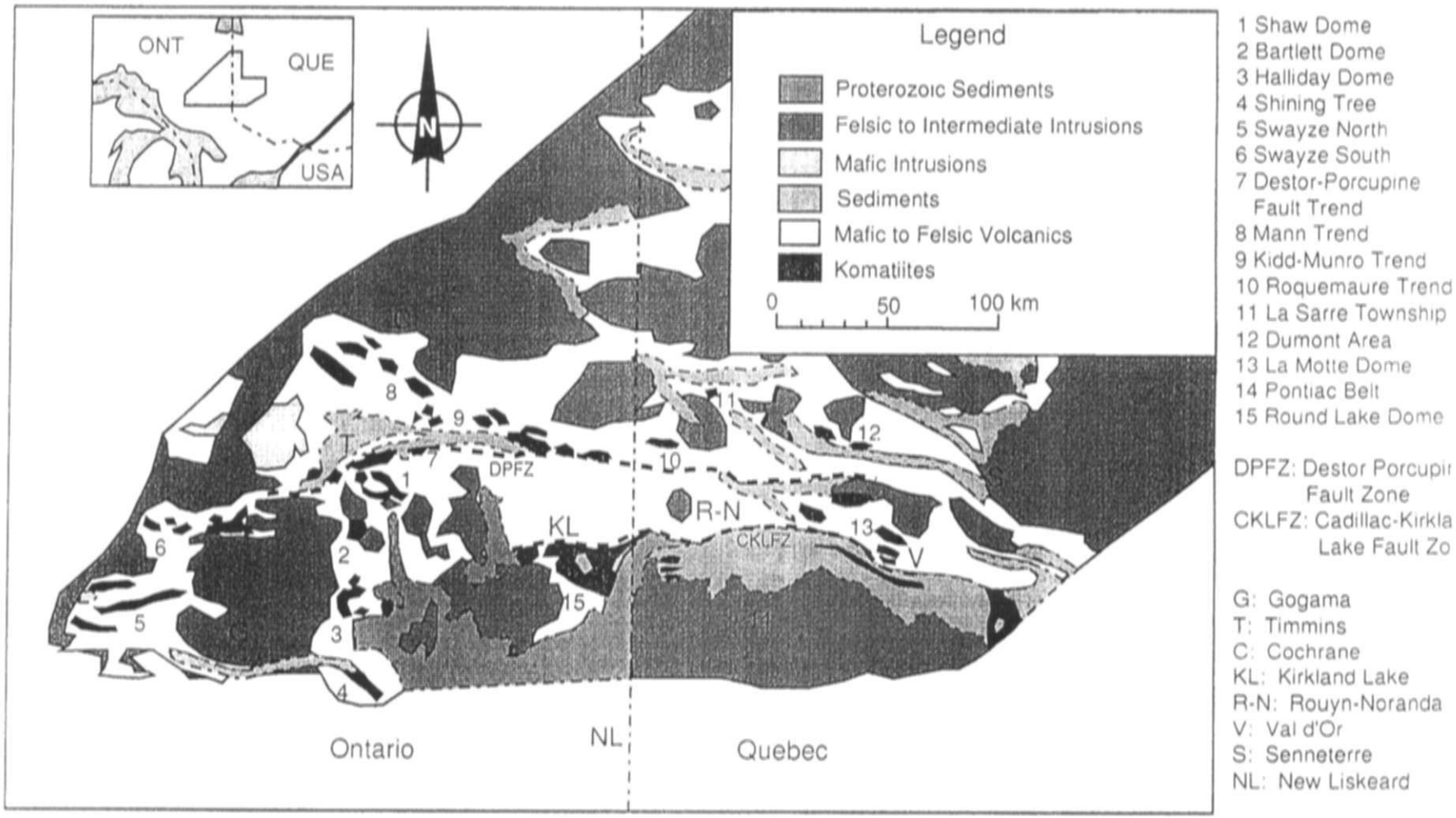


Figure 3: Regional geological map showing the distribution of komatiitic successions in the Abitibi greenstone belt (1-13) and the adjacent Pontiac metasedimentary belt (14) (modified from Goodwin and Ridler 1970; MERQ-OGS 1983; and Heather 1993).

Hole Number	Total Depth
CL-1-95	281m
CL-2-95	320m
CL-3f-95	61m
CL-3-95	296m
CL-4-95	320m
CL-5-95	527m
CL-6-95	260m

Table 3: Diamond Drill Hole Depths: Carman-Langmuir Property.

7.0 Results and Conclusions

No economic or sub-economic iron-nickel-copper sulphides were intersected within the komatiitic rocks during this diamond drill hole program. Several thick sections of komatiitic peridotites and pyroxenites were drilled, but lacked the sulphide component which hosts the nickel mineralization. Diamond drilling also intersected thick intersections of komatiitic dunites at depth which might represent an intrusive component or an area in which the komatiites have undergone very little metamorphism preserving the cumulate textures.

Metamorphism and alteration associated with the intrusions, diabase dykes, and shears and faults has resulted in the alteration of komatiitic dunites, peridotites, and pyroxenites to talc-carbonate and chlorite-tremolite rocks. This pervasive alteration has destroyed many of the igneous textures making accurate rock identifications difficult, but relict crescumulate textures and cumulate textures were identifiable in areas with a lesser degree of alteration. The alteration has also destroyed the magnetite component of some of the komatiitic rocks in effect masking their presence on the magnetic survey map and resulting in much thicker and continuous komatiite successions than originally interpreted. Some of the komatiitic adcumulate dunites might contain relict olivines indicating very low metamorphic grades.

Minor proportions of pyrite were discovered within the komatiitic rocks, but appears to be the result of secondary sulphide development associated with metamorphism and alteration.

8.0 Recommendations

Additional diamond drilling is recommended for the Carman-Langmuir property. This area has not been adequately explored in the past and the stratigraphic associations are not well described due to poor outcrop exposure. Further diamond drilling may follow a geochemical survey of the soils within the property boundaries.

Area/Township	N.T.S.	Year	Project
Carman Township	42-A-6	1996	Abitibi Komatiite

Hole Sign	Hole No	Bearing Survey Grid °/Grad	Bearing N.T.S. Grid °/Grad
CL	1-96	300	300

Co-ordinates: X/M m cm	Co-ordinates: Y/L m cm	Co-ordinates: Z m cm
26+60 E	32+00 N	300

Logged By	Date	Drilled By	Core Size	Started	Finished	Hole Length
PCD	Jan 14, 1996	Bradley Bros	BQ	Jan 8, 1996	Jan 12, 1996	281 m

Remarks: Core stored at Hollinger building; Claim #: 1160188

Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth
0	-50	300	10			17	-49		30		
40			50	-50		60			70		
80			90			101	-50		110		
120			130			140			150	-50	
160			170			180			190		
200	-49.5		210			220			230		
240			250	-50		260			270		
280			293			300			310		
320			330			340			350		
360			370			380			390		
400			410			420			430		
440			450			460			470		
480			490			500			510		
520			530			540			550		
560			570			580			590		
600			610			620			630		
640			650			660			670		
680			690			700			710		
720			730			740			750		
760			770			780			790		
800			810			820			830		

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
0.00	4.00	Overburden		casing							
4.00	52.70	Komatiitic Peridotite/ Pyroxenite	dark grey-black, aphanitic to f.g., massive olivine mesocumulate to adcumulate serp, chl, trem, carb, mag moderately magnetic minor fault gauge 32.0-41.0: tr Po, poss. Pn zones of primarily chl-trem alteration gradational lower contact, last 10 cm are rubbly serp-carb-chl veining	Kmc-ac	tr tr 1 tr tr tr tr	Py,Po Py Py Py Po Po Po	d d d d d d d	WR AS AS AS AS AS AS	37030 662 663 664 665 666 667	29.00 17.00 20.00 23.00 32.00 35.00 38.00	32.00 20.00 23.00 26.00 35.00 38.00 41.00
52.70	54.07	Komatiitic Pyroxenite	light grey-green, f.g., massive to weakly foliated at 50 degrees to the CA basal pyroxenite zone associated with differentiated primary lava or contamination by assimilation serp, chl, trem, chr, carb, hem, mag moderately magnetic serp-carb-hem veining sharp undulatory basal contact	KPx				WR	37031	52.70	54.07
54.07	64.50	Basalt/Komatiitic Basalt	medium grey, f.g., massive to mottled texture mottled texture assoc. with strong alteration (silicif. ?) chl, trem, mag, (chr?), serp, hem, qtz, epid weakly magnetic serp-chl-qtz-carb veining alteration zones assoc. with serp-chl veins	Ba/KBa	1	Py	d,v	WR	37032	56.00	59.00
64.50	142.88	Andesite/Basalt	light to medium grey, f.g., massive non-magnetic plag, chl, qtz, hem, epid variable alteration assoc. with hem veining averages <0.5% sulphides with up to 3% Py, Po, Cpy 2% vein assoc Py towards last 3m of unit	Ad/Ba	tr	Py,Cp,Po	d,v	WR	37033	116.00	119.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
			qtz-chl-epid-hem veining sharp lower contact, poss. weakly hornfelsed contact								
142.88	147.64	Komatiitic Pyroxenite/ Spinifex Zone	light grey-brown, f.g. to c.g., massive alternating gabbroic textures and acicular to platy pyroxene and ollivine spinifex chl, trem, serp, pyrox, mag, carb moderately to weakly magnetic serp-chl-carb veining cubic Py diss near upper contact gradational increase in cumulous olivine downhole intergranular cpx altered to light green colour sharp lower contact	KPx/osx	tr	Py	d	WR WR	37034 37035	142.88 145.50	145.50 147.64
147.64	264.24	Komatiitic Peridotite/Dunite	dark green-black, f.g. to m.g., massive olivine meso to adcumulate serp,chl, talc, trem, mag, carb, stichtite, oi moderately to strongly magnetic variable alteration, poss. relict olivines near base serp-chl-carb veining sulphide mineralization is sporadic throughout and is f.g. dusty sulphides sharp lower contact minor rubbly zones assoc. with chl and serp slips	Kmc/ac	tr-2	Po,Py	d	WR WR WR AS AS AS AS AS AS AS AS	37036 37037 37038 668 669 670 671 672 673 674 675 676	164.00 248.00 260.00 149.00 161.00 176.00 188.00 200.00 215.00 227.00 236.00 257.00	167.00 251.00 263.00 152.00 164.00 179.00 191.00 203.00 218.00 230.00 239.00 260.00
264.24	281.00	Komatiitic Peridotite	medium grey-green, f.g. to m.g., massive chl-carb altered komatiitic olivine ortho-mesocumulate moderately to weakly magnetic core very soft carb-chl-serp veining chl, trem, serp, mag, carb 267.30-268.0m: aphanitic, poss. flow top komatiites may be thin flows	Koc/mc				WR WR	37039 37040	269.00 278.00	272.00 281.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
281.00		End of Hole									

Area/Township	N.T.S.	Year	Project
Carman Township	42-A-6	1996	Abitibi Komatiite

Hole Sign	Hole No	Bearing Survey Grid °/Grad	Bearing N.T.S. Grid °/Grad
CL	2-96	300	300

Co-ordinates: X/M m cm	Co-ordinates: Y/L m cm	Co-ordinates: Z m cm
30+06 E	28+00 N	300

Logged By	Date	Drilled By	Core Size	Started	Finished	Hole Length
PCD	Jan 17, 1996	Bradley Bros	BQ	Jan 12, 1996	Jan 16, 1996	320 m

Remarks: Core stored at Hollinger building; Claim #: 1198859

Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth
0	-50	300	10			20	-50		30		
40			50			60	-49		70		
80			90			101	-49		110		
120			130			140			150	-50	
160			170			180			190		
200	-49		210			220			230		
240			251	-49		260			270		
280			293			300	-48		310		
320			330			340			350		
360			370			380			390		
400			410			420			430		
440			450			460			470		
480			490			500			510		
520			530			540			550		
560			570			580			590		
600			610			620			630		
640			650			660			670		
680			690			700			710		
720			730			740			750		
760			770			780			790		
800			810			820			830		

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
0.00	11.00	Overburden		casing							
11.00	38.00	Intermediate Volcanics	light grey-green, f.g., massive, poss. pillowed qtz, plag, chl, pyrox, amph, carb zones of silicification assoc. with veining non-magnetic variable chl alteration qtz-plag-carb veining gradational lower contact marked by increase in chl and mafic minerals	Ad				WR	37041	20.00	23.00
38.00	66.26	Basalt/Andesite	medium green, f.g. to m.g., massive, poss. pillowed non-magnetic chl, qtz, plag, pyrox, amph, hem, carb contains minor plag and qtz phenocrysts qtz-plag-carb-hem veining sharp lower contact at 50 degrees to CA	Ba/Ad				WR	37042	50.00	53.00
66.26	69.43	Feldspar Porphyry	pink-grey, m.g., massive plag, qtz, chl mafic minerals altered to chl non-magnetic coarse grained cubic Py qtz-chl veining sharp contacts	Por	tr	Py	d				
69.43	71.33	Mafic Dyke	dark grey, aphanitic to f.g., massive contains xenoliths of altered basalt or komatiite non-magnetic chl, plag, qtz cubic Py diss. throughout qtz-plag veining sharp contacts	Md	2	Py	d				

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
71.33	83.10	Komatiitic Pyroxenite/ Peridotite	dark to medium grey, f.g. to m.g., massive, spotted due to carb development core soft chl, trem, talc, serp, mag, carb moderately magnetic carb-chl alteration sharp lower contact at 50 degrees to CA	Koc/Px				WR	37043	77.00	80.00
83.10	85.30	Komatiitic Pyroxenite	dark grey-green, aphanitic to f.g., massive non-magnetic chl, trem, serp, carb minor zone of more serp alteration strong chl alteration poss. flow tops or spinifex zones chl-serp along slips gradational lower contact	KPx				WR	37044	83.10	85.30
85.30	164.70	Komatiitic Pyroxenite/ Peridotite	medium to dark grey-black, f.g. to m.g., massive moderately magnetic serp, mag, carb, chl, trem, talc Cpy assoc with carb veining sparse Py, Po ranges from moderately to non-carbonate altered carb alteration may mark flow tops serp-chl-carb-talc veining gradational lower contact	Koc/mc	tr	Py,Po,Cp	d	WR WR AS AS AS	37045 37046 677 678 679	98.00 155.00 145.73 146.73 147.18	101.00 158.00 146.73 147.18 148.18
164.70	172.42	Komatiitic Pyroxenite/ Peridotite	light grey-green, f.g., massive to weakly foliated at 30 degrees to the CA moderatelymagnetic carb, serp, chl, mag moderately to strongly carb altered serp-carb-chl veining sharp lower contact alteration could be assoc. with applied stress	Koc/mc	tr	Po,Py	d	WR	37047	167.00	170.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
172.42	177.63	Komatiitic Peridotite/ Pyroxenite	black-green, f.g., massive moderately magnetic serp, chl, trem, carb, mag trace diss Po serp-carb-chl veining gradational lower contact not changes in lighology but alteration assemblages	Kmc/oc	tr-1	Po	d	WR AS AS	37048 680 681	173.00 172.42 175.00	176.00 175.00 177.63
177.63	185.25	Komatiitic Peridotite/ Pyroxenite	medium grey and green, f.g. to m.g., massive spotted appearance serp, carb, chl, trem, mag, and/or chr, talc weakly developed foliation at 45 degrees to the CA carb-serp-chl veining moderately magnetic gradational lower contact	Koc/mc	tr	Py	d	WR	37049	179.00	182.00
185.25	194.10	Komatiitic Peridotite/ Pyroxenite	dark grey-black, f.g. to m.g., massive, speckled appearance assoc with differental alteration serp, mag, chl, trem, carb speckled appearance ends at 192.05m, becomes predominantly serp altered carb-serp-mag-chl veining sharp lower contact, undulatory	Koc/mc	tr 3	Po,Py Po,Py	d d	WR AS AS AS	37050 682 683 684	188.00 191.05 192.05 194.16	191.00 192.05 194.16 195.16
194.10	206.80	Komatiitic Peridotite/ Pyroxenite	medium grey, f.g., moderately foliated at 37 degrees to the CA carb, serp, mag, chl, talc not a change in ltihology, but change to strong magnesite alteration moderately magnetic stretched Py cubes carb veining gradational lower contact	Kmc/oc	tr	Py	d	WR	37051	200.00	203.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
206.80	269.07	Komatiitic Pyroxenite/ Peridotite	medium to dark grey, f.g. to m.g., massive weakly to moderately magnetic serp, chl, trem, carb, talc, mag Py and Po are assoc more with serp alteration carb-chl-serp veining ranges from weakly to strongly carb altered gradational lower contact	Koc/mc	tr 2	Py,Po Py,Po	d d	WR WR AS	37052 37053 685	215.00 263.00 251.00	218.00 266.00 254.00
269.07	284.35	Komatiitic Peridotite/Dunite	dark green-black, f.g. to m.g., massive ol meso to adcumulate serp, ol, mag, carb moderatel to strongly magnetic serp-carb veining f.g. diss Py 281.05-281.35m: fault gauge with anguiar clasts of cumulate 283.70-284.0m: fault gauge lost approximately 30% of run between 281-284m sharp lower contact	Kmc/ac	 tr tr tr tr 2 2 tr	 Py Py Py Py Py Py Py	 d d d d d d d	WR AS AS AS AS AS AS AS	37054 686 687 688 689 690 691 692	275.00 269.00 272.00 275.00 278.00 279.00 280.00 281.00	278.00 272.00 275.00 278.00 279.00 280.00 281.00 284.35
284.35	292.62	Intermediate Dyke	grey-brown, aphanitic to f.g., massive xenoliths of chl-trem komatiites qtz, plag, chl, trem, serp serp, trem is assoc with xenoliths non-magnetic qtz-carb-chl veining sharp contacts with komatiites and xenoliths	Id	1	Py	d				
292.62	296.50	Komatiitic Pyroxenite/ Peridotite	medium grey, f.g. to m.g., massive serp, chl, trem, carb, mag, chr weakly magnetic carb-chl veining faulted and sheared contacts with dykes	Koc/mc							

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
296.50	297.50	Intermediate Dyke	grey-brown, f.g. to aphanitic, massive plag, chl, qtz, carb, or leucoxene non-magnetic chl veining along slips core broken sharp contacts	Id							
297.50	299.00	Komatiitic Pyroxenite/ Peridotite	medium grey, aphanitic to f.g., massive chl, trem, carb, mag, or chr intense chl alteration carb veining moderately magnetic sharp but rubbly contacts	Koc/mc							
299.00	299.37	Intermediate Dyke	same as from 297.50-299.0m	Id							
299.37	316.40	Komatiitic Pyroxenite/ Peridotite	medium grey, aphanitic to f.g., massive chl, trem, carb, serp, mag, chr moderately magnetic carb-chl veining sharp contacts with increased chl alteration	Koc/mc				WR	37055	308.00	311.00
316.40	320.00	Intermediate Dyke	dark grey-brown, f.g., massive xenoliths of komatiite plag, qtz, chl, serp, trem, chl core rubbly plag veining cubic Py	Id	tr	Py	d				
320.00		End of Hole									

Area/Township	N.T.S.	Year	Project
Carman Township	42-A-6	1996	Abitibi Komatiite

Hole Sign	Hole No	Bearing Survey Grid °/Grad	Bearing N.T.S. Grid °/Grad
CL	3f-96	300	300

Co-ordinates: X/M m cm	Co-ordinates: Y/L m cm	Co-ordinates: Z m cm
28+00 E	28+00 N	300

Logged By	Date	Drilled By	Core Size	Started	Finished	Hole Length
PCD	Jan 20, 1996	Bradley Bros	BQ	Jan 16, 1996	Jan 18, 1996	61 m

Remarks: Core stored at Hollinger building; Claim #: 1198859, 1160188

Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth
0	-50	300	10			20			28	-48	
40			50			61	-48		70		
80			90			100			110		
120			130			140			150		
160			170			180			190		
200			210			220			230		
240			250			260			270		
280			293			300			310		
320			330			340			350		
360			370			380			390		
400			410			420			430		
440			450			460			470		
480			490			500			510		
520			530			540			550		
560			570			580			590		
600			610			620			630		
640			650			660			670		
680			690			700			710		
720			730			740			750		
760			770			780			790		
800			810			820			830		

DDH CL-3f-96

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
0.00	18.00	Overburden		casing							
18.00	62.00	Andesite	light to medium grey, aphanitic to f.g., massive poss. pillowed plag, qtz. chl, hem non-magnetic qtz-plag veining last 2 boxes are slightly blocky lost core barrel at 62 metres	Ad				WR	37056	50.00	53.00
62.00		End of Hole									

Area/Township	N.T.S.	Year	Project
Carman Township	42-A-6	1996	Abitibi Komatiite

Hole Sign	Hole No	Bearing Survey Grid °/Grad	Bearing N.T.S. Grid °/Grad
CL	3-96	300	300

Co-ordinates: X/M m cm	Co-ordinates: Y/L m cm	Co-ordinates: Z m cm
27+80 E	28+00 N	300

Logged By	Date	Drilled By	Core Size	Started	Finished	Hole Length
PCD	Jan 22, 1996	Bradley Bros	BQ	Jan 18, 1996	Jan 21, 1996	296 m

Remarks: Core stored at Hollinger building; Claim #: 1160188. 1198859

Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth
0	-50	300	10			20	-51		30		
40			50	-50.5		60			70		
80			90			98	-49		110		
120			130			140			152	-50	
160			170			180			190		
197	-50		210			220			230		
240			250	-49		260			270		
280			290			296	-50		310		
320			330			340			350		
360			370			380			390		
400			410			420			430		
440			450			460			470		
480			490			500			510		
520			530			540			550		
560			570			580			590		
600			610			620			630		
640			650			660			670		
680			690			700			710		
720			730			740			750		
760			770			780			790		
800			810			820			830		

DDH CL-3-96

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
0.00	9.00	Overburden		casing							
9.00	61.96	Andesite	light to medium grey, f.g. to aphanitic, massive possibly pillowed plag, chl, carb, qtz, serc non-magnetic core is very hard increased chl alteration downhole 39.50-47.0m: rubbly core, poss. fault zone lower contact marked by granitic dykes qtz-carb-chl veining	Ad							
61.96	62.18	Granite	pink-white, m.g., massive qtz, chl, plag non-magnetic sharp contacts ch veining	Gr							
62.18	73.46	Komatiitic Pyroxenite/ Peridotite	medium to dark grey, f.g. to aphanitic, massive olivine ortho to mesocumulate ch , trem, serp, minor carb, mag weakly to moderately magnetic upper portion appears to be more pyroxenitic carb-chl veining igneous textures are preserved gradational lower contact t carb alteration Py is intragranular moulding around olivine grains	Koc/mc	tr	Py	d	WR WR AS AS	37057 37058 693 694	63.00 71.00 68.00 71.00	65.00 73.46 71.00 73.46
73.46	85.75	Komatiitic Pyroxenite/ Peridotite	medium to light grey, f.g. to m.g., massive well developed carb grains moderately to strongly magnetic ch trem, carb, serp, mag zones of weak hematite staining carb-chl-serp veining	Koc/mc	tr	Py	d	WR	37059	80.50	82.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides %	Sulphides Type	Sulphides Mode	Sample Type	Sample Tag #	Sample From	Sample To
			gradational lower contact marked by a decrease in the carb content								
85.75	132.45	Komatiitic Pyroxenite/ Peridotite	dark grey-green, f.g., massive to weakly foliated at 58 degrees to the CA olivine ortho to mesocumulate serp, chl, trem, minor carb, mag, talc more pyroxenitic zone might represent flow tops ranges from trace to 1% diss Py gradational lower contact marked by an increase in carb alteration moderately magnetic	Koc/mc	 1 1 1	 Py Py Py	 d d d	WR WR AS AS AS	37060 37061 695 696 697	92.00 119.00 86.00 89.00 92.00	95.00 122.00 89.00 92.00 95.00
132.45	197.55	Komatiitic Pyroxenite/ Peridotite	medium to light grey, f.g. to m.g., massive to weakly foliated at 75 degrees to the CA serp, talc, carb, chl, trem, mag moderately magnetic serp-talc-magnesite-carb veining 140.37-140.50m: fault gauge 188.75-196.20m: rubbly core, poss. fault zone gradational lower contact marked by intense serp alteration	Kmc/oc	tr	Py	d	WR WR	37062 37063	149.00 179.00	152.00 182.00
197.55	296.00	Komatiitic Peridotite/Dunite	dark green-black, f.g. to m.g., massive to veined olivine ad to mesocumulate well preserved igneous textures serp, mag, carb, talc moderately to strongly magnetic lots of serp-talc-carb veining red serp veining from 197.53 to 201.0m	Kac/mc	tr	Py	d	WR WR WR AS AS AS	37064 37065 37066 698 699 700	206.00 257.00 293.00 224.00 239.00 287.00	209.00 260.00 296.00 227.00 242.00 290.00
296.00		End of Hole									

Area/Township	N.T.S.	Year	Project
Carman Township	42-A-6	1996	Abitibi Komatiite

Hole Sign	Hole No	Bearing Survey Grid °/Grad	Bearing N.T.S. Grid °/Grad
CL	4-96	300	300

Co-ordinates: X/M m cm	Co-ordinates: Y/L m cm	Co-ordinates: Z m cm
25+87 E	28+00 N	300

Logged By	Date	Drilled By	Core Size	Started	Finished	Hole Length
PCD	Jan 27, 1996	Bradley Bros	BQ	Jan 21, 1996	Jan 25, 1996	320 m

Remarks: Core stored at Hollinger building; Claim #: 1160188, 1198858

Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth
0	-50	300	10			20	-50		30		
40			50	-51		60			70		
80			90			101	-51		110		
120			130			140			150	-50	
160			170			180			190		
200	-51		210			220			230		
240			250	-51		260			270		
280			290			296	-52		310		
320			330			340			350		
360			370			380			390		
400			410			420			430		
440			450			460			470		
480			490			500			510		
520			530			540			550		
560			570			580			590		
600			610			620			630		
640			650			660			670		
680			690			700			710		
720			730			740			750		
760			770			780			790		
800			810			820			830		

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
0.00	9.00	Overburden		casing							
9.00	187.65	Komatiitic Pyroxenite/ Peridotite	medium to dark grey, aphanitic to f.g., massive combination of talc-carb-chl and chl-trem-carb altered komatiites with zones of massive chl which might be poss. flow tops chl, trem, carb, talc, serp, mag moderately magnetic carb-chl-serp veining flows might be between 20 and 30 metres thick more intense alteration assoc. with faults well preserved orthocumulate textures in sections poss. Po or carb intragranular 25.90-26.82m: fault zone, fault breccia 59.23-59.29m: fault gauge 96.25-96.35m: fault gauge 108.30-108.90m: rubbly core, fault zone 140.47-140.80m: rubbly core, fault zone 167.60-170.0m: rubbly core, fault zone	Koc/mc	1 1 1 1 tr	Po? Po? Po? Po? Po?	d d d d d	WR WR WR AS AS AS AS AS	37067 37068 37069 701 702 703 704 705	32.00 71.00 158.00 41.00 44.00 47.00 50.00 89.00	35.00 74.00 161.00 44.00 47.00 50.00 53.00 92.00
187.65	236.60	Komatiitic Peridotite	dark green, f.g., massive to weakly foliated at 50 degrees to the CA moderately magnetic serp, chl, mag, carb, magnesite less altered with carb than unit above serp-carb-chl veining lower contact marked by fault gauge	Kmc				WR	37070	218.00	221.00
236.60	267.08	Komatiitic Peridotite	light to medium grey, massive carb altered, talc-chl-carb-trem rock serp, chl, carb, talc, trem, mag, magnesite weakly magnetic serp-carb-chl-magnesite veining 236.60-237.25m: fault gauge 265.56-267.08m: fault gauge	Kmc				WR	37071	251.00	254.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides %	Sulphides Type	Sulphides Mode	Sample Type	Sample Tag #	Sample From	Sample To
			faulted lower contact								
267.08	268.33	Grantic Dyke	pink-grey, f.g., massive xenoliths of serp komatiites qtz, plag, chl non-magnetic qtz veining sharp contacts	Gr							
268.33	286.30	Komatiitic Dunite	dark green and dark grey, f.g. to aphanitic, massive zones of talc-serp alteration serp, mag, carb, magnesite, talc moderately magnetic serp-carb veining good fibre length on asbestose veins sharp lower contact trace to 1% diss Py	Kac	tr-1	Py	d	WR AS AS AS AS AS AS	37072 706 707 708 709 710 711	275.00 269.00 272.00 275.00 278.00 281.00 284.00	278.00 272.00 275.00 278.00 281.00 284.00 286.30
286.30	320.00	Gabbro/ Plagioclase Porphyry	medium grey, aphanitic to m.g., massive phenocrysts of plag up to 1 cm in diameter plag, chl, pyrox, mag, epid non to moderately magnetic chl-epid veining very good intrusive quenched upper contact increase in grain size downhole 307.48-307.65m: granitic dyke 312.85-313.30m: granitic dyke core is rubbly, assoc with chl slip surfaces	Gb/Por	tr	Py	d	WR WR	37073 37074	293.00 314.00	296.00 317.00

Area/Township	N.T.S.	Year	Project
Carman Township	42-A-6	1996	Abitibi Komatiite

Hole Sign	Hole No	Bearing Survey Grid °/Grad	Bearing N.T.S. Grid °/Grad
CL	5-96	300	300

Co-ordinates: X/M m cm	Co-ordinates: Y/L m cm	Co-ordinates: Z m cm
24+00 E	28+00 N	300

Logged By	Date	Drilled By	Core Size	Started	Finished	Hole Length
PCD	Feb 3, 1996	Bradley Bros	BQ	Jan 25, 1996	Feb 2, 1996	527 m

Remarks: Core stored at Hollinger building; Claim #: 1198858, 1198862

Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth
0	-50	300	**10**			**20**			**28**	-49	
40			**50**			**60**			**68**	-51	
80			**90**			**101**	-51.5		**110**		
120			**130**			**140**			**150**	-51	
160			**170**			**180**			**190**		
200	-52		**210**			**220**			**230**		
240			**250**	-52		**260**			**270**		
280			**290**			**302**	-51		**310**		
320			**330**			**340**			**350**	-52	
360			**370**			**380**			**390**		
398	-53		**410**			**420**			**430**		
440			**450**	-54		**460**			**470**		
480			**490**			**500**	-54		**510**		
520			**530**			**540**			**550**		
560			**570**			**580**			**590**		
600			**610**			**620**			**630**		
640			**650**			**660**			**670**		
680			**690**			**700**			**710**		
720			**730**			**740**			**750**		
760			**770**			**780**			**790**		
800			**810**			**820**			**830**		

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
0.00	18.00	Overburden		casing							
18.00	33.65	Komatiitic Pyroxenite/ Peridotite	medium grey, f.g. to m.g., massive, poss. folded veins chl, trem, serp, talc, carb, mag moderately magnetic moderate carb alteration chl-carb-talc veining 30.05-30.20m: fault gauge gradational contact with increased chl alteration	Koc				WR	37075	23.00	26.00
33.65	35.70	Mafic Dyke/ Komatiitic Pyroxenite	green-red, f.g., massive to moderately foliated at 40 degrees to the CA strong chl and weak hem alteration chl, trem, plag, mag, chr non to moderately magnetic chromite grains in last 30 cm look like spinifex hosted hem alteration appears to be related to granitic dykelet qtz-plag-hem veining sharp lower contact	Md/KPx				WR	37076	33.65	35.70
35.70	43.00	Komatiitic Pyroxenite/ Peridotite	light grey to dark grey-green, f.g., massive serp, chl, trem, carb, talc, mag moderately magnetic serp-carb-talc veining trace Po, Cpy smeared along slip surfaces 35.70-37.85m: moderate carb alteration faulted lower contact 42.40-43.0m: rubbly core, fault zone	Koc/mc	tr	Po,Cp	d	WR	37077	38.00	41.00
43.00	49.28	Mafic Dyke/ Komatiitic Pyroxenite	15 percent lost core medium green, f.g. to aphanitic, massive strong chl alteration chl, mag, chr, trem, carb weakly to moderately magnetic	Md/KPx	tr	Py	d	WR	37078	47.00	49.28

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
			up tp 5% mag of chr grains chl-carb-plag veining 44.40-45.40m: core has granular appearance with grouing core, fault zone 46.20-47.0m: fault gauge, ground core all core is blocky sharp lower contact at 25 degrees to the CA								
49.28	65.40	Komatiitic Pyroxenite/ Peridotite	medium to dark grey, f.g. to m.g., massive to weakly foliated at 25 degrees to the CA combination of carb-talc-chl and serp komatiites serp, talc, carb, chl, mag, chr weakly to strongly magnetic serp-carb-talc veining upper 50 cm is moderately carb altered 59.60-65.40m: change from serp to talc-carb alteration 62.78-63.48m: fault gauge sharp lower contact	Koc/mc	tr	Po	d	WR	37079	58.50	60.00
65.40	71.00	Mafic Dyke/ Intermediate Dyke	black brown, f.g. to m.g., massive quenched upper and lower contacts with increased chl alteration 30-50% plag phenocrysts chl, plag, carb weakly magnetic plag-chl veining trace diss. cubic Py sharp lower contact	Md/Id	tr	Py	d	WR	37080	67.00	70.00
71.00	104.60	Komatiitic Pyroxenite/ Peridotite	medium green, aphanitic to f.g., massive carb-chl-trem komatiites chl, trem, carb, serp, talc, mag moderately magnetic serp-carb-trem-talc veining 73.90-74.50m: rubbly core, fault zone 74.85-76.70m: mafic dyke or chl-trem flow top	Koc/mc				WR	37081	89.00	92.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
			75.20-76.47m: fault gauge and rubbly core 97.52-97.70m: fault gauge 99.86-100.15m: fault gauge and granular core 94.88-95.60m: mafic dyke or chl-trem flow top								
104.60	130.35	Mafic Dyke	dark grey, aphanitic to f.g., massive plag, pyrox, chl, serp, qtz, epid non-magnetic chl-serp-chalcedony veining quenched contacts 123.20-130.0m: rubbly core with lots of insitu brecciation caused by veining, fault zone? serp veins probably from komatiites	Md	tr	Py	d,v	WR	37082	116.00	119.00
130.35	146.35	Komatiitic Pyroxenite/ Peridotite	light to dark grey and green, f.g. to m.g., massive to cob webbed texture caused by alteration varies from chl-trem, serp-carb-talc to odd green alteration, rhythmically throughout unit serp, talc, chl, carb, trem, mag, chr weakly to non-magnetic serp-chl-carb veining WR taken in strange green alteration zone faulted lower contact 146.20-146.35m: fault gauge	Koc/mc				WR	37083	140.00	143.00
146.35	148.40	Mafic Dyke	grey-brown, aphanitic with f.g. plag phenos, massive chl, plag, hem, qtz non-magnetic qtz-hem veining faulted lower contact 147.0-148.40m: rubbly core and fault gauge	Md	1	Py	d				
148.40	159.36	Komatiitic Pyroxenite/ Peridotite	light to dark grey, f.g. to aphanitic, massive chl-carb-talc altered komatiite chl, trem, cab, serp, talc, mag, chr	Koc/mc				WR	37084	150.00	153.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
			weakly to non-magnetic serp-chl-carb-talc veining contains chl-rich zones, poss. flow tops faulted upper contact, sheared lower contact 148.40-149.85m: fault gauge and rubbly core 153.50-153.55m: fault gauge 153.73-154.20m: fault gauge and rubbly core 154.80-155.0m: fault gauge and rubbly core								
159.36	165.58	Granite	pink-grey, aphanitic, massive qtz, plag, chl 162.20-163.02m: komatiitic xenolith sharp contacts non-magnetic qtz-chl-plag veining weak hematite staining	Gr							
165.58	214.47	Komatiitic Pyroxenite/ Peridotite	medium grey, f.g. to m.g., massive to weakly foliated at 40 degrees to the CA talc, chl, trem, serp, mag, chr weakly to moderately magnetic serp-talc-chl-carb veining gradational lower contact 184.35-184.48m: fault gauge 188.20-189.0m: fault gauge, rubbly core 190.90-193.0m: rubbly core, fault gauge 204.50-204.62m: fault gauge, rubbly core 212.20-212.40m: fault gauge, rubbly core	Koc/mc				WR WR	37085 37086	172.00 206.00	174.00 209.00
214.47	397.60	Komatiitic Dunite	dark green to black, f.g. to m.g., massive to sheared at 37 degrees to the CA serp, ol, talc, magnesite, mag, chr strongly to moderately magnetic serp-carb-talc-mag veining torquoise blue serp-veining olivine could be relict in black coloured zones	Koc/mc	tr 1	Py Py	d d	WR WR WR WR WR WR AS	37087 37088 37089 37090 37091 37092 712	218.00 245.00 272.00 311.00 344.00 380.00 239.00	221.00 248.00 275.00 314.00 347.00 383.00 242.00

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
			faulted lower contact 395.15-397.37m: fault gauge and rubbly core		1 1	Py Py	d d	AS AS	713 714	242.00 245.00	245.00 248.00
397.60	400.10	Mafic Dyke	medium to dark grey, aphanitic to f.g., massive weak chl alteration chl, qtz, serp non-magnetic poss. xenoliths of komatiitic serpentinites qtz-chl veining sharp contacts core is somewhat broken	Md							
400.10	514.60	Komatiitic Dunite	dark green-black, f.g. to m.g., massive to veined at 40 degrees to the CA serp, mag, carb, talc, ol weakly to strongly magnetic faulted upper contact serp-mag-carb veining black zones contain poss. relict olivines well preserved adcumulate textures 400.10-401.40m: fault gauge, and rubbly core 432.10-434.0m: fault gauge and rubbly core gradational lower contact	Kac				WR WR WR WR WR	37093 37094 37095 37096 37097	404.00 416.00 446.00 476.00 496.00	407.00 419.00 449.00 479.00 499.00
514.60	527.00	Komatiitic Dunite/ Peridotite	medium to dark grey, f.g. to m.g., massive carb altered unit carb, serp, talc, mag moderately magnetic carb-serp-chl veining moderately to weakly carb altered	Kac/mc				WR WR	37098 37099	518.00 524.00	521.00 527.00
527.00		End of Hole									

Area/Township	N.T.S.	Year	Project
Carman Township	42-A-6	1996	Abitibi Komatiite

Hole Sign	Hole No	Bearing Survey Grid °/Grad	Bearing N.T.S. Grid °/Grad
CL	6-96	300	300

Co-ordinates: X/M m cm	Co-ordinates: Y/L m cm	Co-ordinates: Z m cm
25+45 E	25+00 N	300

Logged By	Date	Drilled By	Core Size	Started	Finished	Hole Length
PCD	Feb 9, 1996	Bradley Bros	BQ	Feb 4, 1996	Feb 7, 1996	260 m

Remarks: Core stored at Hollinger building: Claim #: 1155637

Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth	Depth	Dip	Azimuth
0	-50	300	**8**	-50		**20**			**30**		
40			**50**	-50		**60**			**70**		
80			**90**			**100**	-47		**110**		
120			**130**			**140**			**149**	-47	
160			**170**			**180**			**190**		
200	-50		**210**			**220**			**230**		
240			**249**	-49		**260**			**270**		
280			**290**			**300**			**310**		
320			**330**			**340**			**350**		
360			**370**			**380**			**390**		
400			**410**			**420**			**430**		
440			**450**			**460**			**470**		
480			**490**			**500**			**510**		
520			**530**			**540**			**550**		
560			**570**			**580**			**590**		
600			**610**			**620**			**630**		
640			**650**			**660**			**670**		
680			**690**			**700**			**710**		
720			**730**			**740**			**750**		
760			**770**			**780**			**790**		
800			**810**			**820**			**830**		

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
0.00	3.00	Overburden		casing							
3.00	14.15	Komatiitic Pyroxenite/ Peridotite	dark grey-green, f.g. to aphanitic, massive serp, chl, trem, carb moderately magnetic serp-carb veining sharp lower contact marked by intense serp alteration 1% diss Py, appears to be replacement sulphides	Koc/mc	1 1 1 1	Py Py Py Py	d d d d	WR AS AS AS	37100 715 716 717	8.00 5.00 8.00 11.00	11.00 8.00 11.00 14.15
14.15	18.00	Intermediate Dyke	light to medium grey, f.g. to m.g., massive plag phenocrysts plag, chl, pyrox, leucoxene larger grainsize in centre of dyke non-magnetic 17.0-18.0m: blocky core	Id							
18.00	113.60	Komatiitic Peridotite/ Pyroxenite	black and green, aphanitic to f.g., massive to veined zones dominated by chl-alteration may be flow tops serp, chl, trem, carb, mag, chr moderately magnetic serp-carb-chl veining sporadic carbonate development 71.30-89.65m: poss. crescumulate zone with occassional preserved hopper grains 18.0-26.0m: blocky core 93.0-104.25m: blocky and rubbly core	Kmc/oc	tr	Py	d	WR WR WR WR	37801 37802 37803 37804	23.00 53.00 74.00 110.00	26.00 56.00 77.00 113.00
113.60	119.90	Granite	red-grey, f.g. to m.g., massive plag, chl, hem, serc, qtz, bio non-magnetic qtz veining sharp contacts	Gr							

From (m)	To (m)	Rock Type	Description	Legend	Sulphides			Sample			
					%	Type	Mode	Type	Tag #	From	To
119.90	130.00	Komatiitic Dunite/ Pyroxenite	apple green to dark grey, f.g., massive to veined upper contact with granite is chl-bio altered lower contact is chl-altered serp, chl, trem, talc, carb, mag moderately magnetic to non-magnetic apple green alteration is non-magnetic serp-carb veining sharp contacts upper portion may be more peridotitic 120.30-120.80m: fault gauge 125.0-127.50m: rubbly core 127.5-128.0m: fault gauge 128.0-130.0m: rubbly core and fault gauge	Kac/mc				WR WR	37805 37806	122.00 125.00	124.00 126.00
130.00	260.00	Granite	red-grey, f.g. to m.g., massive grain size varies throughout and appears to be associated with alteration and/or secondary dykes plag, chl, bio, qtz non-magnetic bull qtz veining ranging from mm to cm in width	Gr	tr	Py	d	WR WR	37807 37808	161.00 251.00	164.00 254.00
260.00		End of Hole									

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: W9660.00240

Personal information collected on this form is obtained under the authority of the this collection should be directed to the Provincial Manager, Mining Lands, M Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

42A06NE0024 W9660-00240 CARMAN

900

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for re... Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s)		Client No.
Outokumpu Mines Ltd. / J.P. Bergeron		178525/107411
Address		**Telephone No.**
P.O. Box 1123, Timmins, Ontario, P4N 7H9		(705) 264-5024
Mining Division	**Township/Area**	**M or G Plan No.**
Porcupine	Carman and Langmuir Townships	G-3226, G-4000
Dates Work Performed From: January 8, 1996	To: February 7, 1996	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	
	Physical Work, Including Drilling	Diamond Drilling
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

RECORDED
MAR 27 1996
Receipt

Total Assessment Work Claimed on the Attached Statement of Costs $ 99,449.00

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Bradley Bros Ltd.	Highway 101, Timmins, Ontario
Paul Davis, Outokumpu Mines Ltd	P.O. Box 1123, Timmins, Ontario, P4N 7H9

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

	Date	Recorded Holder or Agent (Signature)
I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Feb 20/96	Paul

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: Paul Davis, Outokumpu Mines Ltd., P.O. Box 1123, Timmins, Ont., P4N 7H9

Telepone No.	Date	Certified By (Signature)
(705) 264-5024	Feb 20/96	Paul

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
99,449	MARCH 27/96		MAR 27 199
	Deemed Approval Date: JUNE 26/96	Date Approved: JUNE 25/96	C GRU 220
	Date Notice for Amendments Sent		

0241 (03/91)

Work Report Number	Claim Number	Number of Units	Value of Assessment	Value Applied	Value Assigned	Reserve
	1189286	6	0	5100	0	0
	1189735	4	0	3400	0	0
	1198905	4	0	5750	0	0
	1198906	1	0	800	0	0
	1201192	3	0	2500	0	0
	1204120	4	0	5750	0	0
	1204401	1	0	800	0	0
	1204402	4	0	3400	0	0
	1204403	4	0	3400	0	0
	1204513	1	0	800	0	0
	1204514	1	0	800	0	0
	1204515	1	0	800	0	0
	1204516	1	0	800	0	0
	1204517	1	0	800	0	0
	1204518	1	0	800	0	0
	1204519	1	0	800	0	0
	1189285	2	0	1700	0	0
	1202427	8	0	6800	0	0
	1202432	3	0	2500	0	0
	1204520	3	0	2500	0	0
	1155637	1	12521	700	12000	521
	1160188	1	24055	700	12000	12055
	1160189	1	0	700	0	0
	1198858	1	33412	700	12000	21412
	1198859	1	23261	700	12000	11261
	1198862	1	6200	700	6200	0
total	26		99449	54200	54200	45249

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☒ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreeme to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature

, of
ern Development
J Mines

Ministère du
Développement du Nord
et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
W9656.00240

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type Diamond Drilling	$99,449.00	
			$99,449.00
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		$99,449.00

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)**		

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.

2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Project Geologist I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
Paul	Feb 20/96

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

G-4000

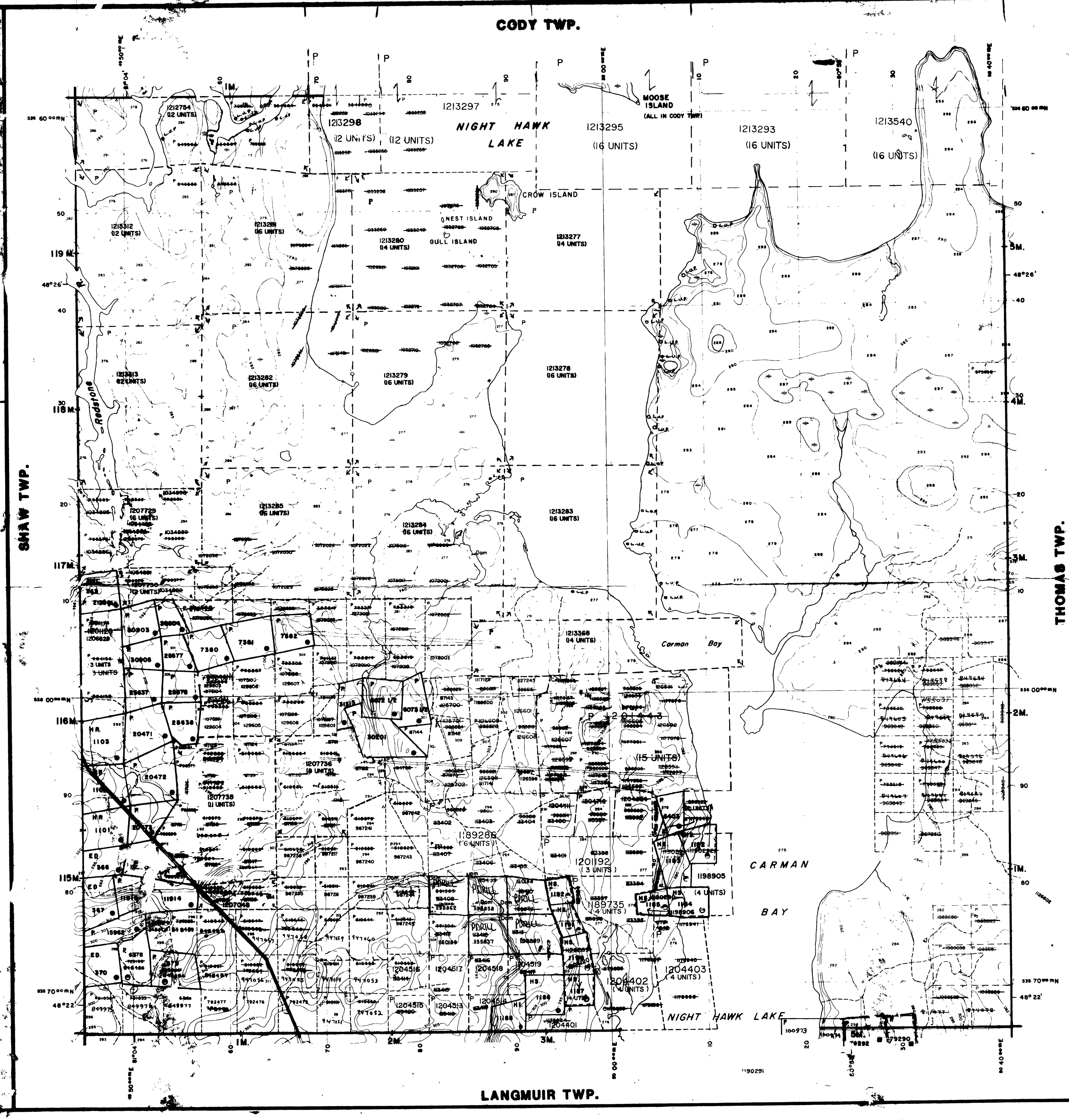
MAP SYMBOLS

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.



LEGEND

HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC.
LOTS, MINING CLAIMS, PARCELS, ETC.
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC.
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON-PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	
" , MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	
" , MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.

SCALE 1:20 000

GRID ZONE: 17

~~THIS TWP. SUBJECT TO FOREST ACTIVITY IN 1992/93 FURTHER INFORMATION ON FILE.~~

Open June 1/96

Rec'd Jan. 23/85

TOWNSHIP

CARMAN

M.N.R. ADMINISTRATIVE DISTRICT

TIMMINS

MINING DIVISION

PORCUPINE

LAND TITLES / REGISTRY DIVISION

COCHRANE

Ministry of Natural Resources — Land Management Branch

Ontario

ORIGINAL COMPILATION	JULY 1984	Number
REVISED:		G-4000

✓ JC June 28/85
✓ LP July 3/85

42A06NE0024 W9660-00240 CARMAN

200

Ontario Ministry of Natural Resources

Ministry of Northern Development and Mines

INDEX TO LAND DISPOSITION

PLAN

G-3226

TOWNSHIP

LANGMUIR

M.N.R. ADMINISTRATIVE DISTRICT

TIMMINS

MINING DIVISION

PORCUPINE

LAND TITLES/REGISTRY DIVISION

COCHRANE

Scale 1:20 000

1000 Metres 0 1000 2000 Metres

1000 Feet 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet

Contour interval 10 Metres

SYMBOLS

Boundary
- Township, Meridian, Baseline
- Road allowance, surveyed / shoreline
- Lot/Concession, surveyed / unsurveyed
- Parcel, surveyed / unsurveyed
- Right-of-way; road / railway / utility
- Reservation
- Cliff, Pit, Pile
- Contour (20) / Interpolated / Approximate / Depression
- Control point (horizontal)
- Flooded land
- Mine head frame
- Pipeline (above ground)
- Railway, single track / double track / abandoned
- Road; highway, county, township / access / trail, bush
- Shoreline (original)
- Transmission line
- Wor[illegible]

AREAS WITHDRAWN FROM DISPOSITION

MRO - Mining Rights Only
SRO - Surface Rights Only
M + S - Mining and Surface Rights

Description	Order No.	Date	Disposition	File
(N) APPLICATION PENDING UNDER P.L.A. — SURFACE RIGHT = →DRAWN				

(FI) THIS TWP IS SUBJECT TO FOREST ACTIVITY IN 199[illegible] FURTHER INFORMATION AVAILABLE ON FILE.

DISPOSITION OF CROWN LANDS

Patent
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

Lease
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

Licence of Occupation

Order-in-Council (OC)

Cancel

Reservation

Sand & Gravel

NOTES

THIS TOWNSHIP LIES WITHIN THE MUNICIPALITY OF THE CITY OF TIMMINS

FLOODING RIGHTS ON NIGHT HAWK LAKE TO THE CONTOUR ELEVATION 903.5' RESERVED TO ONT. HYDRO

ACTIVATED JULY 18, 1995 BY:

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources

The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

SMD 3226

95 05

G-3226

LANGMUIR TWP

497500mE 498000mE 498500mE 499000mE 499500mE 500000mE 500500mE

5359000mN

5358500mN

5358000mN

5357500mN

5357000mN

5356500mN

1189286
(6 Units)

1198858
(1 Unit)

1198862
(1 Unit)

1160188
(1 Unit)

1160189
(1 Unit)

1155637
(1 Unit)

1198859
(1 Unit)

1204120
(4 Units)

1204516
(1 Unit)

1204517
(1 Unit)

1204518
(1 Unit)

1204519
(1 Unit)

Carman Township
Langmuir Township

Outokumpu

Timmins Office

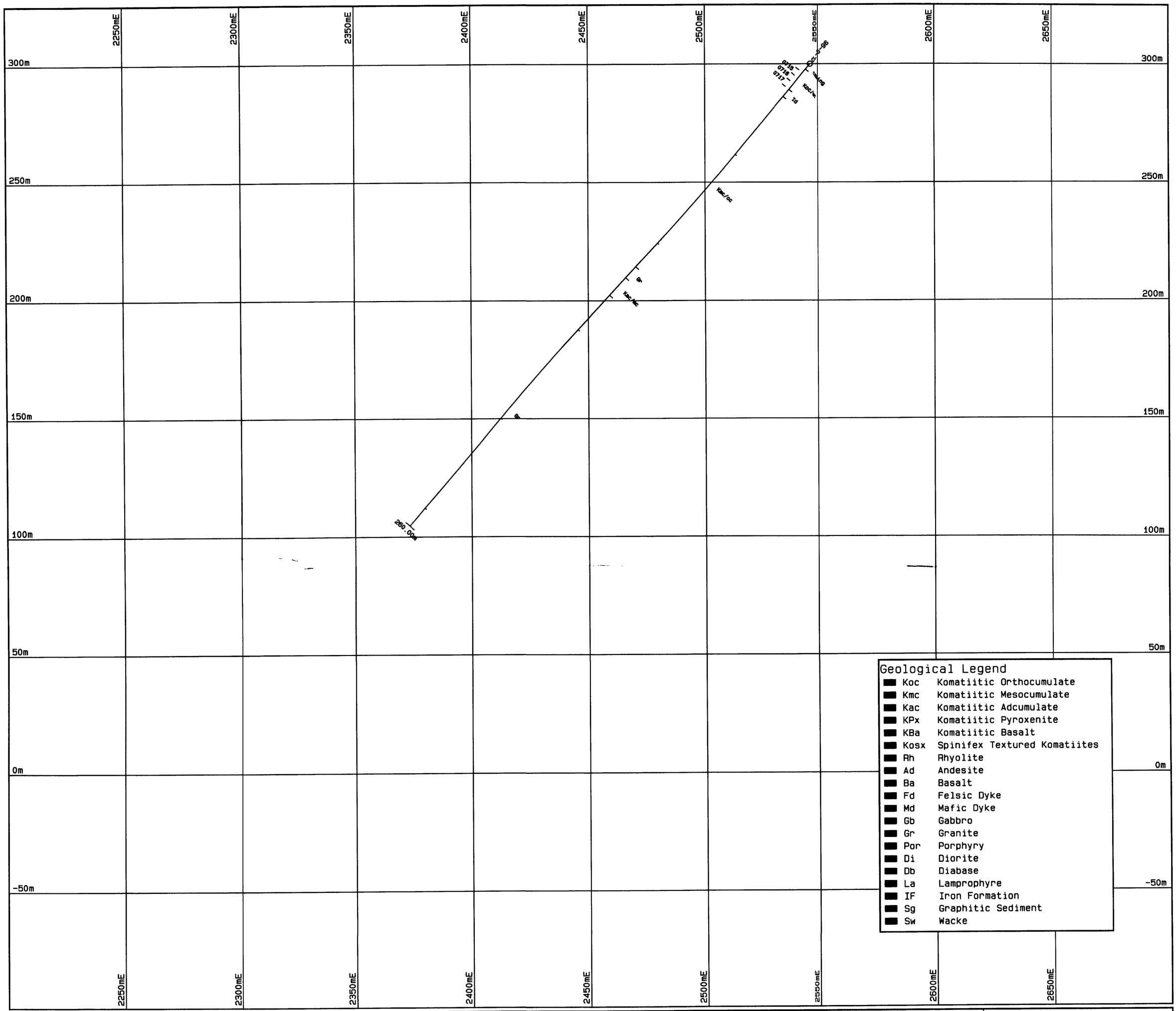
Scale	DATE	SHEET
1: 5000	26/02/96	1 of 1
	REF No. 1	FILE PLAN96.PLT

0 250 500m

Diamond Drill Hole Plan Map Carman-Langmuir Property

Outokumpu Mines Ltd.
Carman-Langmuir Property
Carman Township

42A06NE0024 W9660-00240 CARMAN



Outokumpu

Timmins Office

Az: 300°
Dip: -50°
claim #: 1155637

Scale 1: 1000

DATE 26/02/96

SHEET 1 of 1

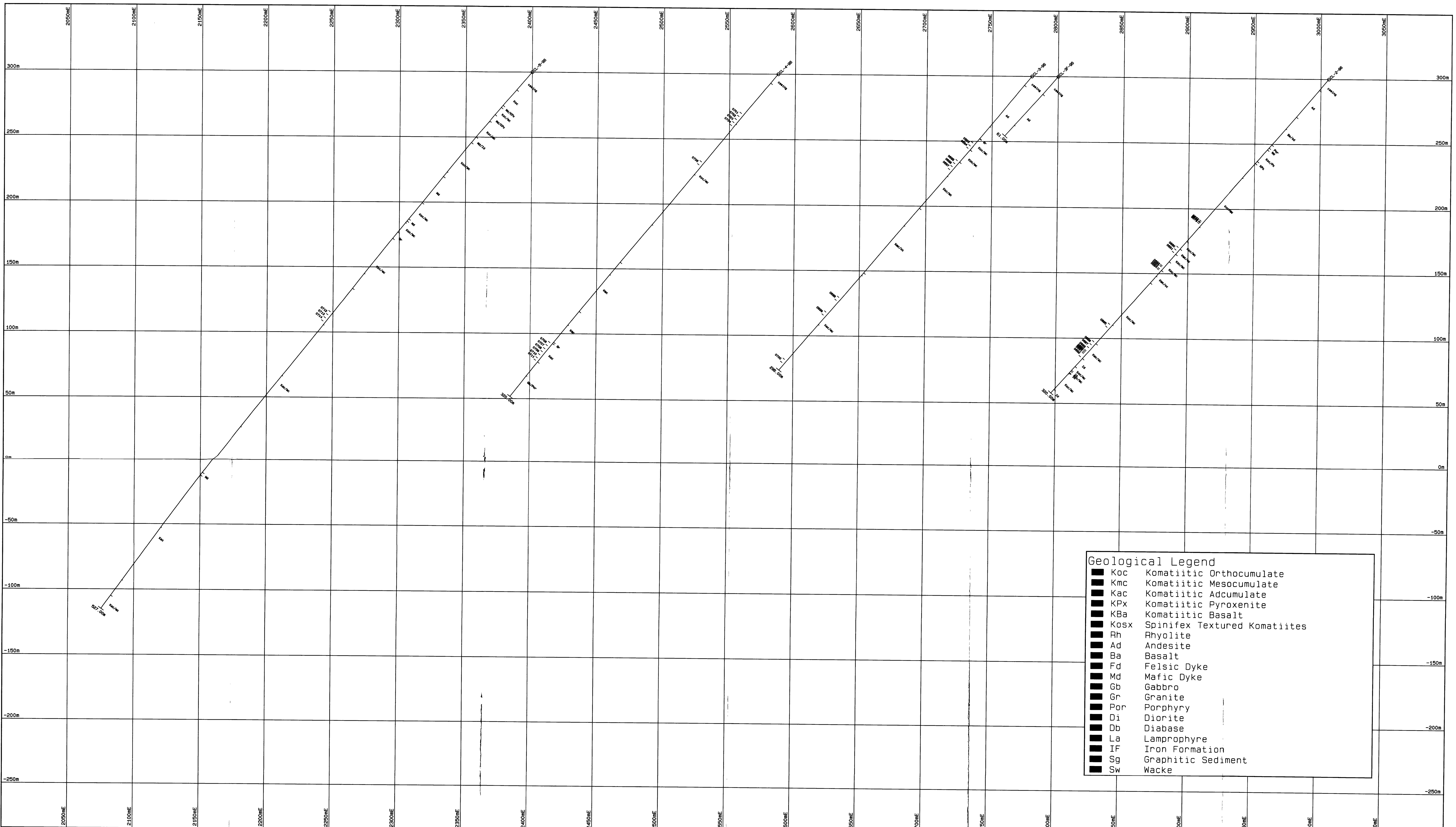
REF No. 1

FILE CL6_96.PLT

0 50m

Diamond Drill Hole
Section 2500N
Looking North

Outokumpu Mines Ltd.
Carman-Langmuir Property
Carman Township



Outokumpu

Timmins Office

CL-2-96
Az: 300°
Dip: -50°
Claim #: 1198859

CL-3-96
Az: 300°
Dip: -50°
Claim #: 1198859, 1160188

CL-3F-96
Az: 300°
Dip: -50°
Claim #: 1198859, 1160188

CL-4-96
Az: 300
Dip: -50°
Claim #: 1160188, 1198858

CL-5-96
Az 300°
Dip -50
Claim #: 1198858, 1198862

Scale	DATE	SHEET
1: 1000	26/02/96	1 of 1
	REF No.	FILE
	1	CL2_96.PLT

0 50 100m

Diamond Drill Hole
Section 2800N
Looking North

Outokumpu Mines Ltd.
Carman-Langmuir Property
Carman Township

Outokumpu Timmins Office	Az: 300° Dip -50° claim#: 1160188	Paul	Scale 1: 1000	DATE 26/02/96 REF No. 1	SHEET 1 of 1 FILE CL1_96.PLT	Diamond Drill Hole Section 3200N Looking North	Outokumpu Mines Ltd. Carman-Langmuir Property Carman Township

0 50 100m