



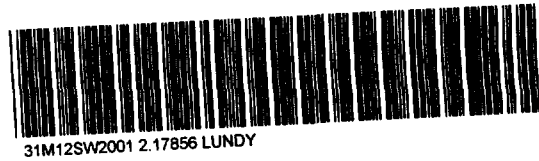
31M12SW2001 2.17856 LUNDY

010

SUMMARY REPORT
ON THE
NOVEMBER 1995
DIAMOND DRILL INVESTIGATION
OF
KIMBERLITE PIPE
95-2
SUDBURY CONTACT MINES LTD.
MONTREAL RIVER "A" PROPERTY
LUNDY TOWNSHIP
LARDER LAKE MINING DIVISION
PREPARED BY
RAYMOND J. KNOWLES, B.Sc.
W.A. HUBACHECK CONSULTANTS LTD.
NOVEMBER 3, 1997

FILE 216 95-2 DDH RPT.WPD

W. A. HUBACHECK CONSULTANTS LTD.



010C

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CORES MRA-95-03 AND MRA-95-04**

BY ROGER H. MITCHELL

W. A. HUBACHECK CONSULTANTS LTD.

SUMMARY

Kimberlite Pipe 95-2 was discovered on Claim 1202724 by Reverse Circulation Drill in March of 1995. A total of 3 macro and 6 micro diamonds were recovered from 77.92 kg of material. Based on these results, four holes were diamond drilled (three vertical H and NQ, 1 angled NQ) into the pipe to describe the dimensions and geology of the pipe and to gain approximately 1000 kg bulk sample for diamond and indicator analysis.

Drilling was conducted between November 15 and December 1, 1995. Logging and sampling were conducted November 22 to December 18, 1995 on Holes MRA-95-1,2 and 4. An additional eight days was required to log MRA-95-03 in February and March of 1996.

Analysis was performed by Lakefield Research Limited. A total of 1026.3 kg on 19 samples representing a split half portion of kimberlite core was sent for Caustic Dissolution. A total of 44 diamonds were recovered the largest of which is 0.14 carats. A total of 220.8 kg on nine samples representing 25 cm every 1m of split half portion of kimberlite core was sent for attrition milling in order to recover indicator minerals. An extensive suite was selected. A subsequent recheck of the diamond indicator work yielded four additional diamonds.

In January of 1996, 18 representative samples from MRA-95-03, 04 were sent to Roger H. Mitchell, Lakehead University for thin section work and limited SEM & WDS microprobe analysis. His report is appended.

From the drilling results to date, the pipe appears to be more or less homogeneous in mineralogy as well as diamond content indicating 1 phase of eruption; however, Roger Mitchell clearly describes three distinct facies which could be better determined through additional drilling.

Based on the above encouraging results, further testing of Pipe 95-2 is required comprising additu sectional drilling, in order to understand the pipe dimension as well as vertical bulk drilling, in order to recover a substantial sample representative of the pipe as a whole.

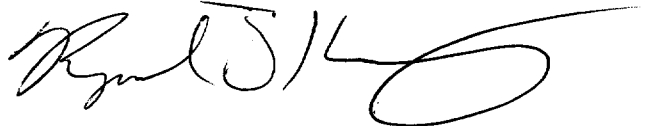
Certificate of Qualifications

I, Raymond J. Knowles, of the City of Etobicoke, in the Province of Ontario, Canada, do hereby certify that:

- 1) I am an Exploration Geologist, residing at 79 Thirteenth Street, Etobicoke, Ontario, M8V 3H5, under contract to W. A. Hubacheck Consultants Ltd., 365 Bay St., Suite 807, Toronto, Ontario, M5H 2V1.
- 2) I am a graduate of the University of Toronto where I received my Bachelor of Science degree in Geology in 1985, and have been practising my profession as an Exploration Geologist continuously since graduation.
- 3) I am a Fellow of the Geological Association of Canada, a member of the Canadian Institute of Mining and Metallurgy and the Prospectors and Developers Association of Canada.
- 4) This report is based on personal examination of the property in 1995 and 1996.
- 5) I have no direct interest in the properties or securities of Sudbury Contact Mines Ltd..

Dated at Toronto, Ontario
November 6, 1997

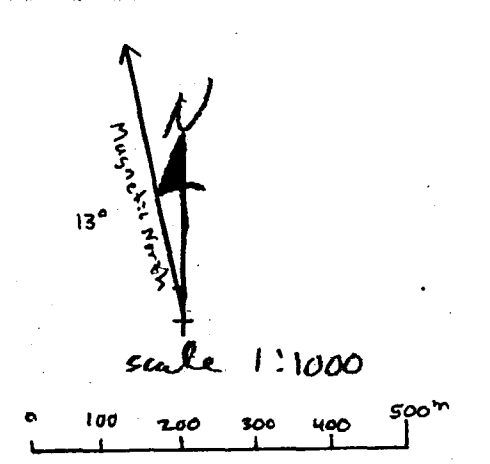
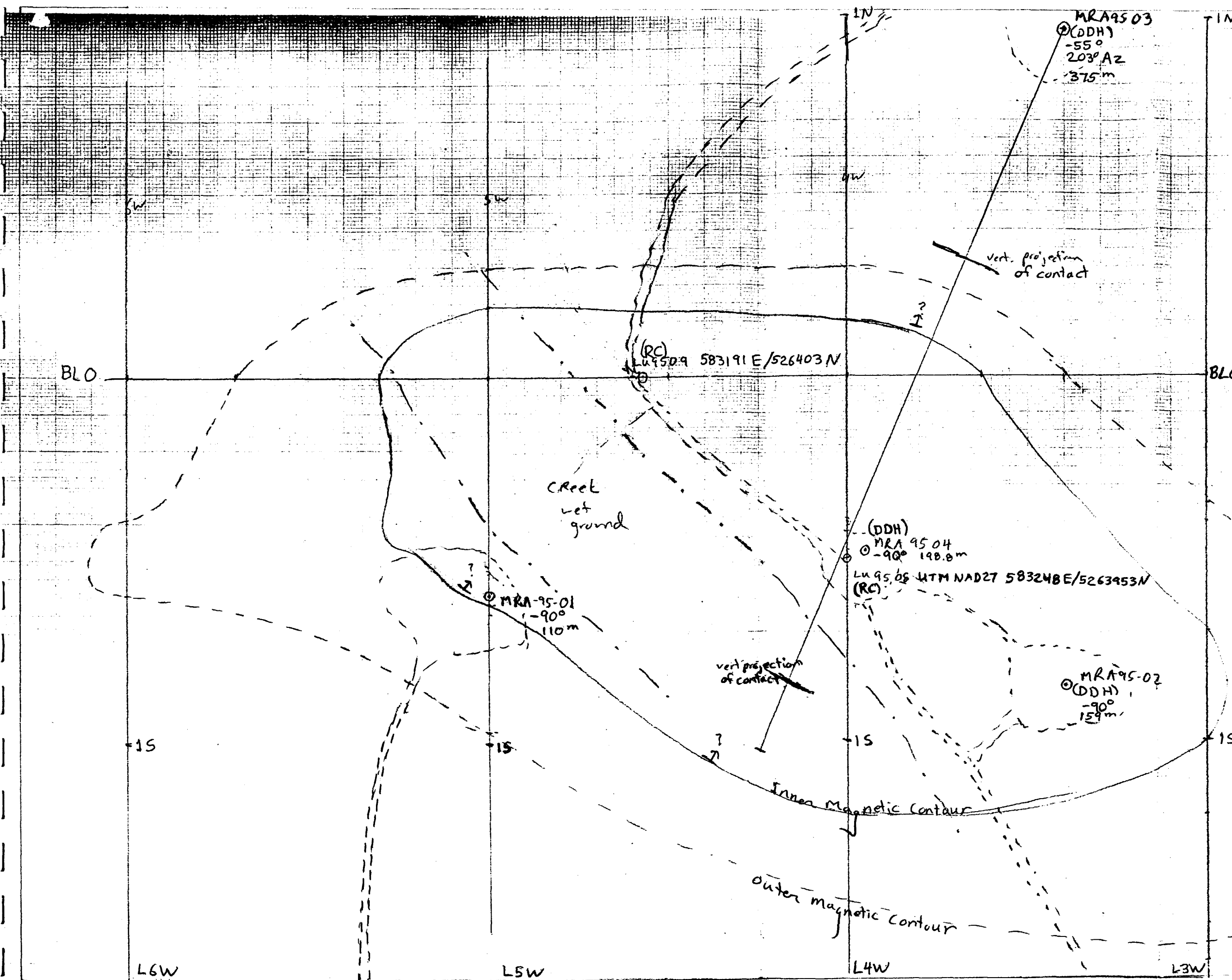
Raymond J. Knowles, B.Sc.



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**APPENDIX A:
PLAN MAP & SECTIONS**

W. A. HUBACHECK CONSULTANTS LTD.



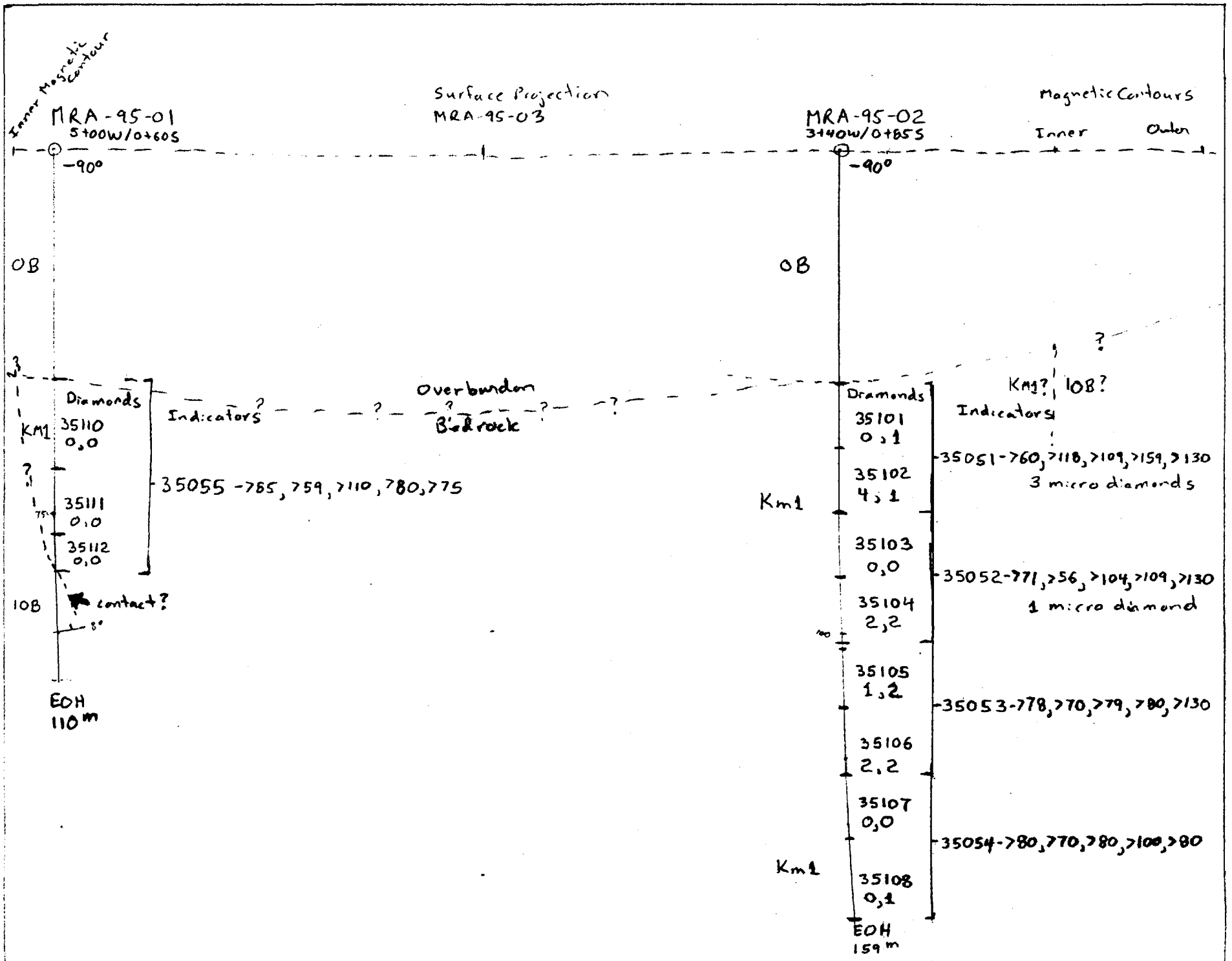
Drill Plan Map MRA
Project 216

Pipe 95-2
CL 1202724
SUDBURY CONTACT
MINES LTD.

Nov 1997
DWG by RJK

[Signature]

Post #2 at
L0+12.5E/3+52.5S
or 583660E/5263650N



LEGEND

Km1 - Heterolithic Volcanoclastic Kimberlite Breccia

Huronian

IOB - Firstbrook Member siltstone

Results

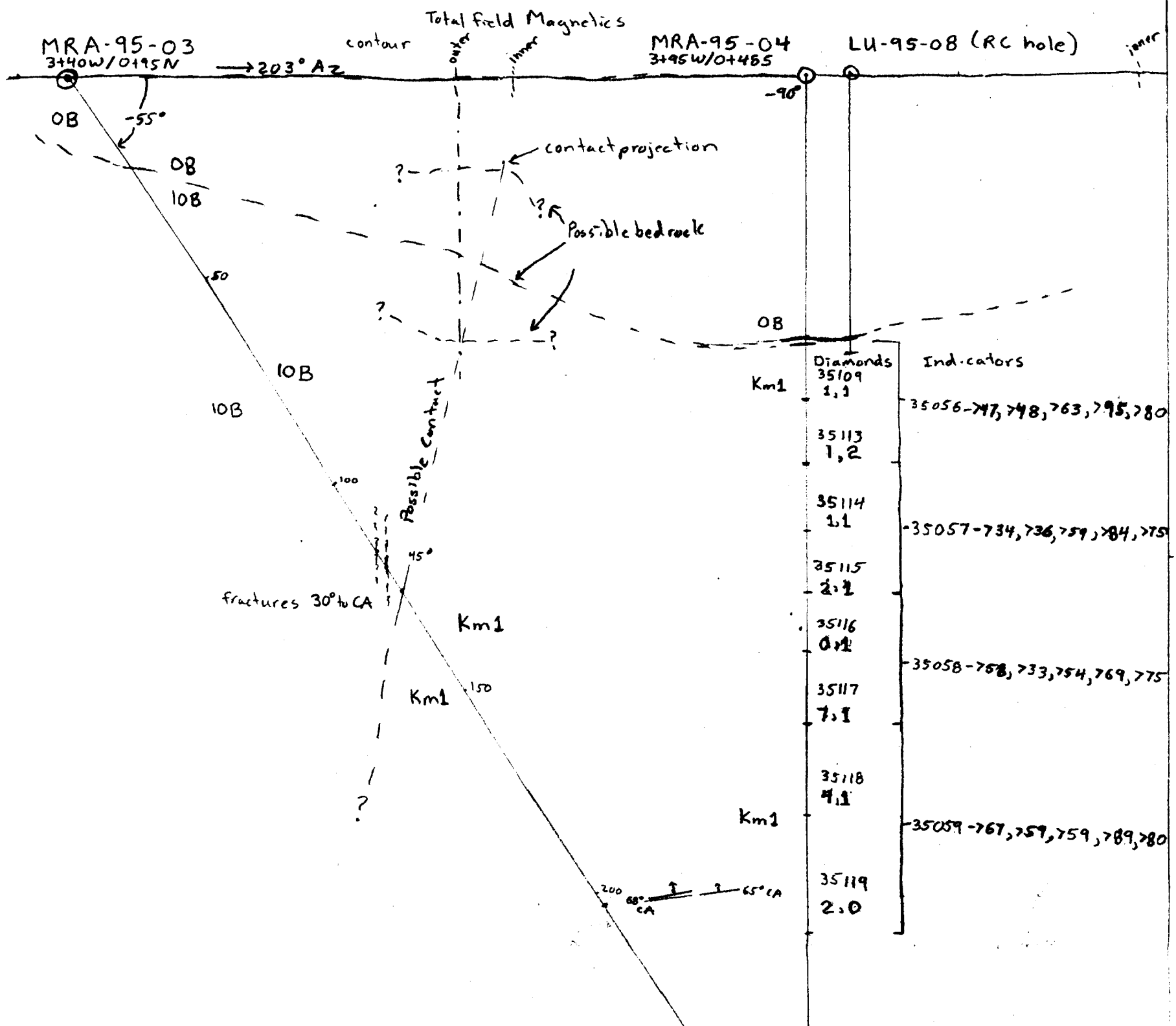
35101 - Sample #
0,1 - Diamonds Micro (<0.5mm), Macro

35051 - Indicators - Garnet purple, Garnet red, garnet orange, chrome diopside, ilmenite

185m - Approximate location of Hole MRA-95-03

SUSBURY CONTACT MINES LTD.
Pipe 95-2
DDH #1 and #4 Looking N.
Scale: 1:1000 Date: Nov 1997 DWG by: RSK
CL# 1202724

[Signature]
Core Storage - Cobalt, Ont.
Agnico Property - Black House



LEGEND

- Km1 - Heterolithic Volcanoclastic Kimberlite Breccia
- Huronian
- IOB - Firstbrook Member siltstone
- IDF - Cobalt Formation (Diamictite)

Results

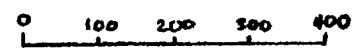
- 35109 - sample #
- 1,1 - Diamonds Micro (<0.5mm), Macro
- 35056 - Indicators Garnet purple, garnet red, garnet orange, chrome diopside, ilmenite

SUDBURY CONTACT MINES LTD

Pipe 95-2

DDH # 3 and # 4 Looking SE

Scale: 1:1000 Date: Nov 1997 DWG by: RJK
 CL# 1202724



[Signature]
 Core storage - Cobalt, Ont
 Agnico Property - Black House

**APPENDIX B:
DDH LOGS,
MS LOG
AND
INDICATOR LOGS
HOLES 1 - 4**

W. A. HUBACHECK CONSULTANTS LTD.

DIAMOND DRILL LOG

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY _____	NTS _____	CORE SIZE _____
PROPERTY _____	DISTRICT _____	CONTRACTOR _____
COMMENCED _____	TWP/LAT.LONG. _____	DATE LOGGED _____
COMPLETED _____	CLAIM _____	LOGGED BY _____
OBJECTIVE _____	CO-ORDINATES _____	DDH COMMENTS _____

SURVEY DEPTH	DIP	AZIMUTH

HOLE NO. MRA-95-02	PAGE 8/11
COLLAR AZIMUTH	
COLLAR DIP	
ELEVATION	
LENGTH	

INTERVAL M <input type="checkbox"/> Ft <input type="checkbox"/>		% REC	% RQD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration, etc)	SAMPLE					ASSAYS								
FROM	TO					SAMPLE NO.	FROM	TO	LENGTH										
					to subrounded grey brown fine material in several instances this same material can be seen surrounding in part or entirely Huronian and gneissic clasts of 1-3cm size, and in some cases mantle pellets. At 102.8, a 40 x 60mm autolith is subangular with subtle contact edges consisting of a fine grey beige mat with 30% .25-2mm size mantle pellets & at least 2 violet garnets one surrounded by a 1mm coat of radial phlogopite (over growth). Orange garnet macrocrysts (are observed infrequently) with thin black coats. And 3 or 4 chrome diopsides are seen as < 1mm size pellets and as individual grains. In some cases, after 109.2, 5% of fine clasts >2cm may appear to be more strongly internally altered ie. alteration rings and take on a 'burnt' look with a darker matrix ring (less clay altered). M.S. values generally higher 3.4-6.6 with avg. 5.2 and some spikes at 7.0 and 10 (autoliths generally higher). Note: Possible more abundant kimberlite matrix more easily altered and also would be reflected by higher M.S. readings. (??)														
					115.5-129.0 Colouration even more bleached out than previous, core has an almost burnt ashen look, the breccia country rock fragments appear often surrounded by a darker grey halo of less altered kimberlite matrix. Suspect kimberlite matrix altered to a talc/clay mineral giving beige ash with blue/green hue, less serpentine.	35106	115.5	129.0	13.5	54.4	Caustic Dissolution for Diamonds wt. (%)		Micro	Maco					

DIAMOND DRILL LOG

W.A. HUBACHECK CONSULTANTS LTD.

TORONTO, ONTARIO, CANADA

COMPANY	NTS	CORE SIZE
PROPERTY	DISTRICT	CONTRACTOR
COMMENCED	TWP/LAT.LONG.	DATE LOGGED
COMPLETED	CLAIM	LOGGED BY
OBJECTIVE	CO-ORDINATES	DDH COMMENTS

SURVEY DEPTH	DIP	AZIMUTH

HOLE NO. MRA-95-02	PAGE 9/11
COLLAR AZIMUTH	
COLLAR DIP	
ELEVATION	
LENGTH	

INTERVAL M <input type="checkbox"/> Ft <input type="checkbox"/>		% REC	% RQD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration, etc)	SAMPLE					ASSAYS								
FROM	TO					SAMPLE NO.	FROM	TO	LENGTH										
					Periodic zones that are finer grained matrix rich demonstrating grain orientation ie. at 119.5 @ 60°, 123.15-123.35, 125.55-125.65 50-52° to CA. Zone of banding (flow) 125.35-125.55 @ 45-50° to CA.														
					126.0-126.2 Bleached white section of matrix very strong acid reaction suggest high calcite content. Upper contact 60°, lower 52°.	Indicator				wt. (g)	GP Per	GP Rd	G Org	DC	II				
					Autoliths are a lot less frequent, no mantle xenoliths were identified.	35053	102.0	129.0		26.3	>78	>70	>79	>80	>130				
					Garnet gneiss and leucogneiss are still present as usual % but in some cases are strongly altered (zoned). Garnets are abundant from small pellets to .5mm.														
					Chrome diopside exist as 8 +/- discrete grains.														
					M.S. averages 3.5 with 3.0-4.5 range, short sections <2.														
					Note: less mica seen mostly fine dust.														
					129.0-142.5 More intense clay alteration (kaolin), as previously described a burnt ashen colouration with dark 5-10mm haloes around primarily gneissic clasts and in a minor way Huronian clasts. The halos are essentially preserved serpentinized														
					kimberlite. Both garnet gneiss & leucogneiss have not changed in content, however, they are more severely altered and not easily recognizable. Only 1 mantle xenolith was observed at 142.0. Very few pelletal clasts are observed corresponding with the lack of mantle xenoliths? This part of the kimberlite pipe effectively destroyed	35107	129.0	142.5	13.5	63.5	Caustic Dissolution for Diamonds	Micro	Macro						
											0	0							

DIAMOND DRILL LOG

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY	NTS	CORE SIZE
PROPERTY	DISTRICT	CONTRACTOR
COMMENCED	TWP/LAT.LONG.	DATE LOGGED
COMPLETED	CLAIM	LOGGED BY
OBJECTIVE	CO-ORDINATES	DDH COMMENTS

SURVEY DEPTH	DIP	AZIMUTH

HOLE NO. MRA-95-02	PAGE 11/11
COLLAR AZIMUTH	
COLLAR DIP	
ELEVATION	
LENGTH	

INTERVAL M <input type="checkbox"/> Ft <input type="checkbox"/>		% REC	% ROD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration, etc)	SAMPLE				ASSAYS									
FROM	TO					SAMPLE NO.	FROM	TO	LENGTH	wt. (kg)	GP Pur	GP Red	G.Org	DC	II				
					dark olive. After 143.8 chrome diopside and violet (lilac) garnets seen periodically +/- every 1-2m along the core. Chrome diopside as single grains (shatted crystal) set in matrix and garnets (violet) surrounded by .25mm black spherical rind. Orange garnets and infrequent clear to blackened garnet seen as free floating and with a rind (pelletal) spherical to elongate subrounded to angular, 2 cranberry garnets at 154.5.	Indicator													
					Both garnet (orange) gneiss and leucogneiss are present and less altered. Autoliths and nucleated kimberlite globuals are more prevalent (due to better preservation, less altered easier to see) also kimberlite rinds or partial coats on country rocks can be observed. Phlogophite is more abundant 2-3% with trace, 1-5mm size crystals and bars.	35054	129	159	25.0	> 80	> 70	> 80	> 100	> 80					
					157.65-158.05 Large limestone boulder (angular). M.S. values are generally level at average 1.8 with a range of 0.46-3.0 and a garnet gneiss clast of 5.1.														
159.0	159.0			E.O.H.	END OF HOLE.														
Core Storage Cobalt Ont. Agnico Eagle Property - Black House																			

DIAMOND DRILL LOG

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY	NTS	CORE SIZE
PROPERTY	DISTRICT	CONTRACTOR
COMMENCED	TWP/LAT.LONG.	DATE LOGGED
COMPLETED	CLAIM	LOGGED BY
OBJECTIVE	CO-ORDINATES	DDH COMMENTS

SURVEY DEPTH	DIP	AZIMUTH

HOLE NO. MRA-95-03	PAGE 53/53
COLLAR AZIMUTH	
COLLAR DIP	
ELEVATION	
LENGTH	

INTERVAL M <input type="checkbox"/> Ft <input type="checkbox"/>		% REC	% RQD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration, etc)	SAMPLE					ASSAYS							
FROM	TO					SAMPLE NO.	FROM	TO	LENGTH	% SUL	Am ppb							
					363.0 Minor quartz vein.													
					364.0-364.8 10cm black dark grey siltstone, followed by buff medium grained arenite.													
					364.8-365.0 Greywacke to pebble conglomerate.													
					365.0-365.55 Dark grey siltstone with 5% dropstones and granuals.													
					365.55-366.97 Medium to coarse grained buff wacke arenite with gradational upper contact and sharp lower contact at 65° to CA.													
					366.97-367.05 Dark grey siltstone with 10% dropstones and granuals. Sharp lower contact (broken).													
					367.05-367.45 Buff medium to coarse wacke arenite. Sharp lower contact at 70° to CA.													
					367.45-367.53 Dark grey siltstone with 3% granuals, 15% calcite veins. Lower contact at 70° to CA.													
					367.53-367.9 Buff grey fine grained arenite (wacke), irregular lower contact.													
					367.9-375.0 Dark grey siltstone with 5% (2-5mm) grey buff bands, infrequent occurance and more periodic 2-3mm black bands every 4-20mm. Bedding at +/- 65° to CA throughout.													
375	375			EOH	End of Hole.													

Core Storage Cobalt Ont Agnico Eagle Property Block House

DOWNHOLE SURVEYING

HOLE NUMBER: MRA-95-03,

Le premier test commence a du casing apres dix metres: Sperry-Sun

Metres	Test	Azimuth	Dip
45m	Acid test	—	56° 45'
50m	Sperry-Sun	209	56°
105m	Acid test	—	58° 30'
75m 166m	Acid test	—	56° 45' } 58°
100m	Sperry-Sun	211.5	57° 45' } 57
150m	Sperry-Sun	211	57° 30'
175m 200	Acid test	—	56° 45' } 57° 15'
200m	Sperry-Sun	210.5	57° 45'
250m	Sperry-Sun	214	57° 15'
275m	Acid test	208	56° 45'
300m	Sperry-Sun	212	57°
350m	Sperry-Sun	213	56° 45'
375m	Acid test	—	56° 15'
400m	Sperry-Sun		
450m	Sperry-Sun		
475m	Acid test		
500m	Sperry-Sun		
550m	Sperry-Sun		
575m	Acid test		
600m	Sperry-Sun		
650m	Sperry-Sun		
675m	Acid test		
700m	Sperry-Sun		
750m	Sperry-Sun		
775m	Acid test		
800m	Sperry-Sun		
850m	Sperry-Sun		
875m	Acid test		
900m	Sperry-Sun		
950m	Sperry-Sun		
975m	Acid test		
1000m	Sperry-Sun		
Sperry-Sun a la fin du trou			

DIAMOND DRILL LOG

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY	NTS	CORE SIZE
PROPERTY	DISTRICT	CONTRACTOR
COMMENCED	TWP/LAT.LONG.	DATE LOGGED
COMPLETED	CLAIM	LOGGED BY
OBJECTIVE	CO-ORDINATES	DDH COMMENTS

SURVEY DEPTH	DIP	AZIMUTH

HOLE NO. MRA-95-04	PAGE 9/17
COLLAR AZIMUTH	
COLLAR DIP	
ELEVATION	
LENGTH	

INTERVAL M <input type="checkbox"/> Ft <input type="checkbox"/>		% REC	% RQD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration, etc)	SAMPLE				ASSAYS		
FROM	TO					SAMPLE NO.	FROM	TO	LENGTH	wt.(%)	Micro	Macro
					99.65 Large autolith, small mantle pelletal and garnets, 99.6-100.6 20% autoliths nucleated autoliths and clasts with partial kimberlite coats, 1% garnets, 2% mantle pelletal, 100.8-100.9 preserved serpentine section with an elongated clast containing a 2mm wide selenite vein, 101.15 2mm violet garnet, 101.58 20 x 30mm mantle xenolith, 102.5 40 x 40mm mantle xenolith, black core.							
					102.8 Orange garnet macro, 102.9 orange garnet elongate, pelletal, 103.7 1.5mm chrome diopside, 104.5 chrome diopside, 105.5 ilmenite.							
					104.3-107 Blue green colouration present but weak.							
					105.8 Garnet macro, 106.05 Chrome diopside, 106.75 orange garnet macro.							
					M.S. 1.2 - 2.4, avg. 1.5, autoliths as high as 7.2.							
					107-119.5 As previous, except more intense clay talc alteration in grey apple green hue.	35116	107.0	119.5	12.5	47.7	0	1
					Still abundant autoliths and nucleated autoliths throughout but most under 20mm.							
					113.25-113.45 Large autolith or kimberlite dyke, dark black, unaltered, random edges, not dyke like, contains 40% country rock clasts <2-20mm of which 10% are mantle pelletal and one elongate orange garnet pelletal.							
					117 Brown carbonaceous alteration, invasive.							
					117.45-117.7 Again brown carbonaceous part alteration, part breccia fragments.							

DIAMOND DRILL LOG

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY _____	NTS _____	CORE SIZE _____
PROPERTY _____	DISTRICT _____	CONTRACTOR _____
COMMENCED _____	TWP/LAT.LONG. _____	DATE LOGGED _____
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OBJECTIVE _____	CO-ORDINATES _____	DDH COMMENTS _____

SURVEY DEPTH	DIP	AZIMUTH

HOLE NO. MRA-95-04	PAGE 11/17
COLLAR AZIMUTH _____	
COLLAR DIP _____	
ELEVATION _____	
LENGTH _____	

INTERVAL M <input type="checkbox"/> Ft <input type="checkbox"/>		% REC	% RQD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration, etc)	SAMPLE				ASSAYS							
FROM	TO					SAMPLE NO.	FROM	TO	LENGTH								
					118.4 Ilmenite, 119.25 orange garnet macro.												
					M.S. 107-117 average 1.8, 117-118.5 average 45, 118.5-119.5 avg. 3.												
					High area due to abundance of 2-10mm autoliths? Low due to alteration effects and absence of autoliths.												
					119.5-120.85 Kimberlite as before but intense alteration, clay with talc serpentine alteration gives way to talc with clay and minor serpentine? Apple green colour changes to turquoise relatively fast. Upper contact gradational change @ 119.5, sharp lower contact with limestone megablock.												
					Indicators visible throughout, 7 plus orange garnets pelletal and free.												
					120.8 80mm either mantle xenolith or hypabyssal autolith (micaceous black).												
					M.S. - 0.3 - 0.6 average 0.4.												
					120.85-124.4 Limestone megablock. Massive to prekimberlite, brecciated calcareous with 20% gypsum as massive white to selente fragments and fine veining.												
					123.05-123.1 Arc of kimberlite breccia (indentation into the block?).												
					M.S. - average 0.11.												
					124.4-125.7 30-40% limestone as large breccia and mixing into matrix of kimberlite to give a bleached look, 5% pale blue crystalline calcedoney and banding at 40°												
					to CA (flow around block) kimberlite is bleached as described or dark grey black	35117	119.5	134.0	14.5	48.6	7	1					

DIAMOND DRILL LOG

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY	NTS	CORE SIZE
PROPERTY	DISTRICT	CONTRACTOR
COMMENCED	TWP/LAT.LONG.	DATE LOGGED
COMPLETED	CLAIM	LOGGED BY
OBJECTIVE	CO-ORDINATES	DDH COMMENTS

SURVEY DEPTH	DIP	AZIMUTH

HOLE NO. MRA-95-04	PAGE 14/17
COLLAR AZIMUTH	
COLLAR DIP	
ELEVATION	
LENGTH	

INTERVAL M <input type="checkbox"/> Ft <input type="checkbox"/>		% REC	% RQD	LITHOTYPE	DESCRIPTION GEOLOGY: (colour, grain size, texture, minerals, alteration, etc)	SAMPLE					ASSAYS				
FROM	TO					SAMPLE NO.	FROM	TO	LENGTH						
					nucleated autolith, orange garnet.										
					145.7 Chrome diopside with phlogophite pelletal, chrome diopside 1mm free.										
					145.8 Mantle xenolith, garnet gneiss, 145.9 chrome diopside with violet garnet in egg shaped autolith.										
					146 Micaceous gneiss, chrome diopside, 146.1 orange garnet pelletal sphere.										
					146.5 80mm garnet gneiss (thin section), 146.8 25 x 25 phlogophite megacryst.										
					147.1 Small mantle with violet garnet, 148.2-148.4 3 red garnets pelletal, 2 gneiss and 1 garnet gneiss.										
					148.85 Red garnet macro, 149.7 20mm mantle xenolith with garnets, separate mass of chrome diopside in an autolith.										
					149.75 Violet garnet spherical pelletal, 149.8-150 (3) spherical garnet pellets.										
					150.25 Gneiss, 150.9 25mm autolith, 151.55 orange garnet, elongate, macro.										
					152.0 25mm autolith, 152.7-152.9 (4) nucleated autoliths.										
					M.S. - 0.4-1.1, average .6, autoliths up to 1.2.										
					153.0-177.5 As before described but much less altered, matrix is primarily a serpentine talc with minor clay with clay content decreasing with depth.	Caustic Dissolution for Diamonds									
					Still abundant pelletal mantle xenoliths <2-15mm both spherical and elongate irregular.	35119	153.0	177.5	25.5	51.8	2	0			
					Autoliths all types still also abundant.	Indicator									
						35059	134	177.5	43.5	24.0	>67	>59	>59	>89	>80

MS Readings MRA- 95-01 (x10⁻³)

From	To	Range	Average	Comments
47.5	50.8	.91 - .95		
50.8	51.2	1.25		
51.2	51.3	2.2		
51.3	54.8	1.09 - 1.2		
54.8	62.5	1.1 - 0.9		
62.5	64.5	0.9 - 0.75		
64.5	65.5	1.1 - 1.01		
65.5	73.0	0.5 - 0.7		
73.0	78.65	0.9 - 1.2		76.0 harz clast 1.8 (1 cm), 77.9m 1.32 harz
78.65	79.7	1.2 - 1.9		
79.7	80.9	0.9 - 1.4		
80.9	81.7	1.6 - 2.7		
81.7	83	1.3		
83	85.55	0.9 - 1.05		
85.55	85.85	0.71		siltstone
85.85	87	0.54 - 0.95		

MS Readings MRA- 95-02 (x10⁻³)

From	To	Range	Average	Comment
48	61.5	1.0 - 1.3		mantle 3-7.7 lower crustals 3-28.3
61.5	61.8	1.07		
61.8	66.7	1.4 - 2.5	1.8	
66.7	69.5	1.0 - 4.4	1.5	kim autoliths 4-5
69.5	84.6	1.4 - 2.5	1.9	gt pelletal lapilla 1.5-1.9
84.6	89.5	2.5 - 3.0	2.7	
89.5	102	3.4 - 4.07	3.8	102.9 spike at 7.2
102	105.0	3.4 - 4.07	3.8	105-105.6 4.18-6.67 avg. 5.5
105.6	106.8	3.5 - 5.7	5.4	
109.8	112.0	5.5	6.2	5.9
112.2	112.6	4.7 - 5.2	5.0	
112.6	113.25	5.7 - 6.8	6.4	spike of 10.0
113.25	115.5	3.68 - 4.68	4.0	
115.5	116.5	3.01 - 4.01	3.5	
116.5	117.8	3.8 - 4.35		
117.8	119.15	3.0 - 3.5		
119.15	120.2	3.9 - 4.3		
120.2	124.6	3.0 - 4.5	3.6	
124.6	125.3	1.3		
125.3	126.55	2.5 - 3.6	3.2	
126.55	128.0	2.0 - 3.0	3.8	
128.0	129.4	1.5 - 2.0	1.7	
129.4	132.5	2.2 - 2.6	2.4	
132.5	134.0	1.6 - 2	1.8	
134.0	142.5	1.9 - 2.6	2.3	spikes of 7,10 clast specific

From	To	Range	Average	Comment
142.5	146.0	1.0 - 3.0	2.5	variable
146.0	147.6	.46 - 1.8	1.2	
147.6	148.8	1.8 - 2.8	2.2	
148.8	149.8	1.0 - 1.6	1.4	spke 5.1 (gt 6)
149.8	159.0	1.7	2.7	2.1
159	159	EOH		

MS Readings MRA-95-03 (x10⁻³)

From	To	Range	Average	Comments
125.72	126.4	.4-.9	.6	
126.4	128.5	2.0 - 2.65	2.5	
129.5	132.5	1.1 - 1.4	1.3	3.4 gtG
132.5	133.75	0.4 - 1.0	.6	
133.75	136.05	0.9 - 1.8	1.5	
136.05	137.05	1.8 - 2.4	2.2	3.6 nucleated autolith
137.05	138.04	1.0 - 1.8	1.3	
138.04	144.5	.3 - .8	.5	143.4-243.55 0 ash zone
144.5	149.2	.9 - 1.7	1.3	same 1.9 spikes
149.2	151.4	1.8 - 2.7	2.2	
151.4	154.5	1.1 - 1.8	1.4	
154.5	155.7	2.0 - 2.8	2.4	
155.7	161.6	1.1 - 1.8	1.5	
161.6	164.55	1.8 - 2.6	2.2	nucleated autolith 2.9 increased autoliths?
164.55	166.3	1.1 - 1.5	1.4	
166.3	177.5	1.9 - 2.6	2.3	
166.3	184.1	1.3 - 1.7	1.5	autolith 3.1, gtG 9.0-3.5 179.1- 179.7 .34 - .8 clay alt.
184.1	185.9	2.2 - 3.5	2.6	autolith 5
185.9	188.8	1.4 - 2.8	2.0	variable
188.8	190.4	1.3 - 1.8	1.4	
190.4	197.5	0.5 - 1.0	0.7	gneiss 2.6 loss if gneiss and autolith?
197.5	200.4	1.4 - 1.9	1.6	autolith 6.1
200.4	202.5	1.8 - 2.3	2.1	

From	To	Range	Average	Comment
202.5	207.4	1.4 - 1.9	1.6	
207.4	211.2	1.1 - 1.8	1.4	
211.2	225.8	0.4 - 1.2	0.6	minor spot highs 1.5
225.8	238.25	.5 - 1.1	0.6	
238.25	281.65	.2 - .5	0.34	
281.65	282.4	.3 - .44	.35	autolith are 1.5
282.4	295.3	.3 - .8	.55	autolith 1-2.5
295.3	303.9	.4 - .9	.7	
303.9	312.5	.5 - 1.1	.8	
312.5	315.0	.7 - 1.4	.9	
315.0	318.0	.5 - 1.1	.70	
318.0	326	.5 - 1.4	1.0	
326	336.5	1.2 - 3.5	1.8	
330.6	331.55	0.4 - 0.7	0.6	clay alteration
336.5	246	2.0 - 3.4	2.6	
346.0	348.7	3.2 - 4.4	3.8	
348.7	349.35	5.1 - 8.1	7.0	blackened matrix
349.35	352.8	2.5 - 3.4	3.0	lighter
352.8	353.85	3.2 - 6.0	5.2	blackened
353.85	354.2	8.0 - 11.3	9.5	mostly massive km lava(no clasts)
354.2	375.0	0.1 - 0.36	0.18	
375.0	EOH			

MS Readings MRA-95-04 ($\times 10^{-3}$)

From	To	Range	Average	Comments
53	55.5	1.5 - 2.2	avg. 1.9	
55.5	60.5	.6 - 1.2	avg. 0.8	
60.5	700.5	1.5 - 2.6	avg. 1.9	autoliths 4-5, gniess 3-4 (at 66.5 1.5)
80.5	68.6	0.6 - 1.1	avg. .75	
63.8	71	1.4 - 1.6	avg. 1.5	
71	91.9	0.5 - 1.2	avg. .6	
91.7	94.5	1-3 - 1.8	avg. 1.65	autolith spikes 2.5
94.5	98.5	0.4 - 1.1	avg. 0.6	
98.5	107	1.2 - 2.4	avg. 1.5	Autoliths 7.92, 6.52
107	112.0	1.3 - 2.2	avg. 1.7	(low . 8, high 2.4) large autolith 5.96
112	112.6	2.0 - 2.4	avg. 2.2	
112.6	117	1.05 - 1.95	avg. 1.52	
117.0	118.5	0.40 - 0.65	avg. .45	
118.5	120.0	0.2 - 0.35	avg. .3	
120.0	120.8	0.38 - .66	avg. .4	
120.8	127.35	0.05 - 0.2	avg. .11	
124.35	125.6	.04 - .2	with kim section	.4-6 local 10-20 cm
125.6	135.5	0.4 - 0.6	avg. 0.5	
135.5	1.40	0.6 - 1.1	avg. 0.5	
140	141	0.4 - 0.6	avg 0.5	spike 1.2 autolith HQ
141	153.0	0.3 - 0.75	avg. 0.4	NQ
153	172.0	0.5 - 0.9	avg. 0.7	
172	177.95	.75 - 1.1	avg. 0.9	
172.95	198.8 EOH	.55 - .9	avg. 0.6	

TABLE OF CODES

Km, Km1	Kimberlite
Li	Limestone
H	Huronian sediments
G	Gneiss
gtG	garnet Gneiss
LG	Leuco Gneiss
CR	Country Rock
M	Mantle
sp	serpentine
ta	talc
se	selinite, gypsum
cd	chrome diopside
ol	olivine
il	ilmenite
ph	phlogophite
ca	calcite
gt o	garnet orange
gt r	garnet red
gt v	garnet violet
gt c	garnet clear
H2O	altered by ground water
FF	Fracture fill
V	vein
pel	pellets, pelletal
A	autolith
NA, N	nucleated autolith
ind.	Indicators
acs	accessory minerals

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY: Sudbury Contact Mines Ltd. **CORE SIZE:** _____ **DATE LOGGED:** _____ **HOLE NO:** MRA95-02 **PAGE:** 1/4
PROPERTY: _____ **CLAIM:** 1202724 **CO-ORDINATES:** _____ **TWP/LAT.LONG:** _____ **AZIMUTH:** _____
COMMENCED: _____ **COMPLETED:** _____ **LOGGED BY:** *[Signature]* **ELEVATION:** _____ **DIP:** _____

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
48.4	61.5	Km 1	sp	-----	-----	-----	1-5-mm, 2% ol	1-6mm, 3%ol	<2-80, 25%Li	1-2mm, tr il	4-30, 2-5%			6-10% CR	1.5
							1-2mm tr cd	1-2mm, tr cd	<2-80, 20%H	1-2, tr cd				1% ph	
							1-2, tr ph	1-2, tr ph	3-50,4% LG					3-5% pel	
							1-2 2% gt	1-2, 2% gt	2-10, 1% gt G					25-30 Kim	
														2% acs	
61.5	75.0	Km 1	sp,ta	-----	-----	-----	1-5mm,3% ol(sp)	2-5,3% ol(sp)	<2-40, 25% Li	1-3, tr il (4)	4-30, 5%	5-9, 25% ph	30,1 gt	6-10%CR	1.7
							1-2mm, tr cd	3-5, 1% ph	<2-40, 20%H					3-5% pel	
							1-5, 2% gt	3-4, 2%gt	3-20,1% gtG	<1, 1% gt				30 Kim	
									3-40, 1%G	<1-3, 3% ph				2% acs	
									2-40, 1%M					gt,	
75.0	88.5	Km1	sp, ta	-----	-----	-----	1-5, 2%sp(ol)	2-5, 2% ph	Li & H as before		1-2, 3 grains cd	4-40, 3%		5% CR	2.2

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY: _____ **CORE SIZE:** _____ **DATE LOGGED:** _____ **HOLE NO:** MRA95-02 **PAGE:** 2/4
PROPERTY: _____ **CLAIM:** _____ **CO-ORDINATES:** _____ **TWP/LAT.LONG:** _____ **AZIMUTH:** _____
COMMENCED: _____ **COMPLETED:** _____ **LOGGED BY:** _____ **ELEVATION:** _____ **DIP:** _____

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
							1, tr cd	1-6, 4%sp(ol)	4-20, 3% LG	1-6, 1% gt		5, tr gt		30% Kim	
							1-3, 1% gt	2-4, 2%gt	4-20, 1% gt G	1-3, 3% ph				2% mica	
									30, tr M	1-2, tr il				5% fine pel	
88.5	102	Km 1	sp, Cby	—	—	—	<2-4, 2%M	<2-6,2%M	5-40, 30%Li	1-2, 0.25% cd	5-30, 3%	5-10, tr gt	25, tr gt	30% sp,ta after ol	3.4
			ta, H ₂ O				<2-4, tr gt	<2-5, tr gt	5-30, 20%H	<1-6, 3%ph				10% CR	
							<2-4, 1%sp (ol)	<2-15, tr ph	<4-50, 2% gtG					2%M	
									<4-60, 5%LG						
									<2-60, 4%M						
102	115.5	Km 1	sp, clay	—	—	—	<2-3, tr M	<2-6,2%M	<2-70, 30%Li	1-2, tr cd	5-50,4%	5-10, tr g	25, tr gt	30-40% sp, ta	5.2

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

<u>COMPANY:</u>	<u>CORE SIZE:</u>	<u>DATE LOGGED:</u>	<u>HOLE NO: MRA95-02</u>	<u>PAGE: 3/4</u>
<u>PROPERTY:</u>	<u>CLAIM:</u>	<u>CO-ORDINATES:</u>	<u>TWP/LAT.LONG:</u>	<u>AZIMUTH:</u>
<u>COMMENCED:</u>	<u>COMPLETED:</u>	<u>LOGGED BY:</u>	<u>ELEVATION:</u>	<u>DIP:</u>

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
			ta, H ₂ O				<2-3, 2% ph	<2-4, tr gt	<2-30, 20%H	1-7,3% ph				After ol clay alt.30- 50%	
								<2, tr cd	2-20, 2%gt G					5% CR	
									4-70 2%LG					1%M	
									2-25 1%M						
115.5	129	Km 1	sp, ta	-----	-----	-----	<1-4, tr M	<1-4, tr M.	<1-60, 30%Li	<1-2, 1-2%ph	5-30, 2%	3-5, tr gt	-----	30 sp, ta, clay	3.5
			clay					<1-6, tr gt	2-70, 20%H	1-2, tr cd				after kim 10%sp, 5% ta, 15%clay	
							2, tr cd	<1-2, tr cd	5-30, 5% gt G	1-5, 1% gt				5% CR	
									5-40, 2%LG					2% ph	
129.0	142.5	Km 1	clay,sp ,ta	-----	-----	-----	2-3, tr gt	2-4, tr gt	<2-50, 30%Li	<1-2, 1% gt o	5-10, 1%	-----	-----	20% clay	2.1

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY: Sudbury Contact Mines CORE SIZE: NQ DATE LOGGED: _____ HOLE NO: MRA-95-03 PAGE: 1 / 10
 PROPERTY: 216 CLAIM: 1202724 CO-ORDINATES: _____ TWP/LAT.LONG: _____ AZIMUTH: _____
 COMMENCED: _____ COMPLETED: _____ LOGGED BY: ROK ELEVATION: _____ DIP: _____

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
125.72	132.5	Km1	sp, ta	—	—	—	1-5mm, 2% sp/ol	2-10mm, 1% sp/ol	L2-30, 25% Li	L2mm tr CD (S)	5-20, 3% kim	5-10, 1% sp/ol		22% sp/ol	1.6
							2-3mm, tr gt	2-5, tr gt(O)	L2-60, 20% H	L2-3, tr gt(V)	5-20, 2% NA	.5, tr gt(O)		10% CR	
								2-60, 3% Gt	2-3, tr gt(O)					5% pel	
								2-30, 2% G	L2, 1% ph					2% ph	
														tr ind.	
132.5	136.85	Km1	ta, ch	—	—	—	2-5, 5% sp/ol	3, tr gt(O)	L2-100, 25% Li	2, tr CD	5-20, 3% NA			35% ta/clay	1.1
							2, tr cd		L2-30, 15% H	1, tr I				5% sp	
							3, tr gt(O)		5% G	2-3, gt(O)				10% CR	
														3% pel	
														2% ph	

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY:	CORE SIZE:	DATE LOGGED:	HOLE NO: MRA-95-03	PAGE: 2 / 10
PROPERTY:	CLAIM:	CO-ORDINATES:	TWP/LAT.LONG:	AZIMUTH:
COMMENCED:	COMPLETED:	LOGGED BY:	ELEVATION:	DIP:

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
136.05	143.4	km 1	sp, ta	—	—	—	1-15, 8% spbl 1-3, tr gt(w) 1-3, tr gt	1-3, tr gt 2-6, 3% li 2-30, 20% H 2-10, 1% G	2-6, 3% li 2-30, 20% H 2-10, 1% G	1-3, tr CD 2-5, tr gt(w) 2-3, tr gt(w)	2-30, 2% A 2-30, 3% NA	.5, tr gt —	—	30% sp/bl 10% CR 1% ind. 1% ph	1.5
143.4	143.55	km 1	sp, ta clay	—	—	—	42, 1% —	42, tr gt —	42, 10% li 42, 10% H	42, 1% ph —	—	—	—	40% sp/ta 20% CR 10% shunda 10% clay 1% i	0
143.55	165.05	km 1	sp, ta	—	—	—	1-3, tr gt(w) 1-3, tr gt(w) 1-5, 3% spbl	1-5, tr gt(w) 1-10, 2% spbl —	42-50, 25% li 42-40, 20% H 42-40, 2% M 42-20, 1% G	5-3, 3% ol 42-5, tr gt(w) 42-2, tr gt(w) 42-3, 2% ph 42-3, tr CD	2-20, 2% A 2-30, 3% NA	5 10, tr gt 5, 10% ph	(2) gt(w)	30% sp/bl 10% CR 5% acs 1% i	1.8

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY:	CORE SIZE:	DATE LOGGED:	HOLE NO: MRA-95-03	PAGE: 3 1 10
PROPERTY:	CLAIM:	CO-ORDINATES:	TWP/LAT.LONG:	AZIMUTH:
COMMENCED:	COMPLETED:	LOGGED BY:	ELEVATION:	DIP:

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
165.2	165.65	Km 1	sp/ta	—	—	—	L2-3, 3% sp/ta	L2-4, 1% sp/ta 2-3, brgt(O)	L2-20, 30% Li L2-15, 25% H 20mm, brgt h	2-3, brgt(O)	—	—	—	30% sp/ta 10% CR	1.4
165.65	190.4	Km 1	sp/ta	—	—	—	L2-4, 6% sp/ta 2-4, tr gt	L2-6, 3% sp/ta 2-3, brgt(O)	L2-90, 30% Li L2-50, 25% H L2-60, 1% G L2-30, brgt G L2-50, 1% M	L2-5, brgt(O) L2-4, brgt(O) L2-3, brcd L1, bril L1-5, 2% ph	L5-50, 2% A L5-70, 3% NA br ph	B-20, brgt(O) br ph	20-25, brgt(O) 20, tr ph	30% sp/ta 10% CR	2.0

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY:	CORE SIZE:	DATE LOGGED:	HOLE NO: MRA-95-03	PAGE: 4 / 10
PROPERTY:	CLAIM:	CO-ORDINATES:	TWP/LAT.LONG:	AZIMUTH:
COMMENCED:	COMPLETED:	LOGGED BY:	ELEVATION:	DIP:

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
190.4	202.7	1cm ↓	sp/ta clay	—	—	—	L2-5, 7% sp/ta L2-3, trgt(0)	L1-5, trgt(0) L2-5, 3% sp/ta	L2-50, 2% Li L2-30, 20% H L2-30, 1% G L2-20, trgt(0) L2-25, 5% M	L2-5, trgt(0) L2-3, trgt(0) L2, tr CD L2, 1% ph	L2-40, 2% NA L2-60, 1% A	5, trgt(0)	—	20% sp/ol 10% CR 1% ph 5% clay	1.6
202.7	202.9	1cm ↓	sp/ta clay	—	—	—	L2-3, 5% sp/ol	—	L2-3, 10% Li L2-4, 1% H L2, trgt(0)	L1, trgt(0) L1, 1% ph	15mm, 1% NA L2-4, 1% A	—	—	30% sp/ol 10% clay 30% CR 1% ph	1.6
202.9	209.3	1cm ↓	sp/ta clay	—	—	—	L2-4, 7% sp/ol L2-3, trgt(0) L2-3, trgt(0)	L2-5, 3% sp/ol L2-30, 20% H L2-20, 1% G L2-15, trgt(0)	L2-110, 30% Li L2-30, 20% H L2-20, 1% G L2-15, trgt(0) L2-20, tr M	L2-4, trgt(0) L2-3, trgt(0) L2-2, trgt(0) L2, tr CD L2, 1% ph	L2-30, 1% NA L2-20, 1% A	—	—	20% sp/ol 10% CR 5% clay 1% ph	1.5

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY:	CORE SIZE:	DATE LOGGED:	HOLE NO: MRA-95-03	PAGE: 5 / 10
PROPERTY:	CLAIM:	CO-ORDINATES:	TWP/LAT.LONG:	AZIMUTH:
COMMENCED:	COMPLETED:	LOGGED BY:	ELEVATION:	DIP:

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ³
209.3	223.0	Km 1	sp, br clay	—	—	—	L2-15, 10% sp/br	L2-20, 3% sp/br	L2-50, 30% Li	L2-4, tr CD	0-40, 2% NA	0.6 gr grt(6)		20% sp/ol	0.6
							L2-3, tr grt(6)	L2-10, tr grt(6)	L2-20, 25% H	L2-5, tr grt(6)	0-30, 1% A			10% CR	
							L2-3, tr grt(6)		L2-15, 1% G	L2-3, tr grt(6)				5-10% clay	
									L2-10, tr grt(6)	L2, tr S1				1% ph	
									L2-25, tr M	L2-3, 2% ph					
223.0	235.3	Km 1	sp br clay	—	—	—	L2-15, 10% sp/br	L2-20, 3% sp/br	L2-90, 30% Li	L2, tr CD	0-40, 1% NA			25% sp/ol	0.6
							L2-4, tr grt(6)	L2-4, tr grt(6)	L2-30, 25% H	L2-4, tr grt(6)	0-30, 1% A			10% CR	
							L2-3, tr grt(6)	L2-3, tr grt(6)	L2-15, tr G	L2-3, tr grt(6)				5% clay	
									L2-40, tr grt(6)	L2, 2% ph				1% ph	
									L2-40, 1% M						

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY: _____ CORE SIZE: _____ DATE LOGGED: _____ HOLE NO: MRA-95-03 PAGE: 7 / 10
 PROPERTY: _____ CLAIM: _____ CO-ORDINATES: _____ TWP/LAT.LONG: _____ AZIMUTH: _____
 COMMENCED: _____ COMPLETED: _____ LOGGED BY: _____ ELEVATION: _____ DIP: _____

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
267.65	268.65	Km 1	sp, ta clay	—	—	—	L2-4, 7m	L2-5, trgt(v)	L2-120, 30Li	L2-7, trgt(v)	L2-50, 3/4A	H-7, trgt(v)	70, ph	20% CR	0.4
							L2-7, trgt(v)	L2-5, 3/4m	L2-30, 20H	L2-4, trgt(v)	L2-30, 3/4NA		15, trgt(v)	10% m	
							L2-3, trgt(v)		L2-30, 2/4G	L2-3, 4/4(v)	5-30, trGK			20% ta/sp	
							L2-4, tr ph		L2-15, 1/4G	L2-2, trcd				tr clay	
									L2-15, tr m	L2-5, 1/4ph					
268.65	269.4	Km 1	sp, ta clay	—	—	—	L2-4, 7/4m	L2-5, 3/4m	L2-15, 25Li	—	20-40, 3/4A	—	—	20% CR	0.4
									L2-10, 20H		20-30, 2/4NA			10% m	
									L2-3, tr G					15% ta/sp	
														10% clay	
269.4	269.0	Km 1	sp, ta tr clay	—	—	—	L2-15, 7/4m	L2-20, 3/4m	L2-100, 30Li	L2-15, trgt(v)	3-40, 1/4A	L10, trgt(v)	—	20% CR	0.55
							L2-5, trgt(v)	L2-15, trgt(v)	L2-30, 20H	L2-4, trgt(v)				10% m	
							L2-3, trgt(v)	3, trgt(v)	L2-100, trG	L2, tr ed	3-40, 1/4NA			20% ta/sp	
							L2-3, tr ph		L2-20, trgt(v)	L2-4, 1/4ph					
									15-40, tr m	L1, tr il					

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY:	CORE SIZE:	DATE LOGGED:	HOLE NO: MRA-95-03	PAGE: 8 / 10
PROPERTY:	CLAIM:	CO-ORDINATES:	TWP/LAT.LONG:	AZIMUTH:
COMMENCED:	COMPLETED:	LOGGED BY:	ELEVATION:	DIP:

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths Kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
295.3	317.5	Km 1	Ta, Sp	tr ct	—	—	L2-4, 6% m	L2-7, 3% m	L2-150, 30% Li	L2-8, tr gtl	L2-200, 1% A	L2-10, tr gtl		20% CR	0.9
							L2-4, tr gtl	L2-8, tr gtl	L2-30, 20% H	L2-3, tr gtl	L2-40, b NA			8% m	
							L2-3, tr gtl		L2-150, 2% G	L2-4, 2% ph				20% ta/sp/dl	
									L2-20, tr gtl	L2, tr il					
										L2, tr cd					
317.5	336.5	Km 1	Ta, Sp	tr ct	—	—	L2-4, 6% m	L2-10, 3% m	L2-100, 30% Li	L2-10, tr gtl	L2-30, 5% A	L2-10, tr gtl		20% CR	1.6
							L2-5, tr gtl	L2-7, tr gtl	L2-60, 25% H	L2-3, tr gtl	L2-40, b NA			8% m	
							L2-3, tr gtl		L2-100, 2% G	L2, tr cd	30, b 56			20% ta/sp/dl	
									L2-50, 1% G	L2, tr il					
										L2-3, tr ph					

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

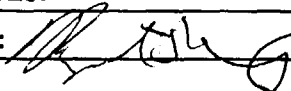
W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY: _____ CORE SIZE: _____ DATE LOGGED: _____ HOLE NO: MRA-95-03 PAGE: 9 / 10
 PROPERTY: _____ CLAIM: _____ CO-ORDINATES: _____ TWP/LAT.LONG: _____ AZIMUTH: _____
 COMMENCED: _____ COMPLETED: _____ LOGGED BY: _____ ELEVATION: _____ DIP: _____

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
336.5	348.7	Km d	tr/sp tr clay	—	—	—	L2-10, 7 $\frac{1}{2}$ m L2-10, tr g6 L2-5, tr g6 L2-6, tr ph L3, tr (il)	L2-15, 3 $\frac{1}{2}$ m L2-15, tr g6 L2-50, tr G L2-30, tr g6 L2-30, 2 $\frac{1}{2}$ M	L2-40, 3 $\frac{1}{2}$ Li L2-50, 2 $\frac{1}{2}$ H L2-50, tr G L2-30, tr g6 L2-30, 2 $\frac{1}{2}$ M	L2-15, tr g6 L2-5, tr g6 L2-3, tr (il) L2-6, 3 $\frac{1}{2}$ ph	4-40, tr NA L5, tr g6 L5, tr ph	L5, tr g6 L5, tr g6 L5, tr ph	20% CR 10% M 20% tr spol	3.0	
348.7	349.35	Km d	tr sp/ta	—	—	—	L2-5, 7 $\frac{1}{2}$ sp L2-, tr g6 L2-3, tr (il)	L2-7, 3 $\frac{1}{2}$ sp L2-3, tr g6 L2-3, tr G L2-30, tr g6	L2-30, 3 $\frac{1}{2}$ Li L2-20, 20 $\frac{1}{2}$ H L2-3, tr G L2-30, tr g6	L2-3, tr g6 L2-, tr (il)	—	—	20% CR 10% sp/ta 20% kim Ca	7.0	
349.35	352.6	Km d	sp/ta tr clay	—	—	—	L2-5, 7 $\frac{1}{2}$ sp L2-, tr g6 L2-3, tr g6	L2-10, 3 $\frac{1}{2}$ sp L2-4, tr g6 L2-30, tr G L2-20, 1 $\frac{1}{2}$ M	L2-30, 3 $\frac{1}{2}$ Li L2-30, 2 $\frac{1}{2}$ H L2-30, tr g6 L2-30, tr G L2-20, 1 $\frac{1}{2}$ M	L2-3, tr g6 L2-4, 2 $\frac{1}{2}$ ph L2, tr (il)	4-30, 5 $\frac{1}{2}$ NA 4-30, 5 $\frac{1}{2}$ A	5, tr ph 10x25, gt(s)	20% CR 10% M (sp) 20% tr sp, ol	3.0	

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

<u>COMPANY: Sudbury Contact Mines Ltd.</u>	<u>CORE SIZE:</u>	<u>DATE LOGGED:</u>	<u>HOLE NO: MRA-95-04</u>	<u>PAGE: 1/6</u>
<u>PROPERTY:</u>	<u>CLAIM: 1202724</u>	<u>CO-ORDINATES:</u>	<u>TWP/LAT.LONG:</u>	<u>AZIMUTH:</u>
<u>COMMENCED:</u>	<u>COMPLETED:</u>	<u>LOGGED BY: </u>	<u>ELEVATION:</u>	<u>DIP:</u>

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
53.0	66.5	Km 1	sp,ta	---	---	---	<1-4, tr gt	<1-10, 5% gt	<2-130, 30% Li	4-5, 0.5% gt 0	5-80, 3%	---	---	30% sp,ta	1.4
							<1-3, tr ph		<2-30, 25% H	1-2, tr gt v	5-40, 1% N			10% CR	
							<1-5, 1% M	<1-5, 2%M	<2-80, 3% G	1-2, tr cd				% ph	
									<2-20, 1% gt G	<1-3, 3% ph					
									<2-70, 3%M						
66.5	80.0	Km 1	sp ta	---	---	---	1-3, tr gt	1-7, tr gt	<2-130, 35% Li	1-5, 3% gt o	5-35, 3%	50-70, 3 gt o	30, 1 gt o	30% sp ta	1.0
							1-3, tr ph	1-5, 2% M	<2-40, 20% H	1-3, tr gt v	10-30, 2%N			10% CR	
							1-5, 2%M		<2-60, 32% G	1-2, tr cd				2% ph	
									<2-65, % gt G	<1-3, 2% ph					
									<2-20, 1%M						

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY:	CORE SIZE:	DATE LOGGED:	HOLE NO: MRA-95-04	PAGE: 2/6
PROPERTY:	CLAIM:	CO-ORDINATES:	TWP/LAT.LONG:	AZIMUTH:
COMMENCED:	COMPLETED:	LOGGED BY:	ELEVATION:	DIP:

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
80.0	93.5	Km 1	sp, ta	---	---	---	<1-3, tr gt v	2 tr gt v	<2-130, 30% Li	<1-1, tr cd	3-60, 4% A	15, 3 gt o		tr ca	1.2
							<1-2, tr gt c	2-5, tr gt o	<2-40, 20% H	<1-2, tr gt v	<3-70, 3% NA			30% sp/ta	
							<1-3, tr gt o	<2-5 3%M	<2-80, 5% G	<1-2, tr gt o				10% CR	
							<1, tr il		<2-35, 2% gt G	<1, tr il				5% M	
							<1-4, 3%M		<2-30, 5%M	<1-4, 2% ph				3% A	
										<1-15, 1% gt o					
93.5	10.70	Km 1	sp ta	Se	---	---	<1-5, 3% M	<2-5, 3%M	<1-205, 30%Li	1-2, tr cd	<2-35, A	0.5-10, 4 gt o	10-30, 3gt o	0% sp/ta	1.5
			clay				1-2, tr gt v	<2-4, .25% gt o	<1-30, 20% H	1-2, tr gt v	<2-40, NA			20% clay	
							1, tr gt c		<2-20, 2% G	1, tr gt c				5% ta	

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY: _____ CORE SIZE: _____ DATE LOGGED: _____ HOLE NO: MRA-95-04 PAGE: 3/6
 PROPERTY: _____ CLAIM: _____ CO-ORDINATES: _____ TWP/LAT.LONG: _____ AZIMUTH: _____
 COMMENCED: _____ COMPLETED: _____ LOGGED BY: _____ ELEVATION: _____ DIP: _____

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
							<1-3, tr gt o		<2-10, tr gt G	<1, tr l				10% CR	
							1, tr il		<2-45, 3%M	<1-3, 1% gt o				3% M	
										<1-2, 2% ph				3% A	
107	119.5	Km 1	clay sp ta	Ca	---	---	2-3, tr gt v	3-10, gt o	<2-50, 30% Li	2-5, 1% gt o	3-200, 3% A	5-15, tr gt o	20, tr gt	20% clay	1.8
							2-5 tr gt o		<2-100, 20% H	<1-4, 3% ph	3-30, 2% NA			10% sp, ta	0.4
							<2-6, 2%M	<2-15, 3% M	2-10, 1% gt G	1-2, tr cd				5% CR	
									2-30, 2%G	2, tr l					
									2-10, 2%M	2, tr gt v					
119.5	134.0	Km 1	clay	Ca, Se	---	---	2 tr gt v	3-10, gt o	<2mm-4.5m, 40% Li	2-5, 0.5% gt o	3-40, % A	5-15, tr gt o		20% clay	0.5
			ta, sp				2-5 tr gt o	<2-15, 3%M	<2-20, 10%H	2, tr gt v	4-30, 2%NA			10% ta, sp	

DIAMOND DRILL LOG - KIMBERLITE LOGGING TABLE

W.A. HUBACHECK CONSULTANTS LTD.
TORONTO, ONTARIO, CANADA

COMPANY: _____ **CORE SIZE:** _____ **DATE LOGGED:** _____ **HOLE NO:** MRA-94-04 **PAGE:** 5/6
PROPERTY: _____ **CLAIM:** _____ **CO-ORDINATES:** _____ **TWP/LAT.LONG:** _____ **AZIMUTH:** _____
COMMENCED: _____ **COMPLETED:** _____ **LOGGED BY:** _____ **ELEVATION:** _____ **DIP:** _____

from	to	lith	alt	veins	vesicles 1mm-2%cr	amyg 1mm-2%cr	pelletal spherical 1mm-2%cr	pelletal elongate 1mm-2%cr	country rk clasts 1mm-2%cr	accessory minerals 1mm-2%cr	autoliths kimb clasts 1mm-2%	macro 0.5-1cm 1mm-2%6A	mega 2-5 cm 1mm-2%6A	matrix <2mm 1%Ca	MS x10 ⁻³
153.0	177.5	Km 1	sp ta	---	---	---	1-5, tr gto	2-15, tr gto	<2-400, 35%L	1-15 1% gt o	<2-80, 3%A	-5-15 tr gt o	---	25% sp	0.7
			tr clay				1-2, tr gt r	2-15, 1%M	<2-20, 15%H	1-3 tr gt v	<2-35, 4% NA			10% tr	
							1-2, tr gt v		>2-80, 1% gt G	1-2, tr gt v				2% clay	
							<1-5, 5%M		<2-30, 2%G	1-2, tr cd				10% CR	
									<1-60, 10%M	<1-3, 3%ph					
177.5	198.8	Km 2	sp, ta	---	---	---	<2-5, 7%M	<2-5, 8%M	<2-400, 35%Li	<2-15, 1% gt o	<1-60, 5%A	15, gt o		35% sp	0.6
							<2-5, tr gt o	<2-15, tr gt o	<2- 40, 10%H	2-7, tr gt v	<1-35, 1% NA	9mm, tr gt v		5% ta	
							1-2, tr gt v		<2-60, 10%M	1, tr cd				6% M	
									<2-50 3% gt G					10% CR	

APPENDIX C:
LAKEFIELD RESEARCH ANALYSIS REPORT

W. A. HUBACHEK CONSULTANTS LTD.



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Lakefield, Ontario, Canada K0L 2H0
Tel: (705) 652-2000 Fax: (705) 652-6365

WA Hubacheck Consultants Ltd.
Suite 1401, 141 Adelaide Street W
Toronto, Ontario
CANADA M5H 3L5

June 30, 1996

Attention: Dave Christie

Re: Lakefield Research Project No. 8900-955 (Jan3019.R96)

Dear Dave:

Lakefield Research has completed the caustic dissolution treatment of the nineteen samples identified as follows:

- 35101 through 35119

and the attrition milling treatment and indicator mineral identification from the following nine samples:

- 35051 through 35059

A total of forty-three diamonds were recovered from the fourteen of the nineteen caustic dissolution residues; the maximum number of eight diamonds was identified in sample 35117. The diamonds occurred as clear white and lesser clear brown fragments, fragmented dodecahedrons, fragmented complex crystals, fragmented octahedrons, and fragmented twinned octahedrons and ranged in size up to 13897619 octacarats (0.14 carats), a clear white diamond fragment in sample 35116. The caustic dissolution residues contained rock fragments (exotic clasts and undissolved kimberlite), oxides, garnets, sulphides, corundum, kyanite, graphite, chrome diopside, moissanite (SiC), and accessory silicates such as zircon.

An extensive suite of potential indicator minerals was selected from the attrition mill residues; pyrope garnet, chrome diopside, and orange garnet (possibly eclogitic almandine-pyrope) were identified. Numerous grains of chromite and ilmenite were selected from the 0.5Amp nonmagnetic fractions; this fraction typically contains the magnesian varieties of the oxide minerals (picrochromite, picroilmenite).

Four synthetic diamonds were recovered from three of the caustic dissolution residues.

The summary data sheets are attached.

Procedures

Attrition Milling

The nine samples were crushed to pass a nominal 5mm and were submitted for gentle attrition milling using the polyurethane cement mixers. The mixers were charged with a package of ceramic balls (3/4", 1", and 1 1/2" diameter in equal proportions). A high solids percentage was maintained to minimize impact of the ceramic charge. The attrition milling was allowed to continue for a period of four to eight hours after which the mill was emptied onto the 20 mesh Kason 24 inch diameter vibratory screens. The milling and screening operation was carried out in short stages to optimize fines removal and to minimize overall milling residence time. Milling durations of six to fifteen hours were required.

The milling typically is continued until the development of a fines fraction was at a minimum (oversize fraction typically 5-10wt% of original sample weight). The attrition milling residue was screened at 20 and 100 mesh, dried and weighed. The -20+100 mesh fraction was submitted for heavy liquid separation at SG 3.1 using a medium of acetone tuned methylene iodide.

The -20+100 mesh heavy liquid concentrate and the +20 mesh oversize fractions are submitted for microscopy to identify the presence of indicator minerals (pyrope, almandine-pyrope, chrome diopside, picroilmenite, picrochromite, olivine) and to select a representative suite of the indicator minerals. Microscopy is carried out on several magnetic, paramagnetic and nonmagnetic fractions of the HLS concentrate.

Diamonds may be observed in the nonmagnetic portion of the HLS concentrate; however, the diamonds may exhibit evidence of breakage during the milling procedure. In-house tests have indicated a shift in the frequency and size distribution of the contained diamonds as compared to parallel caustic dissolution tests.

Caustic Dissolution

The caustic dissolution treatment, directly uses diamond's property of high resistance to chemical attack. The procedure was developed, and refined to improve and streamline the process for routine diamond exploration samples, in response to the microdiamond losses attributed to standard attrition milling and also to reduce the weight of final concentrate.

The major advantage of the caustic dissolution process is the ability to recover, without breakage, all of the diamonds contained within the sample regardless of their particle size (+100 mesh), liberation size, quality or origin. The latter may account for actual diamond xenocrysts from the 'kimberlitic' material, and / or quality control stones added by Lakefield Research or by the client, and / or diamonds attributed to the exploratory core drilling equipment.

Diamond losses and modifications to the size distribution profile due to stone breakage are eliminated. A comparison of the efficiency of the caustic dissolution treatment and attrition milling flowsheets was undertaken using 'seeded' kimberlite samples. The results clearly indicated breakage and losses of microdiamonds from the milled samples; the normalized stone frequency (SPFK) and octacarat weights (OCPFK) typically were reduced by a factor of two to ten times.

Anomalously high stone frequency data indicating breakage was reported; corresponding stone weights and microdiamond grades were invariably low.

Routine quality control tests are utilized to evaluate the efficiency of the caustic dissolution technique. As such, the samples are *blind* spiked, prior to the fusion step, with green diamonds typically measuring from 10 to 80 mesh; these stones have been neutron irradiated to produce the distinctive coloration.

Lakefield Research is not responsible for determination of the origin, quality or valuation of any diamonds recovered.

Flowsheet 1 outlines the typical program for microdiamond recovery from exploration samples. The caustic dissolution followed by water and acid leaching, and magnetic separations will produce several fractions commonly containing relict indicator minerals and a non-magnetic fraction possibly containing microdiamonds.

The Lakefield Research facility has sixteen pottery kilns which can treat up to 8 kg each (using uncrushed drill core) and are run in a 24 hour cycle. The use of smaller sample charges may be dictated by the abundance of carbonate minerals. Prior to the dissolution stage, a cursory mineralogical examination, by XRD and / or acid leach test (note effervescence), is carried out to identify any potentially deleterious phases. The carbonates, in particular, may exhibit a vigorous reaction to the hot caustic soda. Therefore, 1) the sample charge must be reduced to accommodate the relative volume increase or 2) the sample may be subjected to an acid digestion step. The former is recommended as the latter requires a similar time frame and additional material handling (leaching, filtering, rinsing, drying, weighing, etc.) which could contribute to potential losses of microdiamonds.

At the appropriate sodium hydroxide to sample ratio and optimum temperatures, the reaction is allowed to continue overnight. As depicted in the flowsheet, the process consists of dissolving the entire sample in a molten sodium hydroxide bath and typically recovering the +100 mesh residue.

An important feature of the recovery system is the pouring of the melt through a large diameter, stainless steel screen to collect the residue. The screening procedure significantly reduces the material handling and simplifies the subsequent leaching process. The screen and pot are leached sequentially with water and then acid to dissolve the residual sodium hydroxide. Collection of the final dissolution residue from the leaching tub is also made on a stainless steel screen. Of note, all screens are dedicated to only the diamond programs; each of the screens is examined thoroughly before and after usage. Any flaws require immediate replacement of the screen.

The spent caustic is allowed to cool for 24 hours, is removed from the recovery vessel and drummed for recycling for outside industrial applications.

After drying, the dissolution residue is split into three magnetic and non-magnetic fractions using the permanent magnet followed by the Frantz Isodynamic Separator. Extreme care is required as the non-magnetic, diamondiferous, portion of the residue commonly amounts to no more than a few milligrams. The concentrate products are then submitted for microscopy.

Very few minerals survive the harsh attack; therefore weight reductions commonly exceed 99% of the initial sample weight. The high weight loss with optimum stone recovery is another major advantage of the caustic dissolution technique.

Only highly resistant minerals such as diamond, graphite, moissanite, zircon, chromite, kyanite, etc. survive the caustic attack. Of note, partially dissolved indicator minerals including colorless to opaque spinel, garnet, and ilmenite, as rounded relicts of original coarse grains, may occur in the dissolution residue.

The selected diamonds are measured using the petrographic microscope and the data are transferred to octacarat weights using an in-house software package. Diamonds may be weighed individually or in groups using the Sartorius balance to 0.xxx mg. Graphic representation of the diamond size and frequency distribution may be provided upon request.

Results

Attrition Milling

The sample weights for the attrition milling testwork are summarized as follows:

• 35051	22.9kg
• 35052	23.7kg
• 35053	25.8kg
• 35054	25.7kg
• 35055	28.0kg
• 35056	23.4kg
• 35057	23.9kg
• 35058	23.6kg
• 35059	23.8kg

The attrition milling and heavy liquid product weights are summarized below:

• 35051	+20 Mesh	1500g
	-20+100 Mesh Float	3549g
	-20+100 Mesh Sink	57.7g
• 35052	+20 Mesh	1800g
	-20+100 Mesh Float	3434g
	-20+100 Mesh Sink	21g
• 35053	+20 Mesh	3300g
	-20+100 Mesh Float	1889g
	-20+100 Mesh Sink	29.7g
• 35054	+20 Mesh	2700g
	-20+100 Mesh Float	1813g
	-20+100 Mesh Sink	72.9g
• 35055	+20 Mesh	2500g
	-20+100 Mesh Float	2375g
	-20+100 Mesh Sink	38.3g
• 35056	+20 Mesh	1800g
	-20+100 Mesh Float	2509g
	-20+100 Mesh Sink	14.3g
• 35057	+20 Mesh	900g
	-20+100 Mesh Float	1558g
	-20+100 Mesh Sink	10.8g

• 35058	+20 Mesh	2200g
	-20+100 Mesh Float	1069g
	-20+100 Mesh Sink	14.3g
• 35059	+20 Mesh	1400g
	-20+100 Mesh Float	1343g
	-20+100 Mesh Sink	23.8g

Note: due to the large number of indicator minerals, only a portion of the magnetic and paramagnetic fractions were subjected to detailed microscopy. The entire nonmagnetic fraction was examined for all samples.

The attrition mill oversize products ranged from 3.8 - 12.8 wt% of the original feed weight.

An extensive suite of potential indicator minerals was selected from the attrition mill residues; pyrope garnet, chrome diopside, and orange garnet (possibly eclogitic almandine-pyrope) were identified. Numerous grains of chromite and ilmenite were selected from the 0.5Amp nonmagnetic fractions; this fraction typically contains the magnesian varieties of the oxide minerals (picrochromite, picroilmenite).

The indicator minerals recovered from the attrition milling residues are summarized below. The complete data sheets are attached.

	Purple Py	Alm-Py(?)	Cr Cpx	Cr Chr / Cr Ilm
• 35051	>50	>100	>50	>100
• 35052	>50	>100	>50	>100
• 35053	>50	>50	>50	>100
• 35054	>50	>50	>50	>100
• 35055	>50	>100	>50	>100
• 35056	>30	>50	>50	>100
• 35057	>30	>50	>50	>100
• 35058	>50	>50	>50	>75
• 35059	>50	>50	>50	>75

The concentrates contained abundant exotic rock fragments (typically metasedimentary lithologies) and ferromagnetic to strongly paramagnetic oxide minerals.

The indicator minerals are in storage and may be mounted for electron microprobe analysis at your convenience.

Caustic Dissolution

The sample weights for the nineteen samples are as follows (total weight - 1026.3kg):

• 35101	44.5kg
• 35102	52.0kg
• 35103	56.6kg
• 35104	54.5kg

• 35105	56.3kg
• 35106	54.4kg
• 35107	63.5kg
• 35108	76.2kg
• 35109	54.9kg
• 35110	63.0kg
• 35111	54.8kg
• 35112	26.3kg
• 35113	61.2kg
• 35114	59.5kg
• 35115	52.1kg
• 35116	47.7kg
• 35117	48.6kg
• 35118	48.4kg
• 35119	51.8kg

A total of forty-three diamonds were recovered from the fourteen of the nineteen caustic dissolution residues; the maximum number of eight diamonds was identified in sample 35117. The diamonds occurred as clear white and lesser clear brown fragments, fragmented dodecahedrons, fragmented complex crystals, fragmented octahedrons, and fragmented twinned octahedrons and ranged in size up to 13897619 octacarats (0.14 carats), a clear white diamond fragment in sample 35116.

The caustic dissolution residues contained rock fragments (exotic clasts and undissolved kimberlite), oxides, garnets, sulphides, corundum, kyanite, graphite, chrome diopside, moissanite (SiC), and accessory silicates such as zircon.

Four synthetic diamonds were recovered from three of the caustic dissolution residues.

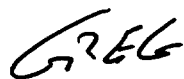
The caustic dissolution data sheets for the nineteen samples are attached.

The invoice was forwarded under separate cover.

The selected diamonds, indicator minerals, attrition mill products and caustic dissolution residues will be stored at Lakefield Research. Please advise when shipment is required.

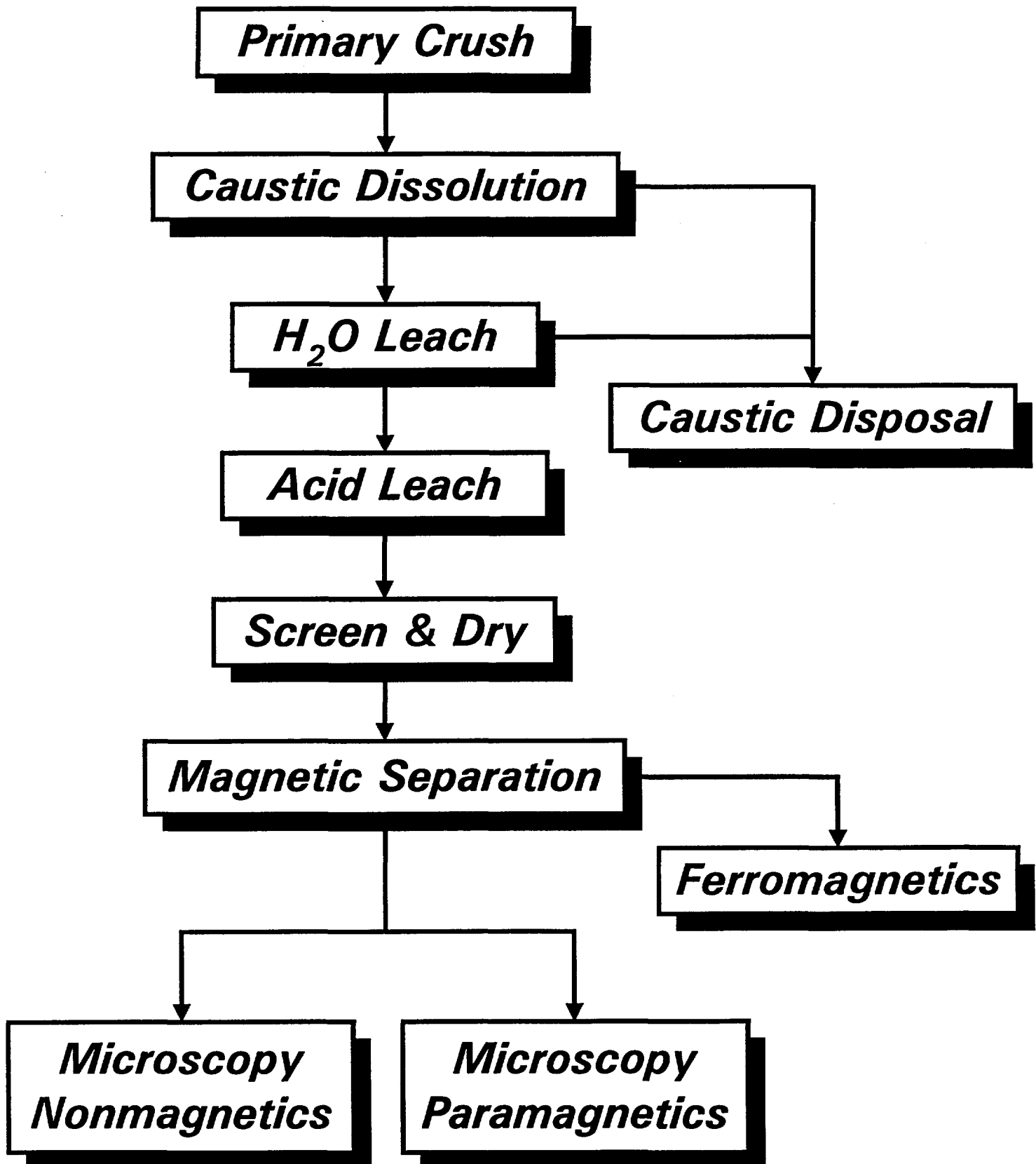
If there are any questions regarding the results, please do not hesitate to call me.

Best regards,
LAKEFIELD RESEARCH

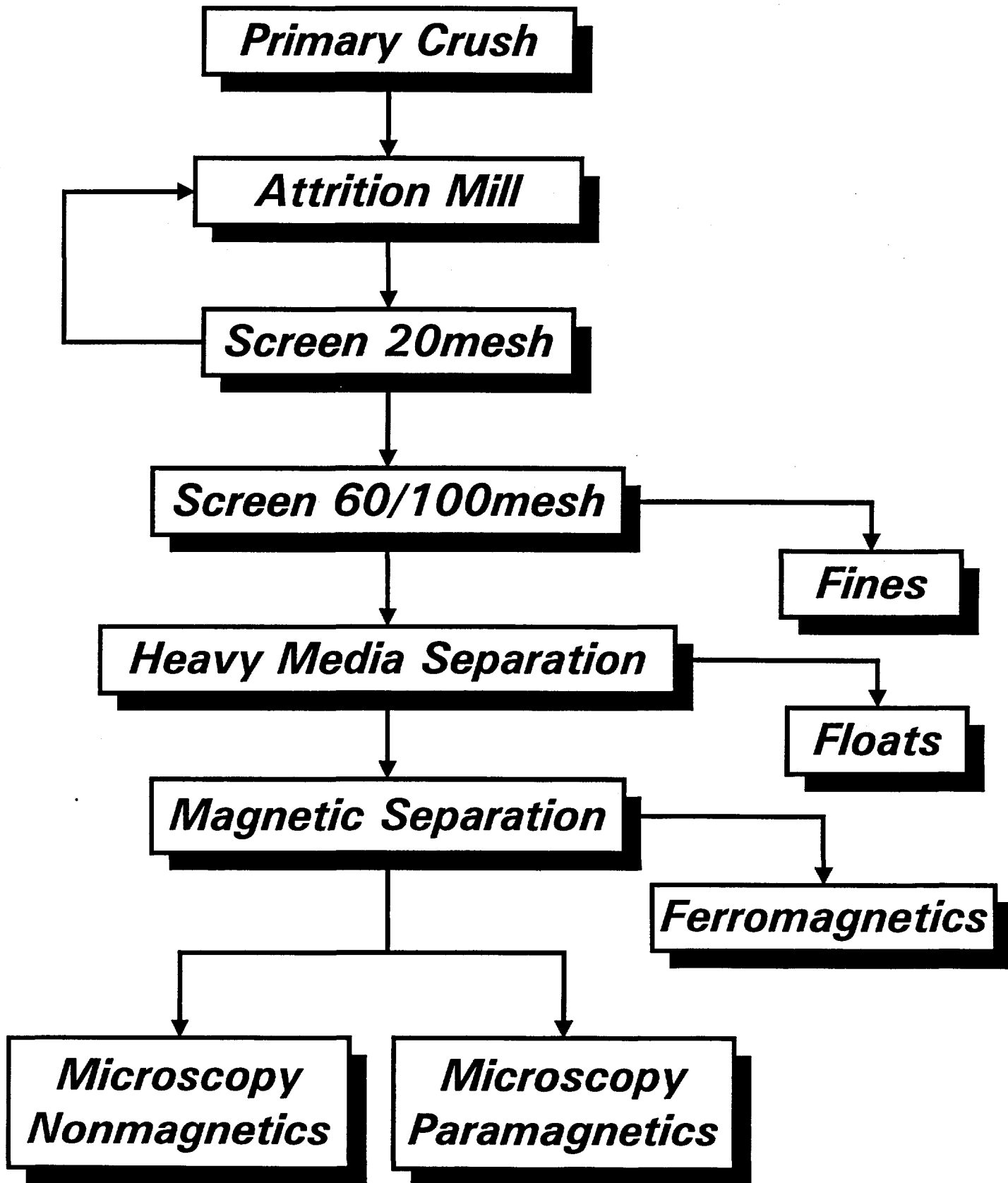


J.G. Davison, M.Sc.
Senior Mineralogist
PH# 705-652-2019

CAUSTIC DISSOLUTION FLOWSHEET 1



ATTRITION MILL FLOWSHEET 1



Indicator Minerals

Sample #	Indicator Minerals						Comments
	Chrome Pyropes		Orange Garnet (poss. eclogitic)	Chrome Diopside	Ilmenite	Cr spinel/ Chromite	
	Purple	Red					
35051 (0.5 Non Mag)	5	(8 present)	(5 present)	20 (>100)	20 (>30)	2	
35051 (0.5 Mag)	20 (>50)	(>100 present)	(>100 present)	20 (>50) *	(>100 present)	(>20 present)	*various shades of CD's
35051 (0.1 Mag)	5	(>10 present)	(<5 present)	(<10 frosty)	-	-	
35052 (0.5 Non Mag)	1(kely-rim)	(2 present)	(>5 present)	20 (>50)	20 (>30)	-	
35052 (0.5 Mag)	20 (>50)	(>50 present)	(>100 present)	20 (>50) *	(>100 present)	(>10 present)	*various shades of CD's
35052 (0.1 Mag)	20	(<5 present)	-	(>10 frosty) *	-	-	*CD's frosty-not picked
35053 (0.5 Non Mag)	3	-	(<10 present)	20 (>30)	20 (>30)	1	
35053 (0.5 Mag)	20 (>50)	(>50 present)	(>50 present)	20 (>40)	(>100 present)	(>30 present)	
35053 (0.1 Mag)	20 (>25)	(>20 present)	(>20 present)	(>10)**	-	-	**pale and frosty CD's
35054 (0.5 Non Mag)	-	-	(>20 present)	20 (>40)	20 (>30)	-	
35054 (0.5 Mag)	20 (>50)	(>50 present)	(>50 present)	20 (>50)	(>50 present)	(>20 present)	
35054 (0.1 Mag)	20 (>30)	(>20 present)	(>10 present)	(>10 present)	-	-	
35055 (0.5 Non Mag)	20 (small)	(<10 present)	(>10 present)	20 (>30)	20 (>25)	4	
35055 (0.5 Mag)	20 (>50)	(>50 present)	(>100 present)	20 (>50)	(>50 present)	(>20 present)	
35055 (0.1 Mag)	15	-	-	-	-	-	
35056 (0.5 Non Mag)	12 **	(<10 present)	(<10 present)	20 (>30 small)	20 (>30 small)	-	**Pyropes small & pale
35056 (0.5 Mag)	20 (>35)	(>30 present)	(>50 present)	20 (>50)	(>50 present)	(>20 present)	
35056 (0.1 Mag)	-	(<10 present)	(<5 present)	(>15 present)	-	-	

Note: 20 (>100) - indicates 20 grains were selected, but >100 were present in sample.

Indicator Minerals

Sample #	Indicator Minerals						Comments
	Chrome Pyropes		Orange Garnet (poss. eclogitic)	Chrome Diopside	Ilmenite	Cr spinel/ Chromite	
	Purple	Red					
35057 (0.5 Non Mag)	2	(<5 present)	(<10 present)	20(>30)	20 (>25 small)	-	
35057 (0.5 Mag)	20 (>30)	(>30 present)	(>50 present)	20 (>50)	(>50present)	(>20 present)	
35057 (0.1 Mag)	2	(2 present)	-	(<5 present)	-	-	
35058 (0.5 Non Mag)	2	-	(<5 present)	20 (>25)	20 (>25)	1	
35058 (0.5 Mag)	20 (>50)	(>30 present)	(>50 present)	20 (40)	(>50 present)	(>10 present)	
35058 (0.1 Mag)	6	(3 present)	-	(<5 present)	-	-	
35059 (0.5 Non Mag)	8	(>5 present)	(<10 present)	20(>30)	20 (>30 small)	1	
35059 (0.5 Mag)	20 (>50)	(>50 present)	(>50 present)	20 (>50)	(>50 present)	(>20present)	
35059 (0.1 Mag)	9	(<5 present)	-	(<10 present)	-	-	

Note: 20 (>100) - indicates 20 grains were selected, but >100 were present in sample.

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Hubacheck W. A. Consultants
141 Adelaide St. W. Suite 1401
Toronto, Ontario, M5H 3L5

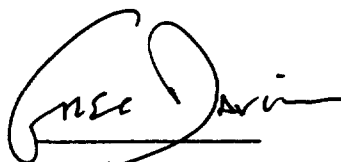
Attn : Dave Christie
Fax : 416 364-5384

Lakefield, June 10, 1996

Date Rec. : January 24, 1996
LR. Ref. : JAN3019.R96
Reference : LR9551745
Project : 8900-955B#1

SUMMARY INFORMATION

No.	Sample ID	Batch	Wt	# Pours	#Diamonds
		---	kg	---	---
1	35101	1	44.5	7	1
2	35102	1	52.0	8	5
3	35103	1	56.6	9	0
4	35104	1	54.5	9	4
5	35105	1	56.3	9	2
6	35106	1	54.4	9	4
7	35107	1	63.5	10	0
8	35108	1	76.2	12	1
9	35109	1	54.9	9	2
10	35110	1	63.0	10	0
11	35111	1	54.8	9	0
12	35112	1	26.3	4	0
13	35113	1	61.2	10	3
14	35114	1	59.5	9	2
15	35115	1	52.1	8	3
16	35116	1	47.7	8	1
17	35117	1	48.6	9	8
18	35118	1	48.4	8	5
19	35119	1	51.8	8	2


Greg Davison

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35101 Batch #: 1
Client: W.A Hubacheck Consultants Weight: 44.5

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.65	0.31	0.42	152483	White	Clear	Fragment

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Garnets and oxides, with trace rock fragments.
- 20 + 100	Magnetic	Oxides and garnets, with minor rock fragments.
- 20 + 100	Non-Magnetic	Oxides and silicates (clear, white, brown, garnets), with trace sulphides.

Total Weight (octacarats): 152483 Number of Syndites: 0
Number of Diamonds: 1
CPHT (Total sample Grade): 3
SPFK (+ 100 mesh): 1
OCPFK (+ 100 mesh): 171329



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8
Notes: 1 carat = 10 octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35102

Batch #: 1
Weight: 52.0

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.42	0.22	0.14	24108	White	Clear	Fragment
0.37	0.17	0.07	7835	White	Clear	Fragment
0.19	0.14	0.07	3515	White	Clear	Fragment
0.74	0.34	0.16	71635	Brown	Clear	Fragmented dodecahedron
0.42	0.22	0.22	37884	Brown	Clear	Fragment

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35102 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 52.0

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, gamets, and oxides.
- 20 + 100	Magnetic	Oxides and gamets, with minor rock fragments.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, gamets), minor oxides, with trace graphite and corundum.

Total Weight (octacarats): 144978 Number of Syndites: 0
Number of Diamonds: 5
CPHT (Total sample Grade): 2
SPFK (+ 100 mesh): 4
OCPFK (+ 100 mesh): 139401



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35103 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 56.6

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Oxides, rock fragments, and garnets.
- 20 + 100	Magnetic	Rock fragments, oxides, and garnets.
- 20 + 100	Non-Magnetic	Oxides and silicates (clear, white, brown, green, garnets), with trace corundum.

Total Weight (octacarats): 0 Number of Syndites: 0
 Number of Diamonds: 0
 CPHT (Total sample Grade): 0
 SPFK (+ 100 mesh): 0
 OCPFK (+ 100 mesh): 0



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35104

Batch #: 1
Weight: 54.5

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.96	0.62	0.11	118071	White	Clear	Fragmented dodecahedron
0.62	0.54	0.29	173950	White	Clear	Fragmented dodecahedron
0.42	0.22	0.16	27552	White	Clear	Fragment
0.39	0.19	0.28	39376	Brown	Clear	Fragmented complex crystal

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35104 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 54.5

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, garnets, and oxides.
- 20 + 100	Magnetic	Rock fragments, oxides, and garnets.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, trace green, garnets), minor oxides, with trace corundum and rock fragments.

Total Weight (octacarats): 358950 Number of Syndites: 0
Number of Diamonds: 4
CPHT (Total sample Grade): 6
SPFK (+ 100 mesh): 3
OCPFK (+ 100 mesh): 329312



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35105

Batch #: 1
Weight: 56.3

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.68	0.51	0.34	210772	Brown	Clear	Fragmented dodecahedron
0.28	0.25	0.13	16789	Brown	Clear	Fragment

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client : W.A. Hubacheck Consultants

Sample # : 35105

Batch # : 1
Weight : 56.3

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, oxides, and garnets.
- 20 + 100	Magnetic	Oxides and garnets, with minor rock fragments.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, trace green, garnets), minor oxides, with trace corundum and rock fragments.

Total Weight (octacarats): 227562 Number of Syndites: 0
 Number of Diamonds: 2
 CPHT (Total sample Grade): 4
 SPFK (+ 100 mesh): 1
 OCPFK (+ 100 mesh): 202097



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35106 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 54.4

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
1.08	0.68	0.36	471139	White	Clear	Fragmented complex crystal
0.37	0.31	0.07	14364	White	Clear	Fragment
0.54	0.31	0.17	50985	White	Clear	Fragment
0.39	0.37	0.13	33952	White	Clear	Fragment

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35106 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 54.4

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, with minor garnets and oxides.
- 20 + 100	Magnetic	Oxides, rock fragments, and garnets.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, kyanite, garnets), minor oxides, with trace corundum and graphite.

Total Weight (octacarats): 570441 Number of Syndites: 0
Number of Diamonds: 4
CPHT (Total sample Grade): 10
SPFK (+ 100 mesh): 3
OCPFK (+ 100 mesh): 524302



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubachuck Consultants

Sample #: 35107

Batch #: 1
Weight: 63.5

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, garnets, and oxides.
- 20 + 100	Magnetic	Garnets, oxides, and rock fragments.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, garnets), minor oxides and corundum, with trace graphite and sulphides.

Total Weight (octacarats): 0 Number of Syndites: 0
Number of Diamonds: 0
CPHT (Total sample Grade): 0
SPFK (+ 100 mesh): 0
OCPFK (+ 100 mesh): 0



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35108

Batch #: 1
Weight: 76.2

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.99	0.68	0.20	241080	White	Clear	Fragment

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments and garnets, with minor oxides.
- 20 + 100	Magnetic	Oxides, garnets, and rock fragments.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, garnets), minor corundum and oxides, with trace rock fragments.

Total Weight (octacarats): 241080 Number of Syndites: 0
Number of Diamonds: 1
CPHT (Total sample Grade): 3
SPFK (+ 100 mesh): 0
OCPFk (+ 100 mesh): 158188



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35109

Batch #: 1
Weight: 54.9

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.22	0.22	0.07	6428	White	Clear	Fragment
2.36	0.65	0.91	2517522	Yellow	Clear	Frosted fragment

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35110

Batch #: 1
Weight: 63.0

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, oxides, and garnets.
- 20 + 100	Magnetic	Rock fragments, oxides, and garnets.
- 20 + 100	Non-Magnetic	Oxides, and silicates (clear, white, brown, garnets), minor graphite, with trace moissanite and corundum.

Total Weight (octacarats): 0 Number of Syndites: 2
Number of Diamonds: 0
CPHT (Total sample Grade): 0
SPFK (+ 100 mesh): 0
OCPFk (+ 100 mesh): 0



Authorizing Signature

Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35111 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 54.8

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments and gamets, with minor oxides.
- 20 + 100	Magnetic	Rock fragments and oxides, with minor gamets.
- 20 + 100	Non-Magnetic	Oxides and silicates (clear, white, brown, gamets), minor rock fragments, with trace corundum and graphite.

Total Weight (octacarats): 0 Number of Syndites: 0
Number of Diamonds: 0
CPHT (Total sample Grade): 0
SPFK (+ 100 mesh): 0
OCPFk (+ 100 mesh): 0



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 **Sample #:** 35112 **Batch #:** 1
Client: W.A. Hubacheck Consultants **Weight:** 26.3

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments and oxides, with minor garnets.
- 20 + 100	Magnetic	Oxides, rock fragments, and garnets.
- 20 + 100	Non-Magnetic	Oxides and silicates (clear, white, brown, chrome diopside, garnets), with trace corundum and rock fragments.

Total Weight (octacarats): 0 Number of Syndites: 1
 Number of Diamonds: 0
 CPHT (Total sample Grade): 0
 SPFK (+ 100 mesh): 0
 OCPFK (+ 100 mesh): 0

 Authorizing Signature

Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client : W.A. Hubacheck Consultants

Sample # : 35113

Batch # : 1
Weight : 61.2

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.51	0.34	0.21	65091	White	Clear	Fragment
0.37	0.17	0.10	11193	White	Clear	Fragment
0.74	0.45	0.31	185057	Brown	Clear	Fragmented complex crystal

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35113 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 61.2

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, oxides, and garnets.
- 20 + 100	Magnetic	Rock fragments, oxides, and garnets.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, green, garnets), minor oxides, with trace sulphides and corundum.

Total Weight (octacarats): 261342 Number of Syndites: 0
Number of Diamonds: 3
CPHT (Total sample Grade): 4
SPFK (+ 100 mesh): 2
OCPFK (+ 100 mesh): 213514



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35114 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 59.5

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.71	0.39	0.51	256147	White	Clear	Fragment
0.25	0.14	0.10	6457	White	Clear	Fragment

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35114 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 59.5

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, oxides, and garnets.
- 20 + 100	Magnetic	Oxides, garnets, and rock fragments.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, chrome diopside, garnets), minor oxides, with trace graphite and corundum.

Total Weight (octacarats): 262605 Number of Syndites: 1
Number of Diamonds: 2
CPHT (Total sample Grade): 4
SPFK (+ 100 mesh): 1
OCPFK (+ 100 mesh): 220676



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8
Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35115

Batch #: 1
Weight: 52.1

Stone Dimension, mm			Weight (octacarats)	Stone Description		
X	Y	Z		Colour	Clarity	Morphology
0.25	0.25	0.14	16272	White	Clear	Fragment
0.59	0.39	0.36	151880	White	Clear	Fragment, with inclusions
0.48	0.31	0.13	34884	White	Clear	Fragment

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35115

Batch #: 1
Weight: 52.1

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Garnet, oxides, and rock fragments.
- 20 + 100	Magnetic	Oxides and garnets, with minor rock fragments.
- 20 + 100	Non-Magnetic	Oxides and silicates (clear, white, brown, garnets), minor corundum, with trace graphite.

Total Weight (octacarats): 203038

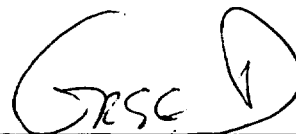
Number of Syndites: 0

Number of Diamonds: 3

CPHT (Total sample Grade): 3

SPFK (+ 100 mesh): 2

OCPFK (+ 100 mesh): 194854



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Notes: 1 carat = 10⁸ octacarats.

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 Sample #: 35116 Batch #: 1
Client: W.A. Hubacheck Consultants Weight: 47.7

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
2.79	2.50	1.12	13897619	White	Clear	Fragment

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, garnets, and oxides.
- 20 + 100	Magnetic	Oxides, rock fragments, and garnets.
- 20 + 100	Non-Magnetic	Oxides and silicates (clear, white, brown, garnets), with trace rock fragments.

Total Weight (octacarats): 13897619 Number of Syndites: 0
Number of Diamonds: 1
CPHT (Total sample Grade): 291
SPFK (+ 100 mesh): 1
OCPFk (+ 100 mesh): 14567734



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35117

Batch #: 1
Weight: 48.6

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.45	0.37	0.21	62680	White	Clear	Fragmented complex crystal
0.42	0.39	0.20	60270	White	Clear	Fragmented complex crystal
0.37	0.22	0.08	11939	White	Clear	Fragment
0.22	0.22	0.10	9184	White	Clear	Fragmented octahedron
0.34	0.28	0.10	17220	White	Clear	Fragmented octahedron
0.25	0.17	0.14	10848	White	Clear	Fragment
0.25	0.14	0.10	6457	White	Clear	Fragment
0.57	0.22	0.22	50512	Brown	Clear	Fragment

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35117

Batch #: 1
Weight: 48.6

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, garnets, and oxides.
- 20 + 100	Magnetic	Oxides, garnets, and rock fragments, with minor mica.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, trace garnets), minor oxides, with graphite, corundum, and sulphides.

Total Weight (octacarats): 229112 Number of Syndites: 0
Number of Diamonds: 8
CPHT (Total sample Grade): 4
SPFK (+ 100 mesh): 8
OCPFK (+ 100 mesh): 235712



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35118

Batch #: 1
Weight: 48.4

Stone Dimension, mm			Weight (octacarats)	Stone Description		
X	Y	Z		Colour	Clarity	Morphology
0.59	0.42	0.15	67803	White	Clear	Fragmented dodecahedron
0.37	0.22	0.16	23878	White	Clear	Fragmented twinned octahedron
0.28	0.25	0.19	24538	White	Clear	Fragment
0.28	0.22	0.13	14924	White	Clear	Fragment
0.48	0.37	0.31	98311	Brown	Clear	Fragmented complex crystal

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35118

Batch #: 1
Weight: 48.4

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, garnets, and oxides.
- 20 + 100	Magnetic	Oxides, garnets, and rock fragments.
- 20 + 100	Non-Magnetic	Silicates (clear, white, brown, garnets), minor oxides, with trace graphite and corundum.

Total Weight (octacarats): 229456 Number of Syndites: 0
Number of Diamonds: 5
CPHT (Total sample Grade): 4
SPFK (+ 100 mesh): 5
OCPFK (+ 100 mesh): 237041



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Notes: 1 carat = 10⁸ octacarats.
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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: W.A. Hubacheck Consultants

Sample #: 35119

Batch #: 1
Weight: 51.8

Stone Dimension, mm			Weight	Stone Description		
X	Y	Z	(octacarats)	Colour	Clarity	Morphology
0.37	0.22	0.10	14924	White	Clear	Fragment
0.19	0.11	0.10	4018	White	Clear	Fragment



185 Concession Street, Postal Bag 4300
Lakefield, Ontario, Canada, K0L 2H0
Tel: (705) 652-2000 Fax: (705) 652-6365

September 5, 1997

Dave Christie
WA Hubacheck Consultants Ltd.
141 Adelaide Street W.
Suite 1401
Toronto, Ontario
M5H 3L5

RE: Project No. 8900-955, LIMS # Jan3019.R96

Dear Mr. Christie:

Lakefield Research Limited has completed the QC work on samples 35101 - 35119. The original data was accurate except that one (1) additional diamond was found in sample 35105. The revised Certificate of Analysis and data sheet for sample 35105 are attached. Also attached is a copy of the original report from Greg Davison.

This will conclude the QC work that we were doing on your samples. Please advise us as to what you would like done with your samples.

Please call if you have any questions.

Sincerely,
LAKEFIELD RESEARCH LIMITED

A handwritten signature in cursive script, appearing to read 'Edward C. Walker'.

Edward C. Walker, Ph.D.
Assistant Manager
Mineralogical Services

Attach.

LAKEFIELD RESEARCH LIMITED

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone : 705-652-2038

FAX : 705-652-6441

Hubacheck W. A. Consultants
141 Adelaide St. W. Suite 1401
Toronto, Ontario, M5H 3L5

Attn : Dave Christie
Fax : 416 364-5384

Lakefield, September 5, 1997

Date Rec. : January 24, 1996
LR. Ref. : JAN3019.R96
Reference : LR9551745
Project : 8900-955B#1

SUMMARY INFORMATION

Revised Results

No.	Sample ID	Batch	Wt kg	# Pours	#Diamonds
1	35101	1	44.5	7	1
2	35102	1	52.0	8	5
3	35103	1	56.6	9	0
4	35104	1	54.5	9	4
5	35105	1	56.3	9	* 3
6	35106	1	54.4	9	4
7	35107	1	63.5	10	0
8	35108	1	76.2	12	1
9	35109	1	54.9	9	2
10	35110	1	63.0	10	0
11	35111	1	54.8	9	0
12	35112	1	26.3	4	0
13	35113	1	61.2	10	3
14	35114	1	59.5	9	2
15	35115	1	52.1	8	3
16	35116	1	47.7	8	1
17	35117	1	48.6	9	8
18	35118	1	48.4	8	5
19	35119	1	51.8	8	2



Edward Walker, Ph.D.

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Phone: 705-652-2000 FAX: 705-652-6365

DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955
Client: WA Hubacheck Consultants Ltd.

Sample #: 35105

Batch #: Jan3019
Weight: 56.3

Stone Dimension, mm			Weight	Stone Description	
X	Y	Z	(octacarats)	Colour	Morphology
0.68	0.51	0.34	210772	Brown	Dodecahedral surfaces fragment
0.28	0.25	0.13	16789	Brown	Fragment on which crystal faces cannot be recognized
0.68	0.34	0.30	123984	Yellow	Fragment on which crystal faces cannot be recognized

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DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8900-955 **Sample # :** 35105 **Batch # :** Jan3019
Client : WA Hubacheck Consultants Ltd. **Weight :** 56.3

Caustic Residue:

Mesh	Fraction	Description
+ 20	Oversize	Rock fragments, oxides, and garnets.
- 20 + 100	Magnetic	Oxides and garnets, with minor rock fragments.
- 20 + 100	Non-Magnetic	Silicates, with minor oxides, trace corundum and rock fragments.

Total Weight (octacarats): 351546 Number of Syndites: 0
Number of Diamonds: 3
CPHT (Total sample Grade): 6
SPFK (+ 100 mesh): 2
OCPFK (+ 100 mesh): 312208

Daniels

Authorizing Signature

Notes: 1 carat = 10⁸ octacarats.

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Phone: 705-652-2038

Fax: 705-652-6441

Lakefield, August 21, 1997

Mineralogical Services

W.A. Hubacheck Consultants Ltd.

Reference : Batch 2

LRL Project : 8900-955

CERTIFICATE OF ANALYSIS

Attn : Dave Christie

Fax : (416) 364-5384

Sample #	QC	Diamond Indicator Minerals (-20+60mesh)									Comments
		Fraction wt (g)	Pyropes	Eclogitic	Chrome Diopside	Jadeite	Oxides		Olivine	Opx	
							Ilmenites	Chromites			
35051 (0.5NM)	**		13	5	100+	-	30+	2	-	-	3 Diamonds
35051 (0.5M)	**		100+	100+	50+	-	100+	20+	-	-	
35051 (0.1M)	**		15+	<5	<10	-	-	-	-	-	
35052 (0.5NM)	**		3	5+	50+	-	30+	-	-	-	1 Diamond, Pyr Kelyphitic Rim
35052 (0.5M)	**		100+	100+	50+	-	100+	10+	-	-	
35052 (0.1M)	**		20	-	10+	-	-	-	-	-	
35053 (0.5NM)	**		3	<10	30+	-	30+	1	-	-	
35053 (0.5M)	**		100+	50+	40+	-	100+	30+	-	-	
35053 (0.1M)	**		45+	20+	10+	-	-	-	-	-	
35054 (0.5NM)	**		-	20+	40+	-	30+	-	-	-	Ruby corundum
35054 (0.5M)	**		100+	50+	50+	-	50+	20+	-	-	
35054 (0.1M)	**		50+	10+	10+	-	-	-	-	-	
35055 (0.5NM)	**		<30	10+	30+	-	25+	4	-	-	
35055 (0.5M)	**		100+	100+	50+	-	50+	20+	-	-	
35055 (0.1M)	**		15	-	-	-	-	-	-	-	

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P.O. Box 4300, 185 Concession St., Lakefield, Ontario, K0L 2H0

Phone: 705-652-2038

Fax: 705-652-6441

W.A. Hubacheck Consultants Ltd.

CERTIFICATE OF ANALYSIS

Reference : Batch 2

LRL Project : 8900-955

Sample #	QC	Diamond Indicator Minerals (-20+60mesh)									Comments
		Fraction wt (g)	Pyropes	Eclogitic	Chrome Diopside	Jadeite	Oxides		Olivine	Opx	
							Ilmenites	Chromites			
35056 (0.5NM)	**		<20	<10	30+	-	30+	-	-	-	
35056 (0.5M)	**		65+	50+	50+	-	50+	20+	-	-	
35056 (0.1M)	**		<10	<5	15+	-	-	-	-	-	
35057 (0.5NM)	**		<7	<10	30+	-	25+	-	-	-	
35057 (0.5M)	**		60+	50+	50+	-	50+	20+	-	-	
35057 (0.1M)	**		4	-	<5	-	-	-	-	-	
35058 (0.5NM)	**		2	<5	25+	-	25+	1	-	-	
35058 (0.5M)	**		80+	50+	40	-	50+	10+	-	-	
35058 (0.1M)	**		9	-	<5	-	-	-	-	-	
35059 (0.5NM)	**		13+	<10	30+	-	30+	1	-	-	
35059 (0.5M)	**		100+	50+	50+	-	50+	20+	-	-	
35059 (0.1M)	**		<14	-	<10	-	-	-	-	-	

Note: "+" indicates more grains are present in sample.

Note: ** These samples have been repicked as part of our Quality Control program.

The selected grains must be chemically analyzed to classify the minerals as diamond indicators.

Daniels

 Delene Daniels

APPENDIX D:
PETROGRAPHIC REPORT
ON
DRILL CORES MRA-95-03 AND MRA-95-04
BY ROGER H. MITCHELL

W. A. HUBACHECK CONSULTANTS LTD.

PROJECT 216

**PETROGRAPHIC REPORT ON DRILL CORES
MRA-95-03 AND MRA-95-04**

**ROGER H. MITCHELL
CONSULTANT PETROLOGIST**

PROJECT 216 - W.A. HUBACHECK CONSULTANTS

Samples from drill cores DDH MRA-95-03 and 04 consist of 5 individual types or groups of rocks:

Pelletal-textured diatreme facies volcanoclastic kimberlite breccias - type 1:

Sample numbers 2, 3, 4, 5, 9, 10, 11, 13, 14

Diatreme facies volcanoclastic kimberlite breccias - type 2:

Sample numbers 12, 15, 16, 17

Hypabyssal facies kimberlites:

Sample numbers 7, 18

Mantle-derived ultramafic xenoliths:

Sample numbers 1, 6

Lower crustal xenolith

Sample number 8

Pelletal-textured volcanoclastic kimberlite heterolithic breccias (type 1)

One petrographic description suffices for all of these volcanoclastic heterolithic breccias as they are essentially similar with respect to their clast content and petrography. Samples differ in that those from the lower parts of the drill core are relatively fresh. Photomicrographs illustrating the overall textures and colour of the rocks are included in this report, although all of these kimberlites are most unsuitable for petrographic studies due to the intense alteration.

Sample # 2 (108.0) is typical of the group. It contains diverse angular clasts of country rock, elongate clasts of country rock black shale, pelletal lapilli set in fine grained matrix consisting of serpentine and comminuted clasts.

Country rock clasts (<10mm) are angular-to-subrounded gneisses, carbonate and quartz-carbonate rocks (Figs. 1-3). Many appear to have been strongly altered and carbonated. However, none exhibit significant reaction rims which suggest alteration was not related to incorporation in their current host. The majority of these clasts are not mantled by kimberlite, although rare thin "skins" may be noted around some examples. These mantles are commonly discontinuous. Some clasts appear to be microxenoliths in autoliths of hypabyssal kimberlite.

Elongate near-opaque clasts (<5mm) of a black shale-like rock in contrast to the above commonly exhibit thin discontinuous mantles of hypabyssal-like kimberlite. The latter consists of flow-aligned macrocrystal micas, large rounded perovskites, and spinels set in a very fine grained matrix of serpentine and calcite.

Pelletal lapilli (figs. 1-3) exhibit a very wide range in size (<10mm). Typically, they consist of serpentinized macrocrystal olivine cores mantled by hypabyssal-like kimberlite. The latter is similar to the kimberlite forming mantles on the shale clasts. It consists of flow aligned microphenocrystal/macrocrystal phlogopite, large brownish rounded perovskite and subhedral-to-euhedral spinel set in matrix of calcite and serpentine. Some of the euhedral microphenocrystal olivines in these lapilli exhibit necklace textures of spinel and perovskite.

Smaller rounded clasts which are petrographically similar to the cored-pelletal lapilli are common (Figs.2 & 4). They differ in that they lack macrocryst kernels and do not have well-developed flow alignment of micas. None of these lapilli-like clasts appear to be autoliths. Elongation of some examples (especially in sample #10) suggests that they were relatively plastic at the time of incorporation in their current host, hence they may be thought of as a type of juvenile lapilli. Individual lapilli differ with respect to the number of macrocrystal olivines and phlogopites they contain, but overall they may be considered to be petrographically-similar.

Single crystals of serpentinized (retrograde lizardite plus amorphous dark brown iron oxide/hydroxides) macrocrystal olivine are common (Figs. 2-4). These are identical to the olivine pseudomorphs comprising the cores of pelletal lapilli. Although they lack kimberlite mantles they do typically possess dark coloured reaction fringes of very fine grained diopside.

Macrocrysts of colourless-to-pale orange phlogopite comprise the least abundant (<1 vol.%) members of the clast/macrocryst assemblage. These are typically not altered but may be distorted. The macrocrysts are similar to mica macrocrysts found within pelletal lapilli.

The matrix (Figs. 4-6) in which all of the above are set consists primarily of very fine grained colourless serpophitic serpentine which is intimately intergrown with dark-coloured very small crystals of diopside and its alteration products. Set in this matrix are the products of comminution and disaggregation of lapilli and xenoliths. Hence, it is possible to find single crystals of perovskite and spinel which have been liberated from their parent lapilli. Many of the smaller juvenile-like lapilli appear to grade continuously into the groundmass (Fig 4). Reaction fringes of diopside have been formed upon many of the olivine macrocrysts and pelletal lapilli (Fig. 7).

Sample # 3 (117.13)

This is similar to the above excepting in that in the thin section no large pelletal lapilli are present. Many of the small pelletal lapilli have eccentric kernels. Alteration is more intense and the volume of interclast matrix is smaller. Essentially this is clast supported breccia.

Sample # 4 (120.5)

This is identical to sample # 3.

Sample # 5 (120.8)

Contains a large autolithic clasts of perovskite-rich hypabyssal kimberlite

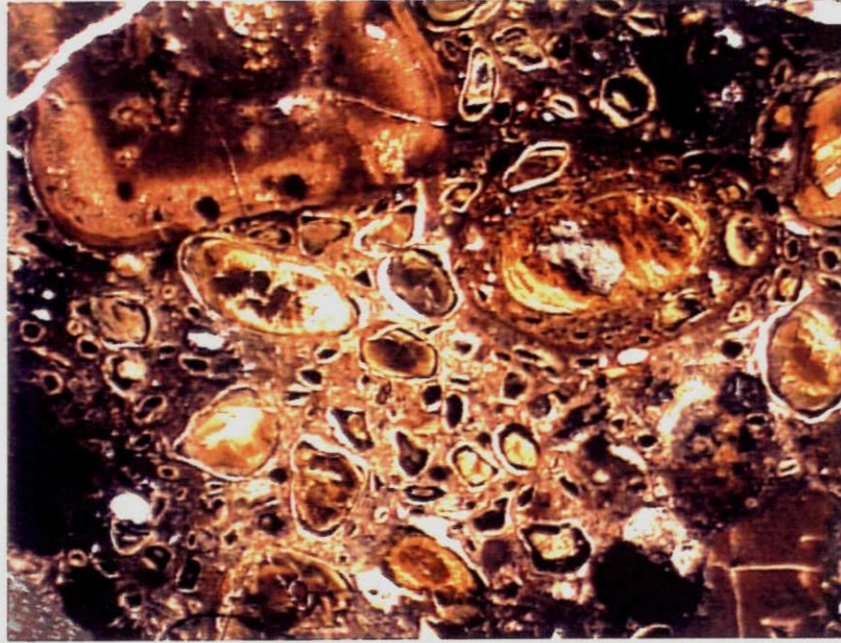


Fig. 1 Pelletal lapillus, angular xenolith and macrocrystal olivines. Sample # 14
Volcaniclastic heterolithic kimberlite breccia. (FOV 7 mm PPL)

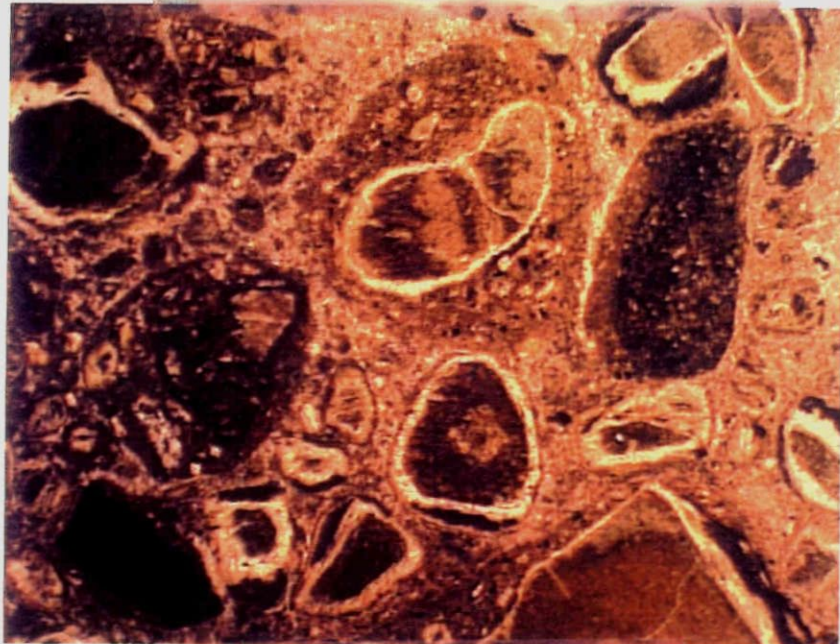


Fig. 2. Pelletal lapillus, juvenile lapillus, crustal microxenoliths and macrocrystal olivines.
Sample # 2 Volcaniclastic heterolithic kimberlite breccia. (FOV 7 mm PPL)

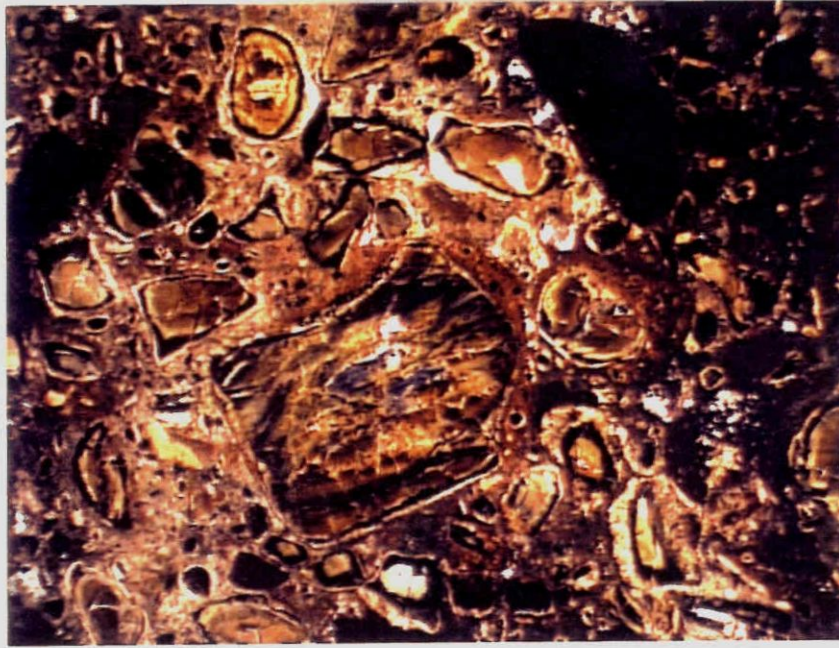


Fig. 3 Pelletal lapillus, angular xenolith and macrocrystal olivines. Sample # 14
Volcaniclastic heterolithic kimberlite breccia. (FOV 4 mm PPL)

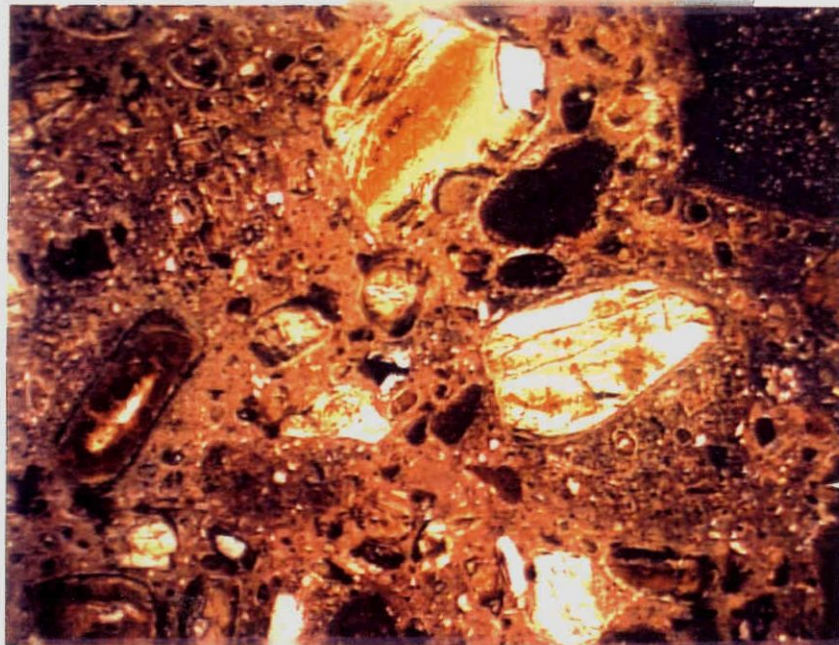


Fig. 4. Pelletal lapillus, juvenile lapilli, and macrocrystal olivines.
Sample # 11 Volcaniclastic heterolithic kimberlite breccia. (FOV 7 mm PPL)

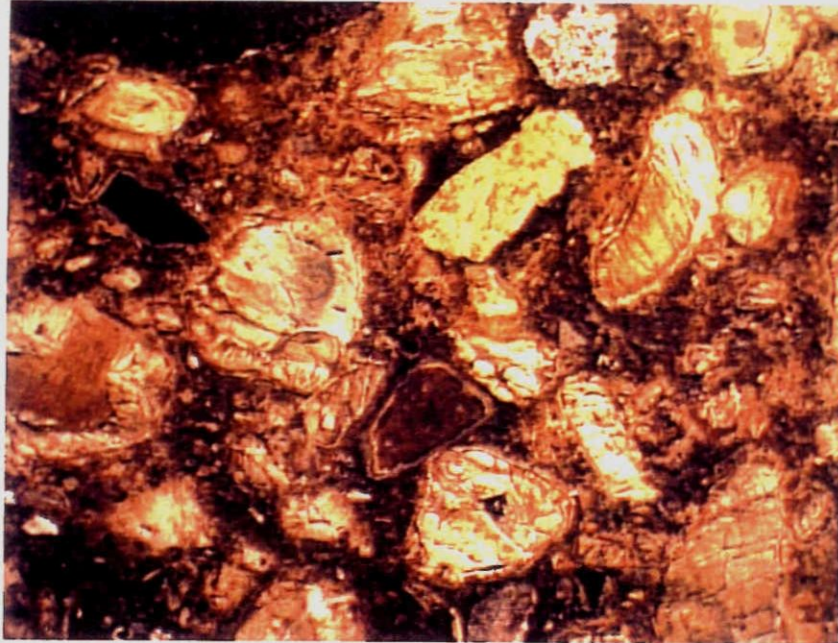


Fig. 5 Angular microxenolith and macrocrystal olivines set in the characteristic matrix of these volcanoclastic heterolithic kimberlite breccias. Sample # 5 (FOV 4 mm PPL)

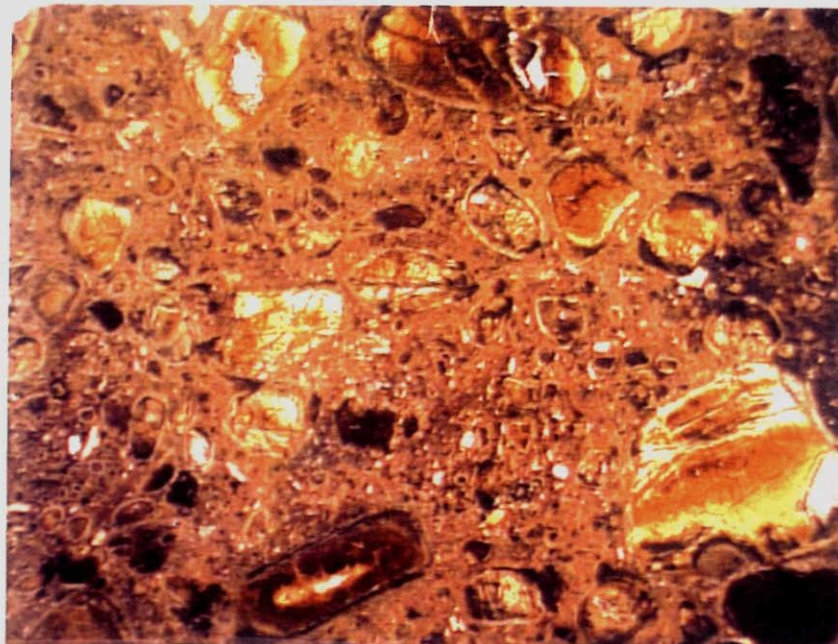


Fig. 6. Typical matrix of these volcanoclastic heterolithic kimberlite breccias. Sample # 11 (FOV 4 mm PPL)



Fig. 7 Interclast matrix consisting of colourless serpohtic serpentine and fine grained diopside (dark grey). Note the diopside fringes on the macrocrystal olivines. Sample # 14 (FOV 1 mm PPL).

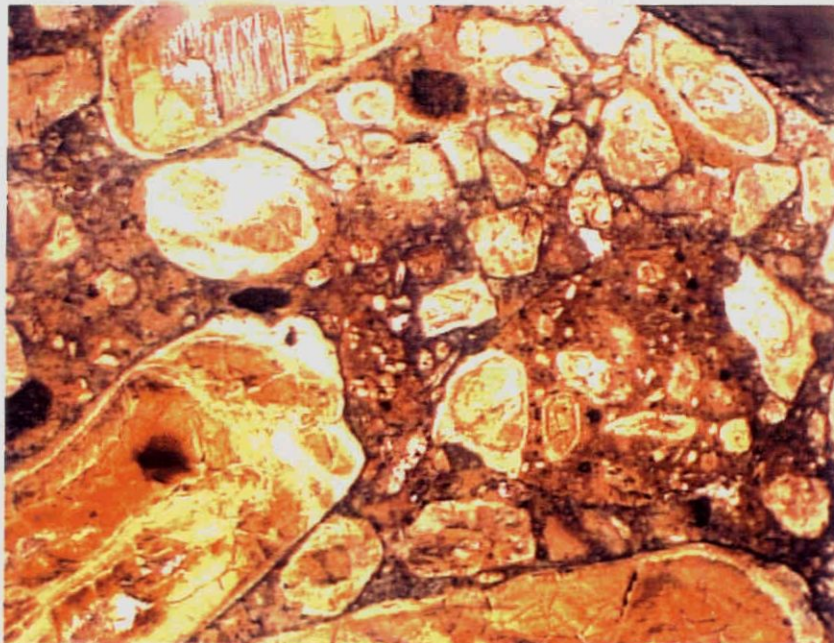


Fig.8. Type 2 volcaniclastic heterolithic kimberlite breccia with ovoid juvenile lapillus and macrocrystal olivine set in a fine grained serpohtite-diopside matrix. Sample # 15 (FOV 7 mm PPL)

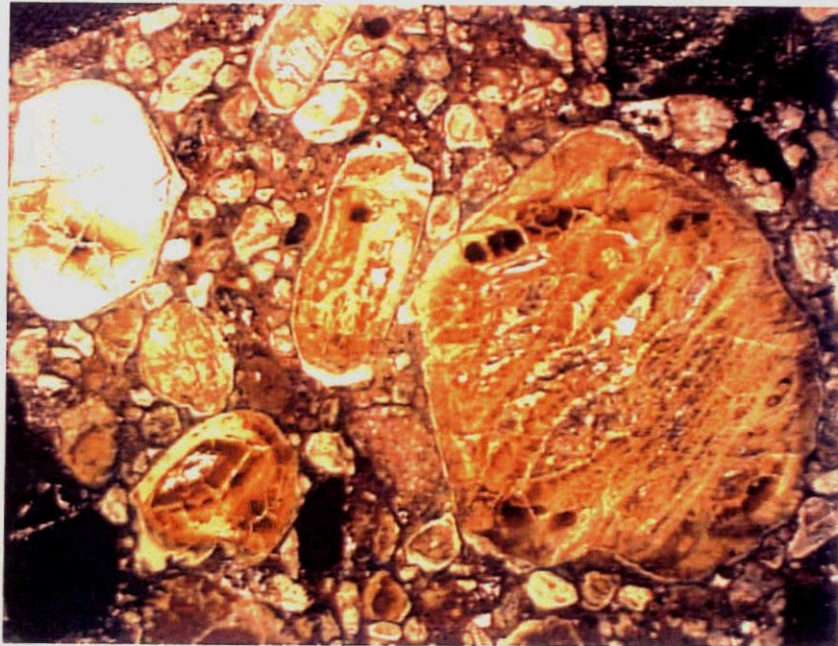


Fig. 9. Type 2 volcanoclastic heterolithic kimberlite breccia with macrocrystal olivine set in a fine grained serphophite-diopside matrix. Sample # 16 (FOV 7 mm PPL).

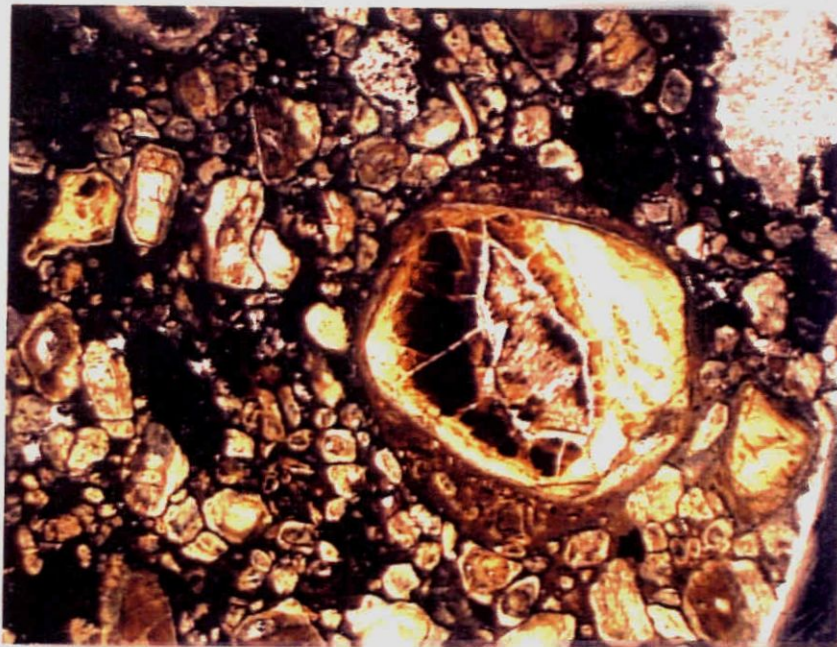


Fig.10. Type 2 volcanoclastic heterolithic kimberlite breccia pelletal lapillus and macrocrystal olivine set in a fine grained serphophite-diopside matrix. Sample # 15 (FOV 7 mm PPL)

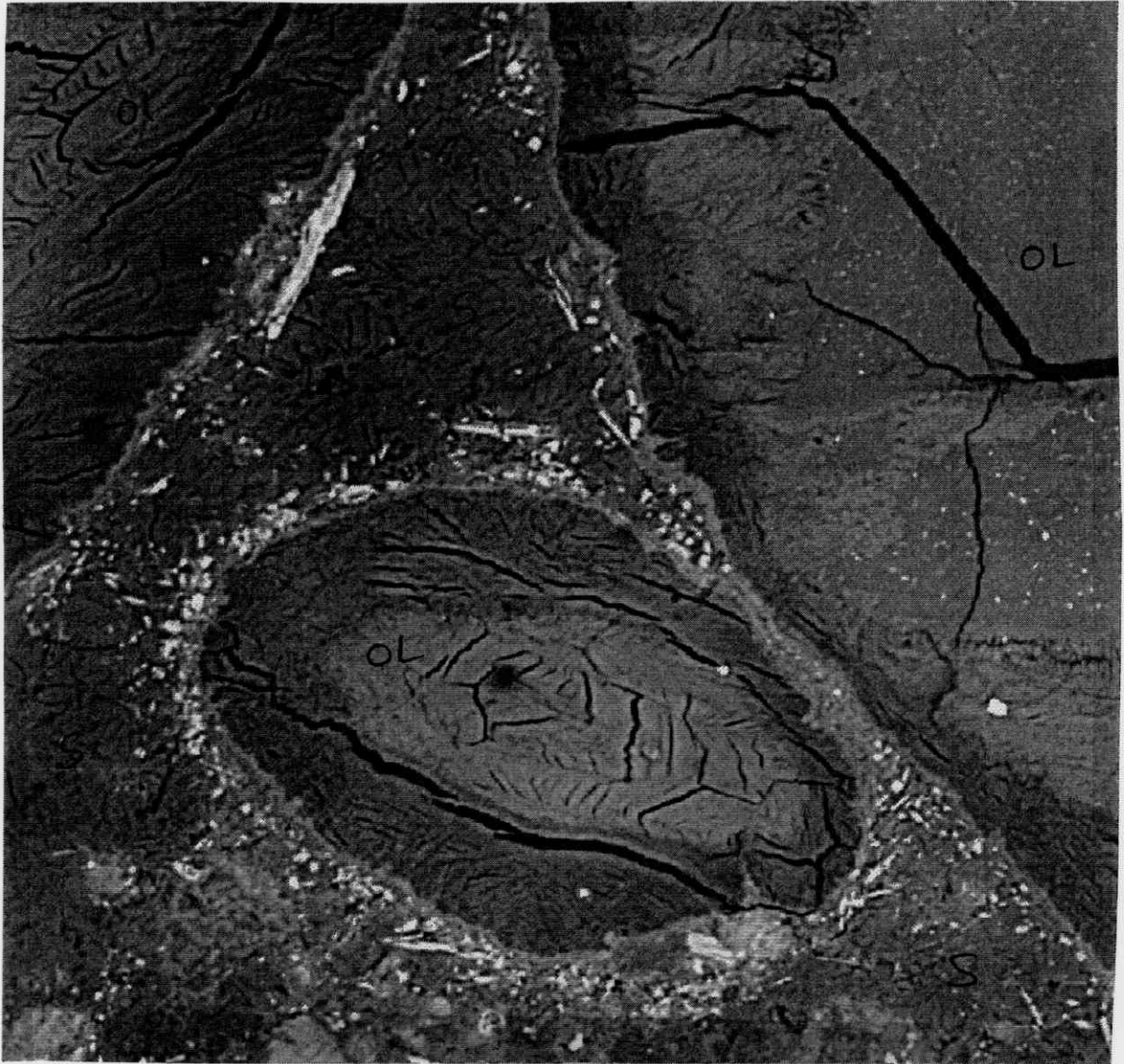


Fig. 11. Serpentinized macrocrystal olivines (Ol) with fringes of fine grained diopside (white) set in a matrix which consists predominandy of serphitic serpentine (S) . Sample # 15 (Back scattered electron image - FOV 180 microns).

Sample # 9 (150.2)

Similar to sample # 2 but contains some patches of coarse calcite (secondary) in the inter-clast matrix.

Samples #10 (180.1) and # 11 (189.9)

Similar to sample #2

Sample # 13 (206)

Similar to sample #2 but relatively fresh as diopside fringes are better preserved. Contains a large autolith (10mm) of hypabyssal kimberlite. This autolith is relatively-poor in macrocrystal mica compared to the pelletal lapilli but is otherwise fairly similar.

Sample # 14 (237.9)

Similar to sample 2 but fresher. Diopside fringes around clasts and macrocrysts are well preserved (Fig. 7 & 11).

Samples 13 and 14 mark the transition to type 2 volcanoclastic breccias.

Volcanoclastic heterolithic kimberlite breccias (type 2)

Samples #'s 12 (197.5), 15 (255.8), 16 (317.0), 17 (317.0).

These rocks are very similar to the volcanoclastic breccias described above. They contain similar country rocks clasts but I consider that they differ in containing more olivine macrocrysts and fewer pelletal lapilli. They are definitely better preserved than the breccias in the upper portion of the core. A significant feature of the rocks is the preservation of a diopside-rich interclast matrix - the hall mark of diatreme-facies rocks. Because of the similarities with type 1 breccias detailed descriptions are not required. Figures 8-10 are representative of their textures.

Figure 7 shows a well-developed dark fine grained diopside fringes in transmitted light while figure 11 (BSE-image) clearly illustrates the presence of many small prismatic diopside crystals in a serpentine matrix. These diopsides are essentially pure diopside that exhibit very little solid solution towards other pyroxene components (Table 1).

Hypabyssal kimberlites

Sample #7 (139.25)

Contains (1) angular small xenoliths of near-opaque shale-like material (<2%) which lack kimberlite mantles (2) serpentinized macrocrystal olivines (3) macrocrystal phlogopite.

Rounded olivine macrocrysts are pseudomorphed by a mixture of lizardite and brown serpophite (Fig. 12). Very small relicts of fresh olivine are rarely preserved.

Macrocrystal micas are colourless-to-pale yellow orange plates which are typically distorted and deformed. They range in size from typical macrocrysts (mm) to very small prisms and plates scattered throughout the matrix.

The groundmass (Fig. 13) contains subhedral-to-euhedral completely pseudomorphed olivine microphenocrysts. These have been replaced by a mixture of serpentine and calcite. The pseudomorphs are mantled by pale yellow oxide-free serpophite.

Perovskite is present as relatively large dark brown rounded crystals together with smaller subhedral-to-euhedral crystals of opaque spinels. Atoll spinels are not present.

Macrocrysts and oxides are set in in very fine grained intimate intergrowth of serpophitic serpentine and lesser calcite. The texture is essentially uniform, although there are portions of the mesostasis which consist primarily of oxide-free serpophite. Some small irregular calcite segregations are also present. The degree of segregation is insufficient to state that this rock has a segregation texture.

This sample is a hypabyssal macrocrystal serpentine kimberlite. It is similar in character to the kimberlites which form the mantles of pelletal lapilli in the volcanoclastic breccias.

Sample #18 (353.5)

Contains large (<5mm) rounded olivine macrocrysts (Fig. 14). These are fresh and serpentinization is confined to the formation of minor lizardite along fractures. The olivines do not exhibit deformation features. Macrocrystal mica is present as colourless-to-pale yellow orange laths.

The groundmass (Fig. 15) contains relatively few microphenocrystal olivines. These are for the most part completely pseudomorphed by serpentine. The characteristic feature of the groundmass is the presence of abundant small laths of phlogopite. These do not exhibit deformation features and are commonly flow-aligned around the olivine macrocrysts. Their pleochroism is similar to that of the larger macrocrystal micas. It is highly probable that these groundmass micas are primary microphenocrysts.

The remainder of the groundmass contains subhedral dark reddish brown perovskites and subhedral opaque spinels set in pale yellow brown intimate intergrowth of serpophite and calcite. Numerous amoeboid-to-irregular segregations are present (Fig. 14). These grade into the serpentine-oxide groundmass and are characterized by enrichment in calcite at their margins. The bulk of the segregation consists of oxide and calcite-free serpophite which may contain laths of chloritized/vermiculitized mica.

This sample is a hypabyssal segregation textured macrocrystal serpentine kimberlite. It differs from other hypabyssal-like kimberlites (sample # 7 and lapilli in the volcanoclastic rocks), by the preservation of fresh macrocrystal olivine and in enrichment in phlogopite but is otherwise similar.

Mantle-derived ultramafic xenoliths

Samples #1 and 6 are coarse-grained or granular garnet lherzolites, consisting primarily of olivine together with minor orthopyroxene and diopside. The olivines are undeformed and in part replaced by pale yellow-brown lizardite (mesh-veining) together with an opaque material (probably iron oxides). Rounded garnets are in some instances mantled by a thin rim of phlogopite and subhedral opaque spinels. Similar micas occur adjacent to pyroxenes. This is a common texture in mantle-derived ultramafic xenoliths and is known as a "mica-pool". The origins are much debated but

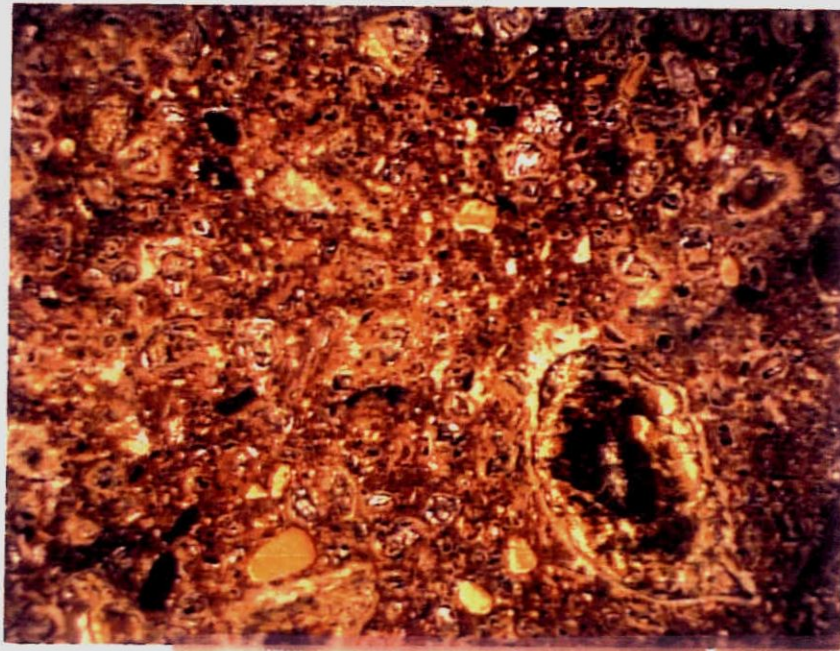


Fig. 12. Hypabyssal macrocrystal serpentine kimberlite. Sample # 7 (FOV 7 mm PPL).

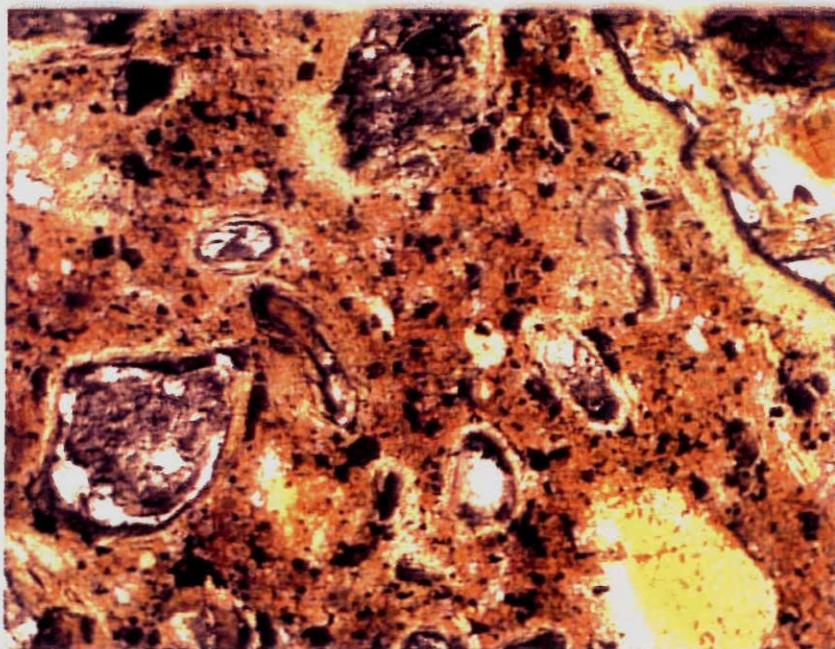


Fig. 13. Groundmass of hypabyssal macrocrystal serpentine kimberlite. Sample # 7 (FOV 1 mm PPL).



Fig. 14. Segregation-textured hypabyssal macrocrystal serpentine kimberlite. Sample # 18 (FOV 7 mm PPL).

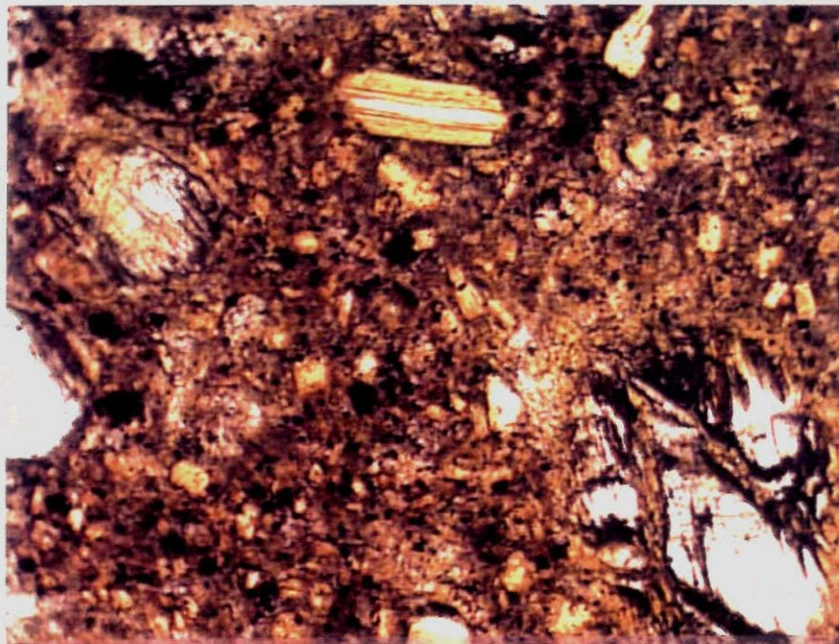


Fig. 15. Silicate-oxide groundmass of segregation-textured hypabyssal macrocrystal serpentine kimberlite with abundant mica "microphenocrysts". Sample # 18 (FOV 1 mm PPL).

the general consensus is that the micas are probably secondary.
Sample 6 is more intensely altered than sample 1.

Lower crustal xenolith

Sample # 8 (146.5) is a coarse grained allotriomorphic granular metamorphic rock. It consists of large crystals of pale green clinopyroxene with mantles of garnet, amoeboid opaque ilmenite, calcite and altered plagioclase (Fig. 16).

The clinopyroxene shows a weak pleochroism in shades of pale green. All crystals contain orientated rods of opaque to dark brown material of exsolution origin. Table 1 shows that the pyroxene is an aluminian sodic diopside. The exsolved phase is predominantly ilmenite which is very poor in Mg, Mn and Nb (<1 wt% oxide each) together with minor rounded opaque magnetite.

Garnets mantling the pyroxenes are colourless-to-pink and characterized by the presence of large numbers of vermiform fluid inclusions (Fig. 17). The mantles consist of chains of single crystals of garnet. They are irregular and discontinuous. The portions of the mantle away from the pyroxene are subhedral. Table 1 demonstrates that the garnets are almandine-grossular-pyrope solid solutions. Their composition is unlike that of pyrope garnets found in typical mantle-derived lherzolites and eclogites. The garnets have on the basis of their texture formed by fluid assisted subsolidus reactions between pyroxene and plagioclase.

Plagioclase forms highly altered granular crystals and is commonly replaced by patches of coarse calcite. Anhedral-to-amoeboid ilmenites are enclosed in pyroxene, garnet and plagioclase.

This rock was probably originally a lower crustal granulite that had been subjected to retrograde metamorphism in the lower crust prior to its incorporation in this kimberlite. It is not possible to determine whether or not the alteration of plagioclase and introduction of carbonate occurred during transport in the kimberlite.



Fig. 16. Highly altered, pyroxene (light green) - plagioclase (dark brown) rock with subsolidus reaction garnet (pinkish). Sample #8 (FOV 7 mm PPL).



Fig. 17. Light green diopside mantled by, and intergrown with, colourless-to-pinkish, fluid inclusion filled-garnet. Sample #8. (FOV 4 mm PPL).

Table 1. Compositions of pyroxenes and garnets.

	1	2	3	4	5
SiO ₂	51.08	51.31	37.58	37.67	55.10
TiO ₂	0.22	0.21	0.0	0.0	0.16
Al ₂ O ₃	3.96	3.56	21.17	20.82	0.91
Cr ₂ O ₃	0.07	0.06	n.d.	n.d.	n.d.
FeO _t	9.76	10.03	26.57	27.16	3.51
MnO	0.04	0.07	0.69	0.83	0.12
MgO	11.37	11.13	5.08	5.45	18.01
CaO	19.68	20.35	7.28	5.78	20.74
Na ₂ O	1.66	1.68	n.d.	n.d.	0.76
Total	97.84	98.40	98.37	97.71	99.31
Structural formulae					
Si	1.945	1.954	2.992	3.016	2.005
Ti	0.006	0.006	-	-	-
Al	0.178	0.159	1.986	1.905	0.039
Cr	0.006	0.006	-	-	-
Fe	0.311	0.319	1.768	1.819	0.107
Mn	0.001	0.002	0.046	0.056	0.004
Mg	0.645	0.631	0.603	0.651	0.977
Ca	0.803	0.829	0.618	0.496	0.809
Na	0.123	0.124	-	-	0.054
Pyroxene end-members					
Tipx	0.65	0.61	Garnet 3 is X _{3.036} Al _{1.986} Si _{2.992}		
CATS	6.46	5.82	Garnet 4 is X _{3.022} Al _{1.965} Si _{3.02}		
Ae	12.56	12.6	where X = Mg, Fe, Mn		
Wo	37.6	38.95			
En	9.65	9.95			
Fs	33.08	32.09			
Recalculated in to Ae-Di-Hd					
Ae	14.31	13.92			6.23
Di	19.35	20.33			4.84
Hd	66.34	66.75			88.93

 FeO_t is total Fe expressed as FeO, as these minerals contain Fe³⁺ totals are less than 100wt%.

1-2 Diopsides in sample # 8; 3-4 subsolidus reaction garnet, sample # 8; 5 diopside in fringe on macrocrystal olivine, sample # 15. All data Cameca SX-50 WDS microprobe.



Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use) W9780.01115 Assessment Files Research Imaging

Personal information collected on this Mining Act, the information is a public Questions about this collection sho 933 Ramsey Lake Road, Sudbury, O



31M12SW2001 2.17856 LUNDY

900

ing Act. Under section 8 of the ond with the mining land holder. opment and Mines, 6th Floor,

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240. - Please type or print in ink.

2.17856

1. Recorded holder(s) (Attach a list if necessary)

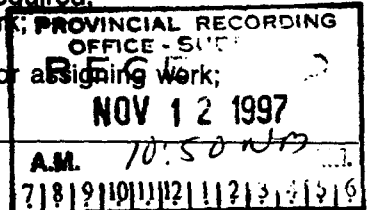
Name: Sudbury Contact Mines Ltd., Address: Suite 2302, 401 Bay Street, Toronto, Ontario, M5H 2Y4. Client Number: 198617, Telephone Number: (416)-947-1212, Fax Number: (416)-367-4681.

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

Geotechnical: prospecting, surveys, assays and work under section 18 (regs) [] Physical: drilling, stripping, trenching and associated assays [✓] Rehabilitation []

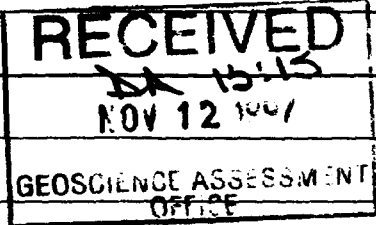
Work Type: Diamond Drilling, Mineral Processing and Petrographic Report. Office Use: Commodity, Total \$ Value of Work Claimed, NTS Reference, Mining Division: Harder, Resident Geologist District.

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required; - provide proper notice to surface rights holders before starting work; - complete and attach a Statement of Costs, form 0212; - provide a map showing contiguous mining lands that are linked for a Bigging work; - include two copies of your technical report.



3. Person or companies who prepared the technical report (Attach a list if necessary)

Name: R.J. Knowles, W.A. Hubachek Consultants Ltd., Address: #807-365 Bay Street, Toronto, Ont. M5H 2W1. Telephone Number: (416)-364-2895, Fax Number: (416)-364-5384.



4. Certification by Recorded Holder or Agent

I, Raymond J. Knowles, do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

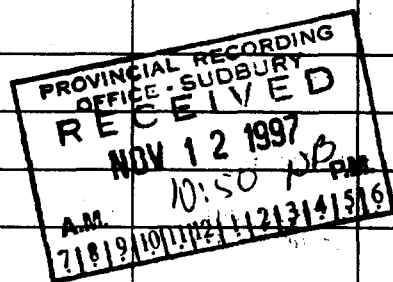
Signature of Recorded Holder or Agent: [Signature], Date: Nov 6, 1997. Agent's Address: W.A. Hubachek Consultants Ltd., #807-365 Bay St., Toronto, Ontario. Telephone Number: 416-364-2895, Fax Number: 416-364-5384.

Deemed Feb 10/98

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg TB 7827	16 ha	\$26,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$8,892	\$4,000	0	\$4,892
1 1202724	4	208,969	0	0	208969
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Column Totals		208,969	0	0	208969

2.17656



I, _____, do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing: _____ Date: Nov 6, 1997

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	



Ministry of
Northern Development
and 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

W9780.0115

PROVINCIAL RECORDING
OFFICE - SUDBURY
RECEIVED
NOV 12 1997
18:50 MB

2,17856

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. Les renseignements recueillis sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4^e 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	8,445.00	
	Field Supervision Supervision sur le terrain	13,090.50	15,165.50
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type Diamond Drilling	88,918.18	
	Site Preparation	2,235.60	
	Sample Processing	80,823.75	
	Petrography	2,648.00	
	Management Fees	11,828.43	
Supplies Used Fournitures utilisées	Type Supplies	424.88	
	Reproduction	21.50	
	Telephone	20.83	
	Typing logs	379.97	797.18
	Expenses	882.60	
Equipment Rental Location de matériel			882.60
Total Direct Costs Total des coûts directs			204,808.11

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 Truck Rental	1899.49	
	Fuel	911.50	
	Shipping	482.17	
	Courier	20.50	
Food and Lodging Nourriture et hébergement	Food	346.91	346.91
Mobilization and Demobilization Mobilisation et démobilisation	Travel	499.83	499.83
Sub Total of Indirect Costs Total partiel des coûts indirects			4160.40
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			4160.40
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)	208,968.51

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
	x 0.50 =

RECEIVED
NOV 12 1997
GEOSCIENCE ASSESSMENT

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 Contract Geologist I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

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	Evaluation totale demandée
	x 0,50 =

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 [Signature] Date Nov 6, 1997

April 24, 1998

SUDBURY CONTACT MINES LIMITED
2302-401 BAY ST.
BOX 102
TORONTO, Ontario
M5H-2Y4

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (705) 670-5881

Dear Sir or Madam:

Submission Number: 2.17856

Status

Subject: Transaction Number(s): W9780.01115 Approval After Notice

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in **DUPLICATE** to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at jeromel2@epo.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,



ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Work Report Assessment Results

Submission Number: 2.17856

Date Correspondence Sent: April 24, 1998

Assessor: Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9780.01115	1202724	LUNDY	Approval After Notice	March 24, 1998

Section:

16 Drilling PDRILL

17 Assays ASSAY

The 45 days outlined in the Notice dated February 05, 1998 have passed.

Assessment work credit has been approved as outlined on the attached Distribution of Assessment Work Credit sheet.

Correspondence to:

Resident Geologist
Kirkland Lake, ON

Recorded Holder(s) and/or Agent(s):

Raymond J. Knowles
TORONTO, ONTARIO, CANADA

Assessment Files Library
Sudbury, ON

SUDBURY CONTACT MINES LIMITED
TORONTO, Ontario

Distribution of Assessment Work Credit

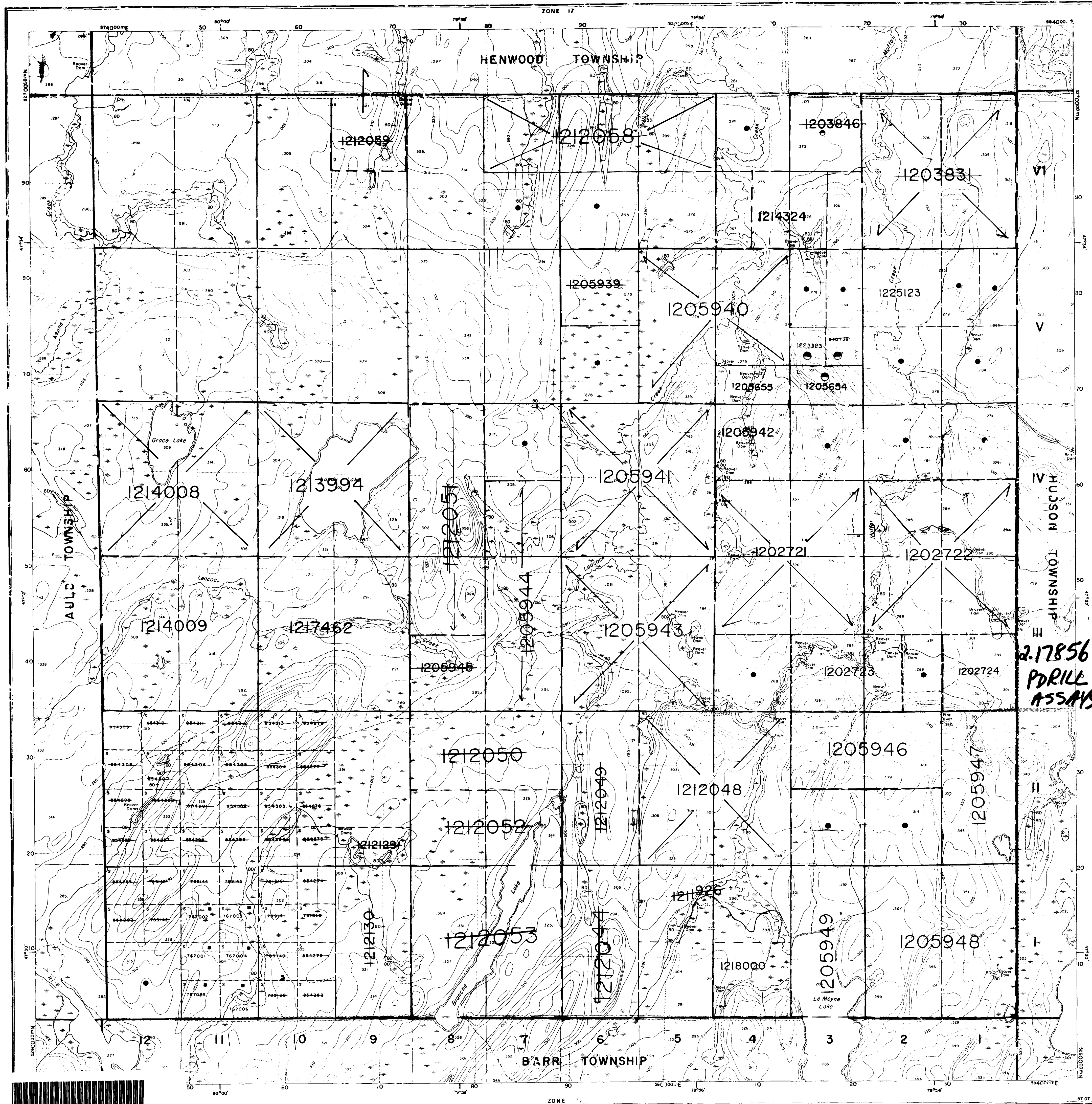
The following credit distribution reflects the value of assessment work performed on the mining land(s).

Date: April 24, 1998

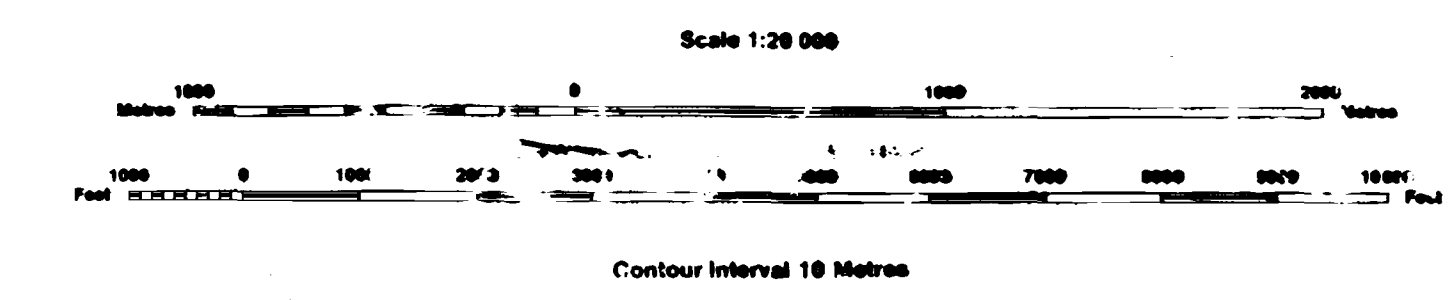
Submission Number: 2.17856

Transaction Number: W9780.01115

<u>Claim Number</u>	<u>Value Of Work Performed</u>
1202724	197,141.00
Total: \$	<hr/> 197,141.00



INDEX TO LAND DISPOSITION
 PLAN 3-3439
 TOWNSHIP LUNDY
 M.N.R. ADMINISTRATIVE DISTRICT TEMAGAMI
 LARDER LAKE
 TIMISI AMING



AREAS WITHDRAWN FROM DISPOSITION
 MR - Mining Rights Only
 SRO - Surface Rights Only
 M + S - Mining and Surface Rights

SYMBOLS

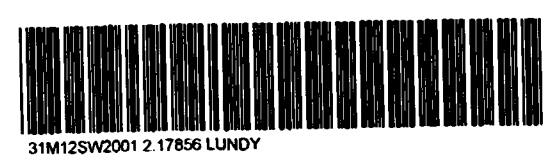
Boundary	—
Township, Meridian, E - Lines	—
Road allowance, surveyed	—
short cut	—
Lot/Concession, surveyed	—
unsurveyed	—
Parcel, surveyed	—
unsurveyed	—
Right-of-way, road	—
railway	—
utility	—
Reservation	—
Cliff, P - Pile	—
Contour	—
Interpolated	—
Approximate	—
Depression	—
Control point (horizontal)	—
Flood, land	—
Mine road frame	—
Pipe line (above ground)	—
Railway, single track	—
double track	—
Road, highway, county, township	—
access	—
trail, bush	—
Shoreline (original)	—
Transmission line	—
Wooded area	—

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
 Cancelled
 Reservation
 Sand & Gravel

THIS TOWNSHIP FALLS WITHIN THE TEMAGAMI COMPREHENSIVE PLANNING AREA. SPECIAL WORKING CONDITIONS MAY APPLY TO EXPLORATION ACTIVITIES. FOR MORE DETAILS PLEASE CONTACT:
 DISTRICT MANAGER,
 NORTH BAY DISTRICT
 MINISTRY, NATURAL RESOURCES

NOTICE OF FORESTRY ACTIVITY
 THIS TOWNSHIP / AREA FALLS WITHIN THE LATCHFORD MANAGEMENT UNIT AND MAY BE SUBJECT TO FORESTRY OPERATIONS. THE MNR UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT:
 P.O. BOX 38
 LAKESHORE DRIVE
 TEMAGAMI, ONT.
 P0H 2H0
 705-569-3622

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