2.17494

REPORT

ON

DIAMOND DRILL HOLE

DR95-34

BY

MIDWEST DRILLING

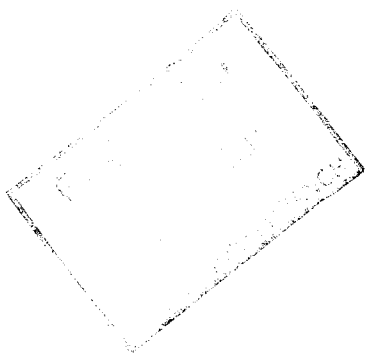
FOR

KWG RESOURCES

ON CLAIM

1204022

MARCH 1995



010

PREPARED BY: STEVE S. MUNRO, B.Sc.
Thursday, March 06, 1997

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1.0 INTRODUCTION

This report describes a single diamond drill hole, drilled by Midwest Drilling on behalf of KWG Resources Inc. of Toronto, Ontario, located north of the Attawapiskat River in the James Bay Lowlands of Ontario.

The drill hole was part of a drilling programme, carried out from a base established at Spider Lake, located approximately 300km northeast of the town of Nakina, Ontario. Drilling commenced on March 20, 1995 and was completed on March 25, 1995. A total depth of 383m was reached.

2.0 DRILL HOLE LOCATION

The drill hole is located approximately eight kilometers north of the Attawapiskat River, at the following coordinates:

53° 10.430' North Latitude
and 85° 27.541' West Longitude

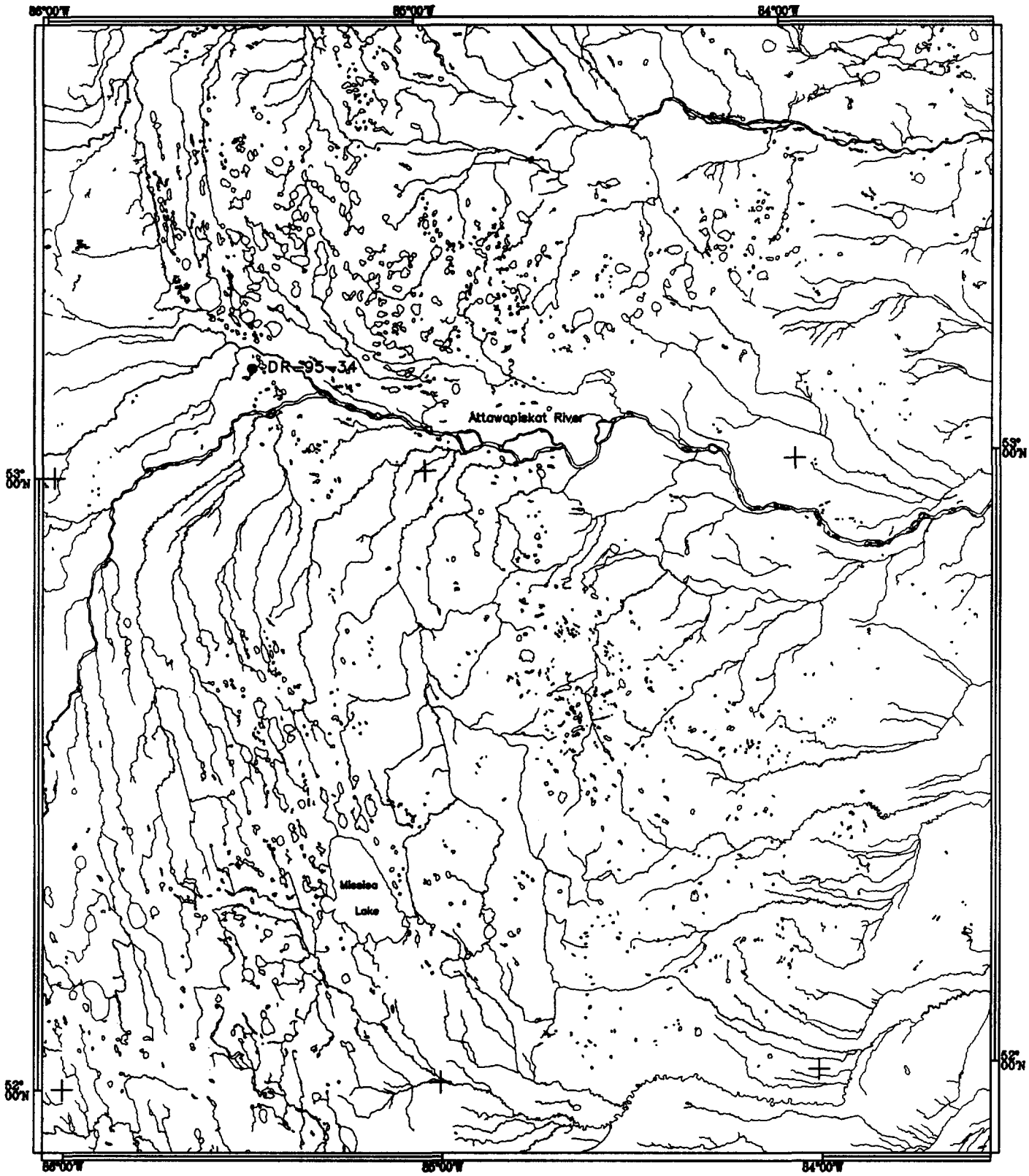
The location of the drill hole is shown in figure 1.

3.0 DRILL HOLE PLAN AND LOG

Specific information about the drill hole is included in the geologist's drill log that accompanies this report. Along with the drill log is a plan map showing the drill hole's location on the claim

4.0 THE DRILL CORE

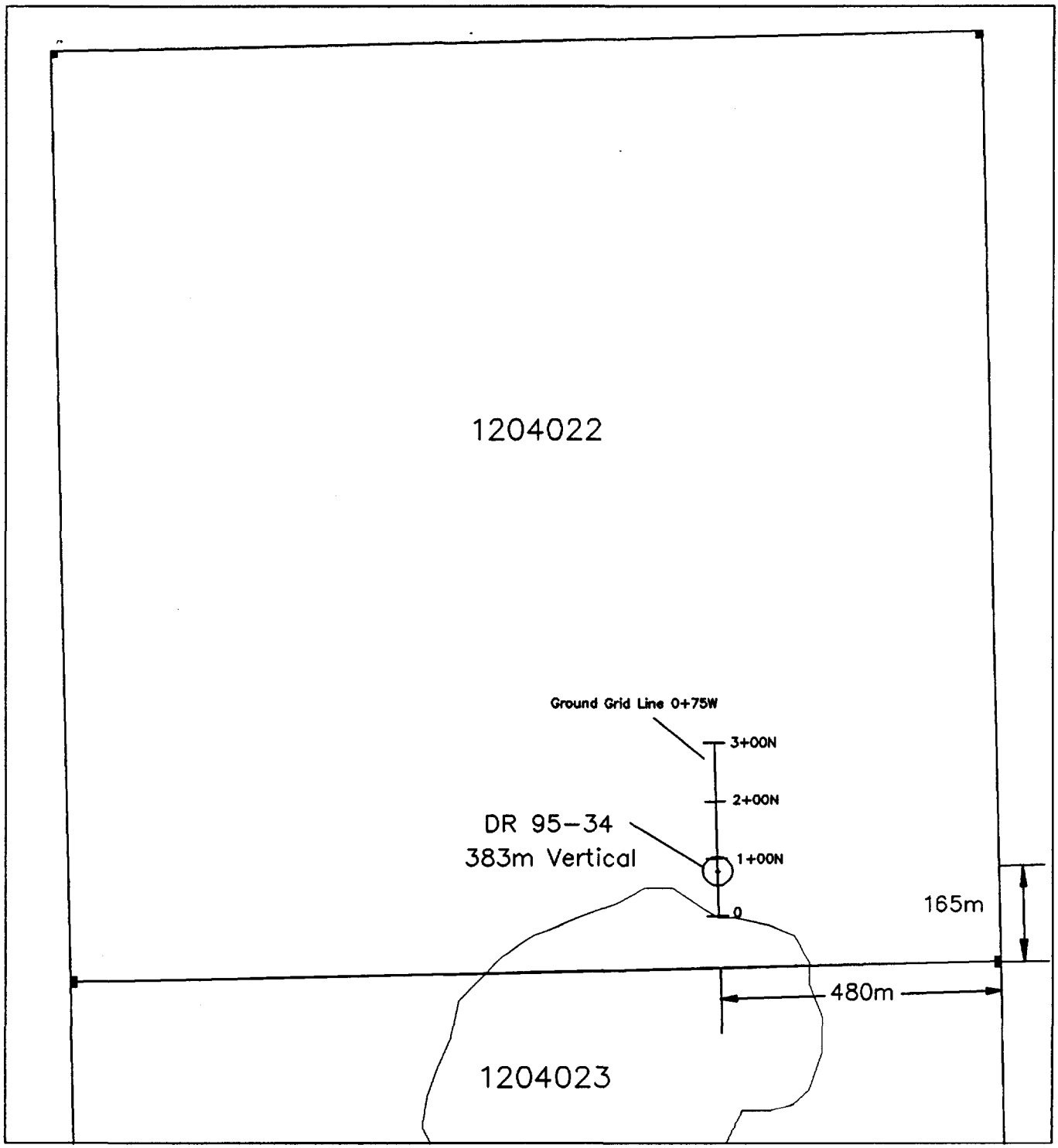
The drill core was logged on April 2 1995, at the Spider Lake camp, by Roger Thomas. The paleozoic section (depth 0m to 62.6m) was shipped to the Ontario Government. The precambrian section (depth 62.6m to 383.0m) was shipped to KWG's Toronto office and was destructively analyzed.



SCALE 1:1,000,000

FIGURE 1 – DRILL HOLE LOCATION MAP

DRILL HOLE LOCATION PLAN
CLAIM 1204022
SHEET 532852
NTS 43F/03



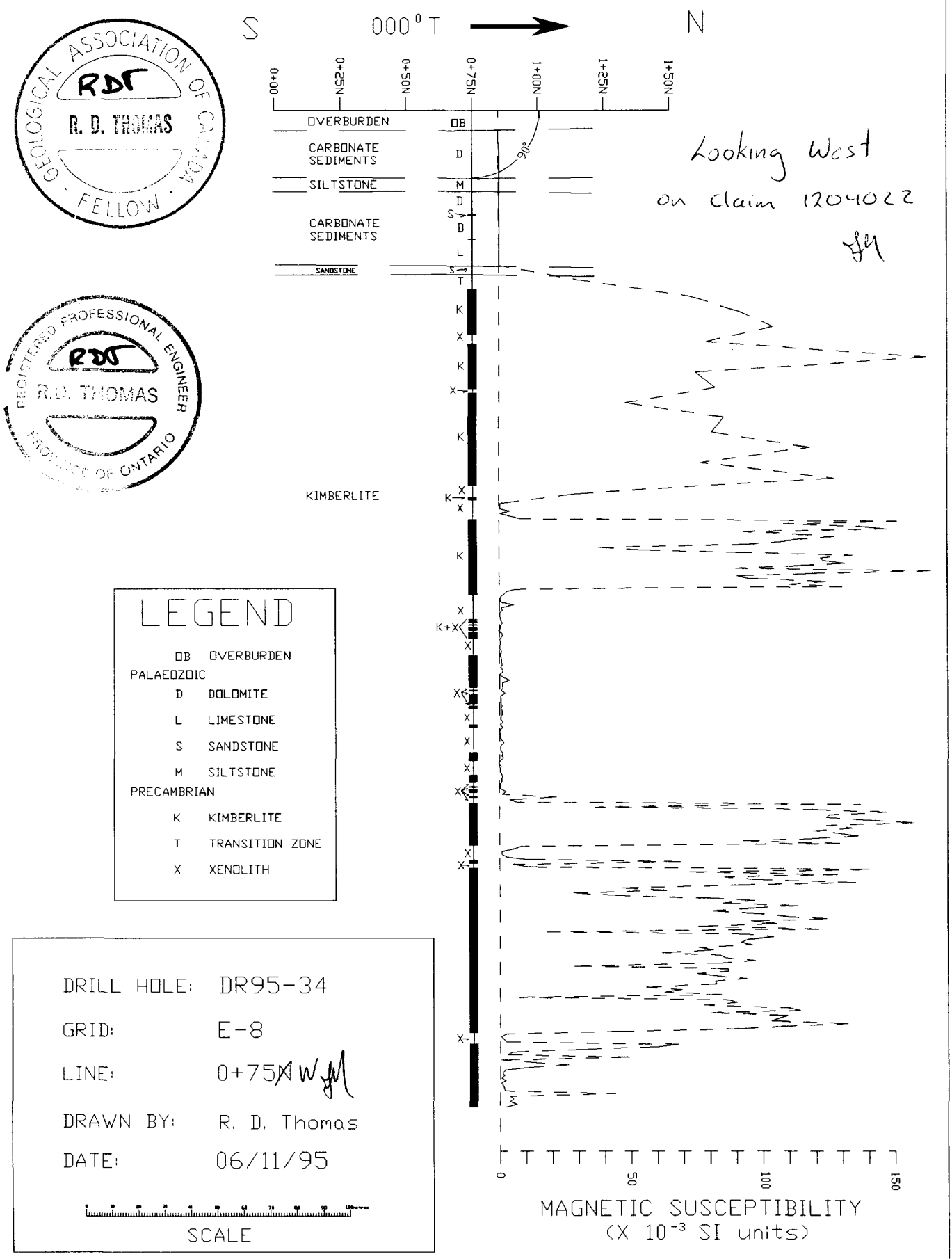
MAGNETIC DECLINATION -12 deg

0 250 500 750

(metres)

Scale 1:10,000

N_M N_T


S
000° T
N
0+00
0+25N
0+50N
0+75N
1+00N
1+25N
1+50N
OVERBURDEN
OB
CARBONATE SEDIMENTS
D
SILTSTONE
M
CARBONATE SEDIMENTS
SANDSTONE
S
T
K
X
KIMBERLITE
90°
Looking West
on claim 1204022
LEGEND
OB OVERBURDEN
PALAEOZOIC
D DOLOMITE
L LIMESTONE
S SANDSTONE
M SILTSTONE
PRECAMBRIAN
K KIMBERLITE
T TRANSITION ZONE
X XENOLITH
DRILL HOLE: DR95-34
GRID: E-8
LINE: 0+75N W
DRAWN BY: R. D. Thomas
DATE: 06/11/95
SCALE
0
50
100
150
MAGNETIC SUSCEPTIBILITY
(X 10⁻³ SI units)

DIAMOND DRILL HOLE LOG

Client: KWG Resources Inc.
Drilled by: Midwest Drilling
Logged by: Roger D. Thomas, MSc., P.Eng. for C. F. Gleeson and Associates Ltd.

Roger D Thomas

Hole No. DR 95-34

LOCATION:

Province:	Ontario	Grid Name:	Spider #1
County/District:	Kenora (Patricia Portion)	Claim No:	~~1204016~~ 1204022
Latitude/Longitude:	53° 10.430'N / 85° 27.541'W	UTM:	16 603000E 5892500N
Grid:	E-8	Grid reference:	0+75N 0+75W

DRILL HOLE CHARACTERISTICS:

Core Size:	BQ	Hole orientation:	0°
Depth of Casing:	64 m BW; 33.5 m NW	Inclination:	90°
Total depth:	383 m		
Date Drilled:	20 March - 25 March, 1995		
Date Logged:	April 2, 1995		
Date Log Printed:	8 February 1997		

Note: Alphanumerics in parentheses following colours (eg: greyish black (N2) or greenish black (5G3/1)) are Munsell Color numbers after
Goddard, E. N., Trask, P. D., de Ford, R., Rove, O. N., Singewald, J. T. and Overbeck, R. M. 1984: Rock-color chart; Geological Society of America, Special Publication, Boulder, Colorado, USA.
Munsell Products 1973: Munsell soil color charts; Munsell Products, Macbeth Color & Photometry Division of Kollmorgen Corporation, Baltimore, Maryland, USA
Angularity (VA = very angular, A = angular, SA = subangular, SR = subrounded, R = rounded, WR = well rounded) is according to:
Powers, M. C. (1953): Comparison chart for visual estimation of roundness; Journal of Sedimentary Petrology, v. 23, p. 117 - 119
"M. S." = magnetic susceptibility

REGISTERED PROFESSIONAL ENGINEER R.D. THOMAS PROVINCE OF ONTARIO

GEOLOGICAL ASSOCIATION OF CANADA R. D. THOMAS FELLOW

HOLE NUMBER: DR 95-34

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
0.00	7.67	OVERBURDEN: Lacustrine and marine sediments overlying till. Core of cobbles from the till consist of 3cm dolomite, 2cm siliceous dolomite, 4cm medium-grained quartz sandstone with trace-1% fine-grained disseminated Py, 1cm pink granite gneiss, three 2cm and one 3cm dolomite.				Box No	Min	Max	Avg
7.67	10.75	PALAEOZOIC DOLOMITE: Banded light olive brown (5Y5/6) to dusky yellow (5Y6/4) and greyish orange pink (5YR7/2), very fine-grained; 2% 3-6mm interbeds of greenish grey (5G6/1), very fine-grained sandstone. The darkest dolomite layers are commonly 5-22mm thick and are broken by vertical fractures filled with lighter coloured dolomite, into rectangular to square blocks. Bedding is horizontal.	8	7.92	8.00	1	0.05	1.02	0.22
10.75		CONTACT: sharp, CA=90°.							
10.75	13.20	INTERBEDDED SILTY DOLOMITE: Light olive grey (5Y6/1) with some pinkish grey beds; moderately soft, very fine-grained, very friable. Silt content decreases down core.	11	11.01	11.10				
13.20		CONTACT: gradational, top of clastic breccia.							
13.20	26.00	INTERBEDDED DOLOMITE AND SILTY DOLOMITE: Pale yellowish brown (10YR6/2), fine-grained, massive dolomite interbedded with light olive grey (5Y6/1), hard, very fine-grained, silty dolomite. Unit becomes browner with depth. 13.20-13.45 Clastic breccia (conglomerate or turbidite ?): 20% SA-SR fragments of brown dolomite up to 10x20mm, in fine-grained silty dolomite matrix.	14	13.91	14.00	2	-0.99	1.35	0.29
			17	17.00	17.10	3	-.02	1.12	0.33
			20	20.15	20.22				
			23	23.05	23.09				

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
13.20	26.00	INTERBEDDED DOLOMITE AND SILTY DOLOMITE (cont): 14.95-15.00 Clastic breccia as above. 15.54-15.59 Clastic breccia as above; mainly brown dolomite below. 16.35-16.69 Broken core. 16.90-17.00 Very broken core. @17.28 Chert nodule, 10 x 25 mm. @17.51 Chert nodule 8 x 30 mm. 17.71-17.77 Ground core. 18.23-20.00 Approximately 0.70m of core recovered. Few chert nodules in brown dolomite 20.00-21.03 Clastic breccia or turbidite: pale olive (10Y6/2) to greyish yellow green (5GY7/2); 30-50% SR-A, tabular clasts of dolomite up to 8x20mm in fine- to medium-grained matrix of dolomite fragments and quartz sand. Most fragments have a horizontal orientation. 21.03-24.12 Very broken core, mainly dolomite. 24.12-25.00 Finely laminated, CA=85°-90°. 25.00-25.17 Grey, very silty, fractured dolomite; fractures filled with dolomite. @25.17 3mm ground core. 25.17-25.25 Brown dolomite. 25.25-25.48 Grey, very silty fractured dolomite; fractures filled with dolomite.				Box No.	Min	Max	Avg
26.00		CONTACT: gradational increase in silt content.							
26.00	30.96	SILTSTONE: Medium light grey (N6) and medium grey (N4), finely laminated, very soft, dolomitic siltstone. Rare dolomite beds up to 50mm thick; vugs coated with drusy quartz common. Rare sand (fine- to medium-grained) and fine-grained conglomeratic beds (clasts to 3mm) up to 10mm thick. Cores well with good recovery and only minor grinding. Variable bedding, CA=70°-80°.	26	26.00	26.10	4	-.10	1.05	0.35
			29	29.00	29.06				

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
26.00	30.96	SILTSTONE (cont.): 29.09-29.31 Highly contorted							
						Box No.	Min	Max	Avg
30.96		CONTACT: Sharp, CA=85°							
30.96	35.09	INTERBEDDED DOLOMITE AND LIMESTONE: Dolomite: dusky yellow (5Y6/4), very fine-grained to microcrystalline with up to 15% fine-grained, R, sand beds; individual beds are from 0.3-0.5m thick. Limestone: light grey (N7), fine-grained calcite with up to 30% fine-grained, R, quartz sand in layers and concentrated in irregular masses. 3%, 2-8mm spherical to ovoid to irregular open vugs. Beds 5-250mm thick. 33.39-34.32 Medium- to fine-grained quartz sandstone with calcite cement.	32	31.88	31.97	5	-.10	0.67	0.26
35.09		CONTACT: arbitrary							
35.09	39.68	DOLOMITE: Faintly mottled, white (N9) and light grey (N7), calcareous in places; very fine-grained, possibly fragmental; 1% fine- to medium grained quartz.	35	35.08	35.20				
			38	38.00	38.11				
39.68	40.15	SANDSTONE, and dolomite: Dolomite as above, sandstone is medium grey (N5), fine- to medium-grained quartz sand with calcite cement. Two lithologies are intermixed in a highly contorted manner.							
40.15		CONTACT: sharp, CA=90°							
40.15	49.49	DOLOMITE, variable (as below): 40.15-40.50 Pale yellowish brown (10YR6/2), mottled, vuggy, very fine-grained. 40.50-41.38 Broken core, yellowish grey (5Y7/2), very silty, vuggy, very fine-grained.	41	40.89	40.96	6	-.37	0.85	0.14
						7	0.02	1.25	0.32

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
40.15	49.49	DOLOMITE, variable (cont) 41.38-43.44 Yellowish grey (5Y7/2) with irregular lenses and beds of fine sand up to 5mm thick. 43.44-45.98 Yellowish grey (5Y7/2), 15x30mm masses of fine-grained dolomite in a sandy limestone matrix. 45.98-49.49 Same as 41.38-43.44.				Box No.	Min	Max	Avg
49.49		CONTACT: moderately sharp.							
49.49	60.00	LIMESTONE, dolomitic: Mottled yellowish grey (5Y7/2) (20-40%, dolomite) and light grey (N7) (limestone), fine-grained with 2-10% fine- to very fine-grained quartz sand. Vuggy. In places, dolomite is darker brown; some have lighter coloured cores up to 2mm diameter surrounded by 10-15mm Some calcite filled fractures (CA=0°), irregular, extending 10cm into overlying unit. Fossil content increases with depth. 53.13-53.31 Faintly banded (CA=90°) with possible fossil fragments. @54.80 Possible large fossil, 20mm diameter. @58.30 20mm coral. 59.78-60.00 Abundant fossils. 59.98 25mm rugose? coral.	44	44.02	44.12	8	-.35	0.95	0.19
			47	46.91	47.00	9	-.27	0.97	0.11
			50	50.00	50.09				
			53	53.00	53.06				
			56	56.00	56.08				
			59	59.00	59.08				
60.00		CONTACT: sharp, CA=90°.							
60.00	61.86	INTERMIXED SANDSTONE AND SHALY LIMESTONE: Medium light grey (N6) and medium dark grey (N4) mottled. Limestone occurs as 20-30mm SA, tabular to spherical masses containing 10-35% fine quartz sand. Limestone masses constitutes 50-60% of unit in a fine quartz sand matrix. 60.53-60.63 Pure sandstone. 60.67-60.78 Pure sandstone. 61.17-61.21 Limestone, not sandy.							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
60.00	61.86	INTERMIXED SANDSTONE AND SHALY LIMESTONE (cont): 61.21-61.86 Shaly limestone with 2% Py as 3-5mm fine-grained masses. @61.74 Ground core (shale?).				Box No	Max	Min	Avg
61.86		CONTACT: sharp, CA=90°							
61.86	62.82	CONGLOMERATIC SANDSTONE: 10-15% light olive grey (5Y6/1), tabular masses of quartz sandstone with silica cement in a medium dark grey (N4) matrix of 70% quartz, 30% silt, trace red garnet, all fine-grained, R.	62	62.00	62.08				
62.82	63.21	SHALE: Greenish black (5GY2/1), 5% very fine-grained sand; trace, fine-grained, disseminated Py; very soft. 63.18-63.21 Rapid increase in sand content to 70%. Fragments of green, very fine-grained material present.							
63.21		CONTACT: ground core.							
63.21	68.69	TRANSITION ROCK (Top of "Kimberlite"): Weathering profile is poorly developed. Rock is soft with only minor development of iron oxides. Unit is moderately carbonatized by abundant, irregular, 1-5mm wide calcite stringers. 63.21-63.31 Medium dark grey (N4); well developed foliation (CA=67°); 80% angular, tabular fragments, 1x5mm of greenish aphanitic material (serpentinized ?) in very fine-grained to aphanitic, black calcareous matrix.	65	65.00	65.08	10	2.90	66.5	32.0
			68	68.12	68.20				

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
63.21	68.69	TRANSITION ROCK (cont): @63.25 20x40mm rounded mass of calcite with 5-10% fine-grained Py as 3x8mm irregular masses. @63.28 10x35mm, SA, moderate yellowish brown (10YR5/4), moderately hard mass containing some olivine or dolomite ?. 63.31-63.54 Dark greenish grey (5G4/1); 80% <1mm A, serpentinized, aphanitic material in 20% black, fine-grained matrix; soft; massive. 63.54-63.75 Rock similar to above (63.31-63.54) but with moderate foliation (CA=80°) and 1-2% 1x2mm brown mineral (weathered olivine ? or leucoxene). Abundant calcite stringers; quite soft rock. 63.75-64.24 Very fine-grained; 3% specks of brown mineral, granular (resembles a sandstone). Quite soft; abundant calcite stringers. 64.24-64.96 Rock becomes harder; 1x2mm rounded and angular olivine are highly weathered. Abundance of calcite stringers decreases below 64.43. 5% fine-grained biotite; trace fine Py cubes and iron oxides on fractures. Textures vary from 20% 1-3mm, A and R olivine in 80% calcite matrix, to similar to 63.31-63.54 above. Texture changes rapidly. 64.96-66.24 15%, R, olivine crystals up to 3mm 85% matrix of olivine, aphanitic, serpentinized material and black, very fine-grained material (biotite ?). Soft, becoming harder below 65.33 because of abundant calcite veining. Larger olivine are weathered brown, whereas fine material is not. Iron oxide weathering products present in places. Very magnetic. @65.89 Marked reduction in calcite veining to very low.							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
63.21	68.69	TRANSITION ROCK (cont): @66.06 2mm R mass of magnetite. @66.17 Possible chrome diopside, <1mm diameter. @66.18 Possible group of chrome diopside in mass of calcite. 66.24-68.61 Greenish grey (5GY6/1), homogeneous, massive; 10% R (few A-SA), 1-2mm olivine in a 90% matrix of very fine-grained olivine and other material. High calcite content; very magnetic. Some large olivine have black rims around green centres. Abundant very thin (<0.5mm) microfractures filled with calcite; some cut olivine crystals. Variable amounts of Fe-oxides on some minerals. @66.85 Two rounded masses (22x16mm and 22x25mm) of siliceous, serpentinized material with abundant calcite. Masses are cut by hematite coated the fractures. @66.91 Up to 5% fine-grained mica present. 67.41-67.58 Abundant calcite veining, up to 20mm thick. One contains cavity coated with drusy quartz. 67.72-67.75 Calcite vein containing 5% A fragments of wall rock. 67.78-68.06 Breccia composed of 30% A fragments of wall rock in 70% granular "kimberlite" similar to 64.96-66.24. Abundant calcite veining. 68.06-68.21 Abundant 1-3mm calcite veins, CA=80°. 68.53-68.55 Granular material similar to 64.96-66.24.								
68.69		CONTACT, sharp change in colour.							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
							Min	Max	Avg
68.69	86.13	"KIMBERLITE", Fine-grained, hypabyssal: Greenish black (5GY2/1), moderately homogeneous, moderately magnetic, moderately hard; 10% coarse (2-5 x 5-10 mm), R-SA, anhedral olivine, 30% fine (<1mm), A-R, anhedral with few euhedral olivine, 60% very fine-grained to aphanitic groundmass. Trace very large (up to 25x40mm), WR, olivine. Low to nil carbonate, moderate serpentinization (few fractures filled with serpentinized material). Fracture CA very variable. Olivine are not embayed. 68.69-68.90 Abundant calcite stringers; fine-grained Py occurs along margins of veins and in wall rock as 1-2 x 10-15 mm lenses. 69.37-69.84 Moderately abundant calcite veins with massive Py at margins. Host rock is more granular. 70.52-70.61 Highly oxidized or resorbed xenolith: 15% white calcite, 40% microcrystalline serpentinized material and earthy material. 70.95-72.10 Approximately 1% of coarse olivine have dark green, microcrystalline, rims and purplish and/or light green interiors. 72.48-72.62 Ground core: adjacent rock does not contain coarse olivine. 72.77-72.85 Several irregular 20x30mm masses of microcrystalline serpentine with calcite and other dark material; adjacent rock contains yellow serpentine for 15-20mm (resorbed xenolith?). 73.00-73.04 Dark, aphanitic, R, xenolith ? @73.43 10x40mm xenolith, probably granite gneiss; sharp contacts. @74.50 Highly altered xenolith, as above. @74.89 1mm magnetite and hematite seam, CA=80°. @75.85 Almost totally absorbed xenolith.	71	71.00	71.11	Box No			
			74	74.00	74.11				
			77	76.89	77.00	11	42.0	101	72.4
			80	80.00	80.10	12	50.5	117	91.3
			83	83.00	83.10	13	69.6	142	104
			86	85.88	85.98				

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
68.69	86.13	"KIMBERLITE", Fine-grained, hypabyssal (cont): @75.76 20x5mm cavity with some orangy red globules (Fe-oxide) coatings. @77.10 Highly altered xenolith @77.60 As above. 77.88-78.65 Several moderately altered xenoliths, R, up to 5x15mm. Yellow serpentine ? common. 1% of coarse olivine is embayed, 2-3% is angular. @78.70 80mm very large olivine. @79.37 Serpentine filled fracture (1-2mm) with magnetite and hematite, CA=60°. @80.07 30x50mm xenolith, R, highly altered. @80.23 3mm magnetite and hematite seam, CA=85°. @81.15 70mm mass of olivine and yellow serpentine (xenolith ?), R, indistinct margins. @82.15 20mm zone enriched in magnetite and hematite. @82.58 15mm zone as above. @82.71 2mm zone as above. @82.78 4mm zone as above. @82.96 10x30mm highly altered xenolith. @83.02 8x20mm highly altered xenolith. @83.21 irregular concentrations of magnetite. 83.40-84.10 Several 8x20mm xenoliths, moderately to highly altered. @84.02 Irregular mass of magnetite and hematite. @84.23 1mm serpentine seam with magnetite and hematite at margins; CA=35°. @84.53 30mm absorbed xenolith: 10mm diameter core of microcrystalline serpentinized material (siliceous); 5mm of remnant material (gneiss ?); 5mm yellow serpentine.								

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
68.69	86.13	"KIMBERLITE", Fine-grained, hypabyssal: 85.60-86.13 5-10% highly altered xenolithic material.							
86.13		CONTACT: gradational over short distance.							
86.13	88.42	XENOLITH: 50% light red (5R6/6) feldspathic (?) material as 1-2mm, A-SR, embayed fragments in aphanitic, black, groundmass. 5% large masses, up to 15x10mm of greenish white and pink feldspar and quartz. Non-magnetic. 86.13-86.28 80% serpentine, microcrystalline; 10% olivine; 1% magnetite as 2mm R masses; trace fine-grained Py; 9% silica, biotite and other minerals. @86.34 5% fine globules of Py? on fracture. @86.35 20mm seams of green serpentine with trace-5% Py, CA=90°. Similar seams, 7-40mm wide with 0-trace Py and CA=55°-90° occur at 86.55, 86.63, 87.05, 87.23, 87.28, 87.33, 87.39, 87.45, 87.53, 87.61, 87.73, 88.21, and 88.40. @87.85 20mm seam of greenish black, aphanitic material with ghosts of large (5-8mm) olivine crystals, R, CA=80°. @88.08 10mm seam as above also with small (1-5mm) R, olivine crystals; CA=55°. 87.90-88.39 Quartz is present in xenolithic material. 88.39-88.42 20-50% R, 2-4mm olivine in light green, aphanitic, serpentinized matrix.							
88.42	89.75	CONTACT ZONE: Transition zone from xenolith to "pure kimberlite"							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
88.42	89.75	CONTACT ZONE: composed of 30%, yellowish green, 1-4mm, R-SA olivine, 40% yellow serpentine, 30% light greenish grey, aphanitic groundmass. 1mm magnetite and hematite fracture fillings occur at 88.62, 88.67, 88.75, 88.77, and 88.88. Up to 5% Py and Po is present on some fractures; lenses (1x15mm) of Py and Po occur at 89.08-89.75 with CA=90° and 45°. Base of unit at top of rock which resembles "uncontaminated kimberlite". Short sections of contact zone rock occur below; these latter may be absorbed xenoliths.	89	89.00	89.05				
						Box No	Min	Max	Avg
89.75	101.81	KIMBERLITE, fine-grained with megacrysts. Dark greenish grey (5G4/1), uniform texture, however colour and mineralogy varies adjacent to xenoliths, commonly indicated by presence of yellowish serpentine in green, aphanitic serpentinized matrix. Typically 5% coarse (8x17mm), R-SA, embayed olivine; 10% medium (2-4mm), R-SA, embayed olivine; 80% fine (<1mm), A, embayed olivine; 10% aphanitic, black, groundmass; trace phlogopite to 1mm. Larger olivine tend to be light coloured; finer olivine is darker. Rock is moderately magnetic; 1-2mm seams of magnetite common throughout; fine-grained irregular masses and lenses to 10mm diameter of magnetite also present. Serpentine seams and lenses are rare; CA=65°. @90.98 0.5mm fine-grained Py fracture filling, CA=48° 91.08-92.19 Highly altered xenolith. 91.41-91.46 Very large olivine, R. 91.95-92.01 As above. @93.57 10mm, WR, highly serpentinized xenolith.	92	92.00	92.09	14	2.75	271	78.7
			95	95.00	95.11	15	47.0	602	162
			98	98.05	98.12	16	12.0	172	74.7
			101	100.95	101.00				

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
89.75	101.81	KIMBERLITE, fine-grained with megacrysts (cont). 94.43-94.48 Xenolith, black, R, embayed with 3mm yellow serpentine halo. 95.02-95.08 WR, highly serpentinized olivine; no yellow serpentine. 95.12-95.18 As above. 95.25-95.33 Highly altered xenolith. @96.89 20x40mm, rounded, slightly embayed, serpentinized olivine. 97.15-97.27 Abundant, 10mm wide masses of black aphanitic, highly magnetic material. Adjacent rock contains aphanitic, pale green, serpentinized material similar to that adjacent to xenoliths. 97.96-98.58 Fine-grained, no megacrysts, 1% >2mm olivine, abundant yellow serpentine. Moderate foliation CA=70°. 97.62-97.74 Very large, R, serpentinized olivine. @97.93 25mm olivine as above. @99.87 55mm olivine as above, embayed. 100.29-100.36 Highly altered xenolith; large cavity in centre. 100.76-100.87 As above; serpentinized. 101.10-101.24 As above, with beige material 101.24-101.81 <1% large olivine, darker coloured.								
101.81	106.96	"KIMBERLITE", fine-grained, few megacrysts. Greenish black (5G2/1), homogeneous, moderately magnetic, hard, competent. <3% light coloured olivine megacrysts; 15% dark green, medium (1-2mm), R-A, rarely embayed olivine; 20% R, fine olivine; 65% aphanitic black groundmass. Moderately serpentinized. Abundant microfractures (CA=80°-90°) filled with serpentine. Larger fractures (CA≈45°) filled with	104 107	104.00 106.90	140.08 107.00				

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
101.81	106.96	"KIMBERLITE", fine-grained, few megacrysts. serpentine and magnetite. Very low carbonatization. Trace emerald green, very fine-grained (<2mm) mineral. @102.42 25mm, R, embayed, serpentinized olivine. 103.10-103.23 Possible remnant xenolith; abundant yellow serpentine and magnetite. 103.40-105.50 Abundant 1mm magnetite seams. @103.87 30mm highly serpentinized olivine. @105.12 20mm olivine as above. 105.23-105.63 Intense horizontal microfracturing. @105.90 Highly altered xenolith ? 106.10-106.18 As above; abundant quartz and calcite. 106.18-106.68 Very broken core, abundant serpentine and horizontal fractures. @106.72 40mm highly altered xenolith or large olivine.								
106.96		CONTACT: 3mm serpentine seam, CA=65°.							
106.96	107.61	XENOLITH: 10-50% light coloured material composed of variable amounts of quartz and white aphanitic material; 50-90% green, serpentinized material; trace Py.							
107.61	108.76	TRANSITION ZONE: Highly fractured by horizontal to sub-horizontal serpentine filled fractures (1 per 2-5mm). Rock varies from greenish black (5GY2/1), aphanitic at the top to dark grey (N3) with 5% 5-10mm, SA-SR olivine; 40% 1-3mm A olivine; 20% 1mm euhedral olivine; 35% light							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
107.61	108.76	TRANSITION ZONE (cont): green, aphanitic matrix. Olivine changes colour from greenish black at top through dark brown, to yellowish green at bottom of unit. @108.33 10% phlogopite 108.67-108.72 2mm serpentinized fractures contain black asbestiform serpentine.				Box No	Min	Max	Avg
108.76		CONTACT: Rapid colour change.							
108.76	113.30	"KIMBERLITE", highly serpentinized and altered: Greenish grey (5GY6/1) to medium grey (N5), variably moderately to highly fractured by 1mm horizontal, serpentine filled microfractures; no carbonate; increasingly magnetic with depth; 2-3% 2-5mm R-SR, olivine; 15% 0.5-2mm A-SR olivine, <1% 1-2mm, euhedral olivine (all black); <1% 10-15mm R, green olivine; 80% very fine-grained, light coloured olivine and yellow serpentine. Change in colour due to reduction in yellow serpentine. Some larger olivine have thin, dark, reaction rims. 111.75-111.85 Xenolith of volcanic ? rock; sharp contacts; moderately altered. 112.50-112.52 Xenolith as above.	110	110.00	110.13	17	3.50	232	82.2
			113	112.87	113.00				
113.30		CONTACT: Rapid change in texture and colour							
113.30	119.42	"KIMBERLITE" hypabyssal, medium-grained: Greyish black (N2), fairly uniform, moderately magnetic, few horizontal, serpentinized, microfractures; 15%, 8-12mm, black, SR, slightly embayed, olivine; 20%, 1-5mm, R-SA, olivine; 40% <1mm, SA-R, few euhedral olivine; 25% light coloured, aphanitic, serpentinized, groundmass; trace 1-2mm, rounded masses of magnetite. A few of the large olivine are light coloured.	116	116.00	116.09	18	6.85	102	47.9
			119	119.00	119.08	19	51.9	115	85.6

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
113.30	119.42	"KIMBERLITE" hypabyssal, medium-grained (cont):							
		@114.62 50mm highly altered xenolith.				Box No	Min	Max	Avg
		@114.90 40mm as above.							
		@115.41 40mm olivine crystal.							
		@115.80 20mm highly altered xenolith							
		116.26-116.62 Very broken core							
		117.75-118.18 Very broken core; highly serpentinized.							
		@118.65 60mm olivine?							
		@119.25 30mm highly altered xenolith							
119.42		CONTACT: Rapid textural change.							
119.42	144.15	"KIMBERLITE" hypabyssal, fine-grained:	122	122.00	122.13	20	18.5	118	81
		Greenish black (5GY2/1), homogeneous, strongly magnetic, rare microfractures. 10%, 2-5mm, angular, brownish black, slightly embayed, olivine; 40%, 0.5-1mm, R, brownish black olivine; 50% dark grey, very fine-grained groundmass.	125	124.89	125.00	21	101	140	118
			128	128.00	128.06	22	10.0	13	76.8
			131	131.02	131.12	23	98.6	147	127
		@120.13 30mm, R, olivine.	134	134.00	134.10				
		120.94-120.98 Large olivine crystal.	137	137.00	137.07				
		@123.00 Below, approximately 10% of large olivine are embayed.	140	140.00	140.10				
		123.25-123.58 Highly altered xenolith; few megacrysts in light green, very fine-grained groundmass.	143	143.00	143.08				
		123.87-123.96 Very highly altered xenolith; 10% microcrystalline groundmass.							
		124.04 1mm magnetite + hematite seam; CA=60°.							
		@124.25 50mm xenolith, highly altered.							
		@124.48 1mm magnetite + hematite seam; CA=80°.							
		@124.75 Trace Py on microfractures.							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
119.42	144.15	"KIMBERLITE" hypabyssal, fine-grained (cont): 125.05-125.35 Trace magnetite as 1mm R, fine-grained masses. 125.25-126.70 Greener and lighter coloured because of presence of yellow serpentine and lighter groundmass. Trace very fine-grained, disseminated Py; some rust on core. 127.60-127.66 Light grey, moderately altered xenolith with 2% very fibrous mineral. @127.78 7mm vein of soft white mineral (gypsum?); CA=80°. @123.99 13mm vein as above; CA=55° @128.30 25mm xenolith with 1% brown acicular mineral 128.31-129.18 Abundant 1-2mm fractures filled with soft white mineral; CA=variable; few lenses of brown (serpentine?); 20% green medium-grained "kimberlite" (as above), trace brown acicular mineral, (a xenolith may be adjacent to hole). @128.85 40mm diorite xenolith, very low alteration 129.30-129.53 Few 1-2mm fractures filled with soft white mineral @130.00 9mm vein of soft white mineral @130.07 30x50mm, "U-shaped", fine-grained dioritic, xenolith; sharp embayed contacts. @133.25 5mm fracture filled with soft white mineral; CA=85° @133.51 3mm fracture as above; CA=80° @134.60 Rapid increase in coarse olivine to 10-15%, 5-15mm diameter, dark brown; ends at 135.10. 135.60-135.62 Moderately altered xenolith							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
119.42	144.15	"KIMBERLITE" hypabyssal, fine-grained (cont): 135.65-136.68 60% highly altered xenoliths; tabular black mineral (amphibole ?) present at 136.60 136.68-136.86 Slightly altered dioritic xenolith, sharp margins. 136.86-137.64 50% light green matrix (absorbed xenolith ?) @138.50 20mm olivine, sharp embayed margins @138.87 40mm olivine as above 139.34-139.40 Intensely fractured (CA≈90°) @139.73 10x40mm moderately altered xenolith @139.93 23mm olivine @140.23 20mm olivine @140.36 1mm fracture filled with soft white mineral with acicular mineral and amphibole ? @140.43 30mm olivine @141.11 25mm olivine @141.65 8mm soft white mineral fracture filling 142.31-142.36 Moderately altered diorite xenolith @143.82 5mm quartz and soft white mineral vein; CA=75° 144.78-145.10 Several 10-20mm highly altered xenoliths							
144.15		CONTACT, Sharp, CA=23°							
144.15	148.65	XENOLITH, diorite: Light grey (N7), medium-grained, diorite; 10% quartz; 80% feldspar; 10% mafic minerals (biotite). Mottled by 20mm-0.15m masses of unaltered material surrounded	146	146.00	146.08				

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
144.15	148.65	XENOLITH, diorite:							
		by slightly to moderately altered material. Highly altered rock is rare. Non-magnetic; no carbonate; good core recovery.				Box No	Min	Max	Avg
148.65		CONTACT, sharp; CA=50°							
148.65	149.62	"KIMBERLITE", *fine-grained*:	149	149.00	149.08	24	0.75	114	29.6
		As above except slightly lighter coloured because of light green, aphanitic groundmass.				25	0.67	4.07	1.65
		@148.85 12x32mm highly embayed olivine				26	4.55	166	91.8
		@149.18 28mm highly embayed olivine				27	43.3	118	95.4
149.62		CONTACT, sharp but irregular; CA=62°				28	53.4	127	106
149.62	157.23	XENOLITH, granite gneiss	152	152.00	152.10				
		Light medium grey (N6), granitic gneiss, slightly altered, non-magnetic; gneissosity is apparent from alignment of mafic minerals (CA=15°) in parts of core. 20% quartz, 70% feldspar, 10% mafic minerals (amphibole and biotite?), 1% cubic, fine-grained Py.	155	154.90	155.00	151	0.50		
						152	0.37		
						153	0.40		
						154	4.20		
157.23		CONTACT, sharp but irregular				155	0.37		
157.23	183.81	"KIMBERLITE", hypabyssal, medium-grained:				156	4.20		
		Predominantly medium-grained with some fine-grained sections:				157	8.05		
		<u>Medium-grained:</u> Medium bluish grey (5B5/1), homogeneous, massive, moderately to strongly magnetic; <1% large (20mm diameter), R, olivine; 8-10%, 3-8mm, black R-SR, embayed olivine; 50-60%, <1mm, black, R-SA with few euhedral, olivine; 30-40%, light coloured, aphanitic, groundmass. Very low carbonate.							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
157.23	183.81	"KIMBERLITE", hypabyssal, medium-grained (cont): Fine-grained: Medium dark grey (N4), homogeneous, massive, moderate to highly magnetic, very low carbonate; 15-20%, 1-3mm, black, R, olivine; 50-60%, <0.5mm, black minerals (olivine?); 20-35% light, aphanitic groundmass. Both units are moderately fractured; fractures filled with 1-3mm white serpentine; CA=60°. Several, particularly at 162.64-165.80, contain Fe-oxide minerals. Magnetite occurs as disseminated, fine-grains and as 2x3mm, R, masses. Fine-grained unit occurs at 160.58-161.76, 162.68-162.82, 165.42-165.98, and 166.48-166.74; all have distinct, but gradational over 10-20mm, contacts. 157.58-157.72 40mm, highly altered xenolith, no yellow serpentine @158.02 20mm, very highly altered, very faint, xenolith, no yellow serpentine 158.52-158.62 Large olivine, R, sharp contacts 160.35-160.40 Highly altered xenolith @161.25 20mm highly altered xenolith, all yellow serpentine @161.45 15mm xenolith, as above @161.46 15mm, R, olivine @161.55 25mm, moderate to highly altered xenolith. 161.55-161.63 Large olivine (?), highly embayed, centre is different in alteration from margins. @165.13 8x25mm olivine @162.33 10mm, highly altered xenolith 163.73-163.81 Light toned, fine-grained: possible relict of totally absorbed xenolith. 163.95-164.00 Light toned as above @163.86 10mm moderate to highly altered xenolith.	158	158.00	158.11	158	151		
						159	108		
						160	138		
			161	161.00	161.10	161	147		
						162	92.8		
						163	115		
			164	164.00	164.12	164	127		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
157.23	183.81	"KIMBERLITE", hypabyssal, medium-grained (cont):				165	112		
		@165.84 Rock becomes lighter toned							
		@167.72 50mm olivine				166	108		
		167.82-167.84 Dioritic xenolith, light coloured, very fine-grained	167	167.00	167.00	167	94.0		
		167.88-167.92 Xenolith as above				168	38.0		
		167.97-167.99 Xenolith as above							
		168.16-168.19 Mafic (?) xenolith, dark coloured, very fine-grained							
		168.18-168.20 Dioritic xenolith as above							
		168.34-168.38 Dioritic xenolith as above							
		168.36-168.39 Large, R, olivine							
		168.55-168.62 Large, R, olivine or mafic xenolith							
		168.87-168.90 Dioritic (?) xenolith, R, sharp contacts							
		168.90-168.92 Dioritic xenolith							
		169.00-169.03 Dioritic xenolith							
		169.30-169.48 Several 10-40mm fine-grained, dioritic xenoliths				169	54.3		
		169.48-169.56 Large olivine crystal, highly embayed							
		169.58-169.61 Highly altered xenolith							
		@169.81 Moderately altered dioritic xenolith	170	170.00	170.10	170	93.3		
		170.23-170.35 Three 10-15mm dioritic xenoliths				171	134		
		@171.87 20mm dioritic xenolith							
		@172.22 15mm dioritic xenolith				172	122		
		@172.81 5x10mm, highly altered xenolith							
		@173.35 20x30mm, R, olivine	173	173.02	173.10	173	123		
		@174.43 22mm olivine				174	131		
		@175.35 10x30mm, moderately altered xenolith							
		@175.80 10x20mm remnant of probable 40mm diameter xenolith				175	113		
		@175.87 8x12mm xenolith							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
157.23	183.81	"KIMBERLITE", hypabyssal, medium-grained (cont):							
		@175.88 Chrome diopside (?) in serpentine lens							
		@175.92 10x20mm dioritic xenolith @176.04 10mm moderately altered xenolith	176	175.90	176.00	176	89.6		
		@176.15 15mm serpentine filled fracture; CA≈90°							
		@176.59 10x25mm, moderately altered, dioritic xenolith							
		@176.83 2mm serpentinized fracture with phlogopite (?)							
		@177.33 12x20mm, highly altered xenolith with dark acicular mineral				177	164		
		@177.74 3x20mm xenolith as above							
		178.54-178.65 Abundant 1-3mm fractures filled with fine-grained, medium green material; CA=38°				178	118		
		@178.72 10x20mm dioritic xenolith @179.05 50mm diameter dioritic xenolith	179	178.90	179.00	179	90.5		
		@181.13 20mm, highly to moderately altered xenolith				180	94.7		
		@181.49 8mm xenolith, as above, with acicular mineral				181	124		
		@181.81 5mm, moderately altered granitic gneiss xenolith							
		@182.60 3x8mm, highly altered, granitic gneiss xenolith	182	181.90	182.00	182	110		
		@182.65 5mm, moderately altered, granitic gneiss xenolith							
		@182.94 8x12mm xenolith as above							
		@182.99 5x8mm xenolith as above							
		@183.47 45x80mm xenolith as above							
		@183.57 Two 8x15mm xenoliths as above				183	130		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
183.81	184.87	"KIMBERLITE", with abundant xenoliths: 50%, highly contaminated "kimberlite" and 50% moderately to highly altered granitic gneiss xenoliths. Contacts are sharp but highly embayed. In many places, a large (>50mm), slightly to moderately altered xenolith is surrounded by abundant small, highly altered xenoliths. The contaminated "kimberlite" varies from very fine-grained with 5%, VA-A, 2-5mm olivine to fine-grained, massive. Non-magnetic.				184	5.82		
184.87	186.15	"KIMBERLITE", contaminated Dusky yellow green (5GY5/2), variable composition and texture: 5-10%, 1-5mm, A, olivine; 30-50%, <1mm, A, olivine; 10% 10mm xenoliths; 0-1% yellow serpentine; 50-70%, light coloured, serpentinized, very fine-grained to aphanitic groundmass. Non-magnetic. 186.09-186.15 Very highly altered, light green coloured.	185	185.00	185.13	185	2.70		
						186	1.65		
186.15	186.18	CONTACT ZONE, margins are sharp; rapid compositional change across zone.							
186.18	195.52	XENOLITH, granitic gneiss 10%, irregularly shaped, 10-250mm diameter, SR, masses of massive, medium- to coarse-grained granite; 90% intensely foliated, fine-grained granite; non-magnetic. 192.15-194.19 Massive, 10% A-SA, 5-25mm diameter, medium- to coarse-grained granite; 40% massive, fine- to medium-grained anhedral feldspar; 40% fine-grained quartz and feldspar; 10% mafic minerals (amphibole). 194.62-195.00 Same as above				187	0.37		
			188	188.00	188.11	188	0.55		
						189	0.55		
						190	5.52		
			191	191.00	191.12	191	0.77		
						192	1.17		
						193	0.25		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
195.52	195.85	"KIMBERLITE", highly contaminated: Non-magnetic; medium bluish grey (5B5/1) to dark greenish grey (5G4/1), massive, homogeneous; 8%, R, 2x15mm masses of granite; 10%, 1-2mm, WR, olivine; 30%, light green, aphanitic, serpentinized material; 52% fine-grained olivine and other minerals. Unit contacts are sharp.	194	194.00	194.13	194	0.27		
						195	0.40		
195.85	196.47	XENOLITH: granitic gneiss as above (186.18-195.52)				196	0.60		
196.47	196.80	"KIMBERLITE", highly contaminated 10-50%, 3x20mm, R, granite gneiss xenoliths; 50-90%, R, fine-grained olivine with yellow serpentine reaction rims; moderate to low carbonatization. 196.63-196.80 Increasing abundance of xenoliths							
196.80	197.63	XENOLITH, granitic gneiss as above (186.18-195.52)	197	197.00	197.11	197	1.17		
197.63	197.73	"KIMBERLITE", highly contaminated as above (195.52-195.85)							
197.73	198.72	XENOLITH, granitic gneiss as above (186.18-195.52)				198	0.42		
198.72	199.88	"KIMBERLITE", highly contaminated Non-magnetic, moderately carbonatized; 20%, R, granitic gneiss xenoliths to 120mm diameter; 3%, R, masses of medium-grained "kimberlite" as above (157.23-183.81) except with very intense blue colour; 10% SR, 1-5mm olivine; 67%fine-grained, R, olivine				199	0.57		
199.88	200.45	XENOLITH, moderately foliated granitic gneiss; upper contact sharp, lower contact ground.	200	200.00	200.10	200	-.32		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})
200.45	202.94	"KIMBERLITE": Variable texture, probably considerably contaminated. 5% highly altered xenoliths in fine-grained "kimberlite" as above (119.42-144.15); non-magnetic, moderate carbonatization. @200.50 Several irregular 1mm calcite veins @200.76 8mm serpentine filled fracture; CA=40° 200.76-201.26 Medium-grained "kimberlite" as above (157.23-183.81) except all olivine have thin, dark reaction rims and are WR				201	1.05
						202	1.15
202.94	209.47	XENOLITH, granitic gneiss as above (186.18-195.52) 208.06-209.47 same as 192.15-194.19	203	203.00	203.09	203	0.27
						204	0.30
209.47		CONTACT, sharp				205	0.32
209.47	211.16	"KIMBERLITE", highly contaminated Variable texture and composition: 5%, 20-70mm diameter granitic gneiss xenoliths with highly corroded and altered edges; 10%, A, granitic gneiss xenoliths concentrated in the upper 0.33m of this section and haloing the larger xenoliths elsewhere; 20%, 1-2mm, WR olivine with reaction rims; 40% fine-grained, R-A olivine; 25% aphanitic, light coloured serpentinized groundmass. Non-magnetic; dark greenish grey (5G4/1); low carbonatization. @209.53 3mm pink calcite vein @209.80 Blue mineral in calcite lens (opal textured) @210.67 Trace ilmenite @210.69 Colour turns dark grey (N3)	206	206.00	206.11	206	0.17
						207	0.20
						208	0.85
			209	209.00	209.14	209	0.30
						210	0.57
						211	0.90

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})
211.16	212.75	"KIMBERLITE", moderately contaminated Greenish black (5GY2/1) turning browner with depth, homogeneous, massive; 1% R, embayed, highly altered xenoliths to 30mm diameter; 15%, 2-5mm, SA-SR, black olivine; 84% very fine-grained groundmass. Non-magnetic; trace medium-grained Py in calcite filled fractures; in places, fine-grained groundmass contains up to 40% olivine; moderate carbonatization 212.35-212.72 Highly serpentinized; very broken core, some lost core (10cm)	212	212.00	212.09	212	0.82
212.75	221.90	"KIMBERLITE", highly contaminated Greenish black (5GY2/1), fine-grained, homogeneous, non-magnetic. 2%, 10-15mm xenoliths with 2-3mm reaction rims; 5%, 5-10mm, R, olivine with reaction rims; 5-40%, <1-2mm, R, olivine with reaction rims; 60-95% fine-grained to aphanitic groundmass. Most parts have pseudo-amygdaloidal texture. Low carbonatization. 213.83-214.02 Granitic gneiss xenolith 215.40-215.70 80% granitic gneiss xenoliths 215.80-215.96 Xenolith as above 217.12-217.19 Xenolith as above, moderately serpentinized 217.80-217.85 Xenolith as above 218.03-218.20 90% granitic gneiss xenoliths @220.90 Turns greyish green (10GY5/2) 221.64-221.90 10% elongated ovals of serpentine oriented subhorizontally				213	1.07
						214	0.60
			215	215.00	215.09	215	1.45
						216	1.17
						217	<0.99
			218	218.00	218.08	218	1.32
						219	3.85
						220	1.20
			221	221.00	221.10	221	1.25
221.90		CONTACT, moderately sharp					
221.90	222.86	XENOLITH, granitic gneiss, as above (186.18-195.52), but medium-grained, homogeneous, low carbonatization				222	1.30

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
222.86	222.88	CONTACT, highly serpentinized, dark green section.							
222.88	223.22	"KIMBERLITE", as above (217.75-221.90), but highly serpentinized, very broken core, no large xenoliths, low carbonatization.				223	0.77		
223.22	224.63	XENOLITH, granitic gneiss, as above (186.18-195.52) Medium-grained, homogeneous	224	223.90	224.00	224	2.27		
224.63	224.65	CONTACT: highly serpentinized							
224.65	224.96	"KIMBERLITE", as above (217.75-221.90) No large xenoliths, low carbonatization							
224.96	225.25	XENOLITH, as above (192.15-194.19) Very highly altered, low carbonatization				225	0.37		
225.25	225.41	"KIMBERLITE", highly contaminated, as above (217.75-221.80)							
225.41	228.05	"KIMBERLITE", moderately contaminated, granular Greenish black (5GY2/1); 10% SA-SR, embayed, slightly altered granitic xenolith (few highly altered); 2-10%, 1-5mm, SA, black olivine; 30-60%, fine-grained, A, black olivine; 20-40%, very fine-grained to aphanitic groundmass, variably light to dark coloured.				226	.060		
			227	227.00	227.15	227	0.60		
						228	0.67		
228.05	228.96	XENOLITH, diorite Light grey (N8), 85% medium-grained feldspar, 5% quartz, 10% amphibole. Non-magnetic, no carbonate.							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
228.96	230.00	"KIMBERLITE", highly contaminated: As above (224.41-228.05); xenoliths are highly altered; non-magnetic; no carbonate.				229	0.80		
			230	230.03	230.15	230	0.72		
230.00	236.10	XENOLITH, dioritic As above (228.05-228.96); non-magnetic, no carbonate. 231.76-231.98 "Kimberlite", highly contaminated as above (224.41-228.05) 224.95-225.05 "Kimberlite", bluish, as above (217.75-221.90)				231	0.97		
						232	1.02		
			233	233.00	233.11	233	0.52		
						234	0.35		
						235	1.45		
236.10	237.16	"KIMBERLITE", Same as 224.41-228.05 except <1% highly altered, xenoliths. 236.20-236.43 Very dark green, 20%, R, embayed, 5-10mm diameter olivine in black fine-grained to aphanitic groundmass.	236	236.00	236.11	236	0.22		
						237	1.12		
237.16	246.75	XENOLITH, dioritic Slightly pinker than usual; non-magnetic; low to moderate pervasive carbonatization. 246.65-246.75 Highly serpentinized				238	0.32		
			239	239.00	239.08	239	-.02		
						240	0.35		
						241	0.27		
246.75	249.98	"KIMBERLITE" Greenish black (5GY2/1), homogeneous, non-magnetic, low-medium pervasive carbonatization; 10%, 1-5mm, A-SR, black olivine; 30-80%, fine- to very fine-grained, R, olivine; 10%, light coloured (brownish), very fine-grained mineral; 30-70% very fine-grained, dark groundmass. 248.25-248.35 Trace-1%	242	242.00	242.10	242	0.80		
						243	1.57		
						244	0.47		
			245	245.00	245.11	245	0.25		
						246	0.57		
249.98	250.00	XENOLITH, highly altered				247	1.15		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
250.00	255.55	XENOLITH, dioritic: Non-magnetic, low carbonatization. 250.40-250.41 Highly contaminated "kimberlite". 250.61-250.78 Highly contaminated "kimberlite", moderately carbonatized, abundant yellow serpentine. 253.45-253.76 "Kimberlite" as above (246.75-249.88), but moderately contaminated; moderate carbonatization; non-magnetic	248	248.00	248.10	248	0.85		
						249	1.37		
						250	0.30		
			251	251.03	251.15	251	-.35		
						252	0.65		
						253	0.40		
			254	254.00	254.10	254	0.25		
255.55	258.09	"KIMBERLITE" Greenish black (5GY2/1), fairly homogeneous, non-magnetic, moderately carbonatized; 5-10%, 8-25mm diameter, moderately to highly altered, xenoliths; 10%, 1-3mm, black, A-R, olivine; 20-60%, fine-grained, black olivine; 20-65%, fine-grained to aphanitic groundmass. Some of the large olivine are embayed. @257.30 1mm Py filled fracture; CA=25° 257.30-257.85 Predominantly xenoliths 257.85-258.09 Abundant xenoliths				255	0.80		
						256	1.15		
			257	257.00	257.11	257	0.82		
						258	0.82		
258.09	259.91	XENOLITH, dioritic: low to moderate carbonatization; non-magnetic				259	0.35		
259.91	260.26	"KIMBERLITE" or very highly altered xenolith Rock has same textures as xenoliths, but contains some olivine crystals and unaltered xenoliths. Non-magnetic, low carbonatization. 50% of unit is 30-50mm "fresh" dioritic xenoliths.	260	260.00	260.10	260	0.52		
260.26	261.05	XENOLITH, dioritic very low carbonatization, non-magnetic, well foliated				261	0.50		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
260.26	261.05	XENOLITH, dioritic (cont): 260.81-260.89 "Kimberlite", very contaminated; as above (259.91-260.26) 261.00-261.05 Highly altered							
261.05	262.30	"KIMBERLITE" Moderately contaminated, low carbonatization, non-magnetic; same as 255.55-258.09				262	2.60		
262.30	263.86	XENOLITH, dioritic: Very low carbonatization, non-magnetic, low alteration.	263	263.00	263.12	263	1.02		
263.86	264.17	"KIMBERLITE" Moderately contaminated, low carbonatization, non-magnetic; greenish black (5GY2/1), fairly uniform, homogeneous, massive; 8%, 1-3mm, A-SA, black embayed olivine; 60%, <1mm, R-A, black olivine; 32%, very fine-grained to aphanitic, medium grey groundmass.				264	21.7		
264.17	266.31	XENOLITH, dioritic Non-magnetic, low-medium carbonatization on fractures, generally low alteration except within 20-30mm of margins.				265	3.90		
			266	265.90	266.00	266	6.85		
266.31	282.59	"KIMBERLITE", *fine-grained, hypabyssal*: Greyish black (N2), slightly to moderately magnetic; 20%, 1-5mm, black, R-SR, olivine; 5%, 3-10mm, WR, highly altered xenoliths; 60%, fine-grained, R, olivine; 20% very fine-grained to aphanitic groundmass. 266.31-267.23 Decreasing effects of contamination indicated by change in groundmass colour from light to dark 266.31-269.30 Moderate carbonatization, pervasive and as fracture fillings 267.99-268.17 Xenolith, highly altered; surrounded by contaminated "kimberlite".				267	137		
						268	36.5		
			269	268.90	269.00	269	119		
						270	147		
						271	125		
			272	272.00	272.13	272	124		
						273	139		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
266.31	282.59	"KIMBERLITE", fine-grained, hypabyssal (cont): 269.00-269.41 Abundant yellow serpentine 269.41-269.61 Very highly altered xenolith 269.61-269.81 Highly contaminated, moderate to low amounts of yellow serpentine 269.81-270.02 Very highly altered xenolith 270.02-270.17 Highly contaminated, low amounts of yellow serpentine 270.58-270.62 Very highly altered xenolith 271.60-271.89 Centre of section is highly altered xenolith; grades outwards to highly contaminated "kimberlite". Abundant yellow serpentine. @271.90 Trace magnetite as 2mm diameter, fine-grained masses 273.05-273.15 Several 15mm diameter, very highly altered xenoliths @273.20 Up to 1% R, olivine crystals up to 10mm diameter 273.52-273.80 Highly altered xenolith 274.21-274.86 Highly contaminated "kimberlite" (light coloured groundmass with yellow serpentine and less olivine megacrysts) 275.20-275.70 Highly contaminated "kimberlite", abundant yellow serpentine 276.15-276.35 As above (275.20-275.70) 277.80-278.60 20-30%, 1-5mm, SR-SA, embayed, black olivine; 30-40%, <1mm, R-A, rarely euhedral, black olivine; 30-50%, very fine-grained groundmass. Moderately magnetic.				274	157		
			275	274.91	275.00	275	124		
						276	134		
						277	119		
			278	278.00	278.10	278	129		
						279	136		
						280	120		
			281	281.00	281.10	281	92.5		
						282	129		
282.59		CONTACT: 20mm transition zone							
282.59	288.21	XENOLITH Slightly altered, non-magnetic, low carbonatization as fracture fillings; light grey (N7), medium- to coarse-grained; 30% quartz, 40% feldspar, 30% amphibole.				283	8.27		
			284	284.00	284.12	284	5.57		
						285	0.87		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
282.59	288.21	XENOLITH (cont): 285.37-285.46 Contaminated "kimberlite" with 40% highly altered xenoliths and abundant 1-3mm serpentine filled fractures 287.94-288.13 Highly contaminated "kimberlite" as above (224.41-228.05)				286	0.90		
			287	287.00	287.10	287	2.77		
						288	11.1		
288.21		CONTACT, serpentine filled fracture							
288.21	289.58	"KIMBERLITE" Quite variable, moderate pervasive carbonatization throughout; slightly to moderately magnetic. 288.21-288.28 Medium dark grey (N4; 10%, 2-5mm, black, SR with few A, olivine; 50%, <2mm, WR, black olivine; 40% light coloured, aphanitic groundmass with abundant yellow serpentine 288.28-288.83 Medium dark grey (N4), fine-grained; 60% dark minerals; 40% light coloured, serpentinized groundmass; well developed, 3-5mm banding caused by segregation of dark minerals into layers; CA=65° 288.83-289.41 Dark greenish grey (5G4/1); 10-15%, 2-5mm, black, R-SA, embayed olivine; 20-30%, <1mm, black, R, olivine; 45-70%, very fine-grained to aphanitic groundmass with trace yellow serpentine 289.41-289.58 As above 288.21-288.28				289	68.8		
289.58	289.60	CONTACT: zone mainly of serpentine filled fractures							
289.60	291.50	XENOLITH: medium-grained; as above (282.59-288.21)	290	290.00	290.10	290	5.07		
291.50		CONTACT: fairly distinct				291	10.6		
291.50	354.45	"KIMBERLITE": Variable texture and composition; generally moderately magnetic with low pervasive carbonatization.				292	140		
			293	293.00	293.12	293	72.2		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
291.50	354.45	"KIMBERLITE" (cont): Greyish black (N2); 1%, 10-15mm diameter, highly altered xenoliths; 10%, 2-5mm, black, SR-R few euhedral, olivine; 40%, <2mm, black, R-SA few subhedral, olivine; 50%, very fine-grained to aphanitic groundmass. Trace magnetite as 3mm diameter, rounded, fine-grained masses. 291.50-291.68 As above (288.83-289.41) 292.11-292.44 As above (288.83-289.41); CA=80° 293.02-294.05 Black (N1) 294.05-294.25 Xenolith (as above 282.59-288.21); sharp contacts 294.25-294.58 Black (N1); 2% R, highly altered, 15mm xenoliths 294.58-295.36 Greenish grey (5G6/1); 10%, 1-2mm, black, R-A, embayed olivine; 50%, very fine-grained, black minerals; 40%, very fine-grained, light grey material. Crude banding from alignment of coarse olivine, CA=58°. Most olivine have reaction rims; trace 1x3mm ovals of fine-grained magnetite. 295.36-296.72 As above (294.58-295.36) but with variable amounts of coarse olivine up to 20% over 0.1m sections and several 0.05m sections of black "kimberlite" adjacent to 1mm fractures filled with calcite and serpentine. Moderately magnetic; moderate carbonatization 297.15-296.25 Highly altered xenolith @297.69 20mm highly altered xenolith @298.15 Two 10-15mm moderately altered xenoliths containing trace biotite @298.20 5x20mm xenolith as above 298.22-298.27 Xenolith as above 298.43-298.49 Highly altered xenolith @298.60 10mm highly altered xenolith with trace-1% biotite								
			296	296.00	296.10				
			299	299.00	299.10				
			302	302.00	302.11				
			305	305.00	305.11				
			308	308.00	308.12				
			311	31.00	311.12				
			314	314.00	314.12				
						294	128		
						295	85.4		
						296	96.8		
						297	135		
						298	93.8		
						299	46.5		
						300	63.5		
						301	28.2		
						302	45.5		
						303	78.4		
						304	96.7		
						305	84.6		
						306	113		
						307	95.5		
						308	81.1		
						309	97.8		
						310	108		
						311	124		
						312	95.6		
						313	105		
						314	75.5		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
291.50	354.45	"KIMBERLITE" (CONT):				315	121		
		@298.85 5X10mm lens shaped, highly altered xenolith; adjacent olivine containing epidote (?)				316	17.6		
		299.25-299.29 Moderately altered xenolith	317	317.00	317.11	317	93.4		
		@299.41 5x20mm highly altered xenolith				318	104		
		299.50-299.62 Highly altered xenolith				319	94.1		
		299.70-299.72 Highly contaminated "kimberlite"	320	320.00	320.12	320	91.7		
		301.06-301.35 Abundant 10-15 x 20-30 mm, moderate-highly altered xenoliths				321	96.1		
		301.56-301.60 20mm wide lenticular, highly altered xenolith with deep red mineral at margins (garnet?)				322	75.6		
		302.69-302.77 Unaltered xenolith	323	323.00	323.08	323	81.2		
		@305.00 Olivine, particularly the coarse ones, are gradually becoming lighter green				324	61.6		
		309.35-309.78 Highly contaminated "kimberlite"				325	83.6		
		309.45-309.49 very highly altered xenolith	326	325.90	326.00	326	85.8		
		310.54-310.59 Moderate-highly altered xenolith; probably not granitic as different from others				327	96.9		
		311.19-311.35 High-moderately altered, dioritic xenolith; sharp margins				328	83.8		
		311.52-311.65 Several 10-15mm highly altered xenoliths containing brown acicular mineral	329	328.89	329.00	329	28.4		
		@311.87 Medium-grained dioritic xenolith haloed by two 10mm different alteration zones				330	86.7		
		312.10-312.17 Highly altered xenolith				331	86.8		
		312.33-312.41 Two highly altered xenoliths	332	331.92	332.00	332	74.8		
		312.41-313.21 Highly contaminated "kimberlite"; no large olivine; granular texture				333	83.2		
		313.41-314.10 As above				334	93.8		
			335	335.00	335.12	335	81.9		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
291.50	354.45	"KIMBERLITE", (cont):				336	82.2		
		314.10-314.18 Highly altered xenolith							
		314.18-314.38 As above (312.41-313.21)				337	55.5		
		314.40-314.50 Very highly altered xenolith							
		314.88-314.92 As above	338	337.84	337.97	338	69.2		
		315.28-315.31 As above							
		315.90-315.95 As above				339	62.5		
		316.00-316.05 As above							
		316.31-320.10 Coarser olivine are present but				340	84.2		
		are less distinct in that they are the same light	341	341.00	341.10	341	7.17		
		colour as the groundmass; groundmass is fine-							
		grained, granular (result of contamination ?)				342	87.2		
		319.25-319.40 Several, 10mm, highly altered							
		xenoliths				343	90.1		
		320.49-320.56 Highly altered xenolith	344	344.00	344.10	344	77.6		
		320.87-320.94 As above							
		@321.55 10x5mm highly altered xenolith				345	110		
		321.69-321.72 Highly altered xenolith							
		321.83-321.89 As above				346	114		
		323.72-323.80 As above; moderately							
		carbonatized	347	347.00	347.08	347	80.2		
		326.92-326.97 Very highly altered xenolith							
		328.16-328.32 Highly altered xenolith				348	109		
		328.55-328.61 Very highly altered xenolith							
		329.80-329.92 As above				349	106		
		330.13-330.35 As above							
		330.80-330.83 As above	350	350.00	350.07	350	103		
		331.75-344.50 1-2%, very highly altered, 10-							
		30mm xenoliths				351	132		
		331.18-331.32 Abundant highly altered 30-							
		40mm xenoliths				352	108		
		333.91-334.32 Very few olivine megacrysts	353	353.00	353.09	353	92.9		
		337.50-337.64 Very highly altered xenolith;							
		50% aphanitic serpentine				354	43.8		
		339.44-339.62 Moderately altered, grey							
		granitic gneiss xenolith with trace-1% medium-							
		grained, disseminated, Py							

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
291.50	354.45	"KIMBERLITE", (cont): 341.88-342.10 Very highly altered xenolith 342.19-342.32 As above; moderately carbonatized 342.82-342.85 As above 343.51-343.54 As above 342.77-342.86 Highly altered xenolith; upper part has black, tabular mineral (pyroxene or amphibole), lower part has reddish brown alteration mineral haloing less altered material @351.62 8mm serpentinized fracture filling with acicular mineral and 1% Po. CA=45° 352.70-352.80 Very altered xenolith or highly contaminated "kimberlite" 351.70-354.45 Low carbonatization as fracture fillings 353.80-354.45 Abundant 40-60mm, low-moderately altered granitic gneiss xenoliths								
354.45		CONTACT: sharp, 5mm of contact reaction "kimberlite"							
354.45	358.70	XENOLITH: Very slightly altered; gneissic banding shown by alignment of mafic minerals; CA is variable, 10°-30°; non-magnetic; low carbonatization; 10% quartz; 80% feldspar; 10% chloritized hornblende; 10% rounded masses to 15x30mm of felsic material; <2% other mafic minerals				355	2.37		
			356	356.00	356.09	356	0.30		
						357	1.37		
						358	2.45		
358.70		CONTACT: sharp, no reaction zone; CA=20°							
358.70	365.60	"KIMBERLITE" Characterized by small, fresh, angular xenoliths, especially in the lower parts. Dark greyish black (N2) to black (N1), moderately magnetic, moderate pervasive carbonatization; 15-20%,	359	359.00	359.07	359	67.8		
						360	59.8		
						361	31.7		
			362	362.00	362.12	362	4.80		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
358.70	365.60	"KIMBERLITE" (cont): 2-8mm, R-SA some embayed, black olivine; 60-80%, <2mm, R-euhedral, black olivine; 10-20%, very fine-grained groundmass; trace 1mm diameter masses of fine-grained magnetite; 1-5%, A, slightly altered xenoliths to 10 mm diameter. 358.70-358.90 Olivine megacrysts are light coloured 361.59-362.10 Highly contaminated; 40% light coloured, aphanitic groundmass. Several 20-50mm xenoliths, moderately altered 362.10-363.03 Moderate-highly contaminated; 30% moderate-highly altered xenoliths, some with abundant phlogopite; 10%, 2-8mm, black, SA embayed, olivine; 30%, <2mm, black, R, olivine; 30% light green, serpentinized, aphanitic groundmass 363.65-363.78 Highly contaminated as above; magnetite masses have 0.5mm reaction rims; abundant serpentine filled fractures, one with massive, fine-grained Py at margins 364.32-364.64 Highly contaminated as at 362.10-363.03 @364.53 8mm feldspar xenolith with purple mineral in centre 364.64-364.99 Slightly altered, granitic gneiss xenolith 364.99-365.10 Very highly contaminated; <10% olivine in yellowish green, aphanitic groundmass 365.10-365.23 Slightly altered, granitic gneiss, xenolith; highly fractured with 1-3mm serpentine filled fractures @365.25 Fractures filled with coarse gypsum? 365.38-365.50 Slightly altered, granitic gneiss, xenolith 365.50-365.60 Highly contaminated as at 362.10-363.03				363	2.65		
						364	49.1		
			365	365.00	365.09	365	0.37		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
365.60		CONTACT: fairly sharp							
365.60	366.24	"KIMBERLITE", highly contaminated Light bluish grey to medium bluish grey (5B6/1); fine-grained; non-magnetic; moderate-high pervasive carbonatization; 15%, 1mm, R, black core with lighter margins, olivine; 30% very fine-grained, dark mineral (olivine?); 25% aphanitic green serpentine; 30% light bluish grey groundmass. Mafic minerals are in specific bands giving the rock a banded appearance, CA=32°				366	12.5		
366.24		CONTACT, sharp							
366.24	383.00	"KIMBERLITE", Crater facies ? Dark grey to black (N2-N1); slightly magnetic in a few places; generally very low carbonatization except as below. Xenoliths are only slightly altered and have only affected the "kimberlite" for 2-4mm around them; all are of granitic gneiss. 1%, SR, >100mm xenolith; 5% SR-SA, 10-100mm xenoliths; 10% SA-SR, 1-10mm xenoliths; 1% dark green, SR embayed, >10mm olivine; 20%, 2-6mm, black becoming greyer at depth, commonly with thin reaction rims, olivine; 30%, <0.5mm, black, R-SA few euhedral, olivine; 33% aphanitic, light coloured, serpentinized groundmass; trace diopside (?). Texture and composition varies quite rapidly within the section. @366.70 10x40mm xenolith with acicular brown mineral 367.34-367.43 Granitic gneiss xenolith with red garnets (?) 367.61-368.38 Highly fractured; moderate pervasive carbonatization 370.85-370.98 Xenolith as above (366.70) 377.12-383.00 Moderate pervasive carbonatization				367	26.1		
			368	368.05	368.16	368	11.3		
						369	1.95		
						370	0.82		
			371	370.93	371.00	371	1.55		
						372	0.45		
						373	2.05		
			374	374.00	374.11	374	0.42		
						375	0.95		
						376	1.62		
			377	376.90	377.00	377	1.75		
						378	43.9		
						379	3.67		
			380	379.92	380.00	380	4.97		
						381	3.77		

From (m)	To (m)	Description	Sample No	From (m)	To (m)	Depth (m)	M. S. (10^{-3})		
366.24	383.00	"KIMBERLITE", Crater facies ?				382	6.52		
		@378.43 Hematized fracture, CA=30°	383	382.90	383.00	383	2.22		
		@381.52 Trace diopside							
		@382.88 Trace red garnet							
		@381.98 Trace massive Py on fracture, CA≈10°							
383.00		END OF HOLE: (no more rods); plug installed at 70m.							

BOX No.	DEPTH		ROCK TYPE	SHIP/ STORE	BOX No.	DEPTH		ROCK TYPE	SHIP/ STORE
	FROM	TO				FROM	TO		
1	0.00	13.38	Palaeozoic	Ont. Gov't	22	132.53	138.43	Precambrian	Toronto
2	13.38	20.13	Palaeozoic	Ont. Gov't	23	138.43	144.37	Precambrian	Toronto
3	20.13	25.32	Palaeozoic	Ont. Gov't	24	144.37	150.23	Precambrian	Toronto
4	25.32	31.59	Palaeozoic	Ont. Gov't	25	150.23	156.00	Precambrian	Toronto
5	31.59	38.18	Palaeozoic	Ont. Gov't	26	156.00	161.79	Precambrian	Toronto
6	38.18	44.74	Palaeozoic	Ont. Gov't	27	161.79	167.61	Precambrian	Toronto
7	44.74	50.66	Palaeozoic	Ont. Gov't	28	167.61	173.49	Precambrian	Toronto
8	50.66	56.66	Palaeozoic	Ont. Gov't	29	173.49	179.13	Precambrian	Toronto
9	56.66	62.61	Palaeozoic	Ont. Gov't	30	179.13	184.85	Precambrian	Toronto
10	62.61	68.43	Palaeo/PreC	Toronto	31	184.85	190.74	Precambrian	Toronto
11	68.43	74.33	Precambrian	Toronto	32	190.74	196.47	Precambrian	Toronto
12	74.33	80.20	Precambrian	Toronto	33	196.47	202.22	Precambrian	Toronto
13	80.20	86.21	Precambrian	Toronto	34	202.22	207.81	Precambrian	Toronto
14	86.21	92.00	Precambrian	Toronto	35	207.81	213.89	Precambrian	Toronto
15	92.00	97.90	Precambrian	Toronto	36	213.89	219.68	Precambrian	Toronto
16	97.90	103.80	Precambrian	Toronto	37	219.68	225.09	Precambrian	Toronto
17	103.80	109.58	Precambrian	Toronto	38	225.09	231.07	Precambrian	Toronto
18	109.58	115.43	Precambrian	Toronto	39	231.07	236.89	Precambrian	Toronto
19	115.43	120.94	Precambrian	Toronto	40	236.89	242.82	Precambrian	Toronto
20	120.94	126.75	Precambrian	Toronto	41	242.82	248.69	Precambrian	Toronto
21	126.75	132.53	Precambrian	Toronto	42	248.69	254.45	Precambrian	Toronto

BOX No.	DEPTH		ROCK TYPE	SHIP/ STORE	BOX No.	DEPTH		ROCK TYPE	SHIP/ STORE
	FROM	TO				FROM	TO		
43	254.45	260.40	Precambrian	Toronto	64	377.71	383.00	Precambrian	Toronto
44	260.40	266.24	Precambrian	Toronto					
45	266.24	272.00	Precambrian	Toronto					
46	272.00	277.96	Precambrian	Toronto					
47	277.96	283.76	Precambrian	Toronto					
48	283.76	289.68	Precambrian	Toronto					
49	289.68	295.57	Precambrian	Toronto					
50	295.57	301.47	Precambrian	Toronto					
51	301.47	307.35	Precambrian	Toronto					
52	307.35	313.27	Precambrian	Toronto					
53	313.27	319.13	Precambrian	Toronto					
54	319.13	325.00	Precambrian	Toronto					
55	325.00	330.94	Precambrian	Toronto					
56	330.94	336.76	Precambrian	Toronto					
57	336.76	342.63	Precambrian	Toronto					
58	342.63	348.62	Precambrian	Toronto					
59	348.62	354.52	Precambrian	Toronto					
60	354.52	360.44	Precambrian	Toronto					
61	360.44	366.18	Precambrian	Toronto					
62	366.18	371.95	Precambrian	Toronto					
63	371.95	377.71	Precambrian	Toronto					

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number
W.9760.00211
Ammend

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Instructions: - Please type or print and submit in triplicate
- Refer to Record
- A separ
- Technic
- A sketc

43F03NW0001 2.17494

900

2.17494

assment work or consult the Mining

y this form.

Recorded Holder(s)		Client No.
KWG Resources Inc.		224701
Address		Telephone No.
#1000 - 350 Bay St., Toronto, Ontario, M5H 2S6		(416) 869-0626
Mining Division	Township/Area	M or G Plan No.
Porcupine	Attawapiskat	BHA 532852 / G-1446
Dates Work Performed	From: March 20/95	To: March 25/95

Work Performed (Check One Work Group Only)

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

Total Assessment Work Claimed on the Attached Statement of Costs $ ~~(89,488)~~ $ 98,078

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

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

Name	Address
Midwest Drilling	180 Cree Cres., Winnepeg, Manitoba, R3J 3W1
Roger Thomas	1373 Corkery Road, Carp Ontario, K0A 1L0
Steve Munro	614 Bayfield Street, Pickering Ont. L1V3W5

(Attach a schedule if necessary)

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

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date: Mar 12/97	Recorded Holder or Agent (Signature):

Certification of Work Report

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

Name and Address of Person Certifying
Steve Munro, #1000-350 Bay St., Toronto, Ontario, M5H 2S6

Telephone No.	Date	Certified By (Signature)
(416)869-0626	Mar 12/97	

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
	Deemed Approval Date	Date Approved	Received MARCH 13/97 10:30 AM.
	Date Notice for Amendments Sent		

Total Number of Claims	Claim Number (see Note 2)	Number of Claim Units	Work Report Number for Applying Reserve	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
2	1204022	16	W9760.00211	98,078	32,000	32,000	34,078
	1204023	16			32,000	0	
Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve				
98,078	64,000	32,000	34,078				

2.17494

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

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

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

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

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

Ontario

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: W9760.00211

Ammend

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, Mininge Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

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

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	14,381	
	Field Supervision Supervision sur le terrain		[illegible]
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type: Drilling	26,093	67,351 ✓
	Helicopter Support	34,517 ~~29,358~~	
	Geologists	6,741	[illegible]
Supplies Used Fournitures utilisées	Type		
			[illegible]
Equipment Rental Location de matériel	Type: 2.17494		
			[illegible]
	Total Direct Costs Total des coûts directs		[illegible]

81,732 ✓

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: Float Plane Service	35,575	35,575
Food and Lodging Nourriture et hébergement	Camp Costs	3,745	3745
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		39,320
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		~~16,346~~
	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)		~~97,488~~ 16,346 ✓ 98078

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 =	

Remises pour dépôt

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

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

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

Certification Verifying Statement of Costs

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

that as Claims Manager (Recorded Holder, Agent, Position in Company) I am authorized to make this certification

Attestation de l'état des coûts

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

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

Signature: [signature] Date: 11 [illegible]

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

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

Telephone: (888) 415-9846
Fax: (705) 670-5863

August 6, 1997

Steve Munro
RESSOURCES KWG INC.
350 BAY STREET
SUITE 1000
TORONTO, ONTARIO
M5H-2S6

Dear Sir or Madam:

Submission Number: 2.17494

Subject: Transaction Number(s):		**Status**
	W9760.00211	Deemed Approval

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 Steve Beneteau by e-mail at beneteau_s@torv05.ndm.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,

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

Correspondence ID: 11172

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.17494

Date Correspondence Sent: August 06, 1997 **Assessor:** Steve Beneteau

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9760.00211	1204022	ATTAWAPISKAT	Deemed Approval	June 11, 1997

Section:
10 Physical PDRILL

Correspondence to:

Resident Geologist
Thunder Bay, ON

Assessment Files Library
Sudbury, ON

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

Steve Munro
RESSOURCES KWG INC.
TORONTO, ONTARIO

533852 G-4238

532853 G-4248

532851 G-4246

531852 G-4244

85°30' 85°15' 53°15' 53°07'30"

LAKE

LAKE

LAKE

RIVER

MUKETEI

RIVER

ATTAWAPISKAT

RIVER

1204022
(16 UNITS)

1204023
(16 UNITS)

1201861
(16 UNITS)

1201862
(16 UNITS)

1201863
(16 UNITS)

1201864
(16 UNITS)

2.17494
PDRILL

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

SMD 4247

532852

LEGEND

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

DISPOSITION OF CROWN LANDS

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

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY

S.R.O. – SURFACE RIGHTS ONLY

M.+S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 1000 (1 KM) 2000 (2 KM)

AREA

532852

M.N.R. ADMINISTRATIVE DISTRICT

NIPIGON

MINING DIVISION

PORCUPINE

LAND TITLES / REGISTRY DIVISION

KENORA / PATRICIA PORTION

Ontario Ministry of Natural Resources

Ministry of Northern Development and Mines

Date JULY, 1995

ACTIVATED NOV. 7/95 BY D.C.

CHECKED BY: D.K.

Number G-4247

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