



41P10NE2005 2.19878 CHOWN

010

**Report On**  
**Drill Core Logging**  
**And Analysis**  
**Lawson Township, Ontario**

**By**

**R. A. MacGregor, P. Eng.**

*Deal #  
2.1102*

**November 12, 1999**

**2.19878**

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NOV 26 1999  
GEOSCIENCE ASSESSMENT  
OFFICE

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## Summary

Drill core from two drilling programs in 1980 and 1984 in Lawson Township was sampled for base metals by ICP, with a few samples for platinum group elements and gold by fire assay.

Core from the 1984 program which had not previously been reported was logged prior to extensive sampling. Much of the core from the 1980 program is missing.

The purpose of the sampling was to check for base metal mineralization where previous sampling had been for silver only. Anomalous to significant base metal values were found. There were no indications of platinum group elements or gold. Anomalous vanadium values were found which are unexplained.

There is a possibility the base metal values have a source in underlying volcanic rocks.

## **Introduction**

Limited sampling and analysis for base metals by ICP was carried out on drill core from holes previously drilled in 1984. Subsequently these holes were logged in detail, further sampling and analysis was carried out on core from these drill holes. Further sampling was also carried out on core from a drill program in 1980 .

## **Method**

Drill core from a drill program in 1984 in Lawson Township had been saved and stored at the Upper Canada Mine site. A few samples were taken and analysed for base metals by ICP of remaining split core which had previously been analysed for silver only. These results suggested possibly significant base metal values.

The core was brought to Sault Ste. Marie logged in detail and samples taken of previously split core and whole core from longer sections between or adjacent to previous samples. Core was placed in plastic bags, tagged and sent to a commercial lab for preparation and analysis by ICP. A few samples were also analysed by fire geochem to check for platinum group elements and gold.

Drill logs from another drill program in 1980 were also reviewed and a list prepared for each hole of possible intervals to be samples. In this instance previously split and sampled core was combined with whole core to obtain a longer sample interval. Whole core was split and only half placed in the sample bags to obtain a uniform sample, which was tagged and sent out for preparation and analysis as mentioned above. A brief description was made of each sample as it was taken.

A large amount of core is missing from the 1980 drill program. No core could be found for holes 80-5 to 80-7 inclusively. Many boxes of core are missing for holes 80-1 to 80-4 inclusive.

Pulps and rejects were retrieved from the lab and have been stored. Pulps are stored in 40 dram plastic vials, which in turn are stored in wooden boxes constructed to hold 91 vials each. Rejects were screened on a 6 mesh stainless steel screen. The +6 mesh portion was washed to remove fines and dust, dried and stored in 14 dram plastic vials. These vials in turn are stored in wooden boxes constructed to hold 153 vials each.

Storage of pulps will allow further analysis, either to check previous analysis, or to analyse for other elements. Storage of +6 mesh rejects will allow mineralogical study, should the drill cores become lost or destroyed.

## Results

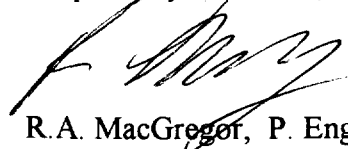
Sample descriptions are given with drill logs for 1984 drilling in Appendix I or for 1980 drilling in Appendix II. Analytical results are in Appendix III.

Anomalous to significant values in Cu, Pb, Zn, Co, As, and B were found both in samples previously analysed for Ag, and samples not previously analysed. As well anomalous values in Ag were found in samples not previously analysed. There is no indication of platinum group elements or gold.

Anomalously high and low V values ranging from a high of 952 ppm to a low of 12 ppm which do not appear to correlate with Fe or Ti content are unexplained. The aqua region digestion used is poor for extracting Ti, however one whole rock analysis gave 0.92% Ti O<sub>2</sub> which is normal for gabbro and not necessarily indicative of titaniferous magnetite.

The base metal values appear to be related to narrow carbonate or quartz-carbonate veining in the gabbro. It could indicate a source within underlying volcanic rocks.

Respectfully submitted,



R.A. MacGregor, P. Eng.

November 12, 1999

**Appendix I**

**Drill Logs and Sections**

## Hole 84-1

Location 145 ft. South of Shaft Bearing N55° W  
 100 ft. West of Shaft Dip - 40°  
 Started September 10, 1984 Depth - 300 ft.  
 Finished September 11, 1984 Core size AQ

- 0 - 10 ft. Casing
- 10 - 61.5 ft. Nipissing Diabase Sill, coarse grained, grey, sericite and hypersthene sericitic, chlorite slips @ 50° to core.  
 30-31.5 chlorite fracture @ 20° CA  
 40.6 chlorite fracture @ 15° CA  
 48.82cm calcite, chlorite stringer 45° CA trace cpy-py  
 51.0 calcite, chlorite slip 30° CA  
 52.1 2.5cm calcite, chlorite breccia with 2.5cm assoc. bx 60° CA  
 trace mineral  
 54.2 calcite chlorite slip 60° CA
- 61.5-170ft. Nipissing Diabase Sill, medium grained, grey, small chlorite spotting some pink tinge  
 71.5 sericite, chlorite slip 15° CA  
 74.5 - 75.2 broken core, associated chlorite slip 20° CA  
 81.4 0.5cm epidote-calcite stringer 20° CA  
 84.5 calcite, chlorite slip 20° CA, chlorite slip parallel to CA to 86'  
 111.7 1cm chlorite aplite slip zone 20° CA  
 114.4 sericite, chlorite slip zone 40° CA  
 134 blocky slips, pink aplite 0.1cm 30° CA  
 135.7 1cm grey calcite 45° CA, cpy  
 137.5 4cm calcite, qtz stringers 30° CA cpy, bornite  
 138 calcite, py slip with chlorite 40° CA  
 145-150 slips @ 20° CA  
 163.5 1cm calcite, chlorite stringer 50° CA tr cpy  
 168.1 1cm aplite stinger 40° CA py, cpy  
 177.4 1cm aplite 60° CA tr py



## Hole 84-1

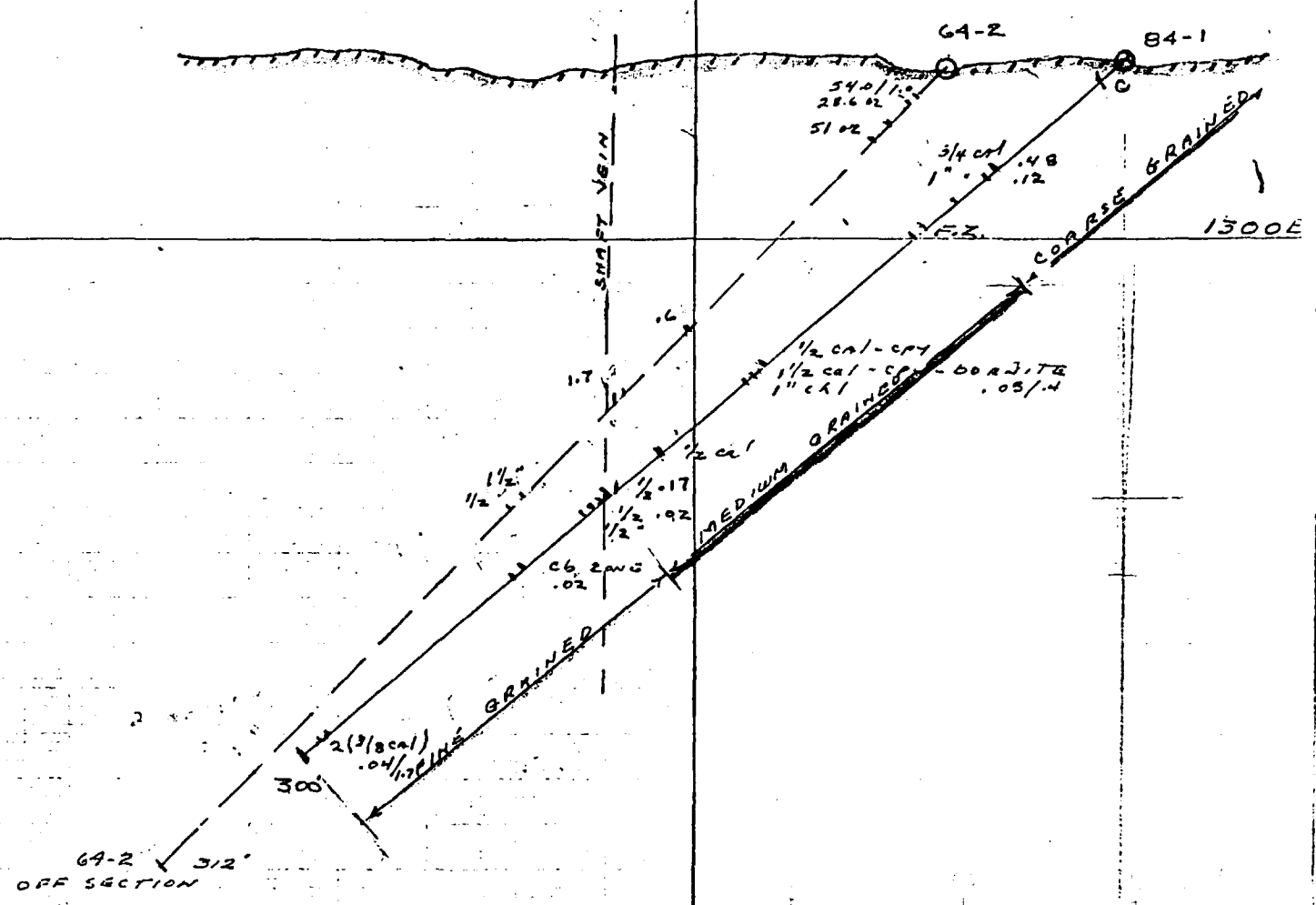
- 170 -300 Nipissing Diabase Sill grades from medium grained to fine grained, grey diabasic sericite
- 189.5 5cm calcite, chlorite stringer zone 50° CA cpy. disseminated
  - 192.5 2.5cm calcite, chlorite slip 55° CA cpy 0.2cm slip 10° CA
  - 194 4cm calcite, pink 45° CA cpy & py
  - 196.9 0.5cm calcite, pink 50° CA
  - 199.1 1cm calcite, chlorite stringer 45° CA
  - 201.5 weak calcite injections 40° CA
  - 202.4 0.2cm calcite stringer 30° CA
  - 203.5 15cm calcite bx, chlorte slip 10° CA
  - 204.7 0.5cm calcite chlorite stringer 60° CA
  - 206.4 0.5cm calcite, chlorite bx 60° CA
  - 208 disseminated pyrite in core
  - 209.3 1cm grey calcite stringer
  - 209-211 numerous calcite fractures 45° CA
  - 211.6 0.1cm calcite, chlorite slip 40° CA
  - 211.8 0.1cm aplite stringer 85° CA cpy
  - 214 4cm calcite stringers & bx 45° CA pyrite
  - 214.5 0.1cm calcite stringers & slip 80° CA
  - 215-217 chlorite fractures 60° CA
  - 220.7 calcite slip 60° CA
  - 221.2 1.5cm calcite, chlorite 20° CA po
  - 222-224 highly chloritized @ 30° CA
  - 223 calcite bx parallel to CA tr. cpy
  - 223.6 12cm calcite vein 45° CA cpy slip contact on footwall
  - 225-255 fine grained diabase
  - 235.5 0.2 calcite 15° CA
  - 236 epidote slip 5° CA
  - 237.3 chlorite parallel to CA
  - 242 0.2 aplite stringer 50° CA
  - 244 0.5 aplite stringer 50° CA

## Hole 84-1

- 258 chlorite slips
- 258.4 1.5cm pink aplite 20° CA
- 265.4 0.5cm chlorite slip 45° CA graphitic, py on walls
- 265.6 aplite slip 60° CA pink alteration
- 272.5 0.5cm aplite and chlorite slip 45° CA
- 265-275 Highly fractured
- 275.5 calcite slip 50° CA
- 276.4 calcite slip 50° CA
- 280.2 calcite slip 50° CA
- 285.7 0.2cm calcite chlorite shear 20° CA slickensided, py min.
- 288.6 1cm grey dykelet 45° CA massive cpy min.
- 294 numerous fractures up to 1cm
- 291.8 2 - 1cm stringers 50° CA tr py
- 292.4 1cm aplite stringer 45° CA tr py
- 293.5 0.2cm aplite stringer 50° CA
- 299.7 1cm aplite stringer 50° CA

Samples 84-1

Interval	Length	Sample Number
48.6 - 49	0.4	1AR680
49 - 52	3.0	1AR546
52 - 52.3	0.3	1AR681
134 - 139	5.0	ULT - 2
189.3 - 189.7	0.4	1AR677
211 - 215	4.0	1AR547
220 - 222.5	2.5	1AR407, <i>wR i7i</i>
222.5 - 224	1.5	1AR406
291.5 - 293.2	2.0	1AR376
		APG31



SECTION D.D.H. 84-1  
 N-55°W  
 SECTION LOOKING NE  
 SCALE 1" = 50' H.A.M.

## Hole 84-2

Location 145ft. South of Shaft Bearing N45 W

Dip -40°

Started September 11, 1984 Depth 250 ft.

Finished September 12, 1984 Core size AQ

0 - 10 ft. Casing

10 - 102 ft. Nipissing Diabase Sill, coarse grained grey, sericite and hypersthene,  
magnetite fractures and slips 30° - 60° to CA  
from 25 pinkish alteration

from 34 highly chloritized, calcite fractures and slips

10.7 1cm epidote stringer 20° CA

13.3 0.3cm epidote stringer and calcite 20° CA

20.3 0.3cm epidote stringer and calcite 10° CA

25-27 fractured, ground core

26.5 15cm bx calcite zone 40° CA

29.2 2cm calcite bx shear 20° CA pink alt. cpy

38.3 2.5cm calcite, chlorite alteration 20° CA

66.5 0.3cm chlorite, epidote stringers 10° CA

80 low angle slips parallel to core

75-95 possible galena in core

86.3 2cm calcite, galena 40° CA

88.5 calcite slip 20° CA tr cpy

89.2 1cm calcite bx 40° CA broken core

93 0.5cm calcite, chlorite bx 80° CA

94 10cm calcite bx vein pyrite, tetrahedrite ?

## Hole 84-2

- 102 - 250 Nipissing Diabase Sill, medium grained grey, altered, pink spots, fractures sericitic 30° to CA uniform texture
- 103.2 calcite fracture 10° CA tr py
- 115.5 aplite, chlorite slip 10° CA
- 121-135 grey crumbly material on slips
- 131.5 dendrites on slip
- 156-158.4 calcite bx fault zone?
- 158.4 2.5cm pink calcite 60° CA
- 164.4 10cm chlorite bx zone 10° CA
- 176 chlorite slips 10° CA
- 180.2 1.5cm pink aplite 10° CA cpy, tetrahedrite?
- 182.7 calcite, chlorite slip 10° CA
- 183.5 8cm calcite, chlorite bx vein 60° CA py
- 194 chlorite slip parallel to core
- 200.5 0.2cm aplite 30° CA
- 205.5 10cm calcite vein 70° CA tr cpy slickenside from 200 numerous chlorite slips ~ 60° CA
- 210.6 2cm calcite, chlorite shear 15° CA tr cpy
- 212 chlorite slip parallel to core
- 213.2 2.5cm calcite bx 45° CA cpy
- 220-250 slips every 5cm @ 50° CA
- 222.2 0.2cm aplite stringer 35° CA
- 226.5 calcite, chlorite slip 70° CA slickensided
- 230 chlorite slip 15° CA
- 237.8 calcite, chlorite slip 25° CA

Samples 84 -2

Interval	Length	Sample Number
80 - 85	5.0	1AR551
85 - 89.5	4.5	1AR401
89.5 - 93.5	4.0	1AR 550
93.5 - 95	1.5	1AR402
95 - 100	5.0	1AR549
158 - 159.5	1.5	1AR552
		APG32
180 - 183	3.0	1AR556
183 - 183.8	0.8	1AR685
199 - 204	5.0	1AR555
204 - 206	2.0	1AR408
206 - 210	4.0	1AR553
210 - 212.7	2.7	1AR410
212.7 - 213.7	1.0	1AR409
213.7 - 219	5.3	1AR554

SHAFT

84-2  
-40

E. 1300

102 LEVEL

147 LEVEL

195 LEVEL

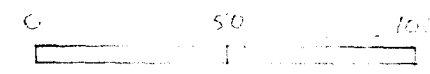
270 LEVEL

250'

4.01  
3.41  
1.06

1.21  
48'

COARSE GRAINED DIABASE  
MEDIUM GRAINED



48

SECTION D.D.H 84-2  
N 45° W  
SECTION LOOKING NE  
SCALE 1" = 50' N.A.M.

KEORA  
SHAFT  
BASELINE



## Hole 84-3

Location	145 ft. South of Shaft	Bearing	N50 W
	50 ft. West of Shaft	Dip	-40°
Started	September 12, 1984	Depth	300 feet
Finished	September 13, 1984	Core size	AQ

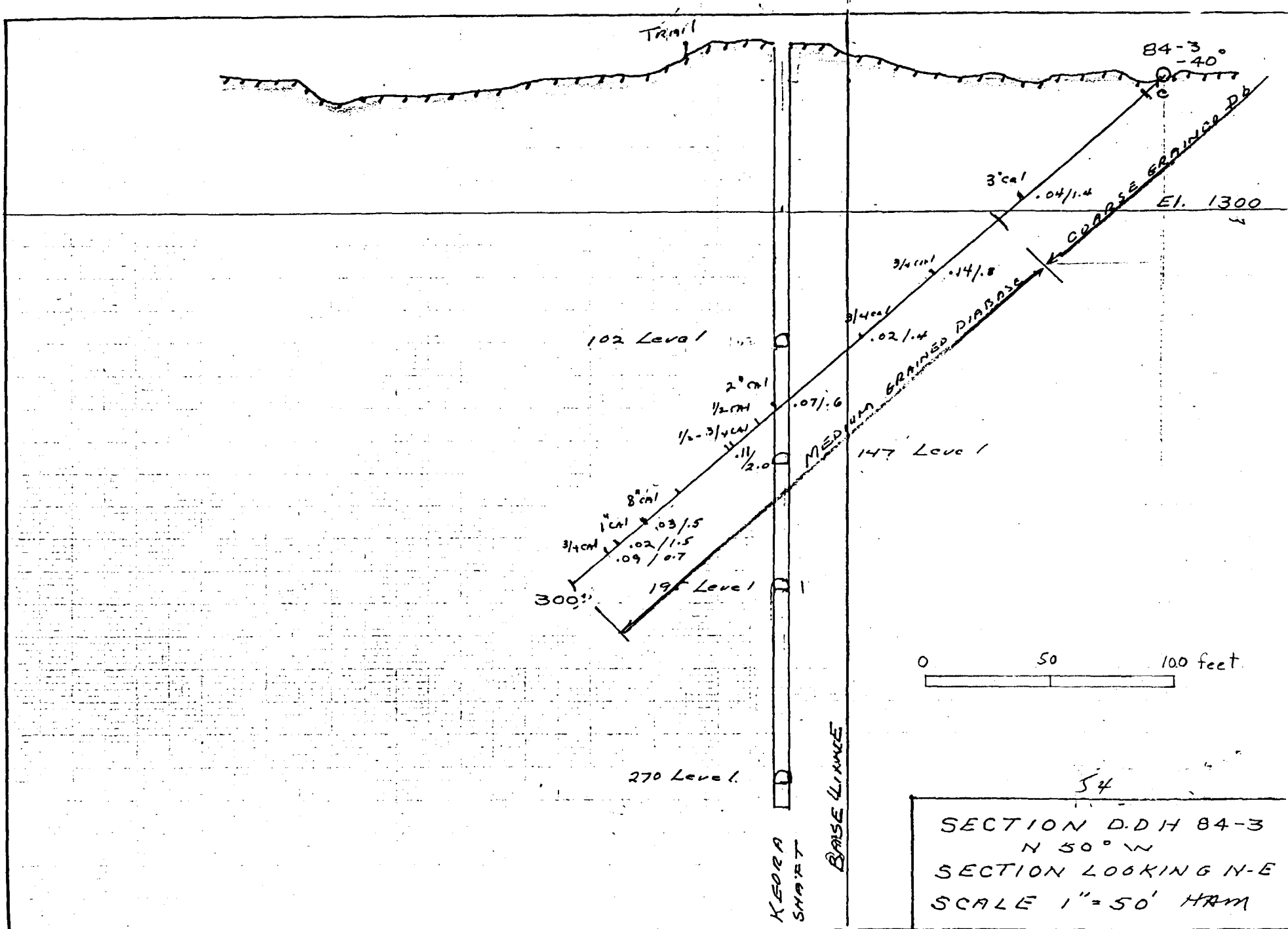
0-10 ft.	Casing
10-84 ft.	Nipissing Diabase Sill, coarse grained grey, sericite, hypersthene, trend of fractures 40°- 70° CA, magnetite, pink spots.
	24-28 chlorite fractures 20° CA
	27.7 5cm oxidized zone slip @ 40° CA
	37.2 oxidized slips 20° CA
	58.2 1cm calcite, chlorite 40° CA
	68 0.5cm calcite, epidote slip 60° CA pyrite
	70.5 rusty oxidized zone, calcite 30° CA
	71.1 7cm calcite vein 35° CA cpy
	71.5 0.5cm calcite stringer 35° CA
	71.9 chlorite slip 15° CA
	73 chlorite slip 15° CA
	75.5 calcite slip 15° CA
84-300 ft.	Nipissing Diabase Sill, medium grained grey, fractures 15°- 60° CA
	89.3 calcite, chlorite slip 80° CA py.
	94.1 0.2 epidote stringer 10° CA
	108 7cm chlorite slip parallel to core
	118.6 2cm calcite stringer 65° CA tr cpy
	140-150 many chlorite slips 60° CA
	155.5 2cm grey calcite shear 50° CA py, cpy
	164.7 0.2cm pink aplite stringer 30° CA
	164.8 1cm pink aplite and calcite 35° CA py
	179.1 1cm pink aplite 30° CA
	179.4 1.5cm pink aplite 30° CA
	183.2 0.2cm pink aplite stringer 70° CA
	187.2 1.5cm pink aplite stringer 80° CA

## Hole 84-3

- 189.8 1cm chlorite fault zone? 45° CA graphitic walls  
194-197 many chlorite slips 45° CA  
196.7 0.5cm calcite, chlorite shear 60° CA  
200.1 5cm calcite vein slip contact 40° CA  
206.5 1cm pink aplite parallel to core pyrite  
207.2 1.5cm calcite, chlorite shear 10° CA  
207-210 calcite slips 60° CA  
211.5 calcite, chlorite slip 45° CA  
213.2 1cm chlorite slip 30° CA  
218.2 1.2cm calcite stringer 15° CA cpy  
218.5 1cm calcite stringer 15° CA  
219.2 2cm calcite stringer 5° CA cpy  
222.2 1cm calcite, chlorite slip 5° CA slickensided cpy  
223 fracture parallel to core  
223-245 slips, blocky 30° CA  
228 calcite, chlorite slip 20° CA  
229.4 1cm aplite 40° CA  
240-254 low angle slips  
254-260 carbonatized slips parallel to core  
260-262.5 carbonatized or bx 10° CA  
265.6 20cm calcite vein with inclusions 50° CA pink spots  
269.1 0.2cm calcite, chlorite stringer 25° CA  
272.6 hairline calcite 30° CA  
278.8 2.5cm calcite vein 60° CA cpy  
279.2 hairline calcite, aplite stringers 60° & 10° CA  
282.3 3 - 0.5cm calcite stringers 70° CA  
282.5 2cm calcite stringer 70° CA  
293 chlorite slip 5° CA  
296 7cm chlorite slip parallel to core

### Samples 84-3

Interval	Length	Sample Number
70.3 - 71.7	1.4	1AR566
113 - 118.2	5.2	1AR557
118.2 - 119	0.8	1AR404
119 - 124	5.0	1AR558
155.3 - 155.7	0.4	1AR684
195 - 199.8	4.8	1AR746
199.8 - 200.4	0.6	1AR412
200.4 - 206	5.6	1AR745
206 - 208	2.0	1AR548
		APG33
208 - 213	5.0	1AR742
213 - 218	5.0	1AR743
218 - 220	2.0	1AR567
		APG34
220 - 225	5.0	1AR744
265 - 266.5	1.5	1AR403
278.5 - 280	1.5	1AR375
282 - 282.9	0.7	1AR413



## Hole 84-4

Location	145 ft. South of Shaft	Bearing	N45 W
	100 ft. East of Shaft	Dip	- 55°
Started	September 13, 1984	Depth	189 feet
Finished	September 14, 1984	Core size	AQ

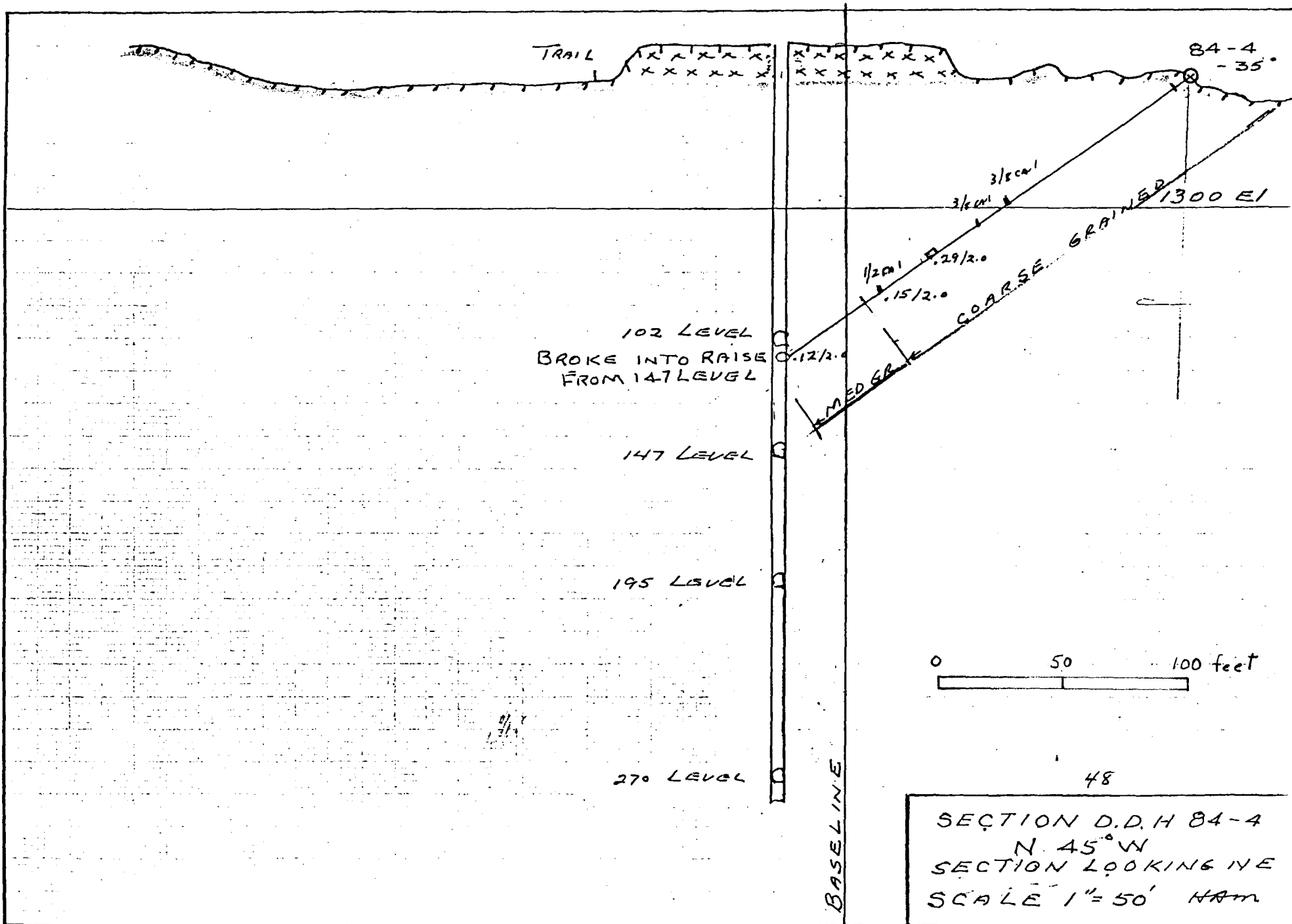
0-10 ft.	Casing
10-153 ft.	Nipissing Diabase Sill, coarse grained grey, sericite, hypersthene, fractures 30° - 60° core
	12.4 hairline calcite 70° CA
	13. 0.5cm calcite, chlorite 80° CA
	13.5 oxidized and rust core
	15 hairline stringers
	17.2 0.2cm calcite, chlorite 35° CA tr sphalerite
	22.2 hairline calcite, chlorite 20° CA
	55-65 many chlorite slips and fractures tr py
	88.6 1cm chlorite seam 5° CA
	103.3 1cm calcite, chlorite slip 10° CA
	105.8 hairline calcite 45° CA
	115 pink alteration
	119.4 grey crumbly material on slip 50° CA
	120.3 0.1cm calcite stringer 30° CA
	120.7 0.5cm calcite stringer 60° CA
	121 2.5cm calcite-chlorite shear 70° CA
	121.5 0.1cm calcite chlortie 40° CA
	126.7 hairline calcite 30° CA
	128.3 0.1cm calcite, chlorite 30° CA
	130 calcite fracture 5° CA
	130.9 0.2cm calcite fracture 15° CA cpy, py
	132 calcite fracture 30° CA
	138.5 chlorite bx 10° CA
	146 calcite bx parallel to core
	147 1.5cm calcite, chlorite shear 40° CA

## Hole 84-4

153-189 Nipissing Diabase Sill, medium grained grey, chlorite, sericite alteration,  
massive fractures 15' - 60' CA  
185-189 fractured 50' CA some calcite  
189 Broke into old stope ?

Samples 84-4

Interval	Length	Sample Number
16 - 18	2.0	1AR750
120 - 122	2.0	1AR748
129 - 131	2.0	1AR749
182 - 187	5.0	1AR747
187 - 189	2.0	1AR400
		APG35





## Hole 84-5

Location 475 ft. North of Shaft	Bearing N43 W
200 ft. West of Shaft	Dip -45°
Started September 17, 1984	Depth 300 feet
Finished September 19, 1984	Core size AQ

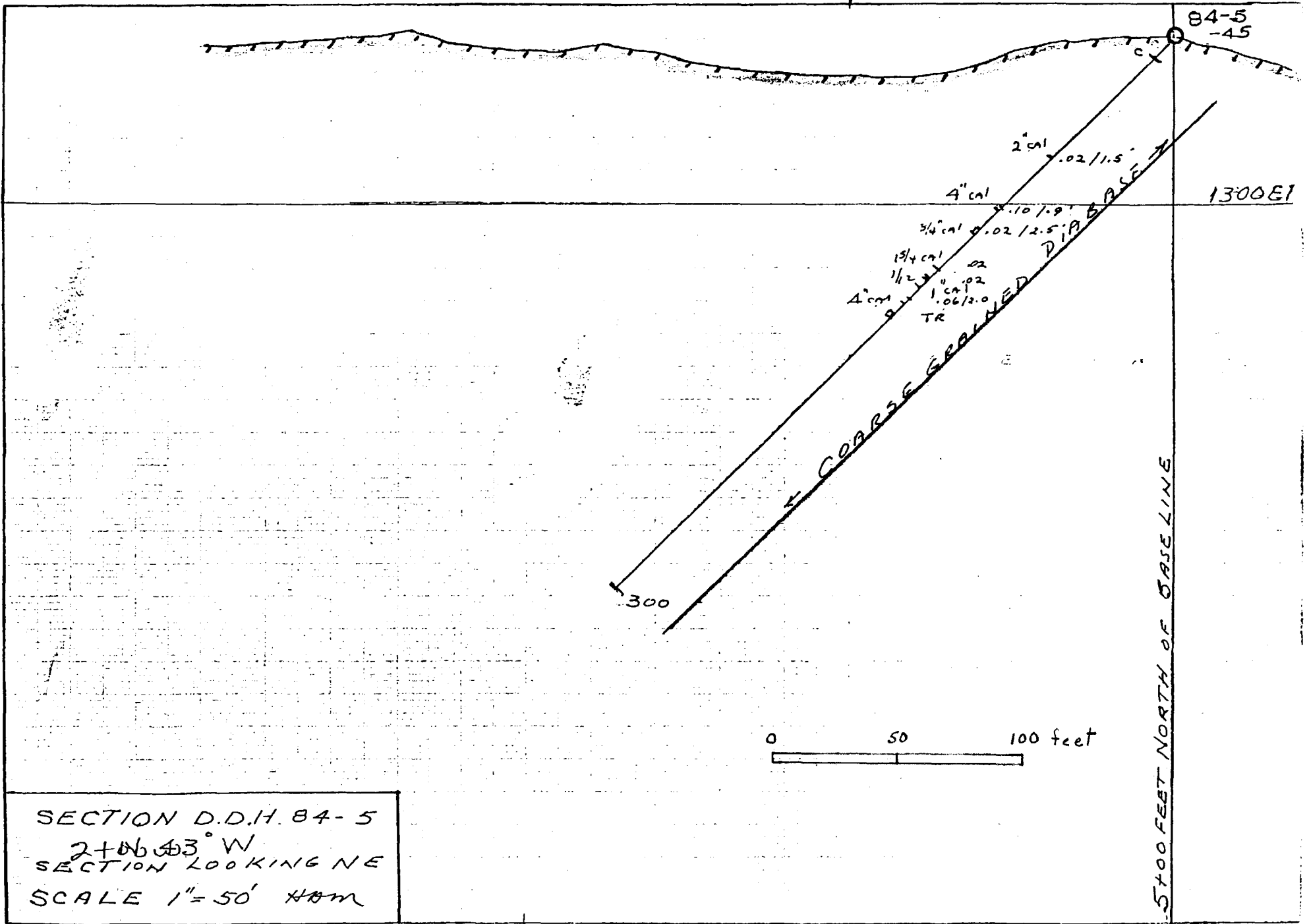
0-12 ft.	Casing
12-300 ft.	Nipissing Diabase Sill, coarse grained grey, sericite, hypersthene slips 30" and 50" to core
	12-40 many slips and fractures
	12.3 2.5cm rusty oxidized slip 60° CA
	14 rusty oxidized slip 60° CA
	27.2 0.1cm calcite fracture, pink aplite 30° CA
	40-75 slips ~ 20° CA
	66.4 5cm pink aplite and calcite 80° CA
	67.3 5cm grey calcite shear 50° CA
	68.7 calcite, chlorite slip 20° CA
	83.4 calcite, chlorite slip 20° CA
	86.3 calcite slip 45° CA trace galena
	86.8 calcite slip 55° CA tr py
	87.2 calcite slip 55° CA tr py
	93.1 0.5cm calcite epidote stringer 20° CA
	94.1 10cm calcite vein, chlorite bx contact 30° CA py, cpy 10cm pink calcite aplite bx 10° CA py
	97.7 1.2cm calcite aplite shear 20° CA py
	105.4 2cm calcite epidote stringer parallel to core tr py
	117 calcite, chlorite slip 20° CA
	120.5 calcite, chlorite slip 15° CA
	123.4 0.5cm calcite, chlorite 10° CA
	135-140 finer grained, chlorite, py and pink spots
	135.4 4cm calcite bx stringer 10° CA py, cpy calcite, chlorite slip parallel to core
	138 2.5cm calcite stringer 45° CA
	138.4 0.2 calcite stringer 10° CA

## Hole 84-5

140 chlorite slips 15° CA  
143.5 calcite, chlorite slips 15° CA py  
144.3 1cm calcite, chlorite slip shear 15° CA  
145.5 1cm calcite, chlorite slip 20° CA tr py  
148.8 1cm chlorite shear 60° CA slickenside  
154.2 0.2cm calcite stringer 40° CA py  
154.6 0.5cm calcite stringer 30° CA tr py  
155.2 10cm calcite 45° CA cpy  
160 chlorite slip 10° CA  
186.4 chlorite slips 5° CA slickensides  
195 chlorite slips 40° CA  
201 chlorite slips 35° CA pyrite  
205 slips every 5 cm  
225 pink spots  
249 chlorite slips 15° CA  
256.2 0.2cm epidote 10° CA  
264.5 1cm calcite epidote shear 55° CA  
265 sericite slips 20-60° CA  
300 pink spots

Samples 84-5

Interval	Length	Sample Number
66.4 - 67.6	1.2	1AR377
86 - 87.5	1.5	1AR542
87.5 - 93	5.5	1AR541
93 - 96.6	3.5	1AR411
		APG36
96.5 - 104.5	8.0	1AR543
104.5 - 107	2.5	1AR564
135 - 135.8	0.8	1AR678
137.8 - 138.5	0.7	1AR679
138.5 - 144	5.5	1AR751
144 - 146	2.0	1AR544
150 - 154	4.0	1AR752
154 - 155.5	1.5	1AR545
155.5 - 160	4.5	1AR753



SECTION D.D.H. 84-5  
 2+06 33° W  
 SECTION LOOKING NE  
 SCALE 1" = 50' HAM

## Hole 84-6

Location	470 ft. North of Shaft	Bearing	N55 W
	100 ft. East of Shaft	Dip	-35°
Started	September 19, 1984	Depth	400 feet
Finished	September 24, 1984	Core size	AQ

0-10 ft.	Casing
10-245 ft.	Nipissing Diabase Sill, coarse grained grey, sericite and hypersthene, pink spots slips 15' and 50' to core
23.5	0.5cm rusty calcite vuggy pitted 10° CA
25.0	slip fracture
26.8	1cm calcite, chlorite stringer 50° CA cpy
35-50	slips plated with grey crumbly material all angles
41.7	2.5cm calcite, chlorite bx 45° CA
47	calcite, chlorite shear 20° CA
49.6	2.5cm calcite, chlorite bx 60° CA
49.9	1.5cm calcite, chlorite bx 50° CA slickensides
50	onward slips 10°- 15° CA
61.7	2cm calcite, chlorite 15° CA
68.7	5cm calcite, sericite 45° CA cpy, py
71.8	7cm calcite, chlorite bx 40° CA cpy slickensided
72.8	5cm calcite, chlorite bx 30° CA tr py
73.1	hairline calcite 35° CA
77	chlorite slips 40° CA
82.7	chlorite seam 5° CA pink spots
85	many pink spots
93	0.2cm calcite patches
98	dissem. cpy in dissem. carbonate, slip 30° CA
98.3	2.5cm calcite stringer 60° CA cpy
98.4	0.2cm calcite stringer 60° CA cpy
98.6	0.1cm calcite stringer 60° CA cpy
99.6	0.2cm calcite, chlorite 60° CA py,cpy
100	onward calcite fractures 50' CA
115-155	pink alteration, some sericite

## Hole 84-6

- 115.5 chlorite slip 50° CA  
 122 chlorite, epidote 5° CA  
 134 2.5cm chlorite shear 15° CA  
 136.5 calcite, sericite 5° CA  
 155 onward more sericite, less pink alteration  
 166.1 sericite slip 50° CA  
 174.6 chlorite slip 15° CA  
 182.3 chlorite slip 60° CA  
 187.4 1cm calcite shear 45° CA  
 188.9 chlorite slip 45° CA  
 195.3 chlorite slip 35° CA  
 197 sericite slip 40° CA  
 201.4 sericite slip 40° CA  
 205-250 pink spots  
 209.2 0.2 calcite shear 50° CA trpy  
 209.8 7cm calcite bx slip 50° CA tr cpy  
 210.5 calcite, sericite slip 60° CA  
 215.9 1cm calcite, sericite shear 10° CA  
 215.9-220 fault zone ? calcite and altered broken core  
 220 chlorite slip 10° CA  
 225-230 series of slips 15° CA  
 236.1 7cm chlorite slip 50° CA  
 245-400 Nipissing Diabase Sill, medium grained, grey slips 20 - 60° CA  
 259.1 chlorite slips 20° CA  
 262.9 3cm calcite stringeres 50° CA py, cpy  
 264.7 weak calcite shear 30° CA  
 265.2 2.5cm calcite, chalcopyrite  
 270.3 calcite, chlorite bx shear 10° CA  
 281.7 chlorite slips 35° CA  
 283 1.5cm pink aplite stringer 5° CA py  
 286.5 1cm pink plite stringer 5° CA  
 296.4 0.5cm pink aplite 45° CA  
 307 0.1cm pink aplite parallel to core

## Hole 84-6

- 310 1cm pink aplite stringer and slip 40° CA
- 310.2 0.5cm pink aplite stringer 20° CA
- 312 0.1cm pink aplite 5° CA
- 315 chlorite slip 20° CA
- 317.4 1cm pink aplite
- 321-325 finer grained phase
- 330 0.1cm calcite, chlorite 15° CA tr py, cpy
- 331.3 0.1cm pink aplite 70° CA
- 335.3 0.1cm pink aplite 45° CA
- 335.6 0.1cm pink aplite 45° CA
- 341 0.1cm pink aplite 50° CA tr py
- 341.3 2.5cm epidote, sericite zone 10° CA altered  
slips mainly 30°-45° CA
- 344.7 1cm calcite shear 50° CA
- 349.3 0.5cm pink aplite 50° CA
- 350.1 0.2cm pink aplite 35° CA
- 354-365 Core blocky and broken
- 359 0.2cm pink aplite 50° CA
- 360.4 0.1cm pink aplite 45° CA
- 361.6 0.1cm pink aplite 45° CA
- 373.6 1cm pink aplite 45° CA
- 372-395 blocky core, slips 20 - 40° CA chlorite, sericite
- 385 grey crumbly material on slips
- 388.5 1.2cm calcite stringer 45° CA slickensided
- 391 chlorite slips parallel to core
- 395.4 1cm pink calcite 20° CA

Samples 84-6

Interval	Length	Sample Number
68.7 - 69.2	0.5	1AR415
71.5 - 73	1.5	1AR378
92 - 97.4	5.4	1AR560
97.4 - 98.8	1.4	1AR405
209.1 - 210.6	1.5	1AR563
		APG41
309.7 - 310.4		1AR414





## Hole 84-7

Location 375 ft. South Bearing N40 E  
 880 ft. West of #1 Post L495403 Dip -30°  
 Started September 26, 1984 Depth 425 feet  
 Finished October 2, 1984 Core size AQ

0-10 ft. Casing  
 10-400 ft. Nipissing Diabase Sill, coarse grained grey, sericite and hypersthene with pink spots, slips 15 - 45° CA  
 28 0.5cm series of chlorite slips 60° CA  
 31 chlorite slips parallel to core  
 39 chlorite slips parallel to core and 20° CA  
 42 10cm calcite bx and fault zone? 20° CA  
 46.3 0.5cm chlorite seam 30° CA  
 49 0.2cm chlorite seam 40° CA  
 50.5 0.5cm calcite, chlorite seam 40° CA  
 64.8 0.5cm calcite, chlorite oxidized 20° CA  
 67.2 chlorite seam 20° CA  
 73.8 2cm calcite chlorite 60° CA  
 74.2 0.2 calcite chlorite 45° CA chlorite slips 60° CA  
 90 onward chlorite slips 10° and 40° CA  
 109.2 0.5 sericite slip 45° CA  
 116.6 0.5 sericite and calcite slip 50° CA  
 120 chlorite fractures 50° CA  
 127.5 grey crumbly material on slips 5° CA  
 130.5 0.2cm cchlorite, pyrite shear 80° CA  
 141.2 grey crumbly material 30° CA  
 145.9 1cm calcite stringer parallel to core, cpy  
 147-150 finer grained diabase  
 147.3 hairline calcite 50° CA  
 148.5 hairline calcite 50° CA  
 149 0.5cm calcite stringer 40° CA  
 150.8 5 cm chlorite slips 35° CA  
 153 calcite, chlorite slips 50° CA

## Hole 84-7

158 calcite chlorite slips 50° CA  
175 onward chlorite slips 5' CA some 60" CA  
180-187 chloritic diabase  
187-191 siliceous finer grained diabase  
191-196 chloritic diabase  
196-198 siliceous finer grained diabase  
186 chlorite slip 5' CA  
187.7 0.1cm calcite chlorite 50° CA  
188.5 calcite chlorite 10" CA  
190.9 1cm calcite chlorite 10° CA tr cpy  
195.3 hairline calcite 60" CA  
196.5 0.5cm calcite stringer 5" CA tr cpy  
200 chlorite slip 15" CA  
200.2 calcite, chlorite slip 60° CA  
201.5 chlorite slip 5° CA  
204.5 chlorite slip parallel to core  
205-212 darker siliceous diabase  
208.8 calcite, chlorite slip 45° CA  
215-216 chlorite slip pyrite  
219 calcite, chlorite 5° CA  
227-232 series of chlorite slips 60" CA  
232 medium grained diabase, massive slips @ 10° and 40° CA  
255 chlorite slip 5' CA hairline calcite  
259 chlorite slip and pyrite 5° CA  
278 series of chlorite slips 15" CA  
280 series of chlorite slips 5" CA  
288.5 series of chlorite slips 50° CA  
295 chlorite slip 5" CA  
300-305 fracture 60° CA  
305 chlorite slip 5" CA pyrite  
316 chlorite slip 10' CA

## Hole 84-7

- 323.7 calcite, chlorite slip 30° CA trpy
- 330 calcite, chlorite slip parallel to core
- 331.3 1cm calcite shear
- 333.2 10cm calcite, cobalt vein 65° CA cobalt, galena cpy
- 333.8 2.5cm calcite, chlorite stringer 40° CA
- 336.1 1cm calcite stringer 20° CA cpy
- 337.5 calcite, chlorite shear 60° CA
- 339.7 1cm pink aplite 60° CA
- 340 2.5cm calcite, chlorite 20° CA tr cpy, py
- 345 onward chloritic diabase, medium grained grey slips 15° - 40° CA
- 362 chlorite slips 10° CA trpy
- 363.7 1cm grey quartz stringer 30° CA
- 365.1 1cm pink aplite 40° CA py, cpy
- 365 onward massive slips 10° - 30° CA
- 395 slips fractured 5° and 50° CA
- 412.7 many chlorite slips, 1 cm pink aplite 30° CA
- 415.8 chlorite slip 5° CA
- 419 chlorite slip 5° CA
- 421 chlorite slip 10° CA
- 424 calcite slip 10° CA
- 424.8 8cm calcite, sericite, aplite 60° CA py, cpy vuggy  
fine dissem. py in walls

### Samples 84-7

Interval	Length	Sample Number
73.7 - 74.3	0.6	1AR686
145.5 - 149.5	4.0	1AR379
		APG37
180 - 185	5.0	1AR754
185 - 190.6	5.6	1AR562
		APG38
190.6 - 191.1	0.5	1AR683
191.1 - 196	4.9	1AR561
196 - 197.2	1.2	1AR559
		APG39
197.2 - 205	7.8	1AR770
330 - 336.5	6.5	1AR871
336.5 - 339.5	3.0	1AR399
339.5 - 340.5	1.0	1AR869
423.4 - 425	1.5	1AR565
		APG40



**Appendix II**  
**Sample Descriptions**

## Sample Descriptions

Location	Sample No. 1AR764 Drill Hole 80-2 106.7 - 110.5 ft. Medium grained diabase, grey massive	L446690
Location	Sample No. 1AR765 Drill Hole 80-2 61.6 - 65.75 ft. Medium grained diabase, grey, massive some feldspar laths to 2 mm	L446690
Location	Sample No. 1AR766 Drill Hole 80-2 46.25 - 48.9 ft. Medium to fine grained diabase, massive small pink spots, trace disseminated sulphides	L446690
Location	Sample No. 1AR767 Drill Hole 80-2 43 - 46 ft. Medium to fine grained diabase, massive, small pinkish spots, trace disseminated sulphides	L446690
Location	Sample No. 1AR768 Drill Hole 80-2 24.8 - 20 ft. Medium to coarse grained diabase, reddish quartz vein 0.2cm 20° CA pinkish spots throughout section	L446690



## Sample Descriptions

	Sample No. 1AR769	
Location	Drill Hole 80-4	L446690
	122.6 - 124.9 ft.	
	Medium to fine grained diabase, grey, hypersthene very fine disseminated sulphide.	
	Sample No. 1AR774	
Location	Drill Hole 80-4	L446690
	100 - 108.6 ft.	
	Fine grained diabase, calcite and chlorite veins	
	100-101.2 coarse whitel calcite with dark chlorite	
	101.2-102.5 0.5cm calcite-chlorite vein parallel to core	
	102.5-104.5 numerous calcite veins from 0.2 to 1.5 cm thick	
	104.106 four parallel calcite veins 0.2 to 1.2 cm thick with white alteration in diabase	
	106-107 five calcite -chlorite veins from 0.5 to 2 cm thick 30° CA	
	107-108.6 coarse grained calcite veins from 0.2 to 2.3 cm thick 20° - 30° CA, 5% chalcopyrite	
	Sample No. 1AR775	
Location	Drill Hole 80-4	L446690
	108.6 - 109.4 ft.	
	Fine grained diabase, light grey disseminated carbonate	

## Sample Descriptions

	Sample No. 1AR776	
Location	Drill Hole 80-4	L446690
	109.4 - 111.9 ft.	
	Fine grained diabase, calcite veining	
	109.4-110 2cm calcite vein 20° CA coarse grained	
	110-110.9 1.5cm calcite vein 15° CA with pink alteration at calcite-diabase contact	
	110.9-111.4 4cm calcite vein 30° CA with 5% blebs of chalcopyrite	
	111.4-111.9 0.2cm calcite vein 30° CA	
	Sample No. 1AR800	
Location	Drill Hole 80-2	L446690
	104.9 - 106.7 ft.	
	Nipissing Diabase, medium grained, grey	
	105.9 1cm discontinuous calcite	
	106.2-106.7 four parallel calcite stringers	
	30 CA 0.1 to 0.5 cm thick	
	Sample No. 1AR820	
Location	Drill Hole 80-2	L446690
	99.45 - 104.9 ft.	
	Nipissing diabase, medium grained grey 99.45 slip face with 2% sulphide	
	103 1.5cm qtz-calcite vein, grey coarse grained 45° CA	
	Sample No. 1AR821	
Location	Drill Hole 80-2	L446690
	80 - 84.5 ft.	
	Nipissing diabase, coarse grained, grey	

## Sample Descriptions

	Sample No. 1AR822	
Location	Drill Hole 80-2	L446690
	15 - 24.8 ft.	
	Nipissing diabase, medium grained, grey	
	17.6 0.5cm grey-white qtz-calcite vein 30° CA	
	19-20 coarse grained 2mm magnetite crystals	
	20.5 0.5cm white calcite vein coarse grained 60° CA	
	21.3 Two parallel calcite veins 0.2cm 50° CA	
	21.65 Two calcite veins 0.1 and 0.2 cm 50° CA	
	22.2 1 cm calcite vein 45° CA	
	Sample No. 1AR823	
Location	Drill Hole 80-2	L446690
	142.5 - 145 ft.	
	Nipissing diabase, medium grained, grey	
	Sample No. 1AR824	
Location	Drill Hole 80-2	L446690
	40.9 - 43 ft.	
	Nipissing diabase, medium grained, grey	
	40.9-41.9 disseminated calcite with many slips	
	Sample No. 1AR825	
Location	Drill Hole 80-1	L446690
	121.8 - 124.3 ft.	
	Nipissing diabase, medium grained , grey	
	2% discontinuous stringers of calcite	
	122.9 2.5cm qtz-calcite vein 45° CA trace cpy aspy	
	123.9 0.3cm qtz-calcite vein 45° CA cpy aspy	

## Sample Descriptions

	Sample No. 1AR826	
Location	Drill Hole 80-3	L446690
	105.4 - 107.8 ft.	
	Nipissing diabase, medium grained, grey	
	105.4 0.3cm calcite vein 60° CA	
	106.2 0.2cm calcite vein	
	106.5 0.5cm calcite vein 45° CA chlorite, 5% pyrite in vein	
	107.7 0.5cm calcite- chlorite vein 30° CA 10% of veins	
	blebs of cpy and bornite	
	Sample No. 1AR827	
Location	Drill Hole 80-3	L446690
	107.8 - 112.25 ft.	
	Nipissing diabase, medium grained, grey	
	Sample No. 1AR828	
Location	Drill Hole 80-3	L446690
	103 - 105.4 ft.	
	Nipissing diabase, medium grained, grey	
	Sample No. 1AR829	
Location	Drill Hole 80-3	L446690
	112.25 - 113.55 ft.	
	Nipissing diabase, medium grained, grey	
	Numerous thin calcite stringers 0.1 to 0.2 cm	

## Sample Descriptions

	Sample No. 1AR830	
Location	Drill Hole 80-3	L446690
	19.3 - 24.5 ft.	
	Nipissing diabase, very coarse grained, grey	
	19.3-19.5 slip zone faced with yellow-brown calcite	
	19.9 0.5cm calcite-chlorite vein 45° CA	
	20 0.5cm calcite vein with chlorite 30° CA	
	21.5 0.2cm calcite vein 10° CA	
	22.2 0.3cm calcite vein 30° CA 1% cpy	
	23.6 2.5cm grey-white calcite vein 45° CA black stringers	
	Sample No. 1AR831	
Location	Drill Hole 80-3	L446690
	17.5 - 19.3 ft.	
	Nipissing diabase, very coarse grained, grey	
	pink feldspar	
	Sample No. 1AR832	
Location	Drill Hole 80-3	L446690
	14.7 - 17.5 ft.	
	Nipissing diabase, very coarse grained, grey	
	pink and pale green feldspar	
	Sample No. 1AR833	
Location	Drill Hole 80-3	L446690
	11.5 - 14 ft.	
	Nipissing diabase, very coarse grained grey pink and	
	pale green feldspar	

## Sample Descriptions

	Sample No. 1AR834	
Location	Drill Hole 80-3	L446690
	14 - 14.7 ft.	
	Nipissing diabase, very coarse grained, grey	
	14.2 0.2cm calcite vein 10° CA	
	14.6 0.2cm calcite vein 50° CA	
	Sample No. 1AR835	
Location	Drill Hole 80-3	L446690
	9 - 10.6 ft.	
	Nipissing diabase, very coarse grained, grey	
	pink and pale green feldspar	
	Sample No. 1AR865	
Location	Drill Hole 80-3	L446690
	95.5 - 98.8	
	Nipissing diabase, medium grained, grey pink feldspar	
	96.7 0.3cm calcite vein 60° CA	
	98 0.6cm calcite vein 10° CA	
	98.7 0.1cm calcite-chlorite veinlet 30° CA	
	Sample No. 1AR867	
Location	Drill Hole 80-4	L446690
	94 - 100 ft.	
	Nipissing diabase, fine grained, light grey	
	94.4 5cm calcite vein 30° CA	
	Numerous calcite veinlets 2 cm to 0.2 cm 30° to 45° CA	
	with 2% - 4% cpy	

## Sample Descriptions

	Sample No. 1AR868	
Location	Drill Hole 80-4	L446690
	41.9 - 42.8 ft.	
	Nipissing diabase, very coarse grained, grey	
	2 parallel calcite-veins 0.3cm thick dark grey to black	
	Sample No. 1AR870	
Location	Drill Hole 80-1	L446690
	28.75 - 30 ft.	
	Nipissing diabase, coarse grained, grey	
	hairline calcite stringers @ 45° and 30° CA	
	Sample No. 1AR872	
Location	Drill Hole 80-1	L446690
	30 - 34.1 ft.	
	Nipissing diabase, medium grained, grey	
	chlorite, traces py and aspy	
	Sample No. 1AR873	
Location	Drill Hole 80-1	L446690
	41.2 - 44.9 ft.	
	Nipissing diabase, medium grained, grey	
	1mm sulphide veinlet @ 43 py and aspy	
	Sample No. 1AR874	
Location	Drill Hole 80-1	L446690
	36.2 - 41.2 ft.	
	Nipissing diabase, coarse grained, grey	

## Sample Descriptions

Location	Sample No. 1AR875 Drill Hole 80-1 34.1 - 35.7 ft. Nipissing diabase, coarse grained, grey calcite slip zone	L446690
Location	Sample No. 1AR876 Drill Hole 80-1 44.9 - 50 ft. Nipissing diabase, coarse grained, grey local chlorite filled fractures	L446690
Location	Sample No. 1AR877 Drill Hole 80-3 35.8 - 40.9 ft. Nipissing diabase, medium grained, grey	L446690
Location	Sample No. 1AR 878 Drill Hole 80-2 65.75 - 67.3 ft. Nipissing diabase, medium grained, grey 65.8 0.1cm calcite-chlorite stringer tr py, cpy 67.2 2cm grey-rose qtz vein with calcite 45° CA	L446690
Location	Sample No. 1AR879 Drill Hole 80-2 75 - 80 ft. Nipissing diabase, medium grained, grey 79.9 2cm calcite vein 45° CA	L446690



## Sample Descriptions

	Sample No. 1AR880	
Location	Drill Hole 80-2	L446690
	163 - 167 ft.	
	Nipissing diabase, medium grained, grey	
	166.9 calcite veinlet 30° CA	
	Sample No. 1AR881	
Location	Drill Hole 80-2	L446690
	167 - 172 ft.	
	Nipissing diabase, medium grained, grey	
	170 2.5cm pink calcite vein, 5% cpy	
	Sample No. 1AR882	
Location	Drill Hole 80-4	L446690
	82.6 - 85.7 ft.	
	Nipissing diabase, medium grained, grey	
	Sample No. 1AR883	
Location	Drill Hole 80-4	L446690
	85.7 - 88.9 ft.	
	Nipissing diabase, medium grained, grey	
	85.7-86 Two 0.1cm calcite veinlets 45° CA 2%py	
	Sample No. 1AR884	
Location	Drill Hole 80-4	L446690
	88.9 - 94 ft.	
	Nipissing diabase, medium grained, grey	
	88.9-89.8 numerous discontinuous calcite veinlets 5% py	
	90 0.5cm calcite-chlorite vein 30° CA 10% cpy	
	91.5 0.2cm calcite chlorite veinlet 30° CA	
	93.2-94 Two 0.2cm calcite veinlets 30° CA	

## Sample Descriptions

Location	Sample No. 1AR885 Drill Hole 80-2 175 - 178 ft. Nipissing diabase, medium grained, grey	L446690
Location	Sample No. 1AR886 Drill Hole 80-2 187 - 190 ft. Nipissing diabase, medium grained, grey numerous chlorite stringers	L446690
Location	Sample No. 1AR887 Drill Hole 80-3 24.5 - 27 ft. Nipissing diabase, coarse grained, grey with pink feldspar	L446690
Location	Sample No. 1AR888 Drill Hole 80-3 27 - 31.5 ft. Nipissing diabase, medium grained grey	L446690
Location	Sample No. 1AR889 Drill Hole 80-3 31.5 - 37.5 ft. Nipissing diabase, medium grained, grey 31.5 0.5cm calcite vein 45° CA 32.1 0.3cm calcite vein 45° CA 34.9 0.3cm calcite vein 45° CA 35 1.5cm calcite vein 30° CA tr cpy	L446690

## Sample Descriptions

	Sample No. 1AR890	
Location	Drill Hole 80-3	L446690
	37.5 - 43.1 ft.	
	Nipissing diabase, medium grained, grey	
	43 0.3cm chlorite vein 30° CA	
	Sample No. 1AR891	
Location	Drill Hole 80-3	L446690
	60.5 - 65 ft.	
	Nipissing diabase, medium grained, grey	
	Sample No. 1AR 892	
Location	Drill Hole 80-3	L446690
	69.8 - 75 ft.	
	Nipissing diabase, medium grained, grey tr sulphide	
	69.8 0.5cm chlorite vein, minor calcite 30° CA	
	Sample No. 1AR893	
Location	Drill Hole 80-3	L446690
	80.9 - 86 ft.	
	Nipissing diabase, medium grained, grey	
	81 calcite-chlorite veinlets.	

**Appendix III**

**Assay Results**









GEOCHEMICAL ANALYSIS CERTIFICATE



MacGregor, R.A. File # 9902145  
28 Ford St., Sault Ste. Marie ON P6A 4N4 Submitted by: R.A. MacGregor

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Tl	Hg	Se	Te	Ga	S
	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%
RLT-1	.80	16.95	1.97	27.8	23	594.0	64.1	858	4.93	151.7	<.1	2.8	4.2	251.5	.06	.78	.10	20	3.55	.007	<.5	483.1	10.03	65.1	.001	1	.51	.004	.04	.2	<.02	8	.1	.06	1.2	.08
RLT-2	2.84	73.48	169.21	156.0	281	23.2	42.2	388	6.36	26.2	1.2	1.8	4.2	12.2	.42	.37	.09	609	1.63	.031	6.5	17.0	1.19	29.5	.191	8	1.21	.048	.20	<.2	.12	18	.4	<.02	9.5	.19
RLT-3	1.18	49.32	7.10	69.0	74	190.5	48.8	341	3.09	<.1	.8	.7	7.4	57.9	.16	.06	.72	37	1.06	.195	34.2	119.5	.81	43.3	.106	<.1	.73	.017	.06	<.2	.10	20	.1	.37	4.0	1.40
RLT-4	5.19	26.11	3.17	28.8	99	16.1	4.7	432	4.31	16.8	<.1	1.5	1.4	6.9	.04	.40	.08	25	.02	.010	.7	20.3	.20	59.2	.009	<.1	.22	.003	.10	.2	.07	14	.7	.09	1.3	1.61
RLT-5	2.49	20.23	3.60	45.7	28	525.7	42.9	1131	4.42	.4	.4	<.2	1.9	333.9	.14	.09	.13	96	6.17	.093	12.0	1074.0	7.96	221.0	.007	1	2.71	.004	.06	.4	.06	5	.1	.07	7.6	.02
RLT-6	2.76	51.24	4.24	26.9	127	464.7	49.8	948	4.91	16.9	.3	203.3	1.0	410.8	.09	.71	.79	41	5.26	.082	3.7	406.0	7.65	127.3	.020	<.1	.57	.020	.29	.2	.12	24	.5	.46	1.7	.56
RLT-7	2.20	67.61	8.52	73.1	119	80.9	28.4	610	3.79	2.9	.4	2.7	1.5	193.1	.13	.20	.50	139	2.76	.074	7.8	185.7	1.81	373.9	.178	1	1.23	.038	.95	.8	.44	7	.4	.32	7.4	.58
RLT-7	2.02	67.86	8.85	72.8	123	81.1	28.2	612	3.78	2.5	.4	4.8	.9	188.6	.11	.14	.42	139	2.76	.074	7.6	184.9	1.80	377.4	.178	<.1	1.22	.041	.95	.3	.41	7	.5	.17	7.5	.61
RLT-8	.68	31.93	.93	67.2	26	76.8	32.5	931	6.29	.6	<.1	.4	<.1	10.9	.05	.04	.03	97	2.32	.021	1.8	27.1	4.11	16.0	.034	1	4.60	.053	.06	<.2	.02	<.5	.1	<.02	8.8	.02
RLT-9	6.81	79.16	7.55	187.4	145	1315.3	110.0	248	5.97	34.7	<.1	3.7	.8	17.6	.20	.81	.14	47	.36	.013	1.1	689.8	1.18	23.4	.154	1	.76	.017	.12	.4	.14	61	1.6	.10	3.1	4.99
RLT-10	3.31	43.67	1.02	61.6	16	127.7	36.4	751	4.64	.4	<.1	<.2	<.1	11.5	.02	.13	.02	135	2.43	.028	2.4	150.7	3.82	18.9	.267	2	3.13	.107	.06	<.2	<.02	<.5	.2	<.02	8.7	.03
STANDARD	13.96	128.12	30.91	163.5	261	37.8	12.4	809	3.14	62.8	25.6	198.0	3.0	32.4	11.47	9.62	10.93	82	.55	.081	14.3	169.7	.63	142.9	.118	2	1.82	.038	16	7.1	2.11	253	2.3	1.80	6.0	.03

Standard is STANDARD DS2.

15 GRAM SAMPLE IS DIGESTED WITH 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 300 ML WITH WATER, ANALYSIS BY ICP/ES & MS.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K GA AND AL.

- SAMPLE TYPE: ROCK PULP Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 12 1999 DATE REPORT MAILED: July 16/99 SIGNED BY: C. Leong D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS





WHOLE ROCK ICP ANALYSIS



MacGregor, R.A. File # 9902142  
28 Ford St., Sault Ste. Marie ON P6A 4N4 Submitted by: R.A. MacGregor

SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	C/TOT	S/TOT	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
WR 41	51.74	12.00	10.76	7.72	9.68	1.92	.38	.75	.06	.17	.051	69	72	120	33	13	<10	23	4.7	.65	.09	99.97
WR 54	40.16	.83	3.93	27.26	9.00	<.01	<.04	.05	.05	.12	.116	42	1775	220	<10	<10	<10	2	18.2	4.08	.11	99.99
WR 61	76.26	12.96	1.71	.27	.12	5.06	2.67	.05	.03	.01	.032	377	25	66	63	19	<10	1	.7	.06	.01	99.94
WR 72	60.25	15.11	7.17	4.44	3.86	4.27	.83	.71	.21	.11	.029	210	52	320	89	17	<10	10	3.1	.17	<.01	100.17
WR 171	49.35	13.08	9.30	3.39	10.28	3.52	1.86	.92	.08	.20	.027	151	60	108	43	21	<10	25	8.5	1.93	.09	100.56
WR 172	66.13	15.17	4.44	2.14	1.95	2.66	2.90	.39	.09	.05	.032	333	54	111	83	<10	<10	5	3.9	.41	<.01	99.92
WR 175	58.51	16.72	7.45	2.88	2.45	2.28	4.12	.63	.20	.04	.027	395	62	95	86	10	<10	8	4.5	.45	.05	99.88
WR 176	54.60	12.54	5.60	3.94	8.85	2.64	1.24	.56	.20	.11	.041	230	111	202	72	10	<10	8	9.8	2.01	.03	100.20
RE WR 176	54.79	12.50	5.59	3.94	8.88	2.65	1.23	.55	.20	.11	.046	230	110	204	72	10	<10	8	9.7	1.99	.02	100.26
WR 177	57.46	16.13	10.77	4.24	.81	.90	4.41	.61	.20	.05	.025	448	73	27	79	<10	<10	7	4.2	.09	.22	99.88
WR 184	40.69	9.66	6.33	8.67	10.63	.14	2.90	.26	.06	.14	.087	132	137	238	13	<10	<10	22	20.3	5.30	.28	99.93
WR 188	50.41	13.37	13.67	7.08	8.39	3.15	.38	1.00	.08	.28	.077	67	240	143	65	17	<10	25	2.0	.25	.15	99.96
WR 189	72.76	12.16	2.99	.82	1.81	2.80	2.72	.26	.05	.08	.028	332	21	34	128	25	<10	3	3.4	.79	.04	99.94
STANDARD SO-15/CSB	49.81	12.60	7.18	7.14	5.77	2.37	1.92	1.79	2.66	1.37	1.042	1934	74	389	718	22	<10	8	5.9	2.40	5.23	99.92

.200 GRAM SAMPLES ARE FUSED WITH 1.5 GRAM OF LiBO2 AND ARE DISSOLVED IN 100 MLS 5% HNO3. OTHER METALS ARE SUM AS OXIDES.  
TOTAL C & S BY LECO (NOT INCLUDED IN THE SUM).

- SAMPLE TYPE: PULP Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 12 1999 DATE REPORT MAILED: July 16/99 SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE



MacGregor, R.A. File # 9902141 Page 1  
 28 Ford St., Sault Ste. Marie ON P6A 4N4 Submitted by: R.A. MacGregor

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
1AR 656	2	166	6	40	<.3	554	67	842	4.05	4	<8	11	<2	141	.6	<3	<3	46	7.18	.009	2	1041	2.23	54	.05	<3	1.57	.01	.38	<2
1AR 657	6	43	5	57	<.3	72	24	727	3.48	3	<8	2	2	229	.6	<3	<3	93	3.60	.152	9	217	3.03	206	.08	<3	.88	.03	.71	<2
1AR 658	2	128	<3	46	<.3	72	38	600	3.59	3	<8	3	<2	74	.5	<3	<3	81	3.65	.025	3	197	1.49	13	.21	<3	1.33	.03	.11	<2
1AR 659	21	38	19	51	.6	65	24	735	3.24	2	<8	<2	2	325	.4	3	6	28	3.79	.153	10	80	2.96	145	.02	<3	.48	.03	.27	<2
1AR 660	3	69	9	67	<.3	49	25	850	4.25	2	<8	<2	<2	647	.7	3	<3	16	4.39	.093	13	33	2.41	74	<.01	<3	.44	.02	.13	<2
1AR 661	2	79	3	74	<.3	24	38	1441	5.05	<2	<8	<2	<2	299	.7	<3	<3	17	3.55	.072	2	12	1.70	54	<.01	<3	.28	.01	.16	<2
1AR 662	6	86	7	48	<.3	167	34	744	4.19	25	<8	<2	<2	347	.6	<3	<3	11	4.74	.105	4	75	3.61	132	<.01	<3	.24	.02	.13	<2
1AR 663	4	65	<3	66	<.3	68	24	918	3.19	<2	<8	<2	<2	231	.4	<3	<3	28	3.92	.100	12	96	2.43	501	<.01	<3	.81	.03	.11	<2
1AR 664	3	75	8	14	.3	23	9	225	2.03	2	<8	<2	<2	7	.4	<3	<3	24	.17	.030	9	36	.48	21	.07	<3	.55	.05	.22	<2
1AR 665	3	15	3	52	<.3	143	46	1083	4.81	<2	<8	3	2	327	.7	<3	<3	103	6.27	.057	19	353	2.24	163	.09	<3	1.67	.02	.18	<2
1AR 666	<1	8	3	3	<.3	7	4	627	1.08	<2	<8	<2	<2	232	<.2	<3	<3	6	23.50	.019	6	11	2.57	6	<.01	17	.25	.02	.14	<2
1AR 673	7	66	25	80	<.3	764	69	845	8.27	2	<8	11	<2	39	1.5	<3	<3	132	.38	.040	9	1159	6.32	105	.20	4	3.60	.02	3.14	<2
1AR 674	10	84	10	52	<.3	331	51	564	5.02	3	<8	5	3	53	.8	<3	<3	108	.96	.052	21	609	1.89	138	.18	<3	1.48	.08	1.34	2
1AR 675	6	78	7	68	<.3	288	43	865	7.36	4	<8	4	<2	50	1.3	<3	<3	115	.72	.058	18	415	2.21	127	.21	<3	1.86	.10	1.52	<2
1AR 676	16	94	110	206	<.3	101	46	1021	5.21	<2	<8	<2	<2	61	2.3	<3	<3	212	5.14	.031	2	113	1.73	15	.25	<3	1.82	.08	.05	<2
1AR 687	<1	67	4	76	<.3	77	35	1336	4.99	2	<8	<2	9	8	.6	<3	<3	43	.42	.065	34	82	1.58	69	.23	<3	2.35	.05	.27	<2
1AR 688	2	84	3	50	<.3	367	55	922	5.82	10	<8	3	<2	493	1.0	<3	<3	28	4.23	.111	11	200	6.57	407	.01	4	.40	.06	.19	2
1AR 689	2	140	4	39	<.3	35	25	1046	4.60	<2	<8	<2	<2	296	.7	<3	<3	37	4.29	.107	8	47	2.11	214	.01	<3	.57	.05	.22	<2
1AR 690	2	74	8	100	<.3	70	27	789	4.45	3	<8	<2	2	422	1.0	<3	<3	11	3.83	.076	14	35	2.45	59	<.01	<3	.39	.04	.14	<2
1AR 691	1	56	<3	86	<.3	226	37	637	4.55	11	<8	4	<2	212	.7	<3	<3	99	2.22	.065	6	396	3.26	78	.01	<3	2.00	.05	.09	<2
1AR 692	3	53	<3	34	.4	56	35	944	4.39	<2	<8	2	<2	119	.7	<3	<3	67	7.08	.023	2	168	1.57	54	.10	6	1.31	.03	.14	<2
RE 1AR 692	3	51	3	33	.5	55	33	921	4.24	<2	<8	2	<2	115	.6	<3	<3	65	6.84	.022	3	163	1.54	54	.10	8	1.29	.03	.14	<2
1AR 693	52	47	11	43	<.3	20	17	1235	3.61	<2	<8	<2	6	923	.6	<3	<3	37	3.33	.147	29	67	1.79	255	.03	<3	.41	.05	.29	<2
1AR 742	2	163	49	96	<.3	28	47	391	7.71	<2	<8	<2	2	18	1.2	<3	<3	813	1.40	.025	6	13	1.11	74	.22	27	1.80	.16	.53	<2
1AR 743	1	223	529	479	.4	38	52	378	8.36	9	<8	<2	<2	13	3.3	<3	<3	952	1.06	.026	6	10	1.53	36	.21	7	1.67	.11	.24	<2
1AR 744	2	257	214	255	.8	34	47	418	7.46	10	<8	<2	2	14	2.0	<3	<3	808	1.62	.025	6	15	1.75	40	.26	7	1.83	.11	.28	<2
1AR 745	3	198	147	195	.4	29	56	398	7.27	17	<8	<2	2	13	1.6	<3	<3	791	1.68	.027	6	17	1.09	34	.24	32	1.42	.10	.25	<2
1AR 746	2	222	91	83	.3	44	45	364	7.53	8	<8	<2	2	16	1.3	<3	<3	767	1.85	.026	9	14	1.80	33	.21	7	1.76	.11	.22	<2
1AR 747	3	94	34	86	1.0	16	44	395	6.27	28	<8	<2	2	11	1.0	<3	<3	542	1.33	.035	8	19	.79	33	.24	8	1.33	.10	.22	<2
1AR 748	2	421	19	53	7.3	30	47	341	6.19	20	<8	<2	3	16	1.1	<3	<3	342	3.45	.038	9	17	1.15	23	.22	<3	1.19	.09	.10	<2
1AR 749	3	320	162	1032	2.8	22	70	371	8.85	18	<8	<2	4	11	5.8	<3	<3	325	.87	.055	10	18	1.41	23	.20	6	1.46	.08	.08	<2
1AR 750	3	873	116	112	6.4	29	42	432	5.97	5	<8	<2	3	12	1.0	<3	<3	336	2.71	.039	7	16	1.68	20	.23	4	1.64	.08	.06	<2
1AR 751	2	181	45	102	<.3	38	36	407	5.32	4	<8	<2	2	12	1.1	<3	<3	214	2.15	.032	7	17	1.66	18	.17	5	1.51	.09	.12	<2
1AR 752	3	140	40	81	<.3	36	33	481	4.80	4	<8	<2	2	10	.6	<3	<3	180	1.37	.029	7	19	1.59	24	.15	5	1.57	.08	.19	<2
1AR 753	2	136	23	90	.3	32	31	419	4.83	2	<8	<2	2	10	.7	<3	<3	178	1.36	.028	7	18	1.48	28	.16	6	1.65	.09	.17	<2
STANDARD C3	26	69	37	165	6.0	37	13	781	3.41	56	16	4	19	29	23.5	19	24	82	.58	.087	19	170	.63	150	.09	20	1.82	.04	.16	20
STANDARD G-2	1	3	<3	41	<.3	8	5	531	2.02	<2	<8	<2	4	71	<.2	<3	<3	39	.64	.094	8	75	.61	225	.13	<3	.95	.09	.47	3

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND MASSIVE SULFIDE AND LIMITED FOR NA K AND AL.

- SAMPLE TYPE: PULP Samples beginning 'RE' are Reruns and 'RRE' are Reject Returns.

DATE RECEIVED: JUL 12 1999 DATE REPORT MAILED: July 26/99 SIGNED BY: [Signature] D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



ACME ANALYTICAL



ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
1AR 754	6	108	333	839	.9	3	42	755	8.21	30	<8	<2	4	10	3.7	<3	4	27	.62	.062	12	19	.89	117	.15	14	1.51	.10	.70	<2
1AR 755	4	3	<3	67	<.3	107	45	978	6.33	6	<8	<2	<2	11	1.1	<3	<3	151	1.49	.027	4	86	3.80	29	.19	5	3.77	.10	.08	<2
1AR 756	5	10	<3	9	<.3	4	2	81	.72	64	<8	<2	5	10	<.2	<3	<3	2	.23	.010	17	21	.06	87	<.01	9	.60	.02	.36	<2
1AR 757	13	40	<3	24	<.3	14	4	283	2.07	2	<8	<2	6	5	<.2	<3	<3	3	.14	.006	12	75	.72	48	.01	8	1.17	.07	.23	<2
1AR 758	3	401	10	103	<.3	35	39	735	6.43	5	<8	<2	<2	15	1.1	<3	<3	178	1.35	.036	6	22	1.80	10	.49	6	2.20	.10	.02	<2
1AR 759	2	217	<3	84	.3	62	48	773	9.52	4	<8	2	<2	15	1.6	<3	3	330	3.26	.041	10	129	4.19	24	.43	8	3.24	.08	.04	<2
1AR 760	7	47	<3	10	<.3	6	3	203	1.00	<2	<8	<2	5	7	<.2	<3	<3	<1	1.05	.006	20	39	.31	51	<.01	4	.73	.02	.23	<2
1AR 761	11	39	<3	6	<.3	9	2	192	.76	<2	<8	<2	4	24	<.2	<3	<3	1	.84	.005	12	63	.02	81	<.01	6	.39	.05	.24	<2
1AR 762	9	12	5	11	<.3	8	3	196	.71	2	<8	<2	5	14	<.2	<3	<3	3	.87	.006	12	53	.04	97	<.01	9	.52	.04	.30	<2
1AR 763	4	50	<3	56	<.3	97	27	787	3.90	13	<8	<2	<2	13	.6	<3	<3	87	2.61	.031	2	79	2.45	22	.13	6	2.63	.11	.12	<2
1AR 764	3	582	7	75	.7	23	74	441	7.94	56	<8	<2	2	8	1.0	<3	4	591	1.05	.035	9	14	1.54	46	.20	6	1.39	.05	.09	<2
1AR 765	3	43	62	309	.7	8	41	426	7.68	14	<8	<2	3	9	2.2	<3	6	402	1.07	.046	9	14	1.46	27	.17	9	1.41	.06	.21	<2
1AR 766	3	57	84	148	.5	8	36	425	7.47	6	<8	<2	3	9	1.4	<3	3	447	1.22	.045	9	17	1.06	51	.21	7	1.16	.05	.10	<2
1AR 767	3	56	79	206	.4	8	45	412	7.98	8	<8	<2	4	9	1.8	<3	7	422	1.80	.046	12	20	1.46	37	.22	6	1.39	.05	.08	<2
1AR 768	3	37	70	77	.6	7	35	378	6.71	9	<8	<2	3	9	1.1	<3	4	399	.93	.046	10	18	.75	28	.17	8	1.09	.05	.11	<2
1AR 769	4	105	311	159	.5	12	45	499	6.60	11	<8	<2	2	11	1.3	<3	3	503	1.64	.034	7	23	.86	41	.16	8	1.31	.07	.30	<2
1AR 770	5	243	179	318	.9	5	48	816	9.37	17	<8	<2	3	12	2.2	<3	<3	50	1.23	.078	10	22	.77	118	.12	16	1.28	.07	.59	<2
1AR 771	4	127	45	63	<.3	66	30	544	3.90	<2	<8	<2	<2	15	.6	<3	<3	126	1.99	.023	4	82	2.02	35	.08	5	2.07	.12	.20	<2
1AR 772	3	54	28	76	<.3	8	30	643	7.08	2	<8	<2	3	12	1.0	<3	4	262	.89	.053	11	16	.80	34	.17	8	1.29	.05	.17	<2
1AR 773	3	50	45	72	.3	24	31	356	5.24	8	<8	<2	2	7	.5	<3	3	250	.84	.030	6	14	1.20	32	.12	9	1.43	.06	.12	<2
1AR 774	25	341	57	69	2.5	226	710	1567	5.63	1133	<8	<2	<2	27	.9	<3	13	564	7.66	.032	12	7	2.08	6	.26	8	2.05	.04	.05	<2
1AR 775	5	551	26	59	2.4	28	65	1261	4.96	57	<8	<2	2	36	.8	<3	4	655	7.19	.035	11	8	1.09	15	.37	16	1.55	.05	.13	<2
1AR 776	14	643	57	29	2.8	53	122	2318	2.75	180	<8	<2	<2	36	.3	<3	6	385	11.32	.025	15	12	.59	8	.25	7	.86	.03	.07	<2
1AR 777	6	69	10	46	<.3	160	33	658	4.38	<2	<8	4	2	73	.7	<3	<3	129	1.49	.054	17	345	1.53	228	.25	4	1.40	.15	1.11	<2
RE 1AR 777	7	74	9	48	<.3	166	35	687	4.57	<2	<8	3	2	77	.6	<3	<3	135	1.56	.056	18	364	1.60	243	.26	<3	1.46	.15	1.15	<2
1AR 778	5	98	7	26	<.3	437	55	884	4.87	<2	<8	19	<2	134	.7	<3	5	124	2.83	.004	<1	1887	6.19	70	.01	4	2.40	.01	.08	<2
1AR 779	7	161	13	111	<.3	1243	121	439	5.87	6	<8	3	2	39	1.0	<3	7	46	.64	.084	25	514	1.09	26	.10	4	.89	.02	.08	<2
1AR 780	5	147	16	325	<.3	1204	140	361	6.04	49	<8	5	<2	20	1.4	<3	4	55	.72	.016	2	830	1.70	17	.12	3	.99	.02	.10	<2
1AR 781	11	177	8	252	.3	213	86	965	13.56	12	<8	2	<2	63	3.1	<3	9	145	2.83	.027	4	145	1.48	33	.18	5	1.82	.06	.33	2
STANDARD C3	26	65	37	165	5.7	37	13	781	3.34	59	22	4	19	28	23.5	18	22	82	.56	.087	19	170	.62	147	.08	20	1.79	.04	.15	20
STANDARD G-2	2	3	3	43	<.3	8	5	554	2.06	<2	<8	<2	4	73	<.2	<3	<3	43	.65	.095	8	80	.62	230	.13	<3	.97	.09	.48	4

Sample type: PULP. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



GEOCHEMICAL ANALYSIS CERTIFICATE



MacGregor, R.A. File # 9900929

28 Ford St., Sault Ste. Marie ON P6A 4N4 Submitted by: R.A. MacGregor

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm
1AR 632	2	23	6	9	1.1	33	7	159	.76	<2	<8	<2	<2	77	<.2	<3	<3	19	.65	.035	8	88	.37	20	.10	<3	.38	.04	.04	<2
1AR 669	2	370	57	72	<.3	29	19	500	4.36	3	<8	<2	<2	107	1.9	<3	<3	122	2.48	.068	8	95	.78	6	.48	<3	1.34	.03	.01	<2
1AR 670	1	9	<3	19	<.3	7	2	236	1.05	<2	<8	<2	4	5	<.2	<3	<3	2	1.12	.006	15	31	.88	14	<.01	3	1.08	.02	.16	<2
1AR 671	1	140	<3	49	<.3	24	13	771	2.92	<2	<8	<2	<2	19	1.3	<3	<3	80	11.72	.010	3	103	1.86	7	.12	<3	1.54	.02	<.01	<2
1AR 672	1	18	50	83	<.3	38	18	250	1.54	<2	<8	<2	2	7	.5	<3	<3	21	.12	.021	6	261	.95	22	<.01	<3	.85	.03	.06	<2
1AR 677	9	1469	44	65	17.0	80	147	2021	5.78	250	9	<2	<2	31	2.8	<3	<3	599	12.63	.024	31	7	2.79	10	.24	<3	2.34	.04	.03	<2
1AR 678	<1	212	63	120	1.3	57	284	577	4.72	409	<8	<2	<2	24	2.2	<3	<3	165	9.78	.023	13	7	2.18	23	.17	14	1.64	.05	.05	<2
1AR 679	1	298	112	222	.6	41	47	639	6.18	10	<8	<2	<2	16	1.7	<3	<3	205	4.35	.034	9	9	2.53	33	.24	5	2.13	.07	.06	<2
1AR 680	22	3063	3245	154	21.8	27	360	1078	7.87	518	<8	<2	2	30	3.4	<3	<3	422	8.75	.038	11	4	2.55	24	.20	10	2.55	.04	.04	<2
1AR 681	14	685	60	141	6.5	102	605	850	7.73	958	12	<2	2	28	3.8	<3	<3	429	5.44	.068	13	4	2.98	10	.18	<3	2.74	.04	.03	4
1AR 682	1	3457	<3	96	29.6	87	152	1502	8.85	285	<8	<2	2	20	3.0	<3	8	43	10.22	.105	17	2	1.44	9	.18	9	2.65	.05	.05	2
RE 1AR 682	1	3475	<3	97	27.1	88	147	1482	8.77	278	<8	<2	2	20	3.3	<3	5	42	10.12	.105	17	3	1.42	7	.17	9	2.62	.04	.05	<2
1AR 683	6	3972	11	148	25.5	118	268	1836	11.44	487	<8	<2	3	22	6.0	<3	<3	40	10.55	.110	15	1	1.83	9	.19	10	3.19	.03	.05	<2
1AR 684	1	153	2372	4893	1.1	28	61	713	9.21	46	<8	<2	<2	11	17.4	<3	<3	593	.89	.034	8	3	3.13	15	.20	<3	2.36	.10	.18	<2
1AR 685	10	123	2904	285	11.3	66	41	716	8.90	15	32	<2	<2	16	2.8	<3	<3	661	3.69	.027	47	7	3.47	9	.26	3	2.67	.05	.06	2
1AR 686	1	46	189	143	22.6	9	38	1058	6.54	1444	<8	<2	3	25	1.4	<3	6	12	3.15	.207	17	9	.79	51	.07	5	1.26	.11	.26	2
STANDARD C3	24	66	36	161	5.5	34	10	729	3.13	58	22	3	18	27	21.0	14	23	73	.55	.082	17	156	.60	142	.08	17	1.86	.04	.17	14
STANDARD G-2	1	1	<3	42	<.3	8	5	512	1.87	<2	<8	<2	3	69	<.2	<3	<3	37	.66	.089	7	72	.64	214	.12	<3	.93	.07	.46	2

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND MASSIVE SULFIDE AND LIMITED FOR NA K AND AL.  
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
- SAMPLE TYPE: ROCK PULP Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: APR 5 1999 DATE REPORT MAILED: *Apr 12/99* SIGNED BY: *[Signature]* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEM PRECIOUS METALS ANALYSIS



MacGregor, R.A. File # 9900928

28 Ford St., Sault Ste. Marie ON P6A 4N4 Submitted by: R.A. MacGregor

SAMPLE#	Au** ppb	Pt** ppb	Pd** ppb
APG-28	<1	<1	<1
APG-29	3	8	8
APG-30	<1	<1	<1
APG-31	<1	<1	<1
APG-32	<1	<1	<1
APG-33	<1	<1	<1
APG-34	<1	1	2
APG-35	1	<1	<1
APG-36	4	<1	<1
APG-37	<1	<1	<1
APG-38	<1	<1	<1
RE APG-38	<1	<1	<1
APG-39	<1	<1	<1
APG-40	2	<1	1
APG-41	5	<1	<1
APG-42	<1	8	7
APG-43	3	4	4
APG-44	3	3	2
STANDARD FA100	46	48	48

30 GRAM SAMPLE FIRE ASSAY AND ANALYSIS BY ULTRA/ICP.  
- SAMPLE TYPE: ROCK PULP  
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: APR 5 1999 DATE REPORT MAILED: *Apr 12/99* SIGNED BY: *[Signature]* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE

MacGregor, R.A. File # 9900008 Page 1  
 28 Ford St., Sault Ste. Marie ON P6A 4N4 Submitted by: R.A. MacGregor

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
1AR 541	1	105	20	69	.5	24	31	711	5.38	4	<8	<2	2	8	<.2	<3	<3	231	1.04	.032	7	6	1.08	44	.13	6	1.49	.05	.11	<2
1AR 542	<1	172	3	94	.8	23	36	897	7.10	3	<8	<2	3	11	<.2	<3	<3	422	1.12	.041	8	6	1.08	146	.17	10	1.55	.04	.08	<2
1AR 543	2	96	146	131	.6	25	38	836	6.30	7	<8	<2	3	10	.2	<3	<3	236	1.48	.040	8	4	1.31	17	.20	6	1.70	.03	.07	<2
1AR 544	<1	289	130	91	.9	72	45	980	5.69	13	<8	<2	2	21	<.2	<3	<3	236	4.99	.030	6	20	3.04	17	.15	8	2.65	.05	.09	<2
1AR 545	<1	692	244	150	.7	44	44	969	5.58	10	<8	<2	3	18	.4	<3	<3	201	6.84	.031	9	11	2.21	20	.15	7	2.02	.04	.06	<2
1AR 546	<1	147	65	64	1.5	15	40	903	7.67	16	<8	<2	3	11	<.2	<3	<3	489	1.67	.045	9	4	.79	86	.19	11	1.19	.06	.17	<2
1AR 547	<1	265	121	80	.3	35	40	830	6.85	8	<8	<2	2	10	<.2	<3	<3	596	2.00	.028	5	6	1.39	14	.17	10	1.40	.05	.12	<2
1AR 548	1	225	38	78	1.0	29	58	830	8.77	6	<8	<2	2	10	<.2	<3	<3	875	1.73	.029	4	5	1.11	10	.15	139	1.14	.05	.11	<2
1AR 549	<1	58	447	251	1.5	16	35	889	6.91	13	<8	<2	3	15	.7	<3	<3	388	1.03	.046	10	4	.67	80	.36	8	.93	.07	.13	<2
1AR 550	<1	74	85	103	.7	16	33	674	5.94	5	<8	<2	4	8	<.2	<3	<3	378	.84	.040	9	4	.97	23	.20	7	1.09	.05	.10	<2
1AR 551	<1	84	34	76	.7	18	38	886	7.32	13	<8	<2	3	12	<.2	<3	<3	427	1.05	.040	8	3	.88	26	.17	7	1.42	.06	.14	<2
1AR 552	<1	369	43	88	1.6	33	55	782	7.06	41	<8	<2	3	14	<.2	<3	<3	662	3.52	.030	8	5	1.32	11	.29	12	1.36	.04	.07	<2
1AR 553	<1	186	175	201	1.0	23	46	881	7.93	12	<8	<2	2	11	.4	<3	<3	685	1.03	.028	5	5	1.06	37	.18	9	1.37	.07	.23	<2
1AR 554	1	178	29	166	.8	24	44	856	7.78	2	<8	<2	2	9	<.2	<3	<3	679	1.12	.030	4	7	.92	35	.21	13	1.33	.06	.22	<2
RE 1AR 554	<1	187	33	175	.7	25	45	873	7.96	4	<8	<2	<2	9	.2	<3	<3	698	1.14	.032	4	4	.94	36	.22	11	1.37	.06	.23	<2
1AR 555	<1	106	19	69	1.1	22	46	845	7.96	20	<8	<2	2	8	<.2	<3	<3	812	1.08	.030	5	6	.78	24	.18	8	1.15	.06	.16	<2
1AR 556	<1	69	33	66	.7	18	46	796	7.67	24	<8	<2	3	8	<.2	<3	<3	709	1.09	.032	6	5	.77	19	.17	10	1.10	.05	.12	<2
1AR 557	<1	78	59	135	.7	11	41	741	6.86	12	<8	<2	3	8	.3	<3	<3	546	.98	.035	7	2	.76	23	.20	8	1.23	.06	.17	<2
1AR 558	<1	77	20	76	.7	12	42	800	7.46	3	<8	<2	2	9	<.2	<3	<3	589	1.24	.035	7	4	.65	31	.22	7	1.27	.06	.18	<2
1AR 559	<1	3164	<3	84	25.1	86	151	1510	8.51	217	<8	<2	4	22	<.2	<3	6	42	9.45	.097	15	<1	1.21	6	.18	12	2.54	.03	.04	<2
1AR 560	<1	107	31	130	1.2	11	37	932	7.61	6	<8	<2	4	10	.3	<3	<3	154	1.95	.064	14	5	1.19	32	.15	4	1.66	.04	.07	<2
1AR 561	<1	745	15	111	3.8	9	88	2090	16.76	92	<8	<2	3	14	<.2	<3	<3	24	2.10	.094	12	3	1.13	94	.15	27	2.10	.07	.59	<2
1AR 562	<1	1929	9	156	7.5	52	121	1704	10.27	151	<8	<2	4	19	<.2	<3	<3	27	6.09	.084	13	1	1.10	58	.15	18	2.26	.06	.39	<2
1AR 563	2	695	360	1223	6.6	12	42	709	5.52	28	<8	<2	6	15	5.2	<3	<3	99	2.30	.070	16	8	1.17	37	.22	10	1.28	.03	.04	<2
1AR 564	15	114	8	163	1.6	50	43	1100	7.78	3	<8	<2	3	43	<.2	<3	<3	234	8.29	.031	19	5	2.47	7	.24	4	3.04	.02	.02	<2
1AR 565	3	2025	41	87	8.1	29	125	897	7.58	127	<8	<2	2	15	<.2	<3	<3	390	3.16	.036	11	7	.95	12	.36	6	1.37	.03	.08	<2
1AR 566	5	219	120	79	1.8	52	278	859	5.48	344	<8	<2	2	21	<.2	<3	<3	387	8.99	.030	12	7	1.31	17	.19	5	1.44	.03	.07	<2
1AR 567	<1	1336	534	328	3.2	34	48	1176	8.39	12	<8	<2	<2	19	.6	<3	<3	788	7.34	.020	6	5	2.88	4	.25	6	2.72	.02	.03	<2
1AR 568	1	58	<3	30	<.3	129	32	968	2.56	5	<8	<2	4	187	.2	<3	<3	49	6.41	.075	18	195	.46	36	.10	4	.57	.03	.19	<2
1AR 569	1	138	40	278	.3	507	93	1113	12.26	186	<8	<2	<2	31	.4	<3	<3	21	.58	.032	8	139	.52	32	.06	6	.75	.02	.14	<2
1AR 570	5	119	16	705	<.3	206	40	551	3.44	31	<8	<2	4	55	1.6	<3	3	23	1.45	.074	27	52	.37	48	.07	<3	.58	.02	.19	<2
1AR 571	<1	57	3	59	<.3	494	56	1616	5.43	3	<8	10	3	602	.3	<3	<3	146	10.43	.085	18	1103	3.54	133	.18	<3	2.56	.02	1.27	<2
1AR 572	6	185	<3	12	<.3	79	69	1012	7.74	4	<8	<2	<2	93	<.2	<3	3	142	3.53	.048	2	16	.31	28	.19	<3	.37	.03	.07	<2
1AR 573	3	34	<3	8	<.3	247	22	296	1.63	<2	<8	<2	2	22	<.2	<3	<3	28	.56	.035	3	222	.96	57	.12	4	.85	.05	.42	<2
1AR 574	2	21	<3	19	<.3	100	15	301	1.37	<2	<8	<2	5	79	<.2	<3	<3	33	1.07	.167	30	227	1.23	110	.11	4	.91	.06	.52	<2
STANDARD C3	25	67	32	164	5.5	36	13	856	3.30	57	27	3	21	28	24.2	14	18	77	.59	.086	17	161	.58	145	.08	23	1.80	.04	.16	15
STANDARD G-2	2	1	<3	42	<.3	8	6	567	1.96	<2	<8	<2	4	66	<.2	<3	<3	39	.62	.093	7	75	.55	215	.12	5	.90	.07	.45	2

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND MASSIVE SULFIDE AND LIMITED FOR NA K AND AL.  
 - SAMPLE TYPE: PULP Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns

DATE RECEIVED: JAN 4 1999 DATE REPORT MAILED: Jan 15/99 SIGNED BY: [Signature] TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
1AR 328	<1	13	<3	6	<.3	533	45	808	2.31	<2	<8	<2	<2	84	.2	<3	3	13	1.83	.009	2	562	8.56	119	<.01	4	.40	.01	<.01	<2
1AR 329	2	121	8	95	<.3	75	42	670	5.24	3	<8	<2	3	234	.4	<3	5	108	2.42	.130	14	164	5.96	580	.01	<3	3.48	.03	.20	2
1AR 330	<1	67	4	47	<.3	62	23	675	3.56	<2	<8	<2	3	85	.4	<3	4	107	3.25	.115	15	253	2.44	67	.16	4	2.29	.19	.18	<2
1AR 331	<1	72	4	62	<.3	53	26	865	4.40	<2	8	<2	4	94	<.2	<3	6	130	3.37	.142	21	324	2.41	86	.21	<3	2.39	.19	.24	<2
1AR 372	7	112	7	75	<.3	41	33	535	5.17	2	<8	<2	2	45	.3	<3	<3	160	1.14	.083	12	66	1.54	69	.28	3	2.12	.13	.26	<2
1AR 373	7	107	9	70	<.3	41	30	509	4.97	2	<8	<2	2	43	.2	<3	<3	153	1.10	.079	11	60	1.48	69	.27	4	2.01	.12	.25	<2
1AR 391	1	173	7	82	.4	32	28	718	6.80	4	<8	<2	3	13	.3	<3	3	196	1.25	.092	13	20	1.35	15	.43	4	2.01	.14	.05	<2
1AR 399	<1	116	28	106	.3	6	52	684	8.95	29	<8	<2	3	9	<.2	<3	<3	324	.52	.043	7	19	1.25	27	.19	<3	1.93	.07	.09	<2
1AR 400	5	126	517	135	4.8	21	57	596	8.71	63	<8	<2	4	13	<.2	<3	<3	609	1.85	.034	8	28	1.56	30	.27	8	1.79	.11	.15	<2
1M 401	1	223	172	265	1.6	26	41	409	7.80	26	<8	<2	3	14	.4	<3	<3	673	1.32	.034	8	62	.95	41	.20	3	1.29	.11	.17	<2
1AR 402	2	167	304	1182	2.9	87	41	825	9.57	6	<8	<2	4	18	4.1	<3	<3	388	3.72	.043	10	63	3.10	30	.25	7	3.15	.08	.07	<2
RE 1AR 402	2	179	308	1198	4.0	90	41	846	9.74	7	<8	<2	5	18	4.2	<3	5	394	3.78	.044	11	66	3.16	34	.26	3	3.18	.09	.07	<2
1AR 403	8	80	63	78	1.0	43	87	2651	3.26	120	<8	<2	3	35	.8	<3	4	122	14.56	.017	14	59	.98	15	.08	4	1.16	.05	.05	<2
1AR 404	3	116	1023	2539	.6	29	45	570	9.68	24	<8	<2	3	14	7.3	<3	<3	624	1.91	.032	6	85	2.99	18	.26	<3	2.30	.09	.12	<2
1AR 405	1	645	132	133	2.4	43	55	881	7.53	16	<8	<2	4	17	<.2	<3	3	141	4.74	.048	10	49	2.15	23	.13	<3	2.17	.11	.08	<2
1AR 406	5	311	21	28	.7	31	21	1654	2.29	23	<8	<2	4	37	.5	<3	3	156	15.15	.021	15	36	.74	23	.10	<3	.90	.06	.05	<2
1AR 407	2	440	19	98	.4	41	23	907	4.40	10	<8	<2	3	24	.7	<3	<3	213	5.43	.029	9	78	1.28	28	.16	6	1.64	.14	.18	<2
1AR 408	9	300	470	263	1.6	83	474	1246	7.16	661	<8	<2	3	23	1.1	<3	<3	696	6.92	.024	12	46	1.31	31	.27	10	1.50	.14	.20	<2
1AR 409	3	219	183	246	.5	32	42	548	7.94	15	<8	<2	2	12	.5	<3	<3	691	1.33	.026	8	96	1.42	31	.23	<3	1.48	.10	.21	<2
1AR 410	4	160	203	214	.3	25	33	541	7.17	8	<8	<2	3	12	.4	<3	<3	427	.88	.029	5	126	1.21	56	.19	8	1.54	.12	.32	<2
1AR 411	2	223	1556	1507	1.3	34	57	732	6.10	10	<8	<2	4	33	9.5	<3	<3	190	5.97	.035	11	53	1.68	84	.23	10	2.02	.12	.15	<2
1AR 412	3	661	144	59	4.4	95	330	2284	3.84	517	<8	<2	3	39	.8	<3	3	492	15.35	.014	14	182	1.52	10	.19	4	1.55	.07	.05	<2
1AR 413	2	978	475	523	2.5	45	43	1127	7.51	7	<8	<2	3	16	1.7	<3	9	238	5.05	.021	7	408	3.38	11	.16	<3	2.93	.11	.04	<2
1AR 414	3	70	63	373	<.3	43	38	555	7.42	<2	<8	<2	3	12	.9	<3	3	456	1.12	.033	6	718	1.05	25	.29	6	1.77	.14	.12	<2
1AR 415	2	86	70	132	.6	70	40	674	5.06	5	<8	<2	3	34	<.2	<3	<3	203	5.31	.037	9	366	2.28	63	.18	<3	2.09	.08	.10	<2
1AR 416	1	27	<3	48	<.3	662	60	466	2.49	24	<8	<2	<2	8	.2	<3	<3	48	.36	.013	1	1037	1.49	39	.20	4	1.41	.01	.09	<2
1AR 417	35	190	6	63	.4	42	12	238	2.50	4	<8	<2	<2	77	<.2	<3	<3	52	.55	.057	6	109	1.29	169	.14	<3	1.41	.08	.54	<2
1AR 418	2	37	9	47	<.3	38	16	406	2.83	4	<8	<2	<2	61	<.2	<3	3	50	1.05	.050	5	89	1.17	98	.14	<3	1.22	.16	.10	<2
1AR 419	2	36	<3	39	<.3	49	14	344	2.13	2	<8	<2	<2	109	<.2	<3	<3	35	1.18	.057	7	97	.93	150	.11	<3	.99	.04	.20	<2
1AR 420	2	56	<3	52	<.3	70	19	483	2.57	5	<8	<2	<2	61	<.2	<3	<3	37	.71	.069	10	103	1.32	30	.11	4	1.44	.04	.05	<2
1AR 421	2	216	<3	121	<.3	33	71	1105	6.18	3	<8	<2	<2	49	.2	<3	10	81	1.15	.040	1	38	.88	81	.21	<3	1.52	.03	.12	<2
1AR 422	2	173	9	89	<.3	39	29	749	6.89	5	<8	<2	2	22	<.2	<3	3	194	1.39	.083	12	94	1.36	37	.52	<3	2.34	.29	.09	<2
1AR 423	<1	41	<3	33	<.3	37	30	884	4.03	<2	<8	<2	<2	23	<.2	<3	3	98	3.65	.024	2	154	1.87	15	.19	<3	2.13	.06	.02	<2
1AR 424	1	70	<3	27	<.3	28	17	252	2.06	2	<8	<2	<2	41	.2	<3	<3	43	.67	.077	13	70	1.05	22	.13	<3	1.00	.06	.04	<2
1AR 425	1	18	<3	1	<.3	36	13	569	.27	24	<8	<2	3	144	<.2	<3	<3	9	8.36	.076	17	43	.07	63	.06	5	.11	.01	.02	<2
STANDARD C3	25	64	34	164	5.2	36	11	758	3.26	55	21	3	21	29	22.2	21	22	78	.55	.086	18	168	.59	157	.09	21	1.95	.04	.17	16
STANDARD G-2	2	4	4	42	<.3	7	3	524	2.00	<2	<8	<2	4	74	<.2	<3	4	41	.63	.095	8	76	.60	240	.12	<3	1.01	.08	.49	3

Sample type: PULP. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



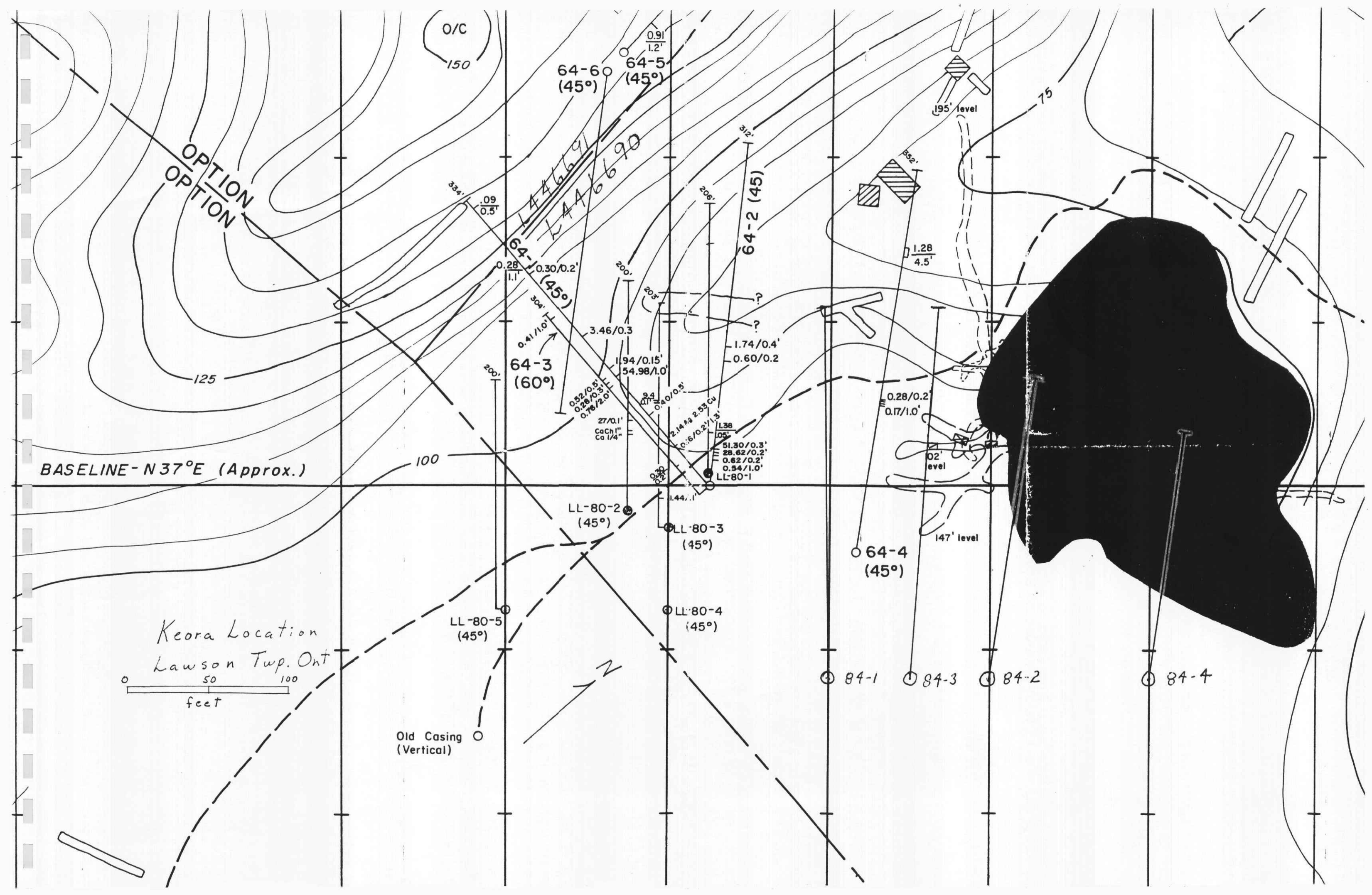
SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm
1AR 356	7	25	<3	8	<.3	37	15	4121	9.14	5	9	<2	<2	3	<.2	<3	<3	33	.31	.007	<1	1338	.40	2	<.01	<3	.11	<.01	<.01	10
1AR 357	<1	1	<3	2	<.3	11	7	104	.49	<2	<8	<2	11	6	<.2	<3	<3	20	.26	.122	123	70	.26	25	<.01	5	.60	.04	.19	<2
1AR 358	3	23	5	18	<.3	26	9	335	1.98	2	<8	<2	<2	30	<.2	<3	<3	30	1.71	.023	5	121	1.15	11	.01	<3	.77	.03	.02	<2
1AR 359	5	91	4	102	<.3	86	47	601	4.77	6	<8	<2	<2	67	<.2	<3	<3	136	3.39	.067	8	87	1.11	24	.46	<3	1.14	.08	.07	<2
1AR 360	<1	8	<3	12	<.3	2314	104	785	5.28	14	<8	<2	<2	58	.3	<3	<3	36	2.41	.004	<1	1309	18.08	7	.02	80	.65	<.01	<.01	<2
1AR 361	<1	79	<3	33	<.3	72	43	940	6.77	2	<8	<2	<2	75	<.2	<3	<3	183	6.02	.017	1	195	3.82	5	.16	<3	3.77	.03	.01	<2
1AR 362	2	88	<3	38	<.3	22	14	535	3.23	6	<8	<2	<2	29	<.2	<3	<3	21	1.88	.052	13	18	1.83	114	.11	4	2.04	.02	.42	<2
RE 1AR 362	2	90	<3	40	<.3	23	15	557	3.36	2	8	<2	2	30	.3	<3	<3	22	1.95	.054	14	19	1.89	118	.11	5	2.09	.02	.43	<2
1AR 363	1	19	<3	52	<.3	24	12	454	2.63	<2	<8	<2	2	31	<.2	<3	<3	28	1.45	.047	12	26	1.51	35	.14	3	1.71	.05	.22	<2
1AR 364	3	44	3	66	<.3	94	55	1556	6.81	89	<8	<2	<2	28	<.2	<3	<3	85	4.70	.031	1	60	3.89	23	<.01	9	3.16	.03	.10	<2
1AR 365	<1	58	<3	102	<.3	125	60	1953	9.94	7	<8	<2	<2	25	.2	<3	<3	153	4.18	.045	2	244	5.72	39	<.01	6	4.85	.01	.13	<2
1AR 366	1	127	3	55	<.3	61	36	2330	5.92	59	<8	<2	3	45	.4	<3	<3	69	8.50	.053	2	74	3.81	19	<.01	12	2.42	.02	.08	<2
1AR 367	1	26	4	43	<.3	31	13	2069	4.24	22	<8	<2	2	68	<.2	<3	<3	40	9.11	.016	2	25	3.36	9	<.01	5	1.38	.01	.02	<2
1AR 368	5	194	18	443	<.3	363	47	1639	5.25	39	<8	<2	4	508	1.0	<3	<3	82	6.97	.087	7	205	3.30	171	.02	5	1.64	.02	.62	<2
1AR 369	4	347	<3	73	.8	37	37	1836	7.25	3	<8	<2	<2	65	<.2	<3	<3	109	4.28	.045	<1	48	.84	91	.40	13	1.42	.06	.12	<2
1AR 370	2	67	<3	40	<.3	69	23	483	3.63	2	<8	<2	<2	83	<.2	<3	<3	54	1.00	.055	9	88	1.71	114	.17	3	1.59	.04	.17	<2
1AR 371	1	7	7	22	<.3	18	7	245	1.82	<2	<8	<2	9	11	<.2	<3	<3	34	.27	.050	16	368	.81	45	.12	3	.90	.07	.09	<2
1AR 374	<1	65	3	40	<.3	208	38	426	3.86	8	<8	<2	<2	50	<.2	<3	<3	70	2.05	.015	1	97	2.61	37	.13	9	3.46	.40	.18	<2
1AR 375	4	217	85	139	.5	59	65	948	5.69	43	<8	<2	<2	18	.4	<3	<3	231	4.30	.023	5	434	2.16	16	.17	11	2.01	.08	.14	<2
1AR 376	3	450	239	111	3.4	53	79	1069	6.72	68	<8	<2	<2	18	<.2	<3	4	250	4.59	.025	5	271	2.69	12	.19	9	2.54	.07	.09	<2
1AR 377	1	443	82	42	2.2	70	58	1151	5.83	49	<8	<2	3	22	.3	<3	4	247	6.11	.026	8	247	2.79	18	.15	8	2.63	.08	.07	<2
1AR 378	1	538	9	82	2.5	79	30	977	6.85	<2	<8	<2	3	18	.2	<3	<3	294	6.49	.027	11	251	3.50	12	.19	9	2.94	.04	.05	<2
1AR 379	3	1121	46	79	6.7	54	96	898	5.37	144	<8	<2	4	14	.4	<3	4	49	5.01	.063	13	410	1.37	14	.23	11	1.82	.05	.05	<2
1AR 380	1	75	<3	38	<.3	32	30	344	3.64	<2	<8	<2	<2	39	<.2	<3	<3	88	1.46	.032	1	28	1.40	14	.23	3	1.20	.09	.10	<2
1AR 381	1	8	<3	14	<.3	38	10	221	1.06	<2	<8	<2	<2	17	<.2	<3	<3	31	.66	.060	15	29	2.06	23	.14	4	1.60	.09	.11	<2
1AR 382	1	37	<3	222	<.3	15	9	713	2.78	2	<8	<2	<2	39	<.2	<3	<3	15	3.30	.040	12	12	.47	27	.09	5	1.12	.05	.16	<2
10605	7	102	63	147	<.3	448	59	899	5.15	33	<8	<2	3	212	.3	<3	<3	118	4.91	.107	25	697	2.94	24	.08	3	2.12	.01	.17	<2
10618	3	388	11	34	<.3	257	43	1216	4.64	3	<8	<2	2	255	.2	<3	<3	114	6.99	.092	5	764	4.05	138	.18	4	2.33	.01	2.42	<2
10664	45	201	37	165	.6	101	50	194	5.30	3	<8	<2	4	2	<.2	<3	3	7	.06	.023	8	64	.61	7	<.01	3	.57	.01	.03	<2
36068	<1	7	<3	37	<.3	1221	73	666	4.50	10	<8	<2	<2	6	<.2	<3	<3	40	.29	.012	1	1113	11.64	5	.04	26	3.16	.01	.03	<2
36506	<1	65	3	27	.3	325	40	1033	4.18	2	<8	<2	<2	236	<.2	<3	<3	105	5.07	.021	2	1369	5.87	222	.06	<3	2.06	.01	.52	<2
36508	1	32	4	40	<.3	141	25	843	3.22	3	<8	<2	2	180	<.2	<3	<3	19	5.12	.081	7	105	3.03	183	.01	<3	.83	.01	.24	<2
36516	<1	52	<3	60	<.3	92	34	793	4.76	<2	<8	<2	<2	19	<.2	<3	<3	72	6.76	.019	4	58	2.04	26	<.01	4	3.44	.06	.13	<2
36517	<1	26	<3	67	<.3	23	17	2427	5.69	34	<8	<2	<2	90	<.2	<3	<3	15	6.52	.075	5	98	1.07	45	<.01	8	.53	.05	.16	<2
36518	<1	225	<3	80	<.3	56	51	902	9.41	2	<8	<2	<2	11	<.2	<3	<3	314	2.46	.034	5	105	5.19	12	.41	10	3.88	.04	.01	<2
STANDARD C3	25	65	34	155	5.4	37	13	739	3.37	53	30	<2	19	30	23.9	14	23	85	.59	.084	18	174	.65	149	.10	18	2.00	.04	.16	22

Sample type: PULP. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



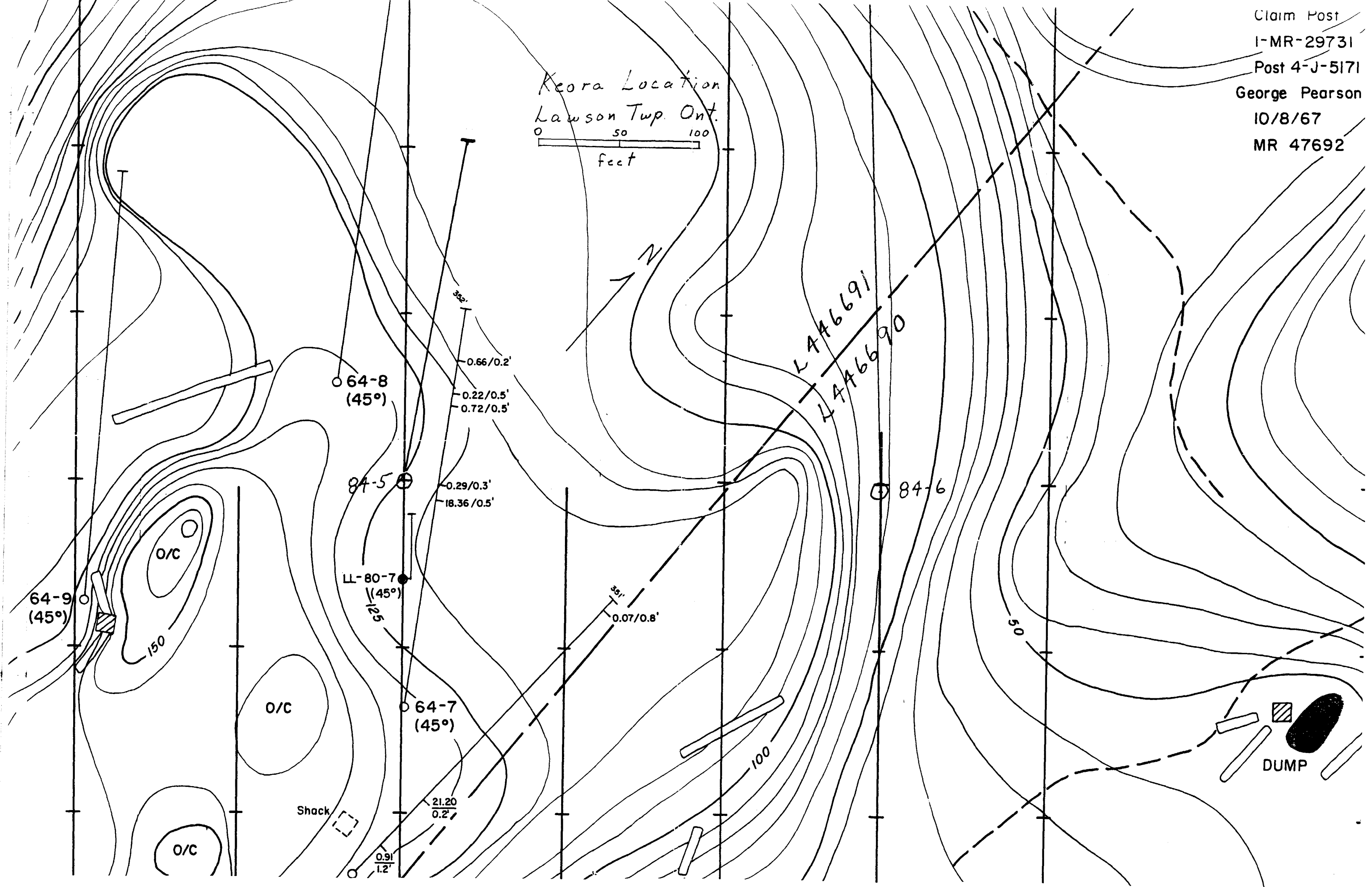
**Appendix IV**

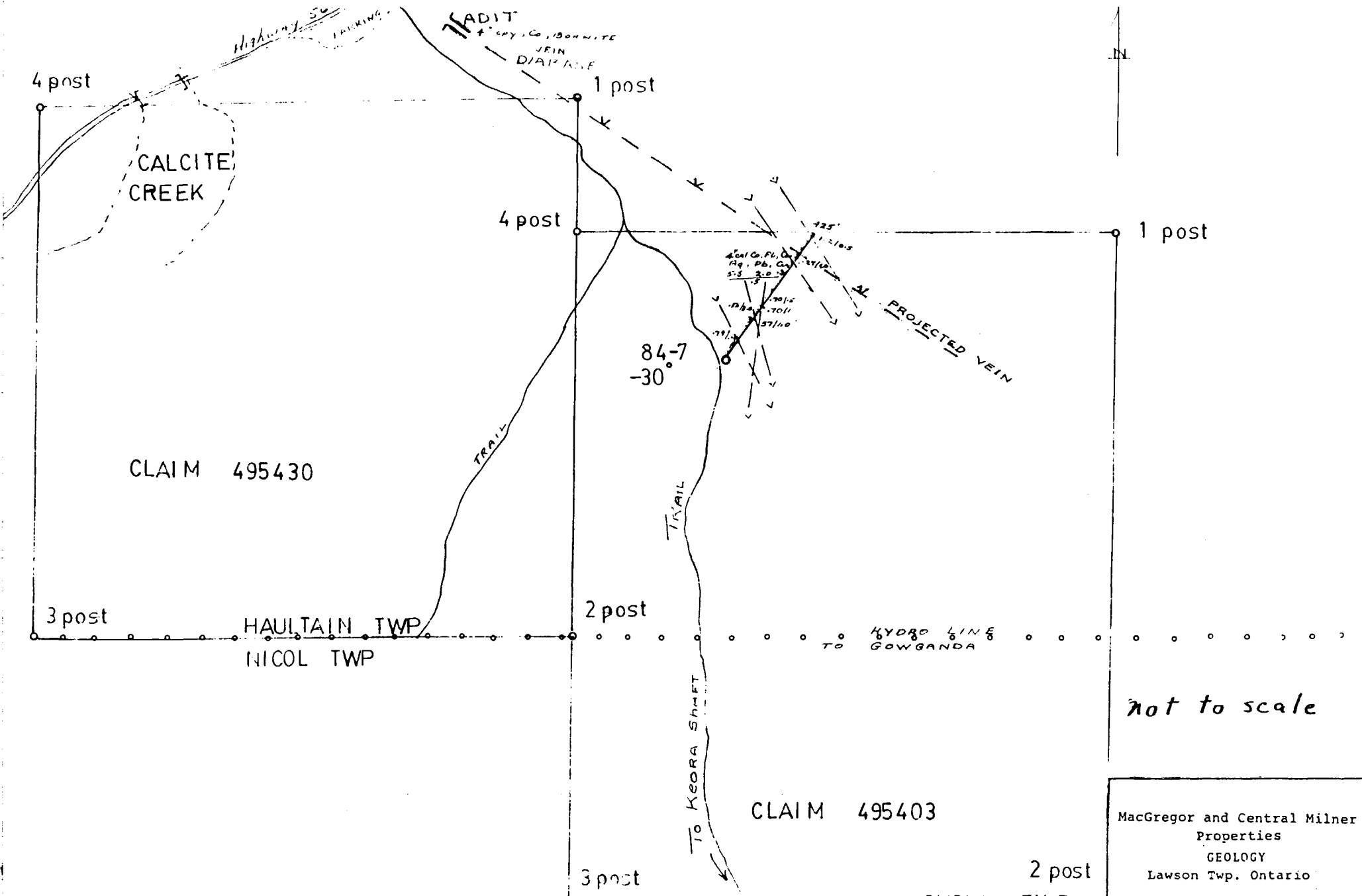
**Location Plans**



Claim Post  
I-MR-29731  
Post 4-J-5171  
George Pearson  
10/8/67  
MR 47692

Keora Location  
Lawson Twp. Ont.  
0 50 100  
feet





**Appendix V**

**Daily Log of Work Hours**

# Daily Log

page 1  
Days

Date	Activity	Days
May 30 to 31/98	Sampling Upper Canada Storage	2
June 11/98	Collate, mark & ship samples to Acme Labs	1/2
June 15 to 19/98	Logging and sampling core	5
December 28/98	Collate, mark & ship samples to Acme Labs	1/2
April 1/99	Collate, mark & ship samples to Acme Labs	1/2
April 14/99	Sampling drill core	1
April 18/99	Sampling drill core	1
May 17/99	Pick up sample pulps from Acme Labs and store	1/4
July 9/99	Collate, mark & ship samples to Acme Labs	1/2
September 15/99	Sampling drill core	1
September 19/99	Split and bag drill core	1
October 11/99	Collate, mark & ship samples to Acme Labs	1/2

# Daily Log

page 2  
Days

Date	Activity	Days
October 15/99	Pick-up sample pulps from Arme Labs and store	1/4
October 29/99	Report	1
November 8 to 12/99	Report	5
	Total	<u>20</u>

~~20 days~~

$$19 \text{ days @ } 250/\text{day} = 4750 -$$

$$1 \text{ day (core splitting) @ } 150/\text{day} = 150 -$$

Declaration of Assessment Work performed on Mining Land

Transaction Number (office use) 109980-00647 Assessment Files Research Imaging



41P10NE2005 2.19878 CHOWN

900

X HMERUMLU X

1, Subsection 25(2) and 26(3), R.S.O. 1990

authority of subsection 25(2) and 26(3) of the Mining Act. Under section 8 of the Act, the assessment work and correspond with the mining land holder. If Mining Record, Ministry of Northern Development and Mines, 6th Floor.

99-13

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

2.19878

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

Name: Robert MacGregor, Client Number: 162287, Address: 28 Ford St., Sault Ste Marie Ont P6A 4N4, Telephone Number: 705-949-4250, Fax Number: 705-949-2427

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: Analysis, Logging & geology existing drillhole, Office Use, Commodity, Total \$ Value of Work Claimed: 7455.00, Dates Work Performed: From 13 8 97 To 12 11 97, Township/Area: Lawson, Chown, Mining Division: Larder Lake, Resident Geologist District: Kirkland Lake

Please remember to: - obtain a work permit from the Ministry of Northern 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 sheets that are linked for assigning work; - include two copies of your technical report.

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

Name: Robert MacGregor, Telephone Number: 705-949-4250, Address: 28 Ford St. Sault Ste Marie Ont, Fax Number: 705-949-2427

RECEIVED NOV 26 1999 GEOSCIENCE ASSESSMENT OFFICE

PROVINCIAL RECORDING OFFICE - SUDBURY RECEIVED NOV 26 1999 P.M.

4. Certification by Recorded Holder or Agent

I, Robert MacGregor, 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 attached report is true.

Signature of Recorded Holder or Agent: [Signature], Date: Nov 22/99



the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

*\* Amendment \**

W9980.00647

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	18 ha	\$26,825	NA	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$8,892	\$4,000	0	\$4,892
1 L446690 ✓ 1		4905			4905
2 L446691 ✓ 1		1700			1700
3 L495403 -1		850			850
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Column Totals		7455			7455

2-19878

I, Robert MacGregor (Print Full Name), 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 of Claim [Signature] Date Nov 22/99

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 claim listed first, 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):

**RECEIVED**  
NOV 26 1999  
GEOSCIENCE ASSESSMENT

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

For Office Use Only

Received Stamp PROVINCIAL RECORDING OFFICE - SUDBURY <b>RECEIVED</b> NOV 26 1999 P.M. 118190007211213191316	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

2.19878

Work Type	Units of Work <small>Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.</small>	Cost Per Unit of work	Total Cost
Core logging, geology, report	19	250/day	4750.00
Core splitting	1	150/day	150.00
ANALYSIS	6.60 17.50 16.65 1200 1AR, WR, ULT, APG + GST	←	1067.60
SAMPLE PREP	127	4.25/sample	577.53
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
	SAMPLE SHIPPING		141.91
	PHOTOCOPIES, COVERS, PAPER ETC.		40.00
	SAMPLE BAGS, VIALS, CONTAINERS		50.00
<b>Transportation Costs</b>			
	MILEAGE 1296	40¢/KM	518.40
<b>Food and Lodging Costs</b>			
	MOTEL	67.62/DAY	135.24
	MEALS	26.28/DAY	52.56
	<b>Total Value of Assessment Work</b>		7483.24
			29.02
			7454.22
<b>Calculations of Filing Discounts:</b>			
<p>1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.</p> <p>2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:</p> <p>TOTAL VALUE OF ASSESSMENT WORK <sup>5 SAMPLES 1997</sup> 58.05 × 0.50 = 29.02 Total \$ value of worked claimed.</p>			

**RECEIVED**  
 NOV 26 1999  
 GEOSCIENCE ASSESSMENT OFFICE

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

**Certification verifying costs:**

I, Robert MacGregor (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on

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

Telephone: (888) 415-9845  
Fax: (877) 670-1555

February 25, 2000

ROBERT ALLAN MACGREGOR  
28 FORD STREET  
SAULT STE. MARIE, Ontario  
P6A-4N4

Visit our website at:  
[www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm](http://www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm)

Dear Sir or Madam:

**Submission Number:** 2.19878

**Status**

**Subject: Transaction Number(s):** W9980.00647 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. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

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 [lucille.jerome@ndm.gov.on.ca](mailto:lucille.jerome@ndm.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

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**Submission Number:** 2.19878

**Date Correspondence Sent:** February 25, 2000

**Assessor:** LUCILLE JEROME

---

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9980.00647	446690	LAWSON, CHOWN	Deemed Approval	February 24, 2000

**Section:**

17 Assays ASSAY

18 Other DATA

**Correspondence to:**

Resident Geologist

Kirkland Lake, ON

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

ROBERT ALLAN MACGREGOR

SAULT STE. MARIE, Ontario

Assessment Files Library

Sudbury, ON

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INDEX TO LAND DISPOSITION

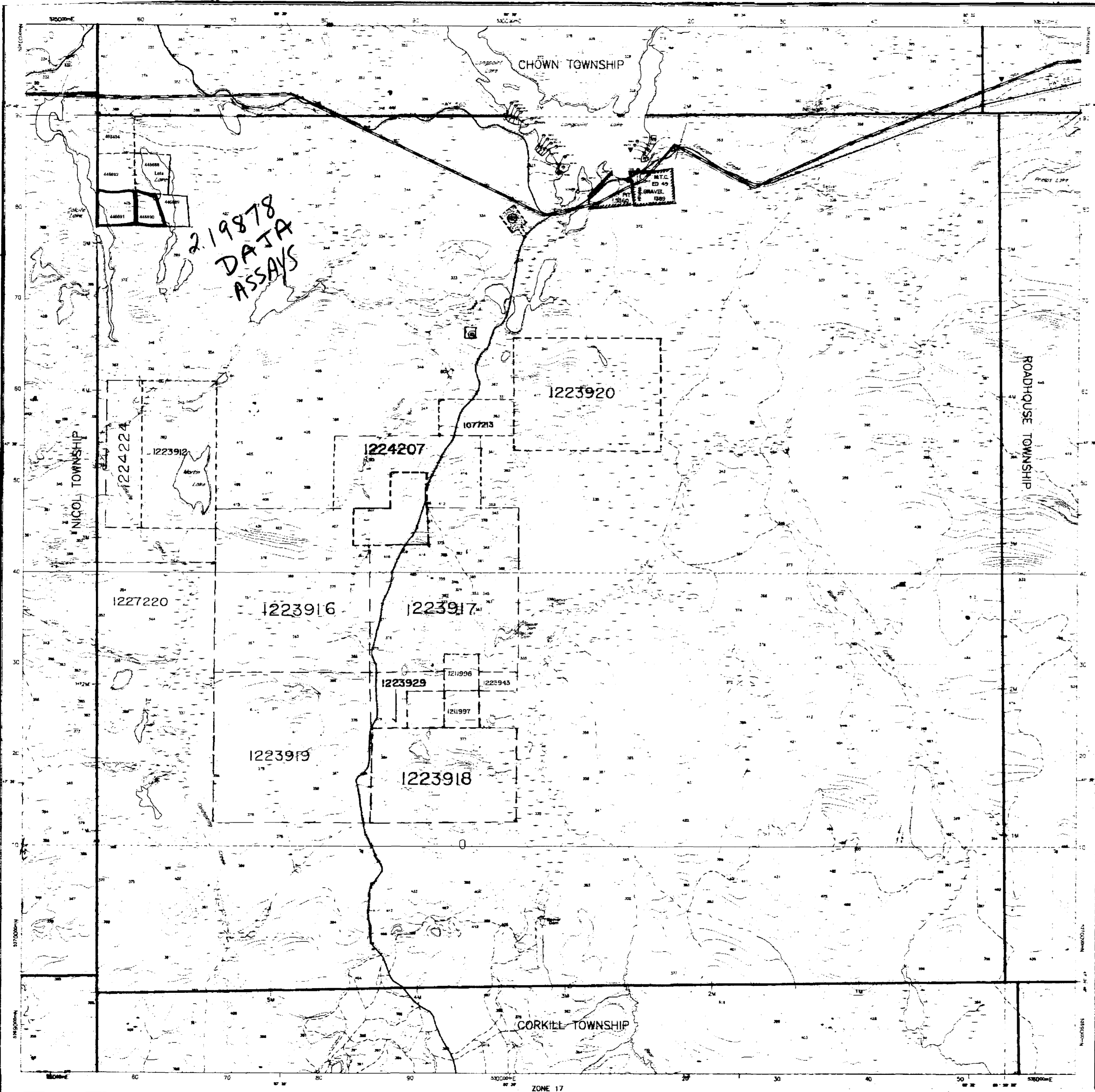
PLAN  
G - 3663  
TOWNSHIP  
**LAWSON**

M.N.R. ADMINISTRATIVE DISTRICT  
**KIRKLAND LAKE**  
MINING DIVISION  
**LARDER LAKE**  
LAND TITLES/REGISTRY DIVISION  
**TIMISKAMING**

Scale 1:20 000



Contour Interval 10 Metres



**SYMBOLS**

Boundary	
Administrative District	—
Township, location, boundary	—
Road allowance, surveyed	—
Lot/Concession, surveyed	—
Parcel, surveyed	—
Parcel, unsurveyed	—
Right-of-way, road	—
Railway	—
Utility	—
Reservation	—
Off. P.E. File	—
Contour	—
Interpolated	—
Approximate	—
Depression	—
Control point (horizontal)	—
Control point (vertical)	—
Spine (above ground)	—
Railway, single track	—
Railway, double track	—
Abandoned	—
River/creeper/tribe	—
Intermittent	—
Road, highway, county, township	—
Access	—
Trail, bush	—
Shoreline (original)	—
Transmission line	—
Wooded area	—

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

Area withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1979).

LAND USE PERMIT #07397 ISSUED 05/09/96  
W.L. 561/96 AREA SEPT 17/96 SRO DUMP

420 Surface Rights along the shores of all lakes and rivers.

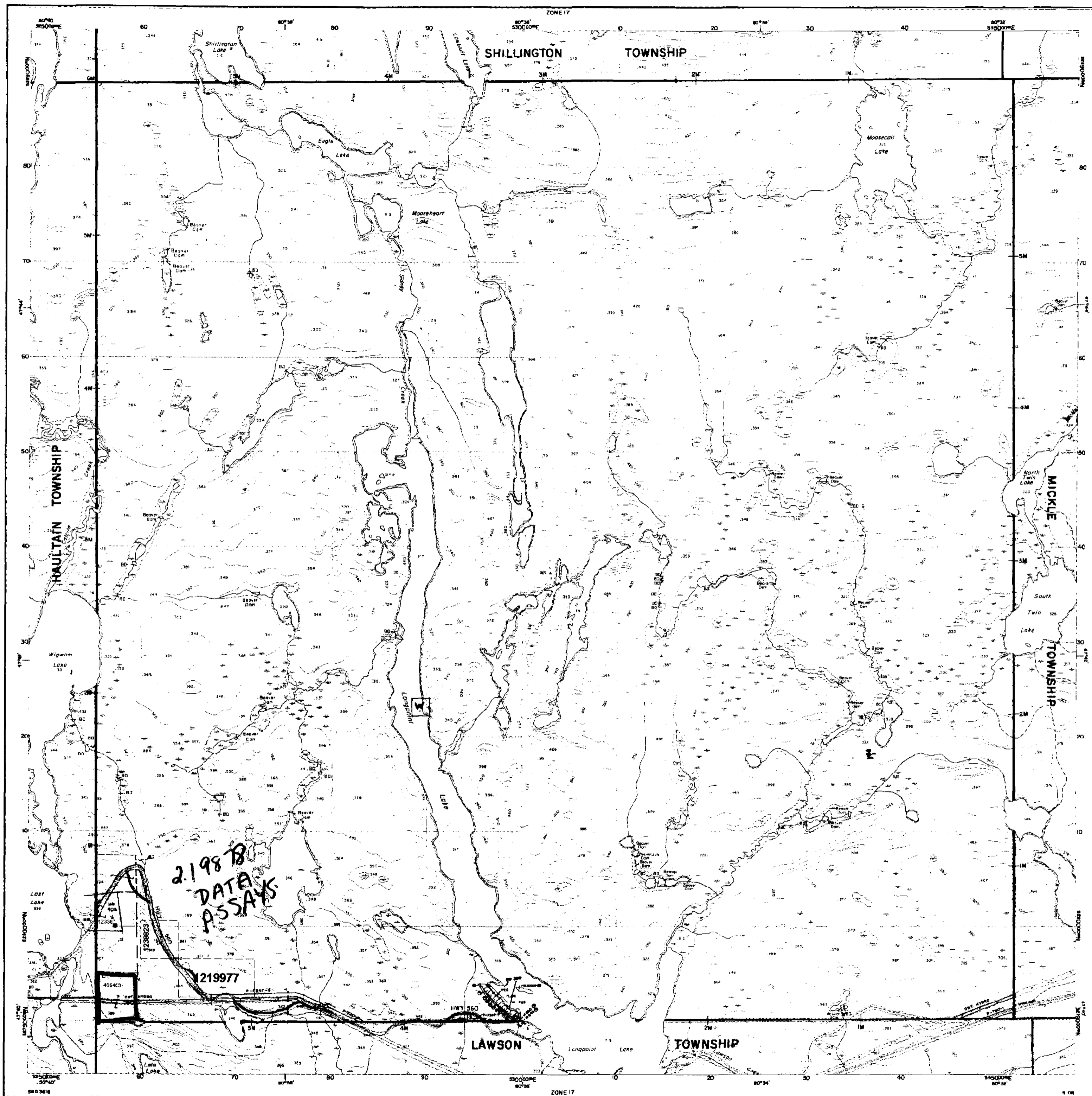
**DISPOSITION OF CROWN LANDS**

Present	
Surface & Mining Rights	●
Surface Rights Only	○
Mining Rights Only	◐
Lease	
Surface & Mining Rights	■
Surface Rights Only	□
Mining Rights Only	◑
License of Occupation	▽
Order-in-Council	◇
Concession	●
Reservation	○
Stake & Crown	◐
Land Use permit	◇

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THERE IS NO INTENTION TO STAKE CLAIMS UNDER THE MINING ACT. THIS MAP IS NOT TO BE USED FOR DEVELOPMENT AND MINES. FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

CIRCULATED AUGUST 19, 1996  
ARCHIVED SEPT. 17, 1996

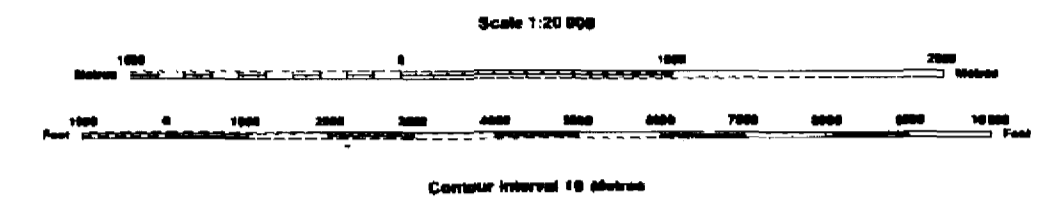




**INDEX TO LAND DISPOSITION**

PLAN  
**G-3618**  
 TOWNSHIP  
**CHOWN**

M. R. A. ADMINISTRATIVE DISTRICT  
**KIRKLAND LAKE**  
 MINING DIVISION  
**LARDER LAKE**  
 LAND TITLES / REGISTRY DIVISION  
**TIMISKAMING**




**AREAS WITHDRAWN FROM DISPOSITION**

MRD - Mining Rights Only  
 SFD - Surface Rights Only  
 M + S - Mining and Surface Rights

Description	Order No.	Date	Disposition	File
W	REC 3790	W. 56 DEC 1982	17.77.92	246

**SYMBOLS**

Boundary	
Township, Meridian, Baseline	—————
Road allowance, surveyed	—————
unsurveyed	~~~~~
Lot/Concession: surveyed	—————
unsurveyed	~~~~~
Parcel: surveyed	—————
unsurveyed	~~~~~
Right-of-way: road	—————
railway	—————
utility	—————
Reservation	—————
CM, Pt. Pa.	—————
Contour	
Interpolated	—————
Approximate	—————
Depression	—————
Control point (horizontal)	—————
Flooded land	—————
Mine head frame	—————
Pipeline (above ground)	—————
Railway: single track	—————
double track	—————
abandoned	—————
Road: highway, county, township	—————
access	—————
trail, bush	—————
Shoreline (original)	—————
Transmission line	—————
Wooded area	—————


 AREA DEEMED IN NEED OF PROTECTION BY THE CROWN AND WILL REMAIN WITHDRAWN INDEFINITELY.

**DISPOSITION OF CROWN LANDS**

Patent	
Surface & Mining Rights	●
Surface Rights Only	○
Mining Rights Only	○
Lease	
Surface & Mining Rights	■
Surface Rights Only	□
Mining Rights Only	□
Licence of Occupation	▽
Order-in-Council	OC
Cancelled	○
Reservation	○
Sand & Gravel	○

ARCHIVED SEPT. 18, 1996  
 CIRCULATED AUG. 18, 1992 B.R.B.

**NOTICE OF FORESTRY ACTIVITY**  
 THIS TOWNSHIP / AREA FALLS WITHIN THE  
 ELK LAKE MANAGEMENT UNIT  
 AND MAY BE SUBJECT TO FORESTRY OPERATIONS.  
 THE USER LIST FORESTER FOR THIS AREA CAN BE  
 CONTACTED AT: P.O. BOX 23  
 SWASTIKA, ONT.  
 FOR INFO  
 705-642-3222

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources. The disposition of land location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only.

