



42A01NE0280 2.5995 GRENFELL

010

BASAL TILL SURVEY
ORCANA RESOURCES LIMITED
GRENFELL TOWNSHIP, ONTARIO, PROPERTY

by

Oral C.S.A. 412

C. W. Archibald, B.A.Sc.

7 November 1983

RECEIVED

NOV 8 1983

MINING LANDS SECTION



42A01NE0280 2.5995 GRENFELL

010C

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M A P S

BASAL TILL SAMPLING PLAN 1" = 200'

A P P E N D I C E S

DRILL LOGS - 1 to 17

ASSAY CERTIFICATES

BASAL TILL SURVEY
ORCANA RESOURCES LIMITED
GRENFELL TOWNSHIP, ONTARIO, PROPERTY

I N T R O D U C T I O N

In much of Northern Ontario and Quebec, there is a varying depth of glacial till consisting of unconsolidated clay, sand, gravel, boulders, or a mixture of these, overlying bedrock. In many cases, a ground water percolates through the lowest or basal layer of till just above the bedrock. This ground water absorbs some of the chemical content of the bedrock, as well as the till, so a higher mineral content can at times be traced to the source by assaying a series of basal till samples.

The north one-third of the Orcana property is completely covered by overburden so prospecting would be useless. The remaining two-thirds of the property is 70% covered by overburden which makes prospecting difficult.

Geophysical instruments are useful tools for exploration purposes but not all precious minerals are associated with magnetic or conductive materials and hence the basal till survey.

P R O P E R T Y

The property consists of 13 contiguous unpatented mining claims near the south boundary of Grenfell Township in Northern Ontario. The claims are numbered as follows:

L507527 and L507528

L550941 to L550946 inclusive

L550957

L566639 and L566640

L579503 and L579504

L O C A T I O N and A C C E S S

The property is located approximately 9 miles west-southwest of the City of Kirkland Lake, Ontario.

Access to the property is by bush road east from Highway #11.

An Ontario Hydro power line crosses near the north boundary of the claim group and a Northern Ontario natural gas pipeline passes through the east side of the claim group in a generally north-south direction.

G E O L O G Y

The property is mainly underlain by basic intrusive volcanics of Precambrian age. The volcanics consist of basalts, andesites and diorites with a steep dip to the northeast.

Some narrow porphyry dikes cross the property in a northwest-southeast direction.

The claims are on the north flank of the Larder Lake Fault along which numerous gold and base metal occurrences are located.

In claim 507527, several narrow, silicified, carbonate zones carrying low gold values have been located by prospecting and trenching.

Overburden covers much of the property making exploration, except by geophysics, extremely difficult.

B A S A L T I L L S U R V E YGENERAL

The work was done by using a Wink Vibra-Corer overburden drill. This drill produces an uncontaminated, undisturbed sample of overburden which may be visually examined and samples.

The drill is not infallible as it will not (at times) penetrate boulder beds or dry varved clays. Sand, gravel, silt or clays with a moisture content are easily penetrated and in many areas, friable bedrock can also be cored.

As this area was previously untested by this drill and it was not known if it would penetrate, this basal till survey has been in the nature of a reconnaissance survey with widely spaced holes.

In all, 17 holes totalling 234 feet were drilled in three 'fences' with holes spaced at 400 foot intervals.

Samples were taken and sent for assay from the humus layer, the basal till and in some cases between the two.

R E S U L T S of S U R V E Y

In the north fence containing Holes 1 to 6, Holes 1, 2 and 3 show gold mineralization in the basal till. The same three holes gave comparable or even higher assays in the humus layer. Holes 5 and 6 were both drilled in boulder beds and never reached bedrock so this area cannot be ruled out.

In the second fence or tier of holes which were drilled approximately half-way between the north and south boundaries there were seven holes drilled. Holes 8, 9, 11, 12 and 13 have gold values in the basal till, with Hole 13 having the highest gold values encountered. Four of the five holes, numbers 9, 11, 12 and 13, were shallow and no separation was made for humus or basal till samples. Hole number 8 showed no gold in the humus sample.

In the south fence, with Holes 14 to 17 inclusive, only Hole 17 showed the presence of gold. However, Holes 14 and 17 did not penetrate the varved clay layer so no basal till sample was obtained.

Silver samples gave no values in any of the samples sent for assay.

C O N C L U S I O N S

In my opinion, this survey did not help the exploration of this property.

Partially to blame for the lack of correlation data was the reconnaissance nature of the survey, with holes spaced 400 feet apart and the fences of holes from 2,500 to 3,000 feet apart.

The holes were widely spread in order to learn if basal till samples could be obtained at various locations on the property, but only 50% of the holes were successful. Of the seventeen holes drilled, numbers 5, 6, 14 and 17 did not reach bedrock and it is doubtful if Holes 4, 9, 10 and 11 reached the basal till.

Basal till sampling has been used successfully as an exploration tool on many properties but I would not recommend that it be continued on this property.

Respectfully submitted,



Toronto, Ontario
7 November 1983

C. W. Archibald, B.A.Sc.
P. Eng. of Ontario

GRENFELL — ORCANA RESOURCES LIMITED**OVERBURDEN DRILL HOLE 83-1**LOCATION: Grenfell Twp.
Cl. 566639LATITUDE: 23+50 N
DEPARTURE: 28+00 EBEARING:
ANGLE DIP: -90°

STARTED: 8 Oct. 1983

FINISHED: 8 "

LOGGED BY: J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au p.p.b	Ag p.p.m.
0	51.0	SAND				
		0 - 5.0 light grey pepper colour, fine grained, with fine grained mineralization	1A	5.0	48	< .1
		5.0 - 10.0 light grey, peppery, damp	1B	5.0	< 5	< .1
		10.0 - 36.0 as above				
		36.0 - 41.0 silty sand with black specks	1C	5.0	< 5	< .1
		41.0 - 46.0 wet silty sand, fine grained, brown specks, slight mineralization	1D	5.0	< 5	< .1
		46.0 - 51.0 silty, brown, slightly drier, some gravel mixed with the sand, mineralized	1E	5.0	66	< .1
	51.0	END OF HOLE (BEDROCK)				

GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-2LOCATION: Grenfell Twp.
Cl. 566639LATITUDE: 26+50 N
DEPARTURE: 24+00 EBEARING:
ANGLE DIP: -90°

STARTED: 9 Oct. '83

FINISHED: 9 "

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	1.0	HUMUS				
1.0	46.0	SAND, fine grained, 1.0 - 5.0 light grey, peppered, mixed with fine grained humus. 5.0 - 31.0 fine, mixed with clay, wet, beige, much heavy mineral 31.0 - 36.0 as above 36.0 - 41.0 wet, silty, grey brown, much mica 41.0 - 46.0 wet, silty, fine grained, grey peppery colour	2A	4.0	38	<.1
			2B	5.0	45	<.1
			2C	5.0	<5	<.1
			2D	5.0	<5	<.1
46.0	51.0	SAND & GRAVEL MIX damp, grey pepper, mixed with gravel, very slight mineral	2E	5.0	6	<.1
	51.0	END OF HOLE				

PAGE: 11

GRENFELL — ORCANA RESOURCES LIMITED**OVERBURDEN DRILL HOLE 83-3**LOCATION: Grenfell Twp.
C1.579504LATITUDE: 29+50 N
DEPARTURE: 20+00 EBEARING:
ANGLE DIP: -90°

STARTED: 10 Oct '83

FINISHED: 10 "

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	5.0	SANDY GRAVEL, brown, some pebbles, fine grained sand	3A	5.0	41	< .1
5.0	7.0	SAND, white, contains heavy minerals	3B	2.0	35	< .1
	7.0	HARDPAN? or bedrock				
	7.0	END OF HOLE				

GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-4LOCATION: Grenfell Twp.
Cl. 579503.LATITUDE: 31+00. N
DEPARTURE: 16+00 EBEARING:
ANGLE DIP: -90°

STARTED: Oct. 183

FINISHED: "

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	23.0	SAND 0.0 - 2.0 coarse grained 2.0 - 23.0 fine grained sand				
		Sample 0 - 5.0	4A	5.0	< 5	< .1
		2.0 - 5.0 white with streak of reddish brown from 4.1 - 5.1	4B	5.0	< 5	< .1
		5.0 - 11.0 light grey pepper colour, 11.0 - 18.0 mixed pepper colour with dark patches and brown red gravel	4C	7.0	22	< .1
		18.0 - 23.0 dry, medium grain, mixed pepper colour 23.0 hard pan	4D	5.0	< 5	< .1
	23.0	END OF HOLE				

PAGE: 1

GRENFELL — ORCANA RESOURCES LIMITED**OVERBURDEN DRILL HOLE 83-5**LOCATION: Grenfell Twp.
Cl. 579503

LATITUDE: 31+00 N

DEPARTURE: 12+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 11 Oct. '83

FINISHED: 11 Oct.

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	2.0	HUMUS				
2.0	21.0	BOULDERS, little sample Sample 2.0 - 5.0	5A	3.0	< 5	< .1
	21.0	END OF HOLE - the drill would not penetrate				

PAGE: 1

GRENFELL — ORCANA RESOURCES LIMITED**OVERBURDEN DRILL HOLE 83-6**LOCATION: Grenfell Twp.
Cl. 579503

LATITUDE: 31+00 N

BEARING:

DEPARTURE: 8+00 E

ANGLE DIP: -90°

STARTED: 11 Oct. '83

FINISHED: 11 Oct.

LOGGED BY:

J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	1.0	HUMUS, reddish brown, sandy	6A	1.0	< 5	< .1
1.0	11.0	BOULDERS, drill would not penetrate, very little sample				
	11.0	END OF HOLE				

GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-7LOCATION: Grenfell Twp.
Cl. 507527

LATITUDE: 6+00 N

BEARING:

DEPARTURE: 4+00 E

ANGLE DIP: -90°

STARTED:12 Oct.'83

FINISHED:12 Oct.

LOGGED BY:

J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	25.0	SAND 0.0 - 2.0 brown, medium grain, damp 2.0 - 5.0 grey, " " " Sample 0 - 5.0 5.0 - 10.0 light grey pepper colour, fine grained, dry 10.0 - 20.0 pepper, homogeneous, dry 20.0 - 25.0 " colour, fine grained, wet, slight heavy minerals	7A 7B 7C 7D	5.0 5.0 10.0 5.0	< 5 < 5 < 5 < 5	< .1 < .1 < .1 < .1
	25.0	END OF HOLE - bedrock, no gravel				

PAGE: 1

GRENFELL — ORCANA RESOURCES LIMITED**OVERBURDEN DRILL HOLE 83-8**LOCATION: Grenfell Twp.
Cl. 507527

LATITUDE: 6+00 N

DEPARTURE: 8+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 12 Oct. '83

FINISHED: 12 Oct.

LOGGED BY:

J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	2.0	SAND AND ORGANICS				
2.0	12.0	SAND				
		2.0 - 5.0 light grey, fine grained with very slight heavy minerals				
		Sample 0 - 5.0	8A	5.0	< 5	< .1
		5.0 - 12.0 light grey pepper colour, wet, < 20% h.m.	8B	7.0	27	< .1
		12.0 bedrock				
	12.0	END OF HOLE				

PAGE:1

GRENFELL — ORCANA RESOURCES LIMITED**OVERBURDEN DRILL HOLE 83-9**LOCATION: Grenfell Twp.
Cl. 507527

LATITUDE: 6+00 N

DEPARTURE: 12+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 12 Oct. '83

FINISHED: 12 Oct.

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	5.0	ORGANICS AND LIGHT GREY SAND At 4.0, hardpan layer	9A	5.0	19	<.1
	5.0	END OF HOLE - Bedrock?				

PAGE: 1

Grenfell — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-10

LOCATION: Grenfell Twp.
Cl. 507527

LATITUDE: 5+00 N

DEPARTURE: 16+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 12 Oct 88

FINISHED: 12 Oct.

LOGGED BY:

J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	4.0	HUMUS AND LIGHT GREY SAND	10A	4.0	< 5	< .1
	4.0	END OF HOLE - hardpan or bedrock, unable to drill further				

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GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-11

LOCATION: Grenfell Twp.
Cl. 566640

LATITUDE: 4+50 N

DEPARTURE: 20+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 13 Oct 83

FINISHED: 13 Oct.

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	4.0	HUMUS AND LIGHT GREY SAND, damp, some heavy mineral	11A	4.0	13	<.1
	4.0	END OF HOLE - bedrock ?				

PAGE: 1

GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-12LOCATION: Grenfell Twp.
Cl. 566640

LATITUDE: 4+50 N

DEPARTURE: 24+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 13 Oct 83

FINISHED: 13/10/83

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	2.0	SAND, light grey, silty				
2.0	4.0	CLAY				
	4.0	GRAVEL, thin layer, reddish	Sample 0 - 4.0	12A	4.0	16
	4.0	END OF HOLE				<.1

PAGE: 1

GRENFELL — ORCANA RESOURCES LIMITED**OVERBURDEN DRILL HOLE 83-13**LOCATION: Grenfell Twp.
Cl. 566640

LATITUDE: 2+25 N

DEPARTURE: 28+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 13/10/83

FINISHED: 13/10/83

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	4.0	CLAY, wet, silty, fine grained, grey brown	13A	4.0	127	< .1
	4.0	END OF HOLE = Bedrock				

PAGE: 1

Grenfell — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-14

LOCATION: Grenfell Twp.
Cl. 550941

LATITUDE: 27+50 S

DEPARTURE: 20+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 13/10/83

FINISHED: 13/10/83

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	2.0	HUMUS				
2.0	4.0	VARVED CLAY				
		Sample 0 - 4.0	14A	4.0	< 5	< .1
	4.0	END OF HOLE				

GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-15LOCATION: Grenfell Twp.
Cl. 550941

LATITUDE: 28+00 N

DEPARTURE: 24+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 13/10/83

FINISHED: 13/10/83

LOGGED BY:

J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	2.5	GRAVEL, brown black Sample 0 - 5.0	5A	5.0	< 5	< .1
2.5	10.0	CLAY, wet, varved				
10.0	11.0	BASAL TILL, gravel with red brown sand matrix	5B	1.0	< 5	< .1
	11.0	END OF HOLE, Bedrock				

PAGE: 1

GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-16

LOCATION: Grenfell
Cl. 550941

LATITUDE: 28+25 S

DEPARTURE: 28+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 13/10/83

FINISHED: 13/10/83

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	3.0	GRAVEL, brown, sandy, some loam	6A	3.0	< 5	< .1
	3.0	END OF HOLE, Bedrock				

GRENFELL — ORCANA RESOURCES LIMITED

OVERBURDEN DRILL HOLE 83-17LOCATION: Grenfell
Cl. 550942

LATITUDE: 28+70 S

DEPARTURE: 32+00 E

BEARING:

ANGLE DIP: -90°

STARTED: 13/10/83

FINISHED: 13/10/83

LOGGED BY:
J.C. Archibald

FROM	TO	REMARKS	SAMPLE NO	SAMPLE LENGTH	Au ppb	Ag ppm
0	3.0	GRAVEL, brown, sandy, very wet	17A	3.0	20	< .1
3.0	4.0	CLAY				
	4.0	END OF HOLE, machine would not penetrate				



ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

Certificate of Analysis

Certificate No. AR-55/#2560

Date: October 27, 1983

Received 34

Samples of Soils

Submitted by C. W. Archibald Limited

Att'n: Mr. John Archibald

Sample No.	Au ppb	Ag ppm
1A	48	<.1
1B	<5	<.1
1C	<5	<.1
1D	<5	<.1
1E	66	<.1
2A	38	<.1
2B	45	<.1
2C	<5	<.1
2D	<5	<.1
2E	6	<.1
3A	41	<.1
3B	35	<.1
4A	<5	<.1
4B	<5	<.1
4C	22	<.1
4D	<5	<.1
5A	<5	<.1
6A	<5	<.1
7A	<5	<.1
7B	<5	<.1

ASSAYERS (ONTARIO) LIMITED

Per 



ASSAYERS (ONTARIO) LIMITED

33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

Certificate of Analysis

Certificate No. AR-55/#2560

Date: October 27, 1983

Received 34

Samples of Soils

Submitted by C. W. Archibald Limited

Att'n: Mr. John Archibald

Sample No.	Au ppb	Ag ppm
7C	<5	<.1
7D	<5	<.1
8A	<5	<.1
8B	27	<.1
9A	19	<.1
10A	<5	<.1
11A	13	<.1
12A	16	<.1
13A	127	<.1
14A	<5	<.1
15A	<5	<.1
15B	<5	<.1
16A	<5	<.1
17A	20	<.1

ASSAYERS (ONTARIO) LIMITED

Per

Sonic Soil Sampling Inc.

702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Orcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
 M5K 1H6

Date **October 31, 1983**No. **83-14**

Period

Re: **Grenfell Twp. , Ontario, property**

Date	Description	Amount
Oct.	For Drill Rental and crew services -	
	from October 8th to 13th - 6 days @ \$600.00/day	\$3,600.00
	Mobilization and Demobilization -	
	from October 7th and 14th - 2 days @ \$250.00/day	500.00
	Room and Board for crew	407.89
	Total	\$4,507.89

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING

702-100 Adelaide St. W.

Toronto, Canada

M5H 1S3

To

Orcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
 M5K 1H6

Date **October 31, 1983**No. **1468**

Period

Re: **Grenfell Township, Ontario**

Date	Description	Amount
Oct.	Ministry of Natural Resources - abstracts	\$ 6.96
	Assayers (Ontario) Limited - assays (Inv's 2560 & 2553)	438.75
	Paragon Limited - prints - Inv.s 85628, 85962, 85963, 86798, 86799	36.54
	Telephone - L.D. Calls	4.58
	Xeroxing - copies	5.80
	Geological Survey - F.T. Archibald Inv. 83027	1,997.50
	For services rendered - AMEX - J.C. Archibald Inv. 348 C	300.00
	- C. W. Archibald Basal Till Report	575.00
	Total	\$3,365.13

2.5995

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING
702-100 Adelaide St. W.
Toronto, Canada
M5H 1S3

To
Orcana Resources Limited
Suite 3512, Toronto-Dominion Bank Tower
P.O. Box 162, Toronto-Dominion Centre
Toronto, Ontario
M5K 1H6

Date October 31, 1983
No. 1468
Period

Re: Grenfell Township, Ontario

Date	Description	Amount
Oct.	Ministry of Natural Resources - abstracts	\$ 6.96
	Assayers (Ontario) Limited - assays (Inv's 2560 & 2553)	438.75
	Paragon Limited - prints - Inv.s 85628, 85962, 85963, 86798, 86799	36.54
	Telephone - L.D. Calls	4.58
	Xeroxing - copies	5.80
	Geological Survey - F.T. Archibald Inv. 83027	1,997.50
	For services rendered - AMEX - J.C. Archibald Inv. 348 C	300.00
	- C. W. Archibald Basal Till Report	575.00
	Total	\$3,365.13

830 MEX

Ad TSC

Sonic Soil Sampling Inc.

702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Orcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
 M5K 1H6

Date **October 31, 1983**No. **83-14**

Period

Re: Grenfell Twp. , Ontario, property

Date	Description	Amount
Oct.	<p>For Drill Rental and crew services -</p> <p>from October 8th to 13th - 6 days @ \$600.00/day</p> <p>Mobilization and Demobilization -</p> <p>from October 7th and 14th - 2 days @ \$250.00/day</p> <p>Room and Board for crew</p> <p style="text-align: right;">Total</p>	<p>\$3,600.00</p> <p>500.00</p> <p>407.89</p> <hr/> <p>\$4,507.89</p>

83 OMER

M. KISS

ARCHIBALD CONSULTING LTD.

INVOICE # 0

Orcana Resources Ltd.
c/o C.W. Archibald Ltd.
702-100 Adelaide St. West
Toronto, Ontario. M5H 1S3

702 - 100 ADELAIDE ST. W.
TORONTO, ONTARIO M5H 1S3
CANADA
TEL. (416) 363-5054
Dec. 20, 1983

Grenfell Twsp. fencing off shaft
geophysics over showings
spotting drill holes
showing diamond drillers loc

5	gas (83.5 l)	41.00
Dec. 4	gas (54.7 l)	26.00
5	gas (62.5 l)	25.00
5	supplies (nails, wire)	36.66
5	hardware	4.94
6	meal	5.88
6	motel	37.51
6	gas (41.8 l)	19.00
	2 days @ \$140 per day	<u>280.00</u>

TOTAL OWING ----- \$475.99

with thanks,

F.T. Archibald

F.T. Archibald, B.Sc. Geologist.

Dec 21/83 Paid by CK #257

Checked Jan. 14/85

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING

702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Orcana Resources Limited
P. O. Box 162, Toronto Dominion Centre
Toronto, Ontario
M5K 1H6

Date **December 31, 1983**

No. **1495**

Period

Re: Grenfell Township property, Ontario

Date	Description	Amount
Dec.	<p>F. T. Archibald - re Invoice #83-039</p> <p><i>AD Gas/s/23</i></p>	<p>\$475.99</p>

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING
 702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Date **November 30, 1983**

Orcana Resources Limited
Suite 3512, Toronto-Dominion Bank Tower
P.O. Box 162, Toronto-Dominion Centre
Toronto, Ontario
M5K 1H6

No. **1483**

Period

Re: Grenfell Township, Ontario property

Date	Description	Amount
<p>Nov.</p>	<p>For services rendered -</p> <p>Basal Till Report and Assessment . .</p> <p style="text-align: right;">Total</p> <p style="font-size: 2em; transform: rotate(-30deg); opacity: 0.5;"><i>12/21/83</i></p>	<p>\$475.00</p>

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING

702-100 Adelaide St. W.
Toronto, Canada
M5H 1S3.

To

Orcana Resources Limited
P.O. Box 162,
Toronto-Dominion Centre
Toronto, Ontario
M5K 1H6

Date January 31, 1984

No. 1509 A

Period

Re: Grenfell Township property, Ontario

Date	Description	Amount
Jan. 31	Telephone - L.D. Calls	\$ 5.60
	Copies of Extra Reports for OMEP	75.00
	For services rendered - re drill contract and preparation of OMEP papers	150.00
	Total	\$230.60

Ad

C. W. ARCHIBALD LTD.
 CONSULTING MINING ENGINEERING
 702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Norcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P. O. Box 162, Toronto-Dominion Centre
 TORONTO, Ontario
 M5K 1H6

Date November 30, 1982

No. 1339

Period

Date	Description	Amount
Nov. 30	Loomis & Toles - Map supplies	\$ 18.73
	Paragon Limited - reproductions Inv's 37116, 37117, 36118	46.89
	Report Covers	35.60
	Xerox copies	46.80
	Typing	75.00
	Total	\$221.02

March 15/83 sa.

*Ad by Canada
Mar 15/83*

C. W. ARCHIBALD LTD.
 CONSULTING MINING ENGINEERING
 702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Orcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
 M5K 1H6

Date August 31, 1983

No. 1452

Period

Re: Grenfell Township property, Ontario

Date	Description	Amount
August	Ministry of Natural Resources - Abstracts	\$ 2.14
	Trip to property - Toronto-Kirkland Lake-Toronto	100.00
	Subsistence - re trip	19.50
	Xeroxing - copies maps & reports	22.40
	Services rendered - re above	425.00
	Total	\$569.04

Ontario syndicate

Geol

Ad 8/20/83

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING

702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Date **September 30, 1983**

Orcana Resources Limited,
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
 M5K 1H6

No. 1460

Period

Re: Grenfell Twp. , Ontario and Urban Twp., Quebec properties

Date	Description	Amount
Sept.	Don Lou Motel, Kirkland Lake - Accommodation Grenfell	\$ 31.50
	- Subsistence "	15.00
	Ministry of Natural Resources - Abstract of Claims "	6.96
	Xeroxing - copies "	1.20
	Paragon Limited - prints - Inv.s 78412,78996, Urban 78897,79511 " 79512,82362 " 80458	181.34
	Propair Inc. - flights to property - for crew "	856.00
	Camp Equipment rental - Inv. 008160 - 10/30 mo. x\$300."	100.00
	I. R. Mickle services - Inv. 83-6 "	715.00
	J. D. Ferguson " - Inv. 83-1 "	500.00
	J. C. Archibald " - Inv. 346 "	300.00 ✓
	" expenses - " 346 "	2,831.68
	C. W. Archibald - for services rendered <i>Grenfell</i>	600.00
	Total	6,138.68
Sept 8	LESS: ADVANCE RECEIVED	1,500.00
	Balance / 83	\$4,638.68

Grenfell total 65466
Urban 398402

Balance / 83
Ad 0 25 / 83
for

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
55 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Jan 5 19*84*

PAY TO THE
ORDER OF

C W Avelabel
Nine hundred & 145

\$ *950.99*

99 DOLLARS

1483
1495

NORCANA RESOURCES LIMITED

Thomas Avelabel

⑈ 102020004106900771045⑈ ⑈0000095099⑈

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
55 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Jan 5 19*84*

PAY TO THE
ORDER OF

C W Avelabel
Six thousand, one hundred & eight

\$ *6180.88*

88 DOLLARS

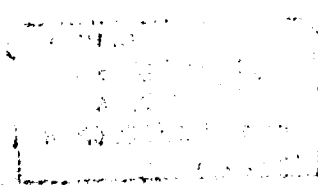
1484
1500

NORCANA RESOURCES LIMITED

Thomas Avelabel

⑈ 102020004106900771045⑈ ⑈00000618088⑈

For Deposit Only to
C. W. Archibald Ltd
Account No 148 660.4

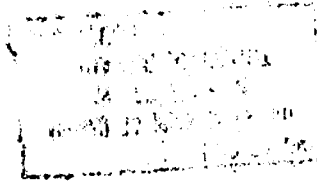


DEPOSITED TO THE CREDIT OF PAYEE
THE ROYAL CANADIAN MOUNTED POLICE
T. J. H. O. C.
ST. JOHN'S, NEW BRUNSWICK, CANADA
PROOF DEPT.

FOR THE DATE OF DEPOSITING
THIS CHECK TO THE CREDIT OF THE PAYEE

01 00 00 00 00 00
00 00 00 00 00 00

For Deposit Only to
C. W. Archibald Ltd
Account No. 148 660.4



DEPOSITED TO THE CREDIT OF PAYEE
THE ROYAL CANADIAN MOUNTED POLICE
T. J. H. O. C.
ST. JOHN'S, NEW BRUNSWICK, CANADA
PROOF DEPT.

01 00 00 00 00 00
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THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
65 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Nov 29 1983

PAY TO THE
ORDER OF

Some Soil Samples Inc.

\$ 4507⁸⁹

Tom Thomas, five hundred & seven

89 DOLLARS

#83-14

NORCANA RESOURCES LIMITED

Thomas Leibel *W. Cairn*

8" : 10202 004 : 0690 077 1045"

0000450789"

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
65 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Nov 29 1983

PAY TO THE
ORDER OF

C. W. Aclabald Ltd

\$ 15710⁶⁰

Thirteen thousand, seven hundred & ten

60 DOLLARS

Re # 1469
1468

NORCANA RESOURCES LIMITED

Thomas Leibel *W. Cairn*

8" : 10202 004 : 0690 077 1045"

0001371060"

For Deposit Only to
Sonic Soil Sampling Inc.
Account No. 278-665-5

DEPOSITED TO THE CREDIT OF PAYEE
THE ROYAL BANK OF CANADA
TORONTO, ONT.
PAY TO THE ORDER OF
ANY BANK OR BANKER
THE ROYAL BANK OF CANADA
20 KING ST. WEST, TORONTO, ONT.
PROOF DEPT.
DE 1937
TORONTO
TORONTO

10
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60
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80
90
100

For Deposit Only to
C. W. Archibald Ltd
Account No. 148-660-4

DEPOSITED TO THE CREDIT OF PAYEE
THE ROYAL BANK OF CANADA
TORONTO, ONT.
PAY TO THE ORDER OF
ANY BANK OR BANKER
THE ROYAL BANK OF CANADA
20 KING ST. WEST, TORONTO, ONT.
PROOF DEPT.
TORONTO
TORONTO

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100

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
55 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Oct 25 19*83*

PAY TO THE
ORDER OF

C. W. Archibald Ltd
Four thousand, six hundred & thirty-eight \$ *4638.68*
68 DOLLARS

NORCANA RESOURCES LIMITED

1460

Thomas Archibald

⑈ 102020004 069007710451 ⑈ 0000463868 ⑈

For Deposit Only to
C. N. Archibald Ltd
Account No. 148-660-4

DEPOSITED TO THE CREDIT OF PAYER
THE ROYAL BANK OF CANADA
TORONTO, ONT.
PAY TO THE ORDER OF
THE ROYAL BANK OF CANADA
20 KING ST. WEST TORONTO, ONT.
PRC
REPT.

ROYAL BANK

0221 6221

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
55 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Sept 8 1983

PAY TO THE
ORDER OF

C. W. Archibald (in Trust)
One thousand - five - hundred

\$ 1500^{XX}

DOLLARS

NORCANA RESOURCES LIMITED

Thomas Archibald

8 10 20 2 00 4 06 90 0 7 7 10 4 5 0000 150000

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
55 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Sept 23 1983

PAY TO THE
ORDER OF

C W Archibald
Trust - six

\$ 96⁷⁵

DOLLARS

NORCANA RESOURCES LIMITED

1443

Out Syde

Thomas Archibald

8 10 20 2 00 4 06 90 0 7 7 10 4 5 000000 96 75

For Deposit Only to
G. W. Archibald Ltd
Account No. 148.660.4

000 23835

DEPOSITED TO THE CREDIT OF PAYEE
THE ROYAL BANK OF CANADA
PAY TO MONTREAL
ANY BANK OR CREDIT INSTITUTION
THE ROYAL BANK OF CANADA
20 KING ST. WEST TORONTO, ONT.
SE 11 03 PROOF DEPT.

URGENT DOWNLINE
URGENT DATA CENTER
TORONTO, CANADA

73054106

73054106

For Deposit Only to
G. W. Archibald Ltd
Account No. 148.660.4

000 69406

SEP 23 1953
12-000

SEP 23 1953

SEP 23 1953

73054106

73054106

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
55 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Sept 23 19*83*

PAY TO THE
ORDER OF

C W Archibald Ltd

\$ *569⁰¹*

Five hundred & sixty-nine

04

DOLLARS

NORCANA RESOURCES LIMITED

Thomas Gellard

1453

8 10 20 2 00 4 0 0 6 9 0 0 7 7 1 0 4 5

0000056904

THE TORONTO-DOMINION BANK

TORONTO-DOMINION CENTRE BR.
55 KING ST. W., P.O. BOX 1
TORONTO, ONT. M5K 1A2

CURRENT
ACCOUNT

No. _____

Sept 23 19*83*

PAY TO THE
ORDER OF

C W Archibald Ltd

\$ *1354⁹⁵*

One thousand, three hundred & 54/100

95

DOLLARS

NORCANA RESOURCES LIMITED

Re Union Syndicate
Thomas Gellard

1424

8 10 20 2 00 4 0 0 6 9 0 0 7 7 1 0 4 5

0000135495



Ministry of
Natural
Resources

Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

Lands Admin *W630800369*
2.599



42A01NE0280 2.5995 GRENFELL

900

The Mini

C/W 2 579503

Type of Survey(s) BASAL TILL SURVEY	Township or Area GRENFELL TWP.
Claim Holder(s) ORCANA RESOURCES LIMITED	Prospector's Licence No. T - 1032
Address BOX 162, TORONTO-DOMINION CENTRE, TORONTO, ONTARIO. M5K 1H6	
Survey Company SONIC SOIL SAMPLING INC.	Date of Survey (from & to) 8 10 83 13 10 83 Day Mo. Yr. Day Mo. Yr.
Name and Address of Author (of Geo-Technical report) C.W. Archibald, #702-100 Adelaide St. West, TORONTO, Ont. M5H 1S3	

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	
	Geological	
	Geochemical	

Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
L	579503	20			
L	579504	20			
L	566639	20			
L	566640	20			
L	550941	40			
L	550942	40			
L	550943	40			
L	550944	38.7			
L	550945	20			
L	550946	20			
L	550957	20			
L	507527	32.6			
L	507528	56.7			

Expenditures (excludes power stripping)

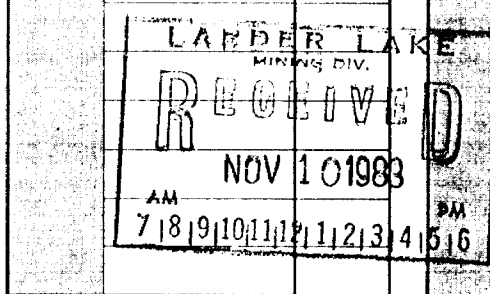
Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures	Total Days Credits
\$ 5,821.64	388

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.



Total number of mining claims covered by this report of work. **13 - 388.0**

Date **Nov. 7, 1983**

Recorded Holder or Agent (Signature) *C.W. Archibald*

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
388	NOV 10 1983	<i>[Signature]</i>

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying
Charles W. ARCHIBALD, 702-100 Adelaide St. West, TORONTO, Ont. M5H 1S3

Date Certified **Nov. 7, 1983**

Certified by (Signature) *C.W. Archibald*

Our File: 2.5995

February 11, 1984.

Orcana Resources Limited
Box 162
Toronto-Dominion Centre
Toronto, Ontario
M5K 1H6

Dear Sirs:

RE: Assaying submitted on Mining Claims L 507527 et al
in the Township of Grenfell.

We have not received receipts or cancelled cheques required in order to assess work performed on Mining Claims listed above. Please provide receipts verifying payment of the expenditure of \$5,821.64 for Assaying as soon as possible.

Yours very truly,

J. R. Morton
Acting Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3

Phone: 416(965-1380

M. E. Anderson:dg

cc: Mining Recorder
Kirkland Lake, Ontario.



Mining Lands Comments

Require receipts or cancelled cheques —

To: Geophysics

Comments

Approved Wish to see again with corrections Date Signature

To: Geology - Expenditures Mr. C. Kustra

Comments

Approved Wish to see again with corrections Date Jan/16/84 Signature C. Kustra

To: Geochemistry

Comments

LD

Approved Wish to see again with corrections Date Signature

To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1983 11 09

2.5995

Mr. George J. Koleszar
Mining Recorder
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

We have received data for Assaying submitted under Section 77(19) of the Mining Act R.S.O. 1980 for mining claims L 507527 et al in the Township of Grenfell.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed by you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-1380

A. Barr:mc

cc: Orcana Resources Limited
Box 162
Toronto-Dominion Centre
Toronto, Ontario
M5K 1H6

cc: C.W. Archibald
Suite 702
100 Adelaide Street West
Toronto, Ontario
M5H 1S3

Sonic Soil Sampling Inc.

702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Orcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
 M5K 1H6

Date **October 31, 1983**No. **83-14**

Period

Re: **Grenfell Twp. , Ontario, property**

Date	Description	Amount
Oct.	For Drill Rental and crew services -	
	from October 8th to 13th - 6 days @ \$600.00/day	\$3,600.00
	Mobilization and Demobilization -	
	from October 7th and 14th - 2 days @ \$250.00/day	500.00
	Room and Board for crew	407.89
	Total	\$4,507.89

RECEIVED

NOV 8 1983

MINING LANDS SECTION

COPY

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING

702-100 Adelaide St. W.

Toronto, Canada

M5H 1S3

To

Orcana Resources Limited
Suite 3512, Toronto-Dominion Bank Tower
P.O. Box 162, Toronto-Dominion Centre
Toronto, Ontario
M5K 1H6

Date October 31, 1983

No. 1468

Period

Re: Grenfell Township, Ontario

Date	Description	Amount
Oct.	Ministry of Natural Resources - abstracts	\$ 6.96
	Assayers (Ontario) Limited - assays (Inv's 2560 & 2553)	438.75
	Paragon Limited - prints - Inv.s 85628, 85962, 85963, 86798, 86799	36.54
	Telephone - L.D. Calls	4.58
	Xeroxing - copies	5.80
	Geological Survey - F.T. Archibald Inv. 83027	1,997.50
	For services rendered - AMEX - J.C. Archibald Inv. 348 C	300.00
	- C. W. Archibald Basal Till Report	575.00
	Total	\$3,365.13

RECEIVED

NOV 8 1983

MINING LANDS SECTION

COPY

Sonic Soil Sampling Inc.

702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Orcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
 M5K 1H6

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Copy

C. W. ARCHIBALD LTD.
CONSULTING MINING ENGINEERING

702-100 Adelaide St. W.
 Toronto, Canada
 M5H 1S3

To

Orcana Resources Limited
 Suite 3512, Toronto-Dominion Bank Tower
 P.O. Box 162, Toronto-Dominion Centre
 Toronto, Ontario
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	For services rendered - AMEX - J.C. Archibald Inv. 348 C	300.00
	- C. W. Archibald Basal Till Report	575.00
	Total	\$3,365.13

Copy

MAISONVILLE TWP. M-361

THE TOWNSHIP OF
OF
GRENFELL

DISTRICT OF
TIMISKAMING

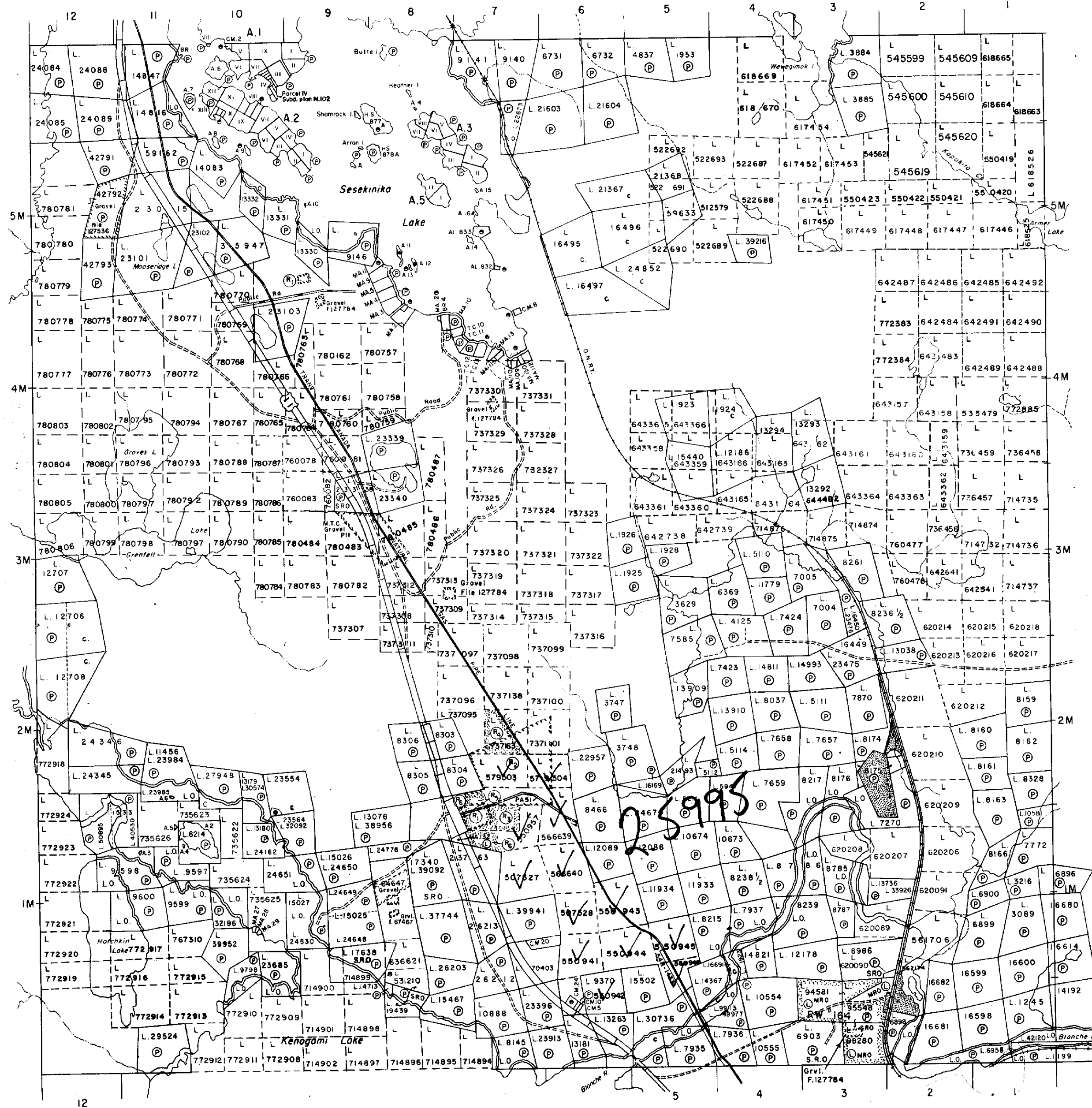
LARDER LAKE
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

BOMPAS TWP. M-330

TECK TWP. M-392

EBY TWP. M-345



LEGEND

- PATENTED LAND ● or P
- CROWN LAND SALE C.S.
- LEASES L
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES
- CANCELLED
- PATENTED S.R.O.

NOTES

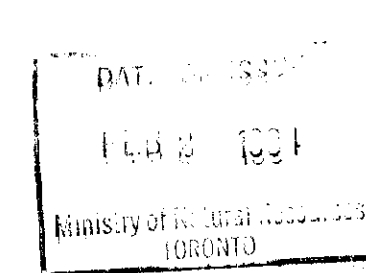
400' Surface rights reservation along the shores of all lakes and rivers.

Lands shown thus [shaded symbol] patented to O.N.Ry. O.C. dated Jan. 10, 1911.

Areas withdrawn from staking under Section 43 of the Mining Act, R.S.O. 1970 (Sec. 42, R.S.O. '60).

Order No.	File	Date	Disposition
(R1)	164586		S.R.O.
(R2)	27995		S.R.O.
(R3)	W.48/81	11/6/81	S.R.O.
(R4)	W.101/81	27/10/81	S.R. & M.R.
(R5)	W.102/81	6/11/81	M.R.O.
(R6)	W.103/81	6/11/81	S.R. & M.R.

All islands in Sesekinika Lake are withdrawn from staking by Order-in-Council dated Dec. 7, 1921.

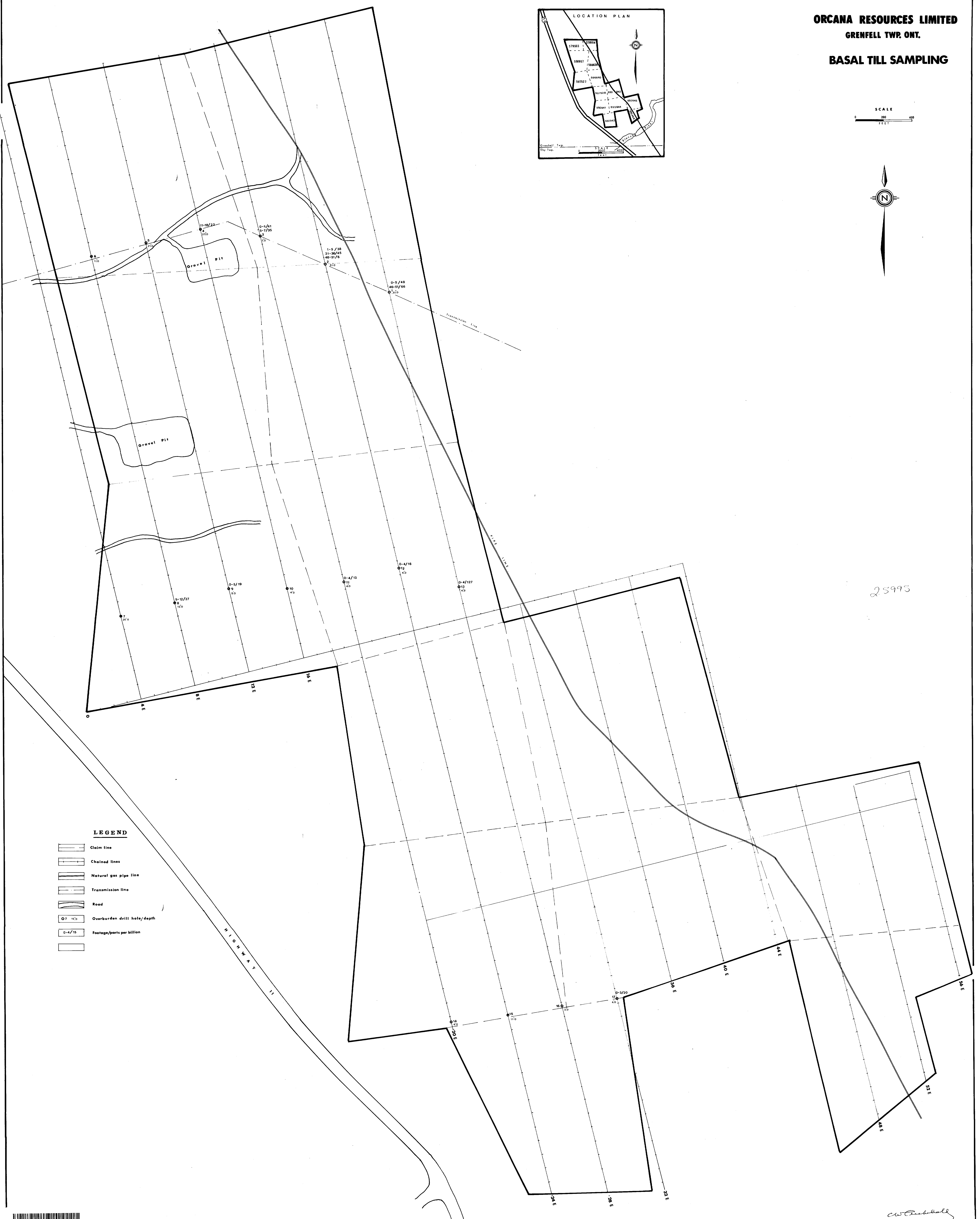
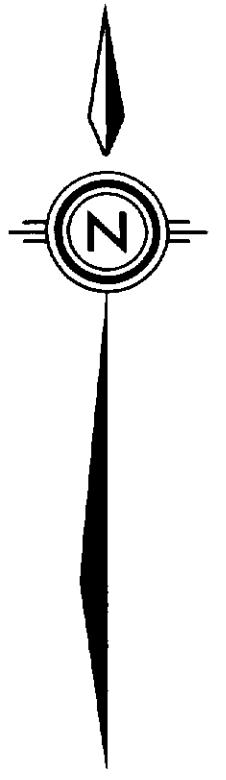
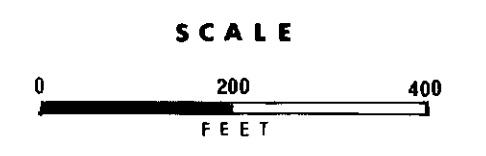
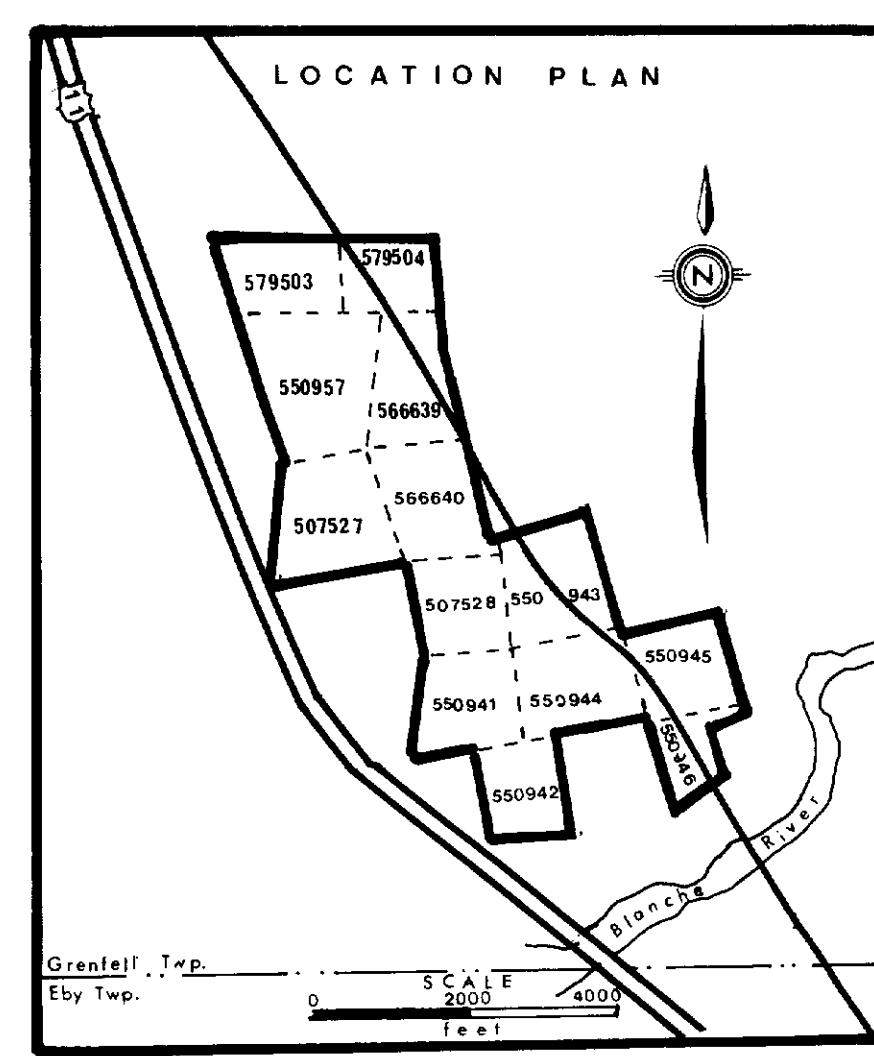


PLAN NO. **M-351**

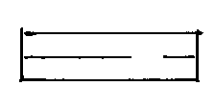
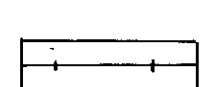
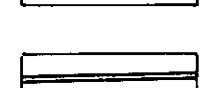
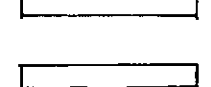
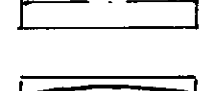
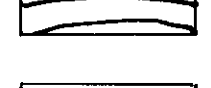
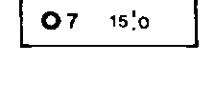
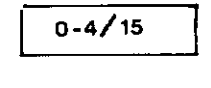
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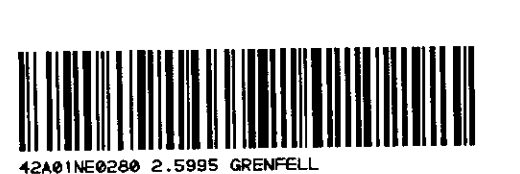


BASAL TILL SAMPLING



LEGEND

-  Claim line
-  Chained lines
-  Natural gas pipe line
-  Transmission line
-  Road
-  Overburden drill hole/depth
-  Footage/parts per billion
- 



W. R. ...