



31L11SE0004 12 ANTOINE

010

Diamond Drilling

Township of ANTOINE

Report NO: 12

Work performed by: Arrowhead Silica Corporation

Claim NO	Hole NO	Footage	Date	Note
T 56638	CE-1	205.0'		(1)
S 323927	CE-2	105.0'		(1)
	CE-3	200.0'		(1)
	CE-4	204.0'		(1)
	CE-5	101.0'		(1)
S 323928	CD-6	201.0'		(1)

Notes:

(1) #42-74

DIAMOND DRILL HOLE DATA

ARROWHEAD SILICA CORP. - GROUNDWATER PROPERTY

ANTOINE XXXXXXXXXX TOWNSHIP - ONTARIO

DDH. NO.	AZIMUTH	DIP	DEPTH	ELEVATION CORRECT	NORTHING	EASTING
CE-1	318°	-48°	205'.0	1053.9	20,781.61 N	20,078.37 E
CE-2	-	-90°	105'.0	1076.3	20,676.12 N	19,876.30 E
CE-3	132°	-43°	200'.0	1105.3	20,860.06 N	19,598.87 E
CE-4	91°	-46°	204'.0	1097.8	20,828.20 N	19,329.39 E
CE-5	90°	-47°	101'.0	1073.4	20,859.67 N	19,072.48 E
CE-6	102°	-47°	201'.0	1076.9	21,564.06 N	19,179.67 E
1-73	125°	-45°	100'.0	1100.3	20,942.57 N	19,852.26 E
2-73	125°	-45°	200'.0	1122.1	21,070.38 N	19,660.74 E
3-73	125°	-45°	197'.5	1112.3	20,698.11 N	19,455.82 E
4-73	125°	-45°	224'.0	1126.4	20,977.72 N	19,437.43 E
5-73	-	-90°	100'.2	1129.6	21,109.06 N	19,934.69 E
5A-73	125°	-45°	100'.0	1129.3	21,105.88 N	19,939.46 E
6-73	125°	-45°	104'.0	1106.5	20,808.56 N	19,965.80 E
6A-73	-	-90°	50'.5	1106.5	20,810.13 N	19,963.62 E
7-73	125°	-45°	327'.5	1109.7	18,607.34 N	18,101.56 E
8-73	125°	-45°	355'.3	1097.4	18,783.73 N	18,154.94 E
9-73	-	-90°	219'.2	1098.7	18,604.86 N	18,311.86 E
10-73	-	-90°	434'.2	-	-	-
11-73	-	-90°	60'.0	1050.7	19,107.28 N	17,155.93 E
12-73	-	-90°	51'.0	1048.7	19,137.54 N	17,118.24 E
13-73	-	-90°	52'.0	1060.0	19,157.61 N	17,183.47 E

APPENDIX I

KYANITE ANALYSES OF CROCAN LAKE DIAMOND DRILL HOLES AND SURFACE GRID SAMPLES

Method

1. Crushing of 500gm. minimum sample.
2. Pulvering so that all of sample passes 35 mesh.
3. 200 gm. split wet-sieved on 200 mesh to deslime.
4. -35m. + 200m. dried sample split to 20gm.
5. 20gm. split centrifuged for 10 min. in ethylene tetrabromide.
6. Floats are quartz, feldspar and muscovite (weighed).
7. Sinks are kyanite, biotite and garnet.
8. Biotite and garnet extracted electromagnetically in Frantz isodynamic separator and weighed separately.
9. Non-magnetic sinks are kyanite with only a few exceptions.

Drill Hole #1

CE #1

0 - 205 feet in hornblende gneiss with minor epidotized faulting at 190 - 195 feet. Proves depth limitation of kyanite gneiss at eastern edge of body.

D.D.H.#2
CE# 2

<u>Sample No.</u>		<u>% Kyanite⁺</u>	<u>Sheet No.⁺⁺</u>	<u>Comments</u>
<u>Core</u>	<u>Feet</u>			
Box#1	15 $\frac{1}{2}$ -20	9.54	5	Broken Kyanite
"	22-25	13.54	5	Garnet Gneiss.
"	25-30	9.37	5	Muscovite rich.
Box#2	30-35	16.90	5	Homogeneous
"	35-40	17.17	5	core
"	40-43	14.14	5	
Box#3	43-44	3.63	5	Garnet Kyanite Gneiss
"	44-45	2.97	5	Blocky
"	45-50*	--	5	
"	50-54*	--	5	
"	54-58*	.75	5	
Box#4	58-63**	3.30	5	
"	63-68**	3.27	5	
"	68-72**	.35	5	
Box#5	72-73**	2.60	5	
"	73-74**	2.04	5	
"	74-77**	1.42	5	
	77-105	Hornblende Gneiss		

+ Actually WT.% non magnetic heavy minerals and in most cases is WT.% Kyanite in the Kyanite Gneisses.
 ++ Laboratory Record Number - contains weights & calculations.
 * Quartzite.
 ** Hornblende Gneiss.

D.D.H.#3

CE#2

<u>Sample No.</u>	<u>% Kyanite</u>	<u>Sheet No.</u>	<u>Comments</u>
Box#1 8-13	15.94	1	Greenish
" 13-18	22.33	1	Kyanite
" 18-22	?	1	Gneiss
Box#2 22-27	12.98	1	with red
" 27-32	30.53	1	hematite patches.
" 32-36	23.23	1	
Box#3 36-41	17.37	1	
" 41-45	32.86	1	Garnet rich.
" 45-49 $\frac{1}{2}$	18.38	1	Foliation 70 ^o
Box#4 51-55		9	to D.A.
" 55-60		9	Red stained
" 60-64	18.90	9	garnets.
Box#5 64-69	27.98	9	Well banded Gneiss
" 69-74	?	9	with Quartz layer
" 74-78 $\frac{1}{2}$	21.18	9	
Box#6 79-84	?	9	Kyanite rich.
" 84-89	19.73	9	
" 89-94	?	9	
Box#7 94-100	11.52	9	Mauve Gneiss
" 100-102	?	9	
" 102-107	13.43	9	
Box#8 110-120	-	9	fault breccia
" 120-200	-		granite gneiss

D.D.II.#4

CE#4

<u>Sample No.</u>	<u>% Kyanite</u>	<u>WT.% Al₂O₃</u>	<u>Sheet No.</u>	<u>Comments</u>
Box#1 9-14	12.02	50.2	9	Grey Kyanite
" 14-19	13.38	59.7	9	garnet gneiss
" 19-24	17.24	59.6	9	with muscovite.
Box#2 24-29	14.96	57.8	9	Foliation 70°
" 29-34	15.13	52.3	9	Homogeneous cor
" 34-39	14.92	58.2	9	
Box#3 39-44	25.15	55.6	9	Quartz bands.
" 44-48	18.86	56.0	9	
" 48-51 $\frac{1}{2}$	16.46	56.2	9	Pyrite and
Box#4 51 $\frac{1}{2}$ -56 $\frac{1}{2}$	17.92	58.8	9	Hematite bands.
" 56 $\frac{1}{2}$ -61 $\frac{1}{2}$	14.32	58.7	9	
" 61 $\frac{1}{2}$ -66 $\frac{1}{2}$	20.33	59.1	9	Coarse Kyanite.
Box#5 66 $\frac{1}{2}$ -71	21.44	57.4	9	Garnetiferous
" 71-76	16.91	58.7	9	
" 76-81	14.02	55.8	9	
Box#6 81-86	21.12	59.6	D	Reddish Quartz
" 86-91	25.10	58.2	F	
" 91-95	22.04	60.2	E	
Box#7 95-100	18.54	59.8	F	No Quartz
" 100-105	8.14	55.4	F	
" 105-110	10.14	52.2	D	
Box#8 110-115	27.03	60.7	D	Very course
" 115-120	24.08	59.1	E	Kyanite little
" 120-125	20.45	53.0	D	Muscovite.

D.D.H.#4 (cont.)

CE#4

<u>Sample No.</u>	<u>% Kyanite</u>	<u>WT.% Al₂O₃</u>	<u>Sheet No.</u>	<u>Comments</u>
Box#9 125-130	18.51	59.8	F	
" 130-134	17.30	58.2	F	
" 134-138	19.07	59.4	E	
Box#10 138-143	16.12	58.4	F	Hematite
" 143-148	?	59.3		stain in
" 148-153	17.94	59.6	D	bands.
Box#11 153-158	13.86	54.2	D	Hematite
" 158-163	17.15	56.1	F	disappeared.
" 163-168	17.80	55.1	D	
Box#12 168-173	12.30	57.5	F	
" 173-178	15.60	59.8	B	
" 178-184	18.20	57.2	D	
Box#13 184-187	16.90	58.8	D	Quartz bands.
" 187-192	24.01	59.4	E	
" 192-197	?	52.8		
Box#14 197-204	16.80	53.8	F	Little muscovite.

D.D.H.#5

CE#5

<u>Sample No.</u>	<u>% Kyanite</u>	<u>Sheet No.</u>	<u>Comments</u>
Box#1 4-9	15.41	F	Acicular kyanite*
" 9-14	19.75	D	Foliation 70°
" 14-19	20.93	D	to D.A.
Box#2 19-26	19.55	E	
" 26-30	10.25	D	Fault breccia.
" 30-34	?		
Box#3 34-39	?	G	
" 39-44	23.37	E	Normal kyanite
" 44-49	21.52	D	Gneiss.
Box#4 49-53	13.91	D	
" 53-59	12.27	D	Brecciated &
" 59-64	?		weathered.
Box#5 64-67	21.38	F	Fresh homo-
" 67-74	21.08	E	geneous core.
" 74-79	20.16	D	
Box#6 79-84	19.48	E	Some quartz bands.
" 84-89	18.07	D	
" 89-94	17.11	D	Mauve with
Box#7 94-97	15.98	F	muscovite.
" 97-101	11.87	E	

D.D.H.#6

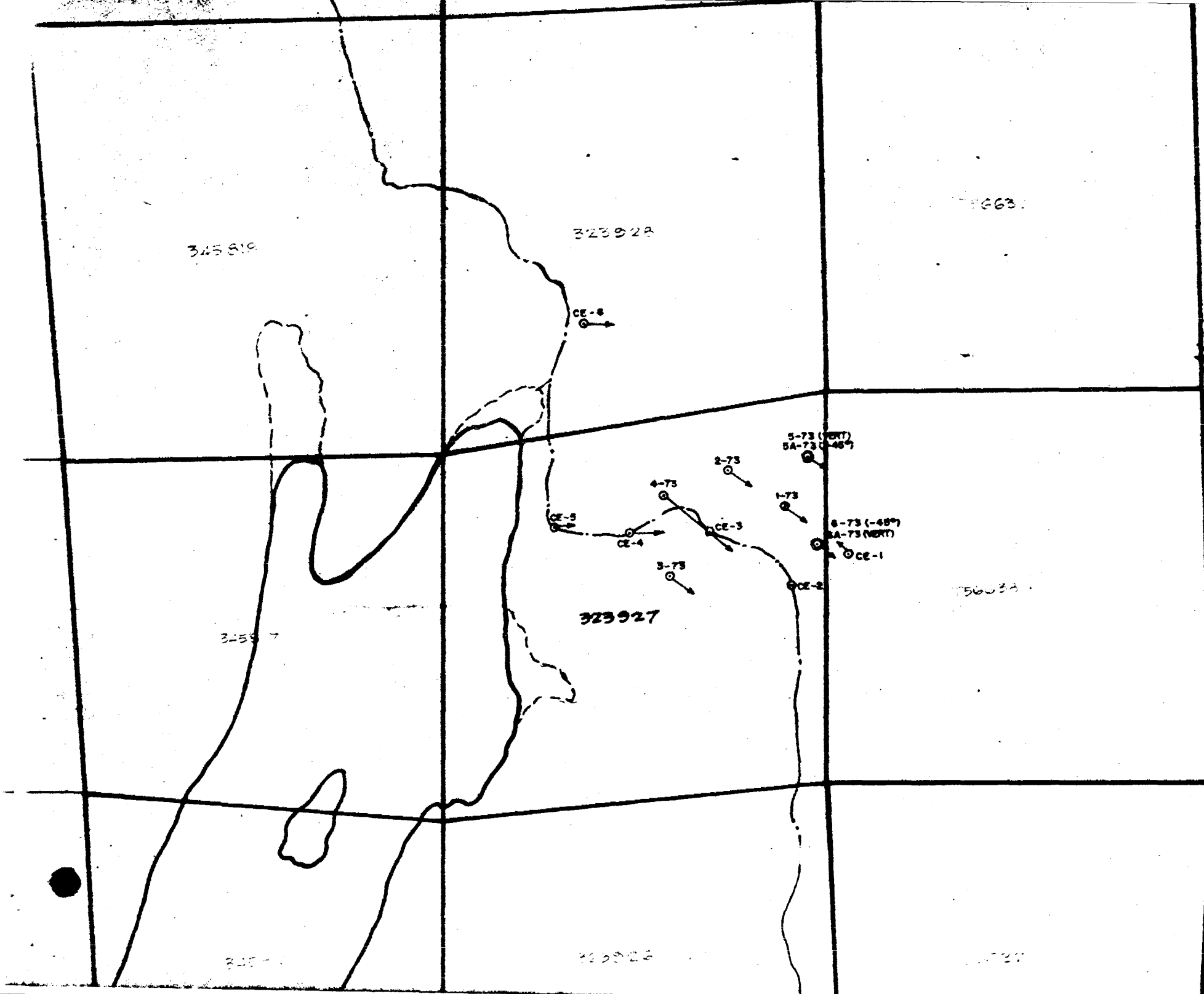
CE #6

<u>Sample No.</u>	<u>% Kyanite</u>	<u>Sheet No.</u>	<u>Comments</u>
Box#1 9-13	1.40	E	Sulfide Quartzite.
" 13-18	15.89	F	Amphibolite with
" 18-23	8.42	D	Pyrite.
Box#2 23-28	12.91	E	
" 28-33	10.66	F	
" 33-38	12.52	E	
Box#3 38-43	13.43	B	"
" 43-49	9.03	E	Fault Breccia.
" 49-53	12.80	B	
Box#4 53-58	12.17	F	Kyanite Gneiss
" 58-63	11.63	F	muscovite rich.
" 63-68	15.83	F	
Box#5 68-73			Greenish
" 73-78	15.07	F	muscovite rich.
" 78-83	11.77	B	
Box#6 83-88	17.81	D	
" 88-93	13.54	E	
" 93-97	19.43	E	Quartz bands.
Box#7 97-102	17.80	B	
" 102-107	17.91	D	
" 107-112	20.87	B	Foliation 70°
Box#8 112-117	24.85	B	to D.A.
" 117-121			
" 121-125	19.15	F	No muscovite.

D.D.H. (cont)

CE#6

<u>Sample No.</u>	<u>% Kyanite</u>	<u>Sheet No.</u>	<u>Comments</u>
Box#9 125-130	22.67	E	
" 130-135	18.71	B	
" 135-140	17.96	B	
Box#10 140-145	19.88	B	Strong gneissic
" 145-150	13.70	B	texture.
" 150-155	11.74	B	
Box#11 155-160	17.10	B	
" 160-165	17.93	B	Homogeneous
" 165-169	15.29	B	
Box#12 169-174	17.30	B	Abundant quartz
" 174-178	15.60	B	bands.
" 178-184	16.60	B	
Box#13 184-189	18.36	B	
" 189-194	12.60	E	Acicular kyanite.
" 194-199	18.27	F	
Box#14 199-201	13.88	D	



325819

323928

663

CE-6

5-73 (VERT)
5A-73 (-48°)

2-73

4-73

1-73

6-73 (-48°)
6A-73 (VERT)

CE-5

CE-4

CE-3

CE-1

3-73

CE-2

50033

325927

325817

325817

325922

721

Handwritten scribbles



31L11SE004 12 ANTOINE

900

Eddy Twp.-M. 77

OF

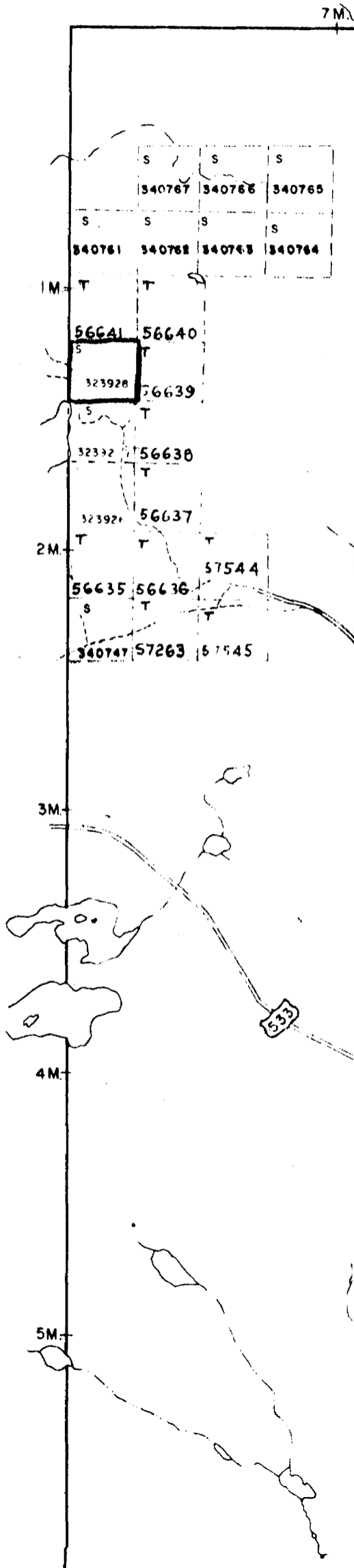
ANTOINE

DISTRICT OF
NIPISSING

SUDBURY
MINING DIVISION

SCALE : 1-INCH = 40 CHAINS

Butler Twp.-M. 693



LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	— — — — —
IMPROVED ROADS	— — — — —
KINGS HIGHWAYS	— — — — —
RAILWAYS	— — — — —
POWER LINES	— — — — —
MARSH OR MUSKEG	⊕ ⊕ ⊕
MINES	ⓧ
CANCELLED	C.

NOTES

400' Surface rights Reservation around all Lakes and Rivers.

La Cave and Fournau Development.
 Water Power Lease Agreement No. 25.
 All the unalienated part of the bed of the Ottawa River (Ontario side) in the Township of Antoine, including unalienated islands therein, together with the right to raise the water level and flood Crown Land up to elevation 588 feet above mean sea level, Geodetic survey of Canada Datum.