



31L11SE0050 11 ANTOINE

010

Diamond Drilling

Township of Antoine

Report NO: 11

Work performed by: Arrowhead Silica Corp.

Claim NO	Hole NO	Footage	Date	Note
S 323927	1-73	100'	July/73	(1)
	2-73	200'	July/73	(1)
	3-73	197.5'	July/73	(1)
	4-73	224.2'	July/73	(1)
	5-73	100.2'	July/73	(1)
	5A-73	100'	July/73	(1)
	6-73	104'	July/73	(1)
	6A-73	50.5'	July/73	(1)

Notes:

(1) 72/73

72/73
Antoine

DIAMOND DRILL LOG

COMPANY ARROLLEAD SILICA CORP. Page # 1 of 3

PROPERTY Crocan Lake ~~XXXXX~~ # 323927

PURPOSE OF HOLE _____
CLAIM

Start July 15/73 Hole 1-73 Az. 125° Dip -45°

Finish July 16/73 Lat. 20,942.57 N Dep. 19,852.26 E El. 1100.3

Tests _____ BQ Core Length 100'

Footage		Description	Sample No.	Assays.	
From	To				
0	7	BQ Casing			
7	50.2	Garnetiferous biotite gneiss with considerable blady kyanite. Details follow.			
7	17	80°-30° to core axis with 1" quartz stringers at 13.3 and 15'			
17	21.3	30°-60° to core axis with 1/2" quartz stringer at 17.9 N.B. 20-21.3 fine grained, abundant biotite, 20° to core axis			
21.3	31.3	70° to core axis with two 1/2" quartz stringers 25-25.3 carrying garnets to 1/2" diameter. KY (Blades to 1/2")			
31.3	42.2	70-40° to core axis (C.A.) Core shattered at 32.5 (fault?) 1/2" fault gouge 50° to C.A. at 33.8 Core shattered 35.6-37(fault?) Two 1/2" quartz stringers at 40. KY (Blades to 1/2")			
42.2	44.2	20° to C.A. intensely sericitic core shattered (fault?)			

SUDBURY
MINING DIV.
RECEIVED
SEP 17 1973
A.M. P.M.
7 8 9 10 11 12 1 2 3 4 5 6

DRILLED BY: Canadian Longyear North Bay, Ontario

LOGGED BY: *RMBlaus*

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 2 of 3
 PROPERTY Crocan Lake ~~XXXXX~~ # 323927
 Claim

PURPOSE OF HOLE _____

Start July 15/73 Hole 1-73 Az. 125° Dip -45°
 Finish July 16/73 Lat. 20,942.57 N Dep. 19,852.26 E El. 1100.3
 Tests _____ BQ Core Length 100'

Footage		Description	Sample No.	Assays.
From	To			
44.2	47.0	20° to C.A. 1/2" quartz stringer at 45'		
47.0	48.5	Quartz-glassy, broken, attitude unknown, possibly 20° to C.A. No KY		
48.5	50.2	35° to C.A. 1" Quartz stringer at 48.7		
50.2	54.4	80% quartz-intensely siliceous section of the gneiss 25-35° to C.A. Sericitic. Local minor garnets.		
54.4	55	Garnetiferous biotite gneiss -highly siliceous, consid. sericite, 40° to C.A. Minor fine KY.		
55	56.5	80% quartz as 50.2-54.4 with several fault planes. Hole caving and 1/2" fault gouge at 55.6 Core shattered.		
56.5	60	Garnetiferous biotite gneiss -45° to C.A. 57.9-58.2 80% quartz		
60	100	Biotite gneiss-65° to C.A. Numerous conformable quartz & feldspar stringers. Traces of chalcopyrite at 63 and 63.7 also 74-75 (less than 1% CU)		

SUBDUY
RECEIVED
SEP 17 1973
A.M. P.M.
7,8,9,10,11,12,13,14,15,16

Canadian Longyear
 DRILLED BY: North Bay, Ontario LOGGED BY: AmBlau

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 1 of 2
 PROPERTY Crocan Lake ~~XXXXX~~ # 323927
 Claim

PURPOSE OF HOLE _____

Start July 17/73 Hole 2-73 Az. 125° Dip -45°
 Finish July 19/73 Lat. 21,070.38 N Dep. 19,660.74 E El. 1122.1

Tests BQ Core Length 200'

Footage		Description	Sample No.	Assays.	
From	To				
0	4	BQ Casing			
4	141	Garnetiferous biotite gneiss with considerable blady Kyanite. Details follow			
4	14	80° to core axis (C.A.) numerous garnets to 1/2" diameter. 12.2-12.3 quartz stringer			
14	24	as above.			
24	34	as above. 20° fault slip at 26' 1" siliceous section at 27.3			
34	44	as above. 8 1/2" quartz stringers from 34.6-36.3			
44	54	as above.			
54	64	as above. Strong fault at 56'. Core haematized and shattered.			
64	74	as above. 73.6-74 strong fault zone -intensely sericitic and haematized.			

SEP 17 1973

DRILLED BY: Canadian Longyear North Bay, Ontario LOGGED BY: Rm Blais

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP.

Page # 2 of 2

PROPERTY Crocan Lake

XXXX # 323927

Claim

PURPOSE OF HOLE _____

Start July 17/73

Hole 2-73

Az. 125° Dip -45°

Finish July 19/73

Lat. 21,070.38 N

Dep. 19,660.74 E El. 1122.1

Tests _____

Core _____

Length 200'

Footage		Description	Sample No.	Assays.	
From	To				
74	84	as above. 1" quartz stringer 81.3			
84	94	as above.			
94	104	as above. 1/2" quartz stringers at 96.9 and 98.6			
104	114	as above. 1" quartz stringer at 104. 1/2" quartz stringer at 106.7			
114	124	as above. N.B. 118.5-119.6 numerous 1/2" garnets in chlorite ground mass (less than 1% KY)			
124	130.5	as above.			
130.5	134.2	Highly siliceous 80% quartz, 80° to C.A.			
134.2	135	as 124-130.5			
135	137.4	as 130.5-134.5			
137.4	141	as 124-130.5			
141	200	Biotite gneiss 80-90° to C.A. Local minor KY to 143. Occasional conformable quartz feldspar bands to 1". End of hole 200' N.B. Orientation of gneissosity very consistent throughout the hole.			

SEP 17 1973

Canadian Longyear

DRILLED BY: North Bay, Ontario

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DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 1 of 4

PROPERTY Crocan Lake ~~XXXXX~~ ~~XXXXX~~ # 323927

Claim

PURPOSE OF HOLE _____

Start July 20/73 Hole 3-73 Az. 125° Dip -45°

Finish July 21/73 Lat. 20,698.11 N Dep. 19,455.82 E El. 1112.3

Tests _____ BQ Core Length 197.5'

Footage		Description	Sample No.	Assays.
From	To			
0	7	BQ Casing		
7	185	Garnetiferous biotite gneiss with considerable kyanite- Details follow.		
7	17	70-90° to core axis (C.A.) 1" lensy quartz blebs at 8, 8.2, 10.0, 12.7, 15.1, 15.3 and 15.7-16.0		
17	27	70° to C.A. 1" quartz at 17.1 strong haematized fault slips 19-20.5 and 22.1-22.5 Fault angles 10° to 40° to C.A. N.B. 19-22.5 is highly sericitic and haematized throughout.		
27	37	70° to C.A. Very uniform		
37	47	80° to C.A.		
47	57	80-90° to C.A. 47.4-48.2 70° quartz 54.5-54.8 quartz 80° to C.A. N.B. 3" each side of this stringer is a concentration of coarse blady kyanite		

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DRILLED BY: Canadian Longyear
North Bay, Ontario

LOGGED BY: Rm Blair

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 2 of 4
 PROPERTY Crocan Lake N.E.S. # 323927
 Claim

PURPOSE OF HOLE _____

Start July 20/73 Hole 3-73 Az. 125° Dip -45°
 Finish July 21/73 Lat. 20,698.11 N Dep. 19,455.82 E El. 1112.3
 Tests BQ Core Length 197.5'

Footage		Description	Sample No.	Assays.
From	To			
		At 56.3 haematized fault slip 40° to C.A.		
57	67	80° to C.A. 3" lensy quartz at 61.2 and 66.9		
67	77	80° to C.A. Lensy quartz 68.3 -68.4, 72.8-73.1, 74.9-75.1, 80° quartz 66.5-67 with some coarse blady KY.		
77	87	80° to C.A. 80% quartz 67-67.7 with some coarse blady KY. N.B. Quartz stringers 80.4- 80.6 81.7-81.8 82.1-82.4		
87	97	80° to C.A. Blebbly quartz 88.3-88.5 92.2-92.3 94.6-94.7 95.8-96.6		
97	107	80° to C.A. Lensy quartz 98.5-98.6 98.8-98.9 99.3-99.4 103.6-103.8 (Trace Pyrite at 99.2) N.B. Coarse KY at 99-99.4		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> SEP 17 1973 </div>
107	117	80° to C.A. Quartz stringers 108.5-108.7 114.5-114.6 1/2" stringers at 115.3 & 115.5		

DRILLED BY: Canadian Longyear LOGGED BY: AmBlair
North Bay, Ontario

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 3 of 4

PROPERTY Crocan Lake ~~XXXXX~~ # 323927

Claim

PURPOSE OF HOLE _____

Start July 20/73 Hole 3-73 Az. 125° Dip -45°

Finish July 21/73 Lat. 20,698.11 N Dep. 19,455.82 E El. 1112.3

Tests BQ Core Length 197.5'

Footage		Description	Sample No.	Assays.	
From	To				
117	127	80° to C.A. Quartz stringers 125.8-125.9			
127	137	80° to C.A. Quartz stringers 1/4" at 128.6 1/4" at 130.0 1/4" at 131.5 Traces chalcopyrite at 130.8 Quartz str. 1/4" at 136.2			
137	147	80° to C.A. Quartz stringers 139.4-139.5			
147	157	80° to C.A.			
157	167	80° to 70° to C.A. Quartz stringers 158.9-159 162.4-162.5 1/4" at 165 166.4-166.5 Smaller crystals than before.			
167	177	70° to C.A. Intense fault shear at 176.2-177.5, highly sericitic, minor KY N.B. 169.8-170.8 abundant garnets to 1/4" in chlorite groundmass.			
177	185	50° to C.A. Quartz stringers 177.6-177.7 179-179.1 Highly sericitic. Fine KY crystals.			
185	187	Sericitized biotite gneiss, minor garnets, core shattered Canadian Longyear North Bay, Ontario			

SEP 17 1973

DRILLED BY: _____ LOGGED BY: AmBlair

DIAMOND DRILL LOG

COMPANY ARRO HEAD SILICA CORP. Page # 1 of 3

PROPERTY Crocan ~~XXXXX~~ # 323927

PURPOSE OF HOLE _____ Claim

Start July 23/73 Hole 4-73 Az. 125° Dip -45°

Finish July 24/73 Lat. 20,977.72 N Dep. 19,437.43 E El. 1126.4

Tests _____ BQ Core Length 224.2'

Footage		Description	Sample No.	Assays.
From	To			
0	5	BQ Casing		
5	221	Garnetiferous biotite gneiss with abundant kyanite throughout. Details follow.		
5	15	90° to core axis (C.A.) 1" lensy quartz bleb at 13.6		
15	25	90° to C.A. Strong haematized fault. 50° to C.A. at 22.1 Est. 12-15% KY		
25	35	90° to C.A. 1" Quartz blebs at 29.3-29.6 31.6-31.7 32.9-33.0 34.9-35.0		
35	45	90° to C.A. 1/2" Quartz stringers at 40.5. Quartz stringers 42.4-42.7 42.8-42.9 43.3-43.7		
45	55	90° to C.A. Blebby quartz 45.2-45.4 48.6-48.7		
55	65	90° to C.A. Weakly haematized 56-65		

SEP 17 1973

Canadian Longyear
North Bay, Ontario

DRILLED BY:

LOGGED BY:

Rm Blair

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 2 of 3

PROPERTY Crocan Lake ~~NxTxS~~ # 323927
Claim

PURPOSE OF HOLE _____

Start July 23/73 Hole 4-73 Az. 125° Dip -45°

Finish July 24/73 Lat. 20,977.72 N Dep. 19,437.43 E El. 1126.4

Tests _____ BQ Core Length 224.2'

Footage		Description	Sample No.	Assays.
From	To			
65	75	90°-80° to C.A. Blebby quartz 68.1-68.4 1" Qtz. stringers 68.7-69.1 ½" Qtz. stringers 71.5 ¼" Qtz. stringers 72.0 Intensely siliceous 73.6-74.0		
75	85	90° to C.A. Blebby quartz 75.8-75.9 76.2-76.3 78.4-78.5 Coarse blady KY 75.4-76.2 Strongly haematized & with fault slips at 83.2, 83.5, 84.0		
85	95	90° to C.A. ½" Quartz stringers at 87, 87.2, 88.2, 88.4		
95	105	80-90° to C.A. ¼" Qtz. stringer at 95.3		
105	115	80-90° to C.A. Sericitic fault zone 106.3-107.3		
115	125	80°-90° to C.A. Sericitic ½" Qtz stringer at 119.1 Quartz 122.4-122.6		
125	135	80-90° to C.A. Fault zone 132.1-132.3 80° to C.A. Quartz 133.1-134.1 Coarse blady KY 134-135		SEP 17 1973
135	145	80° to C.A. Quartz 135-135.8 Sericitic faults at 137.2, 138, 139.5 Canadian Longyear North Bay, Ontario		

DRILLED BY: _____ LOGGED BY: Rm Blais

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 3 of 3
 PROPERTY Crocan Lake ~~XXXXX~~ # 323927
 Claim

PURPOSE OF HOLE _____

Start July 23/73 Hole 4-73 Az. 125° Dip -45°
 Finish July 24/73 Lat. 20,977.72 N Dep. 19,437.43 E El. 1126.4
 Tests _____ BQ Core Length 224.2'

Footage		Description	Sample No.	Assays.
From	To			
145	155	90° to C.A. Haematized falut slips 150-150.6		
155	165	90° to C.A. KY crystals small- ler sericitic. Quartz bleb 163.4-163.5		
165	175	90° to C.A. Sericitic N.B. The garnets have de- creased in size.		
175	185	90° to C.A. Sericitic		
185	195	90° to C.A. fresher small KY crystals.		
195	206.7	90° to C.A. small KY crystals and garnets.		
206.7	218.1	90% quartz		
218.1	221	Biotite gneiss tiny garnets & Kyanite crystals 80° to C.A.		
221	224.2	Biotite gneiss 90° to C.A. Sparse tiny garnets, rare traces KY. 223-223.2 Feldspathic stringer.		
		End of hole 224.2		

SEP 17 1973

DRILLED BY: _____ LOGGED BY: Rm Blair
 Canadian Longyear
 North Bay, Ontario

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 1 of 2

PROPERTY Crocan Lake ~~XXXXX~~ # 323927

Claim

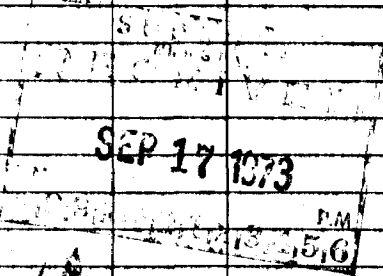
PURPOSE OF HOLE _____

Start July 25/73 Hole 5-73 Az. _____ Dip -90°

Finish July 26/73 Lat 21,109.06 N Dep. 19,934.69 E El. 1129.6

Tests _____ BQ Core Length 100.2

Footage		Description	Sample No.	Assays.
From	To			
0	2	BQ Casing		
2	79.5	Garnetiferous biotite gneiss with abundant kyanite through out. Details follow.		
2	12	80-90° to C.A.		
12	22	Contorted 80°? to C.A. Traces Pyrite at 16.7		
22	32	Contorted 80-30° to C.A.		
32	42	Contorted 30-55° to C.A. Quartz bleb 40-40.3		
42	51	Sericitic 60° to C.A.		
51	53.1	Intense fault seam 60° to C.A. Highly sericitic.		
53.1	63	60°-40° to C.A. Sericitic! 62.2-62.5 quartz stringer		
63	63.8	Fine grained, sericitic, 70° to C.A.		
63.8	67.9	70-50° to C.A.		
67.9	68.5	Coarse blebby garnets to 1" elongated in the chloritic shear. Traces of KY only.		
68.5	70.1	80° to C.A. Garnets to 1/2"		



 SEP 17 1973

Canadian Longyear
North Bay, Ontario

DRILLED BY: _____ LOGGED BY: Am Blas

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 1 of 2

PROPERTY Crocan Lake N.T.S. # 323927

Claim

PURPOSE OF HOLE _____

Start July 26/73 Hole 5A-73 Az. 125° Dip -45°

Finish July 27/73 Lat. 21,105.88 N Dep. 19,939.46 E El. 129.3

Tests BQ Core Length 100'

Footage		Description	Sample No.	Assays.
From	To			
0	7	BQ Casing		
7	92.9	Garnetiferous biotite gneiss with considerable kyanite. Details follow.		
7	17	60° to core axis (CA) 1/2" blebby quartz stringers at 9.5 and 9.7		
17	27	60-80° to C.A. 23.3-23.4 quartz 26.1 limonitic fault slip		
27	37	60-90° to C.A.		
37	47	70-90° to C.A. 1/2" quartz at 42' 1/2" quartz at 44.1		
47	57	70-90° to C.A. 47-47.2 80% ankerite 48.3-48.6 50% quartz Kyanite crystals smaller		
57	67	90° to C.A.		
67	77	70-90° to C.A. 68.3-68.4 quartz		
77	79.8	80° to C.A.		
77.2	77.3	quartz		
79.8	80.2	Highly siliceous Tr. Ky Canadian Longyear North Bay, Ontario		

SEP 17 1973

DRILLED BY: _____

LOGGED BY: _____

Am Blas

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP.

Page # 1 of 2

PROPERTY Crocan Lake

CLAIM # 323927
Claim

PURPOSE OF HOLE _____

Start July 28/73

Hole 6-73

Az. 125° Dip -45°

Finish July 28/73

Lat. 20,808,56 N

Dep. 19,965.80 E El. 1106.5

Tests _____

BQ Core Length 104'

Footage		Description	Sample No.	Assays.
From	To			
0	7	BQ Casing		
7	99.9	Garnetiferous biotite gneiss with considerable kyanite. Details follow.		
7	17	70° to core axis (CA) 1/4" Quartz stringer at 8.2 1/8" " " " 9.4 1/2" " " " 12.5 13.5-13.8 60% quartz 15.6-15.8 quartz 16.0-16.7 80% quartz trace pyrrhotite		
17	27	80° to C.A. 3/4 quartz at 14.9 coarse blady KY at 18'-20'		
27	37	80° to C.A.		
37	47	80° to C.A. 1/2" quartz at 38.7 40.2-40.4 quartz 1/2" Quartz at 43.1 1/2" Quartz at 43.9		
47	57	80° to C.A. limonitic fault seam at 55.5-56.2		
57	67	70° to C.A. limonitic fault slips from 57.5-60.5 63.3-63.6 Quartz/ankerite		
67	77	70° to C.A. 67.2-67.3 quartz 1/2" Quartz at 70.8		

SEP 17 1973
P.M.

DRILLED BY: Canadian Longyear North Bay, Ontario

LOGGED BY: RMB Blas

DIAMOND DRILL LOG

COMPANY ARROWHEAD SILICA CORP. Page # 2 of 2

PROPERTY Crocan Lake N.T.S. # 323927

Claim

PURPOSE OF HOLE _____

Start July 28/73 Hole 6-73 Az. 125° Dip -45°

Finish July 28/73 Lat. 20,808.56 N Dep. 19,965.80 E El. 1106.5

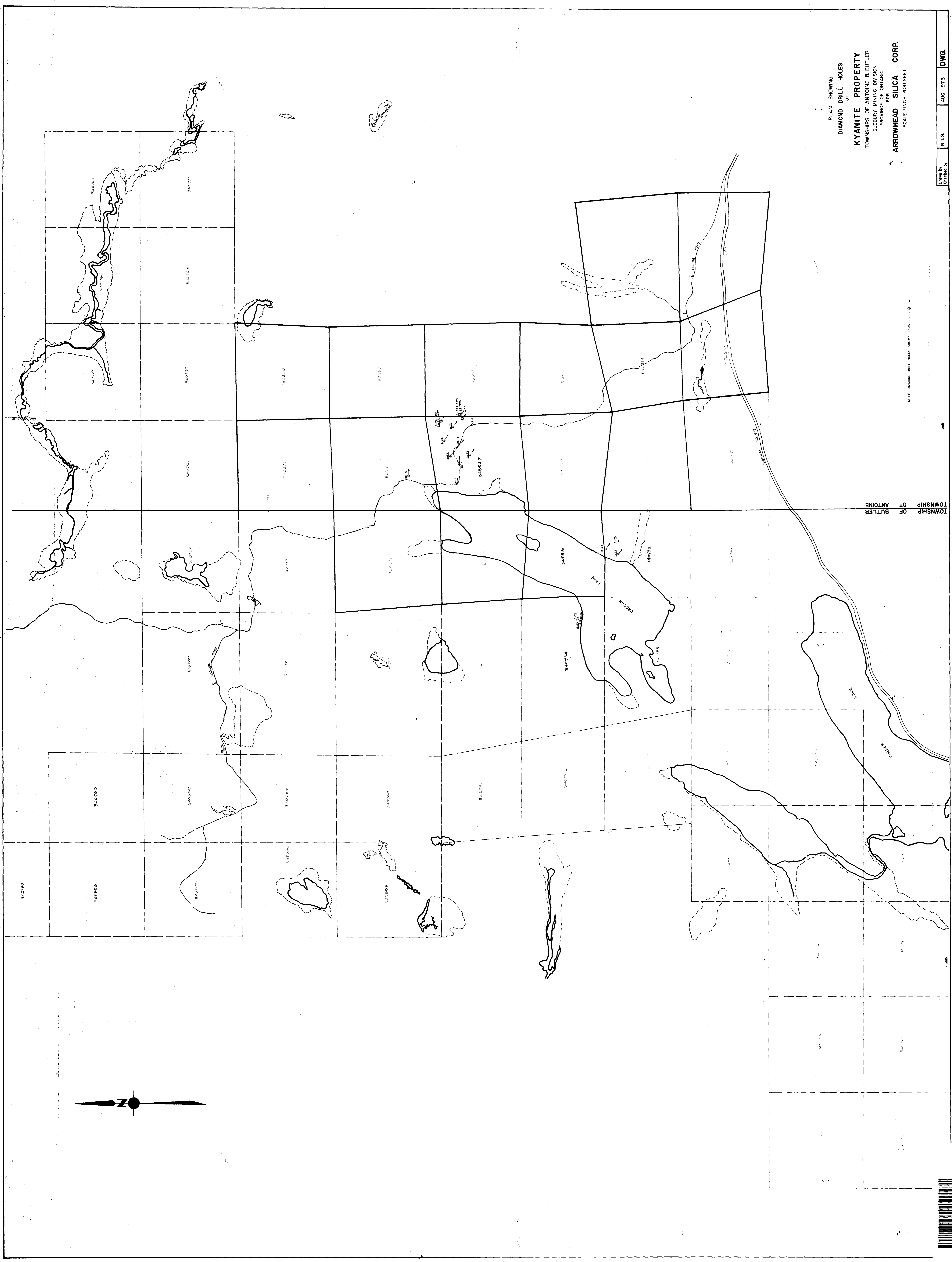
Tests BQ Core Length 104'

Footage		Description	Sample No.	Assays.	
From	To				
		1/2" quartz at 75.8			
		Limonitic fault slip at 76.5			
77	87	70° to C.A. 83.5-83.7 quartz			
87	90	70° to C.A. Limonitic fault slip at 90'			
90	92	60° to C.A. Very siliceous numerous 1/2" quartz stringers			
92	99.9	60° to C.A. sericitic very tiny KY crystals 97-99.9 numerous sericitic fault slips core shattered (97.3-98 quartz)			
99.9	101.7	Biotite gneiss-haematized, 60° to C.A. no Ky seen.			
101.7	104.0	Dyke-dark green chloritic fine Leucoxene throughout. Locally epidotized. No KY End of hole 104.0			

SEP 17 1973
10:15 AM

DRILLED BY: Canadian Longyear North Bay, Ontario

LOGGED BY: Am Blais



PLAN SHOWING
DIAMOND DRILL HOLES
OF
KYANITE PROPERTY
TOWNSHIPS OF ANTOINE & BUTLER
SUBSIDIARY MINING DIVISION
PROVINCE OF ONTARIO
FOR
ARROWHEAD SILICA CORP.
SCALE: 1 INCH = 400 FEET

Drawn by
Checked by
N.T.S.
AUG. 1973
DWG.
Arbitr. Ref. # 11
21173

TOWNSHIP OF BUTLER
TOWNSHIP OF ANTOINE

NOTE: DIAMOND DRILL HOLES SHOWN THIS WAY

