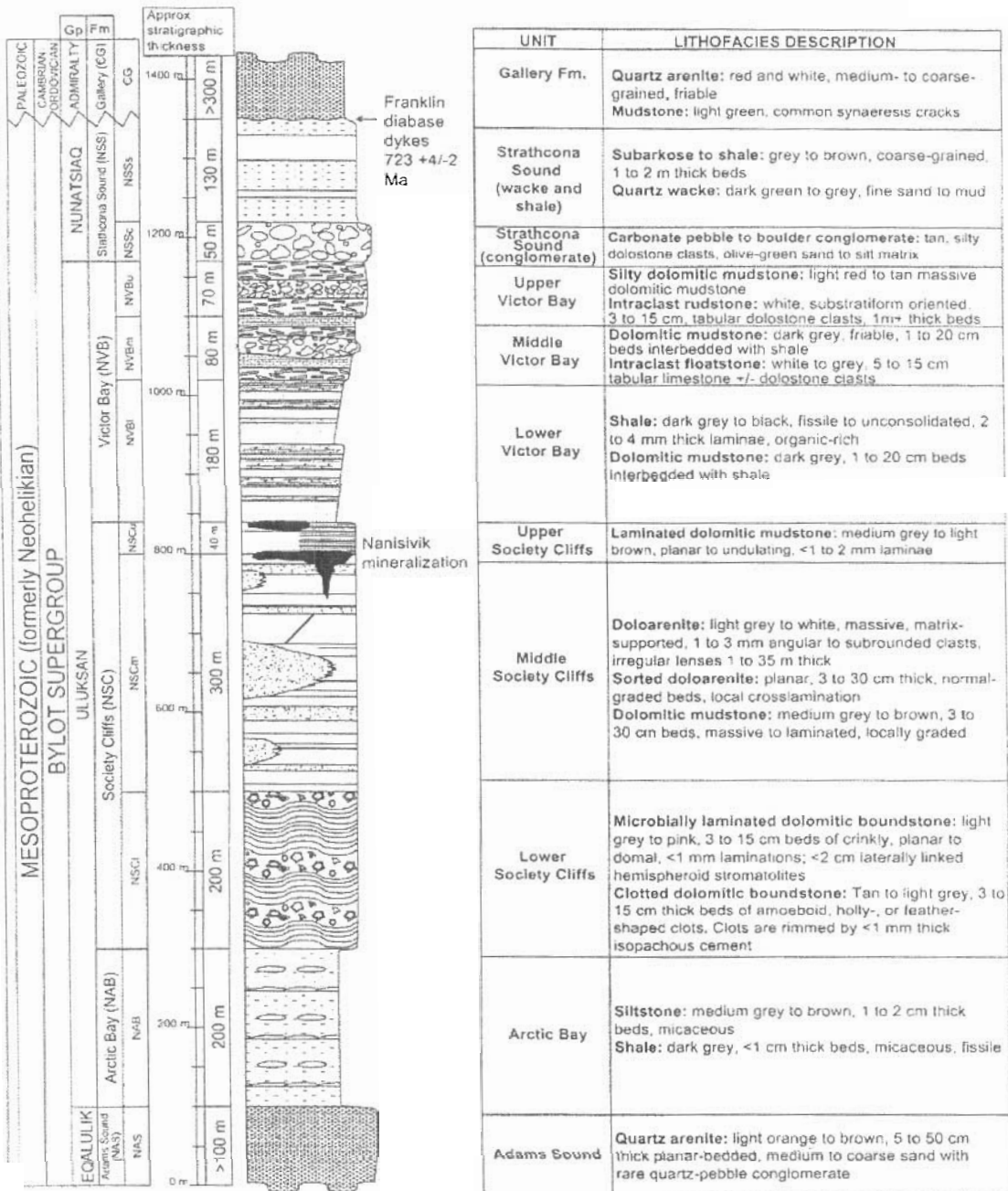


GENERALIZED STRATIGRAPHIC SECTION – NANISIVIK AREA



From: Patterson and Powis (2002)

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SCALE:	As Shown	DESIGNED:	MJM
DATE:	JAN 2004	CHECKED:	KFM
DRAWN:	SLF	APPROVED:	JWC

CLIENT:

NANISIVIK MINE, A DIVISION
OF CANZINCO LTD.

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY

BGC

Calgary, Alberta.

Phone: (403) 250-5185

PROJECT

QUARRY DEVELOPMENT
AND RECLAMATION PLAN

TITLE

NANISIVIK AREA
STRATIGRAPHIC COLUMN

PROJECT No.

0255-008-07

DWG. No.

4

REV.

0



View of the Mount Fuji Quarry location, looking towards the west.

DATE: JAN 2004	DRAWN	SLF	 BGC ENGINEERING INC. AN APPLIED EARTH SCIENCES COMPANY Calgary, Alberta Phone: (403) 250-5185	PROJECT	QUARRY DEVELOPMENT AND RECLAMATION PLAN	
REFERENCED DRAWING DESCRIPTION AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.				TITLE	MOUNT FUJI QUARRY PHOTO	
			CLIENT	NANISIVIK MINE, A DIVISION OF CANZINCO LTD.		PROJECT No. 0255-008-07

CLIENT: NANISIVIK MINE
A DIVISION OF CANZINCO LTD.

LEGEND



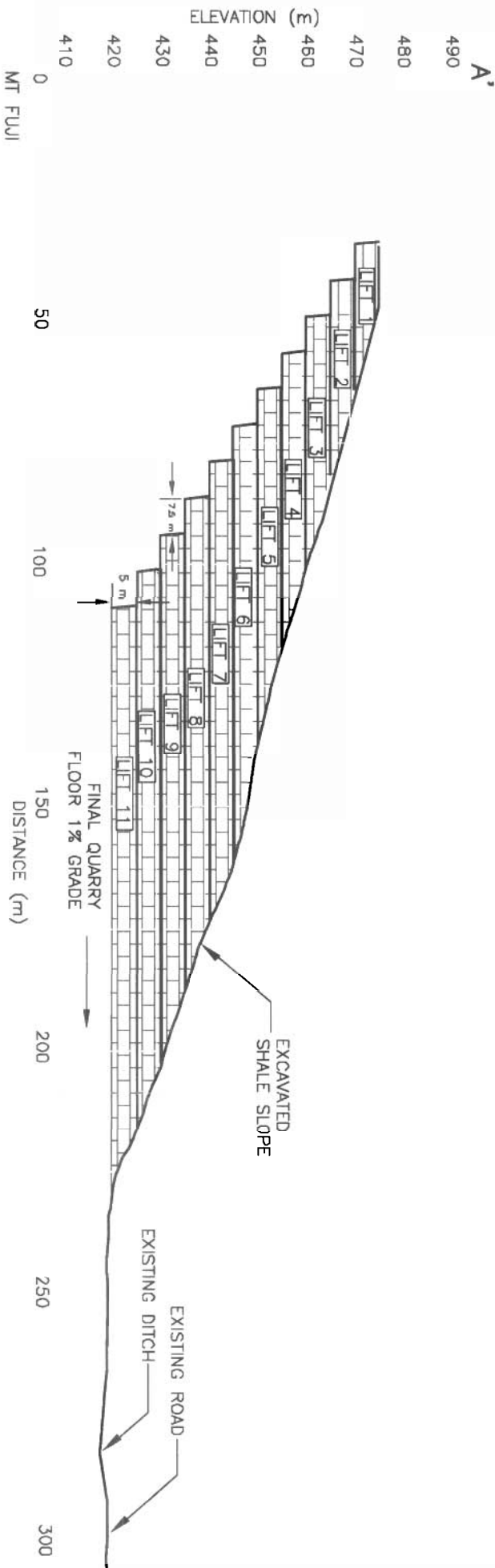
NOTE: DRAWING NOT FOR CONSTRUCTION

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATISTICS, CONCLUSIONS OR RECOMMENDATIONS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

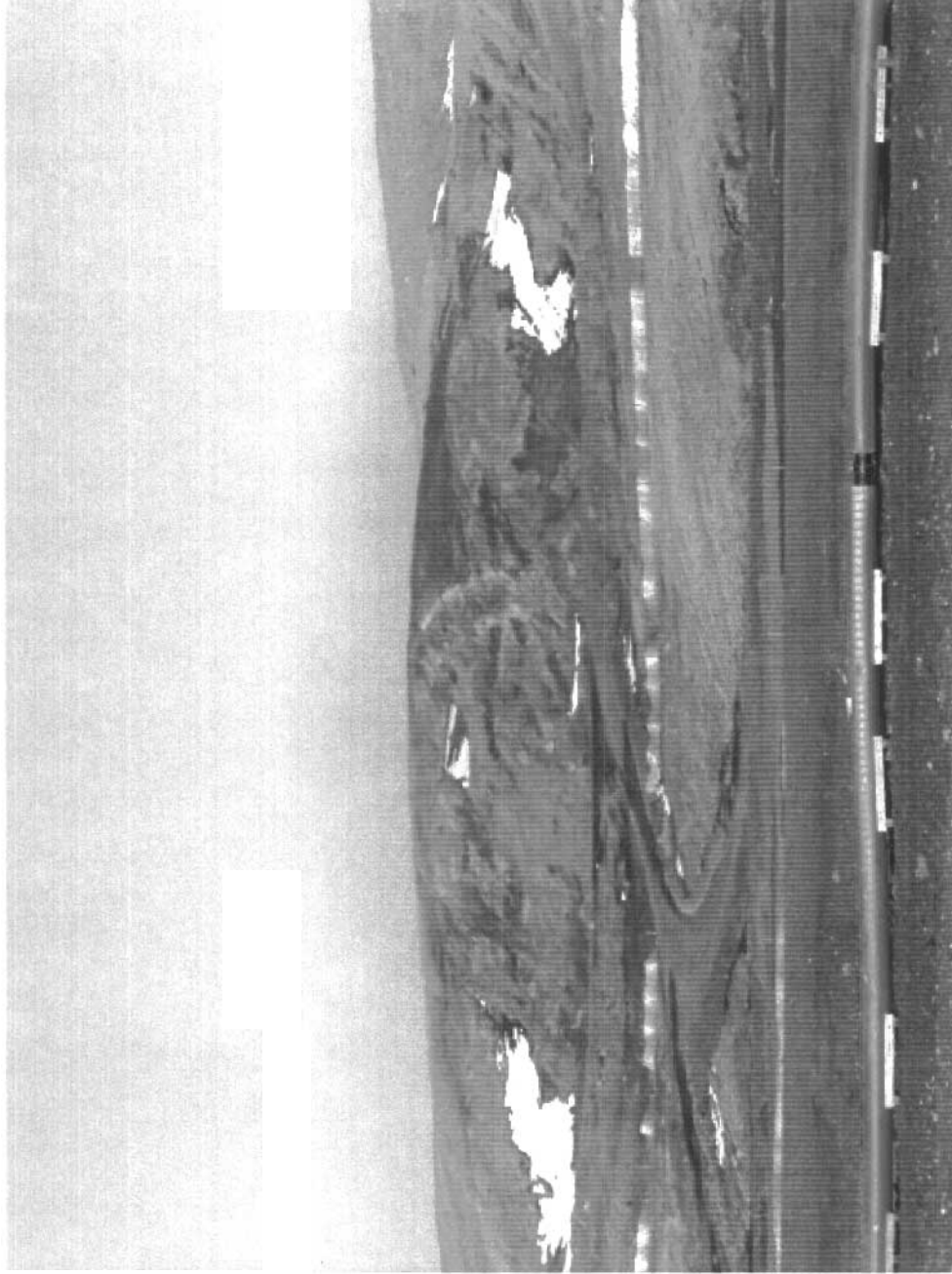
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				APPROVED

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DATE:	JAN 2004
DRAWN:	CJT
DESIGNED:	KFM
CHECKED:	KFM
APPROVED:	JWC

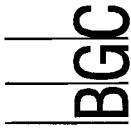
PROJECT	
QUARRY DEVELOPMENT AND RECLAMATION PLAN	
TITLE	
MT. FUJI QUARRY	
EXTRACTION SEQUENCE	
PROJECT No.	DWG No.
0255-008-07	7
	REV.
	0



NOTE: ALL VERTICAL WORKING FACES ARE TO BE SLOPED 1:10.



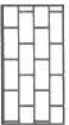
View of the West Twin Quarry location, looking towards the north. Some shale has been excavated for cover material and dike construction.

DATE: JAN 2004	DRAWN SLF	 BGC ENGINEERING INC. AN APPLIED EARTH SCIENCES COMPANY Calgary, Alberta Phone: (403) 250-5185		PROJECT QUARRY DEVELOPMENT AND RECLAMATION PLAN
REFERENCED DRAWING DESCRIPTION AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.		TITLE WEST TWIN QUARRY PHOTO		
		PROJECT No. 0255-008-07	DWG. No. 8	REV. 0
CLIENT		NANISIVIK MINE, A DIVISION OF CANZINCO LTD.		

CLIENT: NANISIVIK MINE
A DIVISION OF CANZINCO LTD.

LEGEND

TILL

SHALE

PYRITE

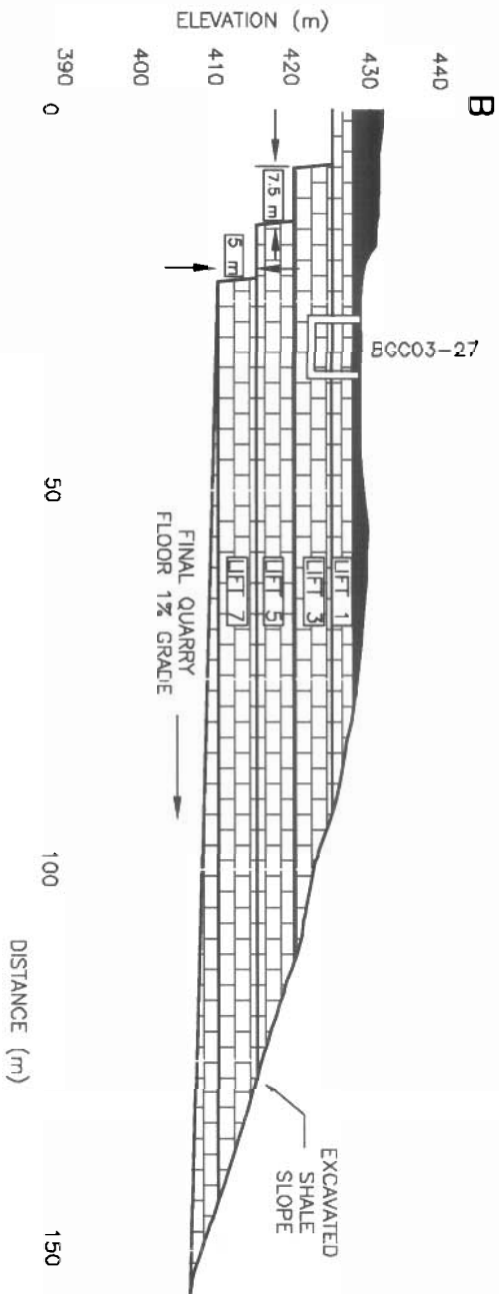
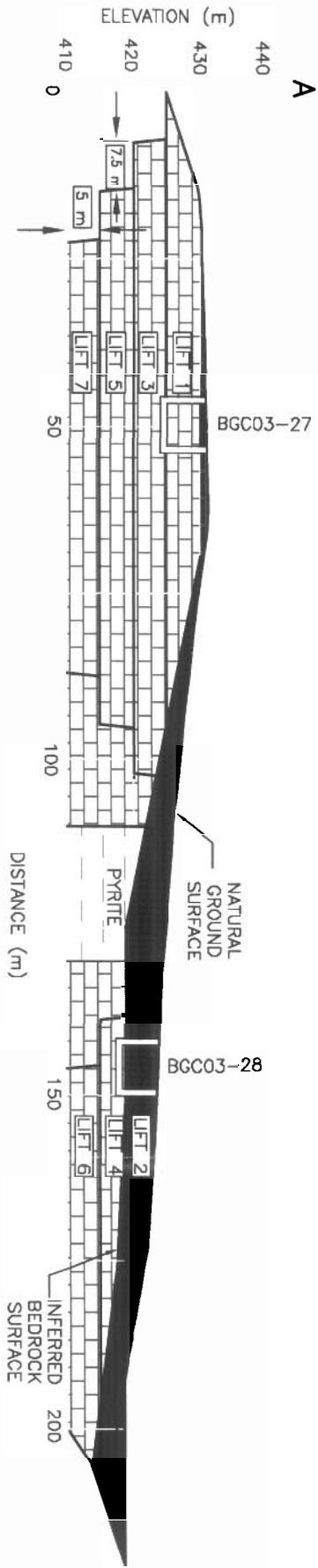
NOTE: DRAWING NOT FOR CONSTRUCTION.

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REV.	DATE	REVISION NOTES	DRAWN	CHECKED

SCALE:	AS SHOWN
DATE:	JAN 2004
DRAWN:	CJT
DESIGNED:	KFM
CHECKED:	KFM
APPROVED:	JWC

PROJECT	QUARRY DEVELOPMENT AND RECLAMATION PLAN		
TITLE	WEST TWIN QUARRY EXTRACTION SEQUENCE		
PROJECT No.	0255-008-07	DWG No.	10
		REV.	0



NOTE: ALL VERTICAL WORKING FACES ARE TO BE SLOPED 1:10.



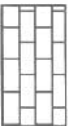
View of the main hill forming the East Twin Quarry looking to the southeast.

DATE: JAN 2004		DRAWN	SLF	REFERENCED DRAWING DESCRIPTION AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.			
BGC BGC ENGINEERING INC. AN APPLIED EARTH SCIENCES COMPANY Calgary, Alberta Phone: (403) 250-5185				PROJECT		QUARRY DEVELOPMENT AND RECLAMATION PLAN	
				TITLE		EAST TWIN QUARRY PHOTO	
CLIENT				PROJECT No. 0255-008-07		DWG. No. 11	REV. 0
NANISIVIK MINE, A DIVISION OF CANZINCO LTD.							

CLIENT **NANISIVIK MINE, A DIVISION
OF CANZINCO LTD.**

CLIENT: NANISIVIK MINE
A DIVISION OF CANZINCO LTD.

LEGEND

 SHALE

 TILL

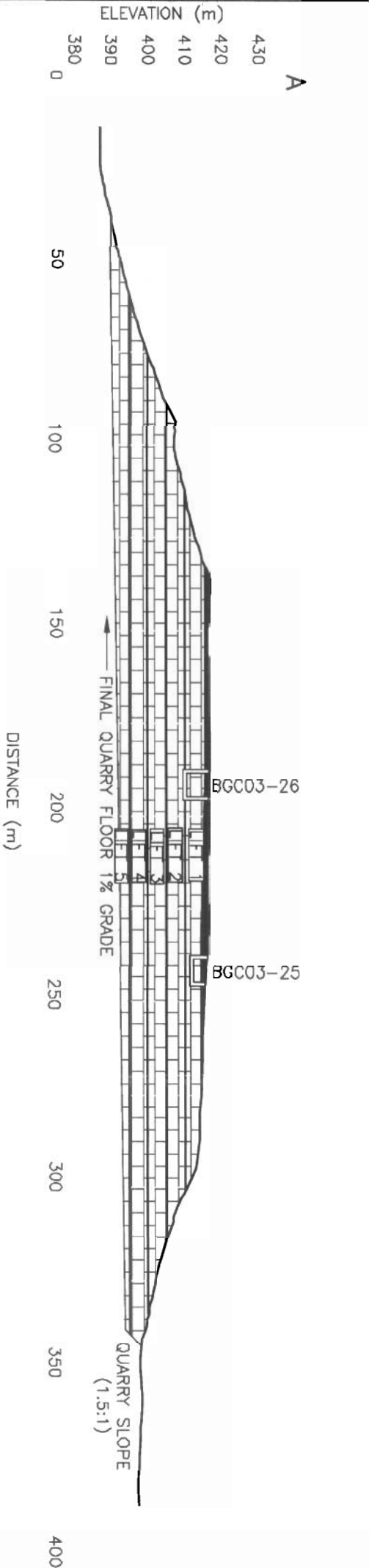
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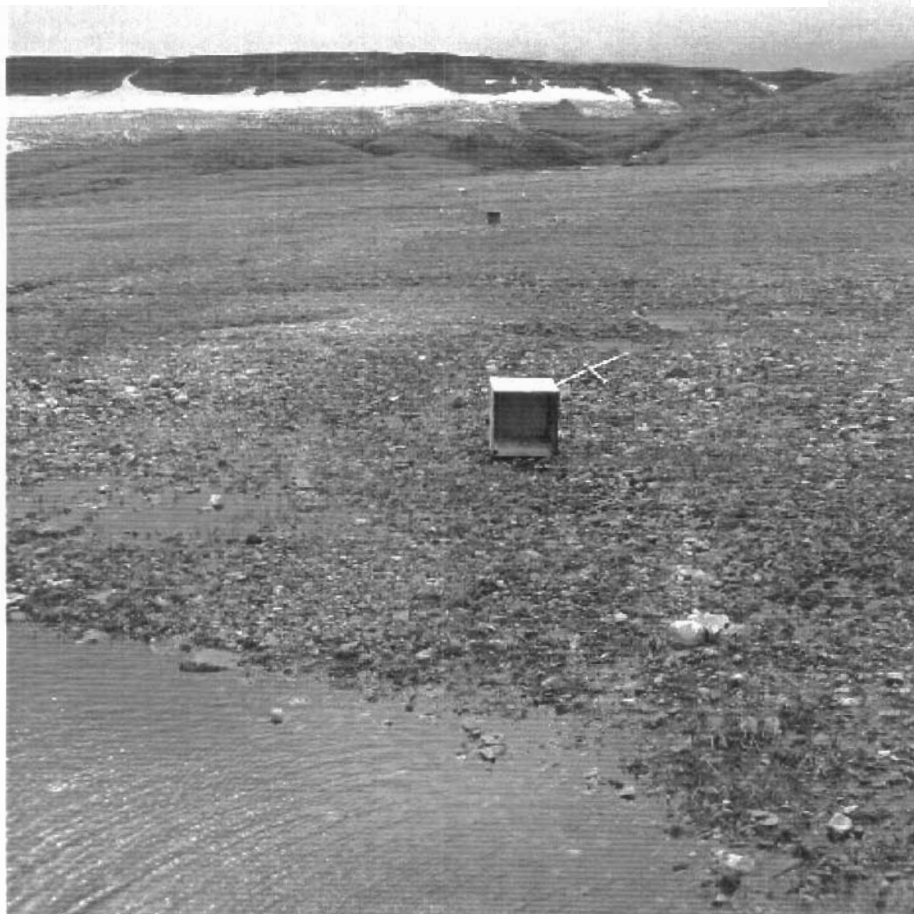
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				APPROVED

SCALE:	AS SHOWN
DATE:	JAN 2004
DRAWN:	CJT
DESIGNED:	KFM
CHECKED:	KFM
APPROVED:	JWC

PROJECT QUARRY DEVELOPMENT AND RECLAMATION PLAN			
TITLE EAST TWIN QUARRY EXTRACTION SEQUENCE			
PROJECT No.	DWG No.	REV.	
0255-008-07	13	0	



A



View of the Twin Lakes sand and gravel deposit, looking to the southwest.

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SCALE:	N/A	DESIGNED:	KFM
DATE:	JANUARY 2004	CHECKED:	KFM
DRAWN:	SLF	APPROVED:	JWC

CLIENT:

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OF CANZINCO LTD.**

BGC

BGC Engineering Inc.

AN APPLIED EARTH SCIENCES COMPANY

Calgary, Alberta.

Phone: (403) 250-5185

PROJECT

**QUARRY DEVELOPMENT
AND RECLAMATION PLAN**

TITLE

**TWIN LAKES SAND AND GRAVEL
DEPOSIT PHOTO**

PROJECT No.

0255-008-07

DWG. No.

14

REV.

0

CLIENT: NANISIVIK MINE
A DIVISION OF CANZINCO LTD.

LEGEND

- Geotechnical Borehole
- Proposed Quarry Area

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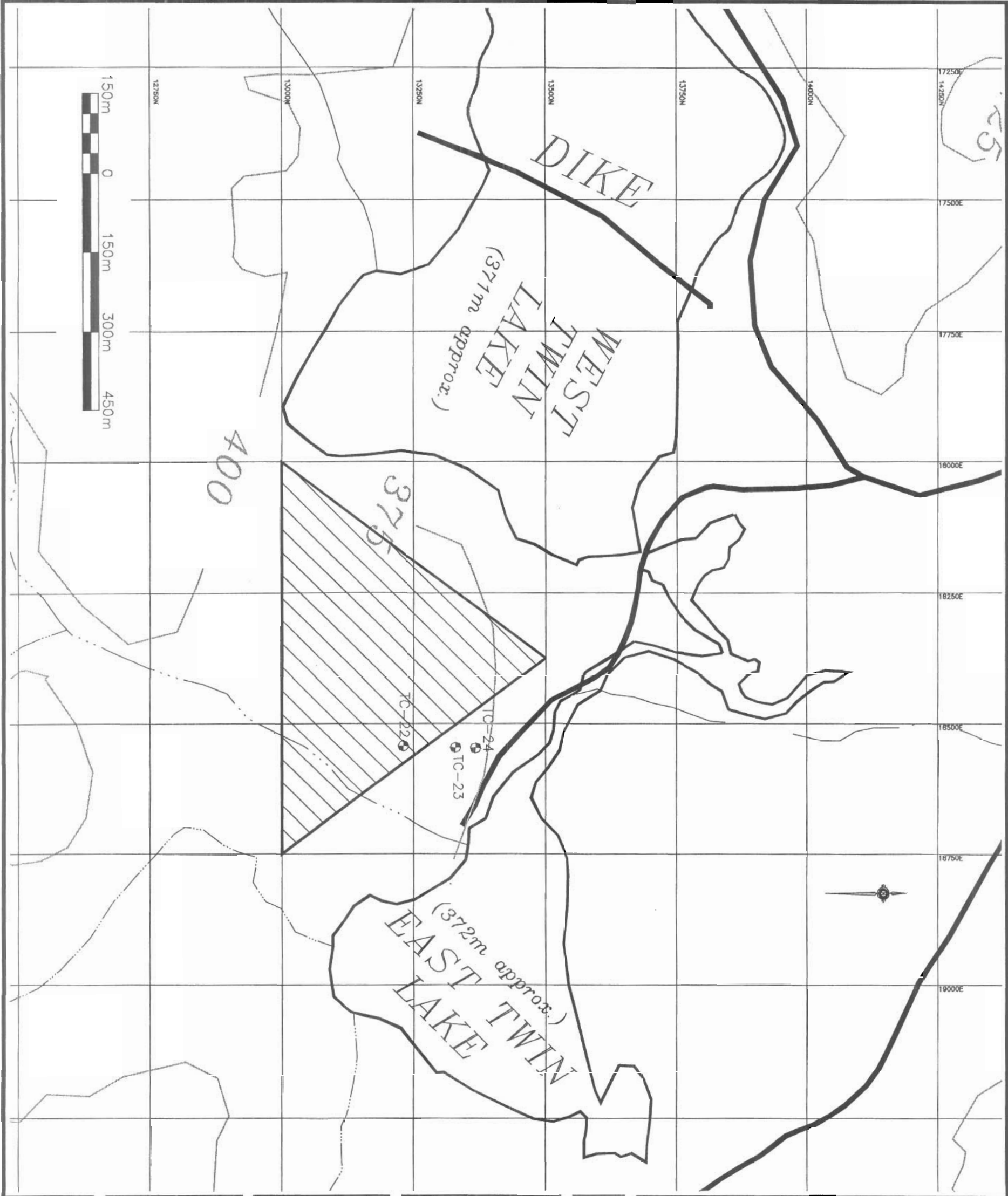
REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED

SCALE: AS SHOWN	
DATE:	JAN 2004
DRAWN:	CJT
DESIGNED:	KFM
CHECKED:	KFM
APPROVED:	JWC

PROJECT: QUARRY DEVELOPMENT AND RECLAMATION PLAN		
TITLE: PROPOSED TWIN LAKES SAND AND GRAVEL QUARRY AREA		
PROJECT No.	DWG No.	REV.
0255-008-07	15	0

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AN APPLIED EARTH SCIENCES COMPANY

Calgary, AB Phone: (403) 250 5185



APPENDIX I QUARRY COORDINATES

Memo

To: R Stringer
From: K. LeDrew
CC: N Lecuyer, S Keenan, D Willoughby, File
Date: 10/11/2003
Re: Quarry Site Surveys

The following is submitted for your consideration;

Quarry Coordinates		Northings	Eastings
Shale Hill Quarry	1)	16170	19130
	2)	16300	19200
	3)	16500	18820
	4)	16370	18750
East Twin Quarry	1)	12750	19500
	2)	12550	19500
	3)	12550	19000
	4)	12750	19000
Area 14 Quarry	1)	13100	20000
	2)	13100	19500
	3)	14050	19500
	4)	14050	19250
	5)	14400	19250
	6)	14400	19700
	7)	13500	20000

Quarry Coordinates		Northings	Eastings
WTDA Quarry	1)	14100	17250
	2)	14000	17100
	3)	14150	17000
	4)	14250	17150
Fuji Quarry	1)	13600	16750
	2)	13600	16450
	3)	13820	16450
	4)	13820	16700
Road Quarry	1)	16500	16950
	2)	16500	16700
	3)	16600	16700
	4) Points along road to the east and south returning to point 1)		
Town-site Quarry (to Landfill)	1)	15100	16140
	2)	15030	16100
	3)	15050	16050
	4)	15200	16050
	5)	15200	16140

If there are any questions please contact me.

Thanks

Kevin

APPENDIX II BOREHOLE LOGS

DRILL HOLE # BGC03-25

Page 1 of 1

Date Drilled: May 25, 2003
 Contractor & Rig: Mine's Diamond Drill
 Drill Method: BQ Chilled Brine Coring
 Hammer Type: N/A

Location: East Twin Quarry
 Elevation: 417.9 m
 Co-ord: 8104059.2N, 583150.0E (UTM-NAD83)
 Logged by: G. Ferris

Project No. 0255-008-03

Reviewed by: J. Cassie

Notes: No Installation

Depth (m)	SOIL DESCRIPTION	Core Run	Recovery	Moisture Content %				Installation / Backfill		Depth (m)
				Wp	X	WI				
0	Ground Surface 417.9									0
0	TILL Gravel, sandy, some cobbles, some silt, light grey, clasts of various geological origins, subrounded.									0
1	416.8	1								1
1	SHALE Dark grey, rubble, angular.									1
2		2								2
2	@ 2.3 m: Light grey return water.									2
3	@ 2.4 m: Light grey, gravel to sand sized, slightly weathered.	3								3
3		4								3
3		5								3
3		6								3
3		7								3
3		8								3
4	BEDROCK DOLOSTONE. End of Borehole									4
4										4
5	@ 3.8 m: Due to core barrel wear, drill could not advance beyond this depth.									5
5										5
6										6
6										6
7										7
7										7
8										8
8										8
9										9
9										9
10										10



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 AN APPLIED EARTH SCIENCES COMPANY

Calgary, AB

Phone (403) 250-5185

CLIENT: Nanisivik Mine, a Division of CanZinco

PROJECT: Geotechnical Investigation

Final Depth: 3.8 m

DRILL HOLE # BGC03-26**Date Drilled:** May 25, 2003**Contractor & Rig:** Mine's Diamond Drill**Drill Method:** BQ Chilled Brine Coring**Hammer Type:** N/A**Location:** East Twin Quarry**Elevation:** 416.6 m**Co-ord:** 8104113.8N, 583183.4E (UTM-NAD83)**Logged by:** G. Ferris**Project No.** 0255-008-03**Reviewed by:** J. Cassie**Notes:** No Installation

Depth (m)	SOIL DESCRIPTION	Core Run	Recovery	Moisture Content %				Installation / Backfill		Depth (m)
				Wp	X	WI				
0	Ground Surface	416.6								0
0	TILL	0.0								0
1	Cobbles, and gravel, clayey, trace sand, brown, frozen, friable, large clasts of various geological origins.		1							1
2	@ 1.57 m: Sand, silty, some gravel, sub rounded gravel.	414.6	2							2
2	SHALE	2.0								2
3	Dark grey to black, fresh, angular rubble, varying from cobble to sand sizes, no visible ice.		3							3
4	@ 3.0 m: 10 - 15% visible ice to 3.35 m.		4							4
5			5							5
6			6							6
7			7							7
8			8							8
9										9
10										10
6	End of Borehole	410.5								6
		6.1								


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CLIENT: Nanisivik Mine, a Division of CanZinco Ltd.

PROJECT: Geotechnical Investigation

Final Depth: 6.1 m

DRILL HOLE # BGC03-27

Page 1 of 1

Date Drilled: May 26, 2003

Contractor & Rig: Mine's Diamond Drill

Drill Method: BQ Chilled Brine Coring

Hammer Type: N/A

Location: West Twin Quarry

Elevation: 431.0 m

Co-ord: 8105295.1N, 580884.9E (UTM-NAD83)

Logged by: G. Ferris

Project No. 0255-008-03

Reviewed by: J. Cassie

Notes: No Installation

Depth (m)	SOIL DESCRIPTION	Core Run	Recovery	Moisture Content %					Installation / Backfill		Depth (m)
				Wp	X	WI	10	20	30	40	
0	Ground Surface 431.0										0
0	TILL Cobbles, sandy, some gravel, some silt, frozen. @ .76 m: Tan red return water.	0.0									0
1	SHALE Dark grey, shale rubble ranging from cobble to sand sizes, fresh to slightly weathered.	430.1	0.9								1
1	@ 2.1m: Fresh.										2
2	@ 2.7 m: Medium strong.										3
3											4
4											5
5	@ 4.7 - 5.2 m: Core run 10, RQD=57%, solid recovery 57%										6
5	@ 5.2 m: Rubble.										7
6	End of Borehole 425.2	5.8									8
7											9
8											10
9											11
10											12



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CLIENT: Nanisivik Mine, a Division of CanZinco Ltd.

PROJECT: Geotechnical Investigation

Final Depth: 5.8 m

DRILL HOLE # BGC03-28

Page 1 of 1

Date Drilled: May 26, 2003

Contractor & Rig: Mine's Diamond Drill

Drill Method: BQ Chilled Brine Coring

Hammer Type: N/A

Location: West Twin Quarry

Elevation: 423.6 m

Co-ord: 8105321.9N, 580979.5E (UTM-NAD83)

Logged by: G. Ferris

Project No. 0255-008-03

Reviewed by: J. Cassie

Notes: No Installation

Depth (m)	SOIL DESCRIPTION	Core Run	Recovery	Moisture Content %				Installation / Backfill		Depth (m)
				Wp	X	Wl				
0	Ground Surface 423.6									0
0	TILL Cobbles, some gravel, some boulders, some sand, light grey, various origin clasts.									0
1	@ 0.9 m: Gravel, some silt, trace sand, reddish brown to 1.3 m.	1								1
2	@ 1.3 m: Red, clay, silty.	2		x						2
3	@ 2.0 m: Shale rubble with 40% visible ice.	3			x					3
4	@ 2.5 m: 75 mm zone of ice. @ 2.6 m: Silt, some clay, trace sand, bonded 15% ice.	4								4
5	@ 3.1 m: Shale, rubble with 15% ice. @ 3.2 m: Silt, some gravel, some sand, 30% ice. @ 3.4 m: Frost shattered dolostone.	5								5
6	@ 4.0 m: Gravel, and boulders, some sand, 10% ice.				x					6
7	@ 4.7 m: Sandy, some silt, oxidized.									7
8	BEDROCK Frost shattered DOLOSTONE.									8
9	End of Borehole									9
10										10



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AN APPLIED EARTH SCIENCES COMPANY

Calgary, AB

Phone (403) 250-5185

CLIENT: Nanisivik Mine, a Division of CanZinco Ltd.

PROJECT: Geotechnical Investigation

Final Depth: 5.2 m

**APPENDIX III
AVAILABLE FLEET
&
CYCLE TIMES
(Supplied by Nanisivik Mine)**

Table III - 1 Summary of Mobile Equipment at Nanisivik Mine				
Equip. Number	Year mfg	Manufacturer	MODEL/ Style	Description
200-80	1988	WAGNER	MT-439	HAULAGE TRUCK
200-82	1996	TORO	TORO 40D	HAULAGE TRUCK - DUMP
200-84	1992	TAMROCK	TORO 40D	HAULAGE TRUCK
200-85	1994	TAMROCK	TORO 40D	HAULAGE TRUCK
200-86	1995	TAMROCK	TORO 40D	HAULAGE TRUCK
200-87	1996	TAMROCK	TORO 40D	HAULAGE TRUCK
200-88	1991	TAMROCK	TORO 40D	HAULAGE TRUCK - DUMP
525-08	1992	FORD	LTS9000	HAUL TRUCK - TANDEM
525-09	1995	FORD	LTS9000	HAUL TRUCK - TANDEM
525-12	2000	STERLING	LT9500	HAUL TRUCK
526-01A	1979	DJB	D350C	HAULAGE TRUCK - DUMP
526-01B	1979	DJB	D350C	HAULAGE TRUCK - DUMP
526-03	1997	CATERPILLAR	D350E	HAULAGE TRUCK - DUMP
526-04	1983	CATERPILLAR	D350E	HAULAGE TRUCK - DUMP
200-44	1997	CATERPILLAR	980G	LOADER
200-46	1995	CATERPILLAR	980F	LOADER
200-50	1990	CATERPILLAR	980C	LOADER
526-02	1987	CATERPILLAR	980C	FRONT-END LOADER

Table III - 2 Estimated Cycle Times			
# OF CYCLES PER DAY*			
	Average trips	Cycles / hr	Cycles
	10 hr shift		12 hr shift
West Twin	18	1.8	21.6
Mt. FUJI	18	1.8	21.6
LANDFILL / TOWNSITE	16	1.6	19.2
EAST TWIN	14	1.4	16.8
AREA 14	13	1.3	15.6
TL S&G	12	1.2	14.4

*Note: These #'s have been generated using known average cycle times from each quarry to the Surface Cell or Dike operating on a 10 hour shift. Cycle times include allowances for fueling, greasing, breaks, and lunch.