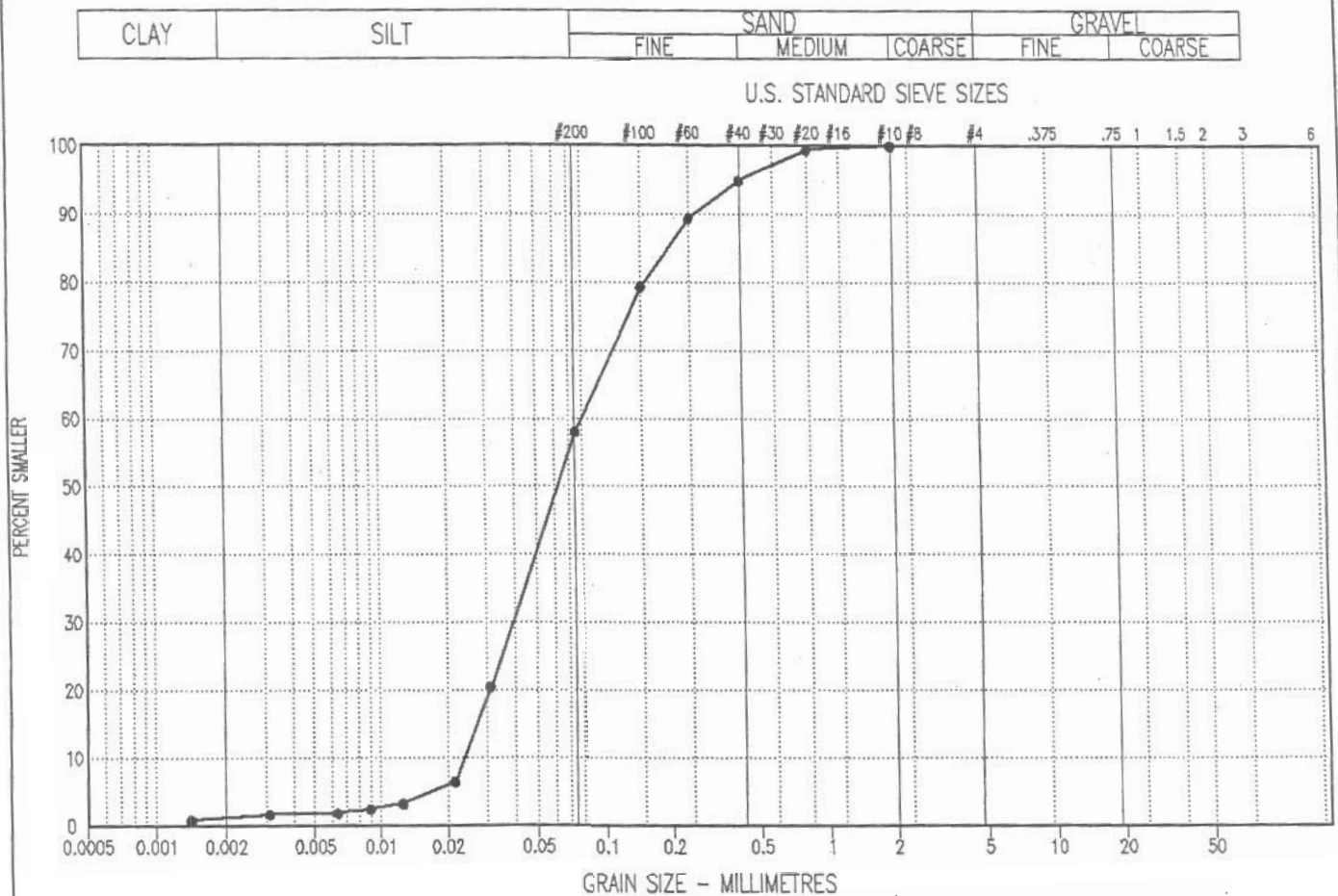


REFERENCE

- Patterson, D.E., and Smith, M.W., 1981. The measurement of unfrozen water content by time domain reflectometry: Results from laboratory tests. Canadian Geotechnical Journal, vol. 18, pp. 131-144.
- Smith, M.W. and Tice, A.R. 1988. Measurement of the unfrozen water content of soils. Comparison of NMR and TDR methods. CRREL Report 88-18, 41p.
- Topp, G.C., Davis, J.L., and Annan, A.P., 1980. Electromagnetic determination of soil water content: Measurements in coaxial transmission lines. Water Resources Research, vol. 16, pp. 574-582.

PARTICLE SIZE - ANALYSIS OF SOILS



SYMBOL	BOREHOLE NUMBER	DEPTH (ft)	DESCRIPTION				Cu	Cc	U.S.C
			CLAY %	SILT %	SAND %	GRAVEL %			
●—●	BGC-01	0.00	1.0	57	42	0	3.4	0.9	

Figure 1
Grain Size Curve
Nanisivik Mine Tailings Sample

Project: 0101-1100035

Date Tested: 03/09/05

BY: KP

Tested in accordance with ASTM D422 unless otherwise noted.

Data presented hereon is for the sole use of the stipulated client. EBA is not responsible, nor can be held liable, for use made of this report by any other party, with or without the knowledge of EBA.

The testing services reported herein have been performed by an EBA technician to recognized industry standards, unless otherwise noted. No other warranty is made. These data do not include or represent any interpretation or opinion of specification compliance or material suitability. Should engineering interpretation be required, EBA will provide it upon written request.

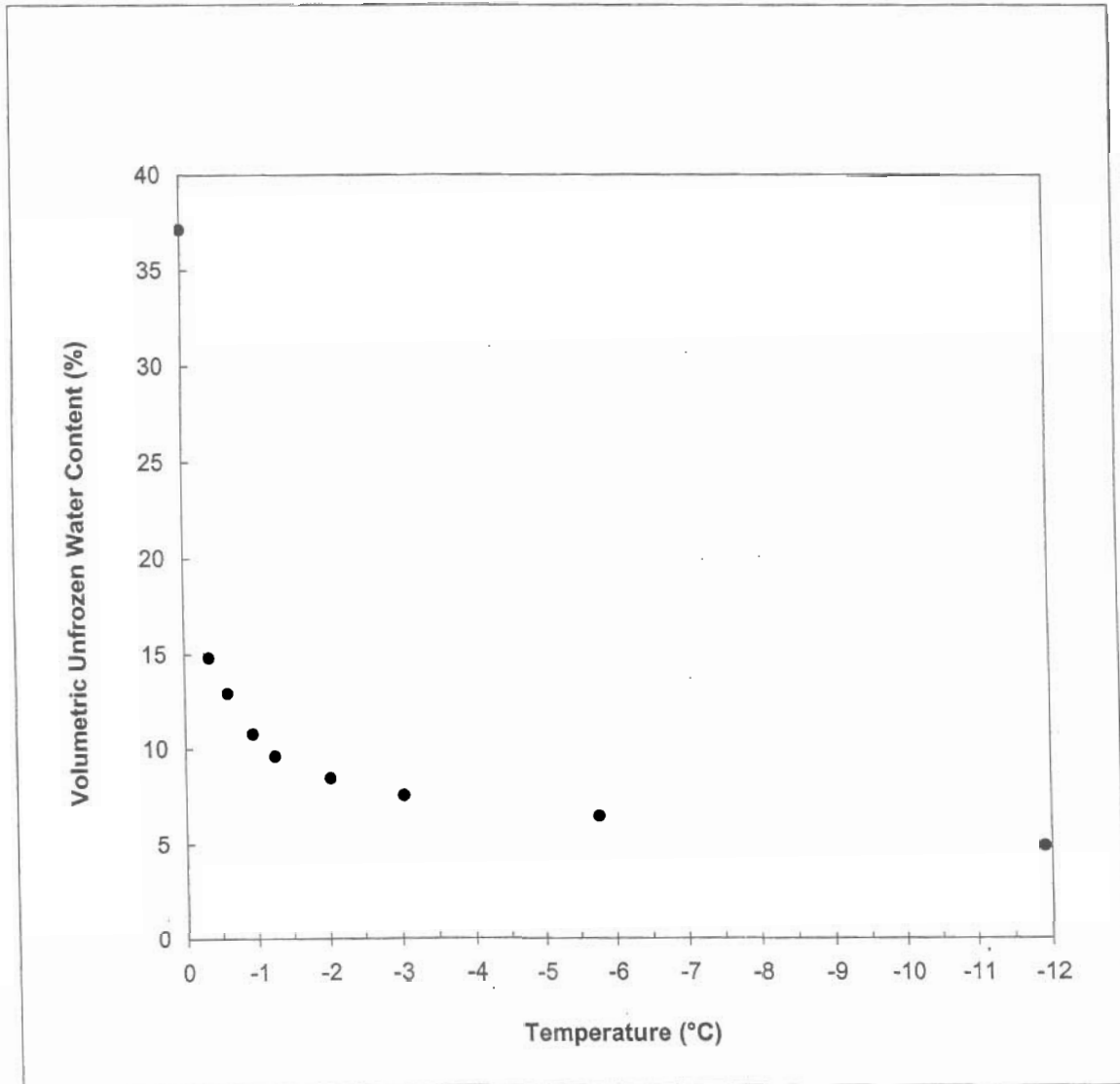


EBA Engineering Consultants Ltd.

Unfrozen Water Content by Time Domain Reflectometry

Project No.: 0101-1100035
Date Tested: September 8, 2003

Specimen No. 1100035-1
Test Number: TDR-1



Note: curve determined using empirical relationship developed by Smith and Tice (1988)

Figure 2
Volumetric Unfrozen Water Content versus Temperature
Nanisivik Tailings Sample



APPENDIX VI - WATER QUALITY TESTING LAB SHEETS

**Accutest Laboratories – Results of testing on water samples from
BGC03 – 12, BGC03 – 14, and ice core samples from
BGC03 – 06, BGC03 – 20, and BGC03 –21. (June 2003)**

**Maxxam Analytical – Results of testing on water samples from
BGC03 – 12 and BGC03 – 14. (Sept. 2003)**

Client: BGC Engineering Inc.
1605-840 7th Avenue SW
Calgary, AB
T
Attention: Gerry Ferris

Report Number: 2308149
Date: 2003-06-18
Date Submitted: 2003-06-04
Project: 0255-008-03

P.O. Number:
Matrix: Water

Matrix.										GUIDELINE		
LAB ID:					252491	252492				TYPE	LIMIT	UNITS
Sample Date:					2003-05-28	2003-05-28						
Sample ID:					BGC03-12-1	BGC03-14-1						
PARAMETER		UNITS	MDL									
Acidity as CaCO ₃		mg/L	1	18	24							
Alkalinity as CaCO ₃		mg/L	5	51	77							
Chloride		mg/L	1	2820	10300							
N-NH ₃ (Ammonia)		mg/L	10	20	15.6							
Sulphate		mg/L	1	1390	780							
Hardness as CaCO ₃		mg/L	1	5170	14300							
Calcium		mg/L	1	1850	5710							
Magnesium		mg/L	1	133	16							
Potassium		mg/L	1	163	287							
Sodium		mg/L	2	87	208							
Arsenic		mg/L	0.01	0.02	<0.01							
Barium		mg/L	0.01	0.02	0.05							
Boron		mg/L	0.05	0.51	1.71							
Cadmium		mg/L	0.001	0.014	0.005							
Chromium		mg/L	0.01	0.05	0.01							
Copper		mg/L	0.01	0.06	0.09							
Iron		mg/L	0.01	26.4	1.68							
Lead		mg/L	0.01	3.32	1.14							
Manganese		mg/L	0.005	0.534	0.060							
Mercury		mg/L	0.0001	<0.0001	<0.0001							
Selenium		mg/L	0.01	0.01	0.03							
Aluminum		mg/L	0.01	0.22	0.04							
Antimony		mg/L	0.01	<0.01	<0.01							
Beryllium		mg/L	0.001	<0.001	<0.001							
Cobalt		mg/L	0.002	0.009	0.010							
Molybdenum		mg/L	0.005	0.006	0.072							
Nickel		mg/L	0.005	0.020	<0.005							
Silicon		mg/L	0.1	1.4	0.4							
Silver		mg/L	0.001	<0.001	<0.001							
Strontium		mg/L	0.002	46.3	167							

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration
Comment: Alkalinity endpoint is pH 4.5, Acidity endpoint is pH 8.3

APPROVAL: 
Ewan McRobbie
Inorganic Lab Supervisor

Client: BGC Engineering Inc.
1605-840 7th Avenue SW
Calgary, AB

Attention: Gerry Ferris

Report Number: 2308149
Date: 2003-06-18
Date Submitted: 2003-06-04
Project: 0255-008-03

P.O. Number:
Matrix:

Water

PARAMETER	UNITS	MDL	LAB ID:		TYPE	LIMIT	UNITS	GUIDELINE
			Sample Date:	Sample ID:				
Thallium	mg/L	0.01	252491 2003-05-28	252492 2003-05-28				
Titanium	mg/L	0.01	BGC03-12-1	BGC03-14-1				
Vanadium	mg/L	0.01						
Zinc	mg/L	0.005						

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Ewan McRobbie
Inorganic Lab Supervisor

Client: BGC Engineering Inc.
1605-840 7th Avenue SW
Calgary, AB

Report Number: 2308150
Date: 2003-06-17
Date Submitted: 2003-06-04
Project: 0255-008-03

Attention: Gerry Ferris

P.O. Number:
Matrix:

Water

PARAMETER	LAB ID:		UNITS	MDL	Sample Date:			TYPE	LIMIT	UNITS
					252493	252494	252495			
Acidity as CaCO3			mg/L	1	<5	<5	NS			
Alkalinity as CaCO3			mg/L	5	10	18	NS			
Chloride			mg/L	1	47	4	<1			
N-NH3 (Ammonia)			mg/L	0.02	0.03	0.04	NS			
Sulphate			mg/L	1	1	14	<1			
Hardness as CaCO3			mg/L	1	57	28	2880			
Calcium			mg/L	1	23	11	667			
Magnesium			mg/L	1	<1	<1	296			
Potassium			mg/L	1			3			
Sodium			mg/L	2			3			
Arsenic			mg/L	0.001			0.009			
Barium			mg/L	0.01			0.08			
Boron			mg/L	0.05			0.09			
Cadmium			mg/L	0.0001			0.0112			
Chromium			mg/L	0.001			0.060			
Copper			mg/L	0.001			0.842			
Iron			mg/L	0.01			38.3			
Lead			mg/L	0.001			14.0			
Manganese			mg/L	0.005			1.96			
Mercury			mg/L	0.0001			<0.0001			
Selenium			mg/L	0.001			<0.001			
Aluminum			mg/L	0.01			1.80			
Antimony			mg/L	0.001			0.004			
Beryllium			mg/L	0.0002			<0.001			
Cobalt			mg/L	0.005			0.0287			
Molybdenum			mg/L	0.005			<0.005			
Nickel			mg/L	0.005			0.047			
Silicon			mg/L	0.1			1.2			
Silver			mg/L	0.0001			<0.0001			
Strontium			mg/L	0.002			0.815			

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

252495: NS = No Sample.

APPROVAL: 
Ewan McRobbie
Inorganic Lab Supervisor

Client: BGC Engineering Inc.
1605-840 7th Avenue SW
Calgary, AB
T
Attention: Gerry Ferris

Report Number: 2308150
Date: 2003-06-17
Date Submitted: 2003-06-04
Project: 0255-008-03

P.O. Number:
Matrix:

Water

LAB ID:		GUIDELINE	
Sample Date:			
Sample ID:			
PARAMETER	UNITS	MDL	TYPE
Thallium	mg/L	0.001	
Titanium	mg/L	0.01	
Vanadium	mg/L	0.001	
Zinc	mg/L	0.005	
		0.001	
		<0.01	
		0.017	
		5.36	

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

252495; NS = No Sample.

APPROVAL:

Ewan McRobbie
Inorganic Lab Supervisor

PROJECT NAME: NANISIVIK MINE
PROJECT #: 23635
REPORT DATE: 2003/09/03
RESULTS OF CHEMICAL ANALYSES OF LIQUID

[illegible]

ND = Not detected
N/A = Not Applicable
TBA = Result to follow
MDL = METHOD DETECTION LIMIT
QC = QC Standard

APPENDIX VII - PIEZOMETRIC MONITORING

	<u>Borehole</u>	<u>Figure</u>
Piezometric Monitoring Results	BGC 03-12	Figure VII – 1
	BGC 03-14	Figure VII – 2
	BGC 03-31	Figure VII – 3
	BGC 03-32	Figure VII – 4
	BGC 03-35	Figure VII – 5
Recovery Test	BGC 03-12	Figure VII – 6
	BGC 03-14	Figure VII – 7

Figure VII-1
Piezometer Monitoring Results for BGC03-12

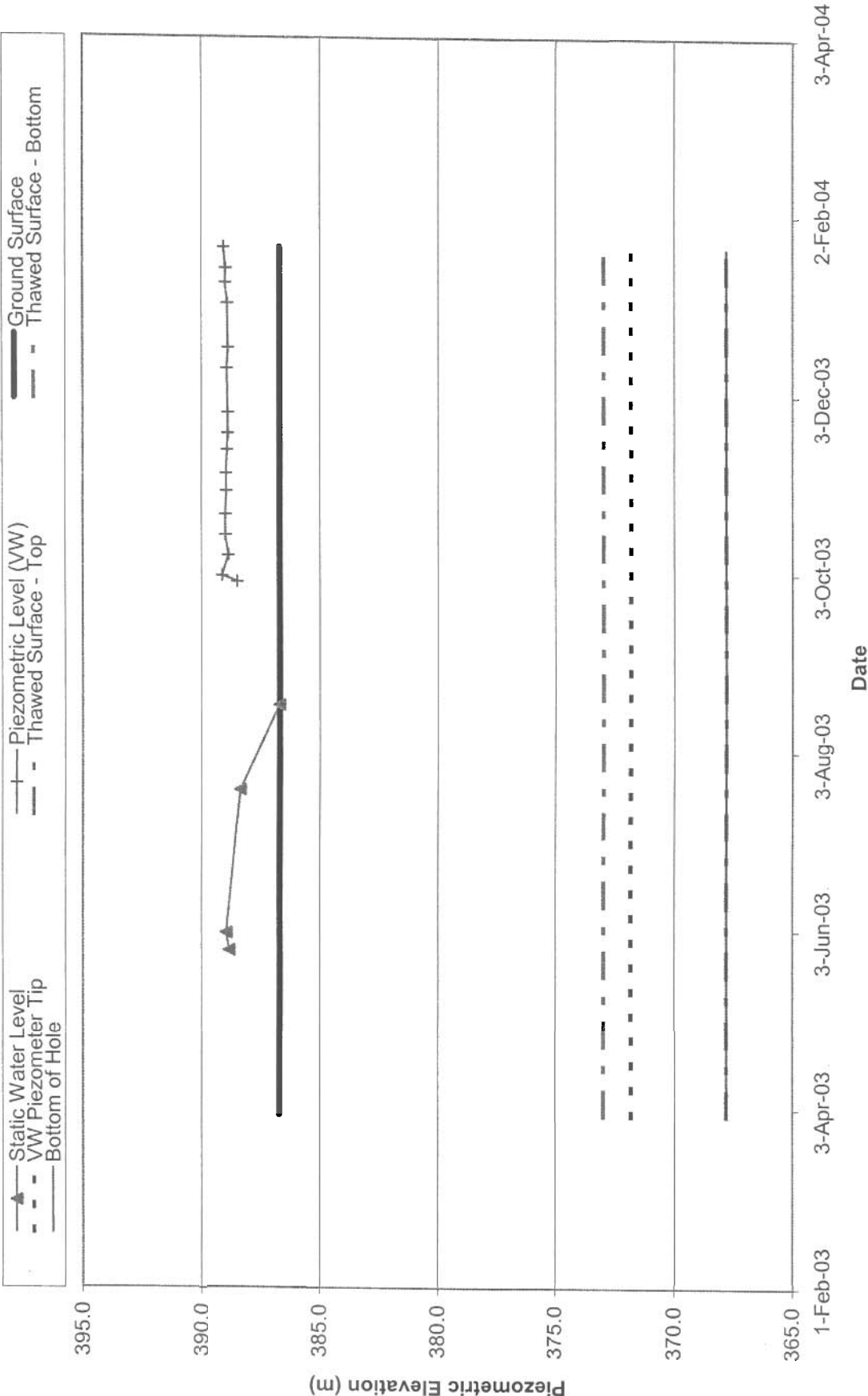


Figure VII-2
Piezometer Monitoring Results for BGC03-14

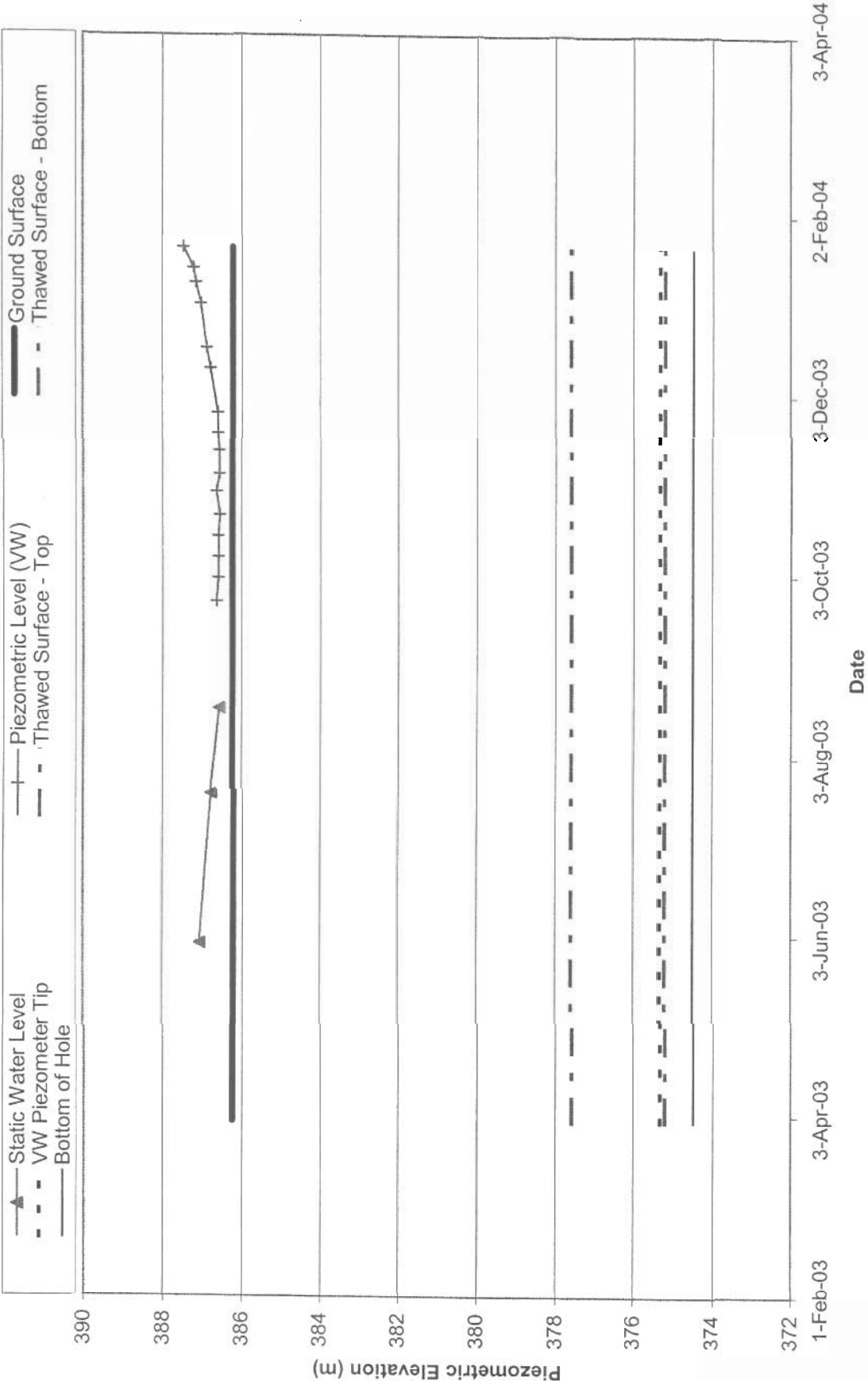


Figure VII-3
Piezometer Monitoring Results for BGC03-31

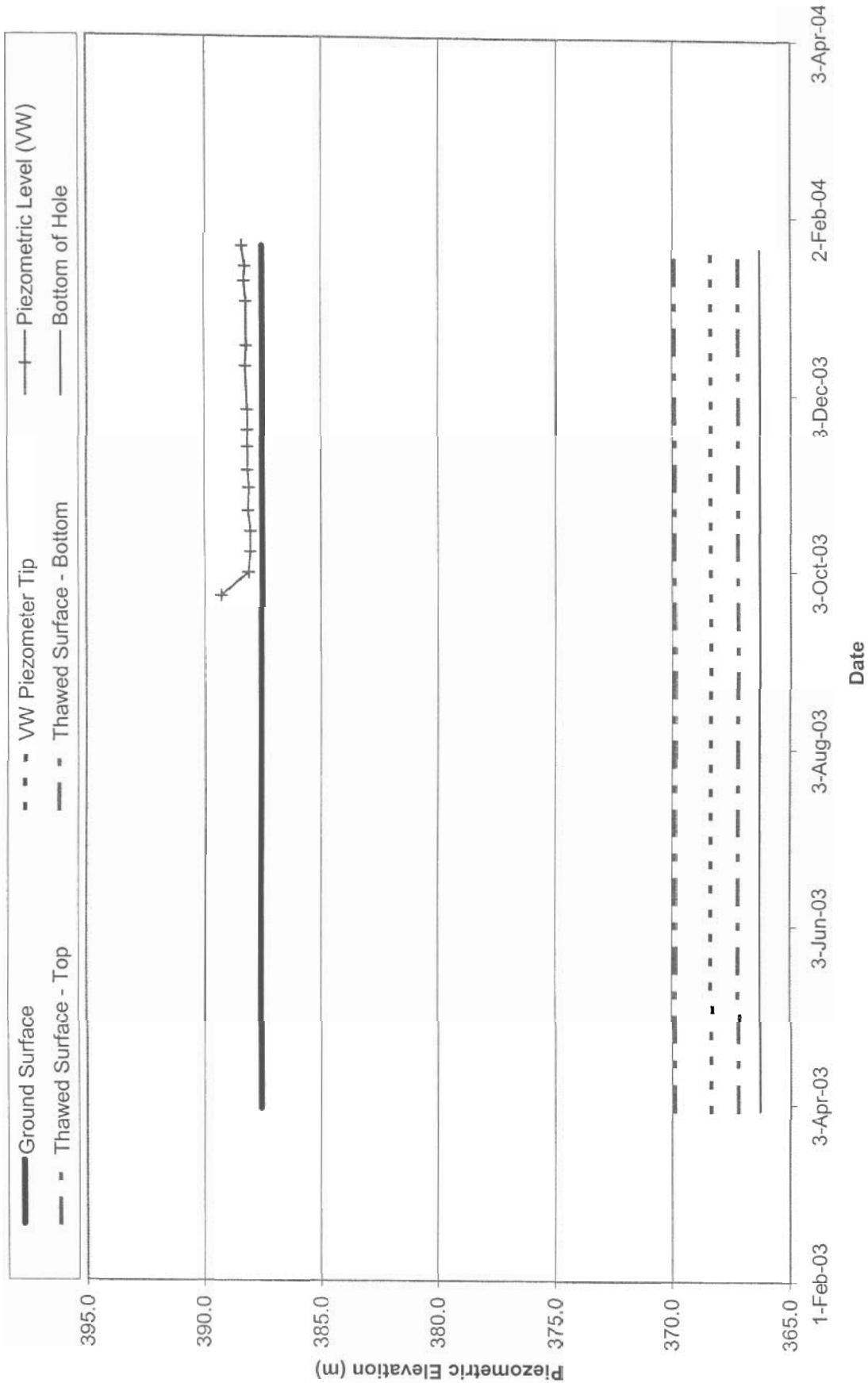


Figure VII-4
Piezometer Monitoring Results for BGC03-32

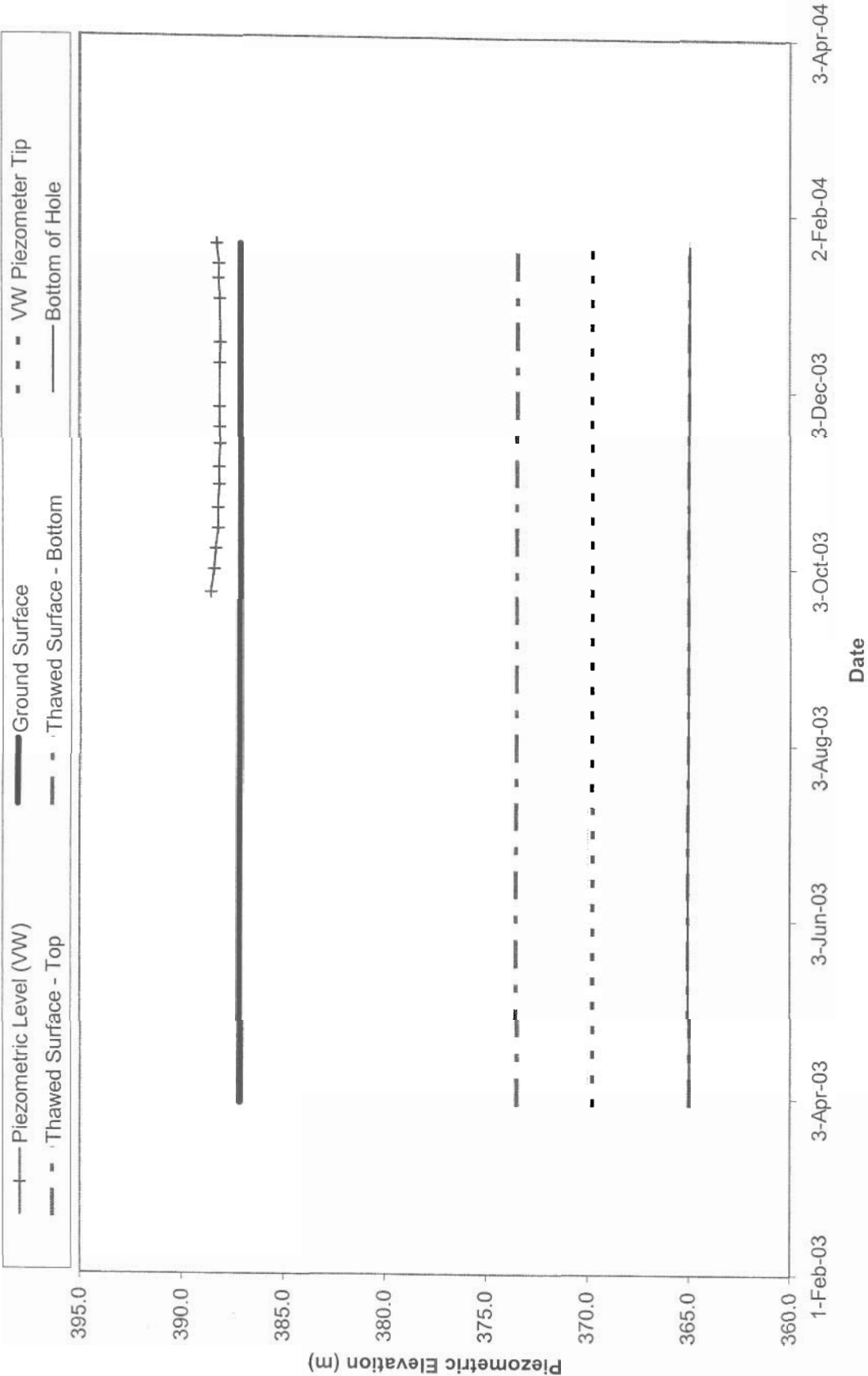
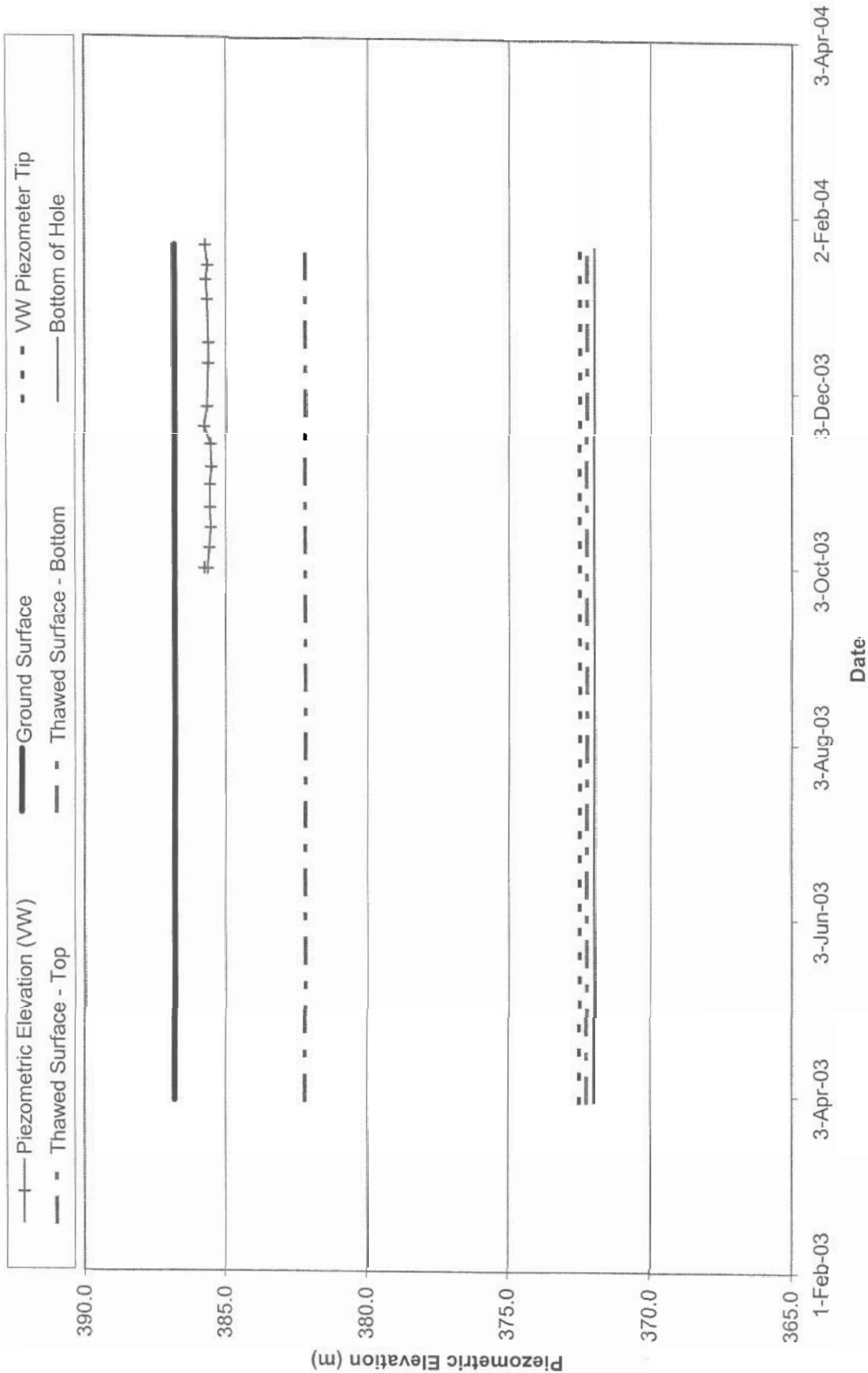


Figure VII-5
Piezometer Monitoring Results for BGC03-35



Combined piezometers.xls
03-35 plot

BGC Engineering Inc.

* VW Piezometer Tip Elevation portrayed
0.33 m higher than actual value

Figure VII-6
BGC03-12
Recovery Test performed on June 2, 2003

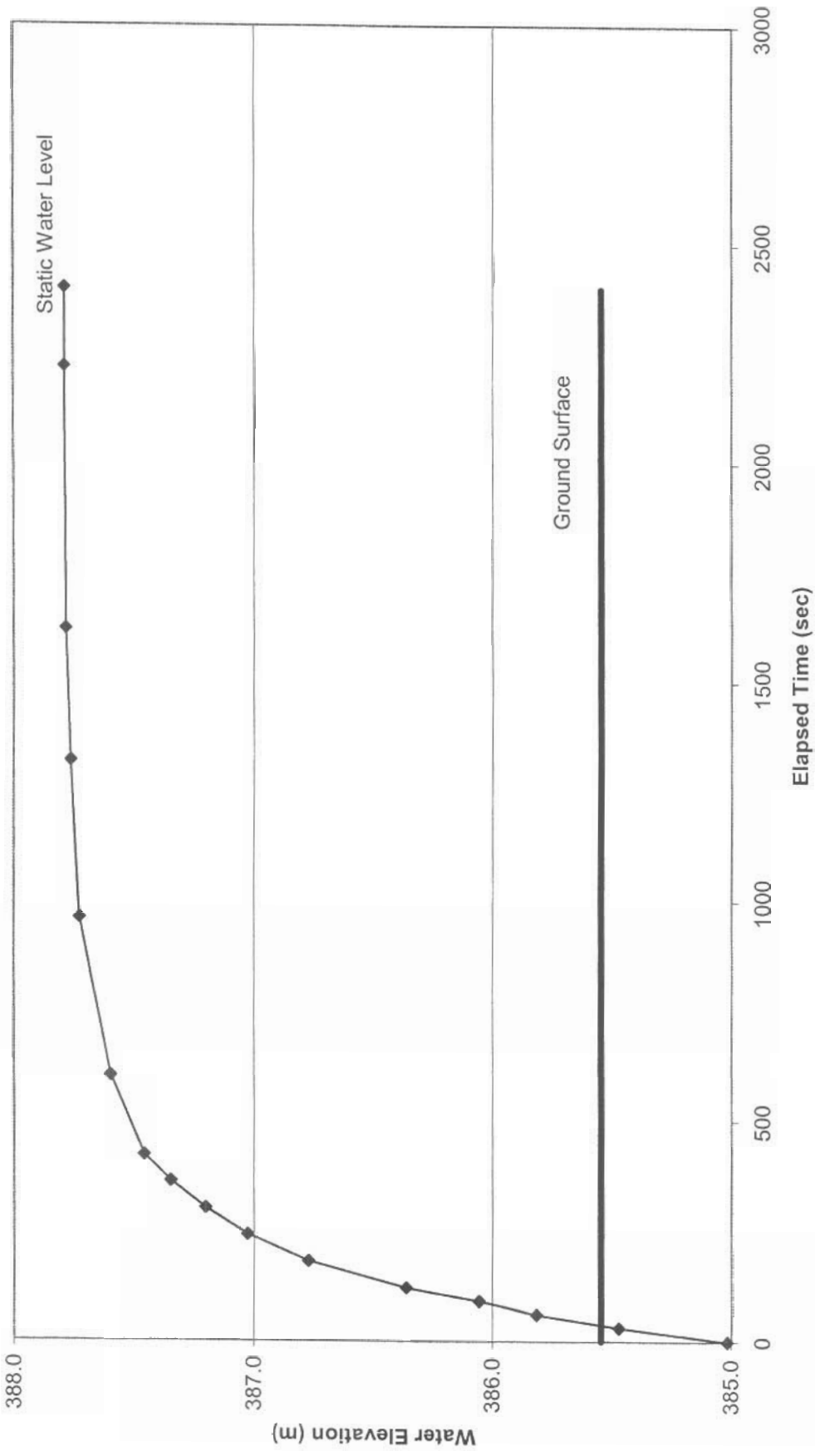
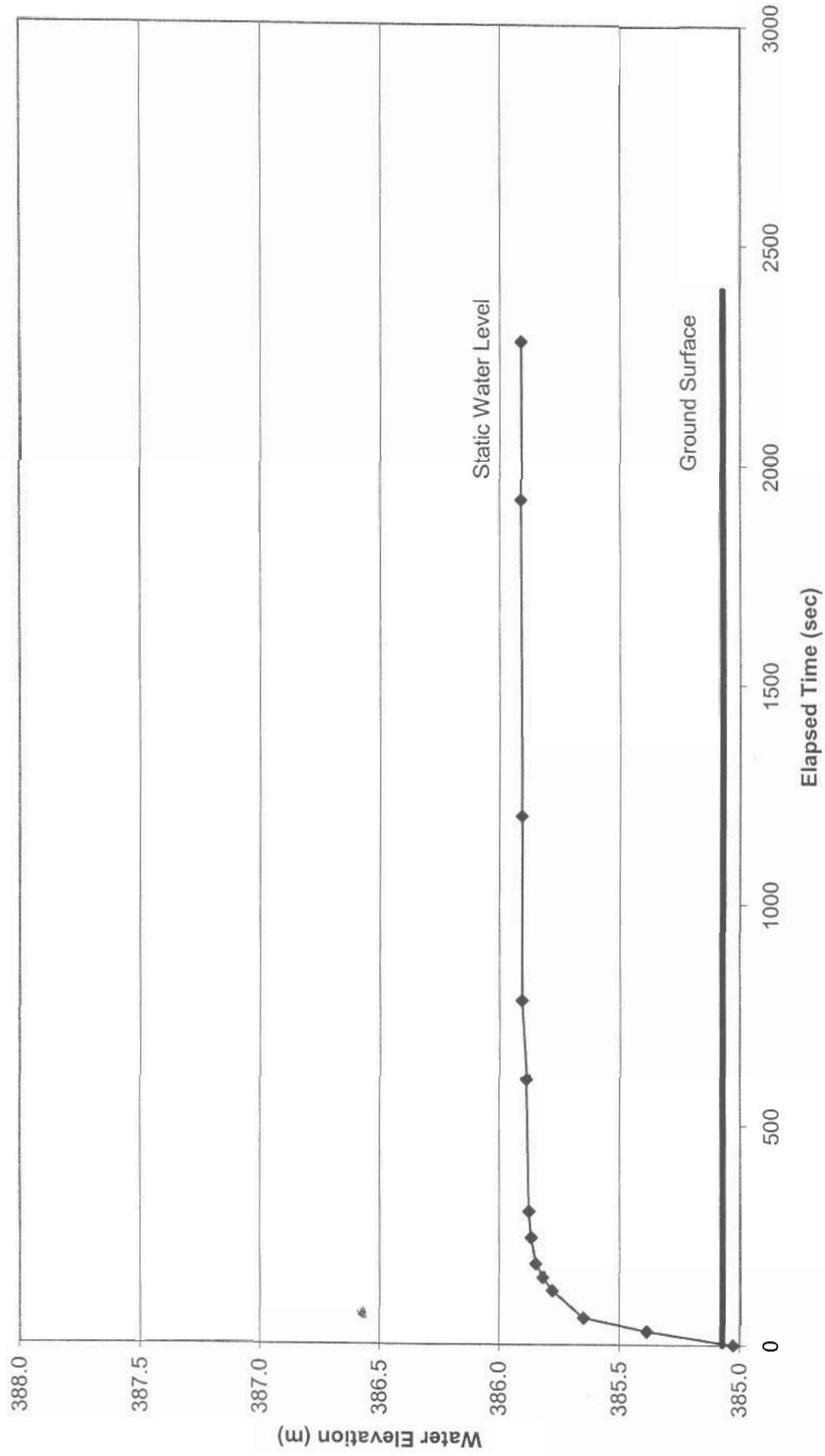


Figure VII-7
BGC03-14
Recovery Test performed on May 31, 2003



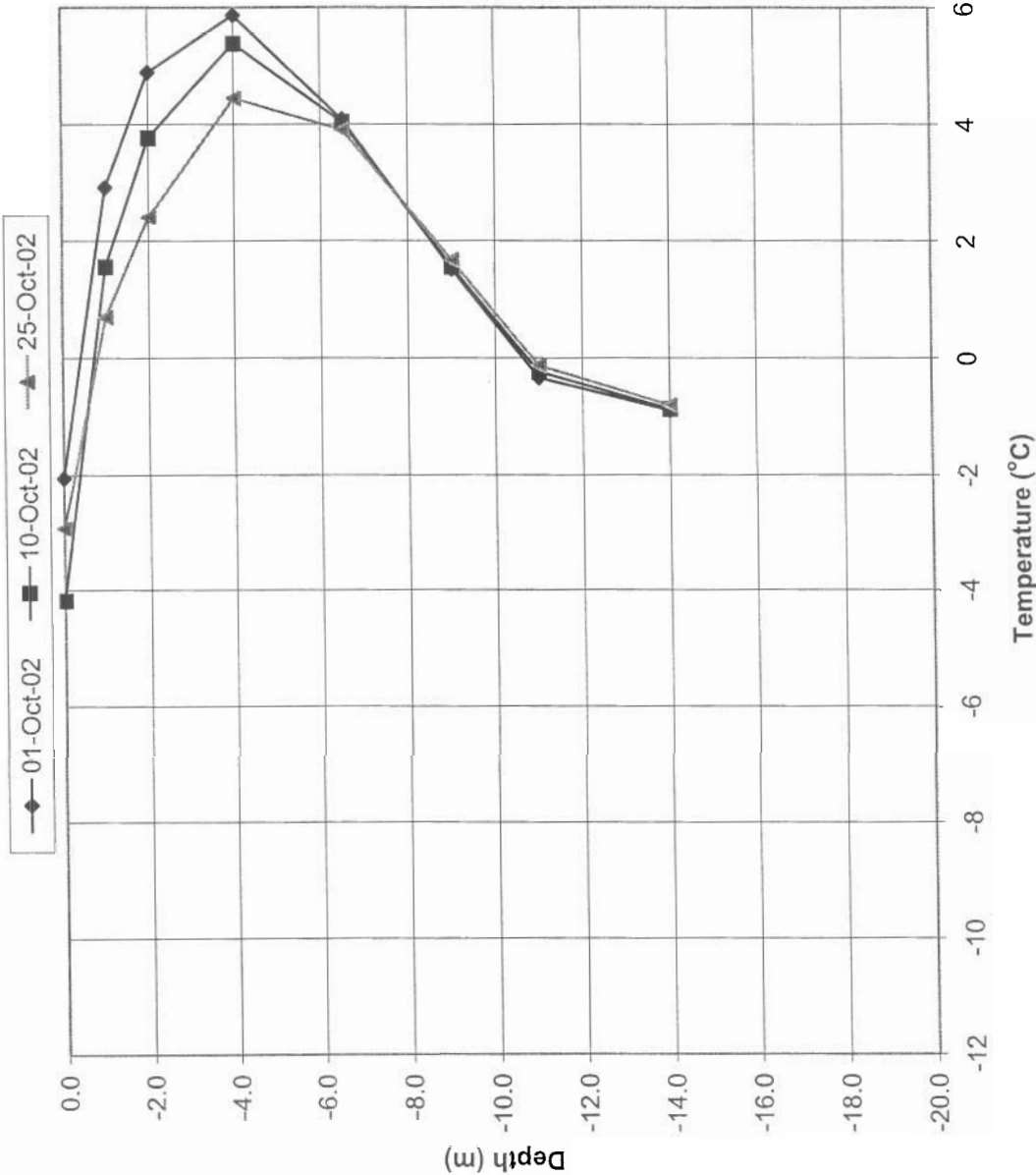
APPENDIX VIII - GEOTHERMAL MONITORING DATA

Geothermal Monitoring Data – 2002/2003 Instruments

Geothermal Monitoring Data – Pre-2002 Instruments

Note: Many thermistor / thermocouple plots contain stratigraphic logs. These logs are a summary of the information presented in the official borehole logs in Appendix II. The descriptions and depth intervals on the condensed logs are considered approximate. The official borehole logs in Appendix II should be referenced for detailed information.

Geothermal Monitoring
Surface Cell
Thermistor BGC02-01



Tailings
Frozen
Frost Shattered Bedrock

Geothermal Monitoring
Surface Cell
Thermistor BGC02-02

