

**Golder Associates Ltd.**

500 - 4260 Still Creek Drive  
Burnaby, British Columbia V5C 6C6  
Telephone 604-296-4200  
Fax 604-298-5253



**REPORT ADDENDUM  
DETAILED DESIGN OF DEWATERING DIKES  
MEADOWBANK GOLD PROJECT**

Submitted to:

Meadowbank Mining Corporation  
Suite 950, One Bentall Center  
505 Burrard Street  
Vancouver, BC  
V7X 1M4

**DISTRIBUTION:**

- 1 Copy Dr. N. Morgenstern
- 2 Copies - Meadowbank Mining Corporation
- 2 Copies - Golder Associates Ltd.

July 12, 2007

07-1413-0047/3000  
Doc. No. 492 Ver. 0



## **EXECUTIVE SUMMARY**

This report addendum presents an update to: Detailed Design of Dewatering Dikes, Meadowbank Gold Project, March 13, 2007. The alignment of the south end of the Bay Zone Dike has been revised, resulting in water depths of less than 7.2 metres at dike centreline. Updated tables of volumes, quantities, specifications, and drawings presented here supersede those presented in the original design report.

## TABLE OF CONTENTS

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
1.0 INTRODUCTION.....	1
2.0 DESIGN CRITERIA.....	2
3.0 SITE CLIMATE AND HYDROGEOLOGICAL CONDITIONS.....	2
4.0 GEOLOGICAL AND GEOTECHNICAL CONDITIONS.....	2
5.0 DIKE DESIGN .....	2
5.1 Design Concept.....	2
5.2 Stability Analyses .....	2
5.3 Seepage .....	2
5.3.1 Summary of Results .....	2
5.3.2 Predicted Seepage .....	2
6.0 CONSTRUCTION AND OPERATION.....	4
6.1 Mine Development Plan .....	4
6.2 Materials Balance .....	4
6.3 Geotechnical Investigations.....	4
6.4 Dike Construction Sequence and Techniques .....	5
6.5 Instrumentation and Monitoring.....	5
7.0 OPPORTUNITIES.....	10
CLOSURE .....	10
REFERENCES.....	11
IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT .....	12

## LIST OF TABLES

Table 1.1	Dike Characteristics
Table 5.7	Predicted Seepage Rates
Table 5.8	Summary of Dike Lengths
Table 5.9	Summary of Seepage Volumes
Table 6.2	Lake Volumes Inside Dewatering Dikes
Table 6.3	Geotechnical Instrumentation Summary
Table 6.4	Summary of Thermistor Strings
Table 6.5	Summary of Slope Inclinator Locations

## APPENDIX

Appendix IV	Dike Construction and Cutoff Wall Review
Appendix V	Specifications
Appendix VI	Drawings

## 1.0 INTRODUCTION

This addendum presents an update to the report: Detailed Design of Dewatering Dikes, Meadowbank Gold Project, March 13, 2007.

The alignment of the south end of the Bay Zone Dike has been revised, resulting in water depths of less than 7.2 metres at dike centreline.

The report addendum follows the layout of the original report, with identical numbering for updated tables and text sections. Only portions of the original report affected by the design changes are included.

Table 1.1 presents updated characteristics for the Bay Zone Dike. Revised estimates of the cutoff wall areas for the Goose Island Dike are also included. Areas of cutoff walls are taken to the surface of bedrock and do not account for embedment. Cutoff walls at abutments are not included in Table 1.1. A 30 m portion of the Goose Island Dike will be built as part of the Bay Zone Dike and the cutoff for this portion is therefore included with quantities for the Bay Zone Dike.

**TABLE 1.1: Dike Characteristics**

	<b>East Dike</b>	<b>Bay Zone Dike</b>	<b>Goose Island Dike</b>
Maximum water depth at cutoff wall (m)	5.8	7.2	20.1
Crest length at centreline excluding abutments (m)	840	1,479 Includes 30 m Goose Island Dike stub	1,735
Crest width (m)	77-93	86-102	82-134
Outer slopes	1.6 horizontal: 1 vertical	1.6 horizontal: 1 vertical	1.6 horizontal: 1 vertical
Crest elevation (masl)	136.1	136.1	136.1
Top cutoff elevation (masl)	135.1	135.1	135.1
Area of soil bentonite cutoff Wall (m <sup>2</sup> )	5,160	3,832	4,890
Area of soil cement bentonite cutoff wall (m <sup>2</sup> )	-	9,520	10,600
Area of jet grout cutoff wall (m <sup>2</sup> )	-	-	7,790



## **2.0 DESIGN CRITERIA**

No changes.

## **3.0 SITE CLIMATE AND HYDROGEOLOGICAL CONDITIONS**

No changes.

## **4.0 GEOLOGICAL AND GEOTECHNICAL CONDITIONS**

No changes.

## **5.0 DIKE DESIGN**

### **5.1 Design Concept**

No changes.

### **5.2 Stability Analyses**

No changes. Revision of the alignment does not change the critical section for stability.

### **5.3 Seepage**

The average length of the Bay Zone Dike increases from 1210 m to 1480 m. The average depth of the dike does not change significantly. Consequently, the average flow increases.

#### **5.3.1 Summary of Results**

Seepage analyses have been updated as follows:

- Seepage into Third Portage Pit is estimated to be on the order of 350 m<sup>3</sup>/day to 2,560 m<sup>3</sup>/day over the mine life.

#### **5.3.2 Predicted Seepage**

Predicted seepage rates are unchanged, as summarized in Table 5.7. Updated equivalent lengths of the Bay Zone Dike are shown in Table 5.8. Volumes of seepage for the dikes

based on the summation of the flow rates for each section are shown in Table 5.9, which has been updated to reflect changes in the Bay Zone Dike length.

**TABLE 5.7: Predicted Seepage Rates**

Section	Flux (l/day/m)				
	Water Depth (m)	At end of Drawdown	Pit Half Open	Pit Open	Closure
Shallow	2	96	946	1081	39
Medium	5.6	232	1009	1122	
Deep	20.1	372	1475	1538	

**TABLE 5.8: Summary of Dike Lengths**

Dike	Total Alignment Length (m)	Length Medium (m)	Length Deep (m)	Length Shallow (m)
East	830	Not applicable	Not applicable	680
Bay Zone	1480	1480	Not applicable	Not applicable
Goose Island	1720	1420	300	Not applicable

**TABLE 5.9: Summary of Seepage Volumes**

Dike	Total Seepage Volume (m <sup>3</sup> /day)			
	At end of Drawdown	Pit Half Excavated	Pit Fully Excavated	Closure
East Dike	80	820	900	30
Bay Zone Dike	340	1500/670*	1660/740*	
Goose Island Dike	450	1900	2000	

\*Bay Zone Dike volumes given for Goose Island Dike not present/present.

## 6.0 CONSTRUCTION AND OPERATION

### 6.1 Mine Development Plan

No changes.

### 6.2 Materials Balance

The increase in length of the Bay Zone Dike will require additional materials for dike construction. Requirements are provided in Appendix V, Administration Specification.

Table 6.2 summarizes estimates of total volume of water inside the proposed dewatering dikes for Second Portage Lake Arm, Third Portage Lake, and Vault Lake, based on bathymetry carried out at the site in 2002, 2003 and 2006. The total quantity of water inside the Bay Zone Dike and the Goose Island Dike does not change. However, volume estimates in Table 6.2 have been updated.

**TABLE 6.2: Lake Volumes Inside Dewatering Dikes**

Location	Lake Section	Volume (Mm <sup>3</sup> )
Second Portage Lake Arm (elevation 133.1 masl)	Northwest Basin (attenuation pond)	2.0
	Main Basin	10.5
	East Basin (adjacent to East Dike)	2.0
	Total Second Portage Lake Arm within East Dike	14.5
Third Portage Lake – Goose Island Area	Inside Bay Zone Dike	0.7
	Between Bay Zone Dike and Goose Island Dike	2.2
	Total Third Portage Lake –Area within Goose Island Dike	2.9
Vault Lake (elevation 139.4 m masl)	Total Vault Lake within Vault Dike	2.2
Total		19.6

### 6.3 Geotechnical Investigations

No changes.

#### 6.4 Dike Construction Sequence and Techniques

No changes.

#### 6.5 Instrumentation and Monitoring

Instrumentation requirements have been updated, as summarized in Tables 6.3, 6.4, and 6.5, and shown in Drawings 6000-30 to 32.

**TABLE 6.3: Geotechnical Instrumentation Summary**

<b>Instrumentation</b>	<b>East Dike (840 m length)</b>	<b>Bay zone Dike (1480 m length)</b>	<b>Goose Island Dike (1735 m length)</b>
Multi-level Piezometer	36	84	84
Thermistor Strings	7	17	9
Slope Inclinometers	3	7	7
Surface Prisms (25m spacing)	33	59	70
Surface Monuments (25m spacing)	33	59	70
Surface Control Monuments	2 (one at each abutment)	3 (one at each abutment and one on land southeast of dike)	2 (one at abutment and one on island south of dike)
Seismographs	2		

**TABLE 6.4: Summary of Thermistor Strings**

<b>Dike</b>	<b>Thermistor String ID</b>	<b>Station</b>	<b>Offset (m) to Cut off wall</b>	<b>Bead Locations</b>	<b>Bedrock Surface El. (masl)</b>	<b>Lake Bed Till Surface El. (masl)</b>	<b>Thermistor String Length (m) from Crest El. 136.1 masl</b>
<b>Goose Island</b>	<b>T1</b>	<b>30+260</b>	<b>0</b>	<ul style="list-style-type: none"> <li>• First bead at surface</li> <li>• 0.5m, 1.0m, 1.5m, 2.0m, 2.5m, 3.0m, 4.0m, and 5.0m depths for first 5m</li> <li>• 5m spacing afterwards</li> <li>• Last bead embedded 3m into bedrock</li> </ul>	122	128	17
	T2	30+540			119	126	20
	T3	30+680			106	114	33
	T4	30+840			118	123	21
	T5	31+140			128	132	11.1
	T6	31+400			120	127	19
	T7	31+500			120	126	19
	T8	31+720		<ul style="list-style-type: none"> <li>• First bead at surface</li> <li>• 5m spacing for 25m depth</li> </ul>	134.1	136.1	25
	T9	25m downchainage of 31+720			134.1	136.1	25
<b>Bay Zone</b>	T10	0+160		<ul style="list-style-type: none"> <li>• First bead at surface</li> <li>• 0.5m, 1.0m, 1.5m, 2.0m, 2.5m, 3.0m, 4.0m, and 5.0m depths for first 5m</li> <li>• 5m spacing afterwards</li> <li>• Last bead embedded 3m into bedrock</li> </ul>	132	133	8
	T11	0+320			132	134	7
	T12	0+520			121	127	18
	T13	0+720			126	130	13
	T14	0+920			121	127	19
	T15	1+120			128	134	11

Dike	Thermistor String ID	Station	Offset (m) to Cut off wall	Bead Locations	Bedrock Surface El. (masl)	Lake Bed Till Surface El. (masl)	Thermistor String Length (m) from Crest El. 136.1 masl
	T16	0+520	-22	<ul style="list-style-type: none"> <li>First bead at surface</li> <li>0.5m, 1.0m, 1.5m, 2.0m, 2.5m, 3.0m, 4.0m, and 5.0m depths</li> </ul>	121	127	5
	T17		-15				5
	T18		15				5
	T19	0+920	-22		121	127	5
	T20		-15				5
	T21		15				5
Bay Zone	T22	0+000	0	<ul style="list-style-type: none"> <li>First bead at surface</li> <li>5m spacing for 25m depth</li> </ul>	134.1	136.1	25
	T23	25m upchainage of 0+000			134.1	136.1	25
	T24	1+479			134.1	136.1	25
	T25	25m down chainage of 1+479			134.1	136.1	25
	T33	1+280		<ul style="list-style-type: none"> <li>First bead at surface</li> <li>0.5m, 1.0m, 1.5m, 2.0m, 2.5m, 3.0m, 4.0m, and 5.0m depths for first 5m</li> <li>5m spacing afterwards</li> <li>Last bead embedded 3m into bedrock</li> </ul>	120.0	129.1	19.1

<b>Dike</b>	<b>Thermistor String ID</b>	<b>Station</b>	<b>Offset (m) to Cut off wall</b>	<b>Bead Locations</b>	<b>Bedrock Surface El. (masl)</b>	<b>Lake Bed Till Surface El. (masl)</b>	<b>Thermistor String Length (m) from Crest El. 136.1 masl</b>
<b>East</b>	T26	60+240	0	<ul style="list-style-type: none"> <li>• First bead at surface</li> <li>• 0.5m, 1.0m, 1.5m, 2.0m, 2.5m, 3.0m, 4.0m, and 5.0m depths for first 5m</li> <li>• 5m spacing afterwards</li> <li>• Last bead embedded 3m into bedrock</li> </ul>	128.1	130.1	11
	T27	60+440			126.0	128.0	13
	T28	60+700			127.5	129.4	12
	T29	60+000		<ul style="list-style-type: none"> <li>• First bead at surface</li> <li>• 5m spacing for 25m depth</li> </ul>	134.1	136.1	25
	T30	25m upchainage of 60+000			134.1	136.1	25
	T31	60+839			134.1		25
	T32	25m down chainage of 60+839			134.1		25

**TABLE 6.5: Summary of Slope Inclinator Locations**

<b>Dike</b>	<b>Inclinometer String ID</b>	<b>5m upchainage from Station</b>	<b>Offset (m) to Cut off wall</b>	<b>Bedrock Surface El. (masl)</b>	<b>Lake Bed Till Surface El. (masl)</b>	<b>Inclinometer Casing Length (m) from Crest El. 136.1 masl</b>
Goose Island	S1	30+260	0	122	128	17
	S2	30+540		119	126	20
	S3	30+680		106	114	33
	S4	30+840		118	123	21
	S5	31+140		128	132	11
	S6	31+400		120	127	19
	S7	31+500		120	126	19
Bay Zone	S8	0+160		132	133	8
	S9	0+320		132	134	7
	S10	0+520		121	127	18
	S11	0+720		125	129	13
	S12	0+920		121	127	18
	S13	1+120		128	134	11
	S17	1+280		120	129	19
East	S14	60+240		128	130	11
	S15	60+440		126	128	13
	S16	60+700		127	129	12



## **7.0 OPPORTUNITIES**

Opportunities to move the Bay Zone Dike alignment to eliminate the deep water section have been addressed by this report addendum.

## **CLOSURE**

The reader is referred to the "Important Information and Limitations of This Report" which follows the text but forms an integral part of this document.

If you have any questions please do not hesitate to contact us.

## **GOLDER ASSOCIATES LTD.**

**ORIGINAL SIGNED BY**

Ben Wickland, Ph.D., P.Eng.  
Geotechnical Engineer

**ORIGINAL SIGNED AND SEALED BY**

Terry L. Eldridge, P.Eng.  
Principal

BEW/TLE/aaf/mrb

O:\Final\2007\1413\07-1413-0047\Doc 492\12jul\_07 Dewatering Dikes Design Report Addendum Ver 0.Doc

## **REFERENCES**

Golder, 2006. Detailed Design of Dewatering Dikes, Meadowbank Gold Project, Nunavut. Golder Associates Ltd. 2006

## IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

**Standard of Care:** Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

**Basis and Use of the Report:** This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder can not be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client can not rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report

without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, and safety and equipment capabilities.

**Soil, Rock and Groundwater Conditions:** Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. **The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report.** The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or

frost. Unless otherwise indicated the soil must be protected from these changes during construction.

**Sample Disposal:** Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

**Follow-Up and Construction Services:** All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

**Changed Conditions and Drainage:** Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

**APPENDIX IV**

**DIKE CONSTRUCTION  
AND CUTOFF WALL REVIEW**

**APPENDIX V**  
**SPECIFICATIONS**

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 1 of 20	Rev E

**PREPARED FOR:**

**PREPARED BY:**



E	06/JUL/07	ISSUED FOR BIDDING-QUANTITIES REVISED	BW	N.W.T.
D	13/MAR/07	ISSUED FOR BIDDING	AS	TLE
C	20/FEB/07	ISSUED FOR CLIENT REVIEW	AS	HH
A	18/FEB/07	ISSUED FOR REVIEW	AS	HH
REV.	DATE	REASON FOR REVISION	BY	APP



1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 2 of 20	Rev E

## TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 SCOPE .....	4
2.0 GENERAL .....	4
2.1 General Site Conditions.....	4
2.2 Definitions.....	5
2.3 Codes and Regulations .....	7
3.0 EXECUTION .....	8
3.1 Scope of Work .....	8
3.2 Sequencing Description.....	9
3.2.1 MMC Work Concurrent with Contractor Work .....	9
3.2.2 Contractor work .....	9
4.0 MEETINGS.....	10
5.0 ENVIRONMENTAL ISSUES.....	10
6.0 HEALTH AND SAFETY .....	10
7.0 COOPERATION.....	11
8.0 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS .....	11
8.1 Power Supply .....	11
8.2 Construction Water.....	12
8.3 Dust Control.....	12
8.4 Surface Water Control .....	12
8.5 Work Area.....	12
8.6 Traffic Control .....	12
9.0 MOBILIZATION AND DEMOBILIZATION .....	13
10.0 SUBMITTALS.....	13
11.0 COMPLETION OF THE WORK.....	14
12.0 EXCLUSIONS .....	15
13.0 SITE INSPECTION .....	15
14.0 MEASUREMENT AND PAYMENT .....	15
15.0 PRELIMINARY LIST OF QUANTITIES .....	15
16.0 REFERENCE DRAWINGS AND SPECIFICATIONS.....	17

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 3 of 20	Rev E

## LIST OF TABLES

Table 1	Dewatering Dikes – Preliminary Quantities for Bidding Purposes
Table 2	Dewatering Dikes - List of Drawings
Table 3	Dewatering Dikes Construction - List of Specifications
Table 4	Mine Development Plan

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 4 of 20	Rev E

## **1.0 SCOPE**

This Specification provides general administrative requirements related to the Dewatering Dikes construction for Meadowbank Mining Corporation (MMC) at Meadowbank Gold Project site in Nunavut, Canada.

## **2.0 GENERAL**

The gold ore deposits at Meadowbank Gold Project site are situated adjacent to and beneath Second Portage lake and Third Portage lake. Three dewatering dikes are required to isolate open pit mining activities from the lakes:

- East Dike– to be constructed prior to mill startup;
- Bay Zone Dike – to be constructed prior to mill startup; and
- Goose Island Dike – to be constructed by Year 2 of the mine life.

The construction methodology consists of:

1. Construction of rockfill dike, granular filter with glacial till core.
2. Construction of cutoff wall through the glacial till core.
3. Construction of grout curtain into the bedrock.

The dikes will be constructed by “bulkheading” the two rockfill embankments, leaving sufficient space between the two dikes to subsequently place the glacial till core zone. “Bulk heading” consists of dumping rockfill at the furthest or leading end of the active rockfill berm located in the lake, then pushing the rockfill over the edge with a bulldozer. The filter zone construction, either by clamshell or by bucket placement, will follow behind the rock dike embankment construction. The glacial till core backfill will be placed by bulkheading. The cutoff wall will be excavated through the glacial till core backfill. The type of cutoff wall (jet grout, soil-bentonite or cement-soil-bentonite) depends on the depth to the bedrock. A grout curtain will be constructed into the bedrock through the cutoff wall alignment.

A site investigation will be carried out prior to or concurrently with construction to characterize foundation conditions.

### **2.1 General Site Conditions**

A summary of the subsurface conditions is presented in Golder Associates March 2007 Meadowbank Gold Project Dewatering Dike Detailed Design Report.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 5 of 20	Rev E

## 2.2 Definitions

Work	<ul style="list-style-type: none"> <li>All activities associated with the construction of the dewatering dikes including quality control and instrumentation installation.</li> </ul>
Manager	<ul style="list-style-type: none"> <li>Meadowbank Mining Corporation (MMC) responsible for providing items noted in the contract package as being supplied by MCC, obtaining all relevant permits, and providing the contractor reasonable access to the general open areas surrounding the work site.</li> </ul>
Contractor	<ul style="list-style-type: none"> <li>A construction contracting company to be selected by MCC to carry out the Dewatering Dikes Construction Work.</li> <li>Responsible to provide all other items and incidentals not supplied by the Manager to bring the construction Work or additional Work as requested by the Manager to final completion.</li> <li>Contractor is responsible for proper construction of the work including any work performed by its Sub Contractors.</li> <li>Shall provide survey control and Quality Control (QC) for the work it undertakes.</li> <li>Reports to CM.</li> </ul>
Engineer	<ul style="list-style-type: none"> <li>Golder Associates Ltd. (Golder)</li> </ul>
Construction Manager (CM)	<ul style="list-style-type: none"> <li>Represents the Manager on site and has the authority to direct all aspects of the work. Responsible for all project communications, arranging daily and weekly meetings as required, holding problem resolution meetings for resolution of Quality Assurance and Quality Control QA/QC issues.</li> <li>Work that has been stopped because of non-compliance with the QA/QC Plan shall resume only after a plan for corrective action prepared by the Contractor has been approved by the Construction Manager.</li> </ul>

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 6 of 20	Rev E

Quality Assurance Manager	<ul style="list-style-type: none"> <li>Represents the Engineer on site and has the authority to approve aspects of the work as following the design intent and specifications</li> <li>Responsible for performing tasks outlined in QC Requirements Specification 1000-08.</li> <li>QA manager has authority to stop any aspects of work that is not in compliance with the QA/QC Plan.</li> </ul>
Approval	<ul style="list-style-type: none"> <li>A written engineering or geotechnical opinion, concerning the progress and completion of the Work.</li> </ul>
Quality Assurance (QA)	<ul style="list-style-type: none"> <li>Planned and systematic activities that provide adequate confidence to the Owner and various stakeholders that quality control is being implemented effectively.</li> </ul>
Quality Control (QC)	<ul style="list-style-type: none"> <li>A planned system of inspection and testing carried out according to accepted standard specifications to ensure the quality of construction work.</li> </ul>
Ice-rich Soil	<ul style="list-style-type: none"> <li>Frozen soils that contain more than 10 percent visible ice and/or have a moisture content greater than 30%.</li> <li>Normally ice lenses are present.</li> </ul>
Ice-poor Soil	<ul style="list-style-type: none"> <li>Frozen soils that contain less than 10 percent visible ice and have a moisture content less than 30%.</li> <li>No visible ice lensing.</li> </ul>
Rockfill IV	<ul style="list-style-type: none"> <li>Intermediate Volcanic waste rock material that is produced from the Portage Pit excavation meeting the design specification.</li> </ul>
Rockfill IF	<ul style="list-style-type: none"> <li>Iron Formation waste rock material that is produced from the Portage Pit excavation meeting the design specification.</li> </ul>
Rockfill UM+Q	<ul style="list-style-type: none"> <li>Ultramafic and quartzite waste rock material that is produced from the Portage Pit excavation meeting the design specification.</li> </ul>
Coarse Filter	<ul style="list-style-type: none"> <li>Material produced from IV rockfill and meeting the design specification.</li> </ul>
Fine Filter	<ul style="list-style-type: none"> <li>Material produced from crushing of IV rockfill and meeting the design specification.</li> </ul>

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 7 of 20	Rev E

Glacial till	<ul style="list-style-type: none"> <li>Glacial till soil consisting of clay, silt, and sand with gravel and cobble and meeting the design specification. Till and glacial till used interchangeably.</li> </ul>
Bentonite-water slurry	<ul style="list-style-type: none"> <li>A stable colloidal suspension of powdered bentonite in water. The terms “slurry” and “bentonite-water slurry” are used interchangeably in Dewatering Dikes specifications.</li> </ul>
Soil-Bentonite (SB) Backfill	<ul style="list-style-type: none"> <li>A homogenous mixture of glacial till, bentonite and water.</li> </ul>
Soil-Cement-Bentonite (SCB) Backfill	<ul style="list-style-type: none"> <li>A homogenous mixture of glacial till, cement, bentonite and water.</li> </ul>
Jet Grout Mixture	<ul style="list-style-type: none"> <li>A homogenous mixture of cement and soil with or without bentonite used in Jet Grouting.</li> </ul>
Work Completion Report	<ul style="list-style-type: none"> <li>Summary report prepared by Contractor</li> </ul>

### 2.3 Codes and Regulations

Work shall conform to, but not limited to the requirements of the latest editions of the following standards and codes which are part of this Specification:

ASTM D422	Test Method for Particle-Size Analysis of Soils
ASTM D1140	Test Method for Amount of Material in Soils Finer Than the No. 200 (75 µm) Sieve
ASTM C136	Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D2216	Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock
ASTM D2922	Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (shallow depths)
ASTM D6910	Standard Test Method for Marsh Funnel Viscosity of Clay Construction Slurries
ASTM D 422	Particle-Size Analysis of Soils
ASTM D 1140	Materials Finer than No. 200 Sieve

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 8 of 20	Rev E

ASTM D 4318	Liquid Limit, Plastic Limit and Plasticity Index of Soils
ASTM D 4380	Density of Bentonite Slurries
ASTM D 4381	Sand Content by Volume of Bentonite Slurries
ASTM D 2434	Hydraulic Conductivity Using a Rigid Wall Permeameter
Mine Health and Safety Act (Nunavut)	
Mine Health and Safety Regulations (Nunavut)	

ASTM: American Society for Testing and Materials

API: American Petroleum Institute

Codes specific to the cutoff wall construction are provided in Soil-Bentonite and Soil-Cement-Bentonite Cutoff Wall Construction Specification 1000-05 and in Jet Grout Cutoff Wall Construction Specification 1000-04. QC Plan details are presented in QC Requirements Specification 1000-08.

### **3.0 EXECUTION**

The Dewatering Dikes construction package includes Work to be carried out by both MMC and the Contractor. The following describes the scope of work and defines work to be carried out by each of MMC and the Contractor, and presents the expected sequencing of the work.

#### **3.1 Scope of Work**

The scope of work is presented in the construction Drawings listed in Table 2 and the Specifications listed in Table 3. A plan for mine development is presented in Table 4. A general description of the Dewatering Dikes construction includes the following:

- Pre-construction geotechnical investigations;
- rockfill embankment construction;
- coarse and Fine Filter placement;
- glacial till core backfill placement;
- cutoff wall construction;
- grout curtain installation; and
- instrumentation installation and monitoring.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 9 of 20	Rev E

### **3.2 Sequencing Description**

The following describes the expected general sequence for Dewatering Dikes construction and indicates work which is the responsibility of MMC and work which is the responsibility of the Contractor.

#### **3.2.1 MMC Work Concurrent with Contractor Work**

MMC will supply and place rockfill directly from the pit excavations.

#### **3.2.2 Contractor work**

The following work can be carried out by the Contractor:

- Coarse and Fine Filter production and placement;
- glacial till core backfill processing and placement;
- cutoff wall construction;
- grout curtain installation; and
- instrumentation installation and monitoring.



1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 10 of 20	Rev E

#### **4.0 MEETINGS**

Weekly progress meeting will be held and chaired by the CM and shall be attended by all parties. Minutes of meetings shall be prepared and distributed by the CM.

Other meetings may be called as required by the CM.

#### **5.0 ENVIRONMENTAL ISSUES**

The Contractor and his Sub Contractors are entirely responsible for prevention of pollution and other environmental problems related to the construction activities of the Dewatering Dikes construction.

The Contractor and his Sub Contractors shall incorporate environmental considerations while developing and implementing his own work procedures.

A draft copy of the Contractor's site specific Environmental Management plan (EMP) shall be prepared and submitted to the CM for review a minimum of 1 month prior to mobilization to Meadowbank. The CM and MMC will review and provide comments on the draft Environmental Management Plan to the Contractor.

The Contractor must have a MMC approved Environmental Management Plan prior to mobilization to the site.

The Contractor must maintain an up to date and approved Environmental Management Plan covering all work activities being conducted throughout the Work.

Any spill or environmental concern shall be reported immediately to the CM.

#### **6.0 HEALTH AND SAFETY**

The Contractor is entirely responsible for the Health and Safety (H&S) at the work site.

The Contractor and his Sub Contractors shall incorporate H&S considerations while developing and implementing their own work procedures.

The Contractor shall also comply with relevant H&S regulations and MMC H&S protocols and procedures.

The Contractor shall comply with any additional MCC H&S Safety Plan.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 11 of 20	Rev E

The Contractor shall observe the regulations, procedures and restriction for the ingress to the construction area.

The Contractor shall prepare and submit to the CM for review and approval a site-specific health and safety plan that compiles with MMC regulations and in addition covers any additional health and safety requirements specifically related to the Contractor's work. Following approval of the plan, the plan shall be implemented.

A draft copy of the Contractor's site specific H&S plan shall be prepared and submitted to the CM for review a minimum of 1 month prior to mobilization to Meadowbank. The CM and MCC will review and provide comments on the draft H&S plan to the Contractor.

The Contractor must have a MMC approved H&S Plan covering all work activities being conducted.

Any accident, near accident or H&S concern shall be reported immediately to the CM.

## **7.0 COOPERATION**

The Contractor and his Sub Contractors shall cooperate with other parties to allow time and provide a safe work condition to carry out any site visit required to check environmental or health & safety concerns, perform control surveys and QA/QC operations. The Contractor and his Sub Contractors shall provide labour and equipment as required to contain and/or clean up any environmental spills.

## **8.0 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS**

Access to the site will be provided by the CM. The Contractor will not have sole access to the Work area and must be prepared to share and coordinate activities and access with others, through the CM. The Contractor shall coordinate with the CM the location of any staging areas, temporary facilities, haul roads or access roads.

### **8.1 Power Supply**

The contractor shall provide any temporary power required for the Work.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 12 of 20	Rev E

## **8.2 Construction Water**

Water for dust control, moisture conditioning material to be placed as fill, and for maintaining in-place fill soils shall be obtained by the Contractor. The Contractor must supply all the pumps and tanks necessary. Water will be available at a location determined by the CM.

## **8.3 Dust Control**

During performance of the Work defined by the Specifications or any related operations, the Contractor shall control dust emissions.

## **8.4 Surface Water Control**

The Contractor is responsible for controlling surface water and protecting Work from damage caused by this water.

## **8.5 Work Area**

The Contractor shall:

- Store and dispense fuel, lubricating oils, and chemicals in such a manner to prevent or contain spills and prevent materials from entering local streams or groundwater according to applicable regulatory requirements.
- Maintain copies of Material Safety Data Sheets (MSDS) on file at the site for all hazardous materials.
- Avoid damaging instrumentation or instrumentation cables, such as piezometers, used at the site.

## **8.6 Traffic Control**

MCC mine heavy equipment and haulage traffic has the right of way at all times.

The Contractor shall provide a flag person or persons at intersections with limited visibility and heavy traffic.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 13 of 20	Rev E

## **9.0 MOBILIZATION AND DEMOBILIZATION**

Comprises mobilization to the mine of all materials, supplies, equipment and tools required to carry out the Work. It includes demobilization out of the mine of all remaining materials, equipment, and tools, hauled on site by the Contractor to carry out the Work.

All the means of transportation shall be the exclusive responsibility of the Contractor. MMC shall not provide any transportation service to or within the mine.

The Contractor is solely responsible for the planning and mobilization of materials and construction equipment, in accordance with the construction schedule. It is also the responsibility of the Contractor that Sub Contractors and their transportation equipment comply with the same safety regulations as the Contractor.

It is required that all Contractor's and Sub Contractor's equipment to be used in the Work pass a technical inspection conducted by MMC Operations' personnel.

Upon completion of the Work, the Contractor shall remove any temporary structure built during the Work and/or shall require or remove any temporary construction that he may have installed during the Work.

The Contractor shall comply with all regulations at MCC regarding mobilization towards and within the mine.

## **10.0 SUBMITTALS**

The Contractor must submit the following information to the CM:

With Bid:

- Summary of Company Experience;
- resumes of Proposed Contractor's Superintendent, Grouting and Drilling Operations Manager, Drillers, Grouting Operators, and other key personnel;
- a proposed schedule; and
- minimum equipment list, identifying the minimum equipment proposed to complete the Work.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 14 of 20	Rev E

Prior to Mobilization:

- Site-specific Environmental Management Plan;
- site-specific Health and Safety Plan;
- description outlining the proposed methods for conducting the Work, including excavation, drilling, grouting, cutoff wall construction, earthwork;
- QC Plan; and
- revised schedule.

During Construction:

- Maintain an up-to-date construction schedule;
- maintain an up-to-date Environmental Management Plan covering all aspects of the Work; and
- maintain an up-to-date Health and Safety Plan covering all aspects of the Work.

## **11.0 COMPLETION OF THE WORK**

Immediately upon completion of the Work the Contractor shall prepare the Work Completion Report (WCR) that shall provide as a minimum the following:

- Descriptive report;
- original construction record;
- copies of meeting minutes, Field Change Notices (FCN), Site Instructions (SI), Request for information (RFI), and any other format that has been part of the Work;
- original protocols of field or lab tests, duly signed by both parties (Contractor and Site Engineer);
- As Built Drawings based on as-built survey information for foundation preparation, placement for each construction material, and instrumentation installation layout in electronic AutoCAD and hard copy format;
- liner installation As-Built panel layout drawings in electronic AutoCAD and hard copy format;
- calculation sheets for actual quantities of work executed, duly signed by both parties (Contractor and Site Engineer);
- Liquidation of the Work;
- installation details of instrumentation in electronic and hard copy format; and
- final Safety Report.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 15 of 20	Rev E

The Contractor shall demonstrate compliance with all legal, tax, social security and other obligations required by MMC. Submittal of such documents shall be attached to each payment request.

## **12.0 EXCLUSIONS**

Excluded from the scope of work are the materials furnished by MMC.

## **13.0 SITE INSPECTION**

A compulsory site inspection will be held for all bidders. It is essential for all contractors intending on submitting a bid to attend this inspection. Contractors shall provide the following minimum PPE for each staff member attending the meeting:

- Steel toe boots;
- reflective vest;
- hard hat;
- safety glasses;
- hearing protection;
- gloves; and
- appropriate cold climate protection.

## **14.0 MEASUREMENT AND PAYMENT**

Details on measurement and payment for bidding purposes will be added at a later date.

## **15.0 PRELIMINARY LIST OF QUANTITIES**

For bidding purposes, a list of quantities associated with the work proposed in this document is provided in Table 1.

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 16 of 20	Rev E

**TABLE 1: Dewatering Dikes – Preliminary Quantities for Bidding Purposes**

Material	Approximate Quantity		
	Goose Dike	Bay Zone	East Dike
Rockfill Iron Formation	882 245 m <sup>3</sup>	267 626 m <sup>3</sup>	146 569 m <sup>3</sup>
Rockfill Intermediate Volcanic	384 482 m <sup>3</sup>	213 929 m <sup>3</sup>	86 035 m <sup>3</sup>
Rockfill Ultramafic and Quartzite	270 794 m <sup>3</sup>	250 155 m <sup>3</sup>	192 435 m <sup>3</sup>
Fine Filter	26 601 m <sup>3</sup>	10 245 m <sup>3</sup>	6 492 m <sup>3</sup>
Coarse Filter	26 601 m <sup>3</sup>	10 245 m <sup>3</sup>	6 492 m <sup>3</sup>
Glacial Till Core Backfill	396 985 m <sup>3</sup>	123 517 m <sup>3</sup>	59 286 m <sup>3</sup>
Soil-Bentonite Cutoff wall	4 890 m <sup>3</sup>	3 832 m <sup>3</sup>	5 158 m <sup>3</sup>
Soil-Cement-Bentonite Cutoff wall	10 564 m <sup>3</sup>	9 520 m <sup>3</sup>	100 m <sup>3</sup>
Jet Grout Cutoff wall	7 787 m <sup>3</sup>	0 m <sup>3</sup>	0 m <sup>3</sup>
Bedrock Grouting	1 720 Linear m	1 470 Linear m	840 Linear m
Abutment Cutoff Excavation in Rock	50 m <sup>3</sup>	100 m <sup>3</sup>	100 m <sup>3</sup>

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 17 of 20	Rev E

## 16.0 REFERENCE DRAWINGS AND SPECIFICATIONS

**TABLE 2: Dewatering Dike - List of Drawings**

Drawing	Number	Title	Revision
6000	00	Location Map And Drawing Index	B
6000	01	Overall Site Plan	B
6000	02	Borehole Location Plan	B
6000	03	Proposed Dike Layout Plan 1 Of 3) Goose Island Dike	B
6000	04	Proposed Dike Layout Plan (2 Of 3)- Bay Zone Dike	B
6000	05	Proposed Dyke Layout Plan (3 Of 3)- East Dike	A
6000	07	Proposed Dike Layout Plan (1 Of 3) - Goose Island Dike With Depth Of Lakebed Contours	B
6000	08	Proposed Dike Layout Plan (2 Of 3) - Bay Zone Dike With Depth Of Lakebed Contours	B
6000	09	Proposed Dike Layout Plan (3 Of 3) - East Dike With Depth Of Lakebed Contours	A
6000	11	Proposed Dike Layout Plan (1 Of 3) - Goose Island Dike With Soil Thickness Isopach Contours	B
6000	12	Proposed Dike Layout Plan (2 Of 3) - Bay Zone Dike With Soil Thickness Isopach Contours	B
6000	13	Proposed Dike Layout Plan (3 Of 3) - East Dike Soil Thickness Isopach Contours	A
6000	19	Proposed Sections (1 Of 5) - Goose Island Dike & Typical Section	B
6000	20	Proposed Sections (2 Of 5) - Goose Island Dike & Typical Section	B
6000	21	Proposed Sections (3 Of 5) - Goose Island Dike & Typical Section	B
6000	22	Proposed Sections (4 Of 5) - Goose Island Dike & Typical Section	B
6000	23	Proposed Sections (5 Of 5) - Goose Island Dike & Typical Section	B



1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 18 of 20	Rev E

<b>Drawing</b>	<b>Number</b>	<b>Title</b>	<b>Revision</b>
6000	24	Proposed Sections (1 Of 4) - Bay Zone Dike & Typical Section	B
6000	25	Proposed Sections (2 Of 4) - Bay Zone Dike & Typical Section	B
6000	26	Proposed Sections (3 Of 4) - Bay Zone Dike & Typical Section	B
6000	27	Proposed Sections (4 Of 4) - Bay Zone Dike & Typical Section	B
6000	28	Proposed Sections (1 Of 2) - East Dike & Typical Section	B
6000	29	Proposed Sections (2 Of 2) - East Dike & Typical Section	B
6000	30	Dewatering Dike Instrumentation – Plan Location	B
6000	31	Dewatering Dike Instrumentation – Typical Section (1 Of 2)	B
6000	32	Dewatering Dike Instrumentation – Typical Section (2 Of 2)	B
6000	40	Geology Profile (1 Of 3) –East Dike	A
6000	41	Geology Profile (2 Of 3) - Bay Zone Dike	B
6000	42	Geology Profile (3 Of 3)- Goose Island Dike	B

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 19 of 20	Rev E

**TABLE 3: Dewatering Dike Construction List of Specifications**

<b>Specification Number</b>	<b>Title</b>	<b>Revision</b>
1000-01	Administration	E
1000-02	On Land Foundation Preparation and Excavation	D
1000-03	Fill Placement	D
1000-04	Jet Grout Cutoff Wall Construction	D
1000-05	Soil-Bentonite or Soil-Cement-Bentonite Cutoff Wall Construction	D
1000-06	Drilling and Grouting	D
1000-07	Instrumentation Installation	D
1000-08	Quality Control Requirements	D
1000-09	Care of Water	D
1000-10	Turbidity Barrier	D

**TABLE 4: Mine Development Plan**

<b>Year</b>	<b>Key Issues</b>
-2 and -1	<ul style="list-style-type: none"> <li>• Stripping at Third Portage peninsula for construction materials</li> <li>• Construct Second Portage (East) dike and Bay Zone dikes</li> <li>• Begin constructing Goose Island dike as construction material becomes available</li> <li>• Lower water level behind East and Bay Zone dikes</li> <li>• Construct plant site</li> </ul>
1	<ul style="list-style-type: none"> <li>• Commence mining of Third Portage pit, south end</li> <li>• Portage pit water pumped to water sump at process plant</li> <li>• Continue and complete construction of Goose Island dike. Dewater behind dike. Commence stripping of overburden materials</li> </ul>

1000-01	Meadowbank Dewatering Dikes Administration Specification	07-1413-0047/3000
July 6, 2007	Page 20 of 20	Rev E

Year	Key Issues
2	<ul style="list-style-type: none"> <li>Commence mining at Goose Island pit</li> <li>Portage and Goose Island pit waters, and plant site and airstrip runoff to be directed to attenuation pond, or pumped to water sump at process plant for use as process water as required before discharge of excess to attenuation pond</li> </ul>
3-4	<ul style="list-style-type: none"> <li>Portage and Goose Island pit waters, and plant site runoff waters, pumped to water sump at process plant for monitoring and treatment and use as process water as required before discharge of excess to attenuation pond.</li> <li>Begin construction of Vault haul road</li> <li>Construct Vault dike and dewater Vault Lake</li> </ul>
5	<ul style="list-style-type: none"> <li>Complete mining of Goose Island pit, and start abandonment</li> <li>Goose Island pit is available for storage of pit water</li> <li>Pump pit water from Third Portage pit to Goose Island pit for early flooding, water quality monitoring, and in-pit treatment as required. Small quantity to be pumped to the process plant for treatment and use as process water</li> <li>Begin mining northward at Third Portage pit towards North Portage deposit. Selective placement of waste rock into south end of Third Portage pit, or into Goose Island pit. Selective placement of ultramafic rock at Portage RSF for future use during closure.</li> <li>Commence mining at Vault</li> </ul>
6-7	<ul style="list-style-type: none"> <li>Continue and complete mining of Portage pit (north end)</li> <li>Continue mining of Vault pit</li> <li>Continue pumping Portage pit water to Goose Island pit lake until Portage pits are mined-out then allow pits to fill</li> <li>Monitor water quality within flooded pits, treating in-situ as required and/or pumping to process plant for use as process water</li> </ul>
8	<ul style="list-style-type: none"> <li>Complete mining in Vault</li> <li>Continue pumping Portage pit water to Goose Island pit lake until Portage pits are mined-out, then allow pits to fill</li> <li>Monitor water quality within flooded pits treating in-situ as required and/or pumping to process plant for use as process water</li> <li>Continue Goose Island pit flooding, monitoring and water treatment; commence Portage pit flooding, monitoring and water treatment.</li> </ul>
9	<ul style="list-style-type: none"> <li>Mining complete, start final abandonment and restoration</li> <li>Commence Vault pit flooding.</li> </ul>

BW/mrb

O:\ACTIVE\\_2007\1413\07-1413-0047 MEADOWBANK 2007 ENGINEERING\3000 BAY ZONE DIKE REALIGNMENT\SPEC1000-01-REVE-DEWATERING DIKES ADMINISTRATION.DOC

**APPENDIX VI**

**DRAWINGS**



# MEADOWBANK

## MEADOWBANK GOLD PROJECT

# DE-WATERING DIKE DESIGN

DRAWINGS INDEX		
DWG NO.	DRAWING TITLE	REVISION
6000-00	LOCATION MAP AND DRAWINGS INDEX	B
6000-01	OVERALL SITE PLAN	B
6000-02	BOREHOLE LOCATIONS PLAN	B
6000-03	PROPOSED DIKE LAYOUT PLAN (1 OF 3) - GOOSE ISLAND DIKE	B
6000-04	PROPOSED DIKE LAYOUT PLAN (2 OF 3) - BAY ZONE DIKE	B
6000-05	PROPOSED DYKE LAYOUT PLAN (3 OF 3) - EAST DIKE	A
6000-07	PROPOSED DIKE LAYOUT PLAN (1 OF 3) - GOOSE ISLAND DIKE WITH DEPTH OF LAKEBED CONTOURS	B
6000-08	PROPOSED DIKE LAYOUT PLAN (2 OF 3) - BAY ZONE DIKE WITH DEPTH OF LAKEBED CONTOURS	B
6000-09	PROPOSED DIKE LAYOUT PLAN (3 OF 3) - EAST DIKE WITH DEPTH OF LAKEBED CONTOURS	A
6000-11	PROPOSED DIKE LAYOUT PLAN (1 OF 3) - GOOSE ISLAND DIKE SOIL THICKNESS ISOPACH CONTOURS	B
6000-12	PROPOSED DIKE LAYOUT PLAN (2 OF 3) - BAY ZONE DIKE SOIL THICKNESS ISOPACH CONTOURS	B
6000-13	PROPOSED DIKE LAYOUT PLAN (3 OF 3) - EAST DIKE SOIL THICKNESS ISOPACH CONTOURS	A
6000-19	PROPOSED SECTIONS (1 OF 5) - GOOSE ISLAND DIKE & TYPICAL SECTION	B
6000-20	PROPOSED SECTIONS (2 OF 5) - GOOSE ISLAND DIKE & TYPICAL SECTION	B
6000-21	PROPOSED SECTIONS (3 OF 5) - GOOSE ISLAND DIKE & TYPICAL SECTION	B
6000-22	PROPOSED SECTIONS (4 OF 5) - GOOSE ISLAND DIKE & TYPICAL SECTION	B
6000-23	PROPOSED SECTIONS (5 OF 5) - GOOSE ISLAND DIKE & TYPICAL SECTION	B
6000-24	PROPOSED SECTIONS (1 OF 4) - BAY ZONE DIKE & TYPICAL SECTION	B
6000-25	PROPOSED SECTIONS (2 OF 4) - BAY ZONE DIKE & TYPICAL SECTION	B
6000-26	PROPOSED SECTIONS (3 OF 4) - BAY ZONE DIKE & TYPICAL SECTION	B
6000-27	PROPOSED SECTIONS (4 OF 4) - BAY ZONE DIKE & TYPICAL SECTION	B
6000-28	PROPOSED SECTIONS (1 OF 2) - EAST DIKE & TYPICAL SECTION	B
6000-29	PROPOSED SECTIONS (2 OF 2) - EAST DIKE & TYPICAL SECTION	B
6000-30	DEWATERING DIKE INSTRUMENTATION - PLAN LOCATIONS	B
6000-31	DEWATERING DIKE INSTRUMENTATION - TYPICAL SECTION (1 OF 2)	B
6000-32	DEWATERING DIKE INSTRUMENTATION - TYPICAL SECTION (2 OF 2)	B
6000-40	GEOLOGY PROFILE (1 OF 3) - EAST DIKE	A
6000-41	GEOLOGY PROFILE (2 OF 3) - BAY ZONE DIKE	B
6000-42	GEOLOGY PROFILE (3 OF 3) - GOOSE ISLAND DIKE	B

6000-33, 6000-34, 6000-35, 6000-36, 6000-37, 6000-38, 6000-39



### KEY PLAN

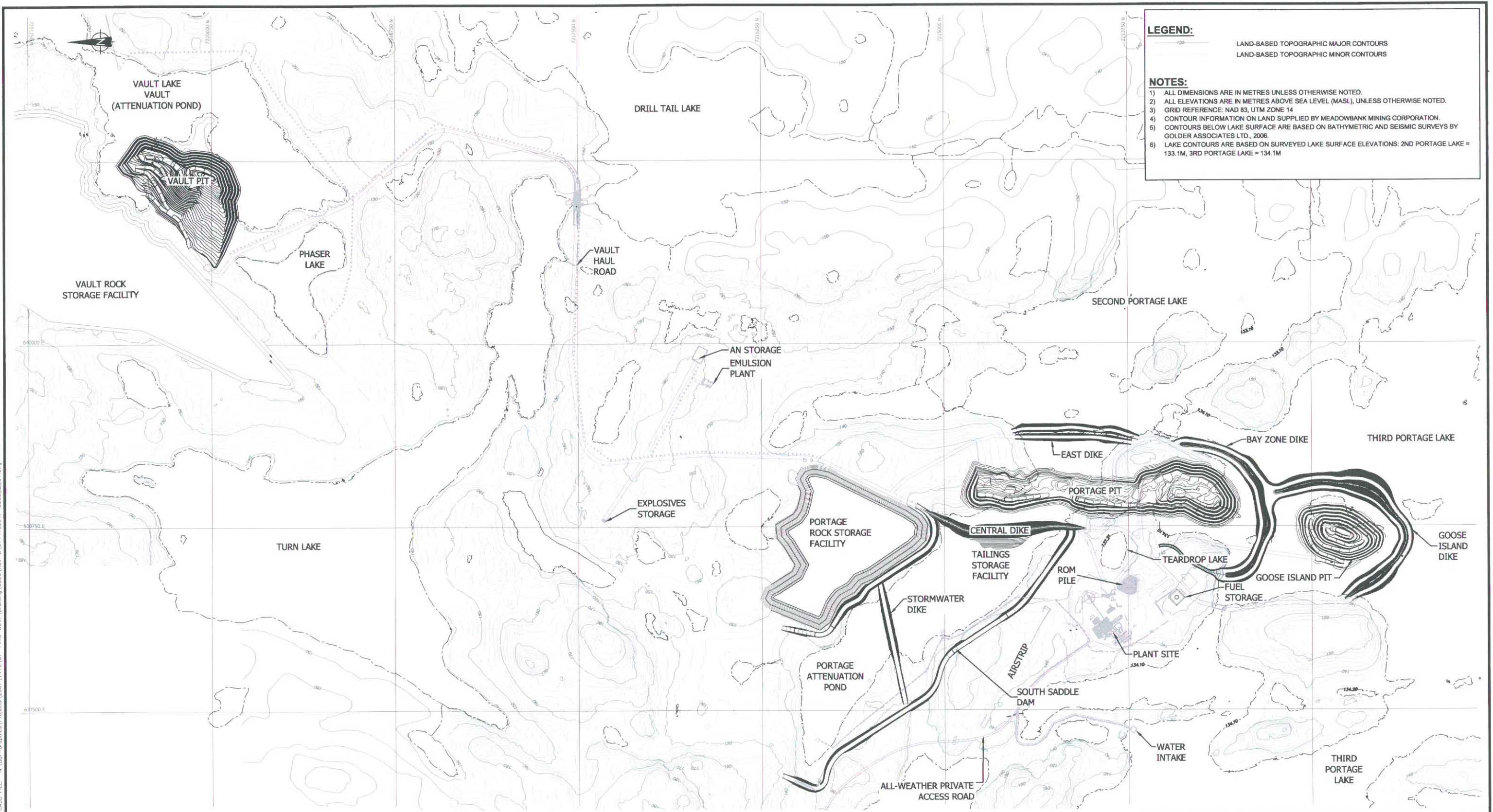
LIST OF SPECIFICATIONS		
SPECIFICATION NO.	TITLE	REVISION
1000-01	ADMINISTRATION	E
1000-02	ON LAND FOUNDATION PREPARATION AND EXCAVATION	D
1000-03	FILL PLACEMENT	D
1000-04	JET GROUT CUTOFF WALL CONSTRUCTION	D
1000-05	SOIL-BENTONITE OR SOIL-CEMENT-BENTONITE CUTOFF WALL CONSTRUCTION	D
1000-06	DRILLING AND GROUTING	D
1000-07	INSTRUMENTATION INSTALLATION	D
1000-08	QUALITY CONTROL REQUIREMENTS	D
1000-09	CARE OF WATER	D
1000-10	TURBIDITY BARRIER	D

NOT FOR CONSTRUCTION

[illegible]



REVISION DATE: 07/07/06 04:54PM By AS/Golder  
CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_01.dwg



**LEGEND:**

- LAND-BASED TOPOGRAPHIC MAJOR CONTOURS
- LAND-BASED TOPOGRAPHIC MINOR CONTOURS

**NOTES:**

- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
- 3) GRID REFERENCE: NAD 83, UTM ZONE 14
- 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
- 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
- 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M

**NOT FOR CONSTRUCTION**

<b>MEADOWBANK MINING CORPORATION</b>	
<b>MEADOWBANK GOLD PROJECT OVERALL SITE PLAN</b>	
PROJECT No.	06-1413-081
DESIGN	SA 27NOV06
CADD	EA 27NOV06
CHECK	AS 13MAR07
REVIEW	BW 13MAR07
FILE No.	0714130047-3000_B_01
SCALE	AS SHOWN
REV.	8
<b>6000-01</b>	

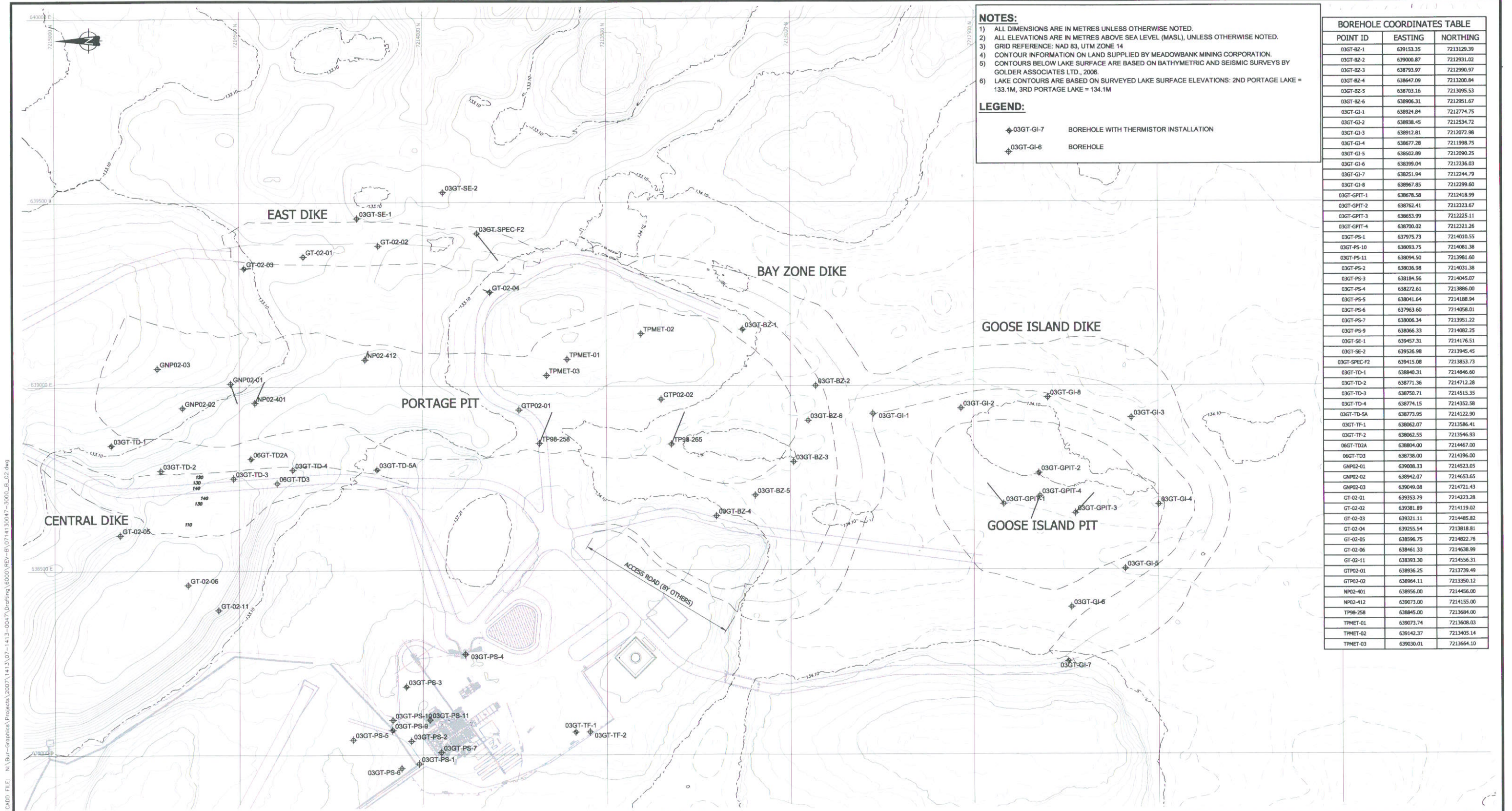
**Gold Associates**

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
1	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT	EA	BW	
2	09MAR07	-	ISSUED FOR TENDER	JK	AS	BW
3						
4						
5						
6						
7						
8						
9						
10						



CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_02.mxd

REVISION DATE: 07/07/06 04:58PM By: AS/valador



**NOTES:**

- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
- 3) GRID REFERENCE: NAD 83, UTM ZONE 14
- 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
- 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
- 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M

**LEGEND:**

- ◆ 03GT-GI-7 BOREHOLE WITH THERMISTOR INSTALLATION
- ◆ 03GT-GI-6 BOREHOLE

**BOREHOLE COORDINATES TABLE**

POINT ID	EASTING	NORTHING
03GT-BZ-1	639153.35	7213129.39
03GT-BZ-2	639000.87	7212931.02
03GT-BZ-3	638793.97	7212990.97
03GT-BZ-4	638647.09	7213200.84
03GT-BZ-5	638703.16	7213095.53
03GT-BZ-6	638906.31	7212951.67
03GT-GI-1	638924.84	7212774.75
03GT-GI-2	638938.45	7212534.72
03GT-GI-3	638912.81	7212072.98
03GT-GI-4	638677.28	7211998.75
03GT-GI-5	638502.89	7212090.25
03GT-GI-6	638399.04	7212236.03
03GT-GI-7	638251.94	7212244.79
03GT-GI-8	638967.85	7212299.60
03GT-GPIT-1	638678.58	7212418.99
03GT-GPIT-2	638762.41	7212323.67
03GT-GPIT-3	638653.99	7212225.11
03GT-GPIT-4	638700.02	7212321.26
03GT-PS-1	637975.73	7214010.55
03GT-PS-10	638093.75	7214081.38
03GT-PS-11	638094.50	7213981.60
03GT-PS-2	638036.98	7214031.38
03GT-PS-3	638184.56	7214045.07
03GT-PS-4	638272.61	7213886.00
03GT-PS-5	638041.64	7214188.94
03GT-PS-6	637963.60	7214058.01
03GT-PS-7	638006.34	7213951.22
03GT-PS-9	638066.33	7214082.25
03GT-SE-1	639457.31	7214176.51
03GT-SE-2	639526.98	7213945.45
03GT-SPEC-F2	639415.08	7213853.73
03GT-TD-1	638840.31	7214846.60
03GT-TD-2	638771.36	7214712.28
03GT-TD-3	638750.71	7214515.35
03GT-TD-4	638774.15	7214352.58
03GT-TD-5A	638773.95	7214122.90
03GT-TF-1	638062.07	7213586.41
03GT-TF-2	638062.55	7213546.93
06GT-TD2A	638804.00	7214467.00
06GT-TD3	638738.00	7214396.00
GNP02-01	639008.33	7214523.05
GNP02-02	638942.07	7214653.65
GNP02-03	639049.08	7214721.43
GT-02-01	639353.29	7214323.28
GT-02-02	639381.89	7214119.02
GT-02-03	639321.11	7214485.82
GT-02-04	639255.54	7213818.81
GT-02-05	638596.75	7214822.76
GT-02-06	638461.33	7214638.99
GT-02-11	638393.30	7214556.31
GTP02-01	638936.25	7213739.49
GTP02-02	638964.11	7213350.12
NP02-401	638956.00	7214456.00
NP02-412	639073.00	7214155.00
TP98-258	638845.00	7213684.00
TPMET-01	639073.74	7213608.03
TPMET-02	639142.37	7213405.14
TPMET-03	639030.01	7213664.10

NOT FOR CONSTRUCTION

PROJECT

**MEADOWBANK**  
MINING CORPORATION

TITLE

**MEADOWBANK GOLD PROJECT**  
**BOREHOLE LOCATIONS PLAN**

PROJECT No. 06-1413-081

FILE No. 0714130047-3000\_B\_02

DESIGN SA 27NOV06

SCALE AS SHOWN REV. B

CADD EA 27NOV06

6000-02

CHECK AS 13MAR07

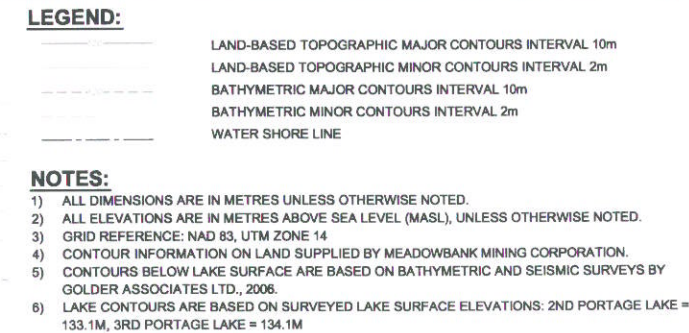
REVIEW BW 13MAR07

Golder Associates

DRAWING NO.	REV	DATE	DES	REVISION DESCRIPTION
	06JUL07	-		ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT
	09MAR07	-		ISSUED FOR TENDER

EA	JK	AS	BW
CADD	CHK	RVW	





INNER DIKE ALIGNMENT SETOUT					
POINT ID	POINT DESC.	CHAINAGE	EASTING	NORTHING	CURVE DATA
50	B.P.	40+000.00	638949.8	721281.0	
51	P.C.	40+295.61	639001.3	7212520.3	A= 20611'18"
	P.I.		639010.3	7212443.6	R= 442
	C.C.		638570.8	7212420.3	L= 78.7
52	P.T.	40+451.34	639009.4	7212365.5	E= 155.7
53	P.C.	40+507.79	639002.4	7212309.5	A= 12d23'27"
	P.I.		638999.7	7212288	R= 200
	C.C.		638803.3	7212334.3	T= 21.7
54	P.T.	40+551.04	638999.5	721267.5	A= 43.3
55	P.C.	40+695.54	638942.2	7212131.3	B= 68d29'12"
	P.I.		638923.3	7212072.2	R= 266.5
	C.C.		638693	7212220.3	E= 62.7
56	P.T.	40+818.72	638878.2	7212028.6	L= 123.2
57	P.C.	40+989.35	638755.4	7211910.1	A= 32d5'52"
	P.I.		638737	7211892.3	R= 89
	C.C.		638693.6	7211974.1	T= 45.9
58	P.T.	40+1039.23	63871.2	7211887	E= 56.8
59	P.C.	40+1069.08	638682.8	7211880.8	A= 37d5'74"
	P.I.		638659.2	7211875.9	R= 70.1
	C.C.		638668.3	7211949.4	T= 24.1
60	P.T.	40+1155.50	638637.5	7211886.4	E= 46.4
61	P.C.	40+195.91	638656.3	7212191.7	A= 25d59'15"
	P.I.		638539.5	7211934.4	R= 28.8
	C.C.		638621.8	7212037.5	T= 28.7
62	P.T.	40+252.47	638521.4	7211956.8	L= 56.6
63	P.I.	40+419.76	638416.6	7212087.1	
64	P.C.	40+516.89	638367.3	7212170.8	A= 12d40'16"
	P.I.		638357.1	7212188.2	R= 181.4
	C.C.		638211	7212078.8	T= 20.1
65	P.T.	40+557.00	638343.3	7212029.9	L= 40.1
66	F.P.	40+569.66	638366.2	7212285	

OUTER DIKE ALIGNMENT SETOUT					
POINT ID	POINT DESC.	CHAINAGE	EASTING	NORTHING	CURVE DATA
70	B.P.	60+000.0	639007.2	721281.2	
71	P.C.	60+030.2	639004.4	721282.1	A= 26d31'11"
	P.I.	639000.1	639000.1	721273.5	R= 200
	C.C.	639003.6	639003.6	721263.7	L= 47.1
72	T.P.	60+122.8	639017.2	721269.1	L= 92.6
73	P.I.	60+175.7	639036.4	721264.9	
74	P.C.	60+228.3	639052.1	7212591.8	A= 19d58'4"
	P.I.	639081.8	639081.8	7212496.7	R= 365.9
	C.C.	63985.2	63985.2	721242.6	L= 99.6
75	T.P.	60+425.5	639077.3	7212307.2	A= 197.2
76	T.P.	60+456.1	639076	7212366.6	
77	P.C.	60+499.9	639069.8	7212331.4	L= 174d'53"
	P.I.	639066.4	639066.4	7212311.7	R= 133.1
	C.C.	639200.9	639200.9	7212308.5	L= 20
78	T.P.	60+531.6	639068.9	7212268.9	L= 39.7
79	P.C.	60+561.1	639073.5	7212262.5	A= 10d19'25"
	P.I.	639070.6	639070.6	7212255.4	R= 80
	C.C.	638993.2	638993.2	7212252.5	L= 7.2
80	T.P.	60+575.5	639073.1	7212248.2	L= 14.4
81	P.C.	60+642.4	639069.4	7212181.4	A= 17d55'49"
	P.I.	639067.6	639067.6	7212140.4	R= 202.8
	C.C.	638866.9	638866.9	7212192.5	L= 32
82	T.P.	60+705.8	639056.1	7212119.6	L= 63.5
83	P.C.	60+713.7	639053.3	7212112.3	A= 40d16'21"
	P.I.	639017.1	639017.1	7212018.2	R= 274.8
	C.C.	638796.9	638796.9	7212211.1	L= 100.8
84	T.P.	60+906.8	639097.8	7211969.9	L= 193.2
85	P.C.	60+934.7	639092.2	7211956.6	A= 130d18'18"
	P.I.	638862.2	638862.2	7211933.6	R= 420
	C.C.	639105.6	639105.6	7211588	L= 47.9
86	T.P.	61+030.0	638826.4	7211901.8	L= 95.3
87	P.C.	61+071.7	638795.3	7211874.1	A= 75d1'45d4"
	P.I.	638778.1	638778.1	7211777.8	R= 91.9
	C.C.	638670.4	638670.4	7212014.5	L= 144.8
88	T.P.	61+318.5	638566.4	7211858	L= 246.8
89	P.C.	61+382.2	638513.3	7211893.2	A= 10d21'39"
	P.I.	638506.5	638506.5	7211897.7	R= 90.1
	C.C.	638563.2	638563.2	7211968.3	L= 8.2
90	T.P.	61+398.5	638500.6	7211903.4	L= 16.3
91	P.I.	61+439.9	63870.9	7211932.1	
92	P.C.	61+455.4	638458	7211940.7	A= 34d16'33"
	P.I.	638352.8	638352.8	7212011	R= 410.3
	C.C.	638686	638686	7212281.8	L= 126.5
93	T.P.	61+700.8	638305.5	7212128.3	L= 245.4
94	P.I.	61+741.7	638276.2	7212168.3	
	C.C.	61+815.4	638276.2	7212216.6	

NOT FOR CONSTRUCTION

**MEADOWBANK  
MINING CORPORATION**

**MEADOWBANK GOLD PROJECT  
PROPOSED DIKE LAYOUT PLAN (1 OF 3)  
GOOSE ISLAND DIKE**



PROJECT No. 06-1413-081			FILE No. 0714130047-3000_B_0		
DESIGN	SA	27NOV06	SCALE	AS SHOWN	REV.
CADD	EA	27NOV06	6000-03		
CHECK	AS	13MAR07			
REVIEW	BW	13MAR07			

REVISION DATE: 07/07/06 UG:SPW	
DRAWING NO.	REFERENCES

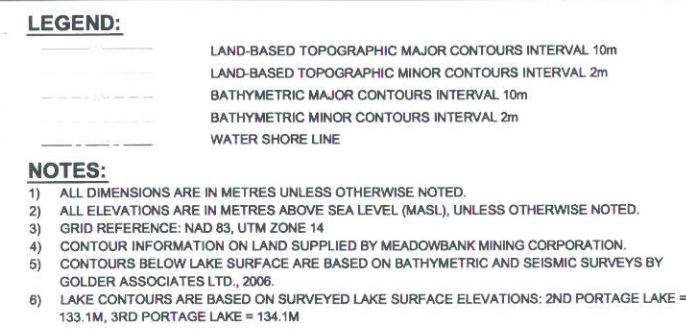
[illegible]

STAMP

*[Handwritten signature]*

ALL EVIDENCE  
LICENSED  
July 17/10  
N.W.T.





OUTER DIKE ALIGNMENT SETOUT					
POINT ID	POINT DESC.	CHAINAGE	EASTING	NORTHING	CURVE DATA
60	B.P.	+0+000.0	639310.8	7213437.3	
61	P.T.	+0+018.1	6393118.3	7213420.9	A= 32d34'55"
	P.I.		639335.1	7213383.8	R= 139.2
	C.C.		639191.5	7213353.4	T= 40.7
62	P.T.	+0+097.2	639325.3	7213343.6	L= 79.1
63	P.C.	+0+178.6	639317.7	7213263.0	A= 9d20'23"
	P.I.		639309.5	7213205.9	R= 706.3
	C.C.		639618.2	7213363.4	T= 57.7
64	P.T.	+0+293.7	639292.8	7213150.9	L= 115.1
65	P.C.	+0+324.5	639262.9	7213125.4	A= 1d08'38"
	P.I.		639268.1	7213074.5	R= 463.1
	C.C.		638841.3	7213260.8	T= 49.3
66	P.T.	+0+422.7	639243.7	7213031.7	L= 98.2
67	P.C.	+0+509.2	639200.9	7212956.5	A= 22d49'59"
	P.I.		639189.1	7212935.9	R= 117.8
	C.C.		639098.5	7213014.8	T= 23.8
68	P.T.	+0+556.1	639170.2	7212914.4	L= 46.9
69	P.I.	+0+640.0	639103.7	7212870.3	
70	P.C.	+0+686.6	639066.7	7212841.9	A= 32d42'3"
	P.I.		639034.2	7212816.9	R= 140
	C.C.		638981.5	7212953.0	T= 41.1
71	P.T.	+0+766.5	638953.2	7212813.5	L= 79.9
72	P.C.	+0+827.2	638933.8	7212808.4	A= 11d43'53"
	P.I.		638910.7	7212806.6	R= 215
	C.C.		638950.7	7212594.2	T= 22.1
73	P.T.	+0+871.2	638889.6	7212800.3	L= 44
74	P.C.	+0+957.6	638806.8	7212775.7	A= 48d46'3"
	P.I.		638736.4	7212754.8	R= 162
	C.C.		638760.7	7212931.0	T= 34.4
75	P.T.	+0+095.5	638674.3	7212794.0	L= 137.9
76	P.C.	+0+098.2	638671.9	7212795.5	A= 10d45'44"
	P.I.		638647.2	7212811.0	R= 310
	C.C.		638506.6	7212533.3	T= 29.2
77	P.T.	+0+156.5	638620.1	7212821.7	L= 58.2
78	P.C.	+0+279.9	638595.2	7212866.9	A= 58d29'58"
	P.I.		638408.2	7212505.1	R= 186
	C.C.		638573.3	7213040.0	T= 104.2
79	P.T.	+0+469.8	638390.1	7213007.6	L= 189.9
80	P.C.	+0+479.5	638388.4	7213017.2	A= 20d38'37"
	P.I.		638380.7	7213061.1	R= 245
	C.C.		638629.7	7213059.8	T= 65
81	P.T.	+0+567.8	638388.9	7213105.0	L= 88.3
82	E.P.	+0+606.4	638396.0	7213140.0	

[illegible]

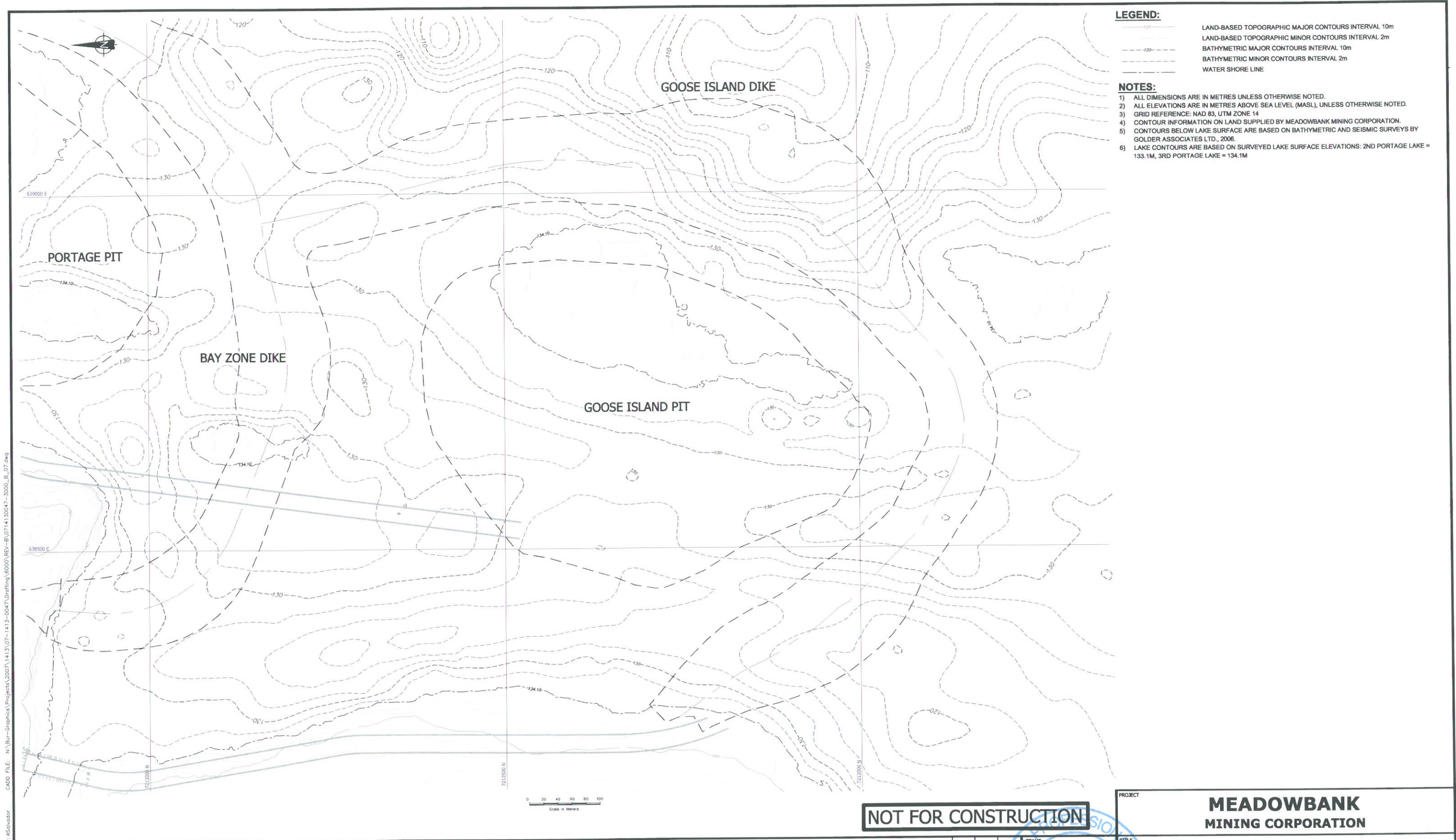
<div style="border: 2px solid black; padding: 5px; display: inline-block;">NOT FOR CONSTRUCTION</div>				<div style="text-align: center;"> <b>MEADOWBANK</b>  <b>MINING CORPORATION</b> </div>																																									
<div style="text-align: center;"> </div>				<div style="text-align: center;"> <b>MEADOWBANK GOLD PROJECT</b>  <b>PROPOSED DIKE LAYOUT PLAN (2 OF 3)</b>  <b>BAY ZONE DIKE</b> </div>																																									
<div style="text-align: center;"> </div>				<table border="1"> <tr> <td colspan="2">PROJECT No.</td> <td colspan="2">06-1413-081</td> <td colspan="2">FILE No.</td> <td colspan="2">0714130047-3000_B_04</td> </tr> <tr> <td>DESIGN</td> <td>SA</td> <td colspan="2">27NOV06</td> <td>SCALE</td> <td>AS SHOWN</td> <td>REV.</td> <td>B</td> </tr> <tr> <td>CADD</td> <td>EA</td> <td colspan="2">27NOV06</td> <td colspan="4" rowspan="3" style="text-align: center; vertical-align: middle;">6000-04</td> </tr> <tr> <td>CHECK</td> <td>AS</td> <td colspan="2">13MAR07</td> </tr> <tr> <td>REVIEW</td> <td>BW</td> <td colspan="2">13MAR07</td> </tr> </table>		PROJECT No.		06-1413-081		FILE No.		0714130047-3000_B_04		DESIGN	SA	27NOV06		SCALE	AS SHOWN	REV.	B	CADD	EA	27NOV06		6000-04				CHECK	AS	13MAR07		REVIEW	BW	13MAR07		<table border="1"> <tr> <td>EA</td> <td>AS</td> <td>BW</td> </tr> <tr> <td>CADD</td> <td>CHK</td> <td>RVW</td> </tr> </table>		EA	AS	BW	CADD	CHK	RVW
PROJECT No.		06-1413-081		FILE No.		0714130047-3000_B_04																																							
DESIGN	SA	27NOV06		SCALE	AS SHOWN	REV.	B																																						
CADD	EA	27NOV06		6000-04																																									
CHECK	AS	13MAR07																																											
REVIEW	BW	13MAR07																																											
EA	AS	BW																																											
CADD	CHK	RVW																																											







REVISION DATE: 07/07/06 04:55PM By: ASalvador CADD FILE: N:\Bor-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_07.dwg



NOT FOR CONSTRUCTION

<div>REVISION DATE: 07/07/06 04:55PM</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



REVISION DATE: 07/07/06 04:55PM By: Asolador  
CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_08.dwg



- LEGEND:**
- LAND-BASED TOPOGRAPHIC MAJOR CONTOURS INTERVAL 10m
  - LAND-BASED TOPOGRAPHIC MINOR CONTOURS INTERVAL 2m
  - BATHYMETRIC MAJOR CONTOURS INTERVAL 10m
  - BATHYMETRIC MINOR CONTOURS INTERVAL 2m
  - WATER SHORE LINE
- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M

NOT FOR CONSTRUCTION

PROJECT

**MEADOWBANK**  
MINING CORPORATION

TITLE

**MEADOWBANK GOLD PROJECT**  
**PROPOSED DIKE LAYOUT PLAN (2 OF 3)**  
**BAY ZONE DIKE WITH DEPTH OF LAKEBED CONTOURS**

PROJECT No. 06-1413-081

FILE No. 0714130047-3000\_B\_08

DESIGN SA 27NOV06

CADD EA 27NOV06

CHECK AS 13MAR07

REVIEW BW 13MAR07

SCALE AS SHOWN

REV. B

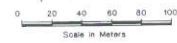
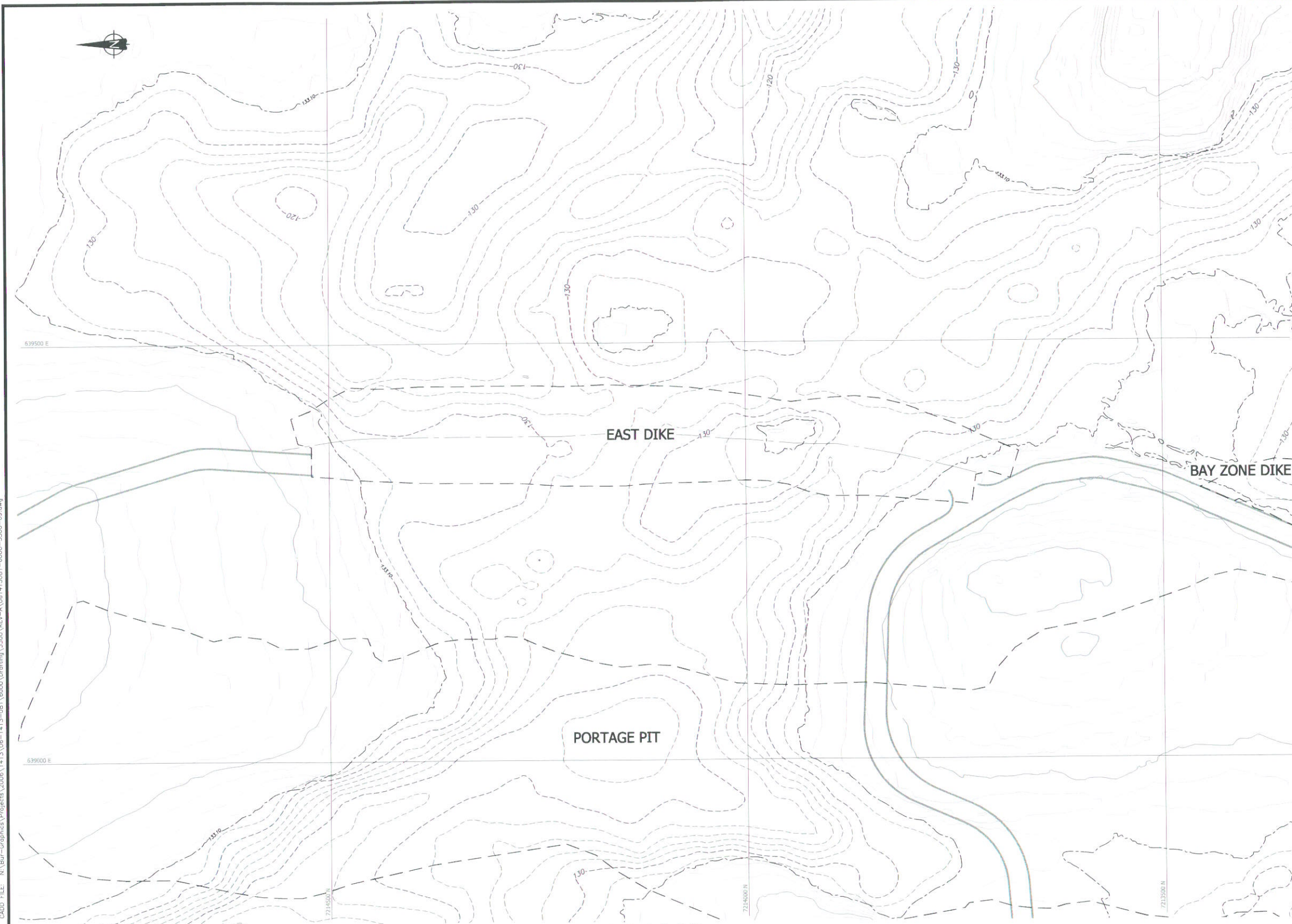
6000-08

**Golder Associates**

REV	DATE	DES	REVISION DESCRIPTION	EA	AS	BW	CADD	CHK	RWN
06JUL07	-	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT	EA	AS	BW			
09MAR07	-	-	ISSUED FOR TENDER	EA	AS	BW			
				CADD	CHK	RWN			



REVISION DATE: 07/03/13 11:58AM By: jkownacki CADD FILE: N:\Bur-Graphics\Projects\2006\1413\06-1413-081\6000\Drafting\3000\REV-A\061413081-6000-3000-09.dwg



- LEGEND:**
- LAND-BASED TOPOGRAPHIC MAJOR CONTOURS INTERVAL 10m
  - LAND-BASED TOPOGRAPHIC MINOR CONTOURS INTERVAL 2m
  - BATHYMETRIC MAJOR CONTOURS INTERVAL 10m
  - BATHYMETRIC MINOR CONTOURS INTERVAL 2m
  - WATE SHORE LINE
- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M

**NOT FOR CONSTRUCTION**

DRAWING NO.	
REFERENCES	

REV	DATE	DES	REVISION DESCRIPTION

STAMP

*[Signature]*

LICENSEE

July 17/07

N.W.T.

PROJECT		<b>MEADOWBANK MINING CORPORATION</b>	
TITLE		<b>MEADOWBANK GOLD PROJECT PROPOSED DIKE LAYOUT PLAN (3 OF 3) EAST DIKE WITH DEPTH OF LAKEBED CONTOURS</b>	
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_A_09
DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. A
CHECK	-	-	6000-09
REVIEW	-	-	

**Golder Associates**









- LEGEND:**
- ISOPACH MAJOR CONTOURS INTERVAL 5m
  - ISOPACH MINOR CONTOURS INTERVAL 1m
  - WATER SHORE LINE
- NOTES:**
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - GRID REFERENCE: NAD 83, UTM ZONE 14
  - LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M
  - SOIL THICKNESS INFERRED FROM SEISMIC SURVEY BY GOLDER ASSOCIATES AND SHOULD BE CONFIRMED IN THE FIELD.

CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_12.dwg  
REVISION DATE: 07/07/06 11:49AM By: ASolovod

NOT FOR CONSTRUCTION

PROJECT		<b>MEADOWBANK MINING CORPORATION</b>	
TITLE		<b>MEADOWBANK GOLD PROJECT PROPOSED DIKE LAYOUT PLAN (2 OF 3) BAY ZONE DIKE SOIL THICKNESS ISOPACH CONTOURS</b>	
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_12
DESIGN	SA	27NOV06	SCALE AS SHOWN REV. B
CADD	EA	27NOV06	6000-12
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	

**Golder Associates**

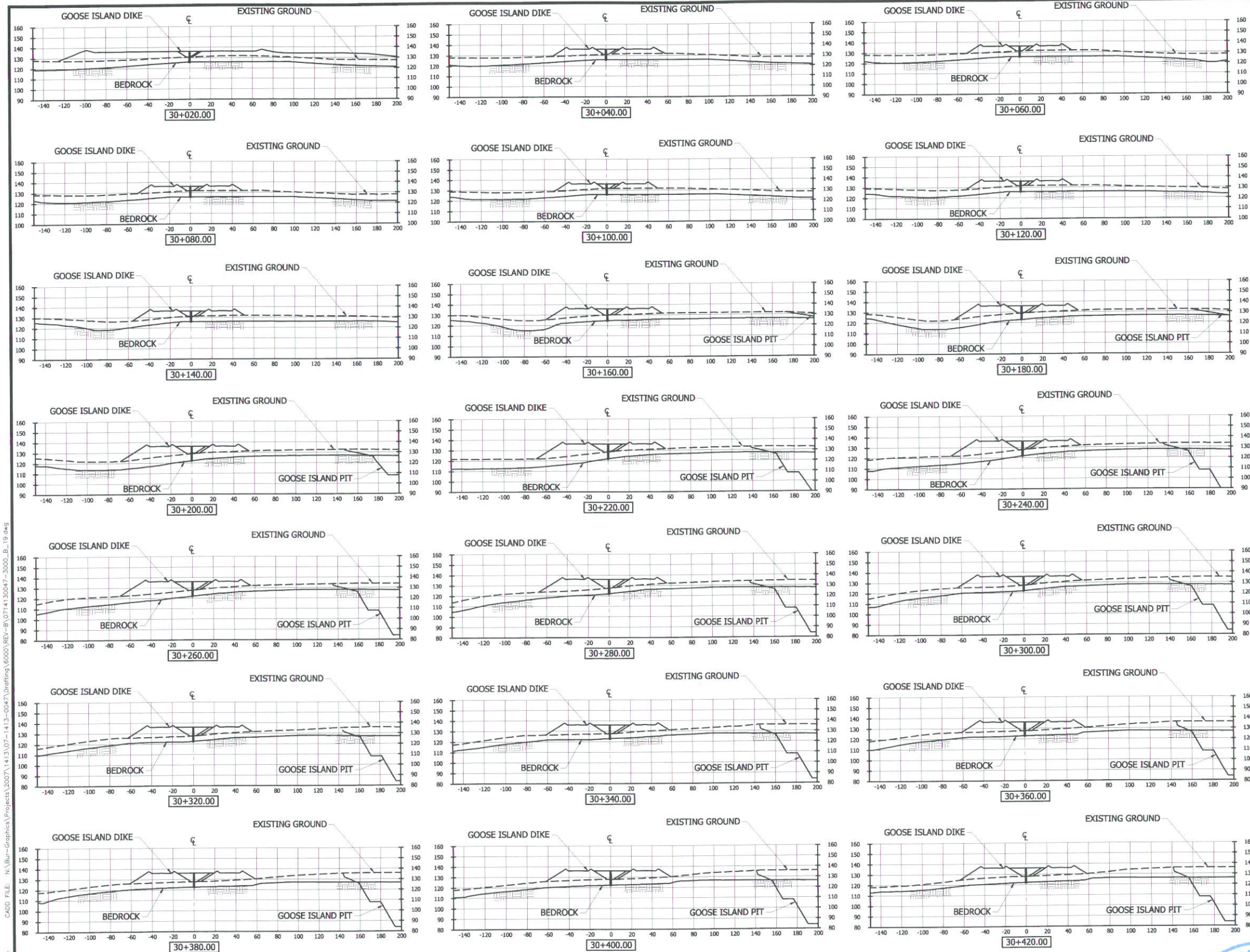
REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWW
06JUL07	-		ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT	EA		
09MAR07	-		ISSUED FOR TENDER	EA	AS	BW





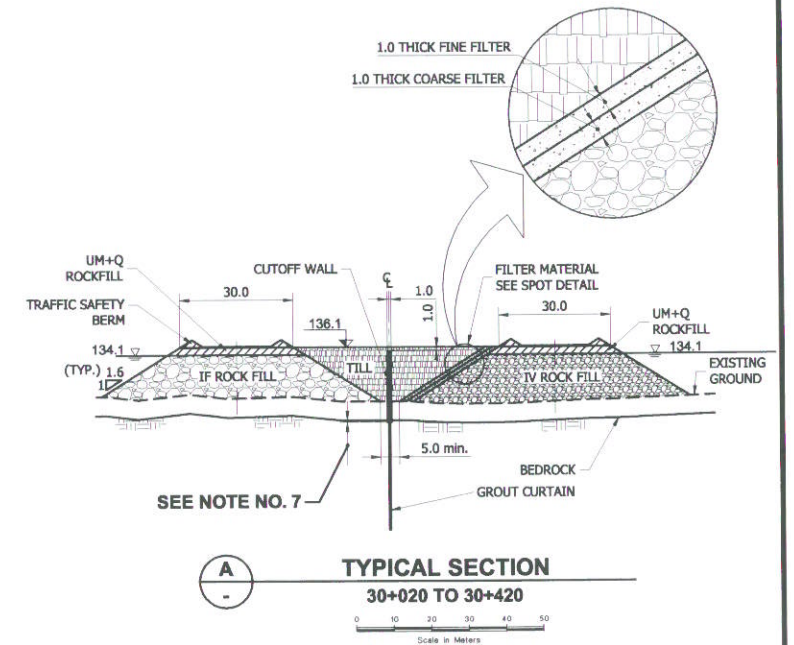


REVISION DATE: 07/07/10 10:16AM By: sreddy  
CADD FILE: N:\Bor-Graphic\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_19.dwg



#### NOTES:

- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
- 3) GRID REFERENCE: NAD 83, UTM ZONE 14
- 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
- 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
- 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M
- 7) CUTOFF EXTENDED 0.5m INTO BEDROCK OR EQUIPMENT REFUSAL



NOT FOR CONSTRUCTION

PROJECT				MEADOWBANK MINING CORPORATION			
MEADOWBANK GOLD PROJECT				PROPOSED SECTIONS (1 OF 5)			
GOOSE ISLAND DIKE & TYPICAL SECTION							
PROJECT No.	06-1413-061	FILE No.	0714130047-3000_B_19	DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	SCALE	CHECK	AS	13MAR07	REV. B
REVIEW	BW	13MAR07					
6000-19				Golder Associates			

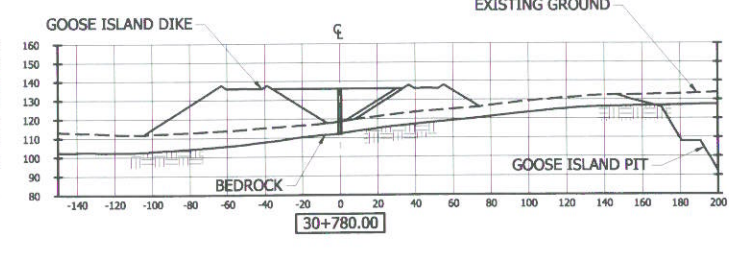
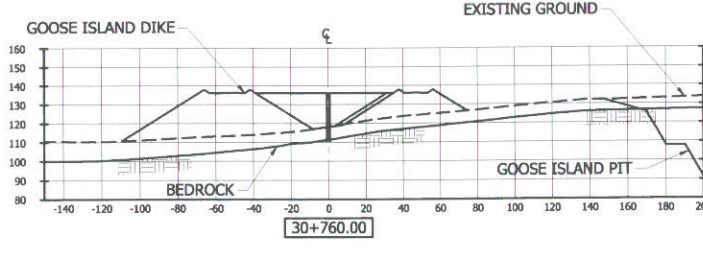
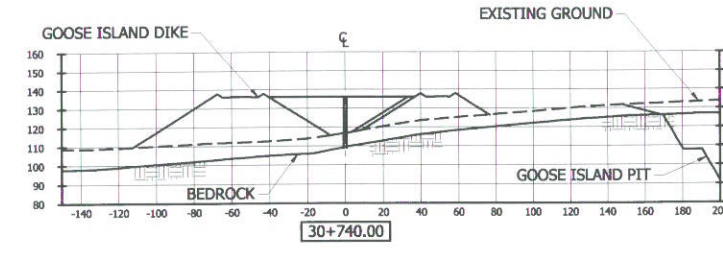
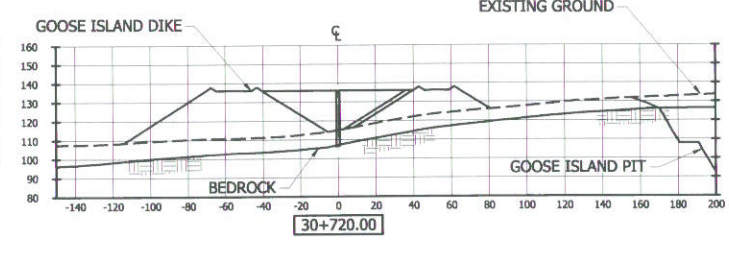
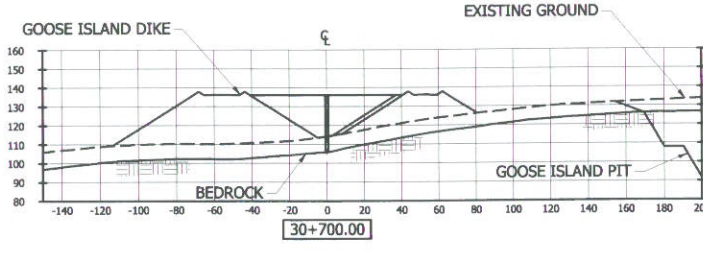
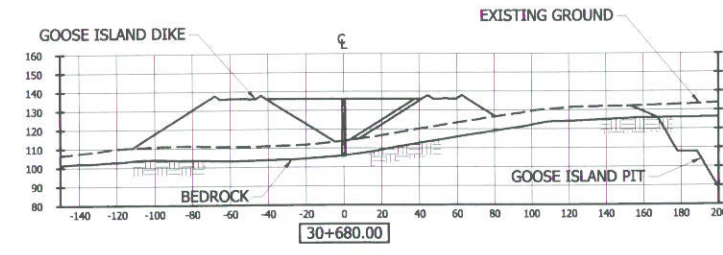
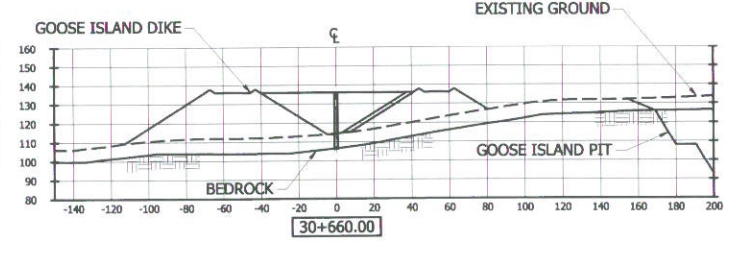
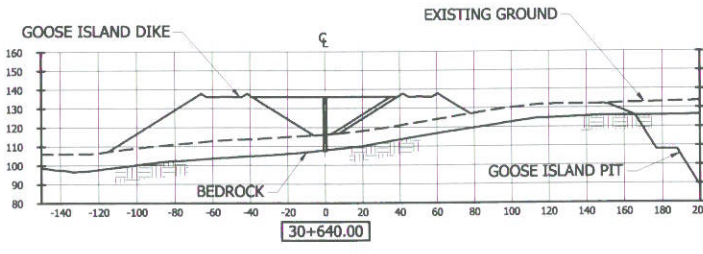
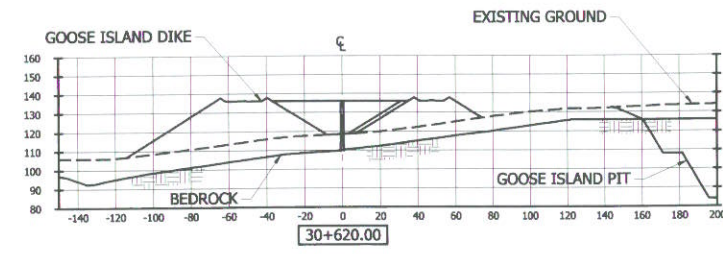
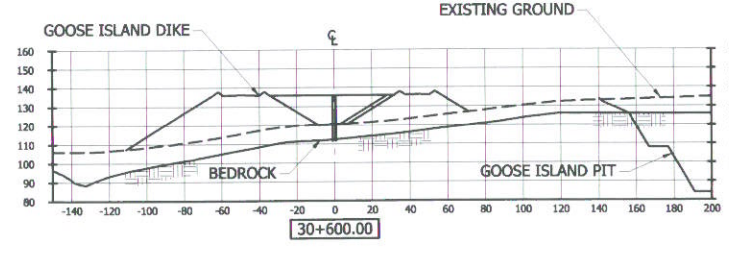
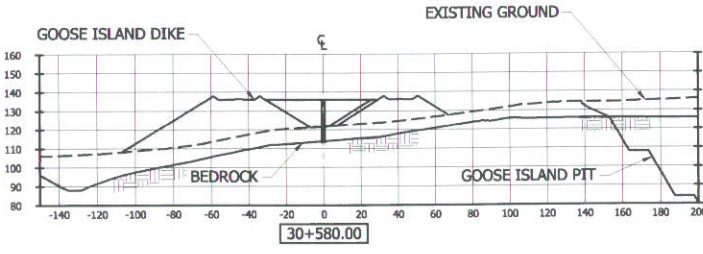
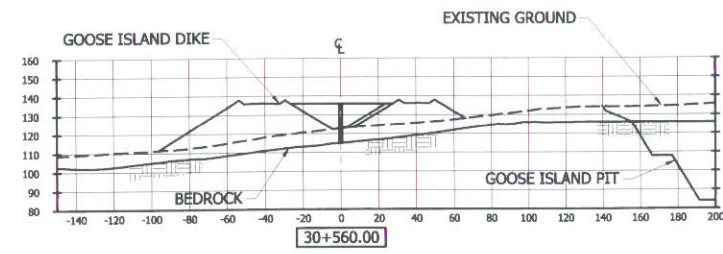
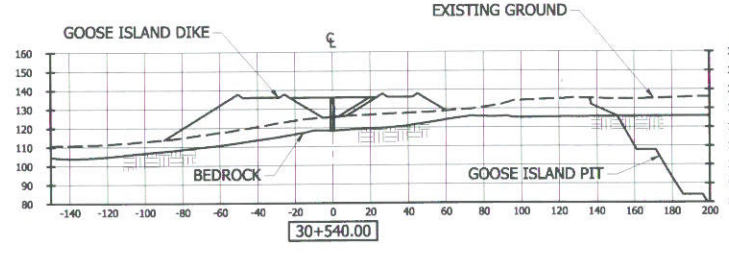
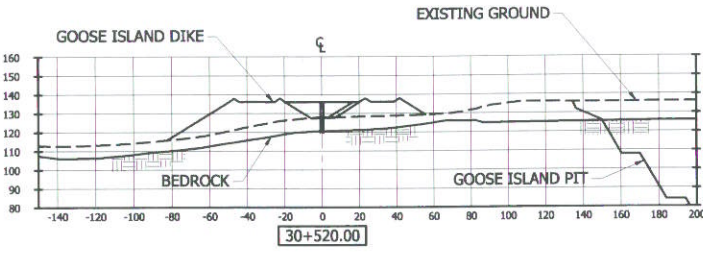
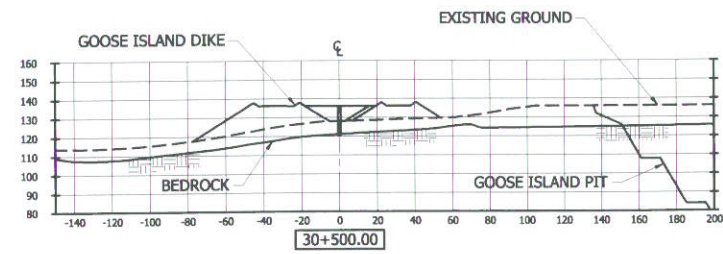
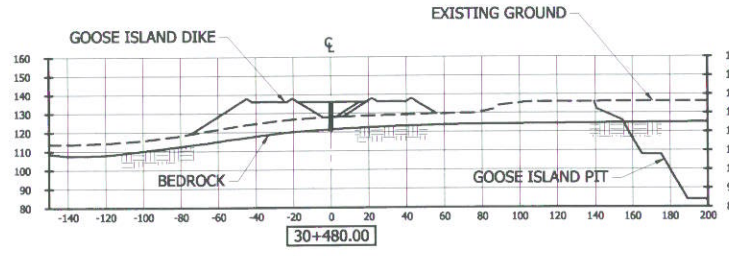
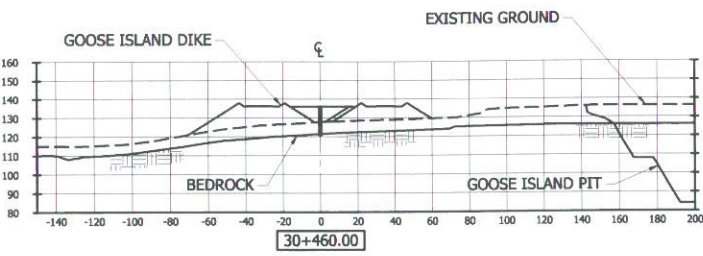
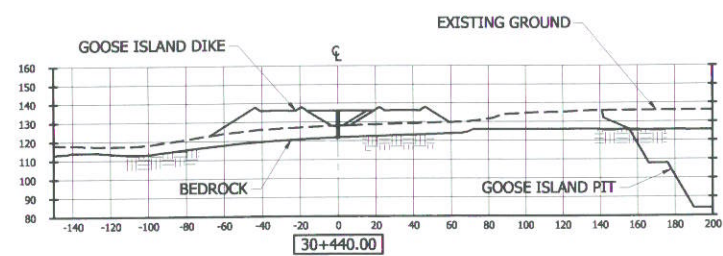
REV	DATE	DES
1	06JUL07	-
2	09MAR07	-

ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT  
ISSUED FOR TENDER  
REVISION DESCRIPTION

EA	AS	BW
CADD	CHK	RVV

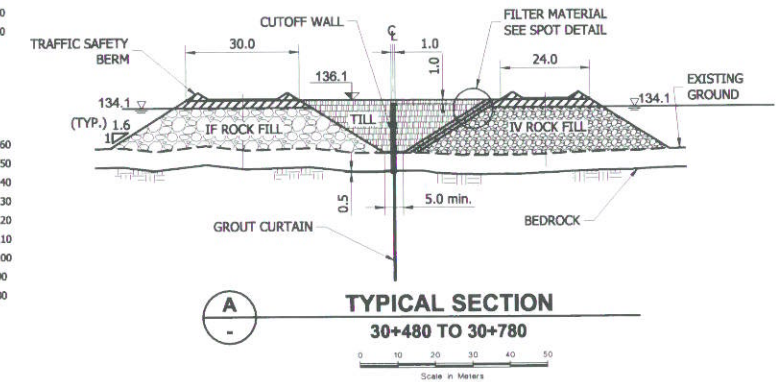
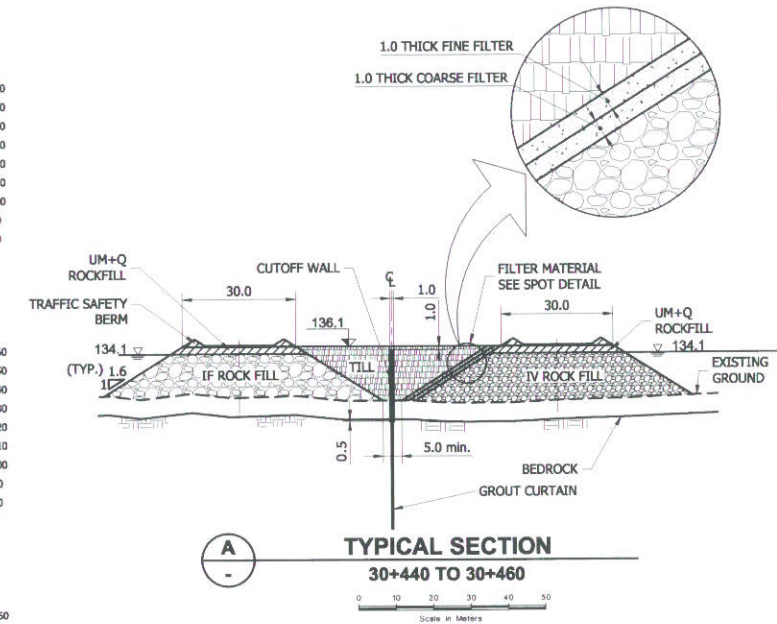


REVISION DATE: 07/07/06 11:44AM By: AS/silverdior  
CADD FILE: N:\Bor-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_20.dwg



#### NOTES:

- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
- 3) GRID REFERENCE: NAD 83, UTM ZONE 14
- 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
- 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
- 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



NOT FOR CONSTRUCTION

0 20 40 60 80 100  
Scale in Meters

REV	DATE	DES
1	06JUL07	-
2	09MAR07	-

ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT  
ISSUED FOR TENDER  
REVISION DESCRIPTION

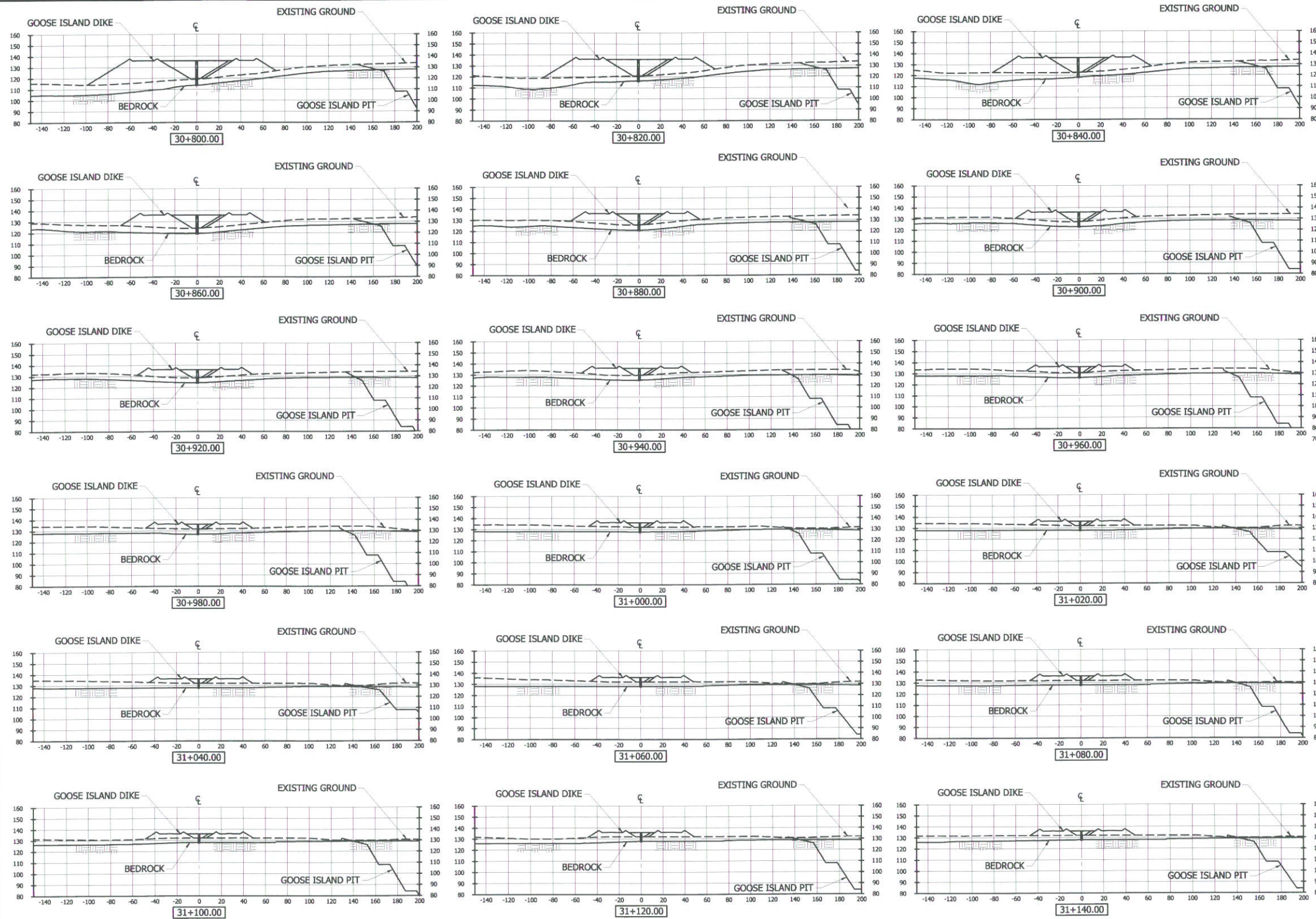
EA	AS	BW
CADD	CHK	RWW



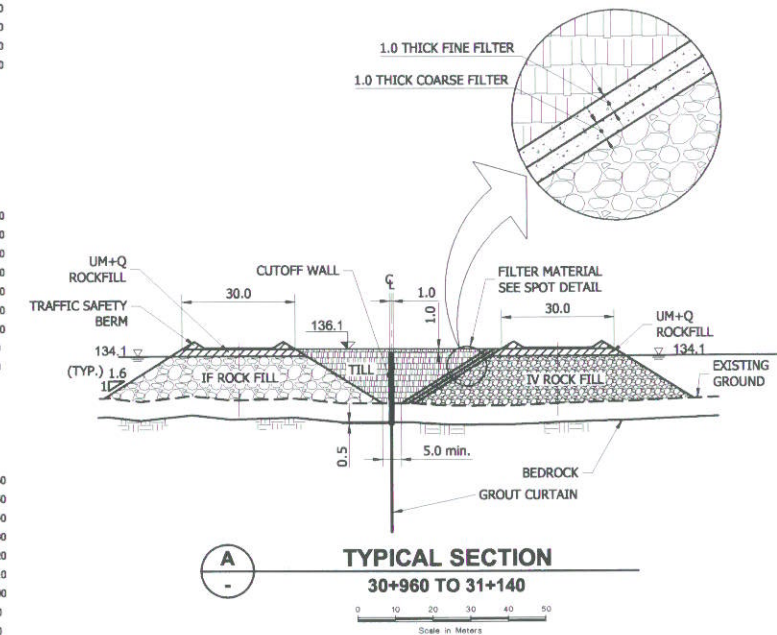
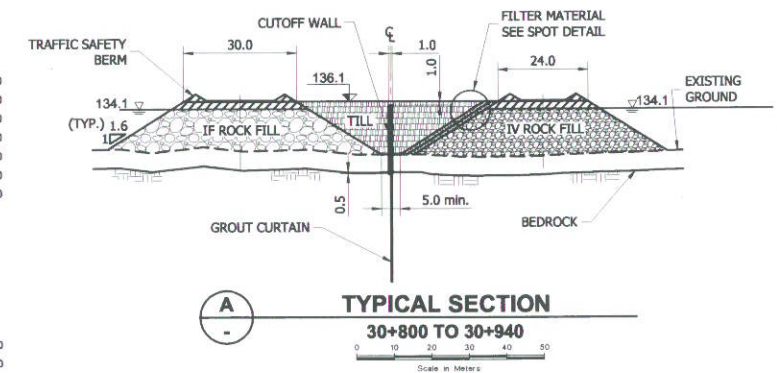
MEADOWBANK MINING CORPORATION			
MEADOWBANK GOLD PROJECT PROPOSED SECTIONS (2 OF 5) GOOSE ISLAND DIKE & TYPICAL SECTION			
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_20
DESIGN	SA	27NOV06	SCALE AS SHOWN REV. B
CADD	EA	27NOV06	
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	
6000-20			




REVISION DATE: 07/07/06 11:43AM By: ASolovod CAD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drawing\6000\REV-B\0714130047-3000\_B\_21.dwg



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



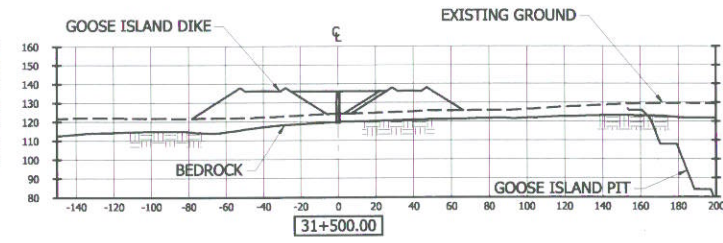
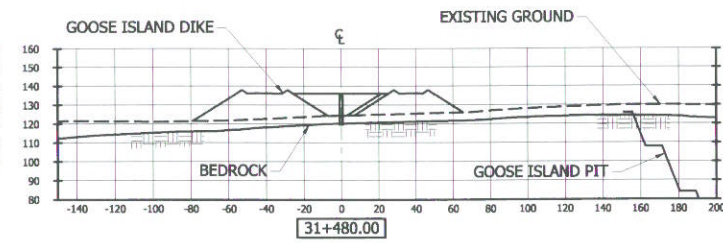
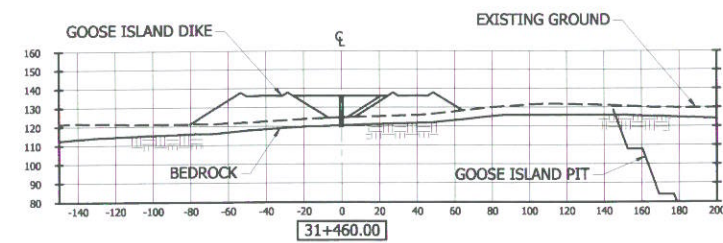
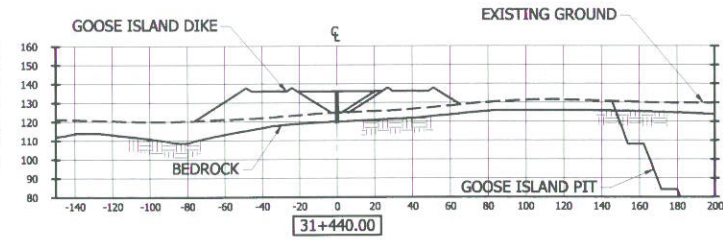
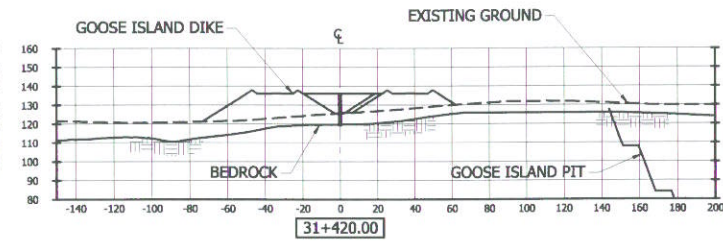
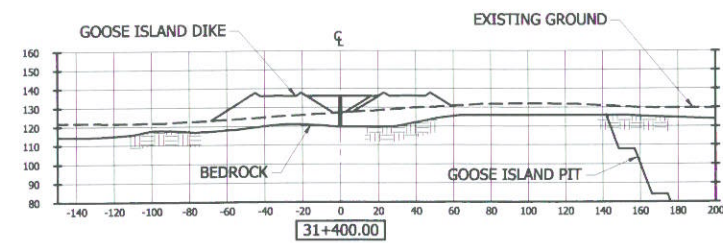
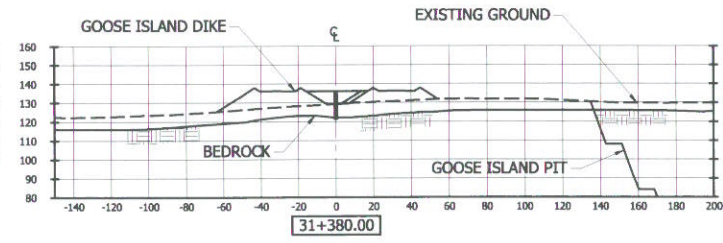
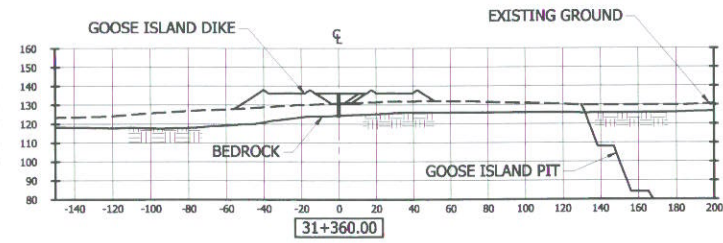
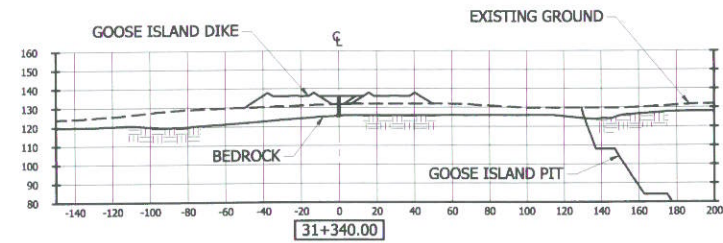
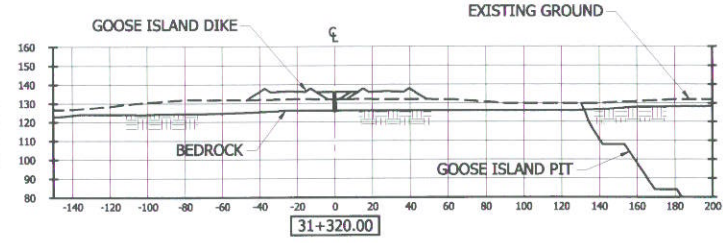
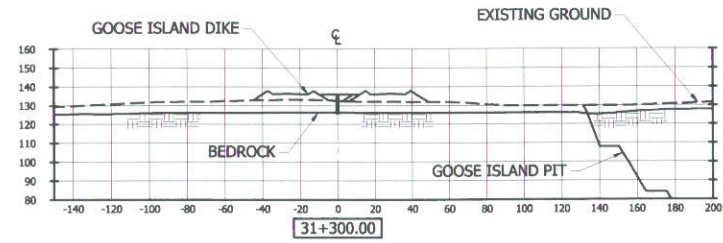
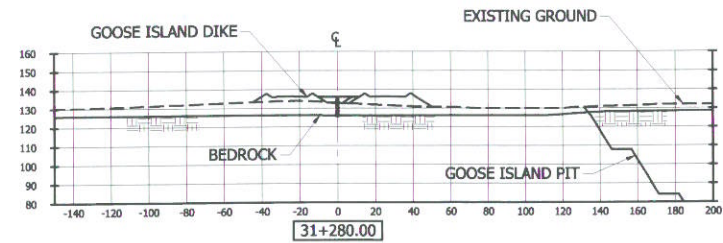
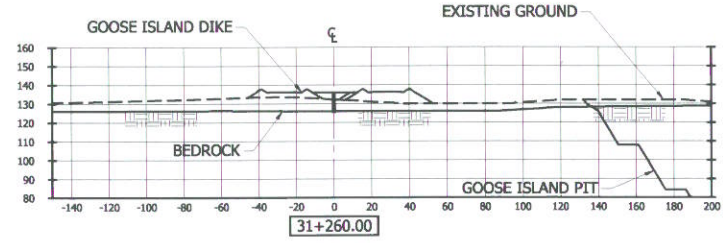
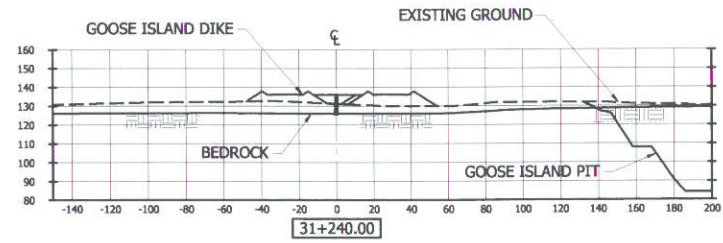
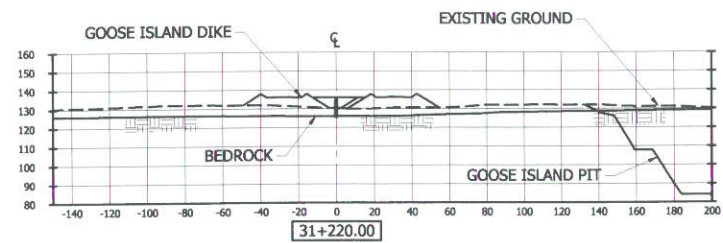
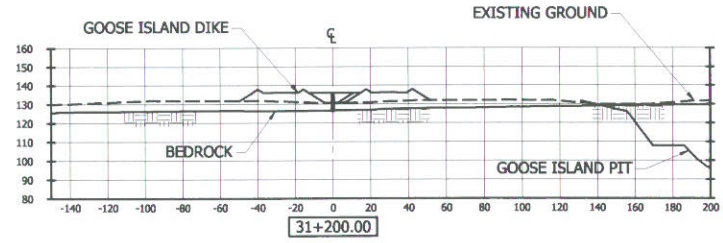
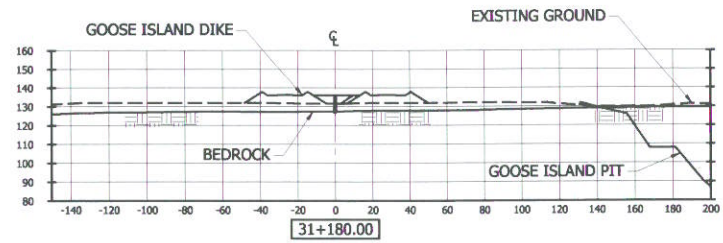
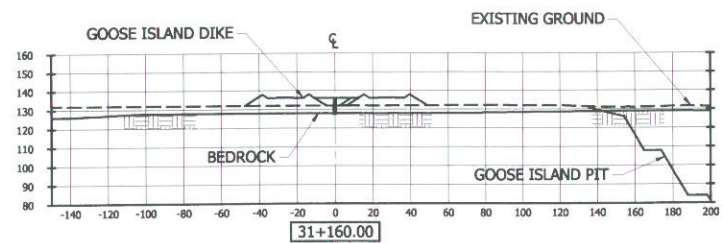
NOT FOR CONSTRUCTION

PROJECT				MEADOWBANK MINING CORPORATION			
TITLE				MEADOWBANK GOLD PROJECT PROPOSED SECTIONS (3 OF 5) GOOSE ISLAND DIKE & TYPICAL SECTION			
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_21				
DESIGN	SA	27NOV06	SCALE				
CADD	EA	27NOV06	AS SHOWN				
CHECK	AS	13MAR07	REV.				
REVIEW	SW	13MAR07		6000-21			

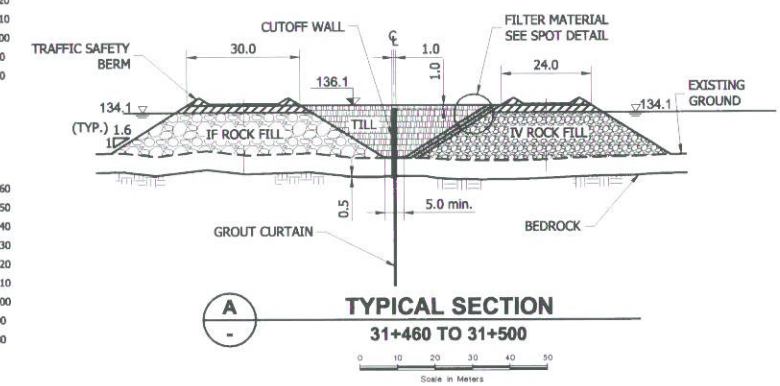
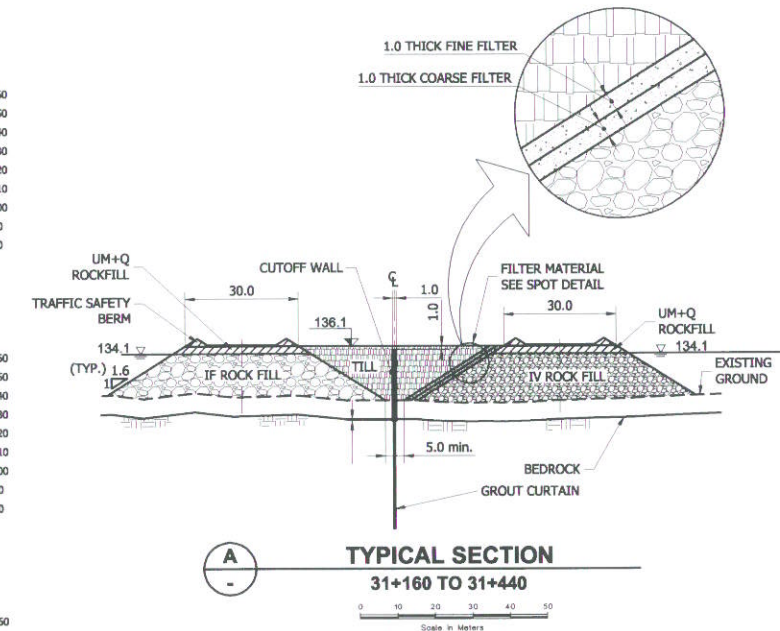
DRAWING NO.				REFERENCES			



REVISION DATE: 07/07/06 11:43AM By: ASolovador CADD FILE: N:\Bor-graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_22.dwg



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M

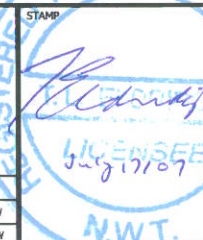


NOT FOR CONSTRUCTION

PROJECT			
MEADOWBANK MINING CORPORATION			
TITLE			
MEADOWBANK GOLD PROJECT PROPOSED SECTIONS (4 OF 5) GOOSE ISLAND DIKE & TYPICAL SECTION			
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_22
DESIGN	SA	27NOV06	SCALE AS SHOWN REV. B
CADD	EA	27NOV06	
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	
6000-22			

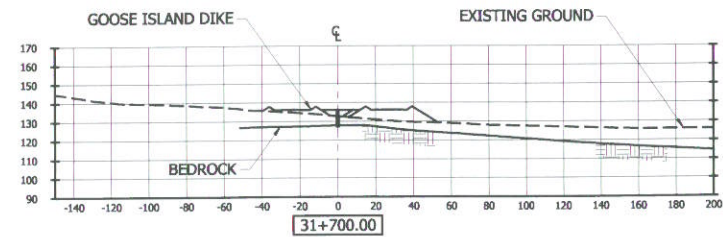
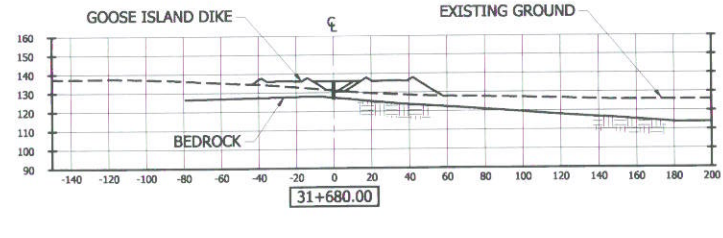
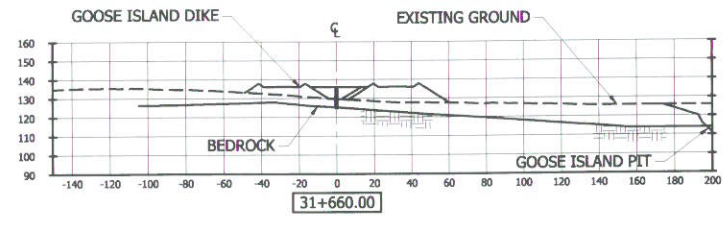
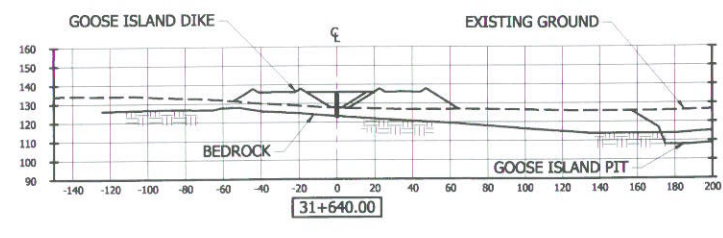
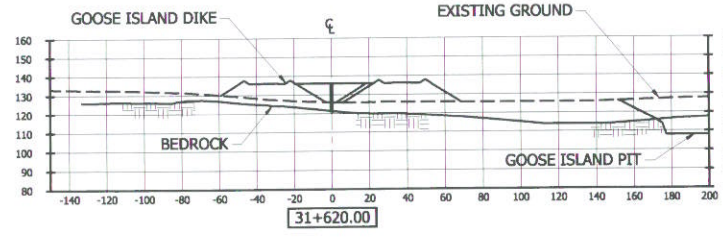
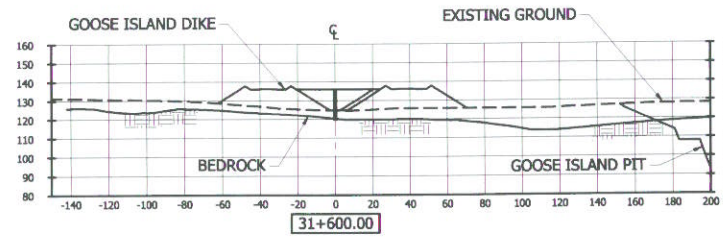
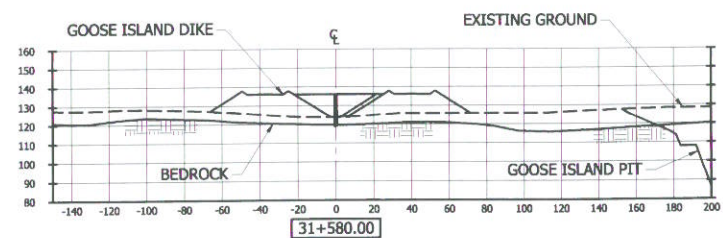
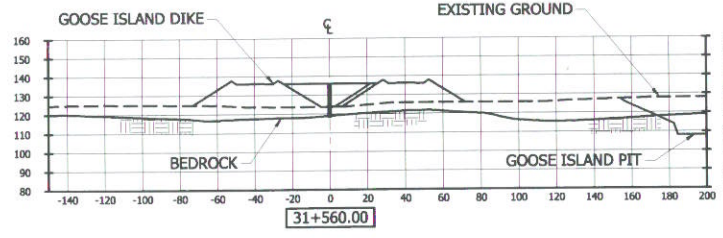
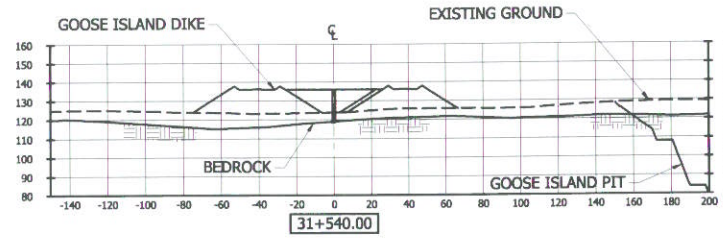
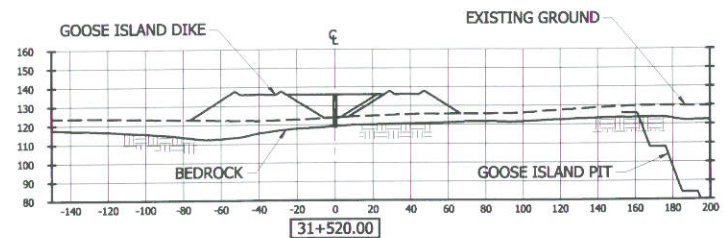
REV	DATE	DES	REVISION DESCRIPTION
1	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT
2	09MAR07	-	ISSUED FOR TENDER

EA	AS	BW
CADD	CHK	RVW



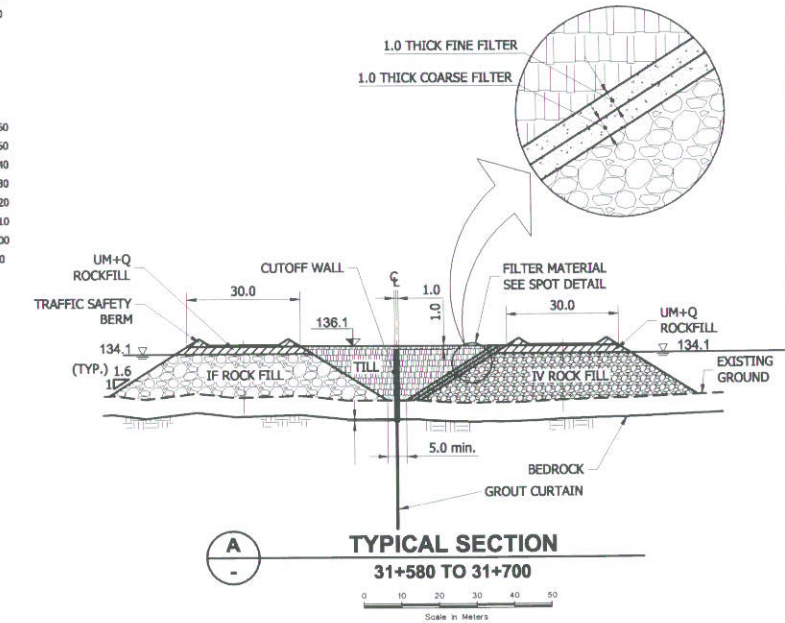
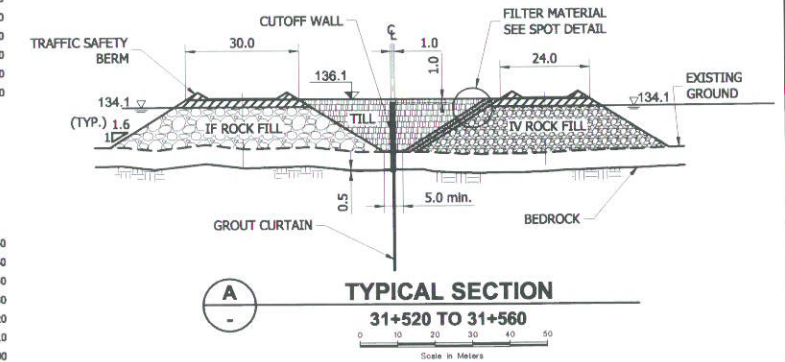


REVISION DATE: 07/07/06 11:42AM By: ASolovdor CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_23.dwg



#### NOTES:

- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
- 3) GRID REFERENCE: NAD 83, UTM ZONE 14
- 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
- 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
- 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



NOT FOR CONSTRUCTION

0 20 40 60 80 100  
Scale in Meters

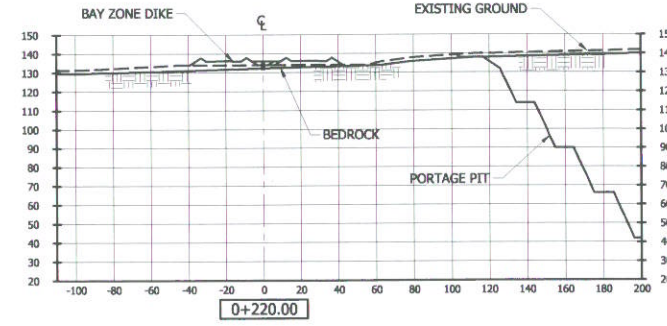
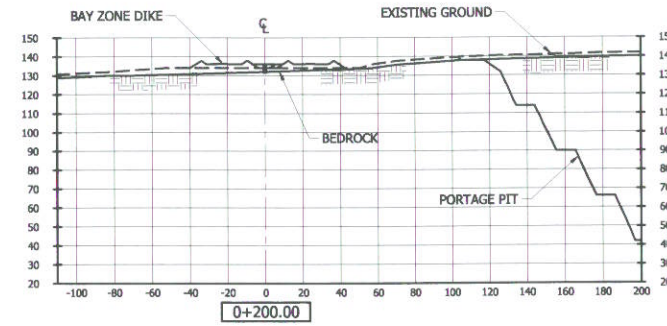
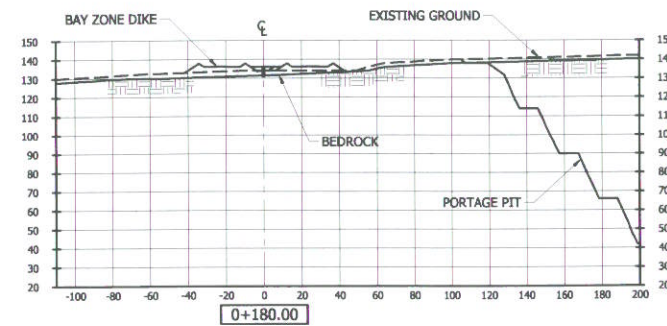
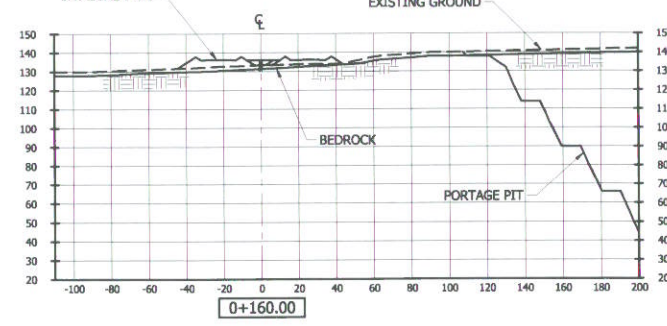
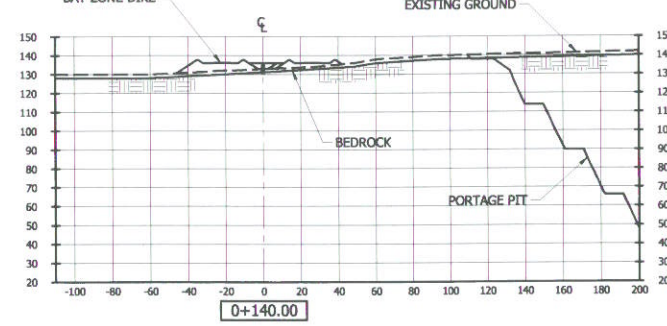
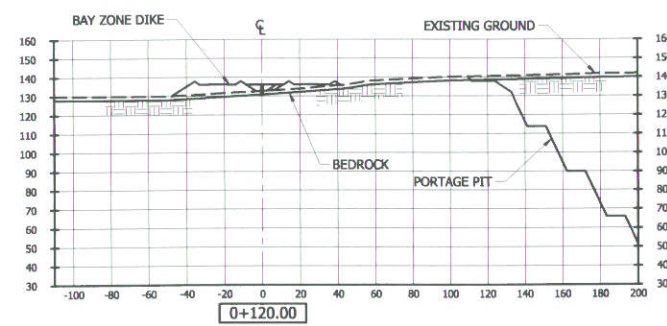
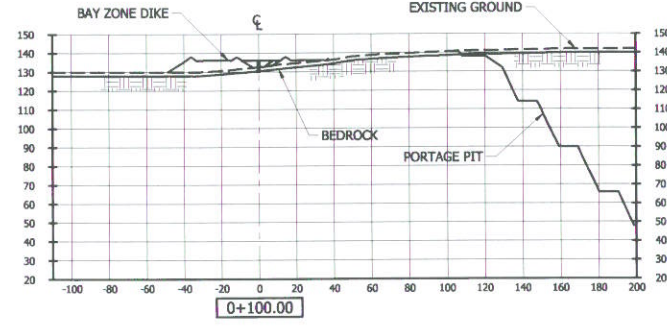
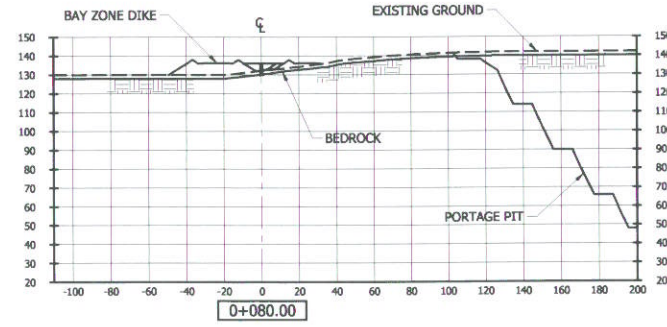
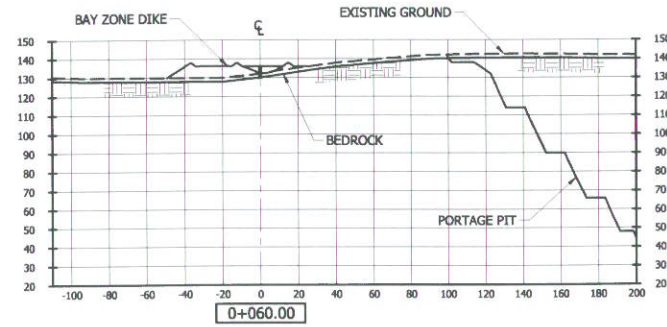
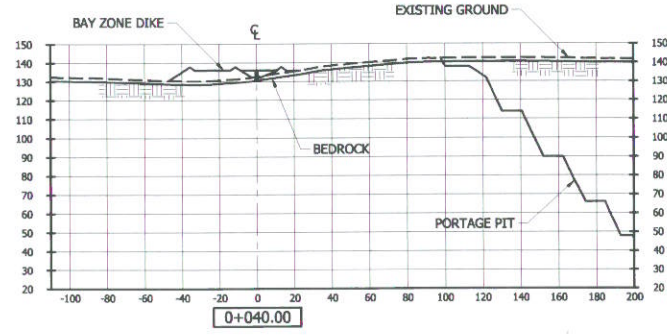
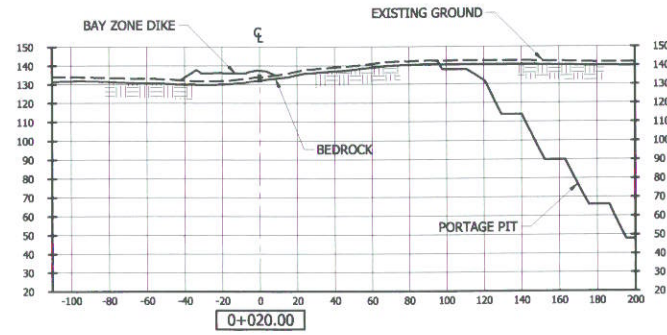
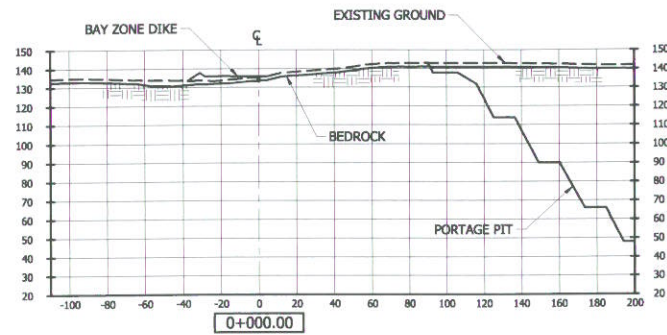
REV	DATE	DES	REVISION DESCRIPTION	EA	AS	BW	CADD	CHK	RVW
1	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT	EA	AS	BW			
2	09MAR07	-	ISSUED FOR TENDER	EA	AS	BW			

STAMP  
REGISTERED PROFESSIONAL ENGINEER  
LICENSEE  
July 17/07  
N.W.T.

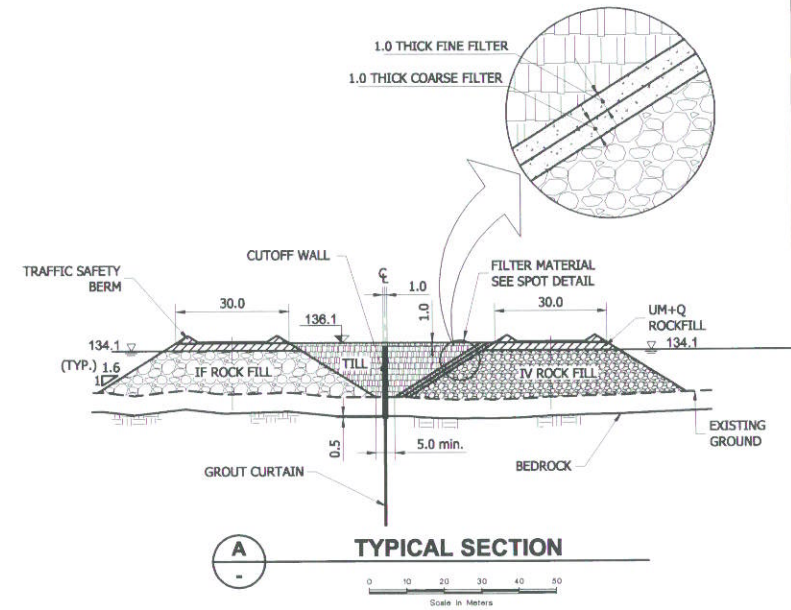
PROJECT		MEADOWBANK MINING CORPORATION	
TITLE		MEADOWBANK GOLD PROJECT PROPOSED SECTIONS (5 OF 5) GOOSE ISLAND DIKE & TYPICAL SECTION	
DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. B
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	
PROJECT No.		06-1413-081	FILE No. 0714130047-3000_B_23
Golder Associates		6000-23	



REVISION DATE: 07/07/06 11:42AM By: ASolovador  
CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_24.dwg



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M

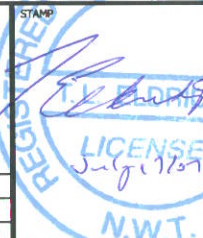


NOT FOR CONSTRUCTION

PROJECT			
MEADOWBANK MINING CORPORATION			
MEADOWBANK GOLD PROJECT			
PROPOSED SECTIONS (1 OF 4)			
BAY ZONE DIKE & TYPICAL SECTION			
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_24
DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. B
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	
6000-24			

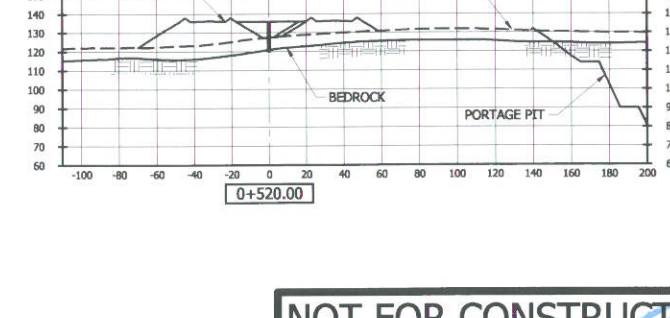
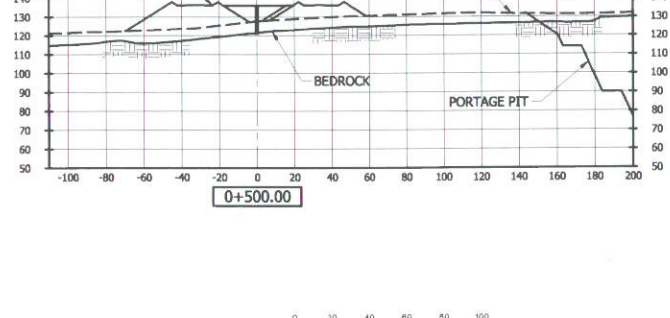
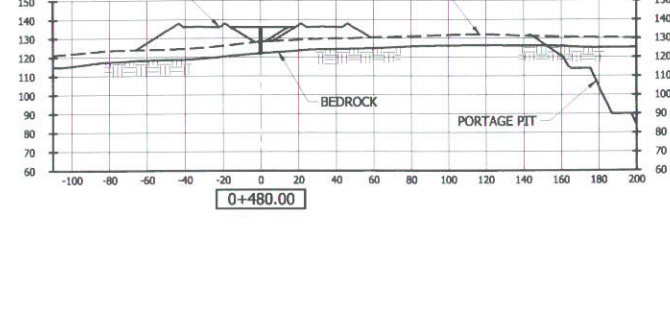
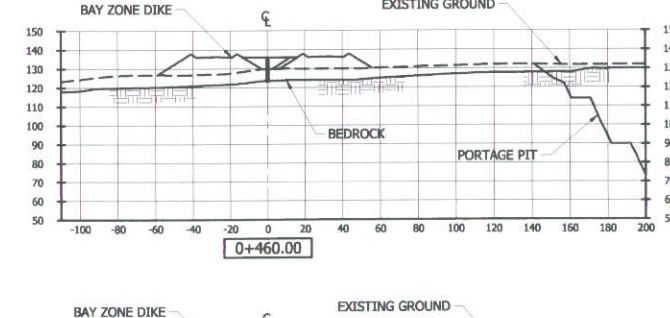
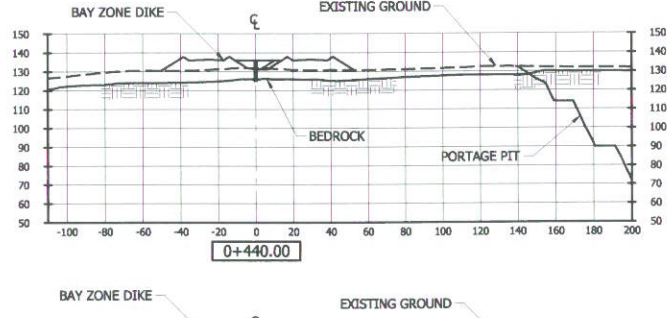
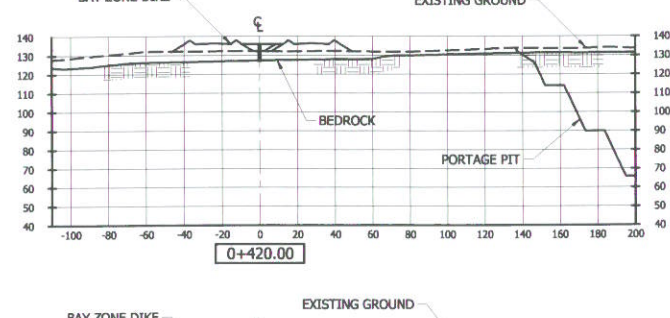
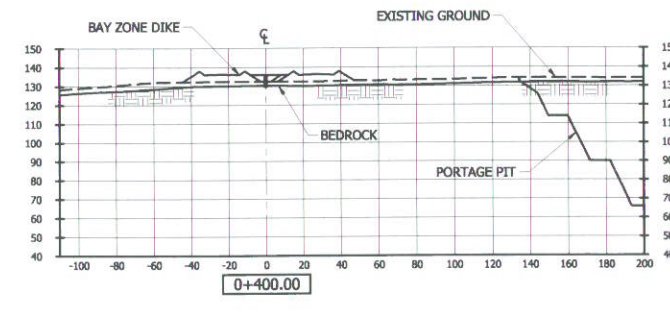
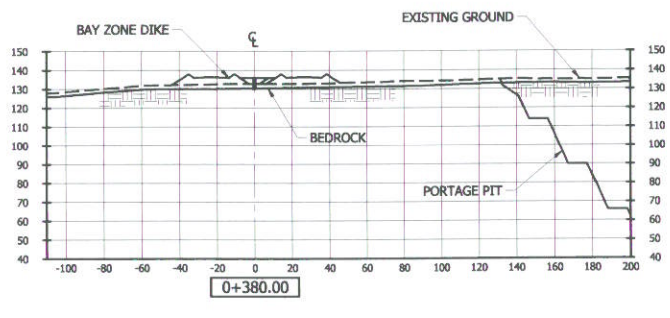
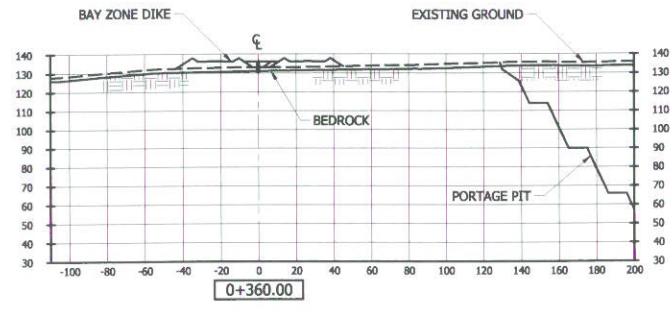
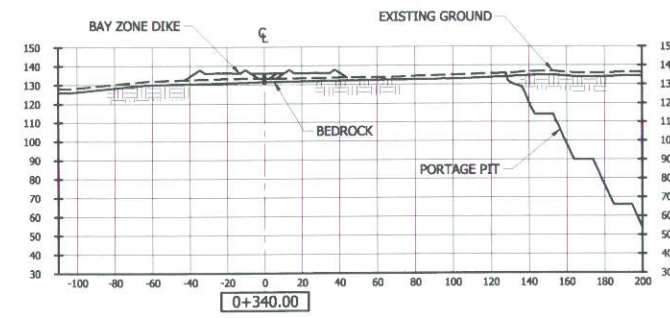
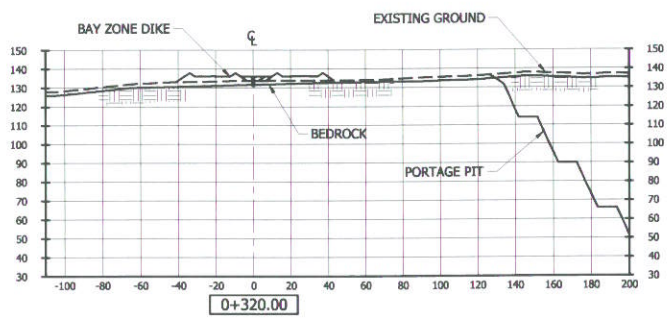
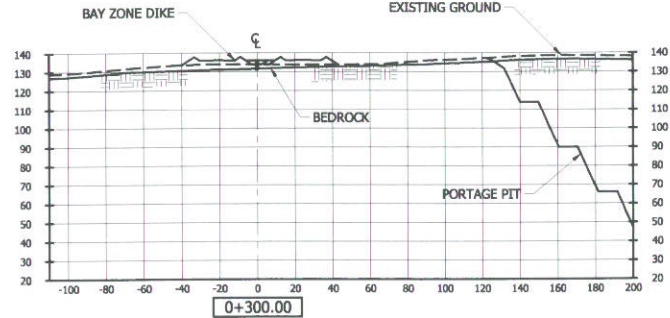
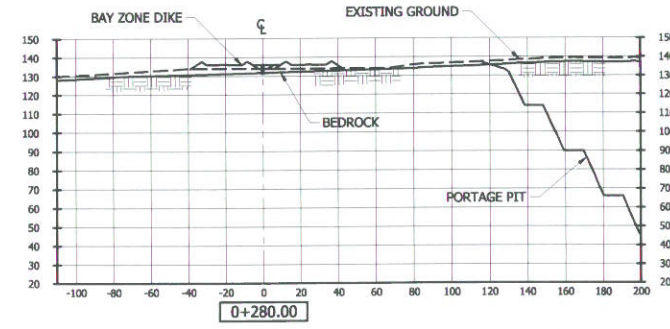
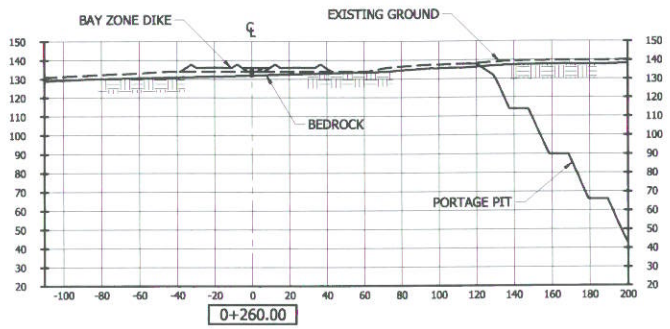
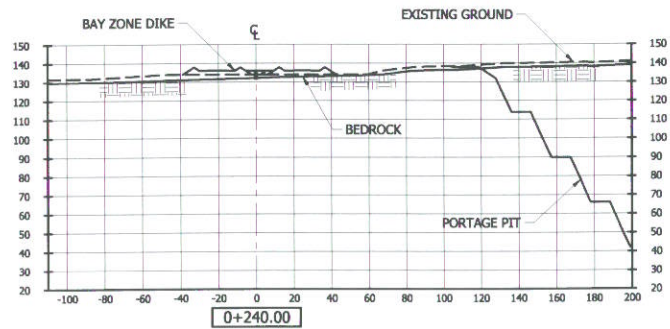
REV	DATE	DES	REVISION DESCRIPTION
06JUL07	-	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT
09MAR07	-	-	ISSUED FOR TENDER

EA	BW
EA	AS
CADD	CHK
RVW	

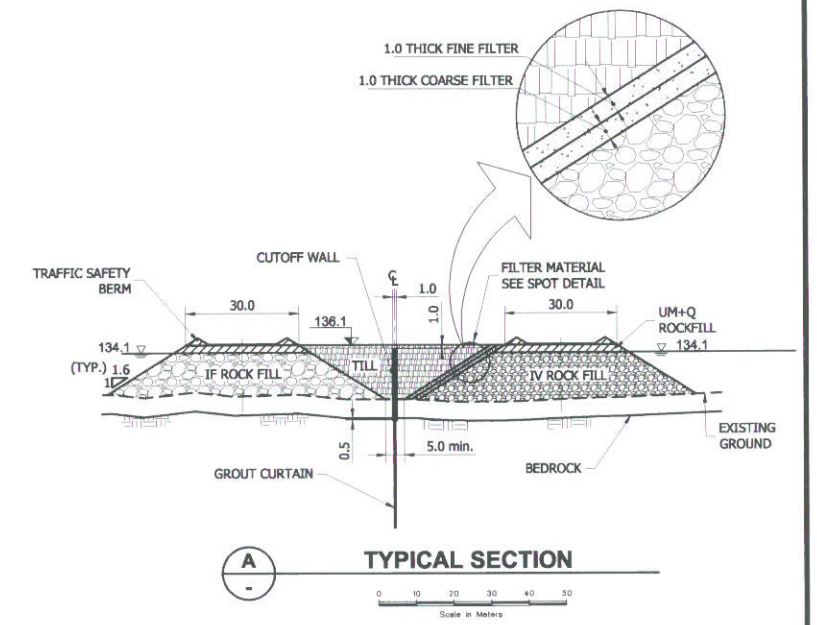




REVISION DATE: 07/07/06 11:42AM By: ASolovader CADD FILE: N:\Bor-Graphics\Projects\2007\1413\047\Drafting\6000\REV-B\0714130047-3000\_B\_25.dwg



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



NOT FOR CONSTRUCTION

PROJECT		FILE No.	
MEADOWBANK MINING CORPORATION		0714130047-3000_B_25	
MEADOWBANK GOLD PROJECT		SCALE AS SHOWN	
PROPOSED SECTIONS (2 OF 4)		REV. B	
BAY ZONE DIKE & TYPICAL SECTION		6000-25	
DESIGN	SA	27NOV06	
CADD	EA	27NOV06	
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	

PROJECT No. 06-1413-081  
DESIGN SA 27NOV06  
CADD EA 27NOV06  
CHECK AS 13MAR07  
REVIEW BW 13MAR07

Gold Associates

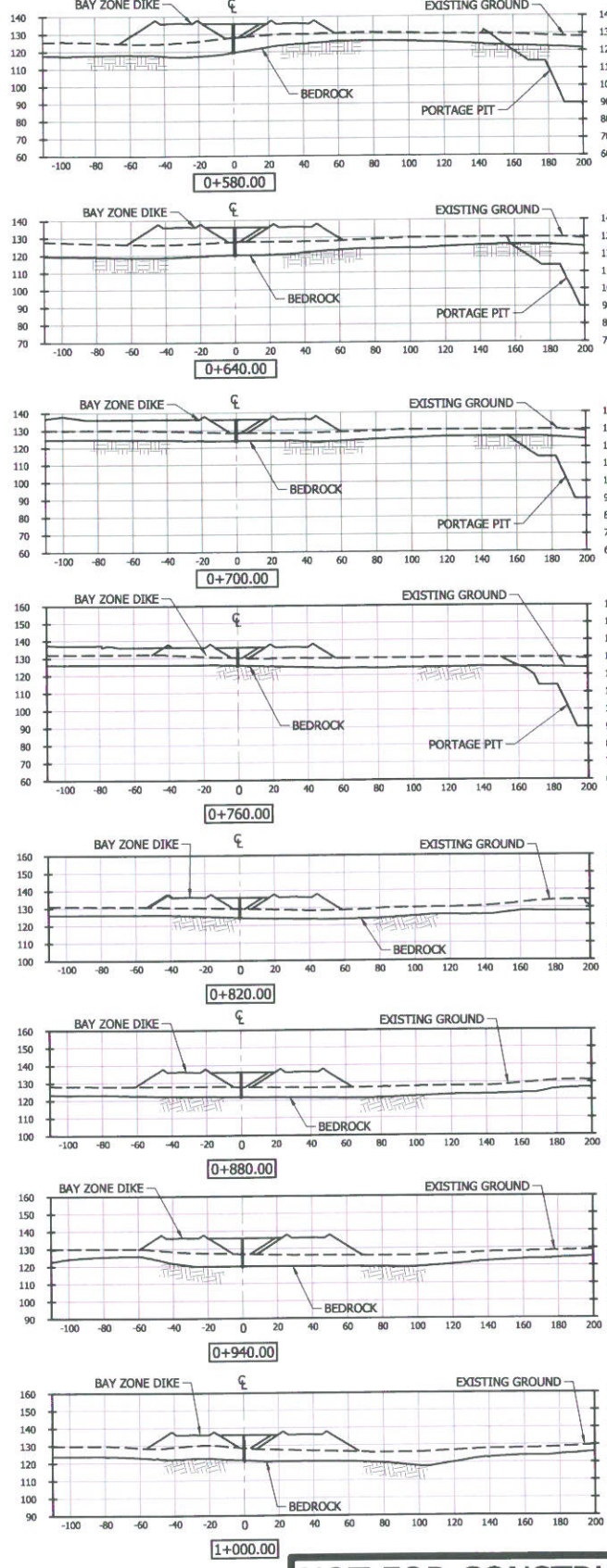
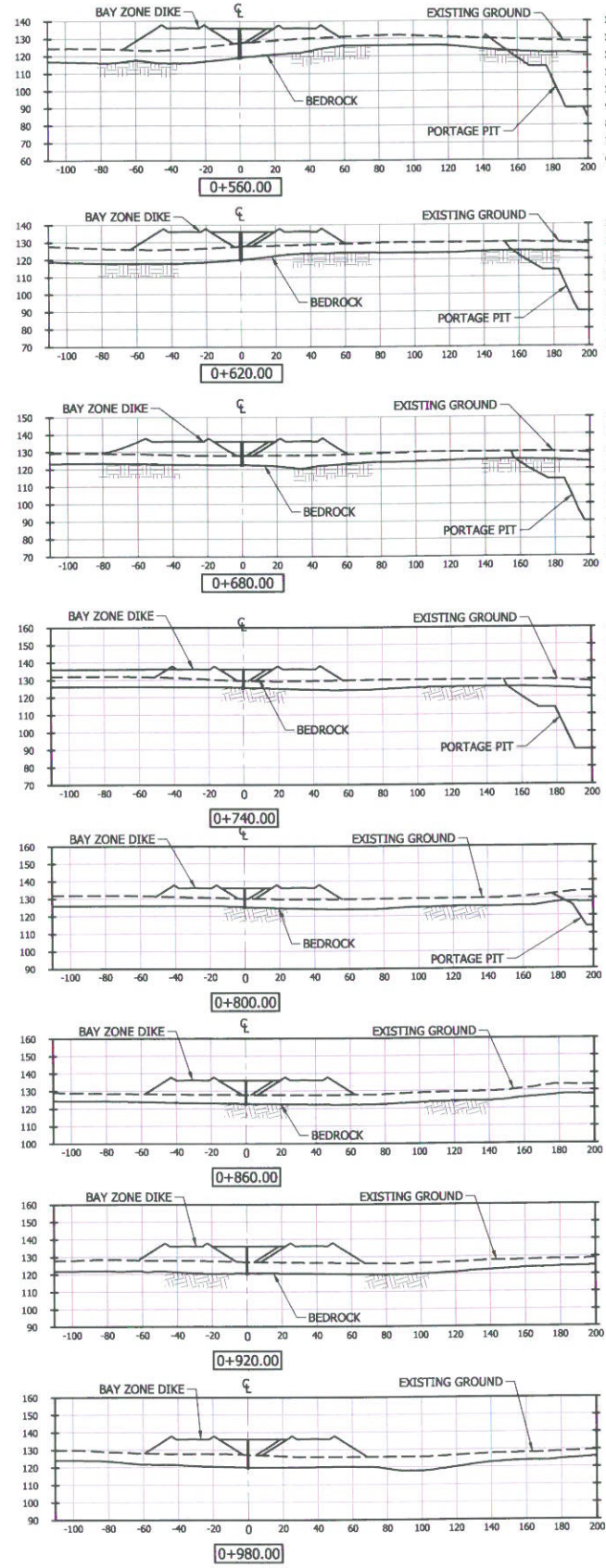
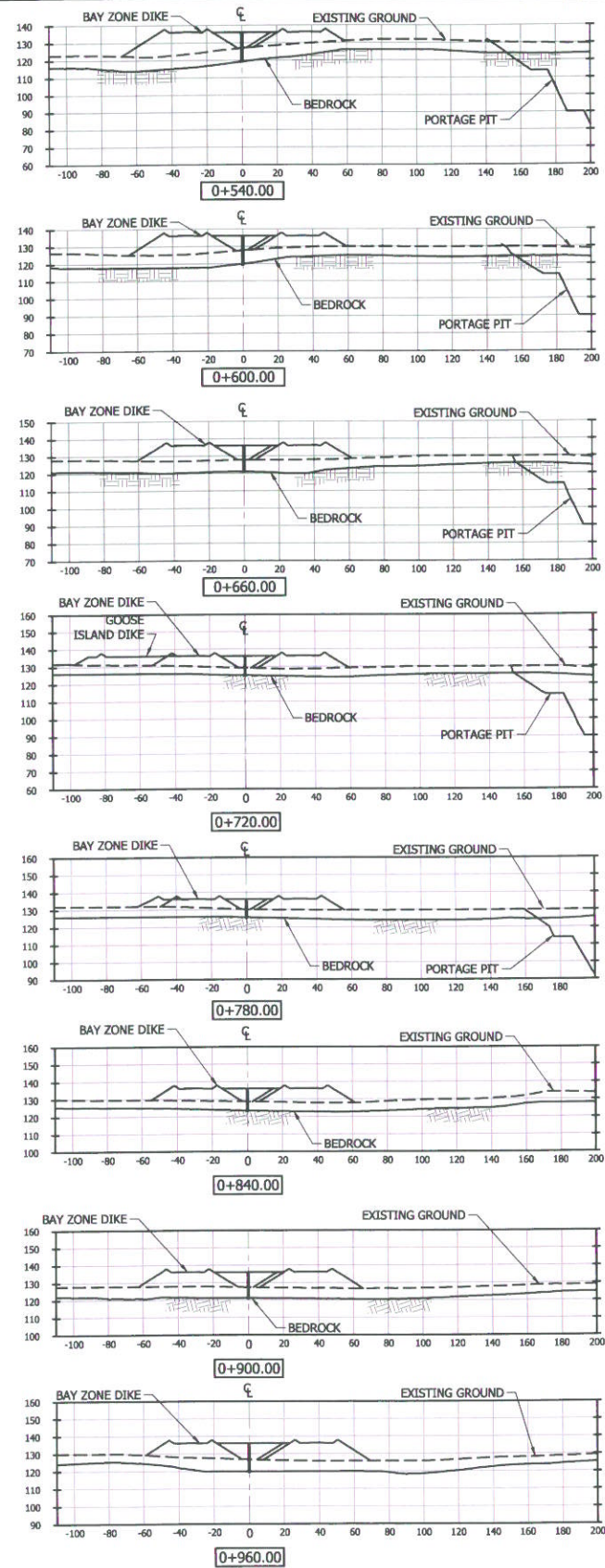
Scale in Meters

REV	DATE	DES	REVISION DESCRIPTION
06JUL07	-	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT
09MAR07	-	-	ISSUED FOR TENDER

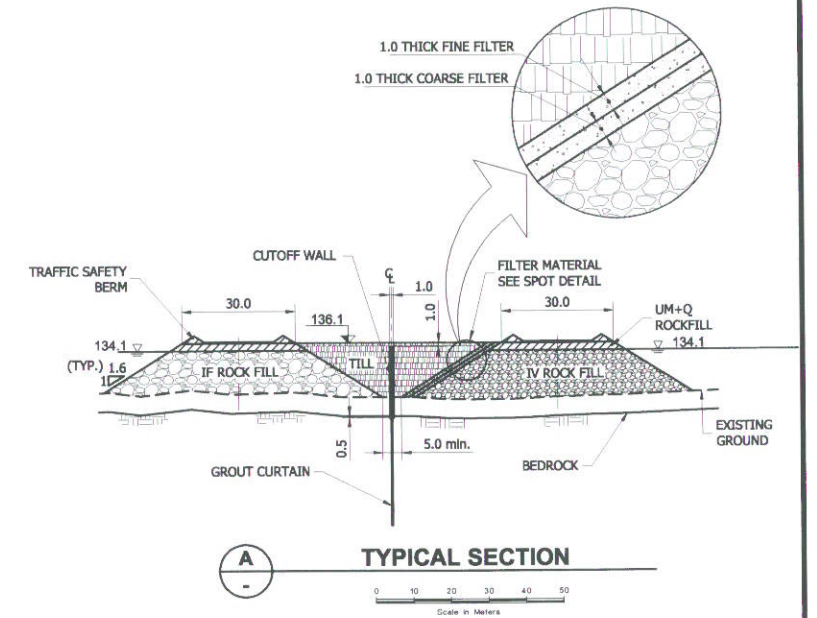
EA	AS	BW
CADD	CHK	RVW



REVISION DATE: 07/07/06 11:41 AM By: ASolovador  
CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_26.dwg



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



**NOT FOR CONSTRUCTION**

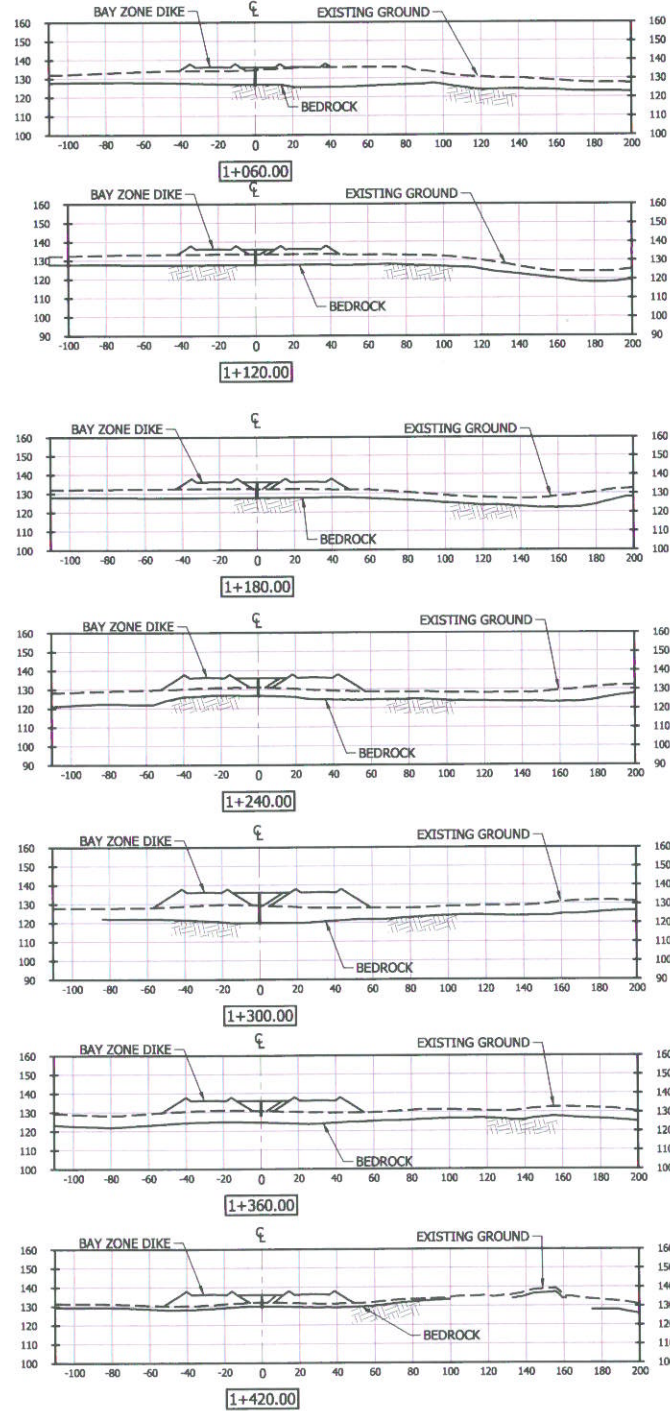
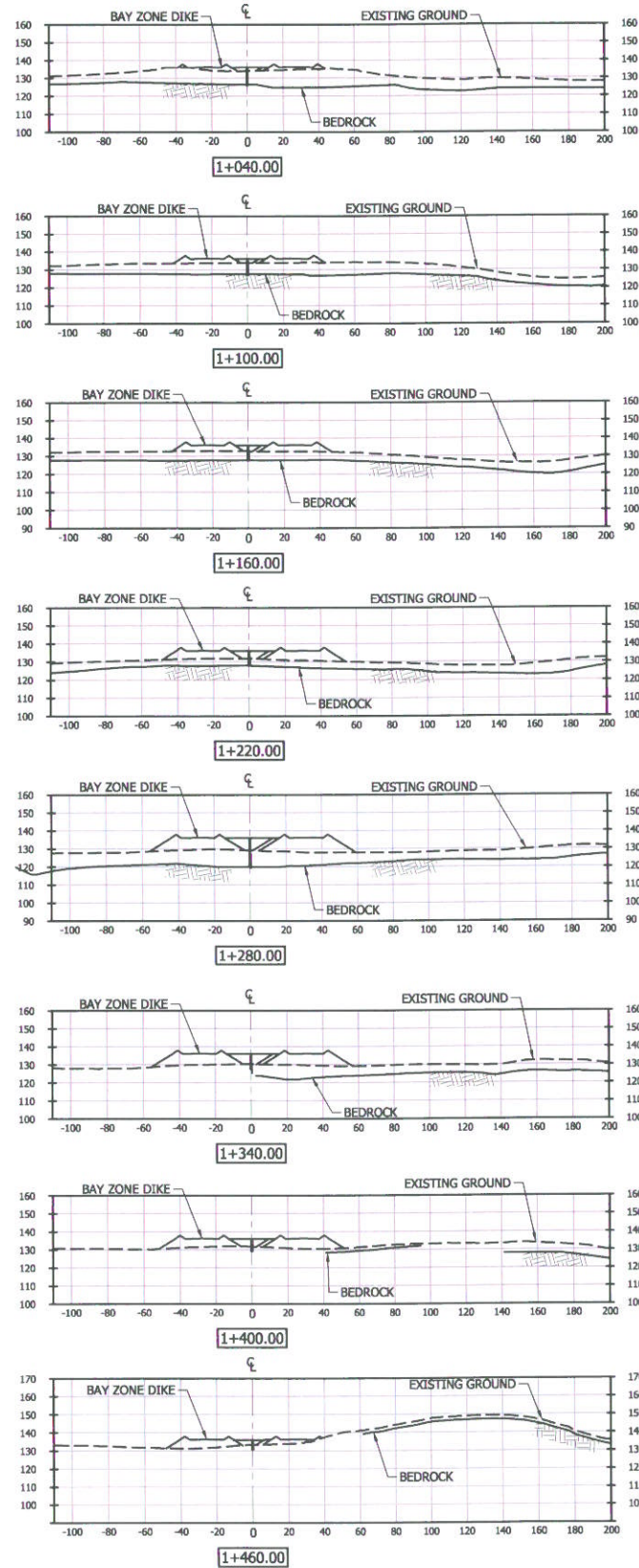
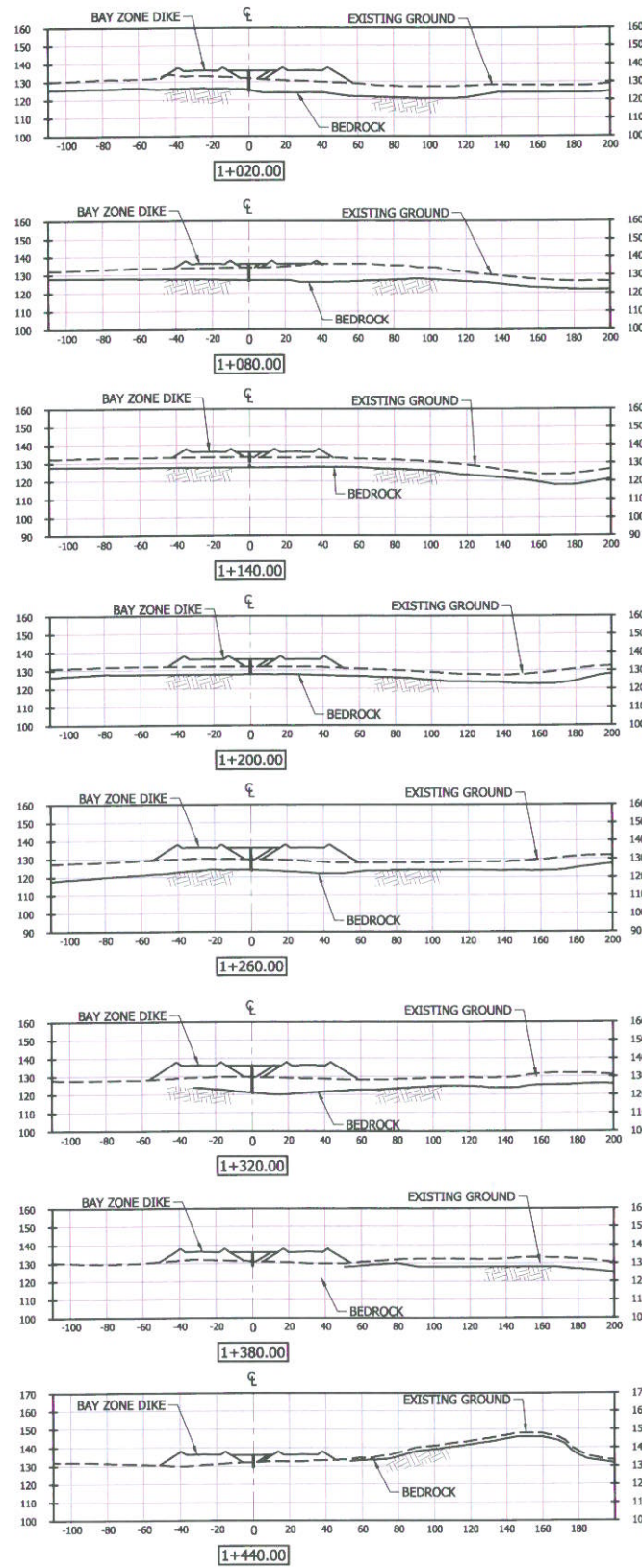
PROJECT				MEADOWBANK MINING CORPORATION			
TITLE				MEADOWBANK GOLD PROJECT PROPOSED SECTIONS (3 OF 4) BAY ZONE DIKE & TYPICAL SECTION			
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_26	DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. B	CHECK	AS	13MAR07	
REVIEW	BW	13MAR07					
				6000-26			

REV	DATE	DES	REVISION DESCRIPTION	EA	AS	BW	CADD	CHK	RW
1	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT						
2	09MAR07	-	ISSUED FOR TENDER						

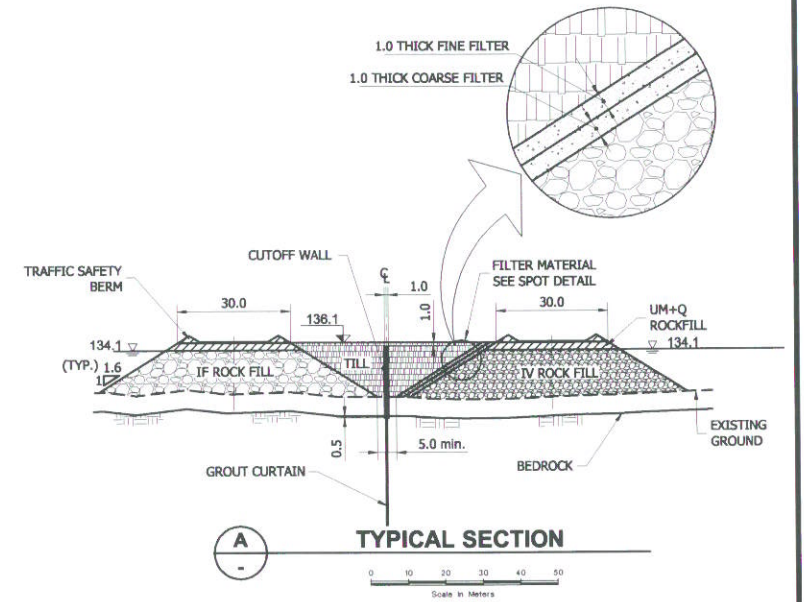


CAAD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_27.dwg

REVISION DATE: 07/07/06 04:54PM By: Aselvalder



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



NOT FOR CONSTRUCTION

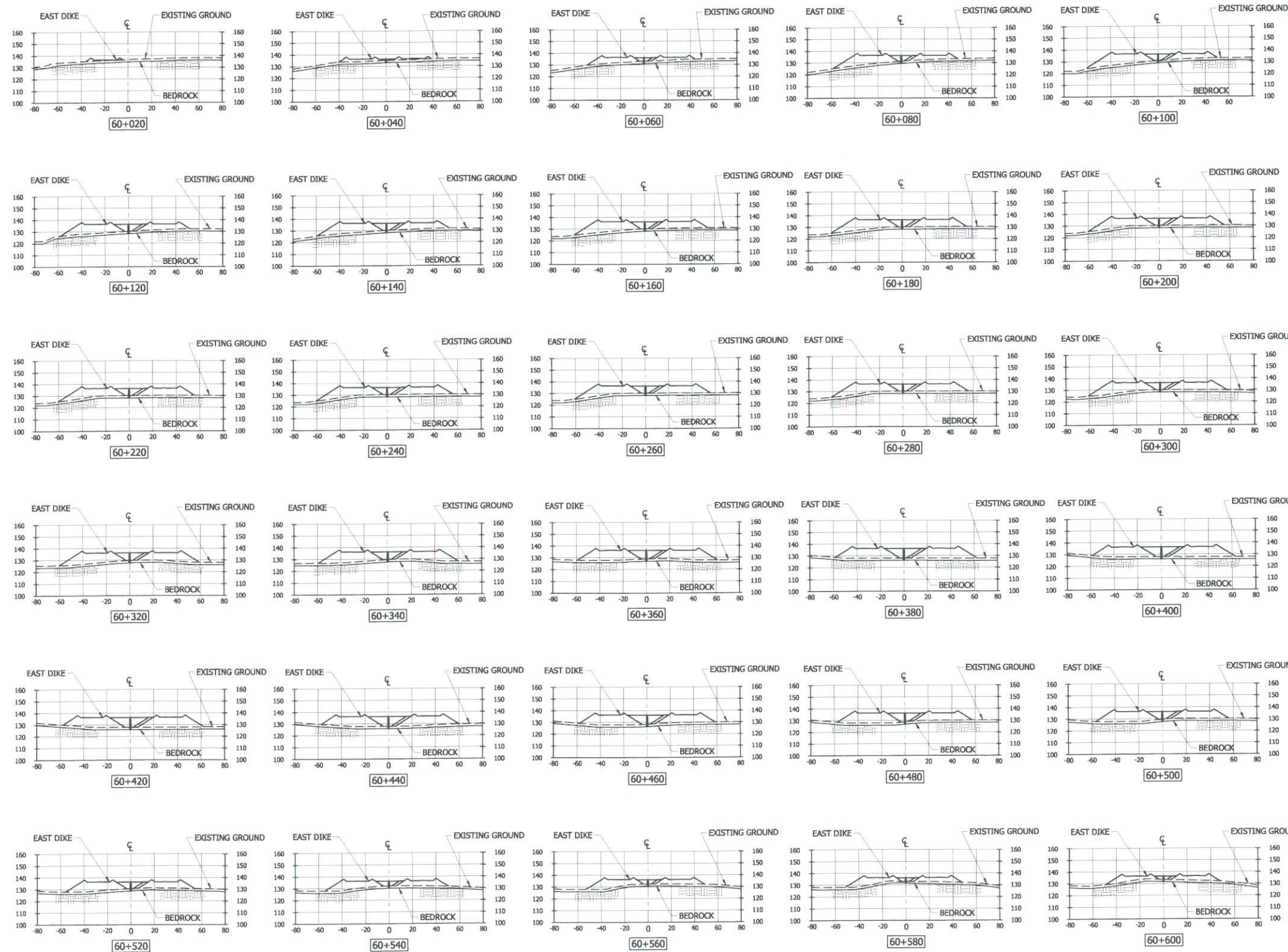
PROJECT				MEADOWBANK MINING CORPORATION			
TITLE				MEADOWBANK GOLD PROJECT PROPOSED SECTIONS (4 OF 4) BAY ZONE DIKE & TYPICAL SECTION			
DESIGN	SA	27NOV06	FILE No.	0714130047-3000_B_27	SCALE	AS SHOWN	REV. B
CADD	EA	27NOV06	PROJECT No.	06-1413-081	6000-27		
CHECK	AS	13MAR07	DESIGN	SA			
REVIEW	BW	13MAR07	CADD	EA			

REV	DATE	DES	REVISION DESCRIPTION
06JUL07	-	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT
09MAR07	-	-	ISSUED FOR TENDER

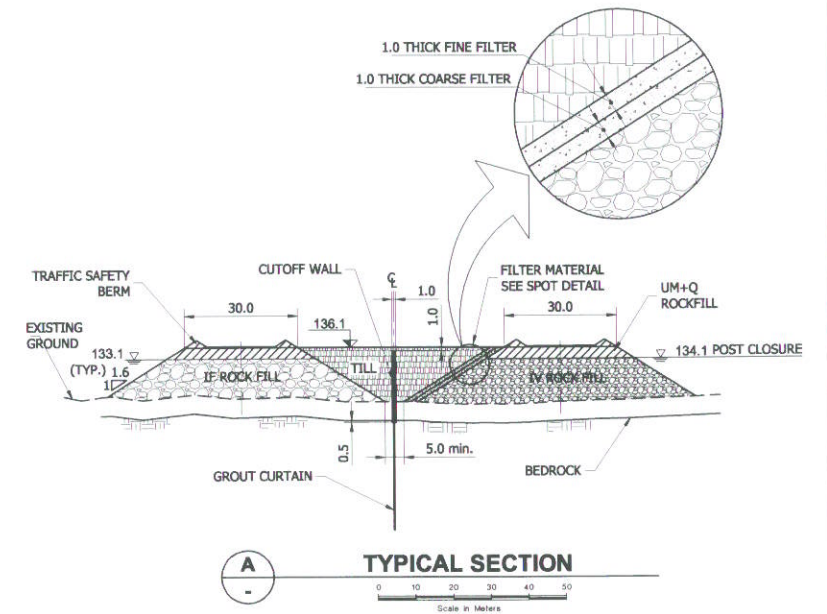
EA	BW
EA	AS
CADD	CHK
CHK	RWW



REVISION DATE: 07/07/16 04:57PM By: ASoliver CAD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_28.dwg



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



**NOT FOR CONSTRUCTION**

PROJECT				MEADOWBANK MINING CORPORATION			
TITLE				MEADOWBANK GOLD PROJECT PROPOSED SECTIONS (1 OF 2) EAST DIKE & TYPICAL SECTION			
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_28	DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. B	CHECK	AS	13MAR07	
REVIEW	BW	13MAR07					
				6000-28			

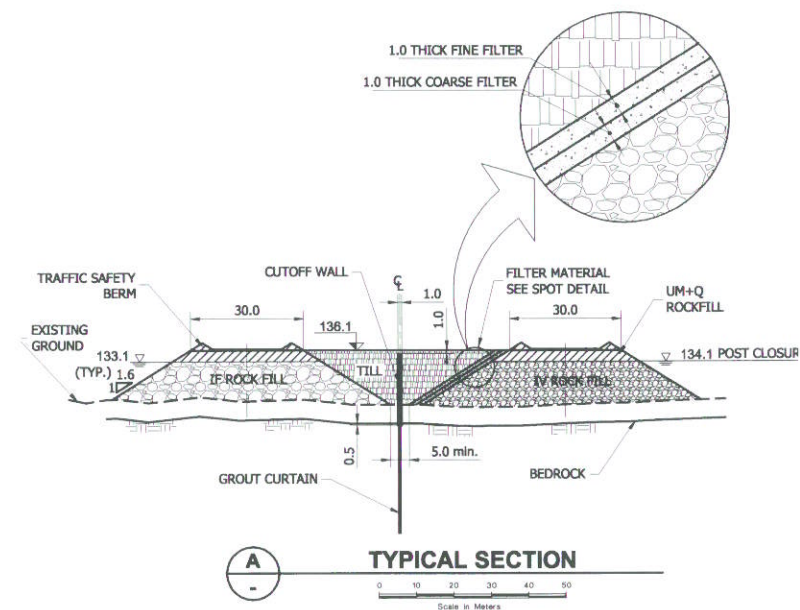
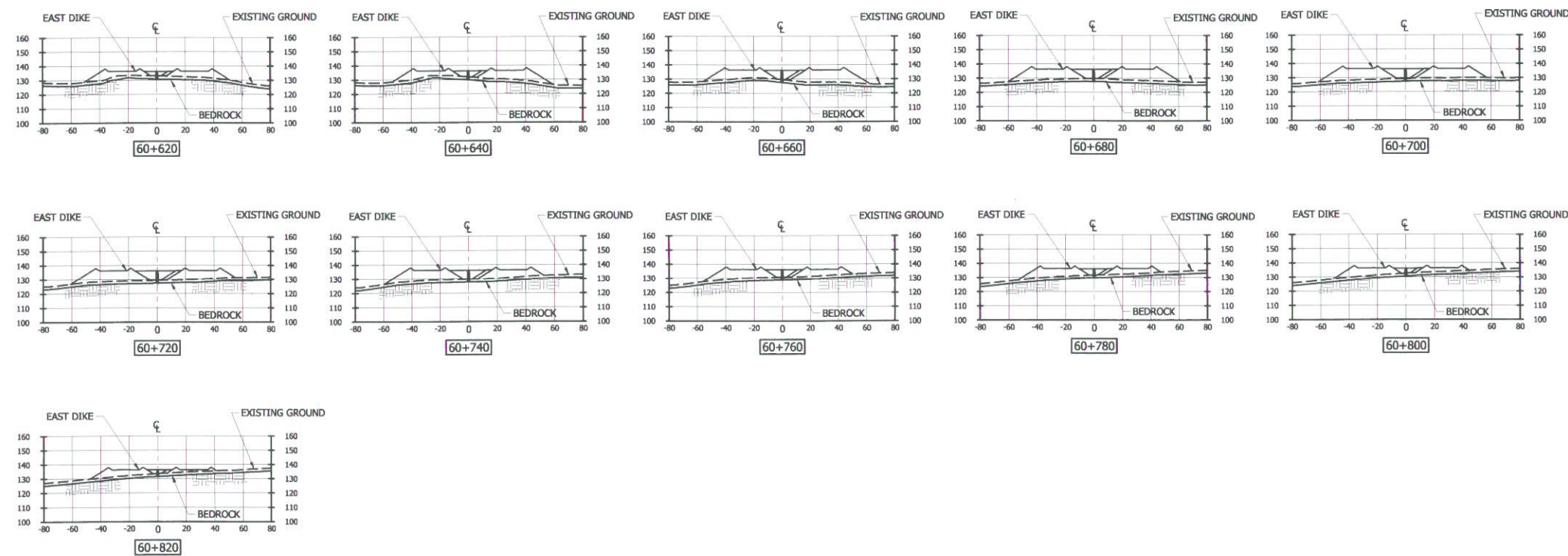
REV	DATE	DES	REVISION DESCRIPTION
B	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT
A	09MAR07	-	ISSUED FOR TENDER

EA	AS	BW
CADD	CHK	RWW



REVISION DATE: 07/07/06 01:40PM By: AS/valder CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0647\Drafting\6000\REV-B\071413047-3000\_B\_29.dwg

- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M



NOT FOR CONSTRUCTION



REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
1	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT	EA	AS	BW
2	09MAR07	-	ISSUED FOR TENDER	EA	AS	BW

**MEADOWBANK MINING CORPORATION**

**MEADOWBANK GOLD PROJECT**

**PROPOSED SECTIONS (2 OF 2)**

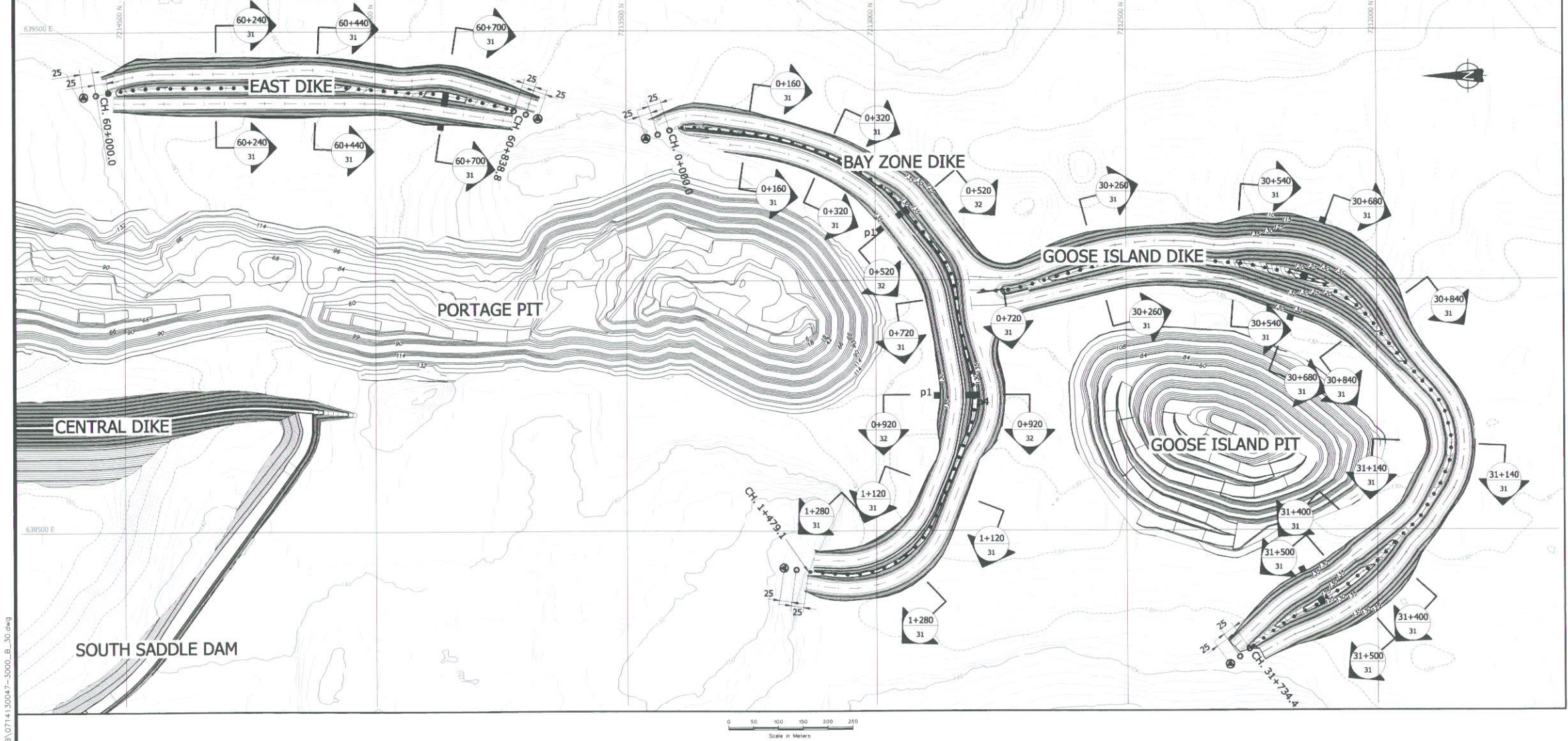
**EAST DIKE & TYPICAL SECTION**

PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_29
DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. 8
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	

**6000-29**

**Golder Associates**





- NOTES:**
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
  - 3) GRID REFERENCE: NAD 83, UTM ZONE 14
  - 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
  - 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
  - 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M
  - 7) SEISMOGRAPH LOCATIONS ARE 1MX1M CONCRETE PADS
  - 8) SURVEY MONUMENTS ARE SPACED 25M ALONG CREST CENTRELINE.
  - 9) SURVEY CONTROL MONUMENTS SHALL BE CONSTRUCTED ON LAND AS TYPE D GIVEN IN U.S. ARMY CORPS OF ENGINEERS EM1110-1-1002.

- LEGEND:**
- T1 : THERMISTOR.
  - : SURVEY MONUMENT.
  - : SEISMOGRAPH LOCATION.
  - ⊙ : SURVEY CONTROL MONUMENTS.

**NOT FOR CONSTRUCTION**

REVISION DATE: 07/07/06 01:39PM By: ASolovador CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_30.dwg

REV	DATE	DES	REVISION DESCRIPTION	EA	AS	BW	CADD	CHK	RWW
1	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT	EA					
2	09MAR07	-	ISSUED FOR TENDER	EA	AS	BW			

DRAWING NO.

REFERENCES

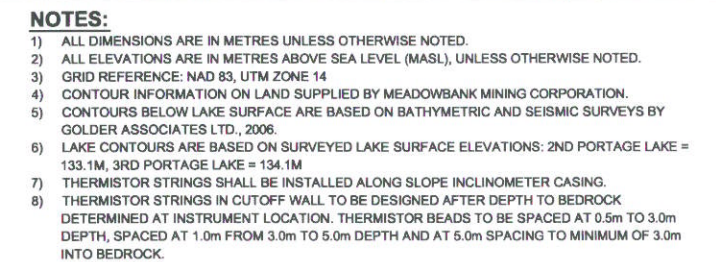
STAMP

PROJECT		MEADOWBANK MINING CORPORATION	
TITLE		MEADOWBANK GOLD PROJECT DEWATERING DIKE INSTRUMENTATION PLAN LOCATIONS	
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_30
DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. B
CHECK	AS	13MAR07	
REVIEW	BW	13MAR07	

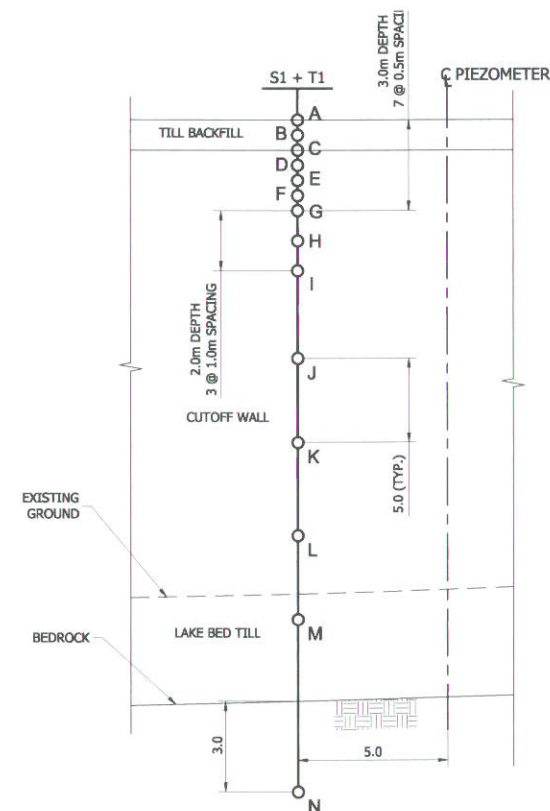
**Golder Associates**

6000-30





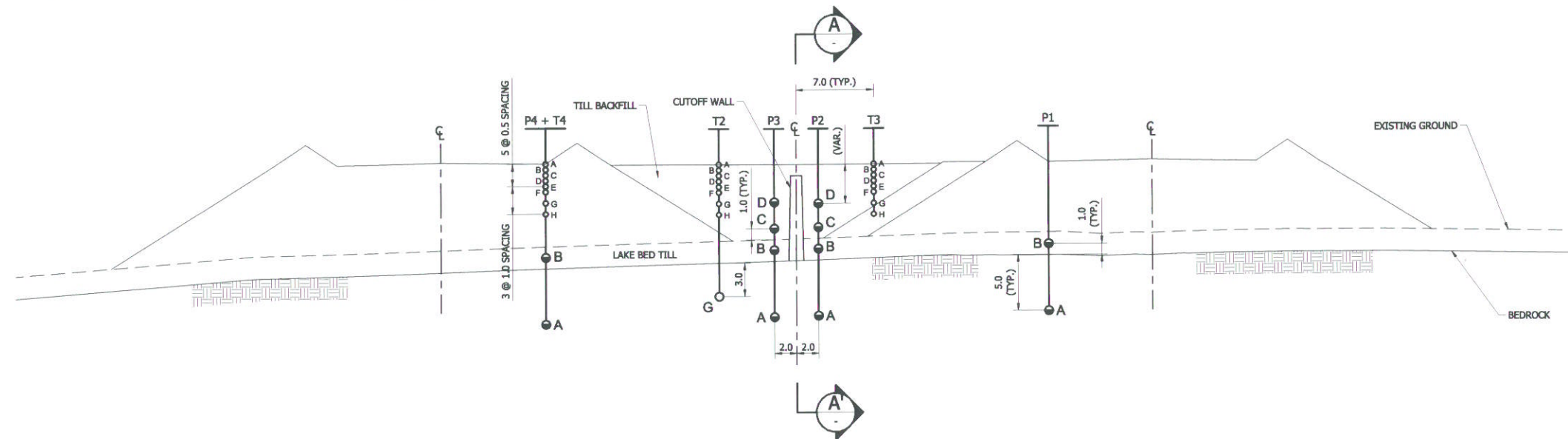
P1 : PIEZOMETER.  
 OT1 : THERMISTOR.



## THERMISTOR AND INCLINOMETER

[illegible]

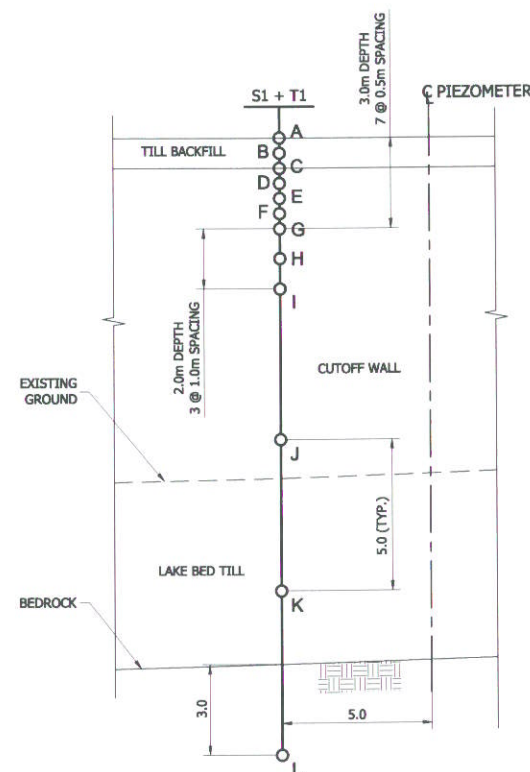
REVISION DATE: 07/07/17 09:09AM By: ASoliver CADD FILE: N:\Bur-Graphics\Projects\2007\1413\07-1413-0047\Drafting\6000\REV-B\0714130047-3000\_B\_32.dwg



TYPICAL SECTION - PIEZOMETER

0+520 0+920  
30 30

Scale in Meters  
Scale 1: 250



TYPICAL SECTION

TYPICAL SECTION  
THERMISTOR AND INCLINOMETERS

0+520 0+920  
30 30

Scale 1: 125

#### NOTES:

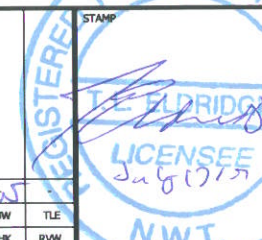
- 1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MASL), UNLESS OTHERWISE NOTED.
- 3) GRID REFERENCE: NAD 83, UTM ZONE 14
- 4) CONTOUR INFORMATION ON LAND SUPPLIED BY MEADOWBANK MINING CORPORATION.
- 5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC AND SEISMIC SURVEYS BY GOLDER ASSOCIATES LTD., 2006.
- 6) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS: 2ND PORTAGE LAKE = 133.1M, 3RD PORTAGE LAKE = 134.1M
- 7) SHALLOW THERMISTOR STRINGS (5m) SHALL BE INSTALLED IN SAME BOREHOLE AS PIEZOMETERS.
- 8) CUTOFF WALL THERMISTOR STRING SHALL BE INSTALLED ALONG SLOPE INCLINOMETER CASING.
- 9) THERMISTOR STRINGS IN CUTOFF WALL TO BE DESIGNED AFTER DEPTH TO BEDROCK DETERMINED AT INSTRUMENT LOCATION. THERMISTOR BEADS TO BE SPACED AT 0.5m TO 3.0m DEPTH, SPACED AT 1.0m FROM 3.0m TO 5.0m DEPTH AND AT 5.0m SPACING TO MINIMUM OF 3.0m INTO BEDROCK.

#### LEGEND:

- P1 : PIEZOMETER.  
● T1 : THERMISTOR.

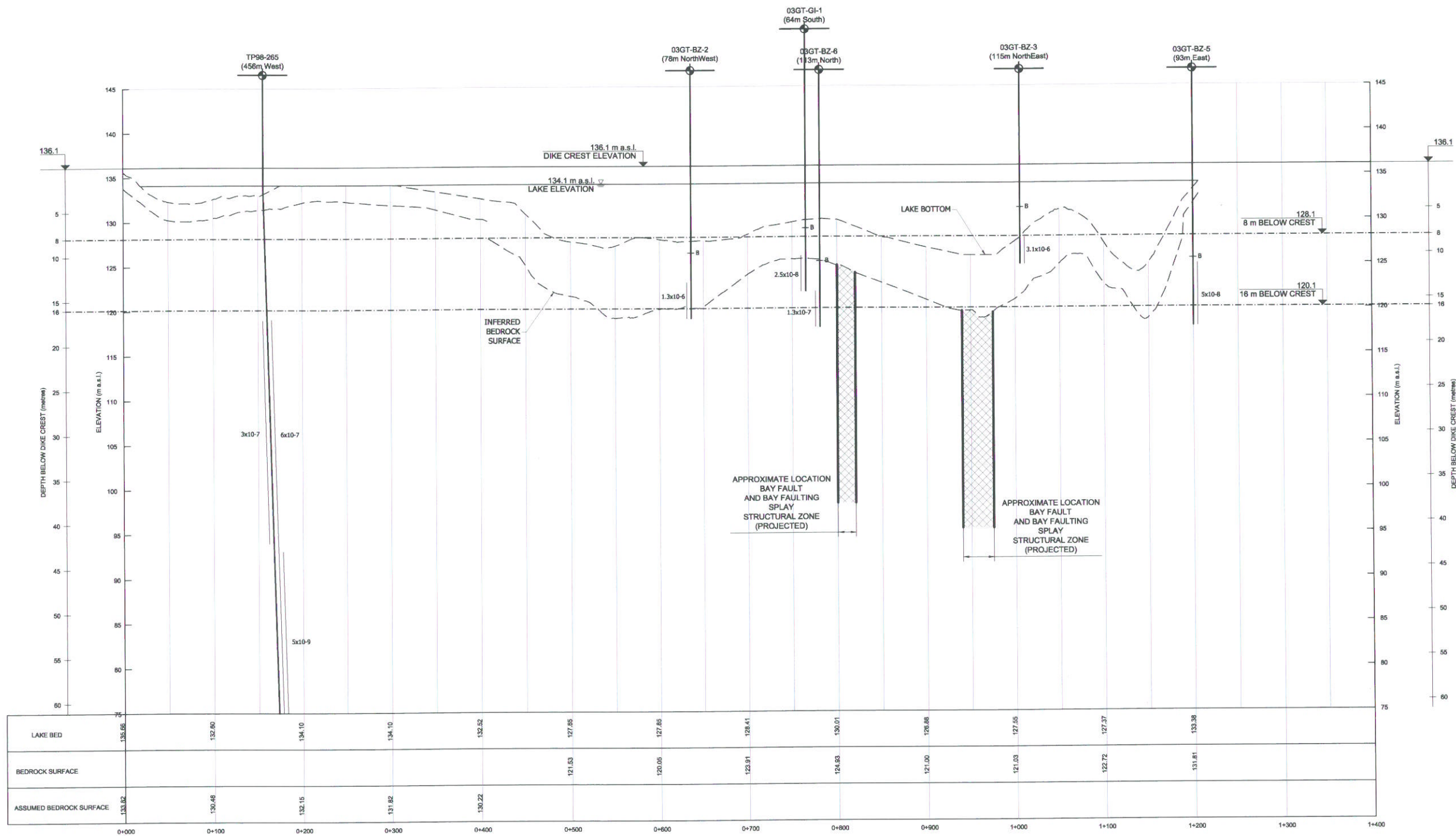
NOT FOR CONSTRUCTION

PROJECT				MEADOWBANK MINING CORPORATION			
TITLE				MEADOWBANK GOLD PROJECT DEWATERING DIKE INSTRUMENTATION TYPICAL SECTION (2 OF 2)			
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_B_32	DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. 8	CHECK	BW	13MAR07	
REVIEW	TLE	13MAR07					
				6000-32			



REV	DATE	DES	REVISION DESCRIPTION	EA	BW	TLE	CADD	CHK	RWW
1	06JUL07	-	ISSUED FOR TENDER - BAYZONE DIKE RE-ALIGNED, WEST ABUTMENT						
2	09MAR07	-	ISSUED FOR TENDER						





# LEGEND:

2x10-5  
HYDRAULIC CONDUCTIVITY TEST INTERVAL WITH RESULTS IN m/s

03GT-SE-2  
(150m East)



B BEDROCK

# NOTES:

1. COLLAR ELEVATION ADJUSTED FOR CLARITY.
2. ALL BOREHOLES DRILLED FROM ICE SURFACE.
3. DIMENSION IN METRES.
4. ELEVATION IN METRES (a.s.l.).
5. SUPERFICIAL GEOLOGY INFERRED FROM SEISMIC SURVEY GOLDER 2007 REPORT "SUB-BOTTOM PROFILINGS SURVEYS".
6. CUT-OFF WALL
7. SOIL BENTONITE FOR BEDROCK SURFACE ELEVATIONS GREATER THAN 128.1.
8. SOIL CEMENT BENTONITE FOR BEDROCK SURFACE ELEVATIONS GREATER THAN 120.1.
9. JET GROUTING FOR BEDROCK SURFACE ELEVATIONS LESS THAN 120.1.

0 20 40 60 80 100  
Scale 1:2500  
VERT EXAGGERATION = 10x

NOT FOR CONSTRUCTION

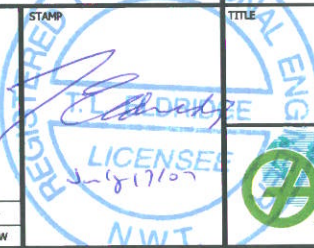
PROJECT		MEADOWBANK MINING CORPORATION	
TITLE		MEADOWBANK GOLD PROJECT GEOLOGY PROFILE (1 OF 3) BAY ZONE DIKE	
PROJECT No.	06-1413-081	FILE No.	0714130047-3000_A_40
DESIGN	SA	27NOV06	SCALE AS SHOWN
CADD	EA	27NOV06	REV. A
CHECK	-	-	6000-40
REVIEW	-	-	



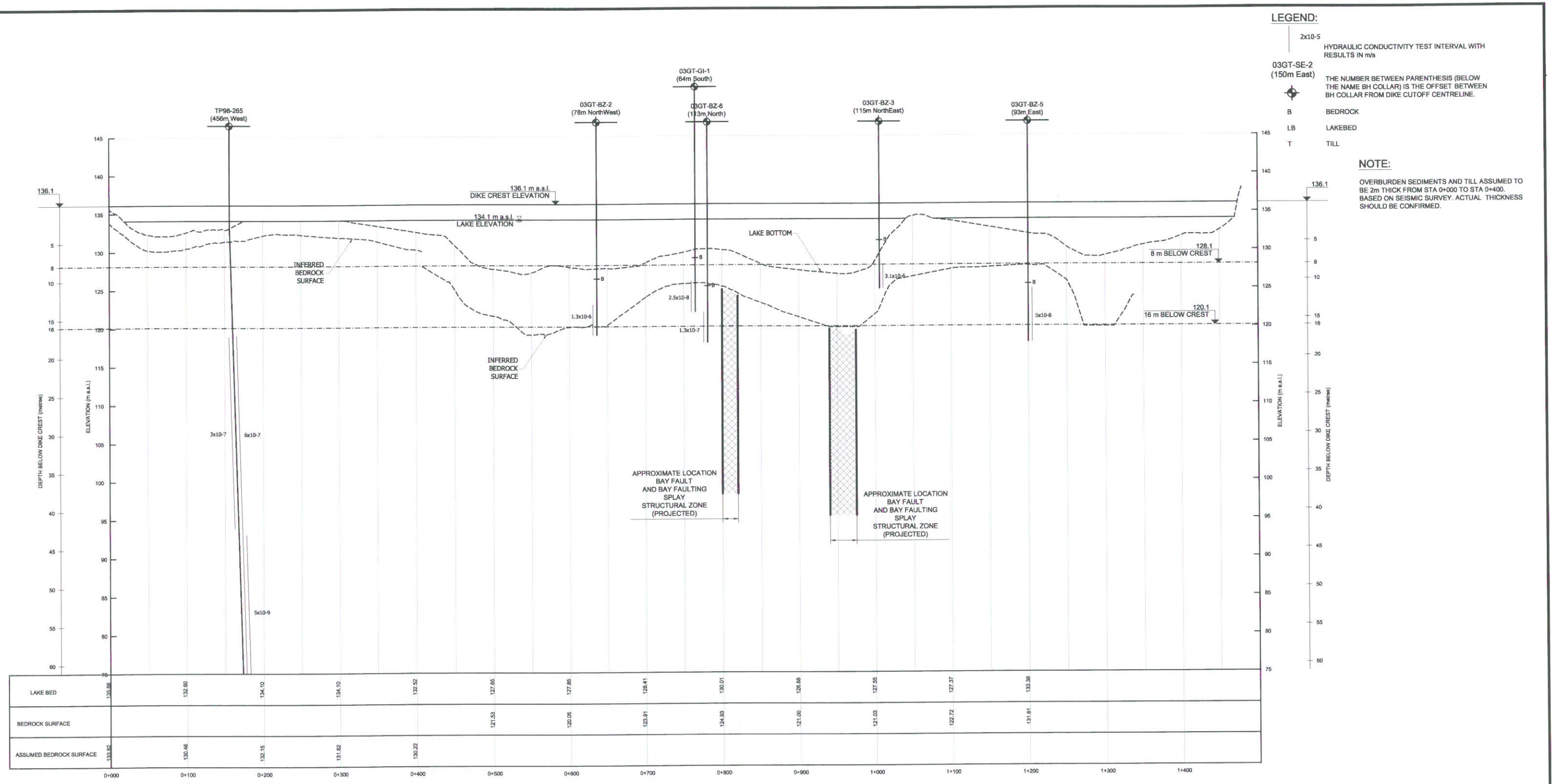
REV 09MAY07  
DATE DES

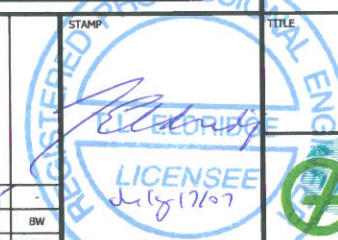
ISSUED FOR TENDER  
REVISION DESCRIPTION

EA  
CADD CHK RVW



DRAWING NO. REFERENCES



				0 20 40 60 80 100 Scale 1:2500 VERT EXAGGERATION = 10x				NOT FOR CONSTRUCTION				PROJECT <b>MEADOWBANK MINING CORPORATION</b>			
								STAMP 				TITLE <b>MEADOWBANK GOLD PROJECT GEOLOGY PROFILE (2 OF 3) BAY ZONE DIKE</b>			
												PROJECT No. 06-1413-081		FILE No. 0714130047-3000_B-41	
												DESIGN SA 27NOV06		SCALE AS SHOWN REV. B	
												CADD EA 27NOV06		6000-41	
												CHECK AS 13MAR07			
												REVIEW BW 13MAR07			



