



A TETRA TECH COMPANY

September 30, 2011

ISSUED FOR USE  
EBA FILE: W14101068.037

Minto Explorations Ltd.  
Suite 900-999 West Hastings Street  
Vancouver, BC V6C 2W2

**Attention:** Mr. John Knapp, General Manager

**Subject:** South Diversion Ditch – 2011 Annual Review, Minto Mine, YT

## 1.0 INTRODUCTION

As requested, this letter presents a report by EBA Engineering Consultants Ltd. (EBA) resulting from a site visit completed to examine the current condition of the South Diversion Ditch at Minto Mine, YT. The intent of the inspection was to provide a geotechnical engineering report on the condition of the ditch, in partial fulfillment of the requirements of the existing Quartz Mining Licence QML-0001.

EBA's last inspection of this ditch was in September 2010. This inspection is summarized in EBA's letter report "South Diversion Ditch – 2010 Annual Review, Minto Mine, YT" dated February 14, 2011. EBA has used this background information to assist in assessing the recent performance of the ditch.

## 2.0 OBSERVATIONS AND RECOMMENDATIONS

Mr. Chad Cowan, P.Eng. of EBA's Whitehorse office completed a site visit on August 25, 2011. Specific details are presented in the following sections, and are also noted on Figure 1 attached to this letter. Photographs were taken of the diversion ditch during the visit. Selected photos are attached while the remainder are available for review in the EBA files, if desired.

### 2.1 UPPER PORTION – STA 0+180 TO STA 0+957

The upper portion of the South Diversion Ditch, STA 0+180 to STA 0+957, was constructed as a lined ditch to the specifications outlined in the South Diversion Ditch & Collection Pond IFC drawings, Figures SD1 through SD3, dated July 2006.

There were little to no changes to the observations that were noted during the September 2010 site visit for this portion of the diversion ditch with the exception of two access road that have been constructed over the ditch. The observations are noted as follows:

- Ponded water is still present at the inlet of the ditch, STA 0+957 (Photo 1). This is caused by a partially removed temporary drop structure that was constructed off and on since 2008 to provide a water source during exploration drilling programs.

- As noted in previous EBA annual reviews there were two additional temporary drop structures constructed inside the ditch at approximately STA 0+840 and STA 0+460. The majority of the drop structure at STA 0+840 is removed.
- There was evidence of ditch and berm settlement between STA 0+600 and STA 0+650 (Photo 2).
- Small tension cracks are present along the crest of the west side of the ditch in the location of the top of the liner system. These are consistent with those noted in 2008, 2009 and Spring 2010.
- There are visible liner pieces at the crest of the ditch slope in several locations along the alignment. This is consistent with conditions noted in 2008, 2009 and Spring 2010.
- The ditch sideslope at STA 0+470 (Photo 3) has deteriorated from surface water entering the ditch at this location. Part of the liner system is exposed in this location and it appears that water has been flowing under the liner and beneath the ditch bottom.
- The construction material appears to have remained in place and has not been affected by the water flow to date.
- The section of sideslope around STA 0+300 (Photo 4) still remains without rip rap cover. It appears that the material has been removed as there is stockpiled material adjacent to the ditch.

### 2.1.1 Recommendations

It is recommended that the temporary structures be removed from the ditch section when not required as they will collect and deposit fines in the ditch bottom.

No action is required for the minor slope instabilities noted, which are limited to tension cracks at this time.

The rip rap material removed from the west slope at STA 0+300 should be replaced.

## 2.2 LOWER PORTION OF DITCH – STA. 0+000 TO STA. 0+180

The lower portion of the South Diversion Ditch, STA 0+000 to STA 0+180, was initially constructed as an unlined ditch by Minto's construction managing company and was not constructed to the July 2006 IFC drawings.

Observations noted during the site visit for this portion of the diversion ditch are as follows.

- The segment between STA 0+180 and the haul road culvert inlet at STA 0+110 appears to have been constructed with rip rap material and constructed to the rough dimensions of the upper portion.
- The surface water diversion pipelines were installed in Spring of 2010 at the STA 0+110 access road culvert inlet and outlet to allow for diversion to the Open Pit or the Water Retention Pond. The new 600 mm diameter HDPE pipe (Photo 5) receives the water flow from the South Diversion Ditch.

### **3.0 LIMITATIONS OF REPORT**

This report and its contents are intended for the sole use of Minto Explorations Ltd. and their agents. EBA, A Tetra Tech Company, does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Minto Explorations Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in EBA's General Conditions that are provided in Appendix A of this report.

## 4.0 CLOSURE

We trust this report meets your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

Sincerely,  
EBA, A Tetra Tech Company

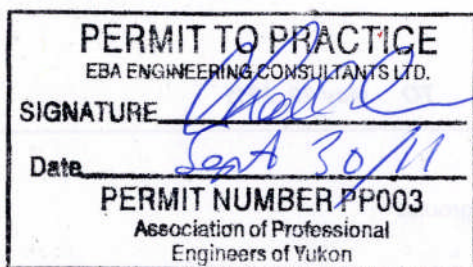


Chad P. Cowan, P. Eng.  
Project Director – Yukon, Arctic Region  
Direct Line: 867.668.2071 ext. 229  
ccowan@eba.ca

*Brian Cutts*

Brian Cutts, P.Eng.  
Senior Geotechnical Engineer, Pacific Region  
Direct Line: 250.505.4467  
bcutts@eba.ca

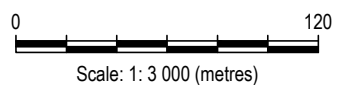
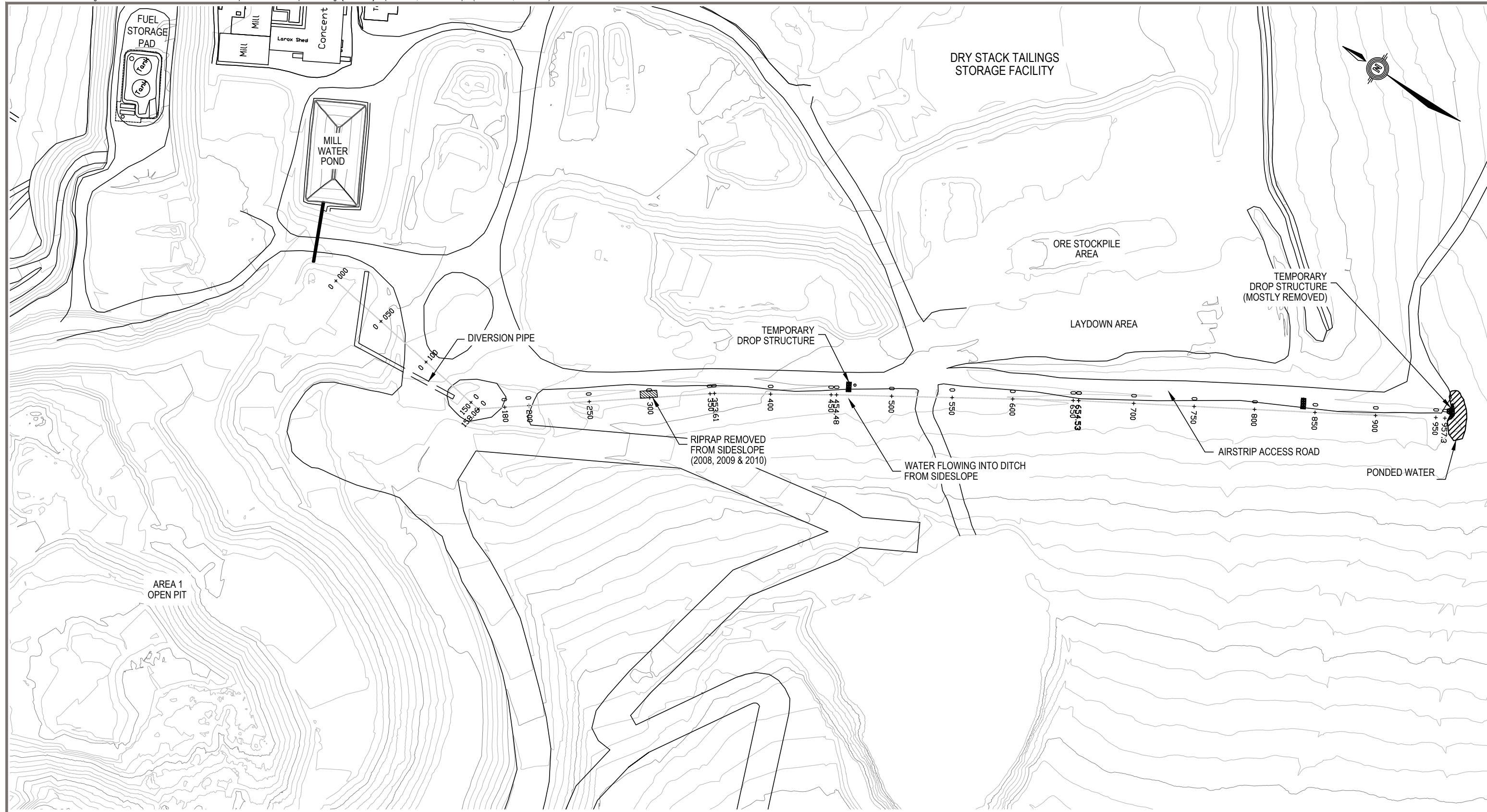
/cc




# FIGURES

---

Figure 1 Site Plan Showing Observations



STATUS  
ISSUED FOR REVIEW

CLIENT <b>MINTO EXPLORATIONS LTD.</b>	<b>SOUTH DIVERSION DITCH - 2011 ANNUAL REPORT MINTO MINE, YUKON</b>			
	<b>SITE PLAN WITH OBSERVATIONS</b>			
	PROJECT NO. W14101068.037	DWN CB	CKD CPC	REV 0
	OFFICE EBA-WHSE	DATE September 8, 2011		
				<b>Figure 1</b>

# PHOTOGRAPHS

---

- Photo 1      Ponded water at the inlet end of ditch.
- Photo 2      Area of settlement between STA 0+600 and STA 0+650.
- Photo 3      Section of ditch requiring riprap placement at STA 0+300.
- Photo 4      Surface water directed into water diversion system.





**Photo 1**  
Ponded water at the inlet end of ditch. (August 25, 2011)



**Photo 2**  
Area of settlement between STA 0+600 and STA 0+650. (August 25, 2011)





**Photo 3**

Section of ditch requiring riprap placement at STA 0+300. (August 25, 2011)



**Photo 4**

Surface water directed into water diversion system. (August 25, 2011)

# APPENDIX A

## APPENDIX A GENERAL CONDITIONS

---

---

# GENERAL CONDITIONS

## GEOTECHNICAL REPORT

This report incorporates and is subject to these “General Conditions”.

---

### 1.0 USE OF REPORT AND OWNERSHIP

This geotechnical report pertains to a specific site, a specific development and a specific scope of work. It is not applicable to any other sites nor should it be relied upon for types of development other than that to which it refers. Any variation from the site or development would necessitate a supplementary geotechnical assessment.

This report and the recommendations contained in it are intended for the sole use of EBA's Client. EBA does not accept any responsibility for the accuracy of any of the data, the analyses or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than EBA's Client unless otherwise authorized in writing by EBA. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of EBA. Additional copies of the report, if required, may be obtained upon request.

### 2.0 ALTERNATE REPORT FORMAT

Where EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EBA's instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of EBA's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except EBA. EBA's instruments of professional service will be used only and exactly as submitted by EBA.

Electronic files submitted by EBA have been prepared and submitted using specific software and hardware systems. EBA makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

### 3.0 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, EBA has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.

### 4.0 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems and methods employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. EBA does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

### 5.0 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

### 6.0 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historic environment. EBA does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

## 7.0 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

## 8.0 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

## 9.0 INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known.

## 10.0 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, as well as the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

## 11.0 DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

## 12.0 BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions assumed in this report in fact exist at the site.

## 13.0 SAMPLES

EBA will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

## 14.0 INFORMATION PROVIDED TO EBA BY OTHERS

During the performance of the work and the preparation of the report, EBA may rely on information provided by persons other than the Client. While EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.