

October 7, 2009

Via email

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#### **Dear Parties:**

#### Re: File 03MN107 Project Certificate No.004 – Meadowbank Gold Project Updated **Transportation Management Plan**

In accordance with Project Certificate No.004, amended Condition 32(b), "In consultation with the Hamlet of Baker Lake, the local HTO, and the KivlA, update the All-Weather Private Access Road Management Plan to set out the criteria and processes to authorize and ensure safe and controlled non-mine use of the road by all-terrain vehicles for the purpose of carrying out traditional Inuit activities, and measure to limit all other non-mine use of the road. The updated Plan is to be submitted to the GN, INAC, and KivIA for approval no later than one (1) month after the approval of revised Condition 32", please find enclosed for review the updated Meadowbank Gold Project Transportation Management Plan: All Weather Private Access Road, Version 1.

Should you require any further information please contact me directly via email at stephane.robert@agnico-eagle.com or via telephone at 819-763-0229.

Regards,

Stéphane Robert

**Environment Superintendent** 

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### MEADOWBANK GOLD PROJECT

## **Transportation Management Plan All Weather Private Access Road**

Prepared by:
Agnico-Eagle Mines Limited – Meadowbank Division

Version 1 September 2009

#### EXECUTIVE SUMMARY

Agnico-Eagle Mines Limited – Meadowbank Division (AEM) is required to implement an access management plan for the Tehek Lake All Weather Private Access Road (AWPAR) under covenant #54 of Indian and Northern Affairs Canada (INAC) Crown land lease 66A/8-71-2 and condition 47 of Kivalliq Inuit Association (KIA) Right of Way (ROW) Agreement KVRW06F04 and Condition 32 of Project Certificate No.004 issued by the Nunavut impact Review Board (NIRB). This Transportation Management Plan has been prepared to provide information on the planned utilization of the access road for the Meadowbank site. This Plan has been updated to include the criteria and processes used to authorize controlled non-mine use of the road for the purpose of traditional Inuit activities pursuant to the 2009 revision of NIRB Project Certificate No.004, Condition 32.

The Meadowbank Gold Project is located approximately 70 kilometers north of the Hamlet of Baker Lake, Nunavut (Figure 1). The mine plan includes open pit mining from three separate open pits at the site over a 10 year mine life. The Project is host to an open pit mineral reserve of 3.64 M ounces gold. The AWPAR extends from the Hamlet of Baker Lake to the Meadowbank Project site, a distance of approximately 110 kilometers.

Baseline environmental and geotechnical analysis of the proposed route was conducted prior to the submission of the Final Environmental Impact Statement. The right of way for the road was selected to minimize possible effects on the environment. The AWPAR was completed in March 2008 and was constructed above grade, using quarried material from non-acid generating country rock, with a minimum number of bridge crossings (nine).

The AWPAR is used to provide access to the site during construction of the mine and milling facilities, and to provide a transportation route from Baker Lake to the site for supplies (dry goods, fuel, etc.) required until the end of production and reclamation (through 2020 at the earliest). Year-round road access reduces the amount of infrastructure required at the site by significantly reducing the volumes of fuel and other consumable supplies that must be stored at the mine in order to support ongoing operations.

#### **IMPLEMENTATION SCHEDULE**

This Plan will be implemented immediately.

#### **DISTRIBUTION LIST**

Hamlet of Baker Lake

Baker Lake Hunter and Trapper's Organization

Meadowbank Health & Safety Committee

Meadowbank Community Liaison Committee

Government of Nunavut – Department of Environment

Indian and Northern Affairs Canada – Water Resources and Land Administration

Kivalliq Inuit Association

Nunavut Impact Review Board

Nunavut Water Board

AEM - Health & Safety Superintendent

AEM - Environmental Superintendent

AEM - Site Services Superintendent

**AEM - Security Director** 

**AEM - Mine Superintendent** 

AEM - Mine General Manager

AEM - AWPAR Dispatch & Gatehouse

**AEM Meadowbank Intranet** 

Arctic Fuels in Baker Lake

Peter Tapatai Expediting in Baker Lake

**BLCS** in Baker Lake

#### **DOCUMENT CONTROL**

Version	Date (YMD)	Section	Page	Revision
Draft	07/18/31			Comprehensive plan for AWPAR
Draft	09/04/17			Updated to reflect completion of road construction and compromise solution for limited public access
1	09/10/03	2.2 Appendix A	4	Updated to include criteria and processes to authorize non-mine use of the road pursuant to 2009 revision of NIRB Project Certificate No.004, Condition 32

Prepared and Approved By:	
	Stéphane Robert
	Environment Superintendent

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#### SECTION 1 • AWPAR CONSTRUCTION

In order to facilitate the movement of equipment and supplies from Baker Lake to Meadowbank during construction and subsequent production at the site, the 110 km long AWPAR was constructed in 2007 and 2008, see figure 2. The route from Baker Lake to the Meadowbank site traverses lands administered by the Hamlet of Baker Lake, INAC (Crown lands) and the KIA (Inuit Owned Lands). The land tenure along the route is broken down as follows:

- 6.92 km within the municipal boundaries of Baker Lake;
- 61.34 km on Crown Land; and
- 43.08 km on Inuit Owned Lands (25.38 km within IOL BL-14 and 19.24 km within IOL BL-18).

In selecting the preferred route for the road, care was taken to select a route which would have a minimal impact on the environment by avoiding environmentally sensitive areas and by keeping the number of required stream crossings to a minimum. The current planned route for the road required 22 stream crossings to be constructed. Nine of these proposed crossing sites are bridge crossings due to either the physical size of the channel to be crossed or because the stream is ranked as having a high fish habitat value. The remainder of the proposed crossings were accomplished using culverts of various dimensions and configurations specific to the requirements for each individual drainage channel.

Road construction required the development of a total of 22 quarries along the route to provide the necessary aggregate for construction.

#### 1.1 DESIGN CRITERIA

The following criteria were followed during the design and construction of the AWPAR:

Length	approximately 110 km long
Travel surface width (nomi	inal)8.2 m (27 ft)
Maximum Slope Gradient	8%
Maximum design speed	50 km/h
Travel surface	3" minus crushed rock
Stream crossings	22 (9 bridges, 13 culverts)
Bridge type	prefabricated steel (logging industry style)

The AWPAR has the following features:

- Flexible delineators (flags) at 100 m intervals each side;
- Kilometer markers each kilometer each side;
- · Refuge stations every 10 kilometers;

- Single lane bridges; and
- Radio controlled traffic

#### 1.2 CONSTRUCTION AND MAINTENANCE

The AWPAR was constructed using conventional road building techniques used in permafrost conditions. Construction of the road began in early 2007 and was completed in March 2008. NUNA M&T Services Ltd. was retained as contractor for the road construction. Work on the road began from the Baker Lake end and progressed toward the site. This allowed for equipment and materials to be shipped to Baker Lake and transported to the site for the beginning of mine site construction in mid 2008. All of the proposed stream crossings had shallow water depths (<0.8m) and were frozen to the bottom during culvert or bridge installation. This reduced or eliminated potential problems related to sedimentation in the watercourse and erosion of the stream bed.

The road was constructed above current grade using mostly quarried non-acid generating country rock. To preserve the underlying permafrost, there was virtually no removal or disturbance of the natural ground surface, except in localized instances. Wherever possible, permanent freezing of the natural sub grade was promoted by placing fills when the ground was frozen to surface. The construction standards for the road adhered to the design recommendations developed by Golder Associates Ltd. These construction standards were outlined in a report entitled "Design Recommendations for the Proposed Tehek Lake Access Road" produced by Golder on July 7, 2006 and further clarified in a memo dated December 14, 2006.

The road was constructed to the same standards, regardless of land owner (IOL, Crown or Commissioner's Lands). In order to maintain the integrity of the permafrost under the road bed, the following minimum thickness guidelines were followed for the road. In areas of thaw susceptible soils, the road bed was constructed to a minimum thickness of 1.05 metres overlain by 0.15 metres of surfacing material for an overall thickness of 1.20 metres. In areas underlain by thaw stable soils, the road bed was constructed to a minimum thickness of 0.85 metres overlain by 0.15 metres of surfacing material for an overall thickness of 1.0 metre. However, in areas of exposed bedrock or where bedrock is known to be within 0.5 metres of surface, the road bed was constructed to a minimum thickness of 0.35 metres overlain by 0.15 metres of surfacing material for an overall minimum thickness of 0.50 metres. Drainage ditches were constructed where appropriate on either side of the road to direct run-off.

The top width or travel surface of the road was maintained with a minimum width of 8.2 metres. This minimum width is the optimal size for the road, from both an economic and ease of construction perspective, based on the type of equipment being used.

Due to the lack of significant quantities of marine gravels or glacio-fluvial gravels that are suitable for road construction along the route, most of the material for the road bed was quarried. A total of twenty-two quarry sites were selected along the proposed route to provide the crushed material for road construction; six quarries are located on Inuit Owned Lands, fifteen are located on Crown Land and one is located within the Baker Lake municipal boundary. Each quarry has a footprint of approximately 150 m by 150 m.

There are 22 stream crossings along the route for the access road. The stream crossings consist of either culverts or bridges, depending on the potential of these streams for fish habitat. Thirteen of the proposed stream crossings are characterized as having no potential for fish habitat and were crossed using culverts, while nine of the proposed stream crossings are characterized as having potential fish habitat and are crossed using prefabricated bridges.

Bridge installations were accomplished using steel bridges of a prefabricated design with span lengths of either 12 m or 30 m depending on the width of the wetted channel. Two different abutment designs were employed for the bridges, depending on the span length. These abutments were constructed on each side of the channel so that they did not encroach on the watercourse, thereby reducing the environmental impact of the construction. For the 30 m bridges, the abutments utilized a bin wall design. The framing for the bin wall was constructed from bolted together sheets of corrugated steel and filled with rock. The abutments for the 12 m spans were constructed using a pre-cast concrete pad foundation with a structural steel support for the bridge. This configuration was filled in with rock from the road bed. The bridge deck, for both designs, was launched from one side or installed with the use of a mobile crane.

#### SECTION 2 • ROAD OPERATION

The road is designed for use by conventional tractor trailers which will transport supplies from a storage depot in Baker Lake to the site. The road will be used year round however the road can be close for different reason (bad weather, wildlife, heavy traffic, etc).

The key haulage equipment operating on the road is supported by radio controls. All vehicles using the road will be equipped with safety provisions and equipment so that major blizzards can be safely waited out at any point along the road, in addition, refuge stations have been established approximately every 10 km along the access road to provide shelter in case of emergency. Refuge stations are built from insulated sea cans and contain an oil stove for heat, emergency rations, blankets and/or sleeping bags and first response spill kits. The refuge stations are being maintained by a local contractor from Baker Lake.

It is anticipated that approximately 60,000 to 70,000 tonnes of dry freight and diesel fuel will have to be transported to the site each year. At approximately 40 tonnes per load, this translates into the delivery of 11,750 loads (or 3,500 passes including return trip) of supplies each year.

The road will be maintained by AEM to ensure timely delivery of freight for mine operations. Policing of the road will be conducted by AEM's security and road maintenance and haulage staff.

#### 2.1 HAULAGE AND ROAD SAFETY

All of the required fuel and supplies for the operation of the mine will be transported to the site via the AWPAR. During the life of the mine, the transportation of freight and road maintenance operations will be conducted by an owner operated fleet. All drivers will either be employees of the company or a company hired contractor (such as Arctic Fuels) and must possess a valid driver's license from a Canadian province or territory, for the appropriate class of vehicle, in order for them to be allowed to operate vehicles on the access road.

#### 2.2 ROAD ACCESS

As mandated by Condition 32 of the NIRB Project Certificate, amended in July 2009, the AWPAR is maintained and operated as a private access road for the Meadowbank Project with controlled access for non-mine use by ATV for the purpose of carrying out traditional activities. The following measures have been implemented to manage access and use of the road:

- A manned gatehouse with lockable gate is in operation at KM 5 (on Commissioner's land administered by the Hamlet of Baker Lake). The gatehouse is manned by an AEM employee whenever the road is in operation. This employee acts as the Dispatch for all traffic on the road and all vehicles are required to stop and report in at the gate prior to entering or exiting the road;
- English and Inuktitut signs are posted at the gatehouse, at each bridge crossing, and every 10 kilometers along the road, stating that unauthorized public use of the road is prohibited;

- Signs in English and Inuktitut are posted along the road route to indicate when entering and leaving Crown Land;
- Notices are placed on radio and television to inform the residents of the Hamlet of Baker Lake that the road is private with non-mine use limited to authorized use by ATV for pursuit of traditional Inuit activities; and
- All mine personnel using the road are required to monitor and report unauthorized nonmine use of the road.

To ensure safe and controlled use of the AWPAR by ATVs for the purpose of traditional Inuit activities, AEM has implemented the following measures:

- 1. The road remains closed to cars and trucks owned by the public. Access is restricted to All Terrain Vehicles (ATVs) only;
- 2. Residents of Baker Lake who need to access the road for traditional pursuits may obtain a pass from the Baker Lake Hunter and Trapper's Organization (HTO);
- 3. All ATVs accessing the road are required to report to the gatehouse. The resident will present the pass at the AEM gatehouse and will then be given access to the road. Prior to granting access, the AEM Dispatch will:
  - Provide a safety briefing on the road, specifically on the prevailing traffic and road conditions of the day and time, the safety rules and procedures and the extent of the no-shooting zone (Appendix A);
  - Record who is traveling on the road, where they are heading and when they expect to return so that other traffic can be warned by radio of their presence;
  - Have the driver acknowledge that they are traveling on a mining road and have been informed of the risks.
- 4. AEM collaborates with the HTO and the Hamlet of Baker Lake to develop the safety rules and procedures for all ATV's using the road including pulling off the road whenever a truck approaches. These safety rules are published in Inuktitut and English and then provided to all ATVs at the gatehouse. AEM, the HTO and the Hamlet will jointly educate the residents of Baker Lake on these safety procedures through community radio and through community training sessions;
- 5. AEM provides buggy whips and safety vest for on all ATVs using the road in order to improve its visibility on hills;
- 6. For security purposes, access is forbidden past km 85 for all the ATVs. AEM has established a second barrier at the mine site end of the road to prevent ATVs from traveling into the active mine zone where special safety equipment and training is required under the Nunavut Mining Act. This consists of a crossing gate constructed at the mine site airstrip terminal building (which also doubles as the site security office). This structure has been

sited so that it can be used both to service the airstrip and to control access onto the mine site.

- 7. All hunting activity must avoid cross shooting over the road, respect a safe zone along the road and no shooting around work area; and
- 8. AEM reserves the right to refuse future access to individuals who do not respect the rules on safety, speed and the no shooting zone when using the road.

#### 2.3 OPERATIONAL PARAMETERS

In general, the operational parameters for the road are summarized below:

- · Wildlife has the right of way;
- All vehicles (except ATVs) are to be insured and licensed;
- Refuge stations to be provided with first response spill kits;
- Hunting and fishing restrictions will be as per HTO's stipulations. All AEM employees are
  not allowed to hunt or fish while they are on their work rotation. Outside of the work rotation
  employees are subject to control measures as set by the Baker Lake HTO;
- All spills of any materials will be reported and cleaned up, as set out in the spill contingency plans. The haulage fleet will be required to have appropriate spill containment and clean-up equipment on hand or available on demand;
- Signs will be posted at key points near and around the site again to advise the public traveling by skidoo or ATVs that they are in a restricted and potentially hazardous area.

#### 2.3.1 Mitigation Measures – Potential Effects From Traffic

Mitigative measures taken to limit potential effects from traffic during mine construction and mine operations are:

- Provide all road operators informational and training sessions regarding the potential for wildlife/vehicle collisions;
- Implement dust control measures during construction and operations at critical locations (watering or dust suppressant application to the road as required);
- Restrict vehicles to designated roads and approved construction areas (i.e. no off road travel allowed);
- Ban any AEM use of off-road vehicles outside exploration to avoid damage to local vegetation (tundra);

- Monitoring and reporting of significant numbers of wildlife observed in the vicinity of roads and immediately reporting to appropriate environmental mine staff who will issue notices to vehicle operators accordingly;
- Posting appropriate speed limits (e.g., 50 km/h);
- Giving wildlife the right of way and reducing traffic speeds when animals are detected near roads or other approved work areas;
- Reporting and disposing of accidental wildlife mortalities near the mine site.

#### 2.3.2 Mitigation Protocols - Wildlife

Wildlife is expected occasionally to be observed on the site roads, the airstrip, or the access road. Caribou and other wildlife will have the right-of-way at all times. All project personnel will be notified by dispatch radio if any wildlife is observed in the site vicinity. In some cases, it may be practical for environmental staff to safely herd caribou away from roads and airstrips towards compatible and safe pathways. Wildlife movement will be monitored throughout the mine life and improvements in mitigation plans made as appropriate (adaptively managed).

Wildlife mitigation for potential effects of road and airstrip construction includes:

- Protecting locally sensitive areas;
- Temporarily suspending circulation on the road when the safety of caribou, grizzly bears, or other wildlife is threatened and using appropriate herding techniques to remove caribou and other wildlife from hazardous areas before resumption of activities; and
- Implementing dust control measures as appropriate.

#### 2.3.3 Spill Contingency Plan

A trained site-based emergency response and spill clean-up team is available on site with appropriate equipment to respond to all spills. Spill response is implemented by environmental staff who advise, document, and report on initial response and clean-up actions.

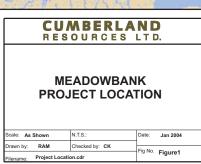
#### SECTION 3 • DECOMMISSIONING AND RECLAMATION

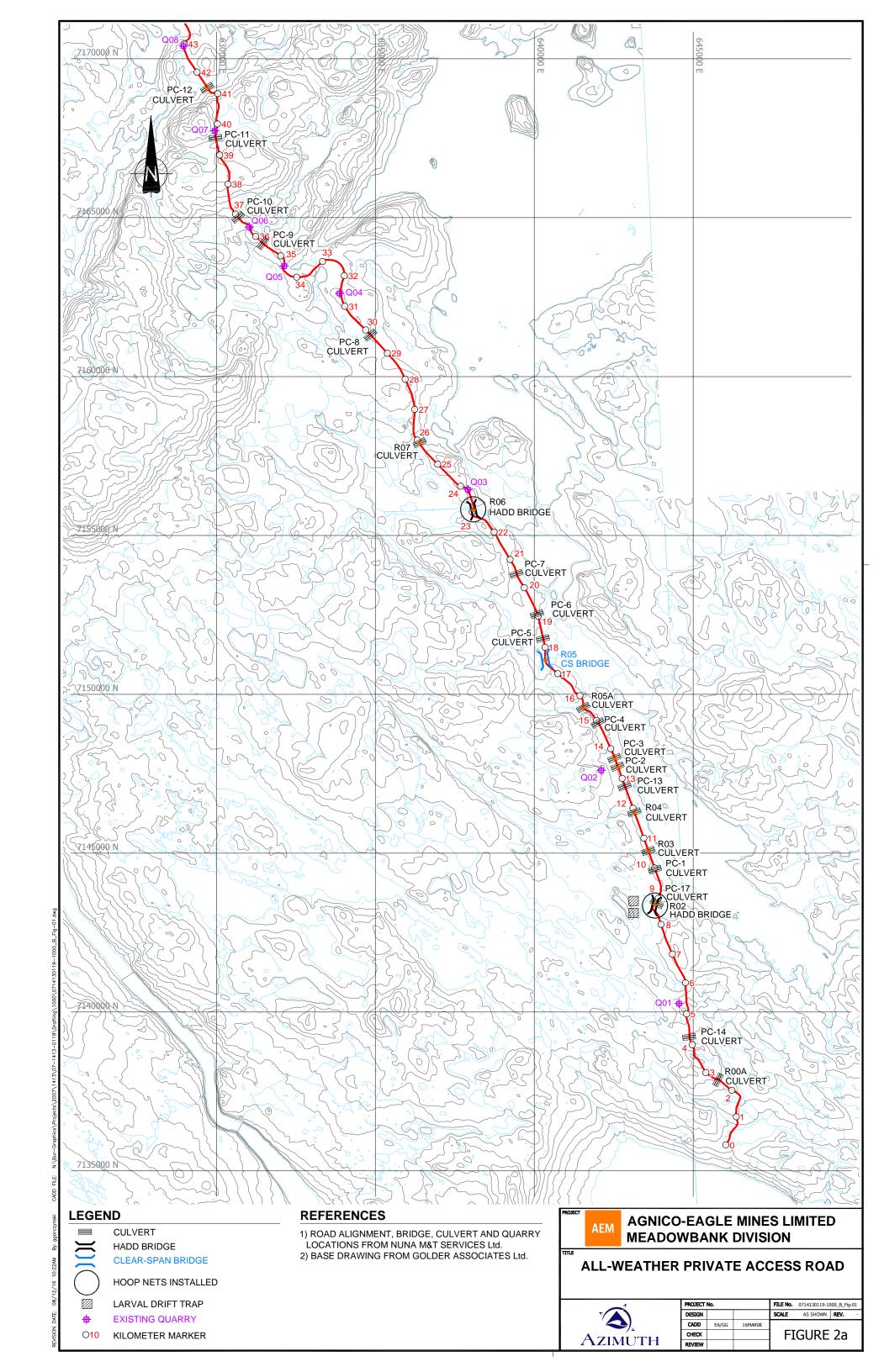
Decommissioning of the all-weather access road will be accomplished by loosening compacted surfaces, flattening side slopes, and removing all culverts and other potential obstructions to drainages paths. Details are provided in Appendix C of the "Meadowbank Gold Project Closure and Reclamation Plan Development Phase, Version 1, September 2008".

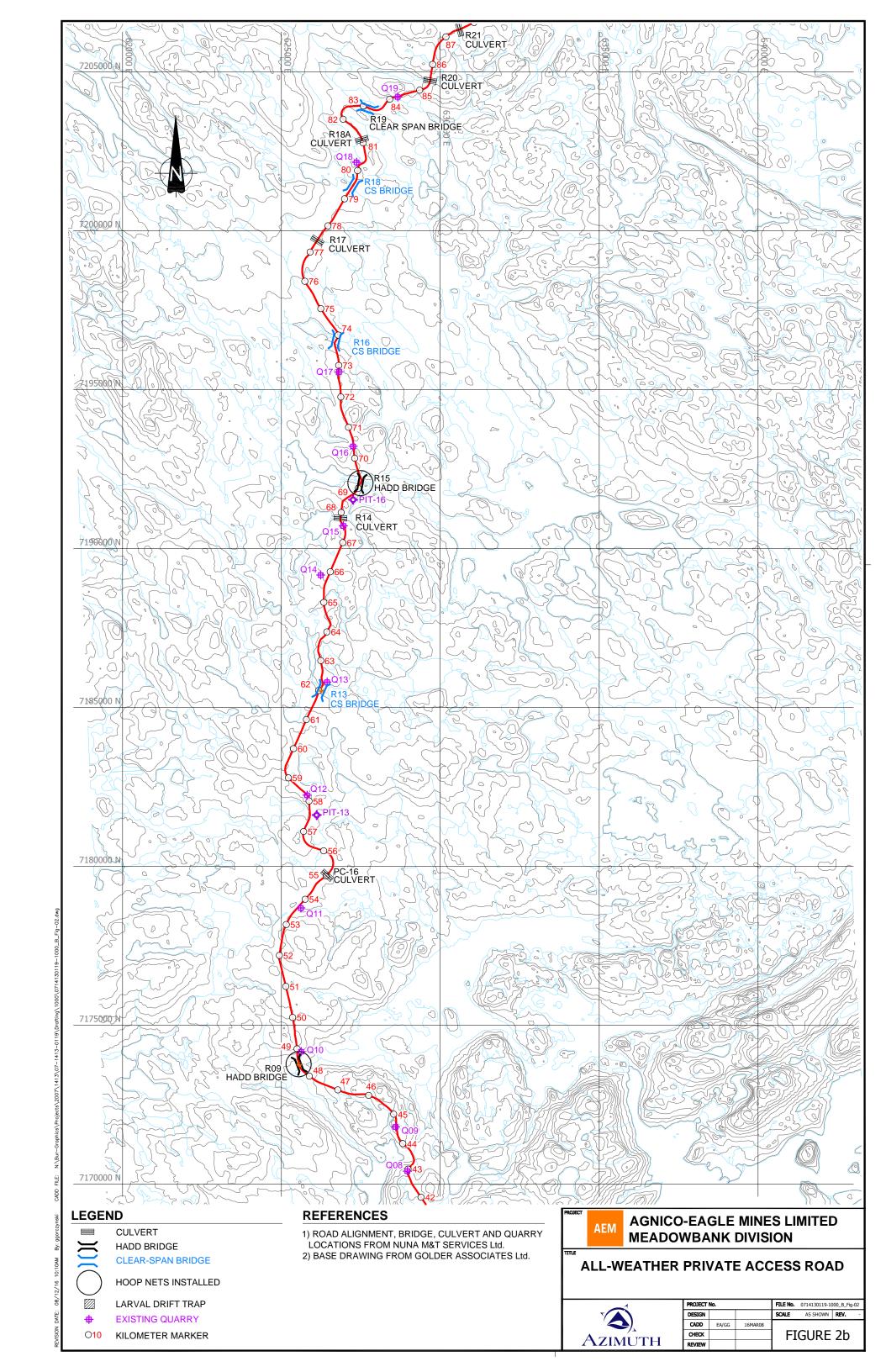
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Version 1; September 2009

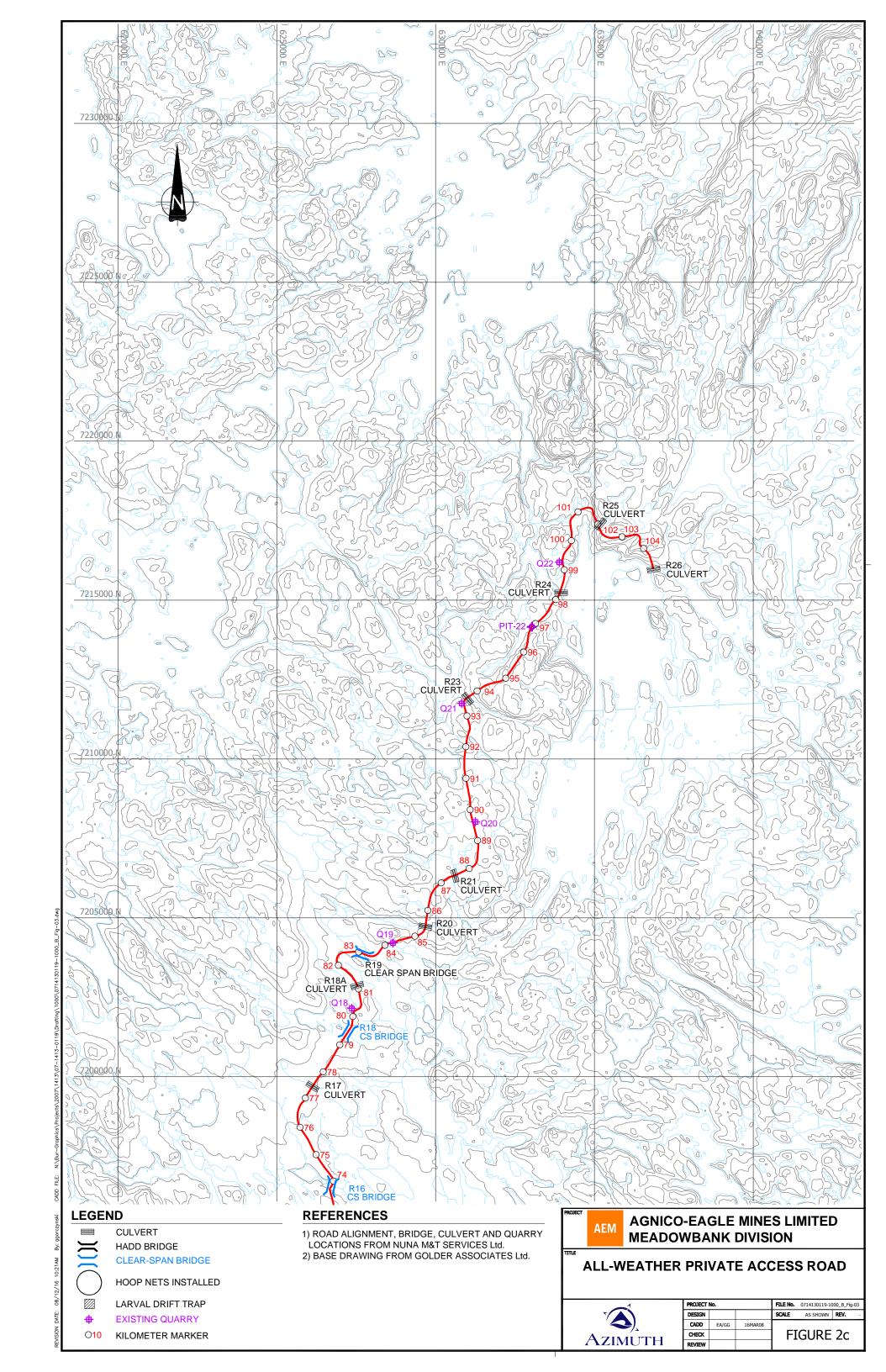
### **Figures**











Transportation Management Plan AWPAR
Version 1; September 2009

# Appendix A AWPAR Safety Briefing



#### MEADOWBANK GOLD PROJECT

## All Weather Private Access Road Safety Briefing For Non-Mine Users

Prepared by:
Agnico-Eagle Mines Limited – Meadowbank Division

Version 1 September 2009

#### Safety Briefing for AWPAR Non-Mine Users

In July 2009, Condition 32 of the Meadowbank Project Certificate was amended by the Nunavut Impact Review Board to allow limited use of the All Weather Private Access Road to local Baker Lake residents for the purpose of accessing traditional hunting grounds. AEM has collaborated with the Baker Lake Hunters and Trappers Organization (HTO) in efforts to control non-mine access to the AWPAR and to properly inform Baker Lake residents. The HTO will issue authorizations to requiring residents who in turn will need to present the said authorizations to the AEM Baker Lake gatehouse Security guard to obtain access to the AWPR. AEM Security guard will give a mandatory safety briefing to the resident prior to road access. The Security guard will make sure residents understand all the points listed in the Safety Briefing Procedure.

This document provides a standard procedure for implementing the AWPAR safety briefing to Baker Lake residents who require road access. Delivering the safety briefing in a consistent manner by addressing each point below and recording information about the road users will help ensure that AEM has performed its due diligence in educating each individual on the safety procedures and inherent risks of using the road.

#### Safety Briefing Procedure

The Security guards will:

- 1. Request the HTO authorization and fill out the related control log form.
- 2. If the resident does not have an authorization, advise him / her that entry cannot be granted and that document can be obtained from the Baker Lake HTO.
- 3. Give the resident a printed copy of the Safety Rules and Procedures available in Inuktitut and English.
- 4. Explain each safety rule and procedure.
- 5. Explain current road and weather conditions.
- 6. Explain that any violation of the rules or procedures may result in refusal of future entry.
- 7. Ask for verbal confirmation that the resident understands the safety rules and procedures and make sure he /she signs and dates our related document.
- 8. Give resident a buggy whip and assist with installation if required. Explain purpose of buggy whip and that it must be returned to AEM upon their return to Baker Lake Gatehouse.
- 9. Give resident a safety vest and write the number of the vest on the form. Explain that it must be returned to AEM upon their return to Baker Lake Gatehouse.

#### **AWPAR Record of Non-Mine Use**

DATE	FIRST NAME LAST NAME	EXPECTED RETURN DATE	EXPECTED TIME OF RETURN	HTO PERMIT#	ATV LICENSE PLATE	SECURITY VEST#	BUGGY WHIP#	RESP. WAVER	EXPL. SHOOTING ZONE/ ROAD ACCESS	PHONE #	RETURN DATE	RETURN TIME	RETURNED SECURITY VEST	RETURNED BUGGY WHIP	SECURITY GUARD PRINT NAME
06/13/09	HUNTER FISHER	6/14/2009	1:30 PM	123	ABC	10	20	√	<b>V</b>	793-1234	6/14/2009	1:40 PM	1	1	WILLIAM SCOTTIE



### Meadowbank Gold Project All Weather Private Access Road

#### **Safety Rules and Procedures**

#### Safety Rules

- This is not a public road. Access to the road is not allowed without an HTO Pass and authorization from AEM Security Guard at the Baker Lake Gatehouse.
- Only ATVs are allowed to travel on the road.
- If the Gatehouse is closed, the road is also closed, and access is not allowed. This is likely due to unsafe weather, road conditions or safety reasons.
- Use of the Meadowbank All Weather Private Access Road is at your own risk. AEM is not responsible for personal injury or property damage.
- AEM reserves the right to refuse entry to anyone who does not respect these safety rules and procedures.
- AEM reserves the right to restrict public access in periods of heavy mine traffic flow, for example, during the transfer of supplies from Baker Lake to Meadowbank after the annual sealift.

#### **Procedures For Road Access**

- Report to the Baker Lake Gatehouse to access the road. Show your HTO Pass to AEM Security guard and provide your name and expected time of return. AEM Dispatch will explain the safety rules and procedures and provide an update on current road and weather conditions.
- 2. Install a buggy whip on the ATV while at the AEM Gatehouse. The buggy whip must remain installed until the ATV returns to Baker Lake Gatehouse
- AEM traffic has the right of way the ATV must pull off the road when a vehicle is oncoming or approaching from behind and wait for that vehicle to pass before entering back onto the road.
- 4. Maximum speed is 50 km/hr.
- 5. All hunting activity must avoid cross shooting over the road, respect a safe zone along the road and no shooting around work area.
- Access is forbidden upon km 85.
- 7. Return buggy whip and safety vest to Baker Lake Gatehouse.

Printed name	Date	Signature