AGNICO EAGLE

MELIADINE GOLD PROJECT

Ore Storage Management Plan

APRIL 2015
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1	April 2015			First draft version of Ore Storage Management Plan as Supporting Documents for Type A Water Licence Application, submitted to Nunavut Water Board for review and approval	Tetra Tech EBA Inc.

EXECUTIVE SUMMARY (INUKTITUT)

ᐅᔭᕋᖕᓂᐊᕐᕕᖕᒥᑦ ᐅᔭᕋᐃᑦ ᐱᔭᐅᔪᓂᑦ ᑐᖅᑯᖅᓯᓯᒪᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ – ᓇᐃᓈᖅᓯᒪᔪᖅ

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ᓯᑕᒪᐅᓕᖓᔪᓂᑦ ᐱᕙᓪᓕᐊᓂᖅᑕᖃᖅᑐᖅ ᑎᕆᕋᓂᐊᖅ-ᒥᑦ: ᓯᑕᒪᑦ ᐅᑭᐅᑦ ᐅᖓᑎᐊᕐᔪᐊᓄᑦ ᓴᓇᔭᐅᓗᓂ (Q4 ᐅᑭᐅᖅ -5 -ᒥᑦ -1 -ᒧᑦ), 8-ᓂᒃ ᐅᑭᐅᓄᑦ ᐊᐅᓚᕐᓂᖅ (ᐅᑭᐅᖅ 1-ᒥᑦ ᐅᑭᐅᖅ 8-ᒧᑦ), ᐱᖓᓱᑦ ᐅᑭᐅᑦ ᐅᒃᑯᐊᕐᓂᖅ (ᐅᑭᐅᖅ 9-ᒥᑦ ᐅᑭᐅᖅ 11-ᒧᑦ), ᐊᒻᒪᓗ ᐅᒃᑯᐊᕞᓂᒃᓯᒪᓕᖅᑎᓪᓗᒍ (ᐅᑭᐅᖅ 11 ᐊᒻᒪᓗ ᐅᖓᑖᓄᑦ). 12.1 ᒥᓕᔭᓐ ᑕᓐᓗᐊᑦ (Mt) ᐅᔭᕋᖕᓂᐊᖅᑕᐅᓂᐊᖅᑐᑦ. ᐅᔭᕋᖕᓂᐊᖅᑕᐅᔪᑦ ᓯᕗᓪᓕᖅᑕᐅᓗᑎᒃ 8 ᐅᑭᐅᓪᓗᐊᓄᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐊᐅᓚᕐᓂᖓᓂᑦ 3,000 ᑕᓐᓂᒃ ᐊᑕᐅᓯᖅ ᐅᓪᓗᑌᑦ (tpd) ᐅᑭᐅᖅ 1-ᒥᑦ ᐅᑭᐅᖅ 3-ᒧᑦ ᐊᒻᒪᓗ 5,000 tpd-ᓂᒃ ᐅᑭᐅᖅ 4-ᒥᑦ ᐅᑭᐅᖅ 8-ᒧᑦ.

ᓂᕆᐅᒋᔭᐅᔪᖅ ᐱᒋᐊᖅᐸᓪᓕᐊᓂᐊᕐᓂᖓᓂᒃ ᐅᑭᐅᑉ ᐃᓗᐊᓂ ᓯᑕᒪᐅᓕᖓᓪᓗᒍ ᐊᕕᒃᓯᒪᒃᐸᑦ ᑖᑉᑯᐊ ᓯᑕᒪᐃᑦ ᓯᑕᒪᒋᔭᖓᓂᑦ ᐅᑭᐅᖅ -1 -ᒥᑦ. ᐱᒋᐊᖅᐸᓪᓕᐊᖅᑳᖅᑎᓐᓇᒍ, ᖃᑦᑎᓛᒃᑯᑦ ᐱᐅᓛᖑᔪᖅ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᔪᖅ ᑐᖅᑯᖅᑕᐅᓯᒪᓂᐊᖅᑐᖅ ᑲᑎᑕᐅᓯᒪᔪᓂᑦ, ᐊᒻᒪᓗ ᓯᕗᓪᓕᖅᑕᐅᓗᓂ ᓯᕗᓪᓕᑎᓕᕝᕕᒃ ᐊᐅᓛᖅᐸᓪᓕᐊᓕᕐᓂᖓᓂᑦ ᐃᓗᕆᓕᖅᑎᓐᓂᕐᒧᑦ ᐊᔾᔨᖕᖏᓂᖅᖢᖏᓐᓂᐅᔪᑦ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᕙᓪᓕᐊᔪᑦ ᓄᓇᐅᑉ ᐃᓗᐊᓂᖕᖠᖅᑐᑦ. ᓯᕗᓪᓕᖅᐹᒥᑦ ᐅᔭᕋᖕᓂᐊᕐᓂᐅᑉ ᐊᐅᓚᕐᓂᖓᓄᑦ (ᐅᑭᐅᖅ 1), ᐱᐅᓛᖑᔪᖅ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᔪᖅ ᓄᓇᐅᑉ ᐃᓗᐊᓂᑦ ᐊᒻᒪᓗ ᓄᓇᒥᑦ ᐅᒃᑯᐃᖕᖓᔪᓂᑦ ᓄᓇᒃᑰᕈᑎᒃᑯᑦ ᐊᒃᓴᖅᑕᐅᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᓯᕗᓪᓕᖅᑎᓕᕝᕕᐅᑉ ᐃᓂᖓᓄᑦ ᐃᓱᐊᓃᖅᑐᖅ ᓂᕆᐊᓂᑦ ᐱᓕᕆᐊᖑᕙᓪᓕᐊᕝᕕᐅᑉ. ᓯᕗᓪᓕᖅᓯᒪᔪᖅ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᔪᖅ ᐊᒃᓴᖅᑕᐅᓂᐊᖅᑐᖅ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᔪᑦ ᔫᖕᒋᓐᓄᑦ ᐱᓕᕆᐊᖑᕙᓪᓕᐊᕝᕕᖕᒧᐊᖅᑕᐅᓕᕐᓗᓂ ᖀᓕᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐃᖏᕐᕋᔪᑎᒃᑯᑦ. ᐊᑦᑎᖕᓂᖅᓴᒥᒃ ᐱᐅᓂᖃᖅᑐᑦ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᔪᑦ ᑐᖅᑯᖅᑕᐅᓯᒪᓂᐊᖅᑐᑦ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᓯᒪᔪᑦ ᑲᑎᑎᓯᒪᔪᓂᑦ, ᓯᕗᓪᓕᖅᑎᖅᑕᐅᓂᐊᕐᓗᑎᒃ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐊᐅᓚᕐᓂᖓᓄᑦ ᑭᖑᓪᓕᖅᐹᓕᖅᑕᖓᓂᑦ (ᐅᑭᐅᖅ 8). ᐅᒃᑯᐊᖅᓯᒪᓕᖅᑎᓪᓗᒍ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᓚᐅᖅᑐᑦ ᓄᖑᓂᐊᖅᑐᑦ.

ᐃᒪᖅ ᑰᒃᐸᓪᓕᐊᔪᖅ ᐅᔭᕋᖕᓂᐊᖅᑕᐅᓯᒪᔪᑦ ᑲᑎᓯᒪᔪᓂᑦ ᑯᕕᓂᐊᖅᑐᖅ ᐃᒪᕐᒥᒃ ᑲᑎᖅᓯᐃᕝᕕᖕᒧᑦ (CP1), ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᑎᑭᐅᑎᓯᒪᙱᑉᐸᑦ ᑯᕕᔪᓄᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᖃᖅᑐᓄᑦ, ᑲᑎᑕᐅᔪᖅ ᐃᒪᖅ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᖅ ᐃᒪᓕᕆᕝᕕᖕᒥᑦ (WTP) ᑯᕝᕕᑎᑕᐅᖄᖅᑎᓐᓇᒍ ᑕᖅᑲᐅᖓ.

EXECUTIVE SUMMARY

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Gold Project (the Project), located approximately 25 km north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. The mine plan proposes open pit and underground mining methods for the development of the Tiriganiaq gold deposit, with two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one underground mine.

The Type A Water Licence Application has been prepared in accordance with the Nunavut Land Claims Agreement, Nunavut Waters and Nunavut Surface Rights Tribunal Act, and the Nunavut Water Regulations, but also takes into account the detailed guidance provided by the Board in *Guide 4 – Completing and Submitting a Water Licence Application for a New Licence* and the *Supplemental Information Guide for Mining and Milling* (SIG-MM3 Guide). This document presents the Ore Storage Management Plan (Plan) and forms a component of the documentation series produced for the Type A Water Licence Application. This Plan will be updated, as required, to reflect all changes in operations and/or technology.

There are four phases to the development of Tiriganiaq: just over 4 years construction (Q4 Year -5 to Year -1), 8 years mine operation (Year 1 to Year 8), 3 years closure (Year 9 to Year 11), and post-closure (Year 11 forwards). Approximately 12.1 million tonnes (Mt) of ore will be produced. The produced ore will be milled over approximately 8 years of mine life at a rate of 3,000 tonnes per day (tpd) in Year 1 to Year 3 and 5,000 tpd in Year 4 to Year 8.

The commissioning is anticipated to start in the 4th quarter of Year -1. Prior to the commencement of commissioning, high grade ore produced from underground will be temporarily stored in the designated ore stockpile, and will be milled during the early years of mill operations to balance the irregular ore flow from the underground. From the first year of mine operation (Year 1), high grade ore produced from the underground mining and open pits will be trucked directly to the crusher plant located at the south end of the process plant. The crushed ore will be transported to the ore bin and then to the process plant via a covered conveyor system. The low grade and marginal ore produced will be stored in the ore stockpiles, which will be milled during the last year of mine operations (Year 8). No ore will remain in the ore stockpiles at mine closure.

Surface runoff and seepage water from the ore stockpiles will flow to the adjacent water Collection Pond 1 (CP1), where, if the water quality does not meet the discharge criteria, the collected water will be treated by the Water Treatment Plant (WTP) prior to being discharged to the outside environment.

ACRONYMS

ABA	Acid Base Accounting
Agnico Eagle	Agnico Eagle Mines Limited
ARD	Acid Rock Drainage
ML	Metal Leaching
CP	Collection Pond
DFO	Department of Fisheries and Oceans Canada
FEIS	Final Environmental Impact Statement
INAC	Indian and Northern Affairs Canada
IQ	Inuit Qaujimajatuqangit
MEND	Mine Environment Neutral Drainage
MMER	Metal Mining Effluent Regulations
NLCA	Nunavut Land Claims Agreement
NWB	Nunavut Water Board
NWNSRTA	Nunavut Water and Nunavut Surface Rights Tribunal Act
NWR	Nunavut Water Regulations
PGA	Peak Ground Acceleration
Project	Meliadine Gold Project
TSF	Tailings Storage Facility
WRSF	Waste Rock Storage Facility
WTP	Water Treatment Plant

UNITS

%	percent
°C	degrees Celsius
°C/m	degrees Celsius per metre
m	metre
km	kilometres
kt	kilotonnes
mm	millimetre
mm/h	millimetre per hour
m^3	cubic metres
Mm^3	million cubic metres
t	tonne
Mt	million tonnes
tpd	tonne per day

SECTION 1 • INTRODUCTION

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Gold Project (Project), located approximately 25 kilometres (km) north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson Bay, the proposed Project site is located on a peninsula between the east, south, and west basins of Meliadine Lake (63°1'23.8'' N, 92°13'6.42"W), on Inuit owned lands. The Project is located within the Meliadine Lake watershed of the Wilson Water Management Area (Nunavut Water Regulations Schedule 4).

The mine plan proposes open pit and underground mining methods for the development of the Tiriganiaq gold deposit, with two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one underground mine. The proposed mine will produce approximately 12.1 million tonnes (Mt) of ore, 31.8 Mt of waste rock, 7.4 Mt of overburden waste, and 12.1 Mt of tailings. There are four phases to the development of Tiriganiaq: just over 4 years construction (Q4 Year -5 to Year -1), 8 years mine operation (Year 1 to Year 8), 3 years closure (Year 9 to Year 11), and post-closure (Year 11 forwards).

Mining facilities include a plant site and accommodation buildings, three ore stockpiles, a temporary overburden stockpile, a tailings storage facility (TSF), three waste rock storage facilities (WRSFs), a water management system that includes collection ponds, water diversion channels, and retention dikes/berms, and a Water Treatment Plant (WTP). The general mine site location for the Project and a site layout plan are shown in Figures 1.1 and 1.2, respectively, as attached in Appendix A.

1.1 Concordance

The Project is subject to the land and resource management processes established by the Nunavut Land Claims Agreement (NLCA) and other Federal laws and regulations. Agnico Eagle is required in accordance with the Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA) and Nunavut Water Regulations (NWR) to submit to the Nunavut Water Board (NWB) a Type A Water Licence Application for a Mining and Milling Undertaking (Application), to use water and to deposit waste in development of the Project.

The Type A Water Licence Application has been prepared in accordance with the NLCA, the NWNSRTA, and the NWR, but also takes into account the detailed guidance provided by the Board in *Guide 4 – Completing and Submitting a Water Licence Application for a New Licence* and the *Supplemental Information Guide for Mining and Milling* (SIG-MM3 Guide). Concordance has been assessed for the requirements of the NWB Guidelines and SIG-MM3 Guide and commitments made during the Nunavut Impact Review Board Part 5 Review of the Final Environmental Impact Statement (FEIS).

1.2 Ore Management Plan Summary

This document presents the Ore Storage Management Plan (Plan) to support the Type A Water Licence Application. The purpose of the Plan is to provide consolidated information on ore storage management, including strategies for dust and runoff control from the ore stockpiles. The Plan is divided into the following components:

- Introductory section (Section 1);
- A brief summary of the physical setting at the mine site (Section 2);
- A brief summary of the mining plan (Section 3);
- A description of the ore geochemistry (Section 4);
- A description of the ore management plan (Section 5);
- A description of water and dust management plan associated with the ore management (Section 6);
- A description of a closure strategy related to the ore management facilities (Section 7);
- A description of alternatives for ore storage (Section 8); and
- Monitoring program (Section 9).

This plan will be updated as required to reflect any changes in operation or economic feasibility occurs, and to incorporate new information and latest technology, where appropriate.

1.3 Linkages to Other Management Plans

Documents within the application package for the Type A Water Licence, which support this Plan include the:

- Environmental Management and Protection Plan;
- Water Management Plan;
- Mine Waste Management Plan;
- Preliminary Mine Closure and Reclamation Plan; and
- The Mine Plan.

1.4 Overall Schedule and General Activities

The construction phase is anticipated to start in last quarter of 2015 (Year -5) and take approximately 5 years (Year-5 to Year -1). The mine construction period will primarily focus on site preparation and the construction of infrastructure, with some mining activities (advancement of underground mine ramp) occurs at Tiriganiaq underground mine. The first year of operation (Year 1) will commence after commissioning is completed in the last quarter of construction (Year -1). The operation phase will span approximately 8 years (Year 1 to Year 8). Mining activities are expected to end in Year 7 and ore processing is expected to end in Year 8. Interim closure will occur within three years (Year 9 to Year 11) after the completion of mining and will include removal of the non-essential site infrastructure and mined-out open pits flooding. Post-closure phase will commence as interim closure is completed in Year 11 and will continue until it is shown that the site and water quality meets all the regulatory closure objectives. Table 1.1 summarized the overview of the timeline and general activities.

Table 1.1 Key Mine Development and Water Management Activities and Sequence

Mine Year	Mine Development Activities	Water Management Activities
Q4 of Yr -5	• Start to construct the industrial pad • Develop the ramp to Tiriganiaq underground mine • Construct portion of rock pad for OP1 and OP2 stockpiles to store the ore from Tiriganiaq underground ramp development • Install Culvert2	• Start to re-use the underground water • Dewatering top 0.5 to 1.0 m of fresh water in Pond H17 (depending on the time of obtaining the Type A Water Licence)
Yr -4	• Continue construction of the industrial pad and start to construct the associated buildings • Construct D-CP1 to impound CP1 and start to collect contact water within CP1 • Construct discharge diffuser in Meliadine Lake • Build WTP and water intake causeway and start to treat the contact water in CP1 • Construct Channel2 and install Culvert1	• Start to pump the water from CP1 to WTP for treatment prior to discharge to the outside environment via the diffuser in Meliadine Lake • Pump the underflow sludge water from the WTP to CP1. To limit recirculation of the sludge within CP1, the discharge will be located away from the WTP intake • Dewater Lake A54 in Q3 of Year -4 and pump the water to CP1
Yr -3	• Complete the industrial pad • Construct freshwater intake causeway in Meliadine Lake • Construct CP2 and start to collect contact water • Construct Berm3 and Channel5 • Construct D-CP5 to impound CP5 and start to collect contact water • Construct and operate the landfill and landfarm	• Start to supply fresh water from Meliadine Lake to the camp area • Start to treat sewage water and pump the treated sewage water from STP to CP1 • Start to pump contact water from CP2 to CP1 • Start to pump contact water from CP5 to CP1 • Start to pump water from the landfarm to CP1 after pre-treatment for oil • Start to store the excess groundwater from the underground mine at surface
Yr -2	• Expand the pad footprint of OP1 and OP2 to increase the storage capacity • Start to place waste rock in the WRSF1 • Construct Berm1, Channel1, Channel6, Channel7, and Channel8 • Install Culvert3 to Culvert 6	• Start to divert the contact water from industrial pad to CP1 via Channel1

Mine Year	Mine Development Activities	Water Management Activities
Yr -1	• Complete the construction of the buildings over the industrial pad • Start process commissioning in Q4 of Year -1 • Start to place dry stack tailings in Cell 1 of TSF in Q4 of Year -1	• Start to pump the treated water from WTP to mill as make-up water • Start to pump the underflow sludge water from WTP to the mill during the open water season, the mill will be supplemented as much as possible with water from the WTP. For the balance of the year, fresh water will be used for ore processing • Start to pump excess truck wash water from the wash bay to CP1
Yr 1	• Start full capacity of ore processing • Construct Berm2, Channel3, and Channel4 • Construct D-CP3 to form CP3 and start to collect contact water • Construct D-CP4 to form CP4 and start to collect contact water	• Start to pump contact water in CP3 to the partially drained Pond H13 where the water will flow though Channel1 to CP1 • Start to pump contact water in CP4 to the partially drained Pond H13 where the water will flow though Channel1 to CP1
Yr 2	• Start to mine Tiriganiaq Pit 1 • Start to place overburden and waste rock from Tiriganiaq Pit 1 in WRSF1	• Start to pump contact water collected in Tiriganiaq Pit 1 to CP5
Yr 3	• Expand process plant to reach the process capacity of 5,000 tpd • Construct temporary overburden stockpile to store the selected ice-poor overburden that will be used for progressive reclamation of TSF	• Dewater Ponds H19 and H20 in Q3 of Year 3 and pump the water to CP1
Yr 4	• Increased mill production to 5,000 tpd • Start to mine Tiriganiaq Pit 2 • Start to place waste rock and overburden from Tiriganiaq Pit 2 in WRSF3 • Construct D-CP6 to CP6 and start to collect contact water • Start to place dry stack tailings in Cell 2 of TSF • Start to place low grade ore from the open pits in the OP1 stockpile • Construct rock pad for OP3 to store marginal grade ore from the open pits • Stop placing rock and overburden in WRSF1 when WRSF1 reaches design capacity	• Start to pump contact water collected in Tiriganiaq Pit 2 to CP5 • Start to pump contact water in CP6 to CP1

Mine Year	Mine Development Activities	Water Management Activities
Yr 5	• Start to place waste rock from Tiriganiaq Pit 1 in WRSF2 • Place final closure cover on top of tailings surface in Cell 1 of TSF (waste rock cover over final Cell 1 perimeter slope to be placed as progressive reclamation -as soon as slope reaches final grade)	• Water management plan similar to Year 4
Yr 6	• Start to place dry stack tailings in Cell 3 of TSF • Stop placing overburden waste in WRSF3	• Water management plan similar to Year 4
Yr 7	• Place final closure cover on top of tailings surface in Cell 2 of TSF (waste rock cover over final Cell 2 perimeter slope to be placed as for progressive reclamation as soon as slope reaches final grade) • Stop mining of Tiriganiaq Pit 1 and Tiriganiaq Pit 2 when the open pits reach design elevation • Stop Tiriganiaq underground operation when underground mine reaches design elevation • Stop placing waste rock and overburden in WRSF2 when WRSF2 reaches design capacity • Stop placing waste rock in WRSF3 when WRSF3 reaches design capacity	• Water management plan similar to Year 4 • Stop pumping water from the open pits when the pits are mined-out at end of year • Stop pumping excess water from underground when underground mine is completed
Yr 8	• Process the ore from the OP1, OP2, and OP3 until all stored ore are processed • Decommission of underground mine surface openings as needed	• Start to fill the mined-out Tiriganiaq Pits 1 and 2 with active pumping water from Meliadine Lake • Start natural flooding of Tiriganiaq Underground mine with groundwater seepage • Stop pumping water to process plant when the processing is completed

Mine Year	Mine Development Activities	Water Management Activities
Closure (Yr 9 to 11)	• Place final closure cover on top of tailing surface in Cell 3 of TSF in Year 9 (waste rock cover over final Cell 3 perimeter slope to be placed as progressive reclamation - as soon as slope reaches final grade) • Decommission non-essential mine infrastructure and support buildings in Years 9 and 10 • Continue to fill the mined-out open pits with active pumping water from Meliadine Lake until Year 10 • Start monitoring and maintenance in Year 9 (start in Year 8 if possible)	• Finish flooding Tiriganiaq Pit 1 and Tiriganiaq Pit 2 by Q4 of Year 10 • Continue to collect and manage the contact water in CP1 to CP6 • Continue to pump the contact water in CP1 to WTP, if required, for treatment before being discharged to the outside environment • Remove non-essential site infrastructure • Pump the underflow sludge water from WTP to CP1 • Continue natural flooding of Tiriganiaq Underground mine with groundwater seepage • Remove Meliadine Lake pumping system
Post-Closure	• Continue monitoring and maintenance until Year 18	• Treat the contact water until water quality meet direct discharge criteria and then decommission the water management system • Continue natural flooding of Tiriganiaq Underground (progressive reclamation since Year 8) • Breach water retention dikes D-CP1, D-CP3, D-CP4, D-CP5 and D- CP6 once water quality monitoring results meet discharge criteria to allow water to naturally flow to outside environment • Remove culverts and breach berms in Year 18

SECTION 2 • PHYSICAL SETTING

2.1 Site Conditions

The mine site is located in lowlands near the northwest coast of Hudson Bay. The dominant terrain at the mine site area comprises glacial landforms such as drumlins (glacial till), eskers (gravel and sand), and small lakes. The topography is gently rolling with a mean elevation of 65 metres above sea level and a maximum relief of 20 m.

The local overburden typically consists of sand and gravel deposits of various thicknesses overlying till with cobbles and boulders. Some of the surfaces are covered by a thin layer of organics. Bedrock at the mine site area consists of a stratigraphic sequence of clastic sediments, oxide iron formation, siltstones, graphitic argillite, and mafic volcanic flows (Snowden 2008; Golder 2009a).

Low-lying areas are poorly drained as a result of a low slope in the landscape and intermittent streams connecting numerous shallow ponds and lakes. The following subsections summarized the physical setting at the mine site.

2.2 Climate

The Project is located in the Kivalliq Region of Nunavut, near the northern border of the southern Arctic terrestrial ecozone, and within the Arctic tundra climate region. Within this region daylight reaches a minimum of 4 hours per day during the winter to a maximum of 20 hours per day during the summer. The climate is extreme with long cold winters and short cool summers. Temperatures are cool, with a mean temperature of 12 °C in July and -31 °C in January. The mean annual air temperature at the Project site is approximately -10.4 °C (Golder 2012a).

The recorded prevailing winds are from north and north-northwest. The wind blows from the north and north-northwest direction more than 30% of the time, and the least frequent wind direction is west-southwest, with a frequency of 2.1%. The calm frequency is 2.8% of the time. The mean values for wind speed show that the north-northwest together with north and northwest winds has the highest speeds and tend to be the strongest.

Mean annual precipitation at the mine site, based on the hydrological year from 1 October to 30 September, is estimated to be 411.7 mm after accounting for rainfall and snowfall undercatch. Approximately 51% of precipitation occurs as rain (207.1 mm) and 49% occurs as snow (199.1 mm). The 24-hour extreme rainfall intensity with a 10-year return period is estimated to be 2.1 mm/h, or 50 mm in total depth. Corresponding values for the 100-year return period are 2.7 mm/h or 65 mm in total depth.

2.3 Permafrost

The mine site is located in an area of continuous permafrost, as shown on Figure 2.1 as attached in Appendix A.

Late-winter ice thicknesses on freshwater lakes in the mine site area were recorded from 1998 to 2000. The measured data indicated that ice thickness ranges from 1.0 to 2.3 m with an average thickness of 1.7 m. Ice covers usually appear by the end of October and are completely formed in early November. The spring ice melt typically begins in mid-June and is complete by early July (Golder 2012b).

Published data regarding permafrost were used to recreate the permafrost map of Canada shown in Figure 2.1. Based on thermal studies and measurements of ground temperatures, the depth of permafrost at the mine site is estimated to be in the order of 360 to 495 m, depending on proximity to the lakes. The depth of the active layer ranges from about 1 m in areas with shallow overburden, up to about 3 m adjacent to the lakes. The depth of the permafrost and active layer will vary based on proximity to the lakes, overburden thickness, vegetation, climate conditions, and slope direction (Golder 2012b). The typical permafrost ground temperatures at the depths of zero annual amplitude (typically at the depth of below 15 m) are in the range of -5.0 to -7.5 °C in the areas away from lakes and streams. The geothermal gradient ranges from 0.012 to 0.02 °C/m (Golder 2012c).

2.4 Taliks

Taliks (areas of unfrozen ground) are to be expected where lake depths are greater than about 1.0 to 2.3 m. Formation of an open-talik, which penetrates through the permafrost, would be expected for lakes that exceed a critical depth and size. It is anticipated that an open-talik exists below Lake B7 based on the depth and geometry of this lake (Golder 2012b). The salinity of groundwater also influences the temperature at which the groundwater will freeze. The test results on two deep groundwater samples collected below the base of the permafrost for baseline study indicated salinity level leads to a freezing point depression of about 3.2 °C (FEIS Volume 7, Appendix 7.2-A).

2.5 Subsurface Condition

A series of geotechnical site investigation programs had been carried out at the mine site (Golder 1999, 2009b, 2010a, 2010b, 2012d, 2012e, SRK 2007, and Tetra Tech EBA 2013, 2014). A total of 150 geotechnical boreholes were drilled and 37 thermistor cables were installed during the site investigation programs.

No boreholes were drilled within the proposed footprints of ore stockpiles. Five boreholes were drilled within the range of 50 m from the footprints of the proposed ore stockpiles. In general, a thin veneer of organic material ranging from 0.03 to 0.3 m was encountered. The underlying overburden material consisted predominately of a sand and silt matrix with cobbles and boulders. The overburden thickness ranges between 2.8 to 9.5 m, and is underlain by greywacke; strong, dark grey to black, fine-grained and slightly to highly weathered with some fracturing of the upper bedrock surface. Overburden soils with excess ice (Vc, Vs, Vx, and Vr) were observed in all the boreholes, including a 0.2 m massive icy bed. The estimated percentage (by volume) of the excess visible ice ranged from 10% to more than 40% in the overburden soils. Soil porewater salinity tests (Tetra Tech EBA, 2013) indicated that the overburden soils at the mine site may have a porewater salinity of 4 to 12 parts per thousand.

2.6 Seismic Zone

The mine site is situated in an area of low seismic risk. The peak ground acceleration (PGA) for the area was estimated using seismic hazard calculator from the 2010 National Building Code of Canada website (http://www.earthquakescanada.nrcan.gc.ca/hazard-alea/interpolat/index_2010-eng.php). The estimated PGA is 0.019 g for a 5% in 50-year probability of exceedance (0.001 per annum or 1 in 1,000 year return) and 0.036 g for a 2% in 50-year probability of exceedance (0.000404 per annum or 1 in 2,475 year return) for the area.

SECTION 3 • MINING PLAN

3.1 Mine Development Plan

Two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one underground mine (Tiriganiaq Underground) will be developed. Three mine waste streams will be produced at the mine site, including waste rock, tailings, and overburden material. The following mining development sequence and schedule are currently planned:

- Tiriganiaq underground mine will be developed and operated from Year -5 to Year 7;
- Tiriganiaq Pit 1 will be mined from Year 2 to Year 7; and
- Tiriganiaq Pit 2 will be mined from Year 4 to Year 7.

3.2 Ore Development Plan

Approximately 12.1 Mt of ore will be mined; this will comprise approximately 3.6 Mt from the open pits and approximately 8.5 Mt from underground operations. Three grades of ore (high grade, low grade, and marginal grade) will be produced. The ore will be milled in the process plant during eight years mine operation (Year 1 to Year 8) at a feeding rate of 3,000 tonne per day (tpd) in Year 1 to Year 3 and 5,000 tpd in Year 4 to Year 8.

A breakdown estimate for the ore production schedule and quantities is provided in Table 3.1. Table 3.2 presents the milling schedule and ore sources.

Table 3.1 Production Schedule and Quantities of Ore by Year

Mine Year	Underground		Tiriganiaq Pit 1		Tiriganiaq Pit 2	
	High Grade (t)	Marginal Grade (t)	High Grade (t)	Low/Marginal Grade (t)	High Grade (t)	Low/Marginal Grade (t)
Yr-5	0	338	0	0	0	0
Yr-4	0	987	0	0	0	0
Yr-3	126	605	0	0	0	0
Yr-2	51,280	69,585	0	0	0	0
Yr-1	465,764	136,676	0	0	0	0
Yr1	1,015,651	169,752	0	0	0	0
Yr2	891,829	159,643	0	0	0	0
Yr3	1,053,481	200,812	0	0	0	0
Yr4	1,094,741	142,766	874,958	30,046	6,509	0
Yr5	1,097,825	56,469	699,642	43,250	61,837	8,749
Yr6	967,430	0	757,226	24,165	112,669	10,339
Yr7	888,008	0	667,949	43,004	238,893	15,147
Yr8	0	0	0	0	0	0
Total (t)	**7,526,135**	**937,633**	**2,999,775**	**140,465**	**419,908**	**34,235**
Volume (m^3)	**4,003,263**	**498,741**	**1,595,625**	**74,715**	**223,355**	**18,210**

Table 3.2 Milling Schedule and Ore Sources

Mine Year	Ore from Underground Mining (t)	Ore from Tiriganiaq Pit 1 (t)	Ore from Tiriganiaq Pit 2 (t)	Ore from Ore Stockpile 1 (t)	Ore from Ore Stockpile 2 (t)	Ore from Ore Stockpile 3 (t)	Total
Yr-1	202,350*	0	0	0	0	0	**202,350**
Yr1	1,015,651	0	0	79,349	0	0	**1,095,000**
Yr2	891,829	0	0	203,171	0	0	**1,095,000**
Yr3	1,053,481	0	0	41,519	0	0	**1,095,000**
Yr4	1,094,741	683,168	6,509	24,462	0	0	**1,808,880**
Yr5	1,097,825	665,337	61,837	0	0	0	**1,824,999**
Yr6	967,430	744,902	112,669	0	0	0	**1,825,001**
Yr7	888,008	667,949	238,893	0	30,150	0	**1,825,000**
Yr8	0	0	0	238,419	907,484	174,699	**1,320,602**
Total (t)	**7,211,315**	**2,761,356**	**419,908**	**586,920**	**937,634**	**174,699**	**12,091,832**
Volume (m^3)	**3,835,806**	**1,468,806**	**223,355**	**312,191**	**498,741**	**92,925**	**6,431,824**

Note: * For commissioning in the last quarter of Year -1

3.3 Ore Storage Areas

Three areas have been identified for ore storage, as shown in Figure 1.2 attached in Appendix A, and can be described as follows:

- Ore Stockpile 1 - near the crusher, will be used to store the high grade ore from the underground mine between last quarter of Year -5 and Year 3, and the storage of low grade ore from the open pits between Year 4 and Year 7;
- Ore Stockpile 2 - adjacent to Ore Stockpile 1, will be used to store the marginal ore from the underground mine between last quarter of Year -5 and Year 6; and
- Ore Stockpile 3 - near Fuel Tank #1, north of Ore Stockpiles 1 and 2, will be used to store the marginal ore from the open pits between Year 4 and Year 7.

Originally, two areas were proposed as the ore storage areas in the baseline study for the Project during the FEIS. The changes to the ore stockpiles from FEIS to Tiriganiaq only are shown in Figure 3.1. The surface area for the waterbody affected by the ore stockpiles proposed for the Project is approximately 14.7 ha. The surface area for the waterbody affected by ore stockpiles is approximately 1.2 ha. Comparatively, the ore storage areas for Tiriganiaq have less impact on the existing water bodies, smaller footprint, shorter haul distance to process plant, and it will be easier to manage the surface runoff and seepage from the facilities than described in the FEIS.

Table 3.3 presents the evolution of ore stockpiles together with their maximum storage tonnages shown in bold text.

Table 3.3 Evolution of Ore Stockpiles

Mine Year	Ore Stockpile 1		Ore Stockpile 2	Ore Stockpile 3
	High Grade Ore from Underground (t)	Low Grade Ore from Open Pits (t)	Marginal Grade Ore from Underground (t)	Marginal Grade Ore from Open Pits (t)
Yr-5	33,682*	0	338	0
Yr-4	33,682	0	1,325	0
Yr-3	33,808	0	1,930	0
Yr-2	85,088	0	71,515	0
Yr-1	**348,501**	0	208,192	0
Yr1	269,153	0	377,944	0
Yr2	65,982	0	537,587	0
Yr3	24,462	0	738,399	0
Yr4	0	191,790	881,165	30,046
Yr5	0	226,095	**937,634**	82,045
Yr6	0	**238,419**	**937,634**	116,549
Yr7	0	238,419	907,484	**174,699**
Yr8	0	0	0	0
Maximum (t)	**348,501**	**238,419**	**937,634**	**174,699**
Max. Volume (m^3)	**185,373**	**126,819**	**498,741**	**92,925**
Note: *Ore produced during underground ramp development				

SECTION 4 • ORE GEOCHEMISTRY

The results of geochemical characterization were considered during the development of the Ore Storage Management Plan. Geochemical stability can be broadly categorized into "acid rock drainage" (ARD) and "metal leaching" (ML). These two aspects are often related; however, ML can occur independently from acid generation.

A detailed assessment of the geochemical characteristics of the rock in the Project areas was provided as part of the FEIS in SD 6-3 Geochemistry Baseline Report (Golder 2014). Objectives of the program were to identify chemicals of environmental interest in the framework of mine water and waste management and probable future mine water quality. This was accomplished through static testing and kinetic testing at various scales, including standard laboratory humidity cells, large leaching columns and larger field scale leaching tests. The waste rock and ore sample selection was completed to obtain a data set that is compositionally and spatially representative of the material to be removed by mining at each deposit, including Tiriganiaq.

The Meliadine ore deposits are low sulphide, gold-quartz vein deposits. The principal lithological units that are likely to be disturbed by mining include turbiditic meta-sedimentary rocks, volcanic-hosted and sediment-hosted iron formation, sericite altered meta-siltstones and graphitic argillite, and schistose and carbonate-altered mafic volcanic rocks.

The key findings from the geochemical characterization programs of the ore are summarized as follows:

- The acid base accounting (ABA) test results indicated that the ore from Tiriganiaq deposit have no potential for acid generating according to Canadian guidance (Indian and Northern Affairs Canada (INAC 1992) and (MEND 2009).
- Short-term water leach test results yielded concentrations that exceeded the MMER chemical criteria in two Tiriganiaq samples. Field cell tests, conducted at lower water-to-rock ratios that are more appropriate to site conditions, generated wide-ranging leachate concentrations with arsenic above MMER criteria in some of the ore (DFO 2006).

The above geochemical characterization of ore is based on the geochemical testing results for baseline studies of the Project. During construction, operations, and closure, all contact water from the ore stockpiles will be managed as described in Section 6. Runoff and seepage water from the ore stockpiles will be collected in Water Collection Pond 1 (CP1), where water quality will be monitored and can be treated, if required by the WTP prior to being discharged to the outside environment.

SECTION 5 • ORE MANAGEMENT

5.1 General Description of the Ore Management

Prior to the commencement of commissioning in the last quarter of construction (Year -1), high grade ore produced from underground ramp development will be temporarily stored in the designated ore stockpile, and will be milled during the early years of mill operations to balance the irregular ore flow from the underground. From the first year of mine operation (Year 1), high grade ore produced from the underground mining will be trucked directly to the crusher plant located at the south end of the process plant. The crushed ore will be transported to the ore bin and then to the process plant via a covered conveyor system. The low grade and marginal ore produced will be stored in the ore stockpiles, which will be milled during the last year of mine operations (Year 8). No ore will remain in the ore stockpiles at mine closure. Figure 5.1, in Appendix A, presents the ore management flow diagram.

5.2 Use of Inuit Qaujimajatuqangit in the Planning for Ore Management

Inuit Qaujimajatuqangit (IQ) is the most successful and oldest monitoring practice in Nunavut, where the resource users do the observing or monitoring. Information collected through IQ can contribute to mine design and planning, as well as monitoring activities. Agnico Eagle is committed to including IQ and public concerns stemming from IQ, where practical, in the design of management and monitoring plans for the Project. Agnico Eagle will continue active engagement with communities and Inuit organizations as the Project proceeds through permitting, and if approved, construction, operations, and closure. This consultation and engagement should lead to further inclusion of IQ, as it becomes available, in updates to the design and implementation of environmental programs. Section 1.5 of the Main Application Document summarizes IQ and public concerns. A list of public concerns can be found in the Public Engagement and Consultation Baseline Report, submitted in support of this Type A Water Licence Application.

This Plan considered IQ, including traditional ecological knowledge, traditional land use, and concerns regarding Project effects on traditional resources and traditional land use sites, which is demonstrated in the following Project design and mitigation measures:

- Based on IQ and community consultation, it is clear that clean water and the health of vegetation, fish, birds, caribou and other wildlife is important to Elders and other people in the communities who rely on these resources for traditional use. The ore stockpiles for the Project were designed and will be operated to minimize impacts on the environment. For example, the ore stockpiles were selected to minimize the number of catchments potentially affected by drainage from the stockpiles, and to minimize the haul distances from the pits and to the crusher. The surface runoff and seepage water from the ore stockpiles will be collected in water collection ponds and treated as needed prior to discharge to the outside environment. In addition, contact water quality will be monitored and assessed throughout the construction, operations, closure and post-closure phases such that any required changes to how the water is managed on site can be identified and implemented to reduce potential effects to water and the health of resources used for harvesting.

- IQ indicates that berry harvesting and caribou hunting are important activities and continue to play a significant role in Inuit culture. Community members have expressed concern over dust that could impact the health of caribou and berries. Therefore, dust will be minimized through the use of coarse size waste rock to construct waste rock pads, the design of ore stockpiles and the crusher plant, and the spraying of approved chemical dust suppressions. The haul road will be designed to minimize travel distances to limit potential impacts of dust and air emissions. Monitoring programs have been included to monitor the impact of dust on vegetation.

5.3 Ore Stockpile Design

As presented in Figure 1.2, three areas have been identified as ore stockpile areas. The ore stockpiles were designed and selected to achieve the following objectives:

- minimize the number of the catchments potentially affected by drainage from the ore stockpiles;
- provide designed storage capacity with a contingency capacity; and
- minimize the haul distances from the pits and to the crusher.

The ore stockpiles are temporary structures and small compared to the WRSFs. Based on the stability and thermal analyses completed for the WRSFs presented in the Mine Waste Management Plan and past experience with similar structures at other mine sites (i.e. Meadowbank Mine), the ore stockpiles will have an acceptable factor of safety against potential slope failure. The ore material below the seasonal thawed layer is expected to be in frozen condition. The key design parameters for ore stockpiles are summarized in Table 5.1.

Table 5.1 Key Design Parameters for Ore Stockpiles

Parameter	Ore Stockpile 1	Ore Stockpile 2	Ore Stockpile 3
Pad thickness (m)	1	1	1
Bench width from the crest of the pad to the toe of the first lift of the ore (m)	5	5	5
Thickness of first lift (m)	5	5	5
Bench width from the crest of the first lift to the toe of the second lift (m)	10	10	10
Approximate maximum thickness of the second lift (m)	6	6	3
Assumed side slopes for ore and pad	1.3(H):1(V)	1.3(H):1(V)	1.3(H):1(V)
Maximum elevation of ore stockpile (m)	80	79	81
Maximum pad footprint (m^2)	27,711	61,530	19,268
Assumed dry density of ore: 1.88 t/m^3			

Under the above design criteria, the ore pads can accommodate approximately 348.5 kt (185,373 m^3) of ore for Ore Stockpile 1, 937.6 kt (498,741 m^3) of ore for Ore Stockpile 2, and 174.7 kt (92,925 m^3) of ore for Ore Stockpile 3. The stored tonnage of ore in the stockpiles will vary during operation as milling progresses as presented in Table 3.3.

The design for the ore pads consists of a layer of 1 m thick waste rock placed over the original ground. The waste rock can have a wide variation in gradation, with a maximum particle size of 600 mm. During construction of the ore pads, waste rock will be placed directly over the original ground, however, depending on the subsurface condition and construction season, minimal site preparation may be required, such as local sub excavation to remove the excess peat layer or other weak layer and cleanup the snow or ground ice within the footprint of the waste rock pads. The active layer within the original ground may be frozen or unfrozen depending on the time of the ore pad construction and ore placement. Under the design case scenario, the thaw depth will not penetrate into the original permafrost layer; therefore, the thaw-induced differential settlement of ore stockpiles should not be significant.

5.4 Ore Stockpiling Procedure

Depending on the development schedule of the underground and open pit mining operations, the ore will be transported directly to the mill and crusher for processing or will be temporally stockpiled at one of the three designated ore stockpiles for subsequent processing. The ore distribution is presented in Tables in Section 3. The plan development of the ore stockpile facilities is shown in Figures 5.2 to 5.14 as attached in the Appendix A.

5.4.1 High Grade Ore

Prior to commissioning in the last quarter of construction (Year -1), high grade ore produced from the underground ramp development will be temporarily stored in Ore Stockpile 1. The ore will be milled and processed during the early years of mine operation. Thereafter, high grade ore from the open pit operations will be directly trucked to the mill processing facility.

5.4.2 Low Grade Ore

Low grade ore produced from open pit mining will be stored in Ore Stockpile 1 for subsequent processing. The maximum amount of the low grade stockpile in Ore Stockpile 1 will be approximately 238.4 kt.

5.4.3 Marginal Ore

The marginal grade ore from underground and open pit mining will be stockpiled in Ore Stockpile 2 and Ore Stockpile 3, respectively. Approximately 1,112 kt of marginal ore will be produced and stockpiled during the life of mine.

SECTION 6 • WATER AND DUST MANAGEMENT ASSOCIATED WITH ORE MANAGEMENT

6.1 Water Management

The selected ore stockpiles (OP1, OP2, and OP3) are located within the catchment of Pond H17 (CP1), as shown in Figure 6.1. A portion of Pond H12 is within the footprint of OP1. Pond H18 and portions of Ponds H9, H10, and H11 are within the footprint of OP2. No pond is within the footprint of OP3.

The initial construction for Ore Stockpile 1 and Ore Stockpile 2 is planned to take place during the last quarter of Year -5; therefore, no contact water management will be required in Year -5. From Year -4 to mine closure, contact water from the ore stockpiles will be diverted to CP1 via Channel 1, where, if required, the collected contact water will be treated by the WTP prior to being discharged to the outside environment. Detailed information on the management of runoff water and seepage from the ore stockpiles and construction of infrastructure associated with ore management are described in the Water Management Plan.

6.2 Dust Management

The major sources of dust related to ore management during construction, operation and closure include:

- wind erosion of ore stockpile and waste rock pad surfaces;
- ore material handling and transferring - loading, hauling, unloading and conveying; and
- ore material crushing.

Dust suppression measures, which are considered to be typical of the current mine practices (i.e. Meadowbank Mine) and consistent with best management practices, will be considered through design, operation and closure phases to control the dust.

6.2.1 Dust Management during Construction

Dust is expected to be a minor issue during construction of the ore stockpiles. To minimize the wind erosion during construction, coarse size waste rock will be used as much as possible to construct waste rock pads for ore stockpile. The ore stockpiles will be located at suitable locations and with minimal heights and suitable side slopes to minimize the wind erosion effects. Water and/or approved chemical dust suppressions will be sprayed on ore stockpiles, if required.

6.2.2 Dust Management during Operation

Ore from the open pits will be transported to the crusher from the surface or temporary stockpiles by haul trucks through a network of internal haul roads. Water and/or approved chemical dust suppressions will be sprayed on the haul roads to control the dust. The haul road network will be designed to minimize travel distances to limit potential impacts (dust, air emissions, etc.) and cost.

However, it is reasonable to expect that some ore might fall from trucks during transit; these will be picked up as much as possible.

The crusher plant will be designed and operated to follow best management practices such as using sheds, enclosures, covers and/or bag houses to minimize the dust generation. The conveyor from the crusher to the process plant will be a covered belt system in which the dust can be easily controlled. The covered conveyor system will be equipped with dust collectors, and will be maintained regularly during mine operation. The conveyor loads will be kept within designated load limits to minimize the dust generation during operation. Dust collected during operation will be recycled through the mill.

6.2.3 Dust Management during Closure

Ore will not remain in the ore stockpiles at mine closure and the waste rock pads for ore stockpiles will remain in place. It is not anticipated that specific dust controls will be required as the waste rock used to construct the pads will be generally large in size; however, the need for dust control will be evaluated and implemented during closure activities as required.

SECTION 7 • CLOSURE ACTIVITIES

Final closure activities for the ore management facilities will commence at the end of mining operations once all remaining ore in the stockpiles has been processed. Ore will not remain in the ore stockpiles following operations, it will be processed. In the event of a short-term temporary closure, the water and dust management strategies for the ore stockpiles will be kept the same as used during active mine operation. In the event of a long-term temporary closure, surface water control structures will be maintained as required. Further details on mine site closure and reclamation, including the ore stockpiles, can be found in the Closure and Reclamation Plan, submitted in support of the Type A Water Licence application.

SECTION 8 • ALTERNATIVE

Stockpiles on the surface were determined as ore storage management strategies. Alternative management strategies for ore management were considered during the planning of the Project.

Alternatives for ore storage considered included:

- Underground stockpiling: Underground facilities offer limited space. Underground facilities will have greater operational constraints and the risks of an inconsistent feed for the mill are high.
- Stockpile in silo: This alternative requires development of infrastructure. The risks to mine operation and management costs if silos were located outside was estimated to be high given the extreme weather conditions at the site.
- Stockpile under a dome: Given the volume of low grade and marginal grade ore, there is not enough space for a stockpile under a dome.

The three ore stockpiles on the surface were located based on operational considerations and to minimize the transportation of ore (the proximities to the crusher and ore deposits). The major advantages for ore stockpiles on the surface are:

- Relatively short travel routes and avoidance of re-handling the material;
- Provides enough storage capacity for operations and contingency stockpiling while minimizing the site footprint; and
- Relatively low construction and operational costs compared to the above-mentioned alternatives.

SECTION 9 • MONITORING PROGRAM

This section presents a summary of the monitoring programs including verification monitoring and general monitoring that will be carried out during construction and operation related to ore storage management. Table 9.1 summarizes the monitoring activities for the ore management. The detailed monitoring activities are presented in the following subsections.

Table 9.1 Ore Stockpile Monitoring Activities

Proposed Monitoring	Monitoring Component	Monitoring Frequency	Reporting
Verification Monitoring	Quantities of Ore Processed	Continuous	Monitoring data will be used by Agnico Eagle internally, be reported to the regulators upon request
	Annual Elevation Survey of Ore Stockpiles	Annually	
	Inspection of Ore Stockpiles	Weekly to monthly	
	Visual Inspection of Runoff and Seepage	Weekly during ice free season and additional inspection after extreme event	
General Monitoring	Quantities of Ore Production	Continuous	Monitoring data will be reported to the regulator annual in annual water licence report or annual inspection report
	Air Quality related to Ore Management	As per Air Quality Monitoring Plan (Golder 2014b)	
	Annual Geotechnical Inspection	Annually	

9.1 Verification Monitoring Program

- Quantities of Ore Processed: The ore will be transferred from the open pits and underground to the crusher plant and/or ore stockpiles by truck with distribution according to an operation schedule. The conveyor from the crusher to the mill will be equipped with a belt scale for detailed tracking and monitoring of the ore transferred. These results will be cross-checked with the tailings production rate from the mill.
- Annual Elevation Survey of Ore Stockpiles: An annual elevation survey of the ore stockpiles will be performed to estimate the overall volume placed, and to provide input information into the operation plan.
- Inspection of Ore Stockpiles: Regular weekly inspections of the ore stockpiles will be carried out during the active development of the ore stockpiles. When placement activity ceases on an interim or seasonal basis, the inspection frequency will shift to monthly. The purpose of the inspection is to identify and document any hazards and associated risks, such as deformations, off-site drainage, slumping, or local failure, and will be reported to the design engineer.
- Visual Inspection of Runoff and Seepage: Surface runoff and seepage from the ore stockpiles and waste rock pads will be monitored during construction and operation phase by visual

inspection during the ice free season. Additional inspections will be carried out after the extreme rainfall event (1 in 100 wet year 24 hour rainfall event). The detailed information on the monitoring of surface runoff and seepage from the ore stockpiles is described in the Water Management Plan.

Verification monitoring results will be used by Agnico Eagle in the management of ore stockpiles and production. The verification monitoring data will be collected, compiled, and managed internally. The verification monitoring data will not be reported to the regulators in the annual water licence report, but can be provided upon request by the regulators.

9.2 General Monitoring Program

- Quantities of Ore Production: Monthly quantities of the ore produced and placed into the ore stockpiles will be recorded during operation.
- Air Quality related to Ore Management: Dust related to ore management will not expect to be an issue by employing above-mentioned dust suppression measures in Section 6.2 through design, operation and closure phases. Air quality at the mine site will be monitored during construction, operation and closure through air quality monitoring stations. Further details on air quality monitoring can be found in Environmental Management and Protection Plan, submitted as part of the Type A Water Licence Application and SD 5-1 Air Quality Monitoring Plan, submitted as part of the FEIS (Golder 2014b).
- Annual Geotechnical Inspection: The performance of the ore stockpiles will be inspected and assessed during annual geotechnical site inspection. The visual assessment and recommended actions to be taken related to ore stockpiles will be summarized in the annual inspection report.

The results from general monitoring program related to ore management will be reported to the regulators annual in the annual water licence report or in the annual geotechnical inspection report.

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APPENDIX A • FIGURES

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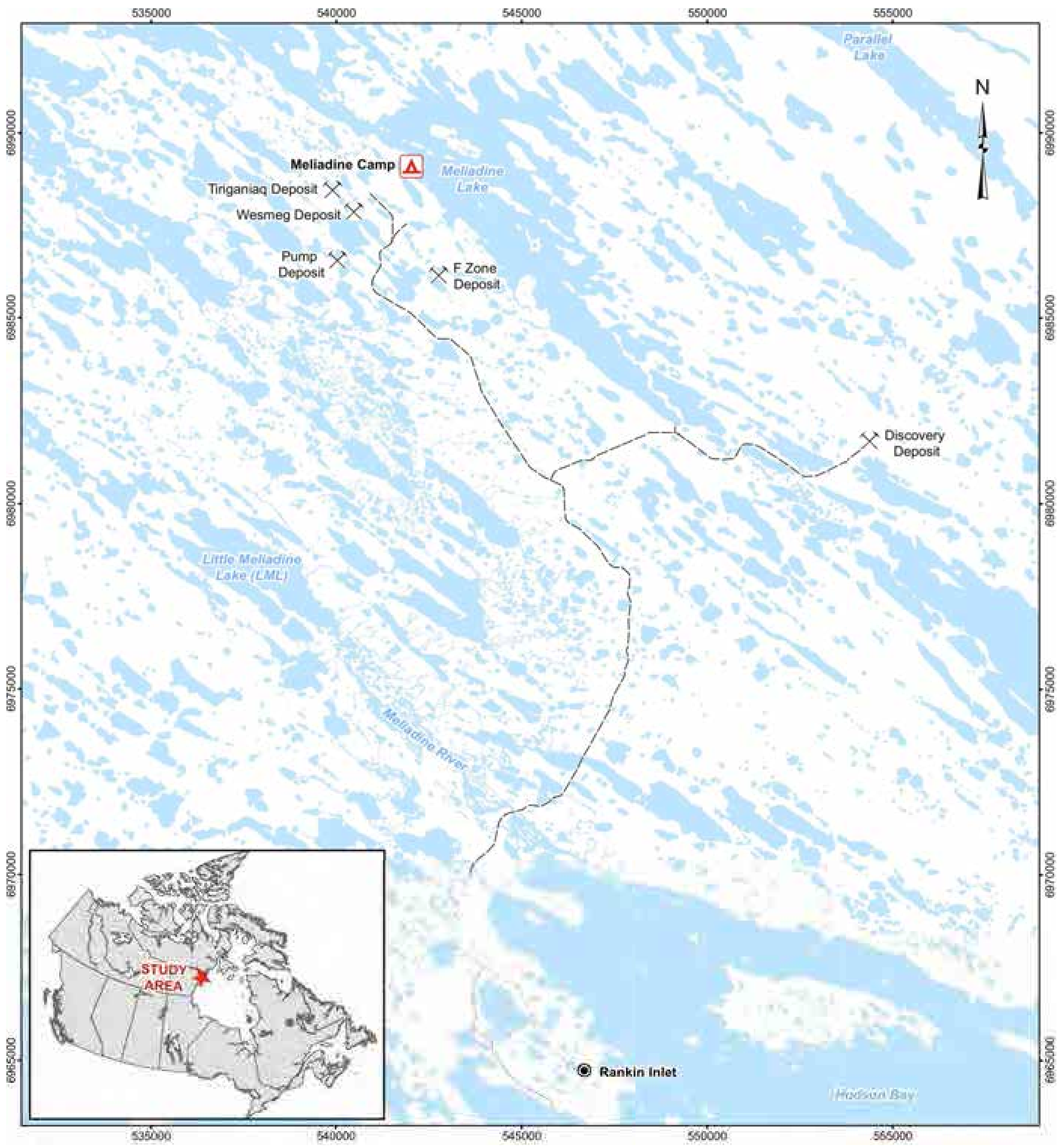

LEGEND

- Camp
- Proposed Mine Site
- All-weather Access Road (AWAR)
- Road - New
- Road - Existing
- Watercourse
- Waterbody

AGNICO EAGLE

AGNICO EAGLE – MELIADINE GOLD PROJECT

FIGURE 1.1 GENERAL PROJECT LOCATION PLAN

No. PROJET PROJECT No.		DATE	09–23–2014
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NO. DESSIN DRAWING NO.	6500–680–210–200	REVISION	A

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LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED POND AREA
- OPEN PIT
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- CONTACT WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

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TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 1.2 GENERAL SITE LAYOUT PLAN
(YEAR 7 OPERATION)

ISSUED FOR PERMITTING
AGNICO EAGLE DATE : 25-01-2015

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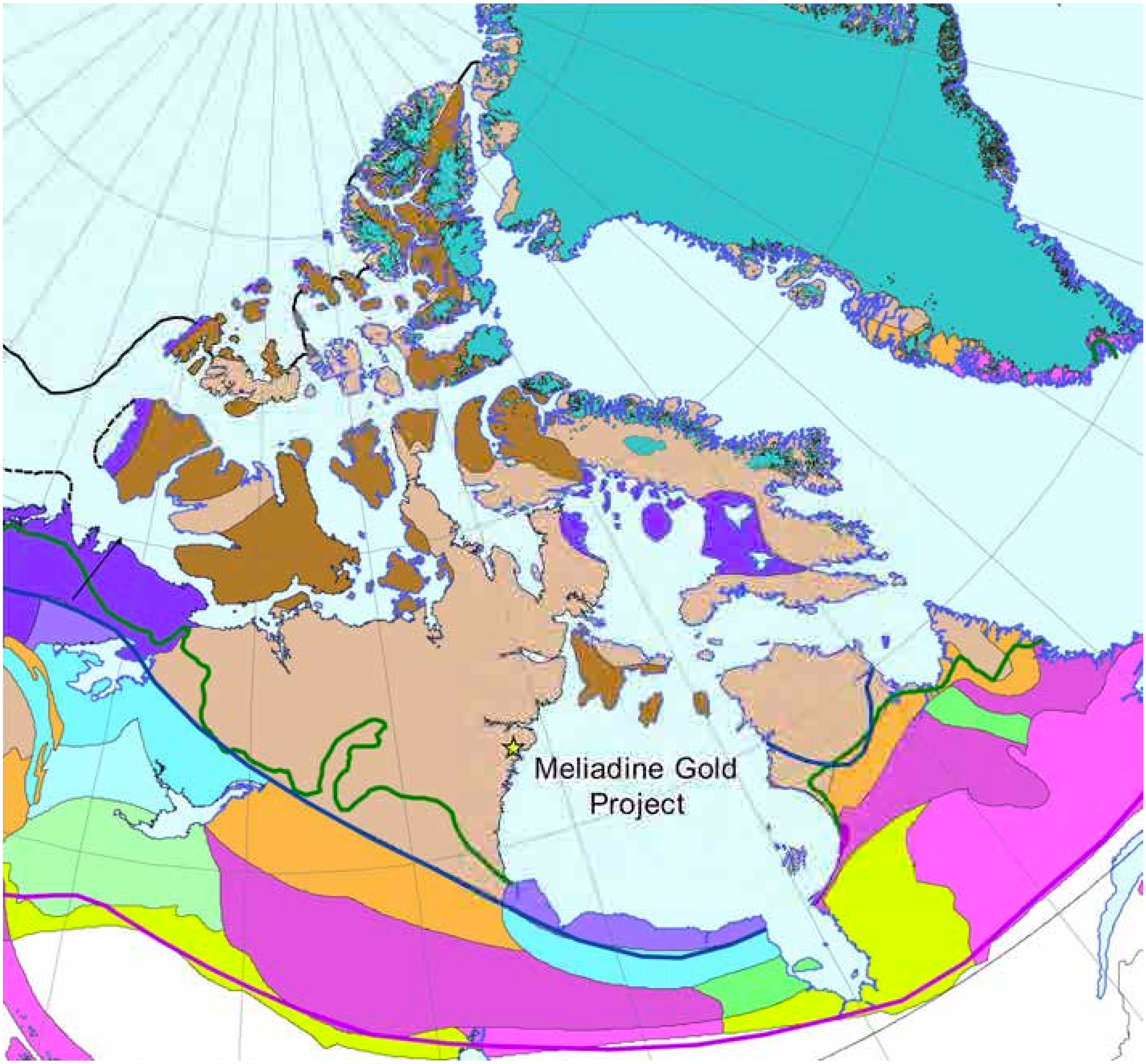

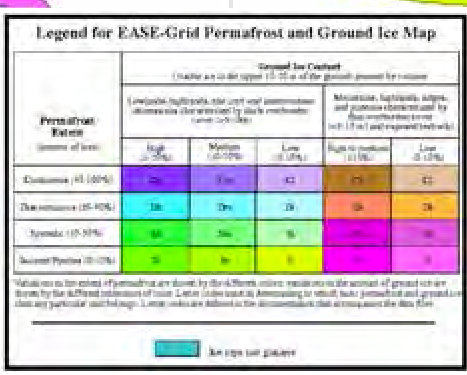

LEGEND

- ☆ MELIADINE GOLD PROJECT
- SOUTHERN BOUNDARY OF CONTINUOUS PERMAFROST - PRESENT
- SOUTHERN BOUNDARY OF DISCONTINUOUS PERMAFROST - PRESENT
- TREELINE
- SEA-ICE EDGE LIMIT
- SUBSEA PERMAFROST LIMIT

REV	DATE	DESCRIPTION	PAR BY

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AGNICO EAGLE

AGNICO EAGLE – MELIADINE GOLD PROJECT

FIGURE 2.1 PERMAFROST MAP OF CANADA

No. PROJET PROJECT No.		DATE	09–23–2014
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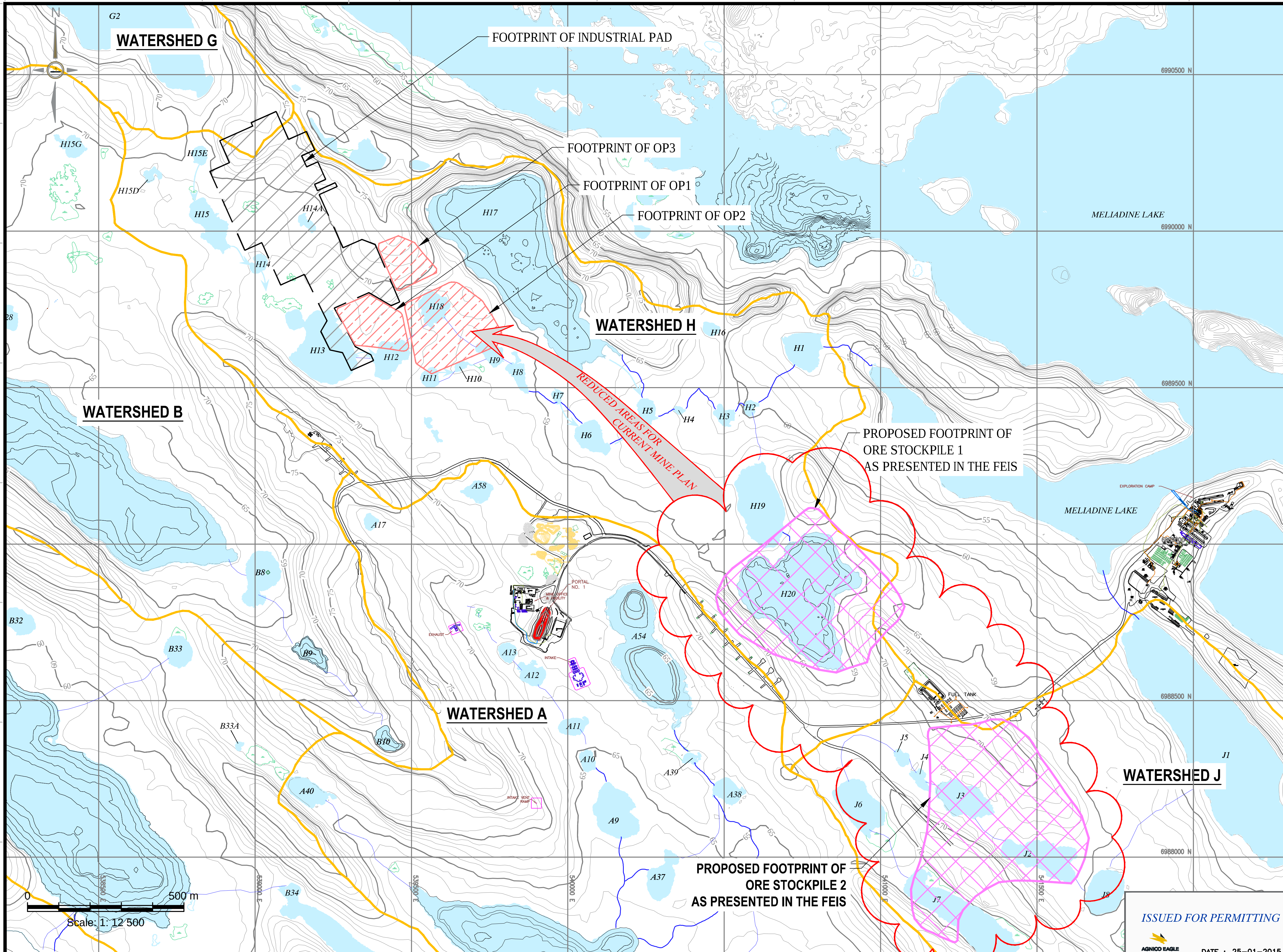

LEGEND

CATCHMENT BOUNDARY
NON CONTACT WATERBODY

AGNICO EAGLE

TETRA TECH EBA

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DATE			

TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 3.1 LOCATIONS OF ORE STOCKPILES

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AE-CART-ANSI B

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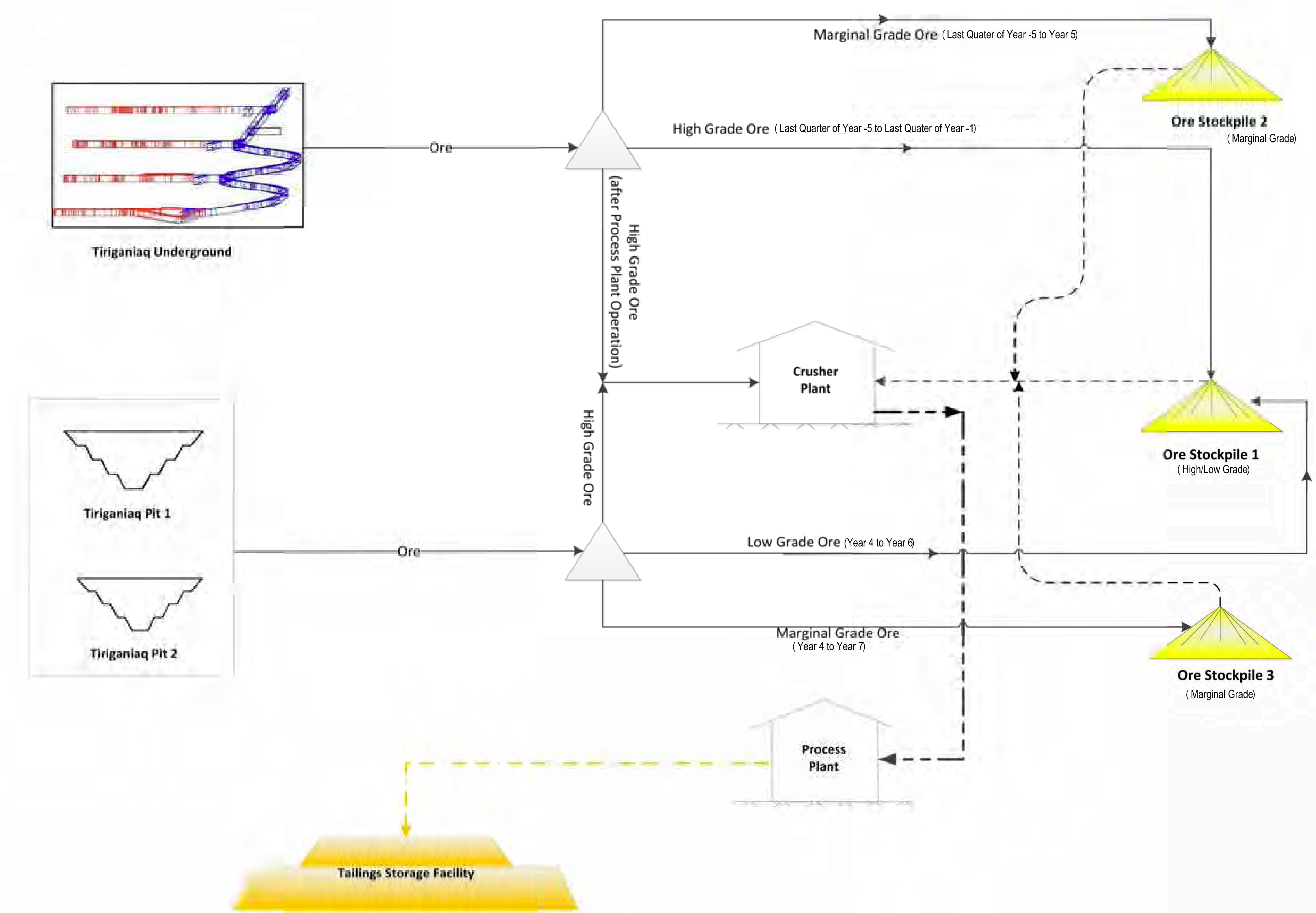

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AGNICO EAGLE DATE : 25-01-2015

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AGNICO EAGLE

TETRA TECH EBA

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DATE			

TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.1 ORE MANAGEMENT FLOW DIAGRAM

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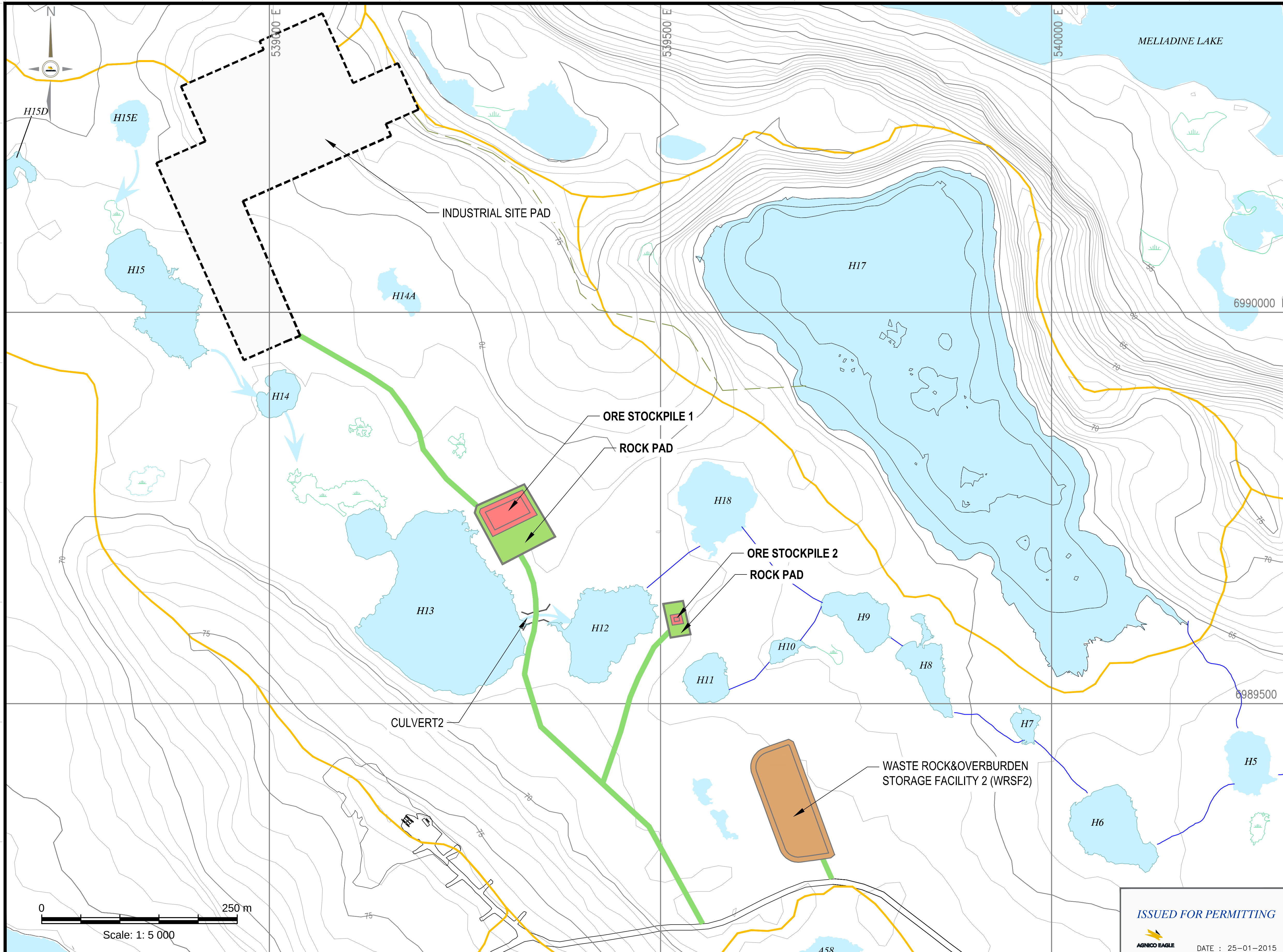

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- NON CONTACT WATERBODY
- OVERBURDEN
- WASTE ROCK
- ORE
- INDUSTRIAL SITE PAD

AGNICO EAGLE

TETRA TECH EBA

TITRE / TITLE	# DWG
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DATE			

TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.2 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(LAST QUARTER OF YEAR –5)

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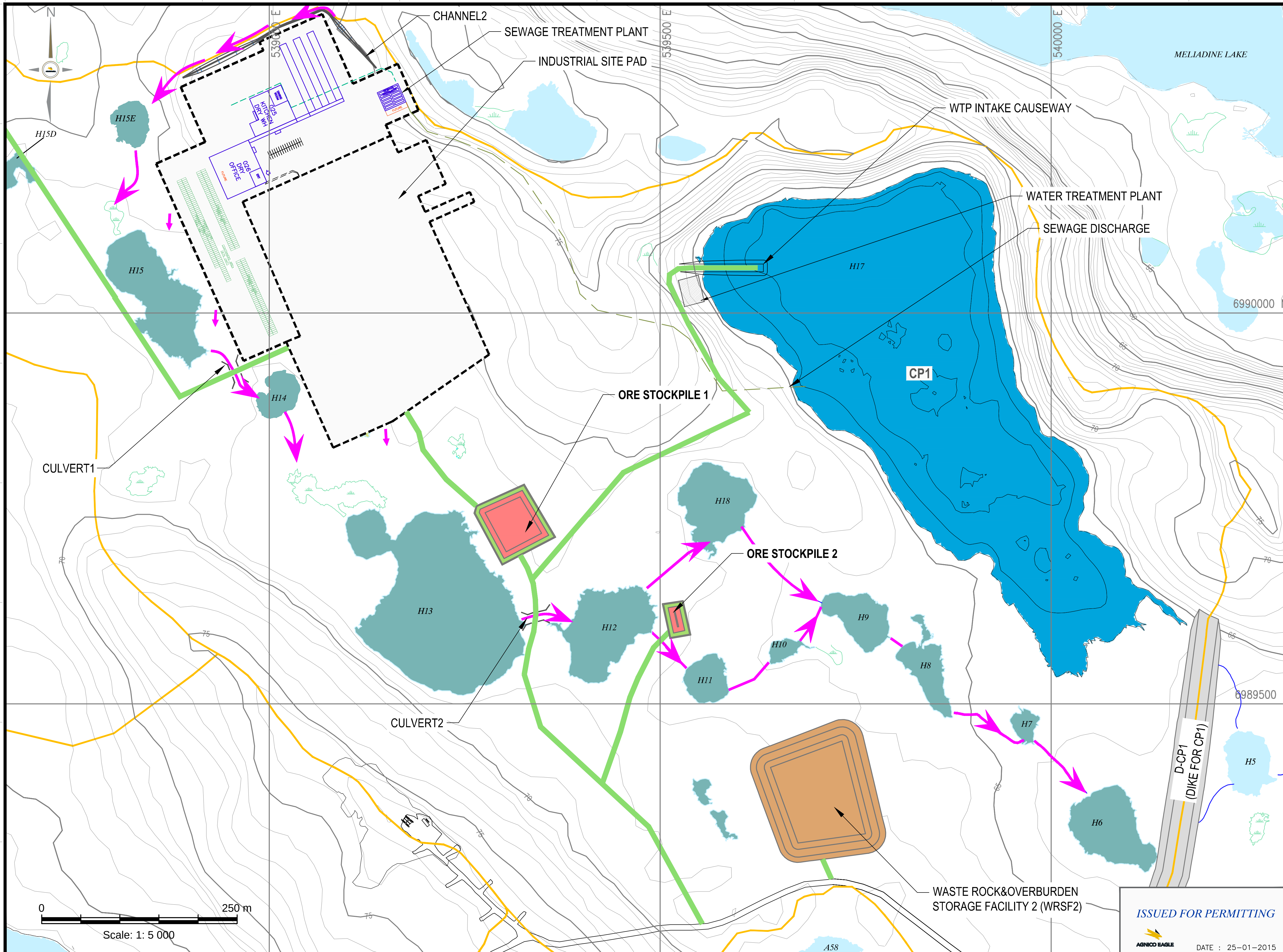

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- OVERBURDEN
- WASTE ROCK
- ORE
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

TITRE / TITLE	# DWG
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TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.3 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(YEAR –4)

ISSUED FOR PERMITTING
AGNICO EAGLE
DATE : 25–01–2015

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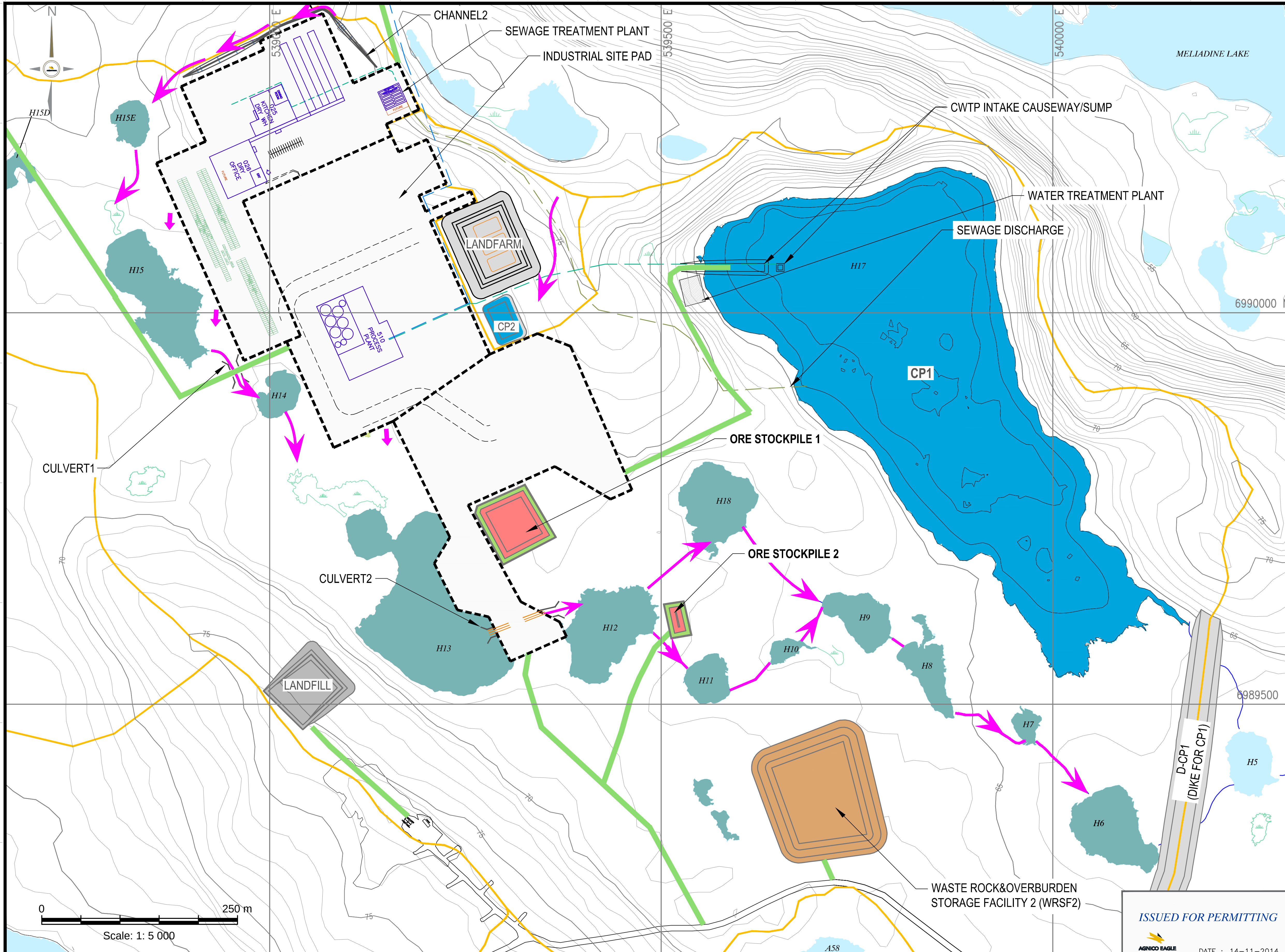

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- OVERBURDEN
- WASTE ROCK
- ORE
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

TITRE / TITLE	# DWG
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TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.4 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(YEAR –3)

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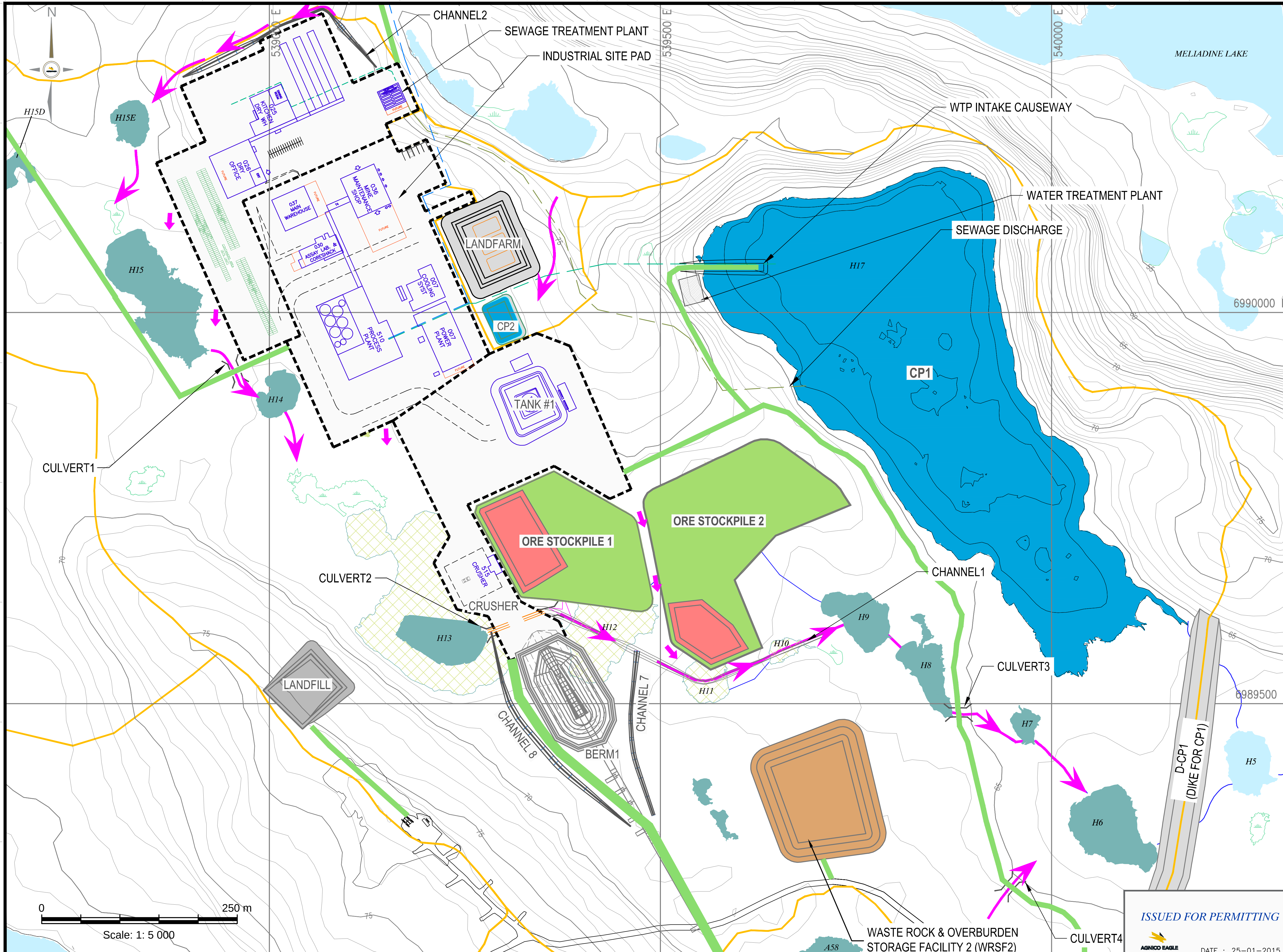

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

TITRE / TITLE	# DWG
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No. PROJET PROJECT NO.			
DATE			

TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.5 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(YEAR –2)

ISSUED FOR PERMITTING
DATE : 25–01–2015

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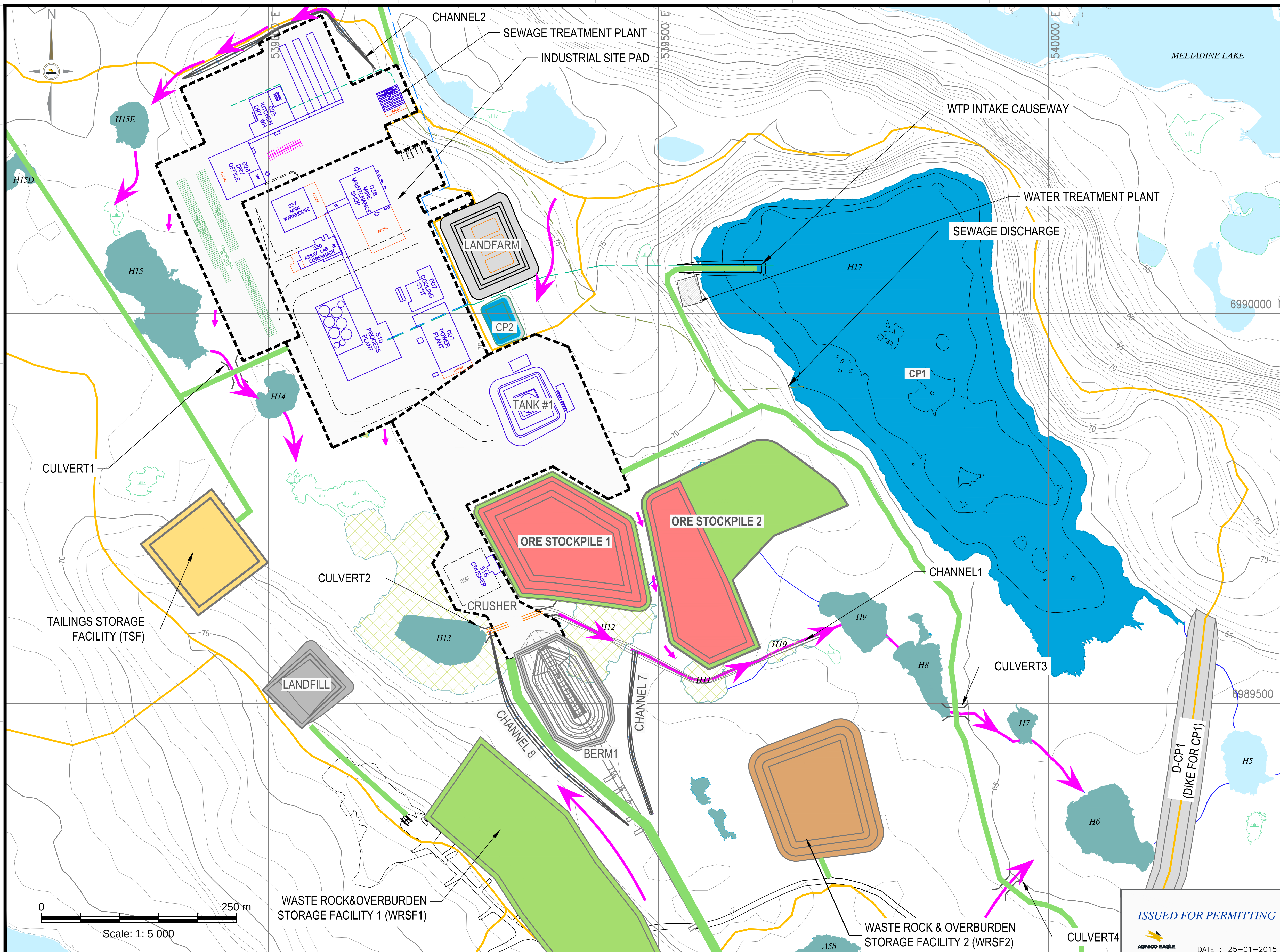

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

TITRE / TITLE	# DWG

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DATE			

TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.6 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(YEAR –1)

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DATE : 25–01–2015

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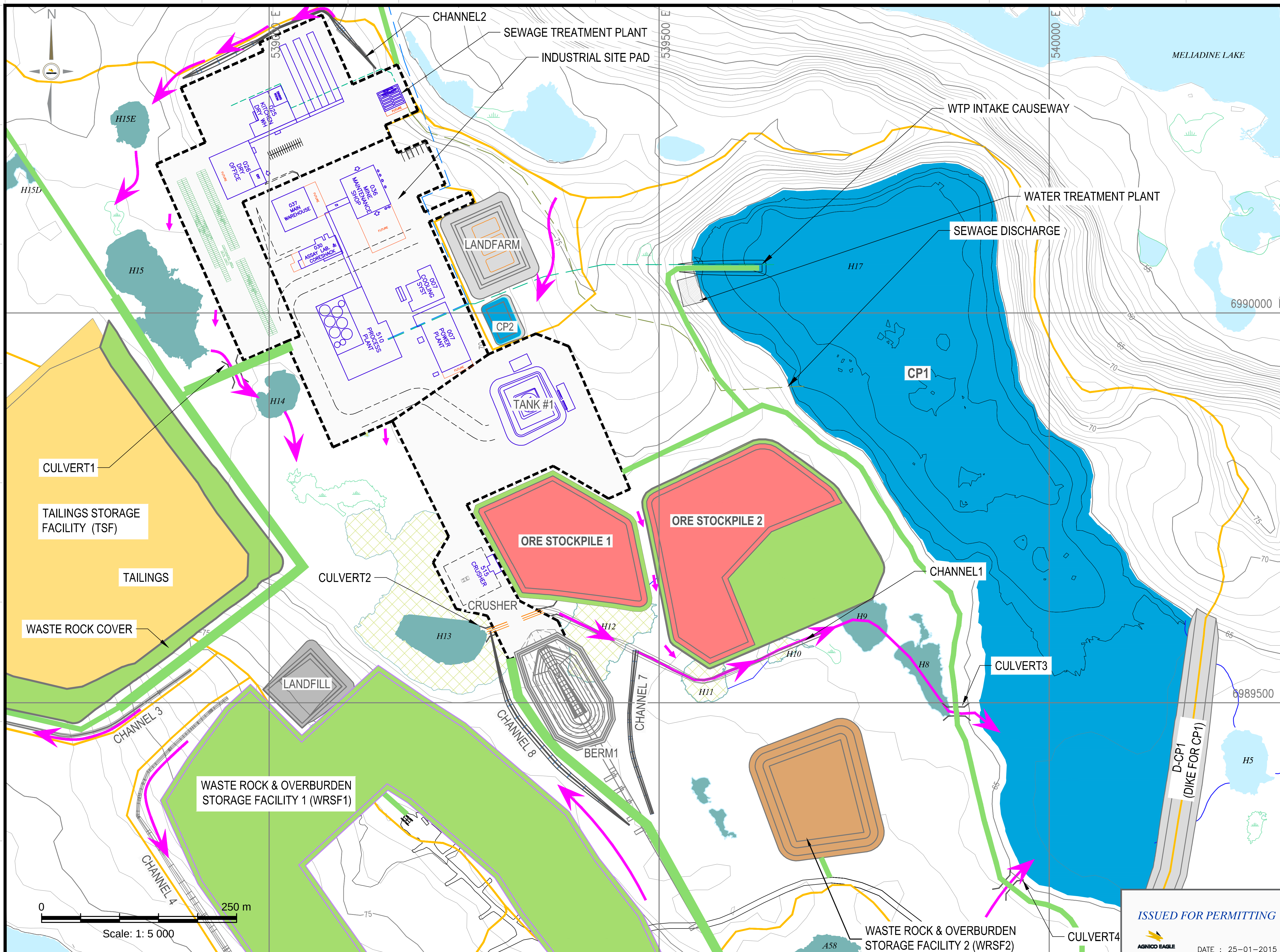

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

TITRE / TITLE	# DWG

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No. PROJET PROJECT NO.			
DATE			

TITRE / TITLE
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FIGURE 5.7 YEARLY SITE LAYOUT PLAN FOR ORE STORAGE MANAGEMENT (YEAR 1)

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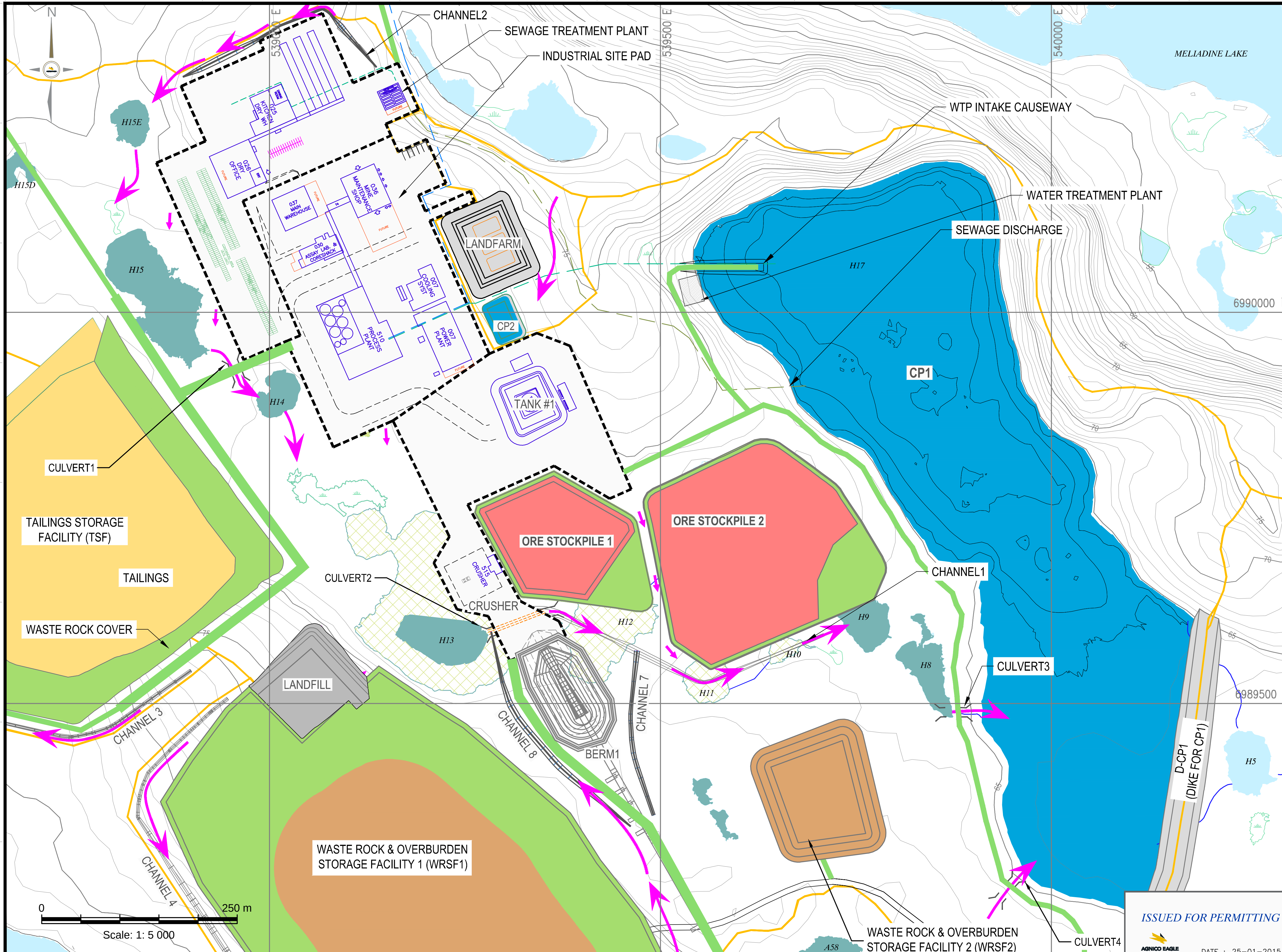

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

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DATE			

TITRE / TITLE
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FIGURE 5.8 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(YEAR 2)

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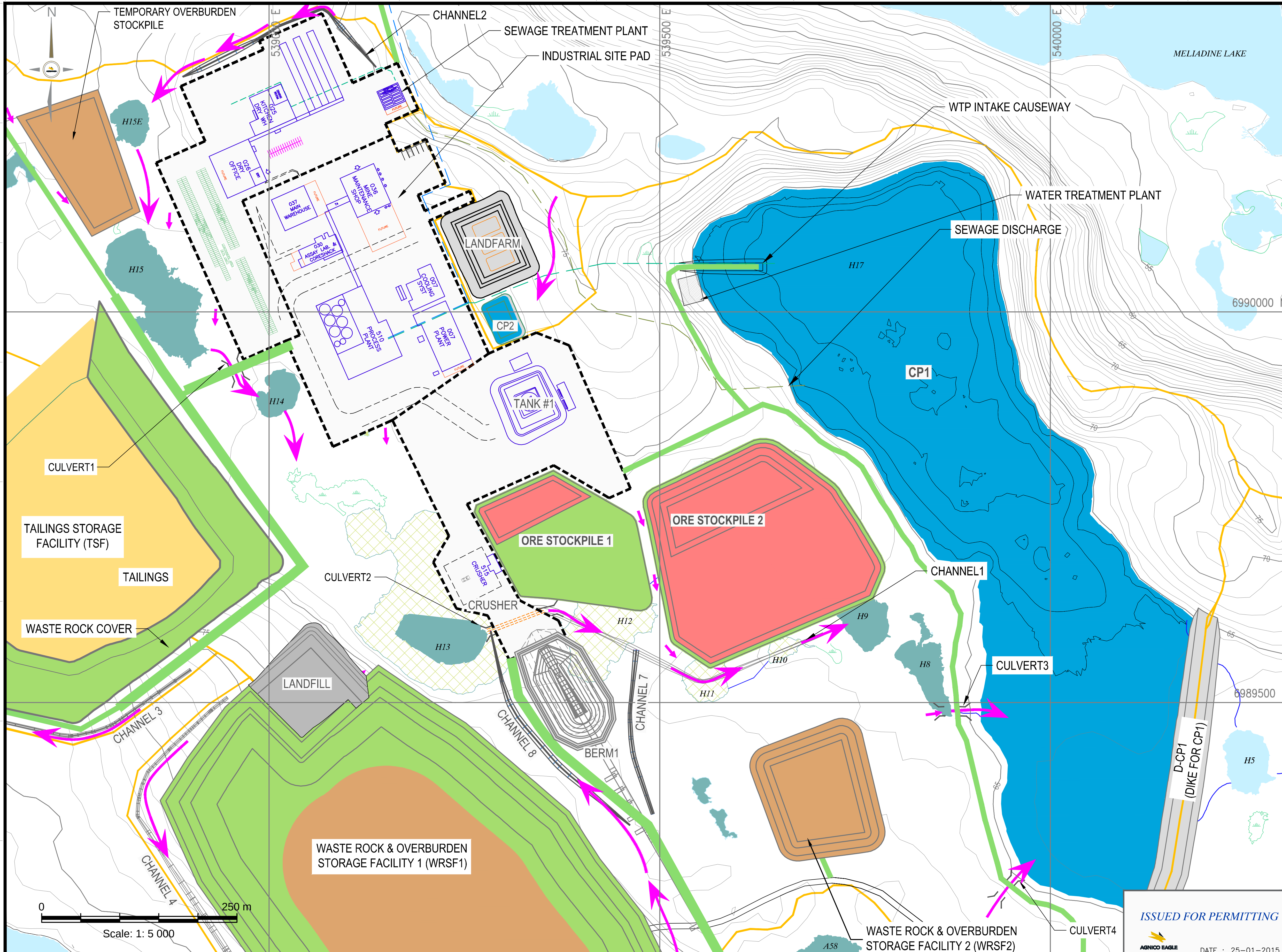

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

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TITRE / TITLE
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FIGURE 5.9 YEARLY SITE LAYOUT PLAN FOR ORE STORAGE MANAGEMENT (YEAR 3)

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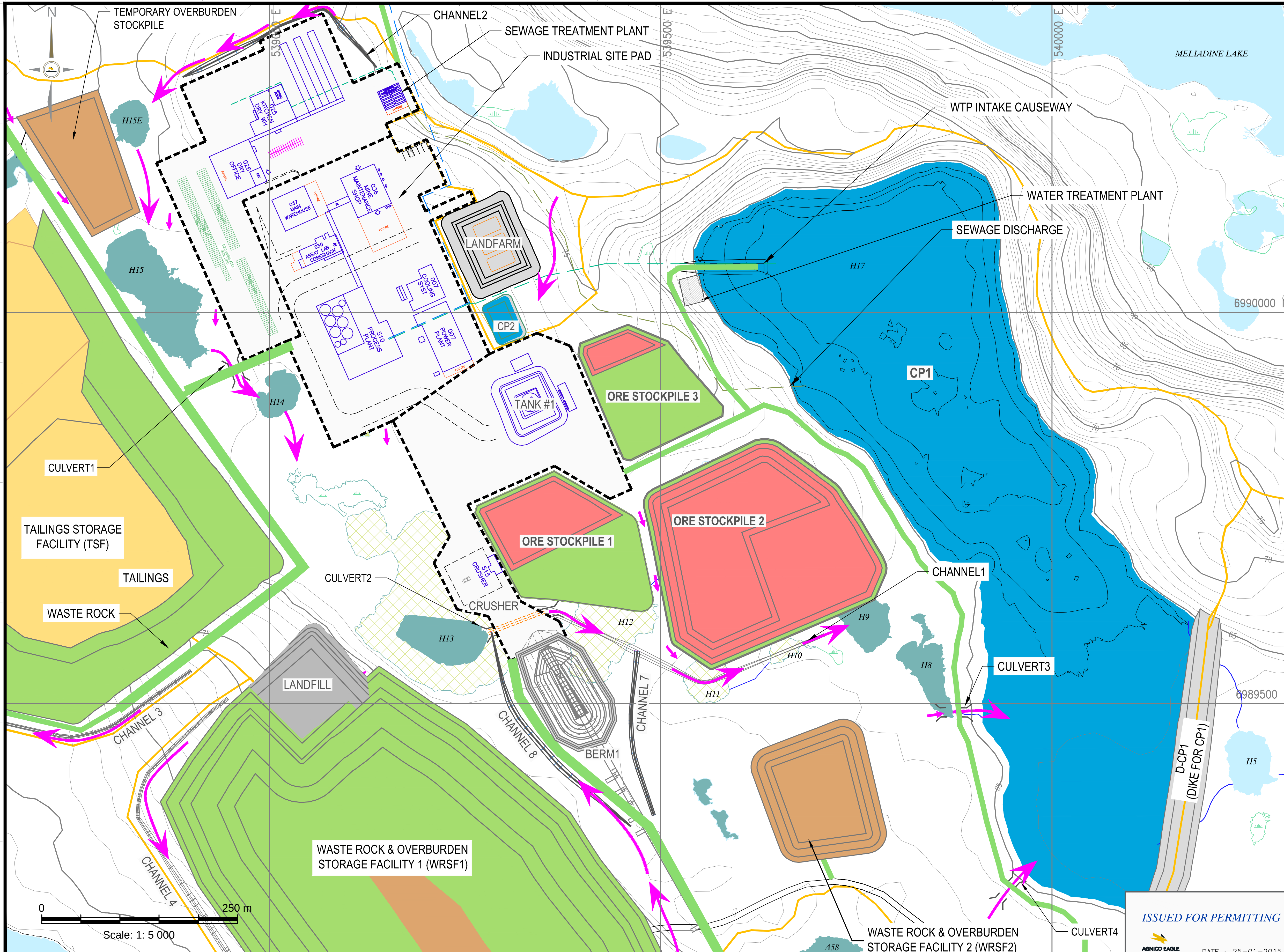

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

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AGNICO EAGLE

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TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.10 YEARLY SITE LAYOUT PLAN FOR ORE STORAGE MANAGEMENT (YEAR 4)

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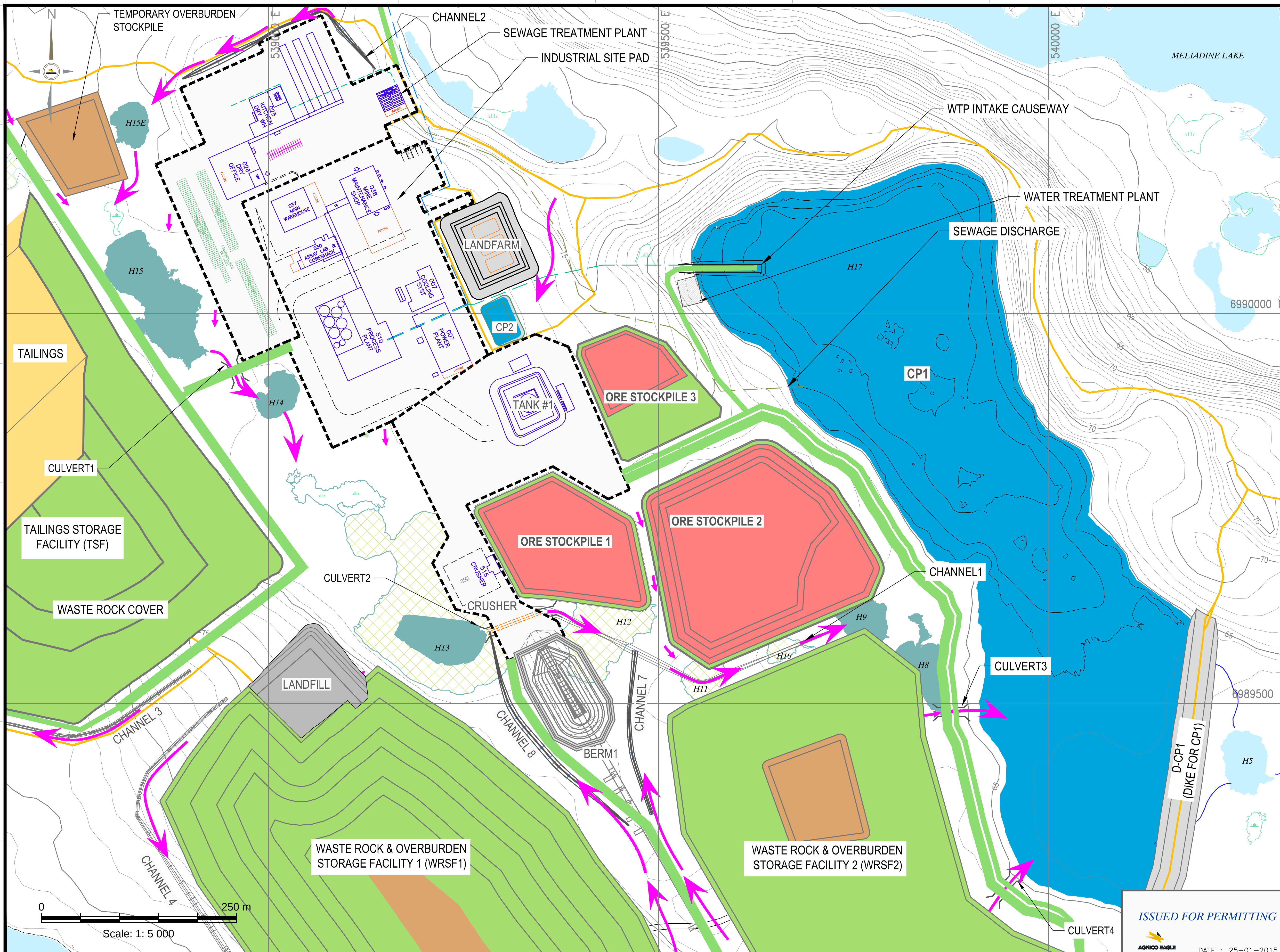

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

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FIGURE 5.11 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(YEAR 5)

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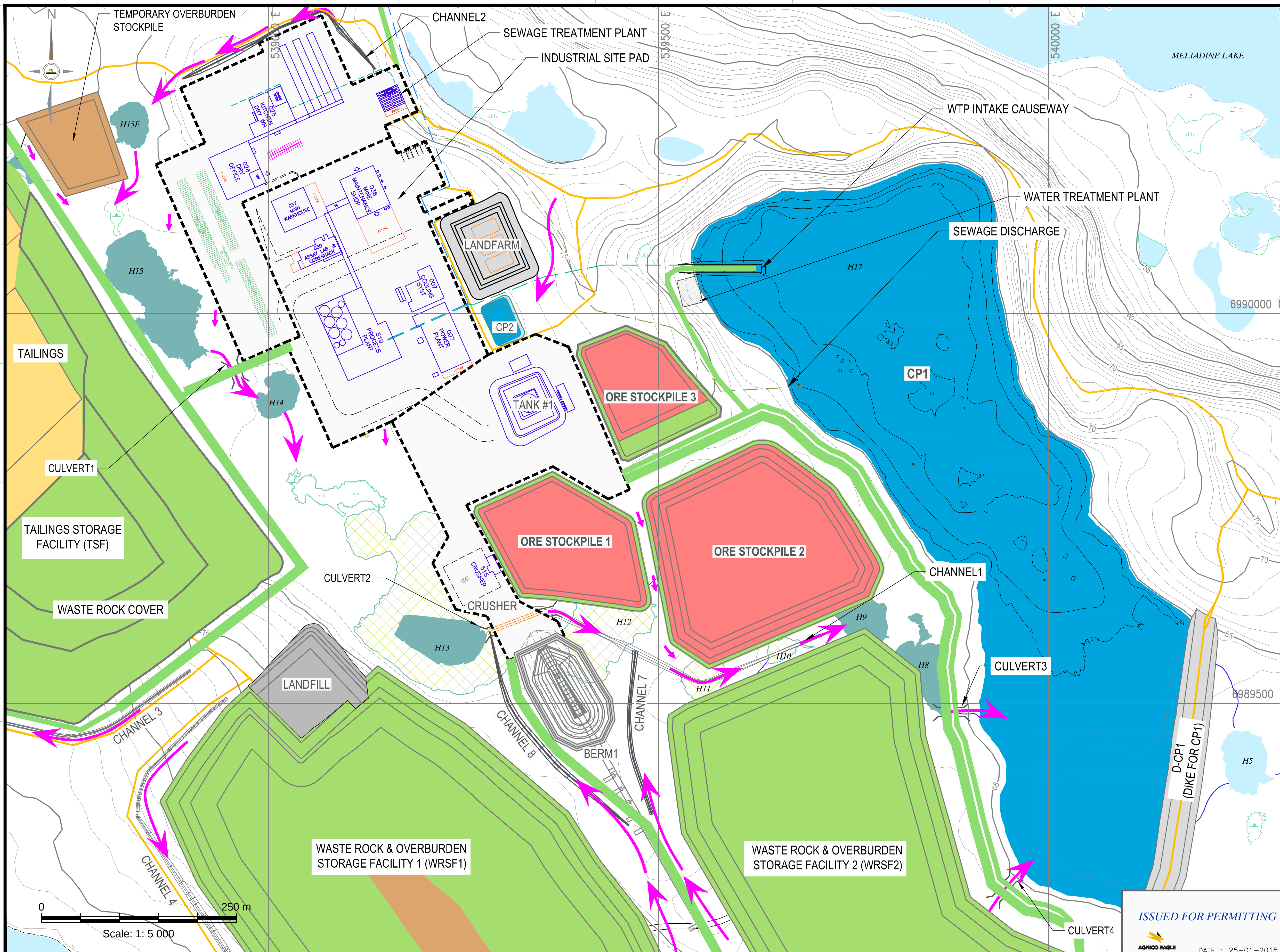

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

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DATE			

TITRE / TITLE
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FIGURE 5.12 YEARLY SITE LAYOUT PLAN FOR ORE STORAGE MANAGEMENT (YEAR 6)

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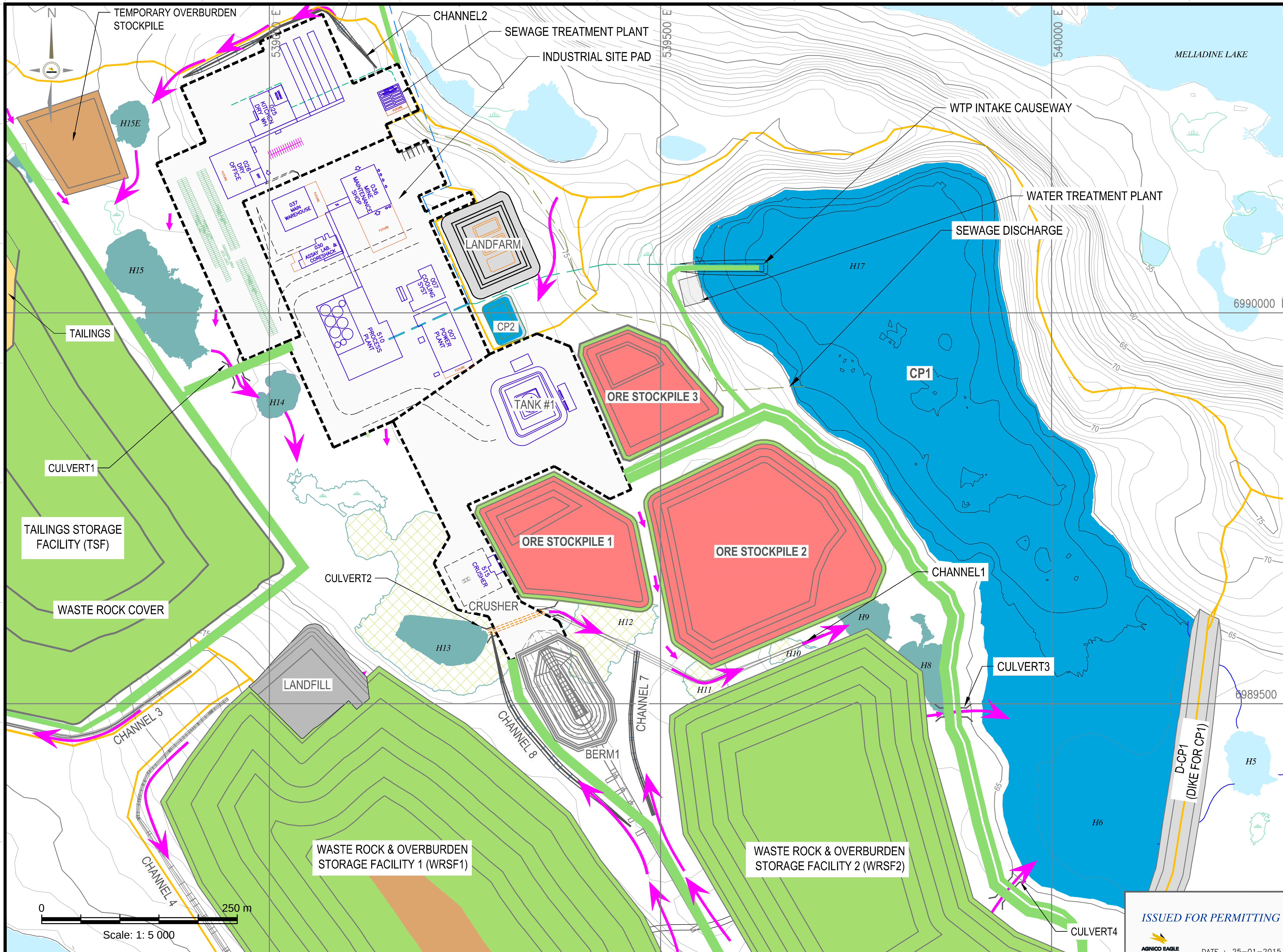

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

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DATE			

TITRE / TITLE
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FIGURE 5.13 YEARLY SITE LAYOUT PLAN
FOR ORE STORAGE MANAGEMENT
(YEAR 7)

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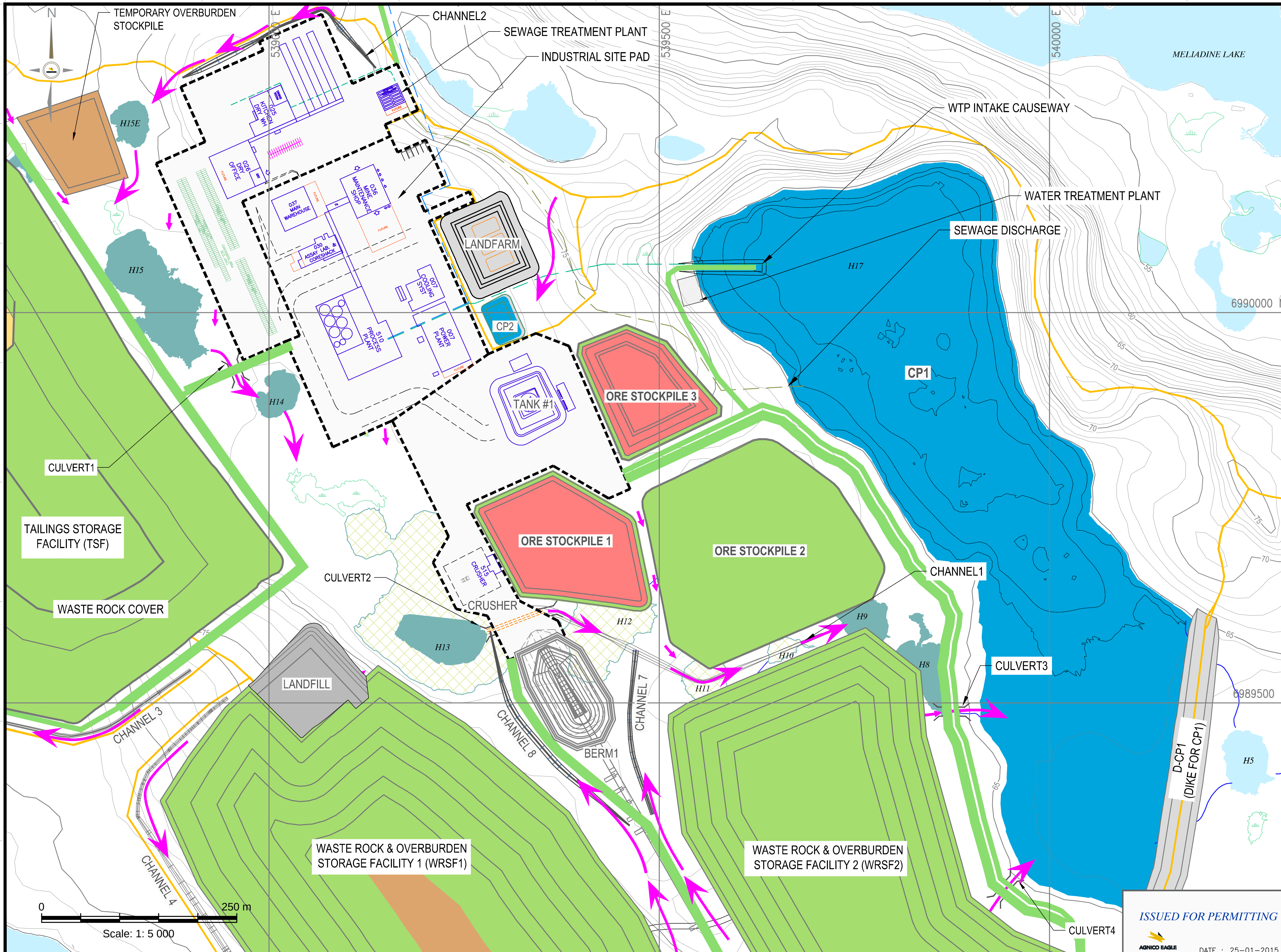

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DATE : 25-01-2015

LEGEND
- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- NON CONTACT WATERBODY
- CONTACT WATERBODY
- WATER COLLECTION POND
- DRAINED LAKE AREA
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH EBA

TITRE / TITLE	# DWG
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TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 5.14 YEARLY SITE LAYOUT PLAN FOR ORE STORAGE MANAGEMENT (YEAR 8)

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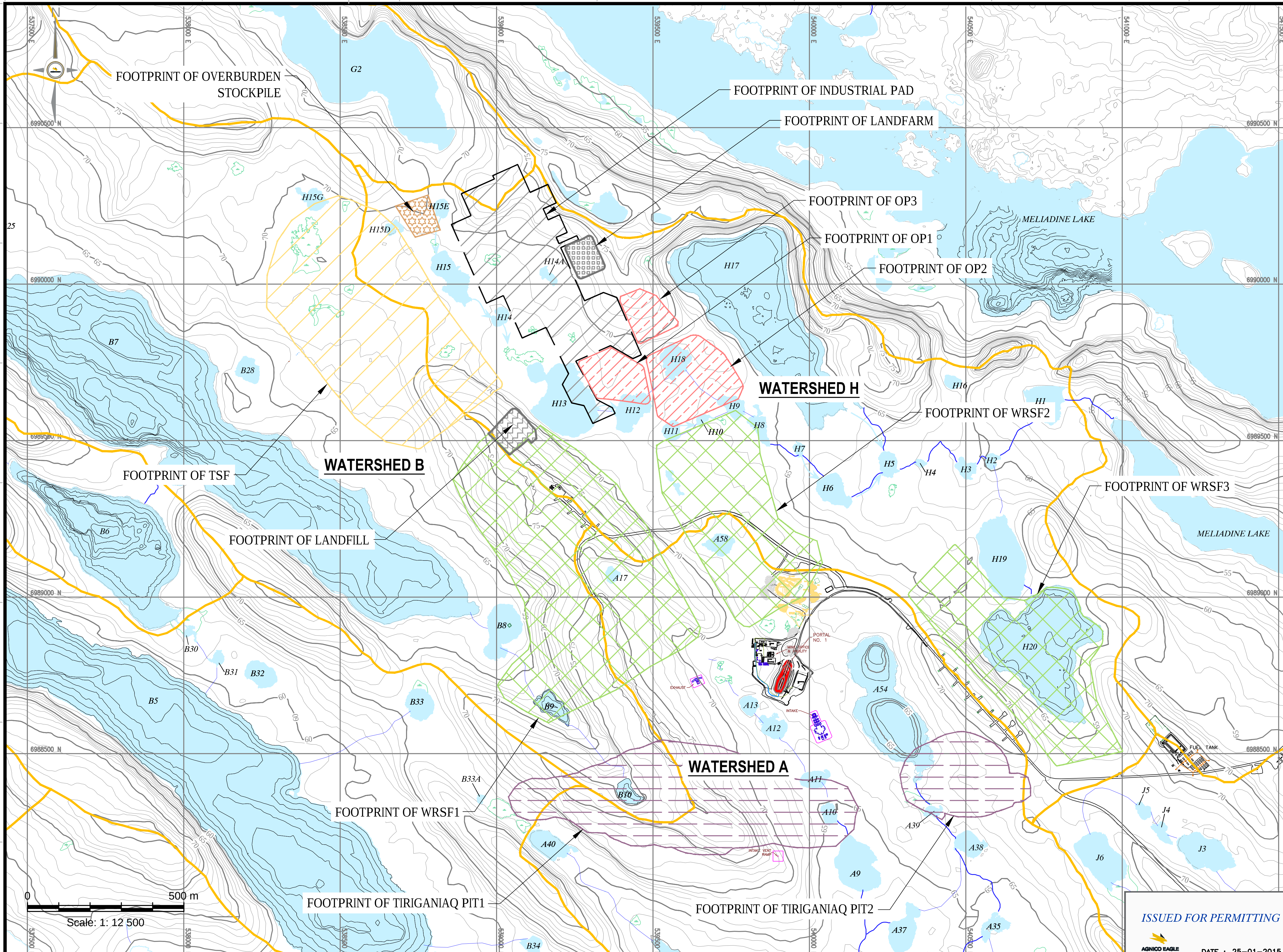

NO. DESSIN
DRAWING NO.

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LEGEND

CATCHMENT BOUNDARY
NON CONTACT WATERBODY

AGNICO EAGLE

TETRA TECH EBA

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No. PROJET PROJECT NO.	6500		
DATE			

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AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 6.1 WATERSHED AND WATERBODIES AFFECTED BY SITE INFRASTRUCTURE

ÉCHELLE/SCALE 1:12500 FICHIER FILE .DWG

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