REGISTRATION PURSUANT TO

PART X OF THE ENVIRONMENTAL PROTECTION ACT

FOR THE STOG'ER TIGHT WEST PIT EXPANSION

Stog'er Tight, Baie Verte Area

Newfoundland

ANACONDA MINING INC.

Toronto, Ont.

September, 2016

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1. Name of Undertaking

Stog'er Tight West Pit Expansion

2. Proponent

2.1 Name of Corporate Body

Anaconda Mining Inc.

2.2 Address

P.O. Box 238
Baie Verte, NL
A0K1B0

2.3 Chief Executive Officer

Dustin Angelo
150 York Street, Suite 410
Toronto, Ontario, M5H 3S5
Canada
(416) 304-6622

2.4 Principle Contact Person

Jordan Cramm, Project Development Coordinator
P.O Box 238
Baie Verte, NL, A0K 1B0
Canada
(709) 800-7332

3. The Undertaking

3.1 Nature of the undertaking

Anaconda Mining Inc. ("Anaconda" or the "Company") proposes to expand its West Pit for approximately 0.395 hectares of land below the current water level of Fox Pond (on the northern side of the approved and released Stog'er Tight West Pit site) at mining lease ML-193-A in order to mine a deeper portion of the ore resource. Anaconda proposes to temporarily lower the water level in the Fox Pond from 114 to 111 metres above sea level ("ASL") elevation and keep it at this level until mining is completed, at which point this area will be flooded and water levels will climb back to its natural levels. This mineable ore reserve/resource totals approximately 140,000 tonnes of ore (33,000 approved with previous application). The deposit will be mined by open pit mining methods over an eight to ten-month period commencing in winter/spring of 2017/2018. Waste will be

stockpiled on already approved dumps while all the ore will be trucked to Anaconda's operating Pine Cove Mill facility for processing.

3.2. Purpose/Rationale/Need for the Undertaking

Anaconda is planning on expanding their West Pit at the Stog'er Tight Project to maximize the resource, increase the ore reserve value. The Stog'er Tight Project received all necessary approvals to start commercial production in the fall of 2015. Two pits, East and West, were designed outside of the buffer around Fox Pond. Anaconda has conducted test mining during the fall and winter of 2015/2016 when a bigger sample of 32,000 tonnes was processed at its Pine Cove Mill. As the mining activities took place in the West Pit, first the backfill placed during previous mining activities was taken out and ore vein was exposed at the bottom of the pit. As the backfill was significantly deeper than anticipated, it was concluded that taking this resource would require deepening of the West Pit that would encroach temporarily on Fox Pond. As Anaconda wanted first to test this deposit and confirm its tonnages, grade and metallurgical qualities, the approach has changed and a bulk sample was taken from the East Pit. Our conclusion from this test was that ore from Stog'er Tight can be successfully mined and processed at the Pine Cove Facility so Anaconda has decided to go ahead with proposing a development of this deeper resource.

4. Description of the Undertaking

In order to develop the mineral resource in the West Pit, Anaconda will temporarily decrease water levels in the adjacent Fox Pond from the current water elevation of 114 metres ASL down to 111 metres ASL during mining operations. This water level will be maintained during mining operations to prevent the water from entering the pit during the 8- to 10-month mining operation. The mining operation fleet will consist of trucks and shovels with supporting equipment including dozers and graders will be used to build and maintain the roads and dumps. Anaconda will temporarily install a pumping system with a barge in the middle of the Pond in order to draw the water level down. Water would be pumped west and to the outflow of the Fox Pond which would flow downstream in the chain of the tributaries and lakes that make a part of the South Brook drainage area. As Fox Pond is the head lake, the downstream water flow of Fox Pond would be maintained during mining operation to minimize the impact to the habitat. The water level is expected to resume its normal levels once mining operations cease.

4.1 Geographic Location

The proposed location for expansion is on the existing Stog'er Tight Property. The Stog'er Tight Property (Mining Lease No. 193-A, located near Ming's Bight, Baie Verte, Newfoundland) lies on the Point Rousse Peninsula (see Figure 1).

The Stog'er Tight Deposit is located approximately two kilometres southwest of Ming's Bight near Baie Verte, north-central Newfoundland. Ming's Bight is about 26 kilometres by road from the town of Baie Verte. The Pine Cove mine road, an existing gravel road, located approximately two

kilometres south of Ming's Bight, leads directly onto the Stog'er Tight Property (see Figure 1 and Figure 2).

The Stog'er Tight Property is included under Mining Lease 193-A and Map Staked License No's. 15808M & 12433M (Figure 1). The claims are located on NTS map 12H/16 at UTM coordinates 5,535,000N & 566,000E (NAD 1927, Zone 21)

The Baie Verte Peninsula coastline is rugged and highly irregular with cliffs and steep slopes prevailing. On the Stog'er Tight Property, moderate to steep slopes above Baie Verte rise to a maximum elevation of 170 metres, averaging 115 to 140 metres ASL. Ponds and small lakes are common, the largest being the Green Cove and Scrape Ponds. Vegetation consists of mature spruce and fir, largely cutover, with re-growth of alder, birch and young fir. Alders are prevalent in older stripped and wet areas.

Fox Cove Pond (approx. elevation 114 metres) is north of the approved Stog'er Tight Project and is the head water of the system that joins South Brook drainage system.

The terrain surrounding the Stog'er Tight Project site is generally rolling, with gradients over portions of the site ranging up to 22%. The surrounding terrain is typical of the Newfoundland upland areas, with relatively dense vegetation and tree cover, interspersed with small ponds and bogs. The grey volcanic bedrock in the area is overlain with a thin layer (0-2.5 m) of unconsolidated material being comprised of peat, loose brown sand and gravel.

4.2 Physical Features

Geographical Setting

The Stog'er Tight Property is located on the Point Rousse Peninsula of the Baie Verte Peninsula and within a small, locally restricted watershed containing Fox Pond plus several ponds and small streams. These water bodies flow westerly into the Atlantic Ocean at South Brook (Figure 1 and Figure 2).

Larger fir and spruce trees cover the majority of the Stog'er Tight Property with outcrop making up less than 3%. Most of the area was logged by Kruger during the early 1990's and only small pockets of useable timber remain. Glacial till overburden is generally thin likely ranging from 0.1 metres to less than five metres thick although it may be up to ten metres thick in prominent linears.

Topography

Topography in the area is generally rolling to steep and rough terrain with elevations ranging from sea level to 180 metres ASL (Figure 2). The existing open pit is at elevation 31 to 46 metres ASL, approximately 2 to 15 metres above Fox Pond.

Climate

The climate in the north central Baie Verte area of Newfoundland is temperate, with six to seven months of snow-free and ice-free seasons from April-May to November. Typical seasonal variation includes snowy winters from late November to March and summers from June through September. At

the Baie Verte weather station the approximate 30-year averages of the mean winter temperature (i.e. the mean monthly averages of November to March) is -6^{O} C and ranges from +0.2^{O} C in November to –10^{O} C February. Winter conditions, with moderate to heavy snowfalls usually begin in early December and remain until late-March. The average winter snowfall is approximately 49 centimetres per month with ranges of 31 centimetres in November to 88 centimetres in January.

4.2.1 Project Site Description

The Fox Pond is a head lake that has no direct inflows from tributaries or ponds, but rather is fed via drainage from the surrounding area. Fox Pond drains west through the outflow into a boggy area, which is drained via a small creek into Camp Pond. Camp Pond drains through its outflow (a 4 ft culvert) into another small creek and further into the boggy area and through a 2 ft culvert into the South Brook drainage system and then into the sea. Refer to Figure 2 and Figure 3 for details.

Anaconda hired Gemtec Consulting firm ("Gemtec") to carry out a habitat and fish study of Fox Pond, its outlet and the tributary that connects the outlet to Camp Pond. This study found that Fox Pond and its outlet are fish habitats that are being inhabited by Brook Trout. This report is attached to this e-mail as for reference. A desktop hydrology assessment was also completed by Gemtec to determine the inflow into Fox Pond. Anaconda carried the volumetric calculations of the pond volumes, creek and culverts velocities and flows in order to determine the best action plan to minimize the impact on the environment.

Gemtec's assessment included the collection of habitat information (substrate, flow, bank erosion, vegetation cover, etc.), a water quality assessment (measurements of temperature, conductivity, dissolved oxygen, etc.), a fish survey (live capture of fish from the waterbody) and a hydrological study. This study is included as an attachment to this application.

Acid Rock Drainage testing has been performed on bulk samples from the designed pit location and current waste dump facility, confirming that the minerology within Stog'er Tight is non-acid generating (RPC, 2015).

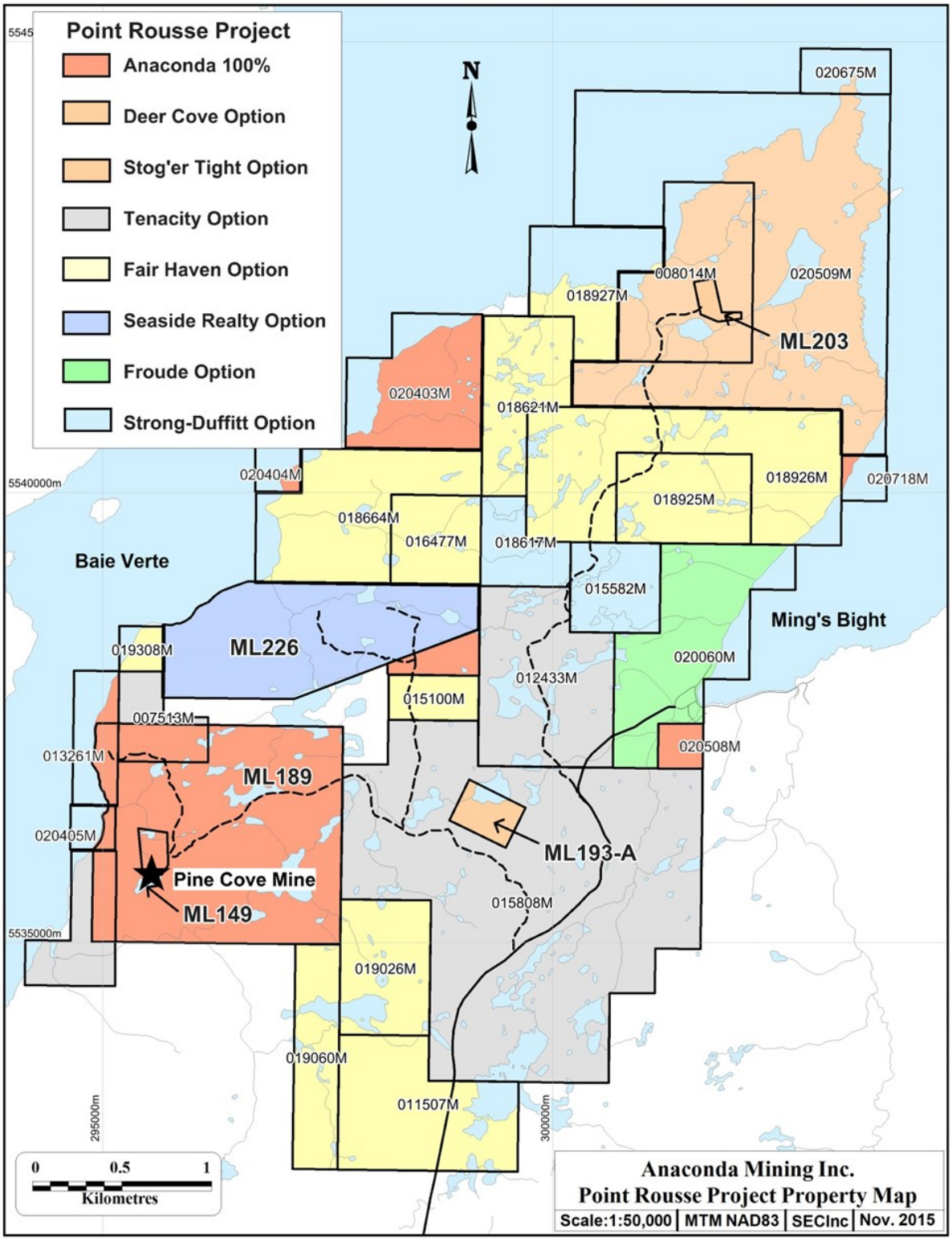

Figure 1: Stog'er Tight Site Location

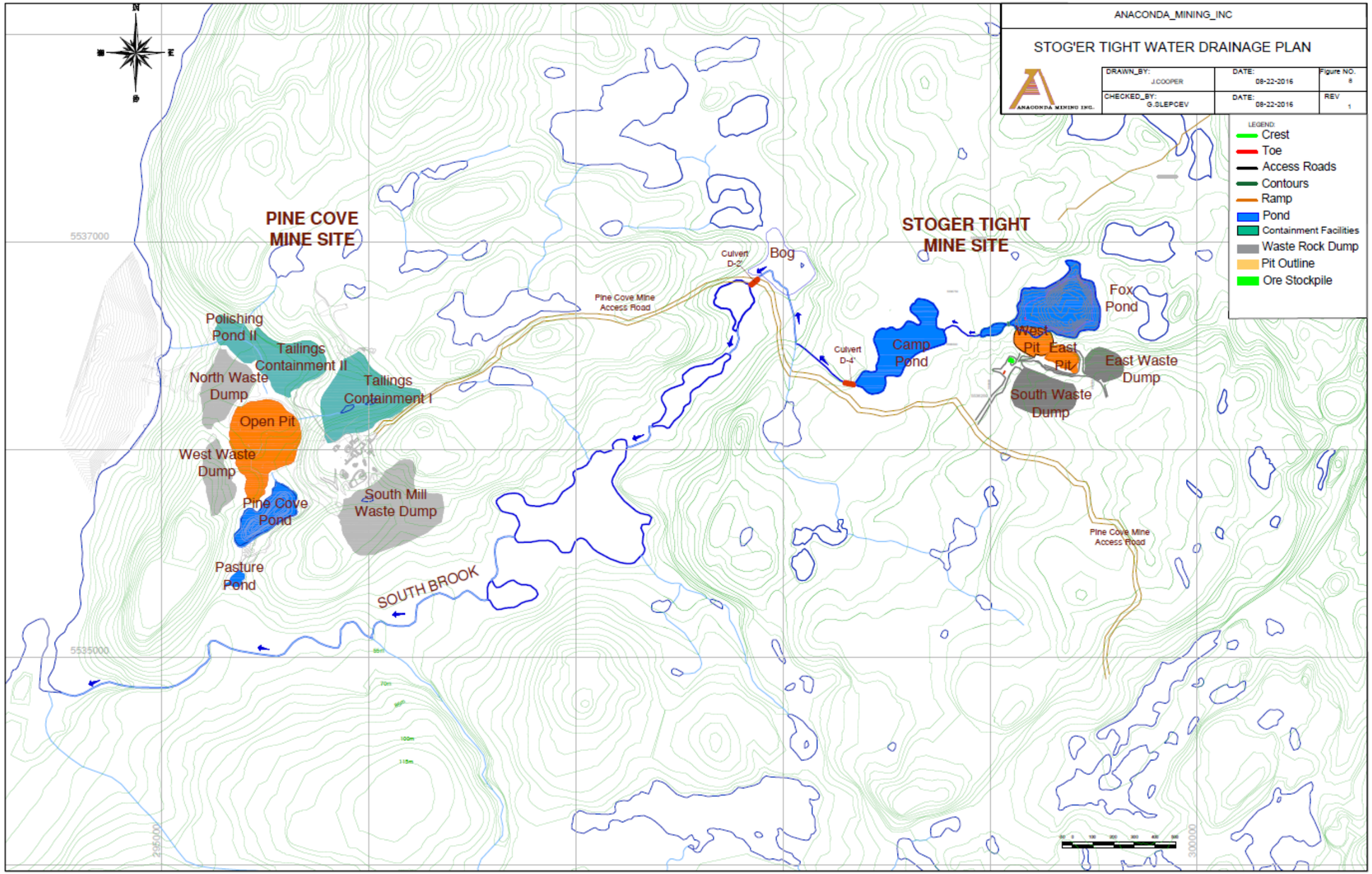

Figure 2: Stog'er Tight and Pine Cove Drainage Channel, August 22nd, 2016

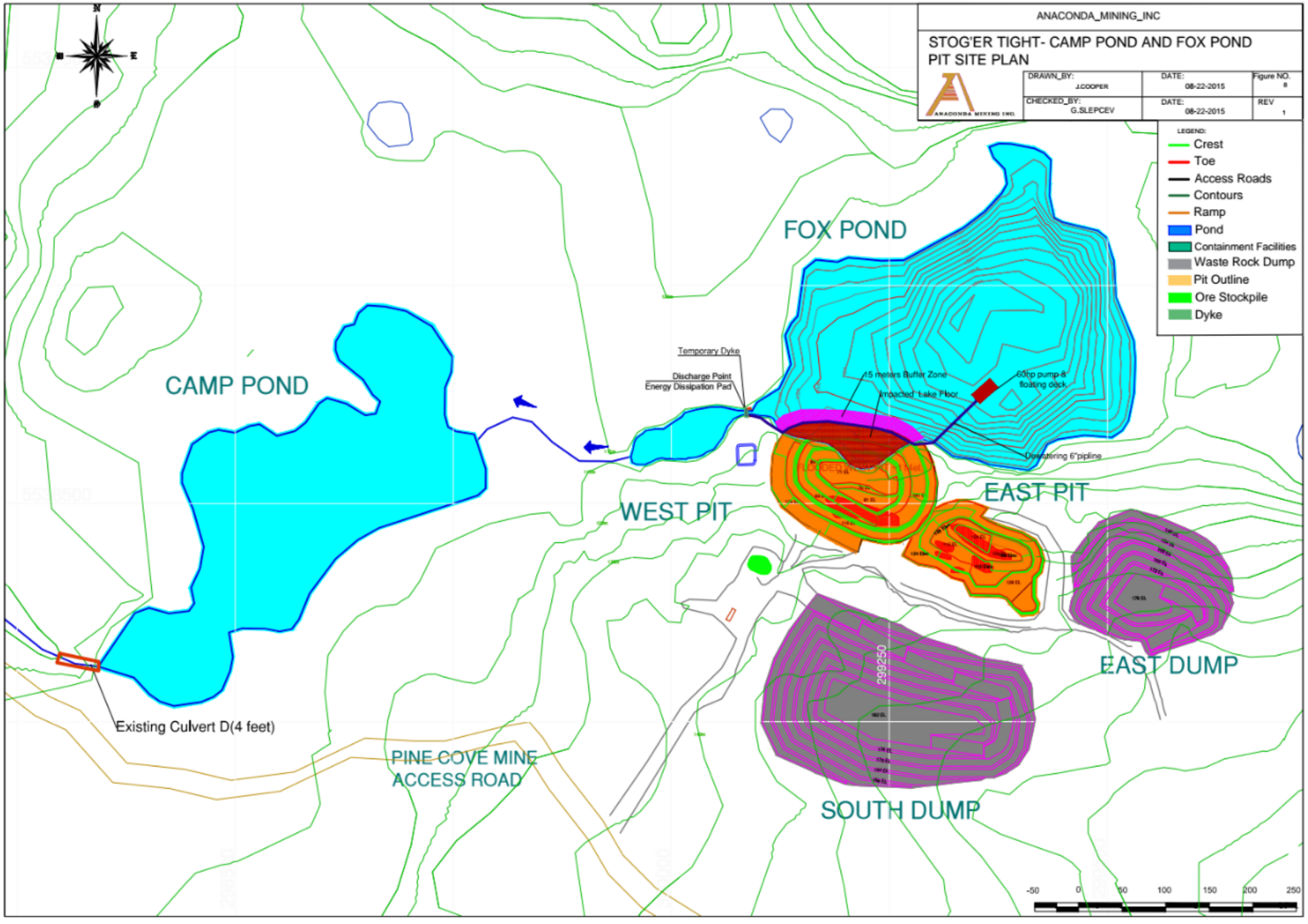

Figure 3: Stog'er Tight Development and Water Treatment Plan, August, 2016

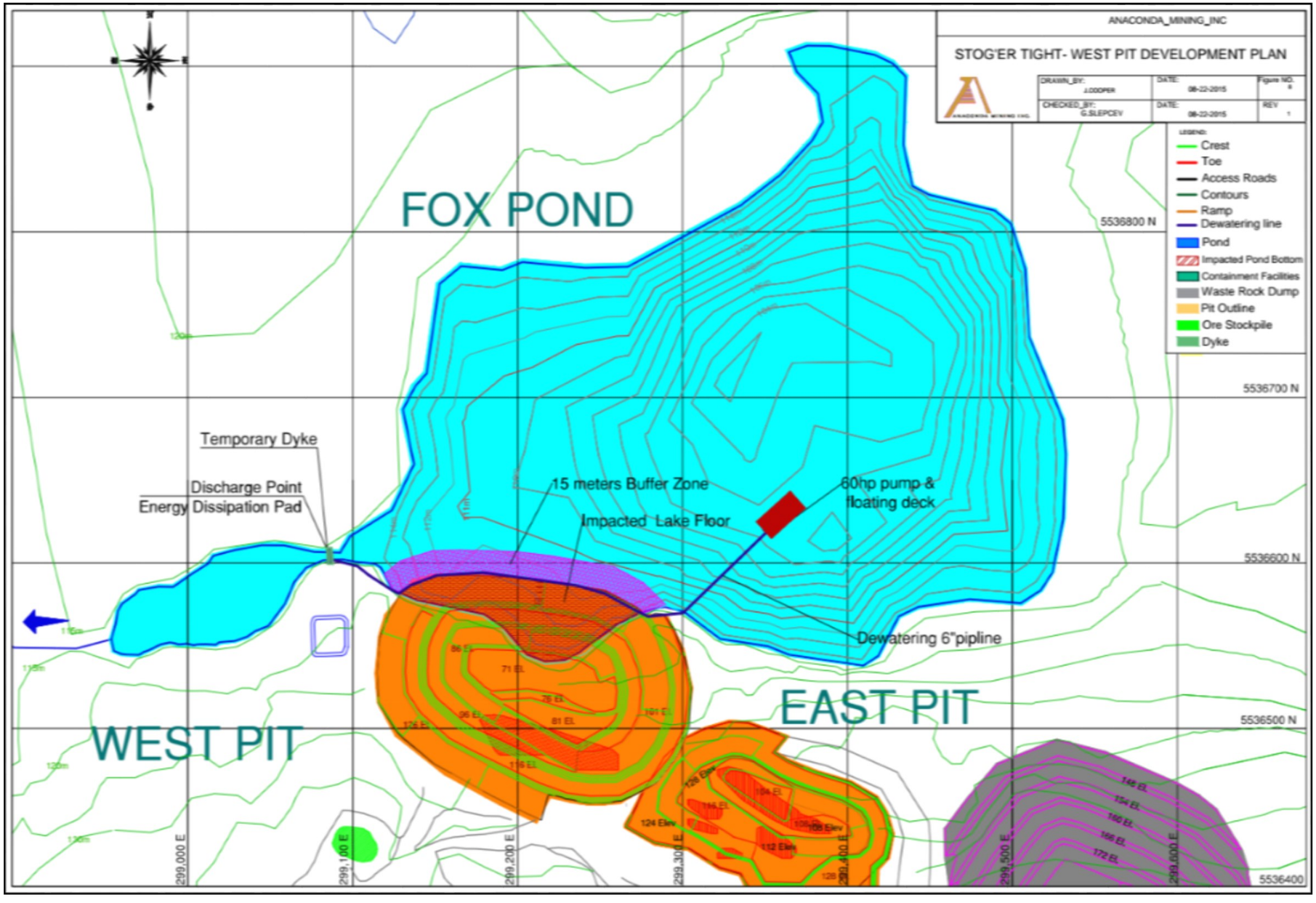

Figure 4: Fox Pond Dewatering Plan, August 22nd, 2016

4.2.2 Existing Biophysical Environment

The Stog'er Tight site falls within the Northshore Ecoregion of Newfoundland which Damman (1983) characterizes as mostly forest-covered with some barren areas (particularly in coastal localities). The quality and height of forests in this ecoregion tends to deteriorate towards the coast and with increased wind exposure. The geographic variation of this ecoregion is from east (Bonavista Peninsula) to west (Baie Verte Peninsula) in terms of shortening of the vegetative season, an increase in summer temperatures, and drastic changes in winter snow cover from shallow and intermittent in the east to deep and permanent in the west (Damman, 1983).

Big game, furbearers and a wide range of birds occur in the area, and have generally adapted to human activities at Pine Cove and other sites in the area. The principle large mammal species in the area is moose (Alces alces), which is found within Moose Management Area 14 – Baie Verte. Moose densities are reported to be low and harvesting of moose has at times been reported to be quite heavy. Information on the abundance and distribution of moose and moose wintering areas (specialized habitat types) at the proposed mine site were collected through a survey undertaken in 1994 (JW, 1994).

Caribou (Rangifer tarandus) are not hunted at present on the Baie Verte Peninsula. The nearest concentration of this species, the Hampden, the Humber, and the Gaff Topsails herds occur well to the south of this region.

Black bears are known to occur in the region.

Other mammals such as furbearers and small mammals occur, but there is generally little information available on these species. Beaver (Castor Canadensis) are common in the ponds and streams in the area, although none have been observed.

The abundance of high profile raptor species such as Bald Eagle (Haliaetus leucocephalus) and Osprey (Pandion haliaetus) is probably low in the area unless sufficient cliff-nesting habitat is available; the local forest is probably unsuitable for nest sites. An aerial survey for raptors and nest sites was conducted in 1994 (JW, 1994).

The Fox Pond watershed is approximately 8 square kilometres in area. The largest pond, Fox Pond is up to 10 metres deep. The only fish species reported in the watershed are brook trout (Salvelinus fontinalis), which are distributed from Pine Cove Pond downstream to the steep gradient approaching the shore of Baie Verte (Gemtec, 2016).

4.3 Construction

The construction phase of the site development is broken up into the following areas:

- Pre-development pumping of the Fox Pond to achieve an elevation of 111 metres ASL
- Mining while water level is maintained at or below an elevation of 111 metres ASL

- Water supply maintained to downstream habitat until Fox Pond reaches its natural level

4.3.1 Pre Development pumping of Fox Pond

In preparation of the mining activities, the Fox Pond water level would be temporarily lowered from elevation of 114 to 111 metres and will be maintained at this level during Mining operations.

All water discharging from Fox Pond will remain within the natural water drainage channel. Discharge will flow through Fox Pond's adjacent wetlands, Camp Pond, South Brook and out to sea.

Pumping is planned to be gradual (approximately 6,000 cubic metres a day) in consideration of the downstream flow capacity.

Dewatering is planned to begin in December of 2017 and is forecasted to last 1.5-2 months for a 3-metre vertical drop in surface water. A 20 horsepower pump will be situated on the eastern side of the pond and mounted on a floating dock to minimize the pump's contact with the pond-floor. A fish screen would be installed on the pump intake in consideration of Fox Pond's fish habitat. The Company will also have a biologist visit the site once the system is set up. The pump is projected to dewater at a rate of 6,000 cubic metres per day. There will be approximately 300,000 cubic metres of water removed from the pond initially, leaving approximately 200,000 cubic metres as the interim Fox Pond. This remaining water will support the fish community during the mining activities. Anaconda will keep the water flow to the outlet and its downstream boggy areas to maintain the habitat. Prior to pumping, a small temporary berm/dyke will be constructed at the outflow to keep water from circulating back to Fox Pond and to maintain the water levels in outflow. This dyke will be constructed out of the mine waste rock and would be 2-3 metres wide and 4-7 metres long. Upon project completion this dyke will be removed. An energy dissipation pad would be constructed downstream of the berm to minimize the erosion from the dewatering system discharge. Refer to Figure 4 for details.

During dewatering, the pump will discharge into a downstream wetland west-south-west of Fox Pond. The consequential flow rate downstream has been reviewed for overflow analysis. The limiting factor downstream are two culverts. The first is on the downstream side of Camp Pond and has a 4 ft wide opening. The second 2 ft culvert is located along the Pine Cove Mine access road and connects the tributary discharging from Camp Pond and surrounding boggy area with the South Brook water shed. Refer to Figure 2 for locations.

The Company and Gemtec have completed hydrology study and flow calculations in order to determine if the planned dewatering rates can be achieved through 4-ft and 2-ft culverts and various tributaries that connect Fox Pond to South Brook watershed. Manning formula was used to determine the cross sectional flow in the open channel and in the culverts. Culverts can handle manifolds bigger flows (3.5 to 8 times for 2-ft and 4-ft culverts respectively), while even for the smallest measured channel the proposed dewatering rate is 2.5 times less then what the channel can handle. The smallest section is 0.5 metres wide and 0.15 metres high (Gemtec Report). The

calculated flow is 14,300 m3/day. The Manning formula is used to calculate this flow with roughness coefficient of 0.035 as recommended for natural streams.

4.3.2 Site Development

The current water elevation sits at approximately 114 metres ASL, depending on the time of year. The new pit rim overlaps with the south-west side of Fox Pond and intersects with the floor of the pond at approximately 112 metres ASL. After considering the slope of the pond floor, a minimum 15-metre distance from the designed West Pit rim requires the water elevation in Fox Pond to drop to 111 metres ASL. Refer to Figure 3 and Figure 4 for details. This will give Anaconda a bit more than the suggested 15 metres working distance to avoid issues with water leakage through substrate or back-break along the pit rim. The total area of overlap between the West Pit and Fox Pond will be approximately 3,950 m2 of the 97,500 m2 pond surface (measured in two dimensional space) or 4% of total pond surface.

The Stog'er Tight Project is opening for production for approximately 8-10 months in 2018. The West Pit has a total tonnage capacity of 1.1 million tonnes with forecasted ore tonnes of 140,000 tonnes at 2.35 (3.6 gram-per-tonne ("g/t") Au undiluted) grams of gold per tonne. Drilling and blasting will begin shortly after Fox Pond's water elevation reaches 111 metres above sea level. Construction of a small temporary dyke on the inlet of the wetlands west of Fox Pond is scheduled prior to the pumping of the pond, and excavation around the site will happen during pumping in preparation of mucking production.

A six-inch water line would be assembled along the perimeter of the pit and connected to a floating barge that would host a 20hp pump. Intake would be set close to the middle of the pond, above its deepest point. The water would be discharged west of the outflow over a dyke, with the intention to at first decrease Fox Pond water levels and then to keep the water flowing to the outlet.

The heavy equipment requirement for Stog'er Tight will be as follows: 1x 290 LC John Deer, 3x 300D John Deere Articulated Haul Trucks, 1x 700K John Deere Dozer and 1x top hammer rotary drill. The blasting product to be used is a Titan XL 2000G emulsion.

There are two waste dumps planned to support a total dumping capacity of 1.6 million tonnes. The East Dump is designed on the east side of pit operations but has already been utilized in previous operations. The South Dump will be the main waste dump facility; the minerology within Stog'er Tight and associated waste rock has been tested for Acid Rock Drainage and have been confirmed as non-acid generating.

4.3.3 Maintaining the Water Flow

Fox Pond water level would be lowered by 3 metres during mining operations for a period of 8-10 months. At the end of the pit operations, the pond water level will naturally rise to its natural water level of 114 metres ASL. Prior to the start of mining and during the mining operations, water would be pumped to the outflow and the wetlands to the west and downstream of Fox Pond.

4.4 Potential Sources of Pollution during Construction

The most probable sources of potential pollution are related to the use of heavy equipment. This includes accidental spills consisting of diesel fuel, oil, and hydraulic fluids. Sedimentation from the placement of rock is also a potential hazard, but will be limited due to catchment ditches and the use of filter fabrics. Dust may also be a potential source of pollution, but dust suppression techniques such as water and calcium have proved valuable in mitigating such pollution during existing mining activities. Collection ditches and a settling pond will be utilized where needed during the construction phase.

4.5 Operation

During the operation of this facility, haul trucks will be used to bring the waste material from the pit to two waste rock storage area. Ore would be stockpiled and hauled to the Pine Cove Mill for processing.

4.6 Potential Sources of Pollution during Operation

Potential sources of pollution during the operation are focused around the accidental discharges of vessel fuels and engine oils, accidental spills of heavy equipment (Loader) fuel, oil and hydraulic fluids and the potential dust from mining activities.

Any dewatering from the pit or run-off from equipment will be directed via a drainage ditch and collection system to a settlement pond between the west pit and the wetlands, the settlement pond will be tested periodically and discharged into the wetlands once deemed safe for the environment.

Geofabric and silt fence will be installed between Fox Pond and the West Pit to catch any water drainage from the mining area prior to discharging into the sediment pond.

All infrastructure on-site will be temporary and easily removed during mine closure.

The crests of overburden between mined and original ground will be contoured and the land will be scarified where appropriate to limit erosion and facilitate regrowth.

As part of Anaconda's development plan, routine site inspections will be scheduled, documented and reported to ensure ecological stability in the area.

From a Project Planning perspective, Anaconda has incorporated the following measures:

- Timing with spawning periods and habitat assessment conducted during low tide;
- Site Selection with infrastructure constructed away from water channels, along with the waste dump; and
- Contaminant and Spill Management by lining the overburden between Fox Pond and the West Pit.

From an Erosion and Sediment Control perspective, Anaconda has incorporated the following measures:

- A settling pond between the West Pit and the wetland area will capture run-off from site and water discharge from the pits. Regularly scheduled sampling of the inflow will occur and the pond will be released into the environment when appropriate;
- To minimize the erosion at the outflow an energy dissipation pad would be constructed at the downstream side of the dyke at the discharge point of the pond de-watering system, and;
- Silt fencing will be used as erosion control measure during the construction and dismantling the outflow berm.

From a Shoreline Re-vegetation and Stabilization perspective, Anaconda has incorporated the following measures:

- Minimizing riparian vegetation clearing by design;
- All banks and the shoreline between the West Pit and Fox Pond will be contoured and graded to minimize erosion;
- Minimal disturbance to the shoreline substrate apart from pit design area;
- All objects/infrastructure will be removed from site once production comes to a close at Stog'er Tight, and;
- Additional sediment control measures will be put in place when re-flooding the pit to minimize sediment introduction to Fox pond including pit water pumping to sediment pond and/or placing hay bales or silt fences at the outflow of the pit.

From a Fish Protection perspective, Anaconda has incorporated the following measures:

- Consulting firm Gemtec, specializing in environmental services, has carried out a habitat assessment of Fox Pond;
- Gemtec's habitat assessment includes the collection of habitat information (substrate, flow, bank erosion, vegetation cover, etc.);
- A water quality assessment (measurements of temperature, conductivity, dissolved oxygen, etc.), a fish survey (live capture of fish from the waterbody), and a hydrological study;
- Fish screen will be installed at the intake side of the pumping system;
- Anaconda will be stemming each hole that's loaded with our emulsion product to reduce blasting debris;

- All blasting will occur within the confines of the open pits and each drillhole's detonation will be delayed at a minimum of 25 milliseconds, and;
- As the pond area dries up due to decreasing water levels Anaconda personnel or contractors will be inspecting the area for any stranded fish. All fish will be captured and released back into the pond.

From an Operation of Machinery perspective, Anaconda has incorporated the following measures:

- We ensure that the equipment is well maintained and is in good working condition before it arrives on site; a thorough inspection at the maintenance shop in Pine Cove before transportation will be the standard.
- If a harmful substance is released in the pit from the operating equipment, the substance will be removed from the pit and transported to a hazardous waste location that will be completely enclosed.

4.7 Potential Resource Conflicts

Resource conflicts are not expected. The area is currently not used by fishers and the nearest residential areas are Baie Verte and Ming's Bight, approximately 3 kilometres from the proposed project location.

If, however, historic resources are encountered, work in the area of the discovery will stop and the proper authorities will be notified in accordance with the Historic Resources Act (1985).

4.8 Occupations

Site construction and operations from the proposed rock export is anticipated to consist of the occupations outlined in Table 1 and Table 2 below:

Table 1: Construction Phase Occupation List

Construction Phase		
Occupation	**Quantity**	**National Occupational Classification**
Health & Safety Supervisor	1	2263
Site Supervisor/Engineer	1	7217
Heavy Equipment Operators	1	7421
Heavy Equipment Mechanics	1	7312
Labourer	4	7611
Total	**8**	

Table 2: Operation Phase Occupation List

Construction Phase		
Occupation	**Quantity**	**National Occupational Classification**
Health & Safety Supervisor	1	2263
Site Supervisor	1	7217
Heavy Equipment Operators	3	7421
Truck Drivers	8	7411
Heavy Equipment Mechanics	2	7312
Labourer	4	7611
Total	**19**	

4.9 Rehabilitation Plan

A rehabilitation plan is under development but won't significantly differ from Anaconda's already-approved plan. Changes will be made upon project approval, including the conditions supplied with the approval. The West Pit will naturally flood to an elevation of 114 metres ASL once mining operations cease. See Figure 5.

4.10 Project Operation Considered

Consideration has been given to alternate means of carrying out the proposed development. This has included various dock locations and orientations. This location has been generally accepted based on the depth of water in the area in addition to wind and wave patterns.

The laydown area was selected to utilize the low lying elevation in order to maximize the stockpiles which can be stored in the area.

4.11 Project Related Document

June 18th, 2015 Anaconda Mining was released from Stog'er Tight Project Registration as project was already reviewed with 2010 Environmental Assessment when project was in the ownership of Tenacity as there was no material changes between the plans.

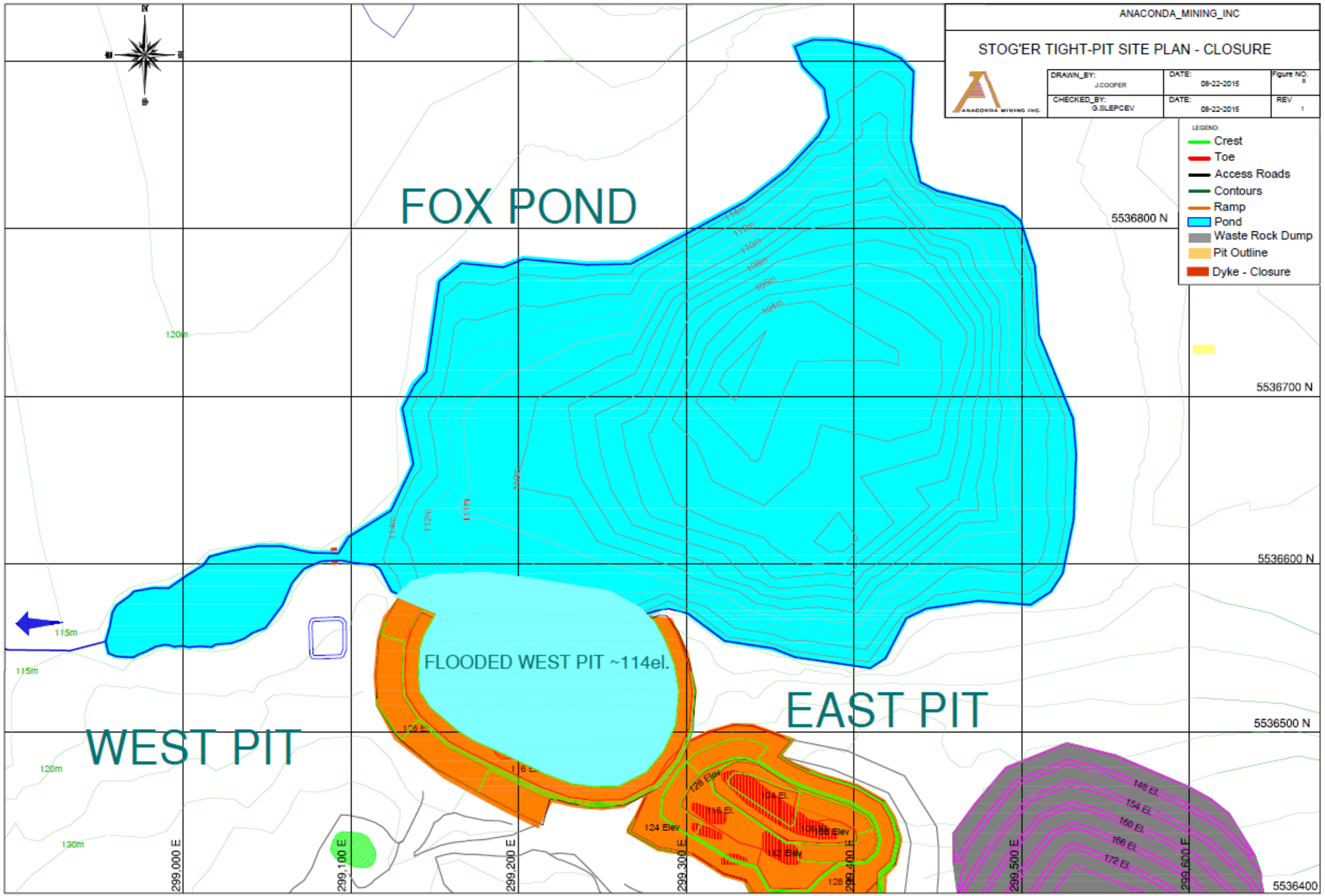

Figure 5: Closure Plan

5. Approval of the Undertaking

Table 3 below is a list of permits, licences and approvals which are likely required for this project.

Table 3: List of Permits, Licences and Approvals

Approvals/Certificate/Permits	Regulatory Authority
NL Environmental Assessment Registration	NL Department of Environment and Conservation, Environmental Assessment Division
Fish Habitat Approval	Fisheries and Oceans Canada, Habitat Protection Division
Application to Alter a Body of Water	NL Department of Environment and Conservation, Water Resources Division
Surface Lease	NL Department of Natural Resources, Minerals Lands Division

6. Schedule

Table 4 below illustrates the project schedule.

Table 4: Project Schedule

Item	Date
Registration Document Submission	August-16
Government Review and Decision	November-16
Lowering water level	December-16
Mining	February-17
Pit Closure	November-17

7. Funding

The capital cost of this project is estimated to be approximately $1,100,000. Total operational cost is estimated at $9,100,000. The funding for the project will be provided by Anaconda Mining Inc.

8. Submission

Date: September 6th, 2016

_____

Gordana Slepcev, VP Technical Services
Anaconda Mining Inc.

9. Appendices

1) Letter from Derrick Dalley, Minister (Government of Newfoundland and Labrador), October 23, 2015
2) Gemtec Fish Habitat Assessment, August 30, 2016
3) Gemtec Desktop Hydrological Assessment, August 29, 2016
4) Letter from Bas Cleary, Director, Assessment Division (Government of Newfoundland and Labrador), June 18, 2015

Government of Newfoundland and Labrador
Department of Natural Resources
Office of the Minister

OCT 23 2015

Mr. Allan Cramm
General Manager
Anaconda Mining Inc.
PO Box 238
Baie Verte, NL
A0K 1B0

Dear Mr. Cramm:

RE: Approval of the Development Plan and Acceptance of the Rehabilitation and Closure Plan for Anaconda Mining Inc's Stog'er Tight Gold Deposit

Anaconda Mining Inc.'s Development Plan, submitted on October 7, 2015, and Rehabilitation and Closure Plan, submitted on October 9, 2015 and amended October 21, 2015 for the Stog'er Tight Gold Deposit, has been approved under Section 6 (2) and accepted under Section 9 (1) of the *Mining Act,* conditional on the following:

- An acceptable condemnation report for the South Waste Dump must be submitted to the Department of Natural Resources prior to the initiation of Phase II mining; and,

- An evaluation of the resource remaining in the west pit must be submitted to and accepted by the Department of Natural Resources prior to the initiation of Phase II mining.

I will also remind you that Financial Assurance ($79,956) must be in place prior to the commencement of the development of the Stog'er Tight deposit.

Sincerely,

DERRICK DALLEY, MHA
The Isles of Notre Dame
Minister

GEMTEC

Fish Habitat Assessment
Fox Pond and Fox Pond Outflow

Stog'er Tight Mine near Ming's Bight
Newfoundland and Labrador
August 30, 2016

Prepared for Anaconda Mining Inc.
Project No. 80016.01

GEMTEC
Consulting Engineers and Scientists

GEMTEC Limited
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tel: 709.682.3770
nl@gemtec.ca
www.gemtec.ca

August 30, 2016 File: 80016.01 – R01

Anaconda Mining Inc.
238 Highway 410
Baie Verte, NL
A0K 1B0

Attention: Gordana Slepcev, P.Eng., M.Sc.,
Manager of Technical Services

Re: Fish Habitat Assessment for Fox Pond and Fox Pond Outflow
Stog'er Tight Property, located near Ming's Bight, Newfoundland & Labrador

Please find enclosed the Fish Habitat Assessment report for Fox Pond and its Outflow located on the Stog'er Tight Mine Property near Ming's Bight, Newfoundland and Labrador. GEMTEC Limited was retained to conduct the desktop studies, field work and associated reporting. The field component of the habitat assessment was conducted on July 11 to July 14, 2016.

Sincerely,

Darrol Rice

Darrol Rice, B.Tech. (Env), P.Tech., EP, PMP
Senior Project Manager
GEMTEC Limited

Enclosures

n:\files\80000\80016.01 - anaconda stoger tight\fish habitat assessment\report\report\2016 fish habitat survey (fox pond and outfall) final.docx

Fish Habitat Assessment
Fox Pond & Fox Pond Outflow
Stog'er Tight Mine near Ming's Bight, Newfoundland & Labrador

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Stog'er Tight Mine near Ming's Bight, Newfoundland & Labrador

Executive Summary

In 2016, GEMTEC Limited ("GEMTEC") was retained by Anaconda Mining Inc. to complete a fish habitat assessment in Fox Pond and its Outflow on the Stog'er Tight Mine site, near Ming's Bight, Newfoundland. Central coordinates for the project area are: 49°58'03.05"N, 56°04'34.32"W. The habitat assessment includes the collection of habitat information (substrate, flow, bank erosion, vegetation cover, etc.), a water quality assessment (temperature, dissolved oxygen, pH, etc.), a fish survey (live capture of fish from the waterbody) to determine relative abundance, and a hydrological study. A GEMTEC environmental biologist completed the field study component of the habitat assessment on July 11 to July 14, 2016. A summary of our findings is presented in Table 1.

Table 1: Summary of Findings

Assessment Component	Results
Physical Habitat Characteristics	
Fox Pond	Bank stability is "fair" with 50% to 80% stable banks. Substrate in the centre / deep portions of the pond is mostly organic muck. Landward substrate is rubble, rock, and boulders. Overhanging vegetation is present throughout.
Fox Pond Outflow	Five varying habitat types are present along the length of the Outflow; the upstream channel, open-water wetland, rock channel, grass wetland and the shrub wetland, respectively. All habitat types contain different substrate size and vegetation cover.
Water Quality Assessment	
The assessed parameters meet the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines for the Protection of Freshwater Aquatic Life (FWAL) and Environment Canada (EC) Freshwater targets for good water quality, with the exception of four pH measurements in Fox Pond. Temperatures are "ideal" salmonid habitat and turbidity is within the CCME Water Quality Guidelines for the Protection of FWAL normal range.	
Fish Survey	
Nine Brook Trout (*Salvelinus fontinalis*) were captured in Fox Pond. The fish ranged in size from 18 cm – 32 cm. Additionally, schools of smaller sized (4cm – 8cm) Brook Trout were observed in Fox Pond during the study period. Ninety Brook Trout (2 cm – 15 cm) were captured and released in the Fox Pond Outflow.	

This report summarizes the findings of the 2016 Fish Habitat Assessment in Fox Pond and the Fox Pond Outflow. The assessment presents preliminary information on the quantity and quality of the fish habitat in the proposed project area. The assessment was conducted using the DFO Standard Methods for evaluating streams, rivers and lakes.

Based on the findings of this assessment, the following conclusions are presented:

- Fox Pond and the Outflow contain varying substrate that can support fish species through all life stages. Minimal erosion was observed throughout the assessment area. The banks of Fox Pond and the Outflow are “fair” with 50%-80% of the bank being stable. Overhanging vegetation was present in both assessment areas to provide shade, hiding spots and food inputs for aquatic species.

- The majority of the project site is unaltered and in a natural state. A small portion of the southern bank and submerged substrate is blast rock from the adjacent mining activity.

- No records of species at risk were reported within 5 kilometres of the project area. One fish species (Banded Killfish) was identified on Expert Opinion Maps and may be present based upon estimates of habitat distribution; however, the preferred habitat for this species is not present on site.

- In general, the water quality in Fox Pond and the Outflow are good for salmonid species. Water temperatures were consistently below 17.97°C which is classified as intermediate conditions. Dissolved oxygen concentrations ranged from 7.17 mg/L - 9.84 mg/L, conductivity ranged from 95 µS/cm - 121 µS/cm and pH ranged from 6.02 - 9.52, all of which are within the CCME FWAL guidelines and EC Water Quality targets.

- Normal range turbidity readings were found in both Fox Pond and the Outflow. Fox Pond has good clarity and light si penetrate the majority of d and the

2.2 Water Quality Monitoring

Water quality parameters were measured throughout Fox Pond and the Outflow. The scope of work for the water quality monitoring was as follows:

- Measurement of temperature, conductivity, dissolved oxygen and pH at various sampling sites in Fox Pond and the Outflow;
- Turbidity readings were collected in the surface water of Fox Pond and along the length of the Outflow; and
- Evaluation of the light penetration / clarity of the water contained within Fox Pond.

2.3 Fish Survey

A three-pronged approach was used to preliminarily survey the presence of fish in Fox Pond and the Outflow. The scope of work for the fish survey is as follows:

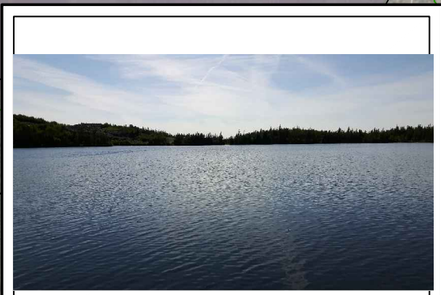
- Installation of minnow traps in shallow portions of Fox Pond and the Outflow;
- Installation of a fyke net in Fox Pond; and
- Electrofishing the length of the Outflow.

The project area and waterbody boundaries are presented in Figure 1.

GRASS WETLAND

GRASS WETLAND

OUTLET CHANNEL



FOX POND □SOUTH EAST □IEW

FYKE NET
SITE 1

110.0

MINNOW
NET SITE 3

FOX POND

110.0

MINNOW
NET SITE 1

BERM

BERM

BERM

OPEN WATER
WETLAND

CAMP POND

120.0

130.0

140.0

150.0

FYKE NET
SITE 2

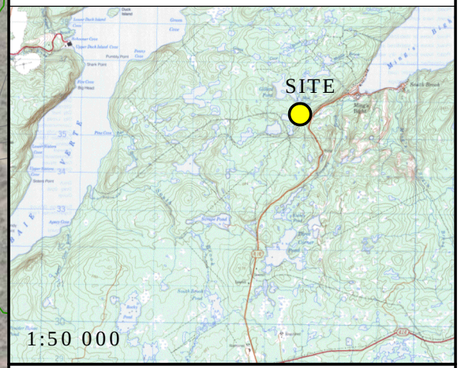
MINNOW
NET SITE 2

ROCK CHANNEL

UPSTREAM CHANNEL

FOX POND □NORTH □IEW

Location



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Date
AUGUST 2016

Project
FISH HABITAT ASSESSMENT
FOX POND AND OUTFALL
STOG'ER TIGHT MINE SITE
MING'S BIGHT, NFLD

Drawing
GENERAL SITE CONDITIONS
FOX POND □ OUTFALL

Scale
1:5000
0 100 200 300m

File No.	Drawing	Revision No.
80016.01	FIGURE 1	0

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3.0 Materials and Methodology

The site was visited by a GEMTEC environmental biologist July 11 through July 14, 2016. The site visit included assessment of Fox Pond, the Outflow and landside perimeters. The site-specific habitat assessment program was developed by referencing the standard methods outlined in the following reports:

- Fisheries and Oceans Canada Standard Methods for Freshwater Fish and Fish Habitat Surveys in Newfoundland and Labrador: Rivers and Streams (1998);
- Fisheries and Oceans Canada Standard Methods Guide for the Classification / Quantification of Lacustrine Habitat in Newfoundland and Labrador; and
- DNR&E / DFO – New Brunswick Stream Habitat Inventory.

The aforementioned documents were used as guidelines to refine a habitat assessment program to the site-specific conditions and the scope of work in the proposed project.

The habitat assessment did not include the collection of water or soil / sediment samples for laboratory analysis. GEMTEC understands that Anaconda completes water quality monitoring / sampling on a regular basis in this area. This study does not include the collection or analysis of Benthic Macroinvertebrate samples (BMI). Furthermore, the scope of work did not include the collection of fish specimens for disease or mercury / heavy metal analysis.

3.1 Physical Habitat Survey

Anaconda supplied GEMTEC with a small boat and operator to traverse Fox Pond. The Outflow area was assessed by walking along the watercourse perimeter. The boundaries of Fox Pond were defined by aerial photographs and topography maps while the boundaries of the Outflow were captured by a hand-held GPS while on-site. Photographs and GPS coordinates were taken throughout the project area to define the waterbody boundaries, areas of interest, habitat types and monitoring sites. Site photographs are presented in Appendix A.

Desktop studies for Species at Risk (SAR) and hydrology were conducted prior to the site visit.

3.1.1 Predictive Mapping and Species at Risk Screening

SAR screening was conducted by obtaining data from the Newfoundland Conservation Data Centre (NLCDC); the search request was limited to within a 5 kilometer radius of the project site. This database search provided the following:

- Reported observations of rare and endangered flora and fauna;
- Expert Opinion Maps information to identify species that have not been reported but are expected, based upon estimates of habitat and wildlife distribution; and
- Locations of any Special Areas such as the following:

- Managed areas with some level of protection;
- Significant ecological areas of interest;
- National Defense areas; and
- First Nations areas.

The species listed within the NLCDC report were referenced to ranking outlined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), the Species at Risk Act (SARA), and the Newfoundland Endangered Species Act. During the site visit, comparison to habitats suited to any identified rare or endangered species of flora and fauna identified in the desktop study was completed. The NLCDC correspondence, mapping and habitat comparison table are attached as Appendix B.

3.1.2 Field Reconnaissance

Upon arrival to the project area, the local topography and habitat were visually assessed. General site conditions, habitat types and areas of interest were noted and documented with site photos and GPS coordinates.

Visual observation of the bank stability was conducted along the entire perimeter of the pond. Four sample sites were chosen (north, east, south and west) to characterize and measure bank height, undercutting, overhanging vegetation and substrate profile. To determine the relative bank stability the following DFO ratings were used:

- “good” – more than 80% of the bank is stable and well vegetated;
- “fair” – 50% to 80% stable banks with minimal evidence of erosion; or,
- “poor” – less than 50% stable banks and considerable evidence of erosion.

Substrate samples were collected at eleven sites in Fox Pond using a petit ponar operated from the boat. The ponar was lowered from the side of the boat until it reached the bottom of the pond. The grab sample was emptied into a bucket on the boat and photographed. The size of substrate was characterized using the DFO criteria outlined in Table 2.

Table 2: Substrate Classification

Name	Size
Boulder	> 461 mm
Rock	180 mm – 460 mm
Rubble	54 mm – 179 mm
Gravel	2.6 mm – 53 mm
Sand	0.06 mm – 2.5 mm
Fines	0.0005 mm – 0.05 mm

When possible, additional visual observation of the substrate composition of Fox Pond was conducted from the banks of the waterbody and from the boat. The petit ponar was not used to assess the Outflow substrate as shallow waters allowed for substrate to be visually characterized in-situ. In both Fox Pond and the Outflow, substrate embeddedness (a measure of the amount of fine sediment that is deposited in the interstices between the larger stream substrate of boulders, rocks and rubble) was categorized using the four DFO criteria ratings:

- 1. ≤ 20% of the large substrate is surrounded or covered by fine substrate;
- 2. 20% - 35% of the large substrate is surrounded or covered by fine substrate;
- 3. 35% - 50% of the large substrate is surrounded or covered by fine substrate; and,
- 4. ≥ 50% of the large substrate is surrounded or covered by fine substrate.

Flow was measured in the Outflow by use of a stopwatch and an orange fruit. Due to obstructions and shallow waters, flow could only be measured along a 1 meter stretch (rather than the preferred 3 meter stretch) at three sites along the watercourse. At each site the flow was measured three times and averaged. Flow measurements were not conducted in Fox Pond as it is a slow moving, minimally influenced waterbody.

Substrate sampling sites are presented in Figure 2. The DNR & DFO Stream Habitat field sheets for the Outflow are presented in Appendix C.

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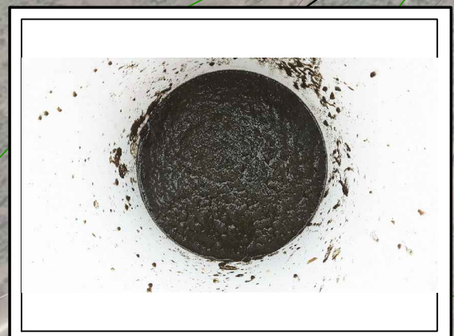
SS2

SS7

SS5



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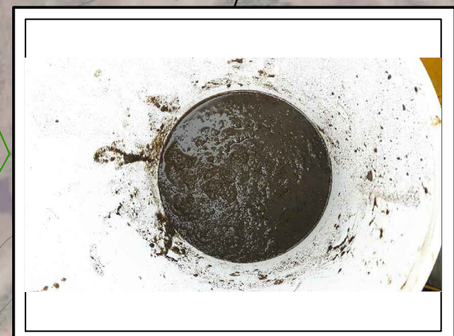

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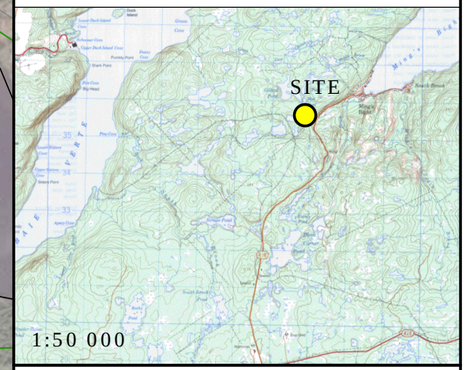

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- WATERCOURSE
- WATER BODY BOUNDARY (APPROXIMATE)

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Date

AUGUST 2016

Project

FISH HABITAT ASSESSMENT
FOX POND AND OUTFALL
STOG'ER TIGHT MINE SITE
MING'S BIGHT, NFLD

Drawing

SUBSTRATE SAMPLING RESULTS
FOX POND

Scale

1:2500

0 50 100 150m

File No.	Drawing	Revision No.
80016.01	FIGURE 2	0

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3.2 Water Quality Monitoring

To assess the water quality in Fox Pond and the Outflow, five parameters were chosen: dissolved oxygen, pH, conductivity, temperature, turbidity, and light penetration / water clarity. The rationale and classification system for each is discussed below.

CCME Water Quality Guidelines for the Protection of Freshwater Aquatic Life (FWAL) have been used as indicators of water quality. The CCME FWAL guidelines were chosen because they are good indicators of common water quality problems (eutrophication, salinization, acidification, and organic pollution). Conductivity is not included in the CCME FWAL Guidelines; therefore, the Environment Canada (EC) Canada's Freshwater Quality in a Global Context Target was used for comparison purposes. The three applicable targets are listed below:

- Dissolved Oxygen: greater than 6 mg/L
- pH: 6.5 – 9
- Conductivity: less than 500 µS/cm (EC, 2016).

Many fish species have a distinct thermal optima; therefore, water temperature is an important factor in determining the habitat quality for fish survival and production. Salmonids are sensitive to warm water and tend to avoid areas of water with temperatures greater than 20°C (DFO, 2008). To classify the water temperature in Fox Pond, the DFO classification system for Brook Trout (*Salvelinus fontinalis*) was used:

- Cool: < 16.5°C as ideal;
- Intermediate: 16.5°C to 18.9°C as marginal; and,
- Warm: ≥ 19°C as unsuitable.

Brook Trout was used as an indicator species as it was the only fish species captured during the fish survey in Fox Pond and the Outflow.

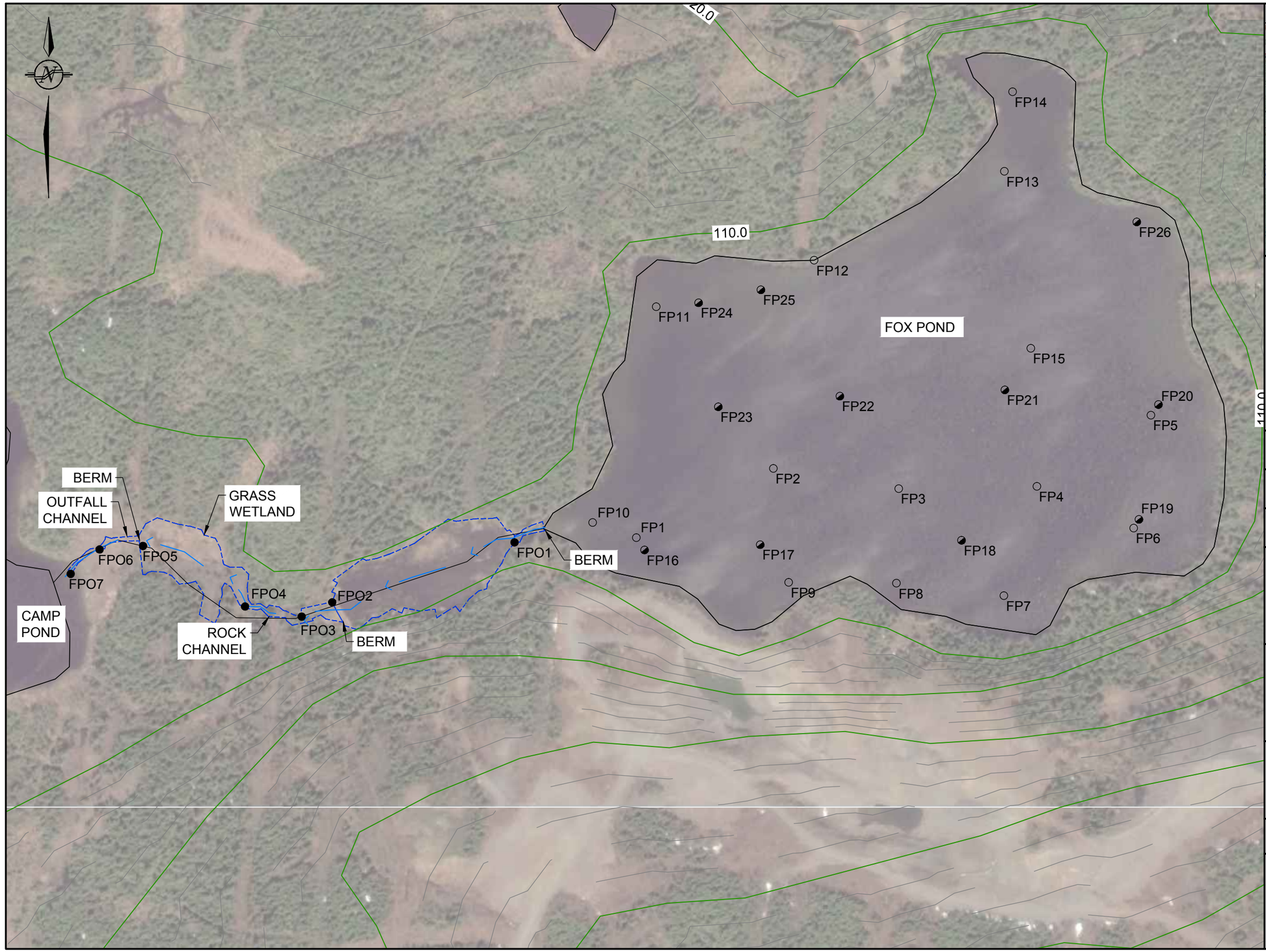
Temperature, conductivity, dissolved oxygen and pH were measured at 37 sites in Fox Pond over two days using a calibrated YSI-556 multi-meter. Water quality readings were taken at a depth of 3 feet as it allowed for a submerged probe that didn't rest on the bottom in most areas of the pond. Additionally, changes in the water quality parameters at different depths through the water column were measured at five sites in Fox Pond. In general, the water column monitoring was conducted at three meter intervals. The distance between intervals was modified based on site conditions and water depth. Seven water quality sites were measured along the Outflow. Water Quality results for the aforementioned parameters is presented in Appendix D.

Increased stream sedimentation can smother eggs in spawning sites, in-fill deep holding areas for larger salmonids, and reduce insect production. The CCME defines a high turbidity, with the ability to negatively affect fish health and populations at 30 – 60 NTUs. Normal turbidity is 0 – 20 NTUs. A Hanna HI 98703 Turbidity meter was used to measure turbidity at five sampling points

in Fox Pond (surface water samples). Turbidity readings were recorded at seven water quality sampling sites along the Outflow.

A Secchi disc (a weighted circular disc with alternating black and white quadrats) was used to measure the light penetration / water clarity in Fox Pond. The Secchi disc was lowered slowly into Fox Pond at three stations along a transect. The disc was attached to a measuring tape to allow for the recording of the depth to which the disc could no longer be seen from the boat. The light penetration / clarity sampling was only conducted in the center of Fox Pond as water depths and clarity allowed for visual observation of the waterbody floor in all other areas.

The water quality sampling site are presented in Figure 3.



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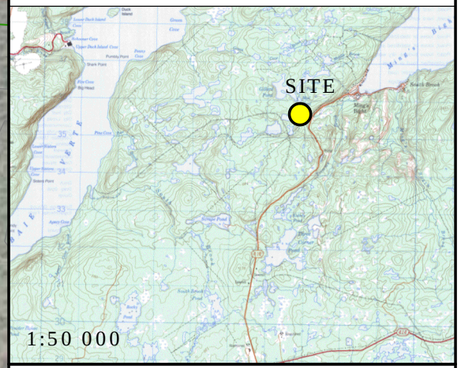

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- WATER QUALITY POINTS JULY 11, 2016
- WATER QUALITY POINTS JULY 12, 2016
- WATER QUALITY POINTS JULY 13, 2016
- WATERCOURSE
- WATER BODY BOUNDARY (APPROXIMATE)

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Calculations By	**Checked By**

Date: AUGUST 2016

Project: FISH HABITAT ASSESSMENT
FOX POND AND OUTFALL
STOG'ER TIGHT MINE SITE
MING'S BIGHT, NFLD

Drawing: WATER QUALITY SAMPLING SITES
FOX POND AND OUTFALL

Scale: 1:2500

0 50 100 150m

File No.	Drawing	Revision No.
80016.01	FIGURE 3	0

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3.3 Fish Survey

A fish survey was conducted in Fox Pond and the Outflow. The fish survey was used to determine the fish species and fish size present in the study area.

A three pronged approach was used to conduct the fish survey:

- Two minnow traps were installed in shallow portions of Fox Pond and the Outflow. A minnow trap was installed in the southern portion of Fox Pond on July 11, 2016. It was moved to the northwest portion of the pond on July 13, 2016. A minnow trap was installed in the upstream area of the Outflow on July 11, 2016 and left there for the entire study period. Both traps were left un-baited for 24 hours then bait was added on July 12, 2016. The minnow traps were checked for fish every 24 hours.
- A fyke net was installed in the northern portion of Fox Pond and left un-baited for 24-hours. Bait was added to the net on July 12, 2016. On July 13, 2016, the baited fyke net was relocated to the southern portion of the pond. The fyke net was checked for fish every 24 hours.
- Electrofishing was conducted along the length of the Outflow using a Smith-Root LR-24 Backpack Electrofisher. Two passes of the Outflow were made with the electrofisher on July 12, 2016.

Any captured fish were recorded, visually sized and released unharmed into the same waterbody. The net locations are presented in Figure 1.

4.0 Summary of Findings

A GEMTEC environmental biologist visited the assessment area on July 11 to July 14, 2016. The closest EC weather station; Badger, Newfoundland, located approximately 110 kilometers southeast of Fox Pond showed air temperatures ranging from 7.7°C – 22.9°C. Approximately 26.5 mm of rain fell in the 96 hour period.

4.1 Physical Habitat Survey

The Fisheries Act defines fish habitat as those parts of the environment "on which fish depend, directly or indirectly, in order to carry out their life processes". Preferred habitat varies amongst fish species, and different species can be found in particular habitat types at different times of the year and life-cycle. Two areas of potential fish habitat were identified during preliminary desktop studies; Fox Pond and the Outflow (extending from Fox Pond to Camp Pond). Central coordinates for Fox Pond are: 49°58'03.05"N, 56°04'34.32"W. The Outflow begins at: 49°58.03'05"N, 56°04'46.76"W and meanders approximately 300 metres to 49°57'59.64N, 56°05'01.83W. The assessment area is depicted in Figure 1. Site Photos are attached as Appendix A.

4.1.1 Species at Risk Desktop Survey

The NLCDC report (2016) showed no records of rare plants or animals within a 5-kilometere radius of the project site. It is important to note that the NLCDC retrieves its data from expert sightings. Considering the rural location of the project site, a report with no records does not necessarily mean that there are no species of concern in the area. The NLCDC Expert Opinion Maps identified two plant species and eight animal species of conservation concern that may frequent the area (Table B1, Appendix B). Only one fish species was listed, the Banded Killfish (*Fundulus diaphanous);* however, the habitat type that this fish species typically occur in is not present within the proposed project area. The Banded Killfish prefers coastal areas and cannot use inland waters where there are barriers to migration. (SARA, 2016). The NLCDC correspondence is presented in Appendix B. A Species Habitat Comparison table (Table B2) outlining the identified species and their habitat requirements is presented in Appendix B.

The NLCDC report did not identify any Special Areas within a 5 kilometre radius.

4.1.2 Watershed and Hydrological Desktop Study

Fox Pond has a surface area of approximately 0.1 km² and a perimeter of 1.5 kilometres. It is our understanding that Anaconda has previously completed comprehensive water depth and bathymetry surveys in Fox Pond; however, the approximate pond volume is 497,881 m^3 (provided by Anaconda). It is expected that the entire pond is used by fish. No tributaries enter or exit Fox Pond with the exception of the Outflow. The Outflow is approximately 300 metres long, channel widths vary from 0.66 m – 13.4 m and channel depths vary from 0.12 m – 1.01 m. Fish habitat is present along the entirety of the Outflow. A small drainage channel was observed at the western boundary of a cove present in the northern portion of Fox Pond. The channel was dry at the time of the site visit and fish habitat was not observed.

Contour mapping shows Fox Pond approximately 100 metres above sea level with local topography sloping towards the waterbody on all sides, most steeply on the southern boundary. Water flows southwest from Fox Pond along the Outflow into Camp Pond, then through several other ponds and tributaries to eventually flow into South Brook. South Brook discharges into Baie Verte (Atlantic Ocean) approximately 5 kilometers from Fox Pond.

4.1.3 Fox Pond Habitat Characteristics

Fox Pond is an open waterbody that is located in a mostly forested area, with the exception of the Stog'er Tight Mine site located along the southern boundary of the pond (Photo 1, Appendix A). Surrounding vegetation in Fox Pond is predominately Black Spruce (*Picea mariana*) with some Speckled Alder (*Alnus incana)* along the east and southern boundaries (Photo 19, Appendix A). Some overhanging vegetation was present along the perimeter of the pond. In general, the overhang extended 1 – 2 metres over the waterbody (Photo 11 and Photo 14, Appendix A). Much of the perimeter contained large woody debris and submerged deadfall (Photo 19, Appendix A). Overhanging vegetation, woody debris and deadfall provide shade, feeding areas and hiding areas for fish. An inactive beaver lodge is present in the northern portion of Fox Pond.

In general, the banks of Fox Pond appeared stable and were rated "fair" on the DFO classification scale. Some erosion was observed along the western and eastern banks of the waterbody (Photo 13 and Photo 18, Appendix A). Undercutting was measured at 10 cm and 20 cm, respectively. The banks contained mostly rubble, rock and boulder sized substrate that is stable and not easily eroded (Photo 15, Appendix A). The southern bank appears to have been altered by the nearby mining activities as jagged, blast rock was present along the banks and submerged in the shallow water (Photo 31, Appendix A).

Eleven substrate samples were collected throughout the pond (5 in shallow waters, 6 in deep water). The substrate in the centre and deep portions of the pond is mostly organic muck (Photo 25 and Photo 26, Appendix A). Visual observation of the substrate from the boat showed that large boulders (0.5 – 1 metres) are sparsely present throughout the pond. The large boulders could not be sampled with the petit ponar. The substrate composition changes approximately 1 – 2 metres from the bank (Photo 28, Appendix A). The landward substrate is mostly rubble, rock, and boulders with embeddedness criteria of 2 (Photo 29 and Photo 30, Appendix A). The substrate sampling sites are presented in Figure 2.

4.1.4 Fox Pond Outflow

The Fox Pond Outflow originates at the western boundary of Fox Pond and flows west / southwest to Camp Pond. There are five different habitat types along the Outflow separated by natural barriers:

- Upstream Channel - A beaver berm spans the length of the Outflow channel at the Fox Pond boundary (Photo 36, Appendix A). At the time of the site visit, water was flowing

west, under the beaver berm into a small channel (Photo 37, Appendix A). The channel contained a rubble and rock substrate with some overhanging grass vegetation.

- Open-Water Wetland - The Upstream Channel discharges into a wetland (Photo 38, Appendix A). The wetland area contained stagnant / slow moving-water with some deadfall and grass vegetation. An inactive beaver lodge was present along the southern boundary of the wetland. Substrate was mostly fines and organic muck. Grass and submergent vegetation was present throughout the wetland area. A second beaver berm is present at the western boundary of the wetland (Photo 39, Appendix A).
- Rock Channel - Water flows under the second beaver berm to a steep, rock channel (Photo 40, Appendix A). The channel contains varying substrate but is predominately rubble, rock and boulder size. Smaller substrate is contained within small pools. Several natural fish barriers are present along the channel (Photo 41, Appendix A). Surrounding vegetation (Speckled Alder) provide 50-75% shade of the watercourse. Exploratory drilling operations were being conducted near the rock channel. A man-made drainage channel was discharging into the Outflow (Photo 42, Appendix A). Water levels in the drainage channel were low and fish were not present (during the fish survey) or expected.
- Grass Wetland – The Rock Channel transitions into a flat, grass wetland (Photo 43, Appendix A). The wetland area mostly disperses the Outflow; however, a narrow, shallow channel does meander west towards a third beaver berm. The wetland area contains small substrate (sand and fines). The area is saturated, with surface water present throughout. Surrounding vegetation is mostly Black Spruce and Speckled Alder.
- Shrub Wetland / Outlet – The Outflow flows under the third beaver berm into a defined channel in a shrub wetland (Photo 44, Appendix A). The channel contained medium sized substrate (rubble, gravel and sand). Surrounding vegetation does not overhang the water and stem frequency decreases towards the beach area of Camp Pond.

Flow was measured at three sites along Fox Pond Outflow. The results of the flow measurements are presented in Table 3 below:

Table 3: Flow Measurements in Fox Pond Outflow on July 13, 2016

Habitat Type	Distance	Float Time (seconds)			Average Float Time (s)
		First	Second	Third	
Outflow Channel	1 metre	13	16	15.3	14.7
Grass Wetland	1 metre	21	23	14	19.3
Rock Channel	1 metre	10	14	14	12.7

Detailed habitat characteristics, including evidence of erosion, vegetation, substrate size and flows along the Outflow are presented in the DNR&E / DFO – New Brunswick Stream Habitat Inventory field sheet in Appendix C.

Natural fish barriers are present throughout the Outflow channel. At the time of the site visit, it is expected that fish cannot migrate from Camp Pond into Fox Pond. Furthermore, fish present in the Outflow channel cannot enter Fox Pond as the upstream beaver berm prevents passage. However, is it expected that during periods of high water flows, fish can migrate between the habitat types and the two ponds. This is evidenced during the fish survey results (Section 4.3.2) where fish were present in all five of the aforementioned Outflow habitats and in Fox Pond (Section 4.3.1).

4.2 Water Quality Monitoring

4.2.1 Fox Pond

Water Quality Monitoring was conducted on July 11 and July 13, 2016 in Fox Pond. Temperature, conductivity, dissolved oxygen, and pH were recorded at 21 points on July 11 and at 16 points on July 13. The sampling points are presented on Figure 3. Water Quality results are presented in Table D-1 and D-2 in Appendix D. Table 4 summarizes the finding from the two days compared to the CCME FWAL Guidelines and EC freshwater targets.

Table 4: Summary of Water Quality Results in Fox Pond on July 11 and July 13, 2016.

	Minimum Value	Maximum Value	Mean Value	Water Quality Guideline
Temperature (°C)	15.90	17.97	16.95	-
Conductivity (µc/cm)	97	121	102.62	< 500
Dissolved Oxygen (mg/L)	9.05	9.84	9.40	> 6
pH	7.6	9.08	8.28	6.5 - 9

In general, the temperature was consistent throughout all areas of the pond and is classified as cool to intermediate conditions for Brook Trout. On July 11, 2016, the range of temperatures in the pond was 17.02°C to 17.97°C. Slight variation was observed on July 13, 2016 with a range from 15.90°C to 16.84°C. Results from the water column tests show that the temperature decreases with depth and provides more ideal conditions for salmonids (Table D-2, Appendix D).

Averaged results of conductivity, dissolved oxygen and pH are all within the CCME FWAL guidelines and EC freshwater targets to indicate good water quality. The pH values of 6.02, 9.08, 9.1 and 9.52 were recorded at sample sites FP15 (28 feet), FP26, FP25 (8 feet) and FP21 (16 feet), respectively. These values are outside the EC targets; however, Fox Pond has an average pH pf 8.28 which is indicative of good water quality.

Turbidity was recorded from the top strata of Fox Pond at two water quality sampling sites on July 11 and four sites on July 13, 2016. The turbidity measured in Fox Pond is within the normal CCME range (0 – 20 NTUs). Table 5 summarizes the findings of the Fox Pond turbidity monitoring.

Table 5: Turbidity Reading in Fox Pond

Sample Site	Date	Turbidity (NTU)
FP11	July 11, 2016	0.90
FP15	July 11, 2016	0.50
FP18	July 13, 2016	0.75
FP19	July 13, 2016	0.75
FP22	July 13, 2016	0.67
FP20	July 13, 2016	1.01

A Secchi disc was used to determine the clarity and light penetration along a deep water transect in Fox Pond. The monitoring was conducted in the afternoon on July 13, 2016 during a period of low winds and sunny conditions. At two of the three monitoring sites, the Secchi disc could be seen resting on the pond floor at depths of 8.2 metres and 5.5 metres. The third site (centre of the pond) had a Secchi depth of 9.0 metres and the bottom of the pond was measured at 10.9 metres. The results of the Secchi disc monitoring shows that the water is very clear and that light can penetrate the majority of the pond.

4.2.2 Fox Pond Outflow

Water Quality Monitoring in the Outflow was conducted on July 12, 2016. Temperature, conductivity, dissolved oxygen and pH were recorded at seven points along the watercourse. Water quality results were recorded in each of the different habitat types. The sampling points are presented on Figure 3. Water Quality results are presented in Table D-3 in Appendix D. Table 6 summarizes the findings compared to the EC freshwater targets.

Table 6: Summary of Water Quality Results in Fox Pond Outflow on July 12, 2016.

	Minimum Value	Maximum Value	Mean Value	EC Freshwater Targets
Temperature (°C)	13.09	15.83	13.89	-
Conductivity (µc/cm)	95	101	98.14	< 500
Dissolved Oxygen (mg/L)	7.91	9.07	8.09	> 6
pH	7.91	8.96	8.22	6.5 - 9

In general, the temperature was higher in the upstream (FPO1, 15.83°C) and decreased in the downstream (FPO7, 13.67°C). This is consistent with the on-site observation of an open-water channel / wetland in the upstream compared to a more shaded channel in the lower reaches of the watercourse. Although warmer water was recorded in the upstream, all temperatures in the Outflow

were within the cool range (< 16.5°C) identified by DFO as ideal conditions for salmonids (DFO, 2008).

All values of conductivity, dissolved oxygen and pH are all within the EC freshwater targets indicating good water quality for a freshwater waterbody.

Turbidity was recorded at all water quality sites along the Outflow on July 12, 2016. The turbidity measured in all habitat types are within the normal CCME range (0 – 20 NTUs). Table 7 summarizes the findings of the turbidity monitoring.

Table 7: Turbidity Reading in Fox Pond Outflow July 12, 2016

Sample Site	Turbidity (NTU)
FPO1	0.73
FPO2	0.63
FPO3	10.3
FPO4	4.31
FPO5	2.43
FPO6	7.79
FPO7	1.67

Higher turbidity readings were observed along the Outflow than in Fox Pond. This is consistent with observed on-site conditions as the Outflow contains flowing water while Fox Pond is a slow moving, minimally influenced waterbody.

4.3 Fish Survey

4.3.1 Fox Pond

The presence / absence fish survey was conducted in Fox Pond during the entirety of the site visit. No fish were captured in the Fox Pond minnow trap during the study period.

Brook Trout were captured in the fyke net, recorded and released on July 12, 2016 (Photo 33, Appendix A). On July 13, 2016, two Brook Trout were captured and released (Photo 34, Appendix A) and the fyke net was relocated in the southern portion of Fox Pond. The fyke net was left uninterrupted for 24 hours and removed on July 14, 2016. Two more Brook Trout were captured and released (Photo 35, Appendix A). Table 8 summarizes the fyke net fish captures.

Table 8: Summary of Fish Captured by Fyke Net in Fox Pond

Date	Fish Species	Length (cm)	Number Caught
July 12, 2016	Brook Trout	18 – 27	5
July 13, 2016	Brook Trout	22 - 25	2
July 14, 2016	Brook Trout	27 - 32	2
		Total:	**9**

Electrofishing was attempted in Fox Pond; however, the size of the waterbody did not allow for any fish to be stunned by the electrical current.

Visual observation of several schools of Brook Trout were recorded during the study period. The schools were typically comprised of smaller sized fish (4cm - 8cm). It is estimated that Fox Pond supports a large population of Brook Trout in various life stages. No other fish species were captured indicating that competition and threat of aquatic predators is minimal. There are no natural inlet or Outflows that allow migration of new fish, disease or aquatic predators into Fox Pond, with the exception of periods of high water levels when the Outflow beaver berm may be breeched.

Furthermore, testimony from a local fisherman stated that only Brook Trout have been caught in this waterbody. Fox Pond is used as a site for ice fishing in the winter. This is evidenced by recreational vehicle trails along the perimeter of the pond.

4.3.2 Fox Pond Outflow

On July 12, 2016, the Outflow minnow trap contained two small Brook Trout (Photo 32, Appendix A). On July 13, 2016 the baited minnow net contained one small Brook Trout. The trap was left for another 24 hours and did not contain any fish when removed on July 14, 2016. All captured fish were released unharmed into the same waterbody.

An electrofishing presence / absence survey was conducted along the entire Outflow on July 13, 2016. Two passes of the Outflow were made with the electrofisher and each habitat type was surveyed. Any captured fish were quantified and a visual assessment of length was recorded. All fish were released unharmed into the same waterbody. The results of the electrofishing survey are presented in Table 9 below.

Table 9: Summary of Electrofishing Presence / Absence Survey in Outflow (July 13, 2016)

Habitat Type	Pass	Species	Fish	Length (cm)	Total
Upstream Channel	First	Brook Trout	5	5	8
	Second	Brook Trout	3	3 - 5	
Open-water Wetland	First	Brook Trout	0	-	0
	Second	Brook Trout	0	-	
Rock Channel	First	Brook Trout	8	4 -15	15
	Second	Brook Trout	8	3 - 10	
Grass Wetland	First	Brook Trout	6	3	19
	Second	Brook Trout	13	2 - 6	
Shrub Wetland / Outlet	First	Brook Trout	28	2 - 7	48
	Second	Brook Trout	20	2 - 12	
				Total:	**90**

No fish were captured in the open-water wetland habitat in the Outflow; however, fish were captured in the connecting upstream channel. No fish barriers are present between the two habitat types so it is expected that fish frequent the wetland area.

Barrier nets were not installed as part of the presence / absence study in the Outflow. Although natural barriers are present between most habitat types, it is possible that fish were re-captured during the second pass. The electrofishing activities were not used to quantify the abundance of Brook Trout in the Outflow but rather to document the species and sizes present in the watercourse.

5.0 Conclusions

Based on the findings of this assessment, the following conclusions are presented:

- Fox Pond and the Outflow contain varying substrate that can support fish species through all life stages. Minimal erosion was observed throughout the assessment area. The banks of Fox Pond and the Outflow are “fair” with 50%-80% of the bank being stable. Overhanging vegetation was present in both assessment areas to provide shade, hiding spots and food inputs for aquatic species.

- The majority of the project site is unaltered and in a natural state. A small portion of the southern bank and submerged substrate is blast rock from the adjacent mining activity.

- No records of species at risk were reported within 5 kilometres of the project area. One fish species (Banded Killfish) was identified on Expert Opinion Maps as being expected based upon estimates of habitat distribution; however, the preferred habitat for this species is not present on site.

- In general, the water quality in Fox Pond and the Outflow are good for salmonid species. Water temperatures were consistently below 17.97°C which is classified as intermediate conditions. Dissolved oxygen concentrations ranged from 7.17 mg/L - 9.84 mg/L, conductivity ranged from 95 µS/cm - 121 µS/cm and pH ranged from 6.02 - 9.52, all of which are within the CCME FWAL guidelines and EC targets.

- Normal range turbidity readings were found in both Fox Pond and the Outflow. Fox Pond has good clarity and light can penetrate the majority of the waterbody.

- Fish are present in both Fox Pond and the Outflow. Young fish (2 cm – 15 cm) were captured in the Outflow; while adult (> 25 cm) were captured in Fox Pond. Small, younger Brook Trout were observed in Fox Pond indicating that it supports fish of varying life-stages.

- With Fox Pond and the Outflow both containing suitable habitat throughout, it is expected that fish frequent approximately 500,000 m^3 of habitat in the assessment area or are present throughout the entire waterbody.

6.0 Closure

This report has been prepared for the sole benefit of our client, Anaconda Mining Inc. The report may not be relied upon by any other person or entity without the express written consent of GEMTEC Limited and our client, Anaconda Mining Inc.

Any use that a third party makes of this report, or any reliance or decisions made based on it, is the responsibility of such third parties. GEMTEC accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The conclusions presented represent the best judgment of the trained professional and technical staff based on current environmental standards and on the project area conditions observed by staff at the time the work was performed.

Should additional information become available, GEMTEC Limited requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

7.0 References

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Appendix A

Site Photos

Photo 1: Southern boundary of Fox Pond. Stog'er Tight Mine is present in the background (July 13, 2016).

Photo 2: Fox Pond looking east from Outfall (July 11, 2016).

Photo 3: Northern portion Fox Pond from southern waterbody boundary (July 12, 2016).

Photo 4: Stog’er Tight Mine boundary and Outfall area from center of Fox Pond (July 13, 2016).

Photo 5: Cove present in the northern portion of Fox Pond (July 12, 2016).

Photo 6: Southeast portion of Fox Pond from boat. Fyke net rope line visible in foreground (July 13, 2016).

Photo 7: Northwest portion of Fox Pond from southeast waterbody boundary (July 13, 2016).

Photo 8: Minnow trap installed in southern portion of Fox Pond (July 11, 2016).

Photo 9: Minnow trap installed in Outfall area (July 11, 2016).

Photo 10: Fyke net installed at the mouth of the cove in northern portion of Fox Pond. Net rope line visible in foreground (July 11, 2016).

Photo 11: Bank vegetation, woody debris and substrate in northwestern portion of Fox Pond near Outfall (July 11, 2016).

Photo 12: Vegetation, woody debris and deadfall along western bank of Fox Pond (July 12, 2016).

Photo 13: Fox Pond west bank profile. Some undercutting visible; however, bank is mostly stable with large substrate and vegetation (July 12, 2016).

Photo 14: Northern bank of Fox Pond (July 12, 2016).

Photo 15: Large substrate, woody debris and stable vegetation along northern bank of Fox Pond (July 12, 2016).

Photo 16: Stable bank vegetation along northeastern bank of Fox Pond (July 12, 2016).

Photo 17: Bank along eastern portion of Fox Pond. Some erosion and undercutting observed. Abundant woody debris and deadfall (July 12, 2016).

Photo 18: Eastern bank profile of Fox Pond. Approximately 20 cm of bank undercutting with large substrate beneath (July 12, 2016).

Photo 19: Southern bank of Fox Pond. Large substrate, vegetation overhang and abundant submerged deadfall (July 12, 2016).

Photo 20: Southern bank profile of Fox Pond (July 12, 2016).

Photo 21: Southwestern bank of Fox Pond (July 12, 2016).

Photo 22: Cove in the northern portion of Fox Pond (July 12, 2016).

Photo 23: Drainage channel in western portion of cove. Drainage channel was dry at the time of the site visit (July 12, 2016).

Photo 24: Cove contains abundant submergent vegetation along pond floor (July 12, 2016).

Photo 25: View of substrate sample (SS1) collected in eastern portion of Fox Pond (July 12, 2016).

Photo 26: View of substrate sample (SS2) collected in center of Fox Pond (July 12, 2016).

Photo 27: View of substrate sample (SS5) collected in northwestern portion of Fox Pond (July 12, 2016).

Photo 28: View of substrate transition (SS8) along northwestern bank of Fox Pond (July 12, 2016).

Photo 29: View of substrate sample (SS7) collected in the northeastern portion of Fox Pond (July 13, 2016).

Photo 30: View of substrate sample (SS10) collected in the southern portion of Fox Pond (July 13, 2016).

Photo 31: Substrate sample (SS11) in the south eastern portion of Fox Pond (July 13, 2016).

Photo 32: Brook Trout captured in the Outfall minnow net (July 12, 2016).

Photo 33: Brook Trout captured in the un-baited fyke net (July 12, 2016).

Photo 34: Brook Trout captured in baited fyke net (July 13, 2016).

Photo 35: One of two Brook Trout caught in baited fyke net (July 14, 2016).

Photo 36: Beaver berm at Fox Pond Outfall (July 11, 2016).

Photo 37: Outfall channel downstream of beaver berm (July 11, 2016).

Photo 38: Open-water wetland along Fox Pond Outfall (July 11, 2016).

Photo 39: Beaver berm downstream of open-water wetland along Fox Pond Outfall (July 11, 2016).

Photo 40: View of rock channel along the Fox Pond Outfall (July 11, 2016).

Photo 41: Natural fish passage barriers in the rock channel along Fox Pond Outfall (July 11, 2016).

Photo 42: Man-made drainage channel entering Fox Pond Outfall (July 11, 2016).

Photo 43: Grass wetland along Fox Pond Outfall. Beaver berm visible in the background (July 11, 2016).

Photo 44: View of Fox Pond Outfall discharging into Camp Pond (July 11, 2016).

Photo 45: Brook Trout caught via electrofishing in the Fox Pond Outfall (July 13, 2016).

Photo 46: Brook Trout caught via electrofishing in the Fox Pond Outfall (July 13, 2016).

Appendix B

Species at Risk Information

RE: New Data Request: 2016-06-15 19:54:07

Tue 21/06/2016 11:28
From: Durocher, Adam
To: jennifer.nicholson@gemtec.ca

Hi Jennifer,

Attached are the species at risk data request results for your site at Fox Pond in Ming's Bight, Newfoundland and Labrador.

Summary: Within your study area, there were no rare animal or rare plant records found. **In the case of zero result data requests, there is no charge for the work.**

Secondly, a new addition to our standard data requests is the use of Expert Opinion Maps. These maps are the result of our work with species-specific experts to gather suggestions about locations where species at risk - either provincially, SARA or COSEWIC listed - may be found. While we don't have observations in our database for these species within your study area, our Expert Opinion Maps suggest that Banded Killifish, Ivory Gulls, Mountain Holly Fern, Red Crossbills and Rusty Blackbirds are *possible*, while Polar Bears in the spring & summer, Boreal Felt Lichen, Short-eared Owls and Newfoundland Marten are *possible, but unlikely* in your area. Your area is also said to be within the Barrow's Goldeneye's *range*.

For more information, including a map absent of rare fauna/flora locations for your area, please refer to the following attached document:

Map.jpg - shows the location of the 5 km buffer around your site in Ming's Bight.

Please do not hesitate to contact me if you have any questions.

Adam Durocher

Data Manager

Atlantic Canada Conservation Data Centre

Corner Brook, NL

709-637-2494

DATA SOURCES:

All data housed at Atlantic Canada Conservation Data Centre (ACCDC). Refer to the 'CITATION' field for data sources.

CAVEATS:

ACCDC rare taxa occurrence records are offered as a guide recognizing that the ability to find plants and animals will depend upon the season. The ACCDC makes a strong effort to verify the accuracy of all the data it obtains, generates and manages, but it will not be held responsible for inaccuracies in data that it provides.

PLEASE NOTE:

* ACCDC data is restricted for use by the specified data user only; any third party requiring data must make its own request to the ACCDC.

* Specified data users may not publish any information provided by the ACCDC or its partners without prior permission.

* To ensure the currency of the data, the ACCDC requires Data Users to destroy all copies of data 18 months after the date of receipt.

* ACCDC data reports are restricted to that data in our Data System at the time of the request.

* Data accuracy is qualified as to location (Accuracy) and time (Date)

* ACCDC data reports are not to be constructed as exhaustive inventories of taxa in an area.

* The non-occupancy of a taxon cannot be inferred by its absence in an ACCDC data report.

* Museum databases, which are the basis for more accessible public databases, such as those of the ACCDC, are works in progress. Essentially, they are finding aids and dynamic data records, constructed primarily to serve scientists engaged in the continuing, active process of plant systematics and taxonomy. Ongoing additions of new collections, and frequent upgrades to the identifications of all plant specimens housed in museum herbaria, may not always be reflected, in real time, by databases such as those of the ACCDC. Specifically, the conservation status of individual species recorded in the ACCDC database may not be absolutely current. It is therefore the responsibility of the data user to contact the relevant museums directly, in order to check for the most current identifications of specimens of interest, and to ascertain from the scientists concerned, their current understanding of the conservation status of individual species in question. The absolute conservation status of any given species is dynamic, and subject to change over short periods of time.

From: James Churchill (AC CDC) [mailto:jlchurchill@mta.ca]
Sent: Thursday, June 16, 2016 8:49 AM
To: Durocher, Adam
Subject: Fwd: New Data Request: 2016-06-15 19:54:07

---------- Forwarded message ----------
From: **Apache** <apache@webserv2.mta.ca>
Date: Wed, Jun 15, 2016 at 4:54 PM
Subject: New Data Request: 2016-06-15 19:54:07
To: jlchurchill@mta.ca

New Data Request:

name: Jennifer Nicholson
company: GEMTEC Limited
phone: 5064766176
email:
email2:
jobnum: 80016.01
area: Fox Pond, Ming's Bight, NFLD
details: Fish Habitat Survey
lat: 49.967644
lon: -56.076170
comment:
asap: standard

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.....

UPDATES (www.accdc.com/en/updates.html (http://www.accdc.com/en/updates.html))

December 23, 2015. Database release 151223 and SRANK updates
(http://www.accdc.com/en/updates.html#Dec2015)

November 12, 2015. Updates to 100 km species lists (Data Report Section 5.0)
(http://www.accdc.com/en/updates.html#Nov2015)

July, 2015. Updated Data Request Cost Structure (http://www.accdc.com/en/updates.html#Jul2015)

June 10, 2015. NEW - Submit Data Requests online (http://www.accdc.com/en/updates.html#Jun2015)

June 10, 2015. Our new website is live! (http://www.accdc.com/en/updates.html#Jun2015)

May, 2014. Location Sensitive Species (Data Report Section 4.3)
(http://www.accdc.com/en/updates.html#May2015)

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James Churchill
Data Manager
Atlantic Canada Conservation Data Centre (AC CDC)
JLchurchill@mta.ca
P: (902) 679-6146

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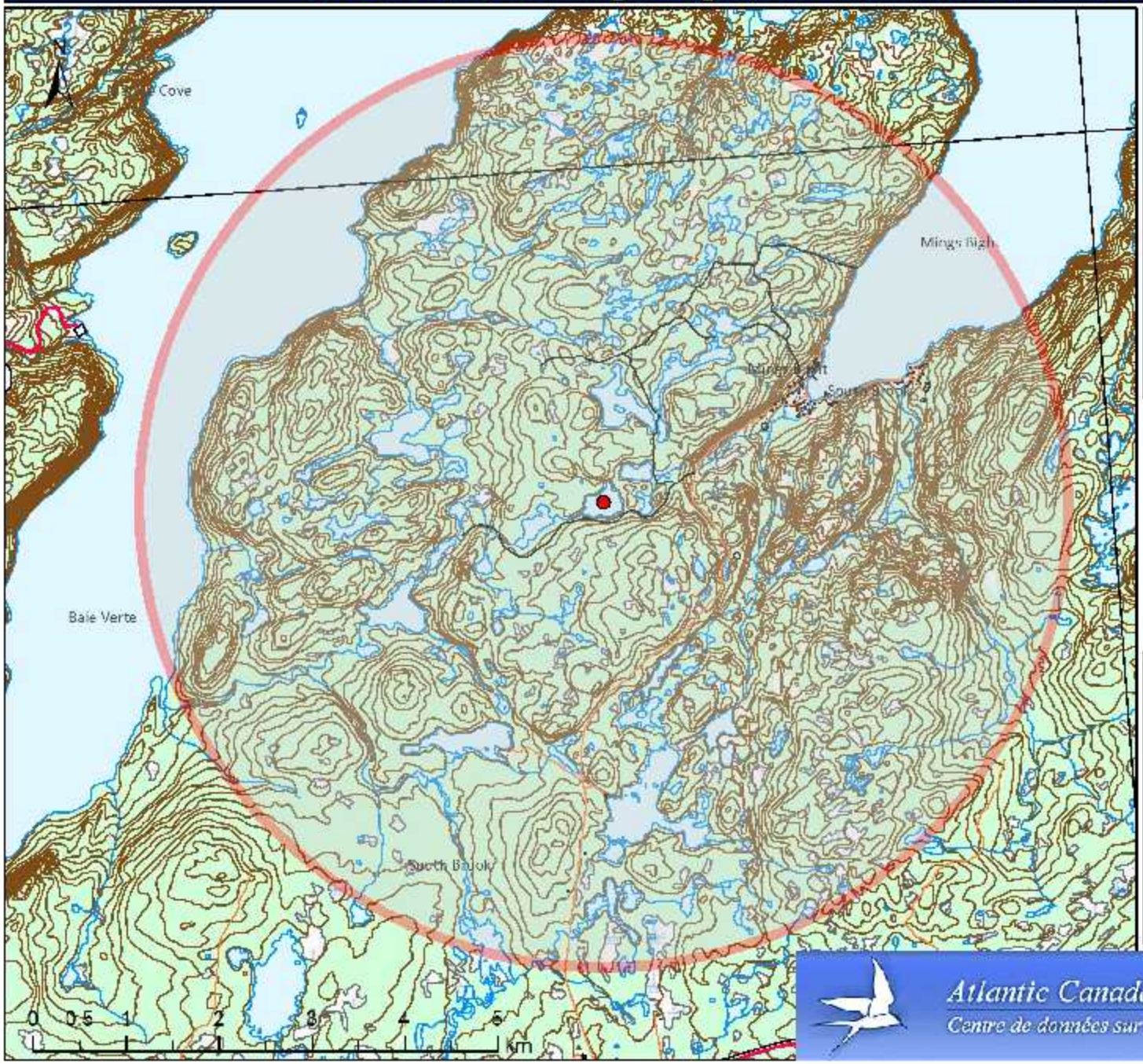
Attachments:

- image002.jpg
- Map.jpg

GIS Scan of Rare and Provincially/Federally Listed Species for Fox Pond in Ming's Bight, Newfoundland and Labrador



Legend

- Point of Interest (POI)
- 5 km Buffer Around POI

Atlantic Canada Conservation Data Centre
Date: Tuesday, June 21, 2016
For: GEMTEC Limited
Data Request: RQ0548

Datum: Transverse Mercator NAD83
Note: Interpretations of this map should always be conducted in relation with data provided in spreadsheets and any other communications.

Atlantic Canada Conservation Data Centre
Centre de données sur la conservation du Canada Atlantique

TABLE B1: SPECIES HABITAT COMPARISON

Common Name	Scientific Name	COSEWIC	SARA	NFLD SAR
Flora				
Mountain Holly Fern	*Polystichum scopulinum*	Threatened	Threatened	-
Boreal Felt Lichen	*Erioderma pedicellatum*	Special Concern	Special Concern	Vulnerable
Fauna				
Banded Killfish	*Fundulus diaphanus*	Special Concern	Special Concern	Vunerable
Ivory Gulls	*Pagophila eburnea*	Endangered	Endangered	Endangered
Red Crossbills	*Loxia curvirostra percna*	Threatened	Endangered	Endangered
Rusty Blackbird	*Euphagus carolinus*	Special Concern	Special Concern	Vulnerable
Polar Bears	*Ursus maritimus*	Special Concern	Special Concern	Vulnerable
Short-eared Owl	*Asio flammeus*	Special Concern	Special Concern	Vulnerable
Newfoundland Marten	*Martes americana atrata*	Threatened	Threatened	Threatened
Barrow's Goldeneye	*Bucephala islandica*	Special Concern	Special Concern	Vulnerable

TABLE B2: SPECIES HABITAT COMPARISON

Common Name	Scientific Name	Prefered Habitat	Habitat Present
Flora			
Mountain Holly Fern	*Polystichum scopulinum*	In North America, Mountain Holly Fern grows in a specialized habitat consisting of shallow soil with a high concentration of heavy metals over a substrate of rocks containing iron and magnesium silicate (ultramafic rocks), mainly olivine and serpentine. The population on the island of Newfoundland was recorded in 1950 from the Humber West area (North Arm Mountain) in the western part of the island and occurred on the southerly slopes of a serpentine ridge.	N
Boreal Felt Lichen	*Erioderma pedicellatum*	Currently believed to exist only in Canada with two disjunct populations: the boreal population (the island of Newfoundland) and the Atlantic population (Nova Scotia and New Brunswick). The boreal population of the lichen is known from a total of 94 existing and historical sites scattered across the western and southern regions of the island of Newfoundland. Typical habitat for the Boreal Felt Lichen is northerly exposed forested slopes where cool and moist conditions prevail throughout most of the year. These mature forest sites are also rich in moisture-loving species such as sphagnum mosses and Cinnamon Fern. In well-lit forests, the Boreal Felt Lichen is found predominantly on tree trunks' whereas in more shaded habitats it is found mostly on branches.	Y
Fauna			
Banded Killfish	*Fundulus diaphanus*	There are seven known sites for the Newfoundland population of Banded Killifish. The majority of these sites are coastal, in the southwestern portion of the island, although one site is inland, in the Indian Bay watershed of northeastern Newfoundland. Banded Killifish in Newfoundland tend to frequent quiet areas of clear lakes and ponds with a muddy or sandy bottom. For spawning, they depend on warm water where there is abundant submerged aquatic vegetation and considerable detritus. Although this type of habitat is abundant in Newfoundland watersheds, the species occurs only in very restricted areas of one or two of the lakes in the watersheds it occupies. It cannot use inland waters where there are barriers to migration, such as rivers with steep gradients; however, the Banded Killifish does not occur in habitats that meet the understood criteria and that appear to be accessible to existing populations.	N
Barrow's Goldeneye	*Bucephala islandica*	Data indicate that it breeds only in Canada with the only confirmed breeding records are from Quebec. Small numbers of this population winter in the Maritime Provinces and along the northern Atlantic coastline in the United States. In Quebec, the eastern population inhabits the balsam fir-white birch forest regions of the province. More specifically, birds appear to be restricted to small, high elevation lakes north of the St. Lawrence Estuary and Gulf. During the non-breeding season, the species spends time in the coastal waters of the Estuary and Gulf.	N
Ivory Gulls	*Pagophila eburnea*	In Canada, the species breeds exclusively in Nunavut. Wintering occasionally along the eastern coasts of Newfoundland and Labrador, particularly the Great Northern Peninsula of Newfoundland. Outside the breeding season, Ivory Gulls live near the edges of pack ice or drift ice.	N
Newfoundland Marten	*Martes americana atrata*	The atrata subspecies of the American Marten is found in Canada, on the island of Newfoundland and in northern Quebec and Labrador. The Newfoundland population occurs only on the island of Newfoundland. The Newfoundland population of the American Marten is currently found in three main forest patches in western Newfoundland (Little Grand Lake, Red Indian Lake and Main River) and on the east coast of Newfoundland (Terra Nova National Park of Canada). Smaller populations occur in peripheral areas near St. George's and Lobster House Hill. Newfoundland Marten prefer mature (old growth) coniferous and mixed-wood forests and coniferous forests of varying ages. Martens require dense overhead cover, coarse woody debris, shrubs, and trees with low-hanging branches.	Y
Polar Bears	*Ursus maritimus*	In Canada, the species is found in ice-covered regions from Yukon and the Bering Sea in the west to Newfoundland and Labrador in the east and from northern Ellesmere Island south to James Bay. The bears are found mainly in the coastal regions of the Arctic Ocean and in the channels between the islands. The Polar Bear frequents the southern edge of the multi-year pack ice of the Arctic Ocean (the ice-covered waters surrounding the North Pole). It is commonly found in coastal areas and in the channels between the islands and archipelagos of the Arctic.	N
Red Crossbills	*Loxia curvirostra percna*	Red Crossbills are highly specialized for conifer habitats. Unlogged or mature forests that produce abundant cones are this bird's preferred habitat. Habitats that furnish the Red Crossbill percna subspecies with conifer seeds are large, mature black spruce and balsam fir stands and, on smaller scales throughout the island, red pine, white pine, and white spruce stands. In addition to foraging in these stands, the bird also roosts and nests there; however, the foraging sites can be distant from the roosting and nesting sites. Because thissubspecies is hard to identify in the field, it is not certain that all of the Red Crossbills observed in Newfoundland have in fact been of the rare percna subspecies.	Y
Rusty Blackbird	*Euphagus carolinus*	The Rusty Blackbird nests in the boreal forest and favours the shores of wetlands such as slow-moving streams, peat bogs, marshes, swamps, beaver ponds and pasture edges. In wooded areas, the Rusty Blackbird only rarely enters the forest interior. During the winter, the Rusty Blackbird mainly frequents damp forests and, to a lesser extent, cultivated fields.	Y
Short-eared Owl	*Asio flammeus*	In North America, it breeds sporadically in arctic areas, coastal marshes and interior grasslands, where voles and other small rodents proliferate. The Short-eared Owl makes use of a wide variety of open habitats, including arctic tundra, grasslands, peat bogs, marshes, sand-sage concentrations and old pastures. It also occasionally breeds in agricultural fields. Preferred nesting sites are dense grasslands, as well as tundra with areas of small willows. While the Short-eared Owl has a marked preference for open spaces, the main factor influencing the choice of its local habitat is believed to be the abundance of food, in both summer and winter.	N

* Habitat information obtained from Species at Risk Public Registry (SARA, 2016).

Appendix C

Stream Assessment Forms

04-98

DNR&E / DFO - NEW BRUNSWICK
STREAM HABITAT INVENTORY

River: Fox Pond Outfall Start Point: DN Stream Outfall End Point: Fox Pond Outfall Drainage Code: □□ □□ □□ □□ □□

No. ____
Personnel: JN Date: July 13, 2016 GIS Map No. n/a Drainage Name: Fox Pond
No. ____

	UNIT NO.	STREAM TYPE	CHANNEL TYPE	LENGTH (m) *	AVG WIDTH (m) *		SUBSTRATE (%) *							AVG DEPTH WET WIDTH (cm) *	0 - 50% UNDERCUT BANK		0 - 50% OVERHANGING VEGETATION		LARGE WOODY DEBRIS IN STREAM (m) *	FLOWS *					EMBEDDEDNESS (CRITERIA) 1: ≤ 20% 2: 20% - 35% 3: 35% - 50% 4: ≥ 50%	COMMENTS
					WET	BANK CHANNEL	BED-ROCK	BOULDER	ROCK	RUBBLE	GRAVEL	SAND	FINES		L	R	L	R		TYPE	FLOW (cms)	TIME	TEMP (°C) W	TEMP (°C) A		
	1	3	1	0	0.90	1.98	0	50	10	20	10	10	0	3.3	0	0	0	0	1	3	100	14.7	-	-	3	47
	2	3	1	25	0.35	2.13	0	0	25	25	25	20	5	10	0	0	10	0	0	3	-	-	-	-	213	47
	3	3	1	50	0.35	0.66	0	0	5	30	45	15	5	10	0	25	25	25	2	3	-	-	-	-	2	47
	4	3	1	75	1.27	13.4	0	0	0	0	5	10	85	15	0	0	25	25	0	3	-	-	-	-	1	47
	5	3	1	100	0.68	1.19	0	0	20	35	35	10	0	3.3	0	0	10	10	0	3	100	19.3	-	-	1	47
	6	3	1	125	0.73	1.01	0	30	20	20	20	10	0	5	0	0	40	10	0	3	-	-	-	-	2	-
	7	3	1	150	3.50	3.81	2	8	5	5	15	10	55	56	5	10	50	50	3	3	-	-	-	-	4	-
	8	3	1	175	1.91	3.43	15	10	40	25	3	2	5	1.0	30	10	50	50	0.5	3	100	12.6	-	-	2	47
	9	3	1	200	0.56	1.54	0	5	10	30	30	20	5	7	0	0	40	50	1	3	-	-	-	-	2	-
	10	3	1	225	0.66	2.64	0	15	10	20	20	30	5	6	0	10	50	50	5	3	-	-	-	-	3	47

CHECKLIST OF LAND USE ATTRIBUTES (COMMENTS)

1. ACTIVE BEAVER DAM
2. INACTIVE BEAVER DAM
3. WOODY DEBRIS (OBSTRUCTION)
4. MAN-MADE DAM OBSTRUCTION
5. ROCK DAM (SWIMMING POOL)
6. BRAIDED STREAM CHANNELS
7. OBSTRUCTION IN STREAM
8. ROAD FORD

POLLUTION CAUSED BY:

9. FOOD PROCESSING INDUSTRY
10. FOREST INDUSTRY
11. CAMPSITES OR RESIDENTIAL
12. MINING
13. LITTER
14. OIL
15. AGRICULTURE WASTE
16. HEALTH HAZARD

17. CLEAR CUT TO STREAM EDGE
18. SELECTIVE CUT
19. BUFFER STRIP PRESENT

20. CATTLE CROSSING
21. EROSION FROM AGRICULTURE
22. SUSPENDED SILT NOTED
23. UNUSUAL STREAM SCOURING
24. LARGE BEDLOAD DEPOSIT
25. BANK EROSION - MODERATE
26. BANK EROSION - EXCESSIVE
27. STREAM DREDGING/BULLDOZING
28. GRAVEL REMOVAL
29. CHANNELIZATION (RIPRAP, ETC)
30. STREAM DIVERSION

31. WATER WITHDRAWAL
32. REGULATED STREAM FLOW
33. CAMP/COTTAGE PRESENT
34. RESIDENTIAL AREA
35. ACCESS - ATV'S
36. ACCESS - TRAILS
37. ACCESS - TRUCK/CAR
38. ACCESS - BOAT

39. ROAD CROSSING (BRIDGE)
40. ROAD CROSSING (CULVERT)
41. BOAT LANDING

42. ORGANIC LITTER
43. AQUATIC PLANTS ABUNDANT

44. GOOD SPAWNING
45. GOOD NURSERY
46. ATLANTIC SALMON OBSERVED
47. BROOK TROUT OBSERVED

STREAM TYPE

FASTWATER		POOLS			
1. Fall	6. Sheet (ledge)	10. Midchannel	14. Trench	18. Eddy	22. Wood Debris
2. Cascade	7. Chute	11. Convergence	15. Plunge	19. Gabion	23. Man-Made Dam
3. Riffle (GR/RB)	8. Run	12. Lateral	16.	20. Log Structure	24. Natural Deadwater
4. Riffle (R/B)	9. Rapid	13. Beaver	17. Bogan	21. Road Crossing	
5. Riffle (Sand)					

CHANNEL TYPE

1. Main (if measurement refers to main area of river)
* 2. Side Channel (water diverted by islands)
* 3. Split (if river is split into various different stream types)
* 4. Bogan

*Specify Left (L), Right (R) or Middle (M)

SUBSTRATE

1. Bedrock, Ledge		
2. Boulder	=	> 461 mm
3. Rock	=	180 - 460 mm
4. Rubble	=	54 - 179 mm
5. Gravel	=	2.6 - 53 mm
6. Sand	=	0.06 - 2.5 mm
7. Fines	=	0.0005 - 0.05 mm

FLOW TYPE

1. Survey stream
2. Spring
3. Brook / River Tributary
4. Spring Seep

POOL RATING (reverse side)

CRITERIA NO.	% OF POOLS IN SITE (LETTER)
POOL DEPTH ≥ 1.5m	a - ≥ 30%
1 - Instream Cover ≥ 30%	b - ≥ 10 to 30%
2 - Instream Cover < 30%	c - < 10%
POOL DEPTH .5 - 1.5m	a - ≥ 50%
3. Instream cover 5-30%	b - < 50%
4 - Instream Cover > 30%	

REACH NO.	SITE (50m interval)	% SITE		SHADE (%)	STREAM BANKS										O_2 (mg/l)	pH	DEPTH						POOL RATING (CRITERIA ON OTHER SIDE)		POOL TAIL			% TURBULENCE
					VEGETATION (%)				EROSION (%)								¼ (m)		½ (m)		¾ (m)							
		RIFFLE/ RUN	POOLS		BARE GROUND	GRASSES	SHRUBS	TREES	LEFT BANK (0 - 50%)			RIGHT BANK (0 - 50%)					Wet	CHANNEL	Wet	CHANNEL	Wet	CHANNEL	NO.	LETTER	EMBEDDEDNESS (CRITERIA) 1: ≤ 20% 2: 20% - 35% 3: 35% - 50% 4: ≥ 50%	MEAN SUBSTRATE SIZE (cm)	% FINE	
									STABLE	BARE STABLE	ERODING	STABLE	BARE STABLE	ERODING														
1	1	100	0	0	50	40	10	0	10	40	0	10	40	0	-	-	0.025	0.05	0.05	0.28	0.025	0.15	-	-	-	-	-	25
1	2	100	0	0	0	90	10	0	50	0	0	50	0	0	-	-	0.07	0.4	0.12	0.40	0.16	0.03	-	-	-	-	-	0
1	3	100	0	50	0	50	50	0	50	0	0	25	0	25	-	-	0.05	0.15	0.10	0.15	0.05	0.20	-	-	-	-	-	0
1	4	100	0	10	0	95	5	0	50	0	0	50	0	0	-	-	0.07	0.12	0.20	0.23	0.07	0.23	-	-	-	-	-	0
1	5	100	0	15	0	80	20	0	50	0	0	50	0	0	-	-	0.025	0.12	0.05	0.15	0.01	0.12	-	-	-	-	-	0
1	6	100	0	20	0	50	50	0	35	5	10	50	0	0	-	-	0.04	0.15	0.06	0.23	0.04	0.20	-	-	-	-	-	0
1	7	5	95	75	40	10	25	25	5	5	40	5	5	40	-	-	0.47	0.73	0.61	1.01	0.53	1.42	1	A	4	organics <1cm	80	0
1	8	95	5	50	60	0	10	40	20	5	25	5	20	25	-	-	0.02	0.30	0.025	0.27	0.01	0.27	2	C	3	Fines <1cm	80	0
1	9	100	0	10	0	50	50	0	45	5	0	40	5	5	-	-	0.10	0.12	0.09	0.12	0.05	0.12	-	-	-	-	-	0
1	10	100	0	50	5	30	40	25	45	0	5	25	0	25	-	-	0.05	0.12	0.08	0.15	0.05	0.17	-	-	-	-	-	0

REACH NO.	UNIT NO.	STREAM TYPE	WET WIDTH (m)	DEPTH (cm)			AVERAGE DEPTH SUM/4		COEFFICIENT (0.9 - SMOOTH) (0.8 - ROUGH)	LENGTH (3m)	FLOAT TIME (sec)				COMMENTS (LOCATION)
				⅛ WAY	½ WAY	⅞ WAY	CENTIMETERS (cm)	METERS (m)			1 ⅛ WAY	2 ½ WAY	3 ⅞ WAY	AVERAGE	
1	1	3	0.90	2.5	5.0	2.5	3.33	0.033	0.8	0.33	13	16	15.3	14.7	CMS = 5.33 x 10⁻⁰⁴ ; Outlet channel
1	5	3	0.68	2.5	5.0	2.5	3.33	0.033	0.8	0.33	21	23	14	19.3	CMS = 3.07 x 10⁻⁰⁴ ; Grass wetland
1	8	3	1.91	2.0	2.5	1.0	1.83	0.018	0.8	0.33	10	14	14	12.666	CMS = 7.28 x 10⁻⁰⁴ ; Rock channel

FORMULA (CMS) = $\frac{W\ \text{(m)} \times D\ \text{(m)} \times A}{T\ \text{(sec)}} \times L\ \text{(m)}$ Where: W = width, D = depth, L = length, A is coefficient for the stream bottom

Appendix D

Water Quality Results

Table D-1 Water Quality Results - Fox Pond				
Sample Site	**Temperature (°C)**	**Conductivity (µS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**
11-Jul-16				
FP1	17.49	104	9.33	8.6
FP2	17.52	104	9.08	8.13
FP3	17.47	103	9.23	8
FP4	17.47	103	9.48	7.96
FP5	17.02	102	9.72	7.93
FP6	17.97	102	9.84	7.94
FP7	17.51	103	9.66	7.93
FP8	17.52	103	9.56	7.91
FP9	17.58	103	9.54	7.86
FP10	17.56	114	9.05	7.87
FP11	17.57	102	9.4	7.98
FP12	17.57	104	9.48	8.04
FP13	17.26	101	9.52	7.86
FP14	17.56	121	9.11	7.94
FP15	17.37	103	9.35	7.6
13-Jul-16				
FP16	16.84	101	9.83	8.26
FP17	16.35	99	9.81	8.45
FP18	15.93	98	9.46	8.46
FP19	15.9	97	9.5	8.8
FP20	16.04	98	9.31	8.78
FP21	16.14	99	9.35	8.78
FP22	15.99	99	9.31	8.82
FP23	16.17	98	9.14	8.8
FP24	16.69	109	8.92	8.71
FP25	16.67	100	9.32	8.72
FP26	15.66	98	9.28	9.08

*Note: All parameters were measured using a YSI 556 multimeter submerged to a depth of 3 ft.

Table D-2 Water Quality Results - Fox Pond Water Column					
Sample Site	**Depth (m)**	**Temperature (°C)**	**Conductivity (µS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**
12-Jul-16					
FP4	**0.91**	17.47	103	9.48	7.96
	1.37	15.72	98	9.34	8.02
FP15	**0.91**	17.37	103	9.35	7.6
	2.44	16.69	102	9.49	7.77
	3.96	16.1	103	9.48	7.79
	5.49	16.22	104	9.67	7.72
	7.01	7.84	105	9.01	8.04
	8.53 (bottom)	8.02	105	8.73	6.02
13-Jul-16					
FP18	**0.91**	15.93	98	9.46	8.46
	2.74	15.57	97	9.56	8.42
	6.71	10.25	96	8.05	7.91
FP21	**0.91**	16.14	99	9.35	8.78
	4.88	8.11	109	7.17	9.52
FP25	**0.91**	16.67	100	9.32	8.72
	1.93	15.7	99	8.67	8.97
	2.44 (bottom)	14.86	114	7.52	9.1

*Note: All parameters were measured using a YSI 556 multimeter.

Table D-3 Water Quality Results - Fox Pond Outfall				
Sample Site	**Temperature (°C)**	**Conductivity (µS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**
12-Jul-16				
FPO1	15.83	100	7.91	8.96
FPO2	14.06	101	7.77	8.49
FPO3	13.61	99	7.47	8.19
FPO4	13.09	98	7.33	8.07
FPO5	13.47	98	9.07	7.98
FPO6	13.52	96	8.98	7.94
FPO7	13.67	95	8.13	7.91

*Note: All parameters were measured using a YSI 556 multimeter.

GEMTEC
Consulting Engineers and Scientists

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29 August, 2016

File: 80016.01

Anaconda Mining Inc.
238 Highway 410
Baie Verte, NL
A0K 1B0

Attention: Gordana Slepcev, P.Eng., M.Sc.
Manager of Technical Services

Re: Desktop Hydrological Assessment, Fox Pond and its Outflow
Stog'er Tight Property, located near Ming's Bight, Newfoundland

Existing Conditions

GEMTEC Limited (GEMTEC) currently understands that water is exiting Fox Pond through a channel at an elevation of approximately 114m. Additionally, based on aerial photographs, it was assumed that the ground cover is primarily Woods with a class C soil category. This soil class was selected based on the understanding that there was a lot of rock in the area and would not absorb much water before becoming saturated.

Topographic mapping was acquired and used to determine the existing watershed of the pond as well as the longest flow path. Finally IDF data was obtained for the Daniels Harbour IDF station in order to predict the flows for the various return periods. This station was used because it provided 15 years more data than La Scie which was the closest IDF station.

Calculations

In order to determine the time of concentration a number of methods were considered, however, Kerpich was selected because it was developed for use on smaller drainage areas and also returned the shortest time of concentration for a conservative calculation. Based on the slope, flow path and length the time of concentration was estimated to be 22 minutes.

Using our HydroCAD software we were able to calculate the flows for the 2, 5, 10, 20, 25, 50 and 100 year return period storm. Using the Rational method the following flows were obtained:

Return Period	2	5	10	20	25	50	100
Flow Rate m^3/s	1.792	2.536	3.026	3.502	3.652	4.111	4.567

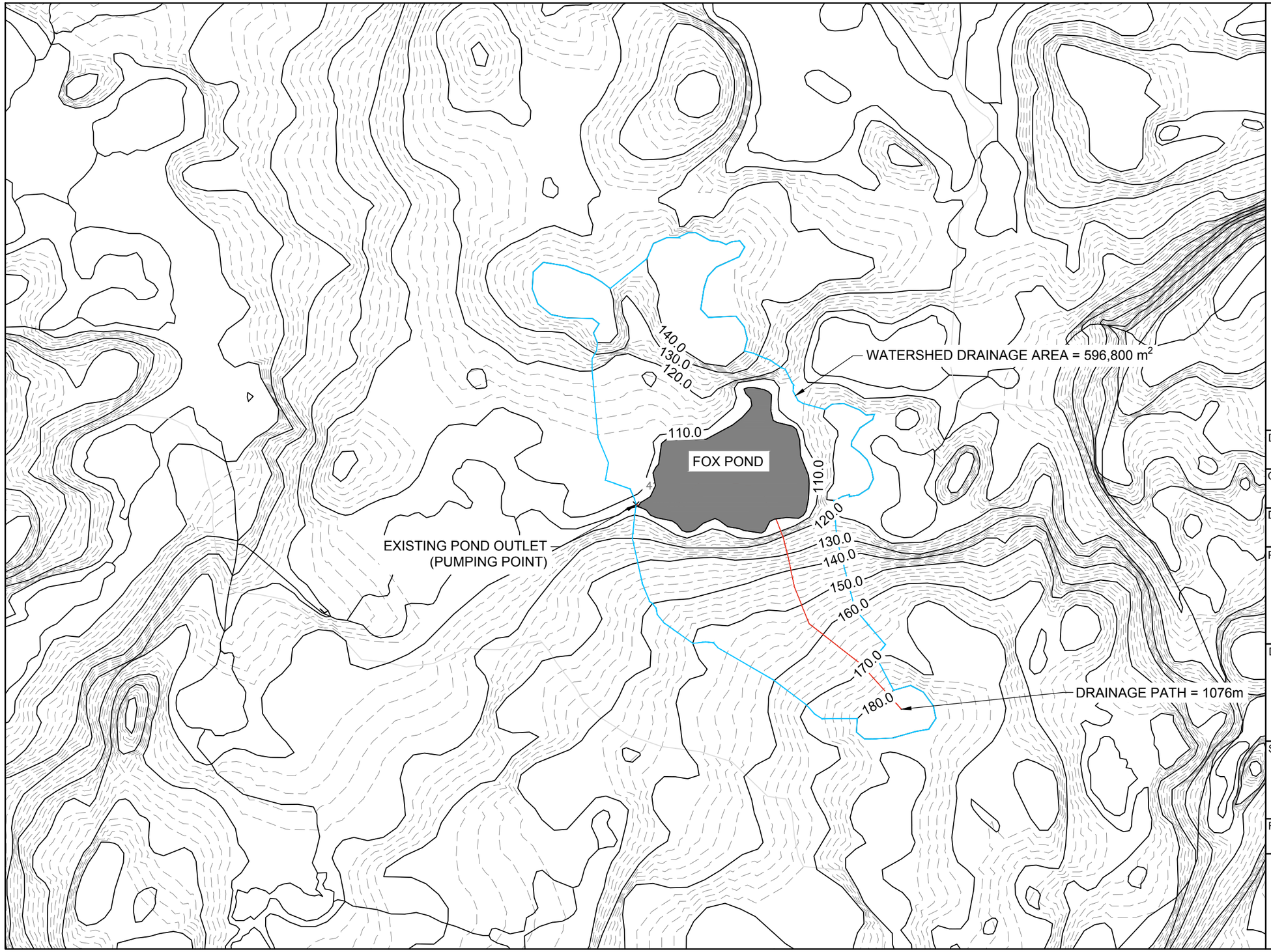
Please refer to the attached showing the watershed area, flow paths and HydroCAD results for all return periods.

If you have any questions please feel free to contact us.

Matt Nicholson, P. Eng.

MGN

N:\files\80000\80016.01 - Anaconda Stoger Tight\Flow Rates\2016MN0804L1.doc



ESTIMATED FLOWS AT PUMPING POINT:

2 YEAR: 1.792 m^3/s
5 YEAR: 2.536 m^3/s
10 YEAR: 3.026 m^3/s
20 YEAR: 3.502 m^3/s
25 YEAR: 3.652 m^3/s
50 YEAR: 4.111 m^3/s
100 YEAR: 4.567 m^3/s

Drawn By	Checked By
MN	JJK
Calculations By	**Checked By**
MN	JJK

Date: JULY, 2016

Project: DESKTOP HYDROLOGICAL ASSESSMENT
FOX POND AND ITS OUTFLOW
MING'S BIGHT, NL

Drawing: DRAINAGE AREA AND FLOW PATH

Scale: 1:10000
0 200 400 600m

File No.	Drawing	Revision No.
80016.01	D01	0

GEMTEC
CONSULTING ENGINEERS AND SCIENTISTS

Summary for Subcatchment 1S: Fox Pond Outlet Flow

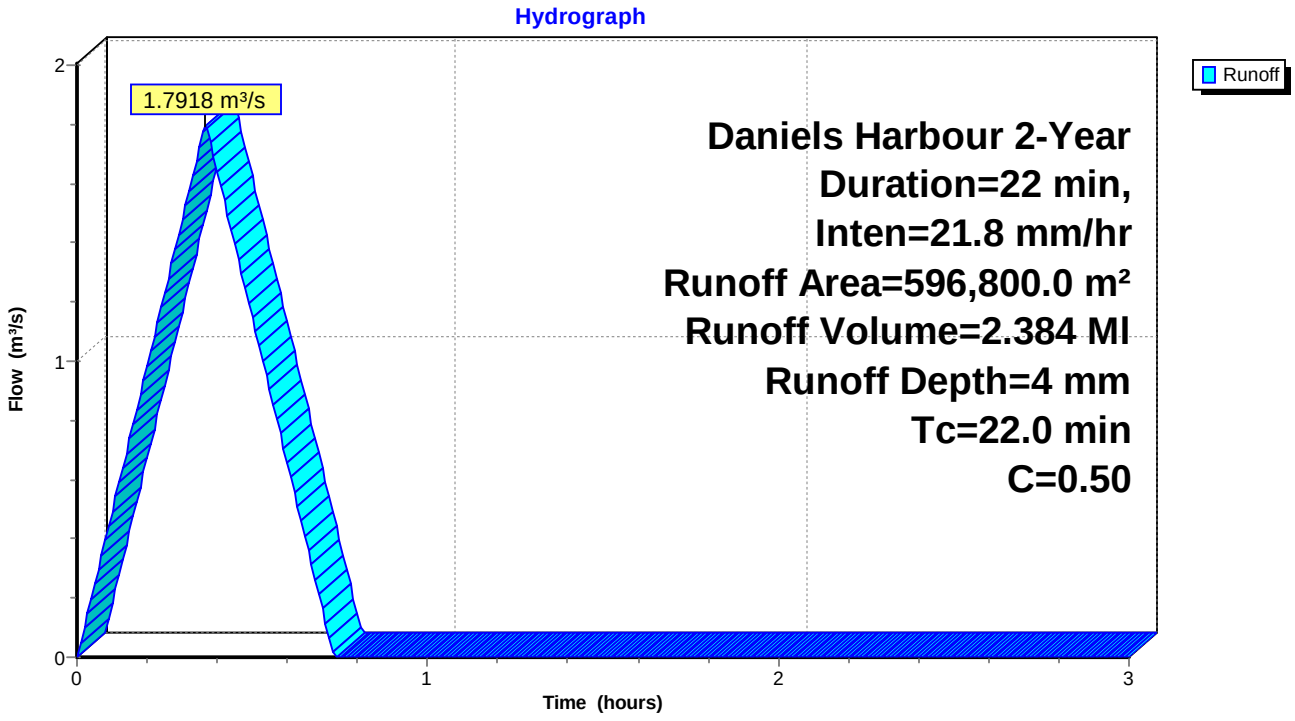
Runoff = 1.7918 m³/s @ 0.37 hrs, Volume= 2.384 Ml, Depth= 4 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Daniels Harbour 2-Year Duration=22 min, Inten=21.8 mm/hr

Area (m²)	C	Description
98,600.0	1.00	
498,200.0	0.40	Woods, Poor, HSG C
596,800.0	0.50	Weighted Average
498,200.0		83.48% Pervious Area
98,600.0		16.52% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
22.0					**Direct Entry,**

Subcatchment 1S: Fox Pond Outlet Flow



Summary for Subcatchment 1S: Fox Pond Outlet Flow

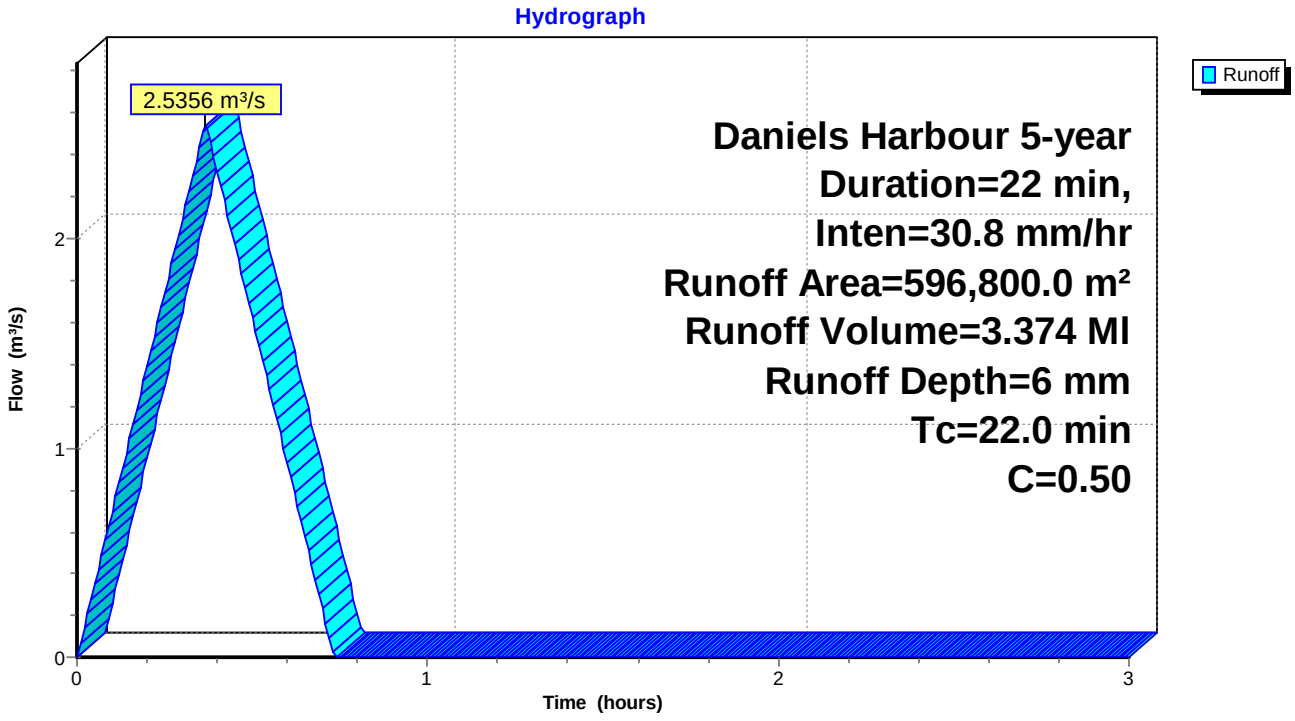
Runoff = 2.5356 m³/s @ 0.37 hrs, Volume= 3.374 Ml, Depth= 6 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Daniels Harbour 5-year Duration=22 min, Inten=30.8 mm/hr

Area (m²)	C	Description
98,600.0	1.00	
498,200.0	0.40	Woods, Poor, HSG C
596,800.0	0.50	Weighted Average
498,200.0		83.48% Pervious Area
98,600.0		16.52% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
22.0					**Direct Entry,**

Subcatchment 1S: Fox Pond Outlet Flow



Summary for Subcatchment 1S: Fox Pond Outlet Flow

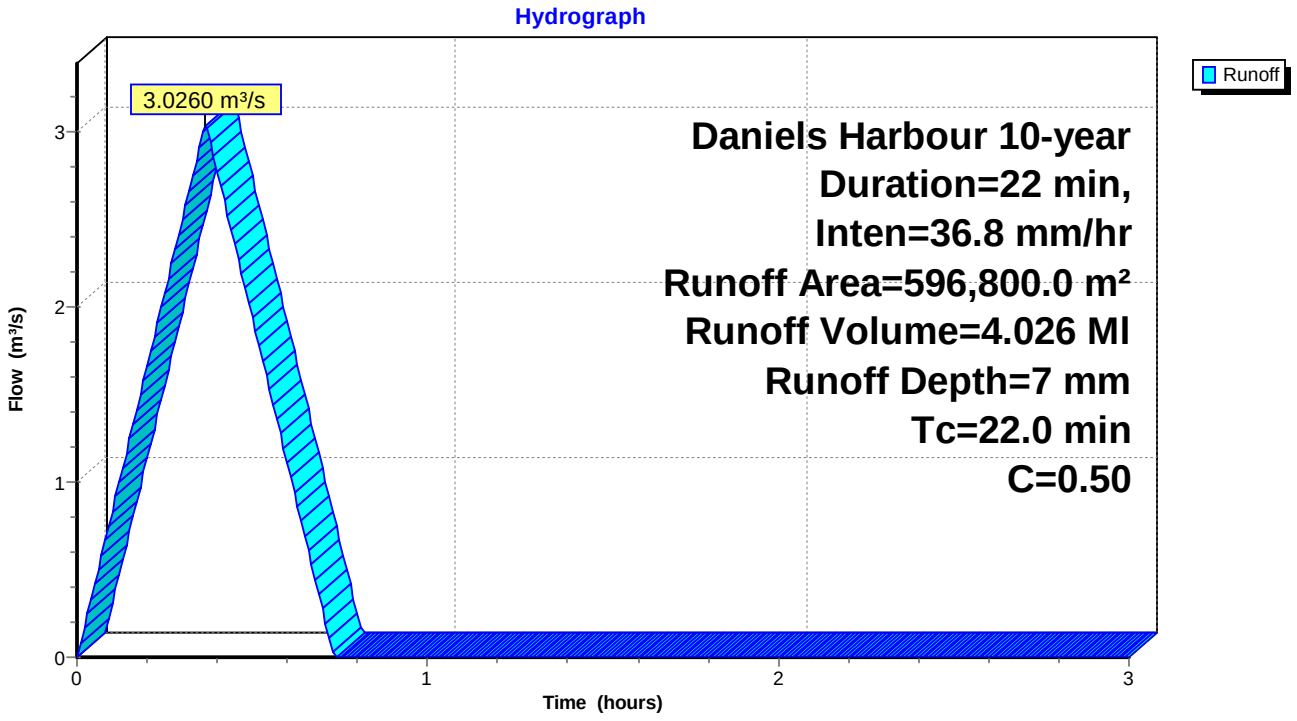
Runoff = 3.0260 m³/s @ 0.37 hrs, Volume= 4.026 Ml, Depth= 7 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Daniels Harbour 10-year Duration=22 min, Inten=36.8 mm/hr

Area (m²)	C	Description
98,600.0	1.00	
498,200.0	0.40	Woods, Poor, HSG C
596,800.0	0.50	Weighted Average
498,200.0		83.48% Pervious Area
98,600.0		16.52% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
22.0					**Direct Entry,**

Subcatchment 1S: Fox Pond Outlet Flow



Summary for Subcatchment 1S: Fox Pond Outlet Flow

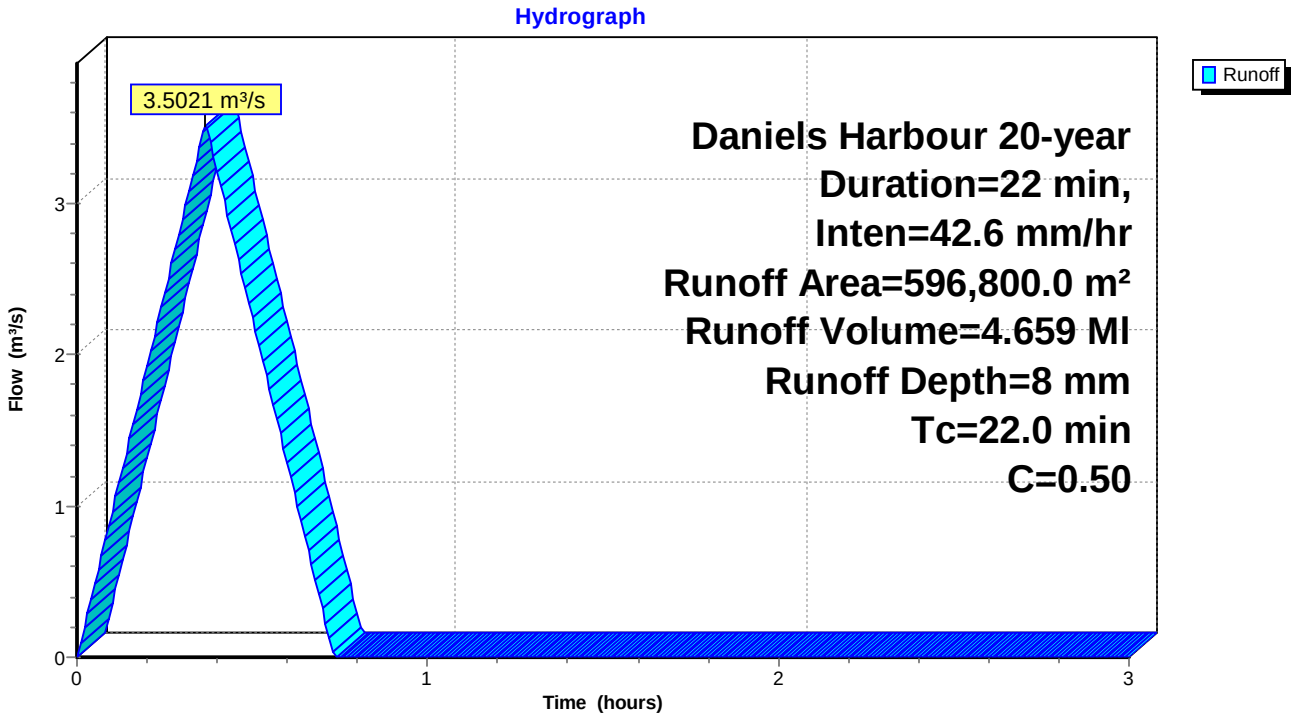
Runoff = 3.5021 m³/s @ 0.37 hrs, Volume= 4.659 Ml, Depth= 8 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Daniels Harbour 20-year Duration=22 min, Inten=42.6 mm/hr

Area (m²)	C	Description
98,600.0	1.00	
498,200.0	0.40	Woods, Poor, HSG C
596,800.0	0.50	Weighted Average
498,200.0		83.48% Pervious Area
98,600.0		16.52% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
22.0					**Direct Entry,**

Subcatchment 1S: Fox Pond Outlet Flow



Summary for Subcatchment 1S: Fox Pond Outlet Flow

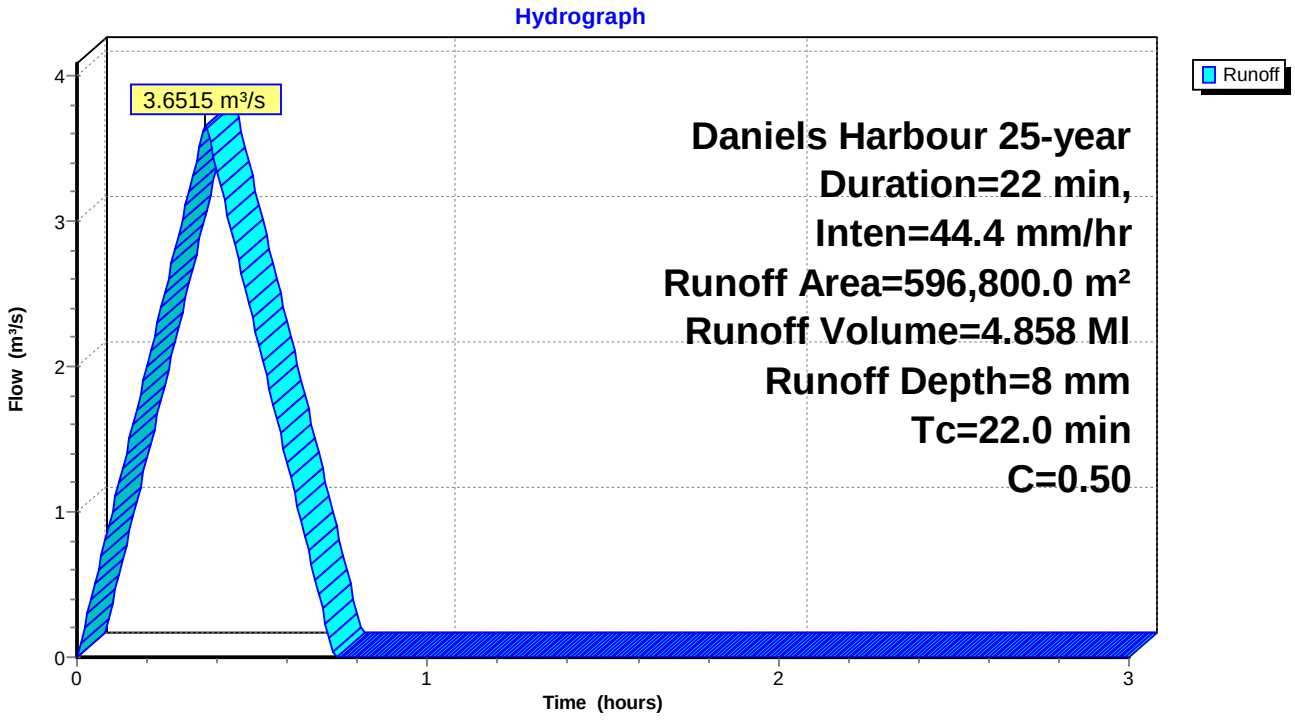
Runoff = 3.6515 m³/s @ 0.37 hrs, Volume= 4.858 Ml, Depth= 8 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Daniels Harbour 25-year Duration=22 min, Inten=44.4 mm/hr

Area (m²)	C	Description
98,600.0	1.00	
498,200.0	0.40	Woods, Poor, HSG C
596,800.0	0.50	Weighted Average
498,200.0		83.48% Pervious Area
98,600.0		16.52% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
22.0					**Direct Entry,**

Subcatchment 1S: Fox Pond Outlet Flow



Summary for Subcatchment 1S: Fox Pond Outlet Flow

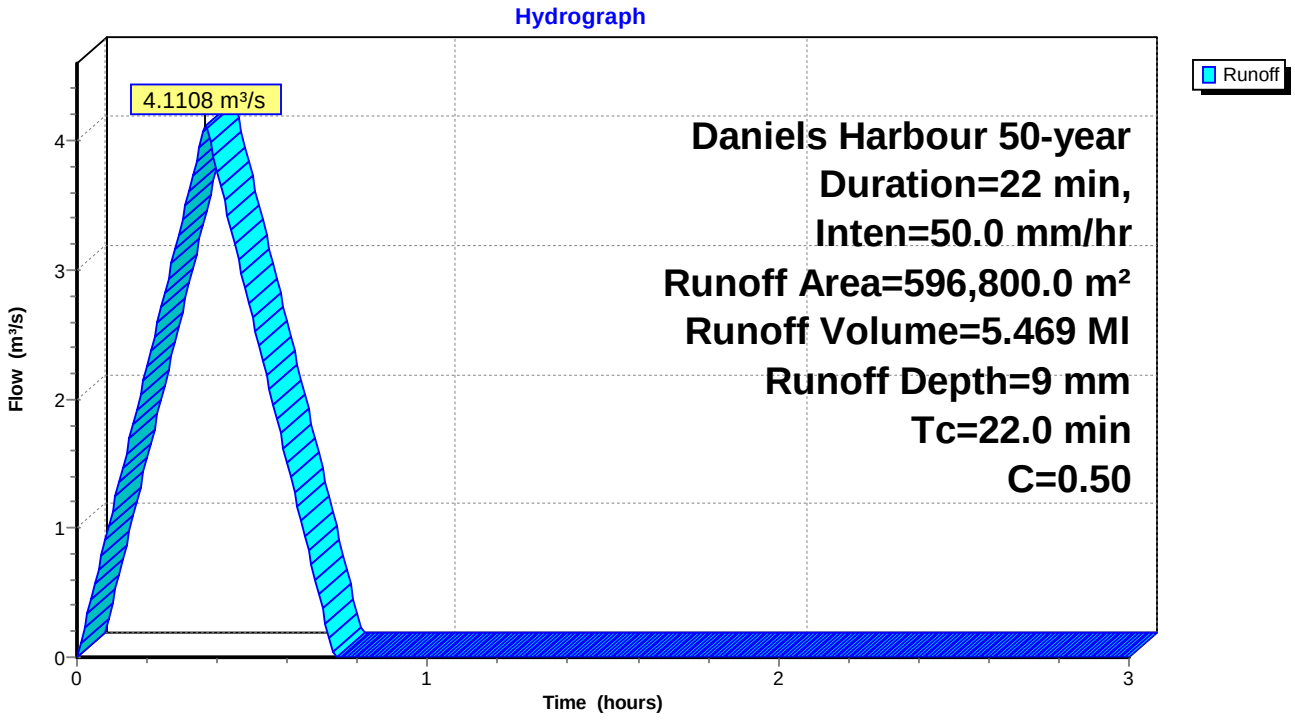
Runoff = 4.1108 m³/s @ 0.37 hrs, Volume= 5.469 Ml, Depth= 9 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Daniels Harbour 50-year Duration=22 min, Inten=50.0 mm/hr

Area (m²)	C	Description
98,600.0	1.00	
498,200.0	0.40	Woods, Poor, HSG C
596,800.0	0.50	Weighted Average
498,200.0		83.48% Pervious Area
98,600.0		16.52% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
22.0					**Direct Entry,**

Subcatchment 1S: Fox Pond Outlet Flow



Summary for Subcatchment 1S: Fox Pond Outlet Flow

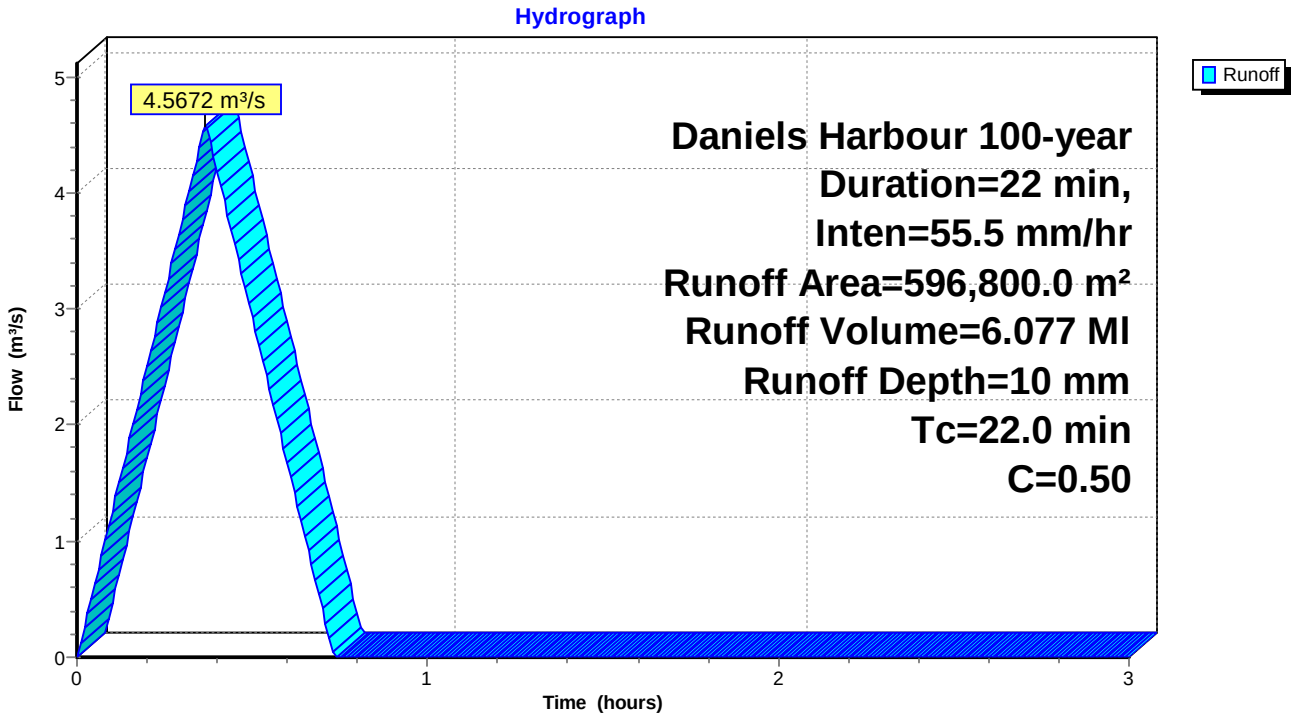
Runoff = 4.5672 m³/s @ 0.37 hrs, Volume= 6.077 Ml, Depth= 10 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Daniels Harbour 100-year Duration=22 min, Inten=55.5 mm/hr

Area (m²)	C	Description
98,600.0	1.00	
498,200.0	0.40	Woods, Poor, HSG C
596,800.0	0.50	Weighted Average
498,200.0		83.48% Pervious Area
98,600.0		16.52% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
22.0					**Direct Entry,**

Subcatchment 1S: Fox Pond Outlet Flow



Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Environment and Conservation

File Ref No. *200.18.0099:0192*

June 18, 2015

Mr. Allan Cramm
Anaconda Mining Inc
PO Box 238
Pine Cove Mine
Baie Verte, NL
A0K 1B0

For: Stog'er Tight Mine Reactivation
At: Baie Verte Peninsula
From: Anaconda Mining Inc.

Dear Mr. Cramm :

This application was referred to the Environmental Assessment Division and it has been determined that registration is NOT required under Section 47 of the Environmental Protection Act, SNL 2002, cE-14.2.

Please be aware that this Department must be notified of any significant changes to the undertaking. All proponents are required to comply with all relevant legislation including permits and approvals from this Department and any other municipal, provincial or federal regulatory authorities.

If you have any questions regarding this matter please contact Brent Keeping at (709) 729-4223, toll free at 1-800-563-6181 or email bkeeping@gov.nl.ca.

Sincerely,

Bas Cleary
Director
Environmental Assessment Division