AECOM

Deloitte and Touche Inc.

Report on Faro Minesite Rare Plant Survey

Prepared by:

Gartner Lee Limited doing business as AECOM
2251 2nd Ave, Whitehorse, YT, Canada Y1A 5W1
T 867.633.6474 F 867.633.6321 www.aecom.com

Date: October 31st, 2008:

Statement of Qualifications and Limitations

The attached Report (the "Report") has been prepared by Gartner Lee Limited doing business as AECOM ("AECOM") for the benefit of Deloitte and Touche Inc. in accordance with the agreement between AECOM and Client (the "Agreement").

The information, data, recommendations and conclusions contained in the Report:

- **are subject to the budgetary, time and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");**
- **represent AECOM's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;**
- **may be based on information provided to AECOM which has not been independently verified;**
- **have not been updated;**
- **must be read as a whole and sections thereof should not be read out of such context;**
- **were prepared for the specific purposes described in the Report and the Agreement and must not be used for any other purpose whatsoever.**

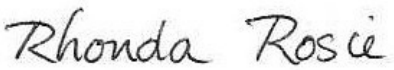
Unless expressly stated to the contrary in the Report or the Agreement, AECOM:

- **shall not be responsible for any events or circumstances that may have occurred since the date on which the Report was prepared or for any inaccuracies contained in information that was provided to AECOM;**
- **makes no guarantees or warranties whatsoever, whether express or implied, with respect to the Report or any part thereof, other than that the Report represents AECOM's professional judgement as described above;**
- **shall not be deemed to have represented that the Report or any part thereof is exhaustive or applicable to any specific use other than that described in the Report and the Agreement.**

Except as described above, AECOM denies any liability in respect of the Report or parts thereof and shall not be responsible for any damages arising from use of the Report or parts thereof.

This Disclaimer is attached to and forms part of the Report.

Signature Page

Report Prepared By:	Report Reviewed By:
	
Rhonda Rosie, Rare Plant Specialist	Samara Dunford, B.Sc. Terrestrial Ecologist

Acknowledgements

Our thanks go to Bruce Bennett, former NatureServe Yukon botanist (now with the Wildlife Viewing Program, Yukon Department of Environment), for his comments, identification, and clarification of rare status of *Botrychium* species in Yukon.

Table of Contents

List of Figures

Appendices

1. Introduction

The author was contracted in July 2008 by Gartner-Lee Limited of Whitehorse, Yukon, to search for and document the presence of rare vascular plants at a number of sites at the Faro minesite in central Yukon, as part of the Faro Mine Complex Closure Project. The areas investigated lie at the bases of large waste rock slopes which are to be resloped as part of the reclamation plan. The survey was carried out in the first half of August 2008, but no species deemed to be rare in Yukon were found.

Rare species are ranked by the Conservation Data Centres in Canada to indicate their status globally (G), nationally (N), and subnationally (S). In Yukon, this function is filled by NatureServe Yukon (Yukon Department of the Environment, Fish & Wildlife Branch). A *rare* plant is defined as "one that has a small population within the area under consideration. It may be restricted to a small geographical area, where it may be locally common, or it may occur in low numbers over a wide area. A *threatened* plant is one that is likely to become endangered within the foreseeable future over all or a significant portion of its range in a province, territory or state. An *endangered* plant is one that is in danger of extirpation throughout all or a significant portion of its range in a province, territory or state" *(Douglas et al, 1981).* Further information on status ranking definitions can be found in Appendix A.

There are currently several hundred native taxa in Yukon that are considered rare to some degree *(B. Bennett, pers. comm., Nov. 2007).* Some are known from only one or a very few locations in the Territory, while others are more widespread but are limited to specific areas or habitats. However, given the large size of the Yukon and the difficulty of access to most parts of it, it is likely that some populations of rare species simply have not yet been discovered. Over time, as more rare plant surveys are carried out by Yukon Government employees, by private companies as part of the YESAA requirements, and by other organizations and interested individuals, additional discovered populations may result in a downgrading of the rarity status of many species.

2. Survey Area Description

The Faro minesite is located about 8 km northwest of the town of Faro, in the Yukon Plateau North Ecoregion *(Smith et al, 2004)*. Piles of waste rock boulders dominate the minesite footprint, forming high steep slopes at the edges. Four survey areas were investigated in the vegetation along the edges of the waste rock slopes, three (F1, F2, F3) in the northwestern portion of the minesite (Faro pit area), and one (G1) in the southeastern portion (Grum pit area). Their boundaries (shown in red on the photos below) roughly parallel the waste rock slope bases, and extend away from them for variable distances to a maximum of about 200 m (but generally much less.)

Most of the survey areas support vegetation associations that are typical of the area in general, predominantly sparse to open White Spruce with an open to dense understory of medium-height Willows and Shrub Birch, lower Labrador Tea and Blueberry, various ground shrubs, some forbs and graminoids, and variable amounts of Feathermosses and lichens. Other associated tree species noted in some stands were mainly Fir and Black Spruce, with occasional Aspen, Poplar, and Birch. Other vegetation types seen in the surveyed areas are noted in the descriptions in Appendix B.

Figure 1. Survey areas F1, F2, F3 in the Faro pit area

Figure 2. Survey area G1, near the Grum pit

All of the survey areas have experienced some human disturbance in the form of dirt roads, old trails, scraped-up areas and piled-up earth, and large boulders at the bases of the waste rock slopes. Native shrubs, grasses, sedges, and forbs in various combinations form the dominant vegetation along the sides of the roads and trails and on dirt piles. Young White Spruce, Willows and other shrubs usually grow between the boulders at the slope bases, where the boulders have fallen into the existing vegetation.

Little to no soil has accumulated between the boulders on the waste rock slopes themselves, and hence vegetation there is sparse. A few Willow shrubs, White Spruce seedlings, and occasionally forbs such as Fireweed and Hawksbeard may occur on the slopes, but lichens and mosses were uniformly absent on and between the boulders. In a few areas, where slopes are composed of finer materials, sparse grasses also occur.

Seepages and silt flows at the bases of the slopes are common, forming wet muddy patches, sometimes forming small brooks. Moisture-loving graminoids, forbs, mosses, and shrubs colonize these sites. Patches of orange-coloured deposits were seen in one of these seepage sites, mostly lacking vegetation in the exposed deposits but surrounded by dense tall Willow shrubs.

Several of the survey areas are bordered in part by creeks, and one area contains a small pond created by the damming of a creek by a roadway. These areas support typical riparian vegetation, although it was notable that the pond appears to lack aquatic species.

Figure 3. Typical waste rock slope

Figure 4. Orange-coloured deposits in survey area F2

Figure 5. Typical vegetation on a disturbed site

3. Methods

Before field work began, a list of Yukon rare plants, their rare status rankings, and their expected habitats, was provided by Bruce Bennett, former NatureServe Yukon botanist currently with the Wildlife Branch of the Yukon Government. Maps and descriptions of vegetation types in the Faro minesite area *(Gartner-Lee Ltd., February 2008)* were consulted to get an idea of the likelihood of finding rare vascular species in the survey areas. The described vegetation types are typical of much of central Yukon, and do not generally host rare species. However, all habitats and vegetation types encountered during the survey were examined for presence of rare species.

The survey took place between August 7 and 12, 2008. All vegetation was well-developed, and most species seen were flowering or fruiting.

The crew consisted of the author, Elise Babyn (a representative of Gartner-Lee Ltd. of Whitehorse, Yukon), Lovejoy Fulton (an employee at the minesite), and Andrea Altherr (a volunteer independent observer from Whitehorse). Accommodations during the survey were at the Blue House Bed and Breakfast in Faro. Weather during the survey was mainly cool, often overcast, with rain or showers on several days.

Access to the survey areas was by vehicle along the main and secondary roads. Photo maps of the minesite area were used for navigation to convenient start points. A GPS (Garmin Etrex Vista CX) was pre-loaded with survey area boundaries (provided by Gartner-Lee), and was used for navigation within the survey areas.

Within each survey area, the crew walked slowly in a meandering pattern between the base of the waste rock slopes to the outer boundary of the survey area, searching all habitat and vegetation types encountered for rare species. Special attention was paid to the waste rock slopes and bases, wetlands, and disturbed or unusual sites within the survey areas where rare species might be expected to occur. Dominant vegetation types were noted, and a number of sites were documented in detail. Vegetation outside the boundaries was also noted to assess its continuity with and similarity to the vegetation of the survey area. Species lists (Appendix C) were made of all vascular plants noted during the survey. Specimens were collected when necessary for further identification and confirmation. Digital photos of habitats and vegetation types were also taken along the way.

After completion of the survey, the identification and status of collected specimens were confirmed.

4. Results

Only one species was found that merited confirmation of identity and rare species status. It was found in a thicket of tall Alnus crispa in the G1 survey area, and was tentatively identified in the field as *B. spathulatum*, which currently has a ranking of S1S2 in Yukon *(NatureServe, 2007)*. However, further examination by Bruce Bennett confirmed that it was instead *B. minganense* (with which *B. spathulatum* has historically sometimes been confused), but which has a ranking of S3S4 in Yukon and is not considered rare.

It should be noted that *Botrychium minganense* does not appear in *Flora of the Yukon Territory (Cody, W.J., 1996),* although *B. spathulatum* does. Other species of Botrychium have also been identified in Yukon since its publication, most of which are considered rare, with rankings of S1 or S2. However, these rankings may be downgraded over time as more populations are discovered. *B. spathulatum* itself is probably less rare than previously thought, and may have a status of S2S3 rather than S1S2 *(B. Bennett, pers. comm., August 2008)*.

Figure 6. Botrychium minganense

5. References

Cody, W.J. 1996. Flora of the Yukon Territory. NRC Research Press, Ottawa, Ontario, Canada.

Douglas, G. W., G. W. Argus, H. L. Dickson and D. F. Brunton. 1981. *The Rare Vascular Plants of the Yukon*. Syllogeus 28: 1-96

NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available at http://www.natureserve.org/explorer

Smith, C.A.S., Meikle, J.C., and Roots, C.F. (editors), 2004. Ecoregions of the Yukon Territory: Biophysical properties of Yukon landscapes. Agriculture and Agri-Food Canada, PARC Technical Bulletin No. 04-01, Summerland, British Columbia, 313 p.

Appendix A

Species Rankings

Species Rankings

Rare species are ranked by the Conservation Data Centres in Canada to indicate their status globally (G), nationally (N), and subnationally (S). In Yukon, this function is filled by NatureServe Yukon (Yukon Department of the Environment, Fish & Wildlife Branch). The letter designation of a ranking is followed by a number from 1-5, with the following meanings:

TABLE 1: STATUS RANKING DEFINITIONS

RANK	DEFINITION
1	Critically imperiled; very rare throughout its range or in the province (5 or fewer occurrences*, or very few remaining individuals). May be especially vulnerable to extirpation.
2	Imperiled; rare throughout its range or in the province (6 to 20 occurrences). May be vulnerable to extirpation
3	Vulnerable to extirpation or extinction. Uncommon throughout its range or in the province (21 to 100 occurrences).
4	Apparently secure; widespread, abundant, and apparently secure throughout its range or in the province, with many occurrences, but the element is of long-term concern (> 100 occurrences).
5	Demonstrably widespread, abundant, and secure throughout its range or in the province, and essentially irradicable under present conditions.
U	Possibly in peril, but status uncertain; more information needed
Combined rankings	Indicates uncertainty about the status, e.g. S2S3 indicates that the status lies somewhere between S2 and S3.
H	Historically known; may be rediscovered
X	Believed to be extinct; historical records only, continue search.
SNR	A species not ranked. A rank has not yet assigned or the species has not been evaluated.
SNA	A conservation status rank is not applicable to the element.
T	Infraspecific Taxon (trinomial) -The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.
?	Inexact or Uncertain—Denotes inexact or uncertain numeric rank, e.g. S2? indicates that the status is probably closer to S2 than to S3

(Table adapted from Manitoba Conservation Data Centre Web site, accessed October 10, 2007.)

** An occurrence (or "element occurrence"), is defined as "an area of land and/or water in which a species or ecological community is, or was, present. An occurrence should have practical conservation value for the species or ecological community as evidenced by historical or potential continued presence and/or regular recurrence at a given location … For ecological communities, the occurrence may represent a stand or patch of a natural community, or more typically a cluster of stands or patches of a natural community …" (BC Conservation Data Centre, 2004.)*

Appendix B

Survey Area Details

F1: The F1 survey area is located near the Faro pit, has a curving boundary about 1 km in length, and lies at about 1204-1230 m elevation. General aspect varies from southeast to southwest, with a gentle slope. It is bordered by waste rock slopes and a road, and varies in width to a maximum of about 100 m.

Most of F1 has been disturbed by human activity (some old fire sign was also noted). Large boulders from the adjacent waste rock slopes are scattered throughout much of the area, and patches of bare and partly bare ground from heavy equipment operations in the past are common.

The dominant vegetation type in F1 is composed of open to dense medium height Shrub Birch and Willow, with sparse to open tall White Spruce and the occasional Black Spruce, Fir, and Aspen. Common low shrubs include Labrador Tea, Blueberry, Rose, and Shrubby Cinquefoil. The understory is variable, comprised of dwarf shrubs, grasses, and forbs, with occasional patches of Feathermosses and/or various lichens.

An algal crust covers much of the the ground in one part of F1 (Plot 2-WP483). Below the crust are mostly intact remains of Feathermosses, overlying silt and organic lenses overlying volcanic ash.

A patch of tall closed Willow with an understory dominated by Horsetail was present at the northern end of F1, where water issues from the base of the waste rock slope. Another wet site along a brook at the base of the slope at the south end of F1 supported medium to tall dead and damaged Willows, with a nearly barren understory, possibly the result of temporary heavy flooding.

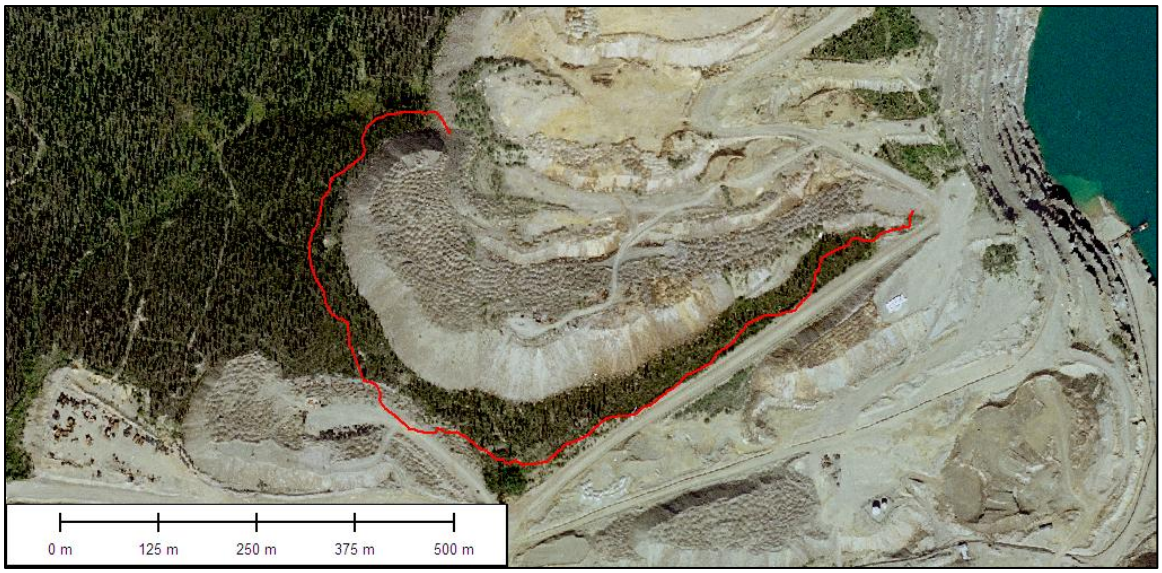


Fig. 7: F1 survey area

Fig. 8: Typical vegetation in F1 survey area.

Fig. 9: White Spruce-Black Spruce-Fir forest in northwest part of F1 survey area

F2: F2 is a narrow strip nearly 2 km long on the west side of the main access road to the minesite, lying at about 1095 to 1120 m elevation. Aspect is generally southwest and slope is gentle. Most of the survey area has a width of less than 30 m, except at its southern end where it is about 125 m wide. Waste rock slopes border the east side, and a creek forms part of the boundary at the southern end of the survey area. The incomplete boundary shown on the photo below was extended to include all of the southeastern portion of the survey area, to the edge of the creek and along it to the waste rock slope.

Disturbed sites are common throughout F2. Deposits of wet orange-coloured sediments are conspicuous at the northern end of F2 where water issues from the base of the slope. Tall Willow, young Poplar, and patches of sedges border the deposits, which themselves are barren of plants. In other places along the slope base are found small silt flows which support a variety of forbs, grasses, and sedges. Several well sites and old trails, as well as a very recently made dirt road, were also encountered in F2. Grasses, sedges, and forbs are abundant along the roads and where soil has been pushed up.

The dominant vegetation type in and adjacent to most of the survey area is composed of open tall White Spruce with an open to dense understory of medium-height Willow and Shrub Birch. Common low shrubs include Labrador Tea, Blueberry, and Shrubby Cinquefoil. The understory is variable, comprised of dwarf shrubs, grasses, forbs, Feathermoss *(Hylocomium splendens),* and Cladina and Cladonia lichens. At the southern end of F2, bordering the creek, are wet sedge-dominated stands bordering several small ponds, thickets of medium height Willow and Shrub Birch with a sedge understory, wet "meadows" of low Willows and other shrubs, various graminoids and forbs, and mosses including *Aulacomnium palustre* and occasional *Sphagnum spp.*, as well as a small stand of typical riparian White Spruce with a Feathermoss ground cover.

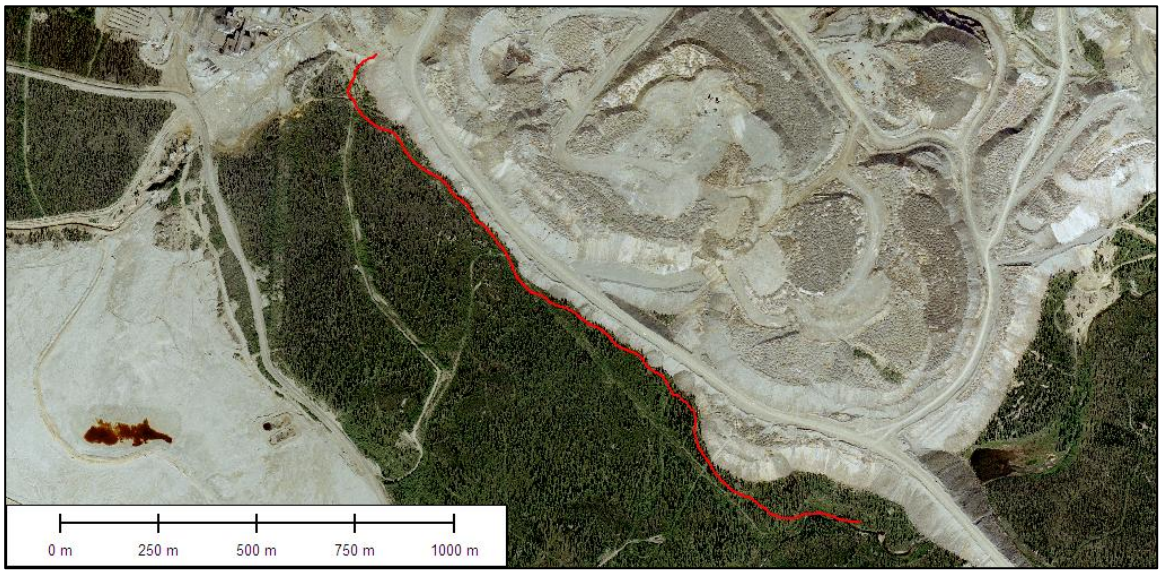


Fig. 10: F2 survey area

Fig. 11: Typical vegetation along base of slope in survey area F2

Fig. 12: Sedges and Willows in wetland along creek at south end of survey area F2

F3: F3 lies along the southeast edge of the minesite area, at about 1096 to 1215 m elevation, and is a little over 2 km long. Aspect is generally southeast, and slopes vary from gentle to moderately steep. Most of the survey area is about 100 m wide, extending to about 200 m where a southwestward-flowing creek forms the border of part of the survey area. Waste rock slopes border the western edge of F3, and a small pond, dammed by the construction of the main roadway, lies at the southwestern end of the survey area.

The dominant vegetation types on slopes in F3 is open White Spruce with an open to dense understory of Willow and Shrub Birch, and a ground cover of Feathermoss. Scattered Black Spruce and Fir are also common components of these forests. Vegetation along the creek comprises a variety of types, from sparsely-vegetated small gravel flats, low and medium height thickets of Willow and Willow-Shrub Birch, with abundant sedge *(Carex aquatilis)* and various forbs in the understory, large patches of *Carex aquatilis* in wet depressional sites, small stands of White Spruce/Feathermoss, and areas of organic deposits between the slopes and the creek which support wooded fen-like vegetation of scattered White and Black Spruce, low and medium height shrubs, ground shrubs, and mosses such as *Aulacomnium palustre, Tomenthypnum nitens*, and *Sphagnum spp.* Patches of tall Alder and Willows occur at the northern end of F3, near the creek, along with open stands of White Spruce with medium and tall Willows, and a rich understory of Horsetail, forbs, and grasses.

The creek flows into the man-made pond at the southwestern end of F3. The north side of the pond supports sedge *(*mostly *Carex aquatilis)* and various grasses, backed by medium height Willows along the muddy shoreline, but no aquatic plants were seen in the open water. A recent beaver house is present along this shore. The muddy delta of the creek supports sedges and stands of low and medium height Willows, scattered White Spruce, and scattered forbs in the understory. Evidence of periodic flooding is evident as exposed patches of silt, high-water lines, and uneven ground.

Disturbed sites are common in F3, especially in the southwest portion, where a large staging area, dirt roads and old trails occur. Roads and trails extend through the rest of F3 as well. Wet muddy patches and small brooks are common along the base of the waste rock slopes, sometimes supporting relatively lush patches of tall Willow with various forbs, graminoids, mosses, and abundant Horsetail in the understory.

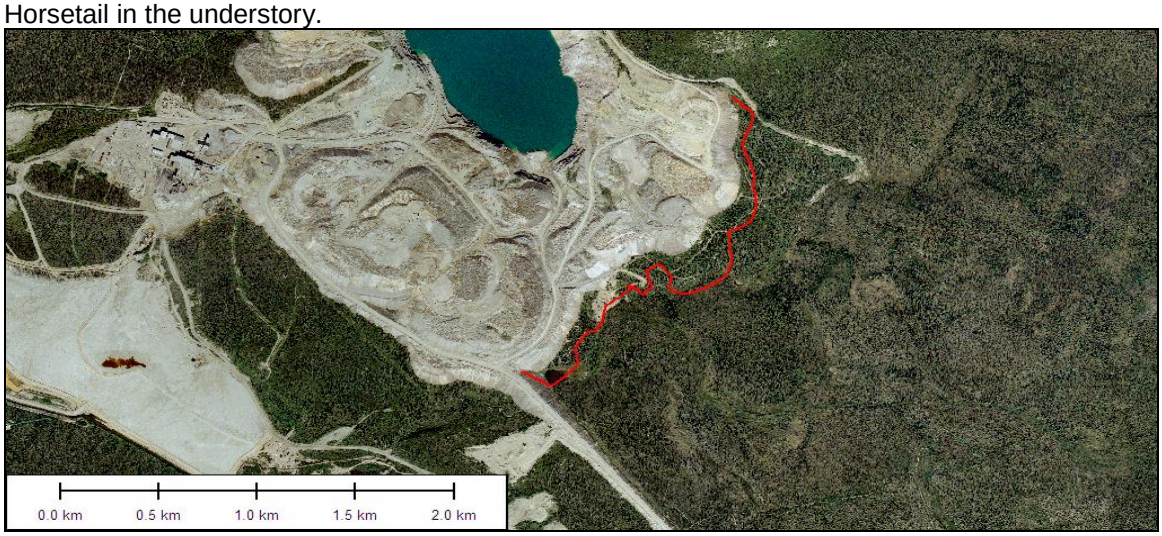


Fig. 13: F3 survey area

Fig. 14: Typical vegetation on mesic sites in F3

Fig. 15: Man-made pond in survey area F3

G1: G1 lies on the southeastern part of the Grum pit waste rock area, at about 1120 to 1210 m elevation, and is about 1.25 km long, curving westward at the south end. Aspect is generally east and southeast, and slopes vary from gentle to moderately steep. Width of the survey area ranges from about 20 to 60 m. A creek has its origin at the base of the waste rock slope and flows southeastward.

Vegetation in G1 and the adjacent area is much more variable than in the other three survey area. Much of G1 supports open to sometimes dense White Spruce, with Black Spruce and/or Fir often present and sometime co-dominant. Understories are varied, with thick Feathermoss on moist sites. Scattered grasses and forbs are also usually present on most sites. Aspen with a ground cover of Bearberry dominated on two hills of probable glaciofluvial origin, and thickets of tall closed Alder were encountered near the slope base. *Botrychium minganense* was found in one of these thickets. Also seen were thickets of tall Willow and young Poplar with understories of Horsetail and other forbs, in wet sites along the base of the waste rock slope.

Thickets of medium and tall Willow form a border along the creek that issues from the base of the waste rock slope.

Disturbed sites are common in G1, as dirt roads, old trails, earth piles, and dug-out depressions here and there.

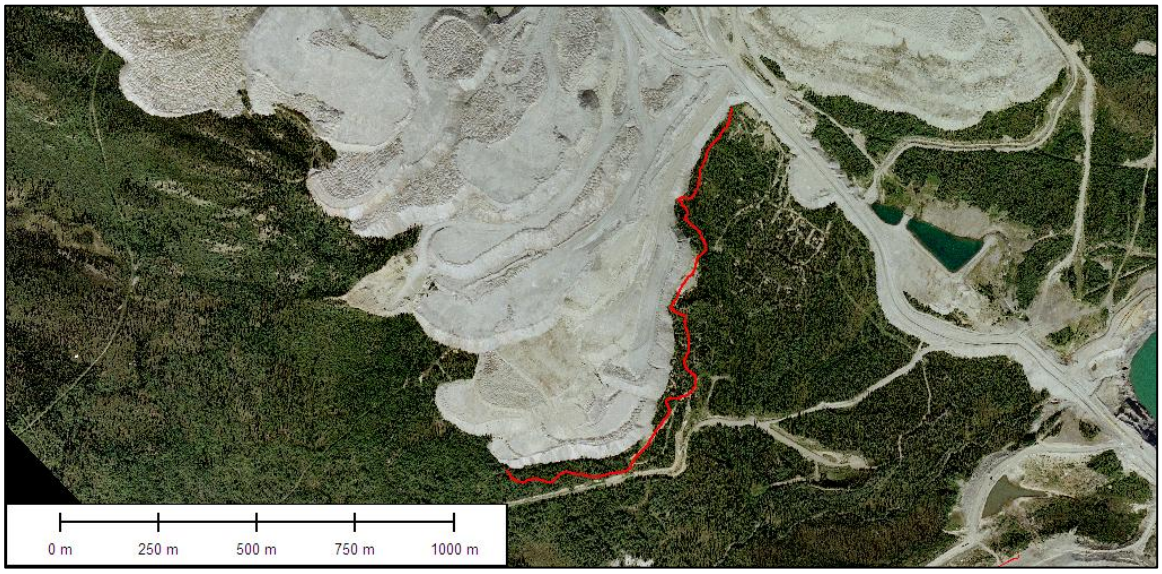


Fig. 16: G1 survey area

Fig. 17: Typical vegetation in much of survey area G1

Fig. 18: Closed tall Alder in survey area G1, where Botrychium minganense was found.

Appendix C

Species Observed During Faro Rare Plant Survey

Vascular Plants seen in Faro Survey Areas

LIFEFORM	FAMILY	NAME	COMMON NAME USED IN REPORT
FORB	ASTERACEAE	Achillea millefolium L. s.l.	
FORB	ASTERACEAE	Antennaria rosea Greene s.l.	
FORB	ASTERACEAE	Artemisia campestris L.	
FORB	ASTERACEAE	Artemisia tilesii Ledeb. ssp. tilesii	
FORB	ASTERACEAE	Aster sibiricus L.	
FORB	ASTERACEAE	Crepis elegans Hook.	Hawksbeard
FORB	ASTERACEAE	Crepis tectorum L.	Hawksbeard
FORB	ASTERACEAE	Erigeron acris L. ssp. politus	
FORB	ASTERACEAE	Erigeron elatus (Hook.) Greene	
FORB	ASTERACEAE	Petasites frigidus (L.) Fries ssp. frigidus	
FORB	ASTERACEAE	Petasites frigidus (L.) Fries ssp. nivalis (Greene) Cody	
FORB	ASTERACEAE	Petasites frigidus (L.) Fries ssp. palmatus (Ait.) Cody	
FORB	ASTERACEAE	Senecio congestus (R. Br.) DC.	
FORB	ASTERACEAE	Senecio indecorus Greene	
FORB	ASTERACEAE	Senecio lugens Richards.	
FORB	ASTERACEAE	Solidago multiradiata Ait.	
FORB	ASTERACEAE	Taraxacum sp.	
FORB	BORAGINACEAE	Mertensia paniculata (Ait.) G. Don	
FORB	BRASSICACEAE	Arabis drummondii Gray	
FORB	BRASSICACEAE	Arabis holboellii Hornem.	
FORB	BRASSICACEAE	Arabis kamchatica (Fisch. ex DC.) Ledeb.	
FORB	BRASSICACEAE	Braya humilis (C.A. Mey.) Robins.	
FORB	BRASSICACEAE	Descurainia sophioides (Fisch.) O.E. Schulz	
FORB	BRASSICACEAE	Parrya nudicaulis (L.) Regel	
FORB	BRASSICACEAE	Rorippa palustris (L.) Besser ssp. palustris	
FORB	BRASSICACEAE	Thlaspi arvense L.	
FORB	CALLITRICHACEAE	Callitriche verna L.	
FORB	CARYOPHYLLACEAE	Cerastium beeringianum Cham. & Schlecht.	
FORB	CARYOPHYLLACEAE	Minuartia dawsonensis (Britt.) House	
FORB	CARYOPHYLLACEAE	Moehringia lateriflora (L.) Fenzl	
FORB	CARYOPHYLLACEAE	Stellaria borealis Bigelow	
FORB	CORNACEAE	Cornus canadensis L.	
FORB	EQUISETACEAE	Equisetum arvense L.	Horsetail
FORB	EQUISETACEAE	Equisetum fluviatile L.	
FORB	EQUISETACEAE	Equisetum pratense Ehrh.	Horsetail
FORB	EQUISETACEAE	Equisetum scirpoides Michx.	
FORB	EQUISETACEAE	Equisetum sylvaticum L.	Horsetail
FORB	FABACEAE	Astragalus alpinus L.	
FORB	FABACEAE	Astragalus eucosmus B.L. Robins.	
FORB	FABACEAE	Hedysarum alpinum L.	

LIFEFORM	FAMILY	NAME	COMMON NAME USED IN REPORT
FORB	FABACEAE	Lupinus arcticus S. Wats.	
FORB	GENTIANACEAE	Gentiana glauca Pall.	
FORB	GENTIANACEAE	Gentianella propinqua (Richards.) J.M. Gillett	
FORB	LILIACEAE	Tofieldia pusilla (Michx.) Pers.	
FORB	LYCOPODIACEAE	Lycopodium annotinum L. ssp. annotinum	
FORB	ONAGRACEAE	Epilobium angustifolium L.	Fireweed
FORB	ONAGRACEAE	Epilobium latifolium L.	
FORB	OPHIOGLOSSACEAE	Botrychium lunaria (L.) Sw.	
FORB	OPHIOGLOSSACEAE	Botrychium minganense Victorin	
FORB	ORCHIDACEAE	Corallorhiza trifida Chat.	
FORB	ORCHIDACEAE	Platanthera hyperborea (L.)Lindl.	
FORB	POLEMONIACEAE	Polemonium acutiflorum Willd.	
FORB	POLYGONACEAE	Polygonum viviparum L.	
FORB	POLYGONACEAE	Rumex arcticus Trautv.	
FORB	PYROLACEAE	Moneses uniflora (L.) Gray	
FORB	PYROLACEAE	Orthilia secunda (L.) House	
FORB	PYROLACEAE	Pyrola asarifolia Michx.	
FORB	PYROLACEAE	Pyrola chlorantha Sw.	
FORB	RANUNCULACEAE	Aconitum delphiniifolium DC. ssp. delphiniifolium	
FORB	RANUNCULACEAE	Anemone parviflora Michx.	
FORB	RANUNCULACEAE	Anemone richardsonii Hook.	
FORB	RANUNCULACEAE	Ranunculus aquatilis L. var. eradicatus Laest.	
FORB	RANUNCULACEAE	Ranunculus hyperboreas Rottb.	
FORB	ROSACEAE	Chamaerhodos erecta (L.) Bunge ssp. nuttallii (Pickering ex Rydb.) Hultén	
FORB	ROSACEAE	Potentilla diversifolia Lehm.	
FORB	ROSACEAE	Potentilla fruticosa L.	Shrubby Cinquefoil
FORB	RUBIACEAE	Galium trifidum L.	
FORB	SAXIFRAGACEAE	Mitella nuda L.	
FORB	SAXIFRAGACEAE	Parnassia palustris L. ssp. neogaea Fern.	
FORB	SCROPHULARIACEAE	Pedicularis labradorica Wirsing	
FORB	SCROPHULARIACEAE	Pedicularis sudetica Willd.	
FORB	SCROPHULARIACEAE	Veronica wormskjoldii Roem. & Schult.	
FORB	SELAGINELLACEAE	Selaginella selaginoides (L.) Link.	
FORB	VIOLACEAE	Viola renifolia Gray var. brainerdii (Greene) Fern.	
GRAMINOID-BOG RUSH	JUNCACEAE	Juncus alpino-articulatus Chaix in Vill.	
GRAMINOID-BOG RUSH	JUNCACEAE	Juncus balticus Willd. var. littoralis	
GRAMINOID-BOG RUSH	JUNCACEAE	Juncus castaneus Smith ssp. castaneus	
GRAMINOID-WOOD RUSH	JUNCACEAE	Luzula parviflora (Ehrh.) Desv. ssp. parviflora	
GRASS	POACEAE	Agrostis scabra Willd.	

LIFEFORM	FAMILY	NAME	COMMON NAME USED IN REPORT
GRASS	POACEAE	Arctagrostis latifolia (R. Br.) Griseb.	
GRASS	POACEAE	Calamagrostis canadensis (Michx.) Beauv.	
GRASS	POACEAE	Calamagrostis purpurascens R. Br.	
GRASS	POACEAE	Elymus trachycaulus (Link) Gould ex Shinners	
GRASS	POACEAE	Festuca altaica Trin.	
GRASS	POACEAE	Festuca rubra L.	
GRASS	POACEAE	Hordeum jubatum L.	
GRASS	POACEAE	Poa alpina L.	
GRASS	POACEAE	Poa glauca M. Vahl	
GRASS	POACEAE	Puccinellia interior Sorens.	
GRASS	POACEAE	Tristetum spicatum (L.) Richt.	
GROUND SHRUB	CAPRIFOLIACEAE	Linnaea borealis L. var. americana (Forbes) Rehd.	
GROUND SHRUB	EMPETRACEAE	Empetrum nigrum L. ssp. hermaphroditum (Lge.) Bocher	
GROUND SHRUB	ERICACEAE	Arctostaphylos rubra (Rehd. & Wils.) Fern.	
GROUND SHRUB	ERICACEAE	Arctostaphylos uva-ursi (L.) Spreng.	
GROUND SHRUB	ERICACEAE	Oxycoccus microcarpus Turcz.	
GROUND SHRUB	ERICACEAE	Vaccinium vitis-idaea L. ssp. minus (Lodd.) Hulten	
GROUND SHRUB	ROSACEAE	Dryas drummondii Richards.	
GROUND SHRUB	ROSACEAE	Fragaria virginiana Duchesne ssp. glauca (Wats.) Staudt	
GROUND SHRUB	ROSACEAE	Rubus arcticus ssp. acaulis	
GROUND SHRUB	SALICACEAE	Salix myrtilifolia Anderss.	Willow
GROUND SHRUB	SALICACEAE	Salix reticulata L. ssp. reticulata	Willow
SEDGE	CYPERACEAE	Carex aquatilis Wahlenb.	
SEDGE	CYPERACEAE	Carex brunnescens Poir.	
SEDGE	CYPERACEAE	Carex capillaris L. ssp. chlorostachys	
SEDGE	CYPERACEAE	Carex concinna R. Br.	
SEDGE	CYPERACEAE	Carex macloviana d'Urv.	
SEDGE	CYPERACEAE	Carex media R. Br.	
SEDGE	CYPERACEAE	Carex saxatilis L.	
SEDGE	CYPERACEAE	Carex scirpoidea Michx.	
SEDGE	CYPERACEAE	Carex sp.	
SHRUB	BETULACEAE	Alnus crispa (Ait.) Pursh ssp. crispa	Alder
SHRUB	BETULACEAE	Betula glandulosa Michx.	Shrub Birch
SHRUB	BETULACEAE	Betula occidentalis Hook.	
SHRUB	CAPRIFOLIACEAE	Viburnum edule (Michx.) Raf.	
SHRUB	ELEAGNACEAE	Shepherdia canadensis (L.) Nutt.	
SHRUB	ERICACEAE	Ledum groenlandicum Oeder	Labrador Tea
SHRUB	ERICACEAE	Vaccinium uliginosum L. s.l.	Blueberry
SHRUB	ROSACEAE	Rosa acicularis Lindl. s.l.	Rose
SHRUB	ROSACEAE	Rubus idaeus L. s.l.	
SHRUB	SALICACEAE	Salix alaxensis (Anderss.) Cov. ssp. alaxensis	Willow
SHRUB	SALICACEAE	Salix alaxensis (Anderss.) Cov. ssp. longistylis (Rydb.) Hulten	Willow

LIFEFORM	FAMILY	NAME	COMMON NAME USED IN REPORT
SHRUB	SALICACEAE	Salix barclayi Anderss.	Willow
SHRUB	SALICACEAE	Salix bebbiana Sarg.	Willow
SHRUB	SALICACEAE	Salix glauca L. s.l.	Willow
SHRUB	SALICACEAE	Salix lucida (Muhlenb.) ssp. lasiandra (Benth.)	Willow
SHRUB	SALICACEAE	Salix planifolia Pursh ssp. planifolia	Willow
SHRUB	SALICACEAE	Salix sp.	Willow
SHRUB	SAXAFRAGACEAE	Ribes hudsonianum Richards.	
SHRUB	SAXAFRAGACEAE	Ribes triste Pall.	
TREE	BETULACEAE	Betula neoalaskana Sarg.	Birch
TREE	PINACEAE	Abies lasiocarpa (Hook.) Nutt.	Fir
TREE	PINACEAE	Picea glauca (Moench) Voss	White Spruce
TREE	PINACEAE	Picea mariana (Mill.) B.S.P.	Black Spruce
TREE	SALICACEAE	Populus balsamifera L.	Poplar
TREE	SALICACEAE	Populus tremuloides Michx.	Aspen

Non-Vascular Plants seen in Faro Survey Areas

Bryophytes Recorded from Faro Survey Area

Aulacomnium palustre (Hedw.) Schwaegr.
Bryum spp.
Drepanocladus uncinatus (Hedw.) Warnst.
Hylocomium splendens (Hedw.) B.S.G.
Pleurozium schreberi (Brid.) Mitt.
Pohlia spp.
Polytrichum juniperinum Hedw.
Sphagnum spp.
Splachnum sp.
Tomenthypnum nitens (Hedw.) Loeske

Lichens Recorded from Faro Survey Areas

Cladina mitis (Sandst.) Hustich
Cladina rangiferina (L.) Nyl.
Cladonia spp.
Cladonia spp.
Cladonia spp.
Cladonia spp.
Cladina stellaris (Opiz) Brodo
Cladonia spp.
Flavocetraria nivalis (L.) Karnefelt & Thell.
Peltigera aphthosa (L.) Willd.
Peltigera spp.
Stereocaulon sp.