Advanced Explorations Inc.

ISSUED FOR USE

ROCHE BAY MAGNETITE PROJECT
ENVIRONMENTAL BASELINE STUDIES 2006
VEGETATION RESOURCES

1740183.008

January 2008

CREATING AND DELIVERING BETTER SOLUTIONS

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EXECUTIVE SUMMARY

Ecological land classification (ELC) is a mapping process that involves the integration of site, soil and vegetation information. This information is used to organize ecological data into units that respond to disturbance in a similar and predictable manner. This information can then be used for a number of purposes including environmental assessment, project planning, long-term monitoring and to develop sustainable resource management plans.

The 24,010 ha study area is located on the cusp of the Foxe Basin Plain and the Wager Bay Plateau Ecoregions of the Northern Arctic Ecozone. The area is characterized by short, cold summers and long, cold winters. The ecoregion is classified as having a low to mid arctic ecoclimate. Bedrock and surficial materials have a strong influence on vegetation communities. The low-lying area along the coast consists of Palaeozoic limestones and dolomites (Trettin 1975). The uplands are predominantly Precambrian granites and gneisses. Turbic and Static Cryosols are the dominant mineral soil, with Organic soils found in the low-lying, poorly drained areas. Permafrost is continuous (Environment Canada 2000). Vegetation of the region is characterized by discontinuous tundra vegetation. Common species on rapid to moderately drained sites are purple saxifrage, dyrad, and willow. Poorly drained sites contain sedges, cottongrass, and mosses. (Environment Canada 2000).

Baseline ELC data were collected in July 2006 and supplemented with ELC information collected during the breeding birds surveys. Seventy field inspections were completed in nine ecosystem types within 652 polygons, resulting in a terrestrial ecosystem mapping (TEM) sampling intensity level (SIL) 5. Mapping at a 1:20,000 scale for the study area and 1:10,000 for the proposed development area was completed using Quickbird imagery and 1:20,000 stereo air photos.

Three broad vegetation units were identified: dwarf shrub, graminoid and riparian. Additional broad units included rock dominated, water and other. Dwarf shrub is the most abundant broad unit covering 37% of the study area. Seventeen ecosystem types were classified within the study area. Eight of these are naturally vegetated, three are bedrock dominated, four are classified as water, one is anthropogenic and one is snow bed. Approximately 57% of the study area is vegetated, 29% is water and the remaining is rock dominated or classified as “other”. The most common vegetated unit is dwarf shrub / dwarf shrub – heath moss (HT) covering 29% of the study area. The next most abundant is dry sedge meadow (CA). Wet sedge meadow (CE), which was identified as a sensitive ecosystem by Ecosat (1982) represents approximately 6% of the study area.

The proposed development is comprised of two ore bodies, a conveyor system and a tailing pond. Location and size of associated infrastructure has not yet been identified. The development covers 654 ha, 48.5 ha (7.4%) of it being located on wet sedge meadow ecosite.

Five of the eight vegetated ecosites were quantitatively sampled in the field. Data collected for other ecosites was restricted to qualitative comments. Though the descriptions are sufficient for this level of mapping, further field characterization of the ecosites that were not quantitatively sampled would enhance our knowledge of variability of these ecosites in the region which would lead to better land use planning.

The final mapping met a TEM SIL 5 survey which was reduced from the pre-field planning of a SIL 4. This adjustment was due to difficulties in accessing potential sample locations and weather conditions. A SIL 5 survey is suitable for ecosystem representation, local resource planning and landscape management planning (RIC 1998a). For this project, we believe sufficient information has been collected in the study area and further work should be focused on the proposed development areas.

Mapping between the CPS and CPL, the DSL and HT, and the HT and CA was considered to have moderate confidence. It was difficult to distinguish the dwarf shrub / dwarf shrub – heath moss (HT) and the dry sedge meadow (CA) from the satellite imagery, however the use of stereo air photos (1:20,000, July 1983) assisted in determining landscape position, slope and surficial material, which in turn were used for delineating these units. As well, the amount of lichen cover, for both the CPL and DSL units, was difficult to distinguish in the imagery. Landsat imagery, utilizing a Tasseled Cap transform of the visible through mid-infrared bands was also used to assist in the vegetation interpretation. All other units were mapped with high confidence.

TABLE OF CONTENTS

PAGE

TABLES

FIGURES

PHOTOGRAPHS

APPENDICES

1.0 INTRODUCTION

Advanced Explorations Inc. (AEI) is considering the development of the Roche Bay Magnetite Project, believed to be one of the world's largest undeveloped magnetite deposits. The Roche Bay project is located at 68˚26′ north latitude and 82˚46′ west longitude, approximately 65 km southwest of Hall Beach on the Melville Peninsula (Figure 1). The project site is situated adjacent to a naturally deep basin with 20+ metre water depths. In February 2007, AEI signed a joint venture agreement with Roche Bay plc to undertake the required work to complete feasibility studies to develop Roche Bay's extensive magnetite iron deposits in this area.

In 2006, EBA Engineering Consultants Ltd. (EBA) was retained by Roche Bay plc (now AEI) to complete a baseline study of the vegetation resources at the project site. The initial baseline field studies took place during the summer of 2006.

Ecosystem and vegetation mapping was completed as part of the baseline study. Integrated and sustainable resource management requires an understanding of ecosystem dynamics and functioning. Ecosystem classification helps organize ecological data into units that respond to disturbance in a similar and predictable manner. Understanding past, present, and potential future development requires knowledge of environmental baseline conditions. This baseline report provides a basis for environmental assessment, project planning and long-term monitoring of the environment associated with future mining activities. The ELC is also a biophysical base for other resource components such as wildlife.

2.0 STUDY AREA

The study area is 24,010 ha and is located on the cusp of the Foxe Basin Plain and the Wager Bay Plateau Ecoregions of the Northern Arctic Ecozone. The area is characterized by short, cold summers and long, cold winters. The mean annual temperature is –11^{o}C with a mean summer temperature of 2 to 4.5^{o}C and winter temperature of –23 to –26.5^{o}C. Annual precipitation ranges from 100 to 300 mm. These ecoregions are classified as having a low to mid-arctic ecoclimate. (Environment Canada 2000)

Bedrock and surficial materials have a strong influence on vegetation communities. The low-lying area along the coast consists of Palaeozoic limestones and dolomites (Trettin 1975). The uplands are predominantly Precambrian granites and gneisses. A major fault line separates these two deposits. Turbic and Static Cryosols are the dominant mineral soil, with Organic soils found in the low-lying, poorly drained areas. Permafrost is continuous with medium ice content (Environment Canada 2000).

Vegetation of the region is characterized by discontinuous tundra vegetation. Common species on rapid to moderately drained sites are purple saxifrage (*Saxifraga oppositifolia*), *Dryas* species, arctic willow (*Salix artica*), alpine foxtail (*Alopecurus alpinus*). Poorly drained sites contain sedges (*Carex* spp.), cottongrass (*Eriophorum* spp.) and mosses. (Environment Canada 2000)

3.0 ELC OBJECTIVES

The objectives of the ELC were to complete the following tasks:

- Define vegetation communities on the basis of existing information and field studies.
- Map and characterize the landscape in the study area using defined vegetation community units and satellite imagery.
- Prepare a vegetation baseline report.

4.0 METHODS

The ELC project methods employed can be divided into four phases: preliminary ecosystem classification and sampling plan, field sampling, satellite imagery preparation, and ELC mapping. The methods and approach associated with each phase are discussed below.

4.1 PRELIMINARY CLASSIFICATION AND SAMPLING PLAN

At the initiation of the project, a literature review was completed of ecosystem and vegetation classification in Nunavut and the Northwest Territories (Beardmore 1978, Ecosat Geobotanical Surveys Inc. (Ecosat) 1982, Matthews and Epp 2001, Riley 2003). The ecosystem sampling plan was adapted from British Columbia's Terrestrial Ecosystem Mapping (TEM) system (Resources Inventory Committee [RIC] 1998a, 1998b). The TEM standard has also been recently adopted for several other ELC mapping projects conducted as a part of environmental assessments in the Northwest Territories and Nunavut.

A TEM sampling intensity level (SIL) 4 survey was planned for the ELC sampling of the study area. This survey intensity is considered appropriate for ecosystem representation, local resource planning and landscape management. The appropriate scale of mapping at this level is 1:20,000 to l:50,000. This sampling intensity typically includes 15-25% polygon visitation with a plot ratio of 5% detailed full plots, 20% ground inspection form (GIF) plots and 75% visual plots.

Initial review of the satellite imagery indicated that polygons were generally large and for preliminary sampling it was estimated that there would be 500 polygons. This is based on an area of 20,000 ha, a 1:20,000 mapping scale, and an average polygon size of 40 ha. Typical range of polygon size for that scale of mapping is 2 to 80 ha. It was estimated that 125 plots, at a 25% sampling intensity, would be needed of the following types:

- 6 full plots;
- 25 GIF; and
- 94 visual plots.

The minimum number of plots required would be 75 at a 15 % sampling intensity. Prior to field sampling, potential sampling locations were identified using satellite imagery.

4.2 FIELD SAMPLING

Field data collection for the ELC occurred from July 14 to 19, 2006. In addition to the ELC field program, ELC data was collected during the breeding bird surveys. Collection of field data followed the standards established in British Columbia for Describing Terrestrial Ecosystems in the Field (DTEIF) (Province of British Columbia 1998) and for TEM (RIC 1998a). All plot position coordinates were determined using Global Positioning System (GPS), with an expected accuracy of 6-8 m. The ELC field crew consisted of a one to two-person team, which undertook a range of field measurements described below.

A total of 6 full plots and 24 GIFs and 40 visuals were completed for a total of 70 sample plots in 514 terrestrial polygons. A sampling ratio of 9:34:57 was achieved for full, GIF and visual plots in the field. The 70 plots sampled within 48 polygons (not including water), resulted in a 9% sampling intensity for the project. This meets the requirements for a TEM SIL 5 survey. The final number of plots and the number of polygons sampled was reduced from the pre-field planning target numbers (as mentioned in Section 4.1). This adjustment was due to difficulties in accessing potential sample locations and weather conditions.

In each of the full plots, the following site information was collected: plot number, date, UTM coordinates, elevation, exposure, aspect, slope, macro- and meso-site positions, soil moisture, drainage and nutrient regimes, ecosystem unit name, and surface substrate (bedrock, rocks, mineral soil, organic matter and water). Notes describing the plot-in-context and variability within the polygon were recorded. Photographs were taken at each plot.

When possible, plants were identified to species level. Vegetation cover, density and distribution estimates were recorded for each species identified. Vascular plant identification followed Porsild and Cody (1968, 1980). Bryophyte and lichen identification followed Brodo *et al.* (2001) and Vitt *et al.* (1988).

Ground inspection plots involved recording UTM coordinates, vegetation data and surface substrate. Visual plots involved recording brief point or area characteristics made from the ground, and were used to note the basic ecosystem unit, vegetation or other key features. The primary function of visual plots is to aid in the delineation of polygon labels and to confirm the placement of polygon boundaries during the photo interpretation and mapping phases of the work. Visual plots were recorded during the vegetation survey as well as during the breeding bird surveys.

Following field sampling, GPS data associated with the plot locations were prepared for use in the project's GIS software (ESRI ArcMap® 9.1). Full plot data were digitally transcribed from field plot forms using VPRO, an ecological data entry and management tool (Province of British Columbia 1999).

4.3 SATELLITE IMAGE PREPARATION

The imagery used for mapping consisted of a high-resolution Quickbird image and a Landsat image of the study area and surrounding region. The Quickbird scene was a tasked,

ortho-rectified bundled panchromatic and multispectral scene acquired August 2 and August 8, 2006. The Quickbird satellite collects panchromatic imagery at 60-70 cm resolution and multispectral imagery at 2.4-2.8 m resolution. The acquired imagery has been shown in natural color and has been enhanced with the panchromatic high resolution band to improve image sharpness. The Landsat7 ETM+ imagery was acquired on July 26, 2001 from the Global Land Cover Facility. The Landsat satellite collects 8 spectral bands in visible through thermal infrared regions of the spectrum. The imagery used is a Tasseled Cap transform of the visible through mid-infrared bands, which has been enhanced for visual interpretation. The Tasseled Cap transform enhances subtle differences in soil wetness and vegetation greenness, and has been shown to be effective for visual interpretation.

4.4 ELC MAPPING

Ecosystems were interpreted, mapped and labelled on-screen using ERSI ArcMap® 9.1. Interpretation and labelling followed approaches defined by the RIC (1998a). Ecosystems were mapped at a nominal scale of 1:20,000 within the study are and at 1:10,000 in the proposed open pit area and along the proposed conveyor route (Figure 2). All polygons were attributed by ecosite unit, structural stage and modifier (if appropriate).

A quality assurance/quality control (QA/QC) review of the mapping was conducted concurrently with the line work. At the beginning of each day, 10% of the polygons that were previously mapped were revisited to ensure consistency from day to day. At the end of the mapping process, 10% of the polygons were audited for accuracy. Final ELC documents include this baseline report and vegetation maps of the study area.

5.0 RESULTS OF REVIEW, FIELD SAMPLING AND MAPPING

Information collected during the background review and in the field were used for ecosystem classification and mapping. Classification and mapping results for soils and vegetation are presented below.

5.1 SURFICIAL MATERIAL AND SOILS

There are six types of surficial material in the study area: residual deposits, colluvium, marine beach deposits, alluvial lacustrine, moraine, and organic (Ecosat 1982). A fault line, running north-south separates the Precambrian granites and gneisses from the Paleozoic dolomites and limestones. The Precambrian rocks form an upland region with moderate relief. The Paleozoic sedimentary rock form lowlands east of the fault line. Raised beaches dominate the peninsula.

Marine, discontinuous glacial drift, moraine and alluvial deposits form the dominant mineral soils in the region (Environment Canada 2000). Turbic and Static Cryosols are the dominant mineral soils which are generally sandy silts to sandy loams. Depth of mineral soil measured ranged from 4 to 20 cm. Gleying was common in areas that were saturated

for significant lengths of time. Mineral soils ranged in nutrient regime from medium to very poor, and in moisture status from xeric to subhydric.

Organic Cryosols were present in poorly drained areas. Soils tended to be fibric, with permafrost continuous, shallow and with a medium to low ice content. Moisture regime is subhydric to hydric and nutrient regime is medium to poor.

The surface active layer, that layer that thaws and undergoes geochemical cycling, varies from 8 to 10 cm, but can reach depths of 90 cm depending on aspect, slope, parent material, texture and vegetation cover (Ecosat 1982).

5.2 VEGETATION

Detailed vegetation data were collected in the field and correlated against ecosystem units identified by Ecosat (1982). Below is a description of how the ecosystem units were classified, what units were found and how they are distributed in the study area.

5.2.1 Defining Ecosystem Units

The ecosystem units were defined in broad terms for ecozone, landform, and broad vegetation characteristics. These components are further divided as indicated in Table 1. Building on the broad classifications, the ecosystem units were further defined into ecosites based on units defined by Ecosat (1982) and from data collected during field surveys (Table 2). Due to the scale of mapping, it was not possible to distinguish between dwarf shrub and dwarf shrub-heath moss so these ecosites were combined when mapping the upland units. Also, there was insufficient field data collected to distinguish the cryoturbated sedge moss and the hummocky sedge – moss in the lowland so these units were defined as dry or wet sedge meadows, depending on the soil moisture. These two sedge units were also used in the upland area.

Structural stages describe the existing dominant stand appearance or physiognomy for an ecosystem unit. This parameter emphasises structural habitat characteristics and structural stage classes as defined by the DTEIF system (RIC 1998a) were adopted for this project (Table 3). Site modifiers for atypical conditions as developed by BHP (1995) were adopted for this project (Table 4).

TABLE 1: ECOSYSTEM COMPONENTS IN THE STUDY AREA

Zone	Landforms	Broad Vegetation Units
Northern Arctic	Upland, lowland, water	Dwarf shrub, graminoid, riparian, rock dominated, water or other

TABLE 2: ECOSITES IN UPLAND AND LOWLAND REGIONS OF THE STUDY AREA		
Ecosite Code	Description	Broad Vegetation Unit
Upland Area		
DSL	Dwarf shrub – lichen	Dwarf shrub
HT	Dwarf shrub / dwarf shrub – heath moss	Dwarf shrub
CA	Sedge meadow – dry	Graminoid
CE	Sedge meadow – wet	Graminoid
SB	Snow bed	Other
RO	Bedrock outcrop	Rock dominated
BF	Boulder field, large cobbles	Rock dominated
Lowland Area		
CPL	Cushion plant – lichen	Dwarf shrub
CPS	Cushion plant – sedge moss	Dwarf shrub
CA	Sedge meadow – dry	Graminoid
CE	Sedge meadow – wet	Graminoid
SM	Salt marsh	Graminoid
RB	Raised beach	Rock dominated
Riparian (both upland and lowland)		
RP	All riparian units	Riparian
Water		
OW	Small and shallow (less than 2 m in depth)	Water
PD	Less than 50 ha, greater than 2 m in depth	Water
LK	Greater than 50 ha, greater than 2 m in depth	Water
OC	Ocean	Water
Anthropogenic		
AP	Disturbed runway	Other

TABLE 3: STRUCTURAL STAGES USED IN THE STUDY AREA		
Code	Structural Stage	Definition
	Sparse / Bryoid	Initial stages of primary and secondary succession; bryophytes and lichens often dominant; time since disturbance may be prolonged where there is little or no soil development (bedrock, boulderfields, etc.).
1a	Sparse	Less than 10% vegetation cover.
1b	Bryoid	Bryophyte and lichen-dominated community (>50% of total vegetative cover).
	Herb	Early successional stage or herb communities maintained by environmental conditions or disturbance; dominated by herbs; some invading or residual shrubs and trees may be present; many non-wooded communities are perpetually maintained in this stage.
2a	Forb-dominated	Includes non-graminoid herbs and ferns.
2b	Graminoid-dominated	Includes grasses, sedges, reeds, and rushes.
2d	Dwarf shrub-dominated	Dominated by dwarf woody species such as heather, willow, and dryad.

TABLE 4: SITE MODIFIERS FOR ATYPICAL CONDITIONS IN THE STUDY AREA	
Code	Description
b	30% or more of surface cover is boulders.
r	30% or more of surface cover is bedrock.

5.2.2 Ecosystem Descriptions in the Study Area

The following section provides descriptive information on broad vegetation units and ecosystem types within the study area.

5.2.2.1 Broad Vegetation Units

Three broad vegetation units were identified: dwarf shrub, graminoid and riparian. Additional broad units included rock dominated, water and other (Table 5). Dwarf shrub units were the most abundant covering 37% of the study area. It was difficult to distinguish the dwarf shrub and the graminoid units from the digital imagery. Stereo air photos (1:20,000, July 1983) were used to determine landscape position and surficial material, which in turn were used for delineating these two units. Visual representation of these units is provided in Figure 3.

TABLE 5: BROAD VEGETATION UNITS WITHIN THE STUDY AREA				
Landscape Unit	Total Area (ha)	No. of Polygons	Average Polygon Size	Area as % Total Area
Dwarf shrub	8,909	238	37.4	37.1
Graminoid	4,635	187	24.8	19.3
Riparian	189	12	15.8	0.8
Rock dominated	3,298	69	47.8	13.7
Water	6,939	138	50.3	28.9
Other	40	8	5.0	0.2
TOTAL	**24,010**	**652**	**36.8**	**100**

5.2.2.2 Ecosites

Each field site was classified into an ecosite based on the classification scheme outlined in Section 5.2.1. In total, one snow bed, one anthropogenic, three rock dominated, four water, and eight naturally vegetated ecosites were identified and mapped in 652 polygons within the study area (Table 6). Visual distribution of the ecosystem types is provided in Figure 4. Summaries of the polygon mapping and these ecosites are provided below. A list of vegetation observed in the study area is located in Appendix A. Ecosite attributes for all the polygon numbers shown on Figure 2 are provided in Appendix B.

A total of 652 polygons were mapped in the 24,010 ha study area. The average polygon size is approximately 36.8 ha, with a range from 0.5 ha for wet sedge meadow to 5687 ha for ocean. While the average polygon size was 36.8 ha, the mode polygon size was 13.2 ha

which indicates over half of the polygons mapped were less than 13 ha in size. A brief description of the ecosites is provided after Table 6.

Some data within Table 6 may not appear mathematically correct due to methods used for totaling the areas within complex units (polygons with more than one ecosystem unit in them) and rounding effects. "Total Area" for an ecosystem unit is the percent coverage of that unit (called a decile) multiplied by the total area of the polygon. "Number of Polygons" represents the total number of polygons that the ecosystem unit was the dominant ecosystem. "Average Polygon Size" only takes into account the area and number of polygons in which the ecosystem unit is dominant. For example, in the study area, open water (OW) has a total area of 584 ha, 37 polygons, and an average polygon size of 5.9 ha. In this case, OW was a subdominant ecosite in other polygons increasing its total area, but those subdominant polygons are not included in the "Number of Polygons" or the "Average Polygon Size".

TABLE 6: SUMMARY OF ECOSYSTEM UNITS WITHIN THE STUDY AREA

Ecosystem Type	Total Area (ha)	No. of Polygons	Average Polygon Size (ha)	Range (min - max)(ha)	Area as % Total Area
Vegetated					
CA	3,231	94	30.9	2.2 – 157.7	13.5
CE	1,474	84	18.7	0.5 – 193.4	6.1
CPL	893	19	52.5	1.0 – 315.5	3.7
CPS	701	14	60.4	1.3 – 51.5	2.9
DSL	150	10	19.5	2.9 – 60.4	0.6
HT	6,998	205	35.0	35.0 – 310.9	29.2
RP	189	12	15.8	0.7 – 64.9	0.8
SM	3	2	1.7	1.4 – 2.1	0.0
Rock Dominated					
BF	155	6	25.7	7.2 – 65.7	0.7
RB	1,773	18	105.3	2.7 – 559.8	7.4
RO	1,094	42	26.2	1.8 – 98.9	4.6
Water					
OW	584	37	5.9	0.7 – 26.2	2.4
PD	780	98	8.0	0.9 – 39.8	3.2
LA	253	2	126.8	76.9 – 176.6	1.1
OC	5,687	1	5,687.1	NA	23.7
Other					
AP	10	1	9.6	NA	0.0
SB	33	7	4.4	2.4 – 6.1	0.1
TOTAL	**24,010**	**652**	**36.8**	**0.5 - 5687**	**100.0**

Vegetated

The mid arctic climate limits the variety of plants that can grow in the study area. Plants are adapted to short growing seasons and long winters. The active surface layer is shallow and depending on parent material and depth of active layer, soils range from xeric to hydric. Well drained sites are dominated by dwarf shrubs and lichens. Mosses and sedges tend to establish where there is slightly more moisture. Approximately 57% of the study area is vegetated.

CA Dry Sedge Meadow

This ecosite is located on imperfect to moderately well drained, level to gentle slopes. Total plant cover is high. Sedges are the dominant species, with willow, heather (*Cassiope* spp.) and dryad (*Dryas* spp.) common. This ecosite covers 13.5 % of the study area.

CE Wet Sedge Moss

The wet sedge moss ecosite is found adjacent to ponds and streams in the study area. The fluctuating water levels tend to keep vegetation cover low. Common species include water sedge (*Carex aquatalis*) and cotton grass. This ecosite accounts for 6.1% of the study area.

CPL Cushion Plant Lichen

This ecosite is found on well drained crests and open slopes of beach ridges or alluvial-lacustric deposits. Lichens dominate the cover and common genera are *Thamnolia*, *Hypogymia*, *Umbilicaria* and *Cetraria*. Total plant cover is generally low, ranging from 5 to 35 percent. This ecosite accounts for 3.7% of the study area.

CPS Cushion Plant Sedge Moss

This ecosite covers 2.9% of the study area. Soils tend to be less rapidly drained than the Cushion Plant Lichen community. Vegetation cover is higher than the CPL ecosite, and white dryad (*Dryas integrifolia)* is the dominant species. Other species, such as saxifrage (*Saxifraga* spp.), sedges and lousewort (*Pedicularis* spp.) are also common. Nutrient regime is poor to medium. *Mnium* spp., *Bryum* spp. and golden moss (*Tomenthyypum nitens*) are common mosses.

DSL Dwarf Shrub Lichen

This ecosite is mapped on 0.6% of the study area; in reality this unit accounts for more than that and the low number is a result of the difficulty distinguishing this unit from the Dwarf Shrub / Dwarf Shrub – Heath moss unit. It is located in areas with low snow cover, has rapid drainage and a poor nutrient regime. White dryad is the dominant species; other species include curly sedge (*Carex ruprestis),* other sedge species, moss campion (*Silene acaulis*) and locoweed (*Oxytropis* spp.).

HT Dwarf Shrub / Dwarf Shrub – Heath moss

This ecosite is located in areas with moderate, persistent snow cover, is well drained and has a poor nutrient regime. White dryad is the dominant species; other common species include saxifrage, heather, curly sedge, and willow. Non vascular species include golden moss, *Cetraria* spp. and *Drepanocladus* spp. This ecosite is accounts for 29% of the study area.

RP Riparian

The riparian units are restricted to water courses that have evidence of flowing water at some point during the summer. In some cases the riparian areas are well defined channels and in others, it is more obscure with a zone between two lakes. Vegetation is varied depending on the amount and duration of water. Rocks are common. This ecosite accounts for approximately 1% of the study area.

Other Units

Other units identified include rock outcrop (RO), boulder field (BF), raised beach (RB), snow beds (SB) and anthropogenic (AP). The rock dominated units accounted for 14% of the study area. Snow beds were not common and accounted for less than 1% of the study area. Only one anthropogenic area was identified in the study area – a runway located on the lowland area which is less than 1% of the study area. Water accounts for approximately 30% of the study area; of this 6% is fresh water and 24% is salt water.

Sensitive Ecosystems

The wetland plant communities, which include the wet sedge moss associations (CE) have been previously identified as being sensitive to disturbance (Ecosat 1982). This community represents 6% of the study area and is often complexed with OW and CA. These units also contain organic soils which possess limitations to construction. Another unit that would need special consideration if disturbed would be riparian.

5.2.2.3 Complex Polygons

A number of polygons were mapped as complex polygons (i.e., they contained more than one ecosystem type). Of the 24,010 ha within the study area, 11,418 ha (48%) had only one ecosystem unit, 7,644 ha (32%) had two ecosystem units and 4,948 hectares (21%) had three ecosystem units. The number of complex polygons is an indication of the heterogeneity of the landscape and is also dependent on scale of mapping. At a smaller scale, it is possible to identify smaller units and reduce the number of complex polygons. Standard mapping practices would generally map a minimum of 0.5 cm^2. At 1:20,000 mapping scale, this minimum size is 1.0 ha.

The most commonly complexed ecosystem units were HT and CA. Wetland complexes were common with OW complexed with CE and CA or HT. These wetland units are generally small in size which makes them difficult to map as single units at the scale presented. The distribution of complex polygons for the entire study area is provided in Table 7.

TABLE 7: SUMMARY OF COMPLEX ECOSYSTEM UNITS WITHIN THE STUDY AREA

ELC Unit	Total Area (ha)	One ELC Unit/ Polygon		Two ELC Units/ Polygon		Three ELC Unit/ Polygon	
		Area (ha)	Polygons	Area (ha)	Polygons	Area (ha)	Polygons
Vegetated							
CA	3,231	587	35	1,682	93	961	39
CE	1,474	291	41	625	58	559	37
CPL	893	137	10	172	10	584	9
CPS	701	170	8	158	15	373	3
DSL	150	35	4	78	7	36	1
HT	6,998	2,759	125	3,329	105	910	40
RP	189	189	12	0	0	0	0
SM	3	3	2	0	0	0	0
Rock Dominated							
BF	155	0	0	134	10	22	1
RB	1,773	80	8	718	12	975	12
RO	1,094	312	23	567	33	215	12
Water							
OW	584	93	25	181	32	310	31
PD	780	780	98	0	0	0	0
LA	253	253	2	0	0	0	0
OC	5,687	5,687	1	0	0	0	0
Other							
AP	10	10	1	0	0	0	0
SB	33	30	7	0	0	2.7	1
TOTAL	**24,010**	**11,418**	**403**	**7,644**	**375**	**4,948**	**186**

5.2.2.4 Proposed Development Area

The proposed development is comprised of a conveyor system, two ore bodies and a tailing pond. Supporting infrastructure, such as camp and processing facilities have not yet been identified and are not included in the information presented below. The conveyor system is shown on Figures 2 to 4 and for the purpose of this report, was considered to have a 10 m buffer on either side of the belt. The ore bodies (AB and C) and tailings pond are also presented on the figures. Ecosites located within the proposed development areas are

provided in Table 8 below. Dwarf Shrub / Dwarf Shrub – Heath moss has the highest coverage in the development area with 228 ha (35%). Dry sedge meadow is second with 143 ha and 22% coverage.

TABLE 8: ECOSYSTEM UNITS WITHIN THE PROPOSED DEVELOPMENT AREAS

Ecosystem Type	Conveyor System	Ore Body AB	Ore Body C	Tailing Pond	Total by Ecosite	% Coverage
Vegetated						
CA	3.5	33.0	52.5	53.9	142.9	21.9
CE	2.3	10.7	17.7	17.8	48.5	7.4
CPL	1.8	-	-	34.2	36.0	5.5
CPS	0.2	-	-	58.3	58.5	9.0
DSL	0.6	-	-	-	0.6	0.1
HT	4.6	138.0	85.3	-	227.9	34.9
RP	0.4	-	0.3	9.5	10.2	1.6
Rock Dominated						
BF	0.9	-	-	-	0.9	0.1
RB	2.6	-	-	53.1	55.7	8.5
RO	0.9	23.0	-	4.3	28.2	4.3
Water						
OW	0.9	-		-	0.9	0.1
PD	0.8	18.2	0.5	16.5	36.0	5.5
LA	-	-	3.3	-	3.3	0.5
Other						
SB	-	3.8	-	-	3.8	0.6
TOTAL	**19.6**	**226.6**	**159.6**	**247.7**	**653.5**	**100**

5.3 DISCUSSION OF FIELD SAMPLING AND MAPPING RESULTS

Two of the objectives outlined for the ecosystem classification were to define ecosites on the basis of field studies and to map and characterize the landscape in the study area using defined ecosystem units and satellite imagery. Meeting these two objectives is discussed below.

5.3.1 Defining Ecosites

Five of the eight vegetated ecosites were quantitatively sampled in the field (CA, CA, CPS, HT, DSL). The CPS ecosite only had one quantitative plot. Data collected for other ecosites was limited due to access and weather conditions and was restricted to qualitative comments. Though the descriptions are sufficient for this level of mapping, further field characterization of the ecosites that were not quantitatively sampled would enhance our knowledge of variability of these ecosites in the region which would lead to better land use planning.

5.3.2 Mapping and Characterizing the Landscape

The final mapping met a TEM SIL 5 survey which was reduced from the pre-field planning of a SIL 4 (as mentioned in Section 4.1). This adjustment was due to difficulties in accessing potential sample locations and weather conditions. A SIL 5 survey is suitable for ecosystem representation, local resource planning and landscape management planning (RIC 1998a). For this project, we believe sufficient information has been collected in the study area and further work should be focused on the proposed development areas.

With respect to confidence in distinguishing the ecosites using the imagery and air photos available, it was moderate to high, depending on the ecosite. It was difficult to distinguish the dwarf shrub / dwarf shrub – heath moss (HT) and the dry sedge meadow (CA) from the satellite imagery, however the use of stereo air photos (1:20,000, July 1983) assisted in determining landscape position, slope and surficial material, which in turn were used for delineating these units. As well, the amount of lichen cover, for both the CPL and DSL units, was difficult to distinguish in the imagery. The colors on the Quickbird imagery are muted. Landsat imagery, utilizing a Tasseled Cap transform of the visible through mid-infrared bands was also used to assist in the vegetation interpretation.

Mapping between the CPS and CPL, DSL and HT, and HT and CA was considered moderate. All other units were mapped with high confidence.

6.0 SUMMARY

Ecological land classification mapping was carried out for the Roche Bay study area. Baseline data was collected in July 2006, and 16 ecosites were classified within the 24,010 ha study area. Eight of these were naturally vegetated, three were rock dominated, four were classified as water, one was anthropogenic and one was snow bed.

Confidence in the mapping and subsequent data analysis is moderate to for SPS, CPL, DSL, HT and CA. All other units were mapped with high confidence.

7.0 CLOSURE

Information in this report is based on observations, surveys, historical information, and information that was available at the time of this assessment. This report has been conducted in accordance with generally accepted scientific methods. No other warranty is made, either expressed or implied. This report is also subject to EBA's General Terms and Conditions located in Appendix C.

Sincerely,
EBA Engineering Consultants Ltd.

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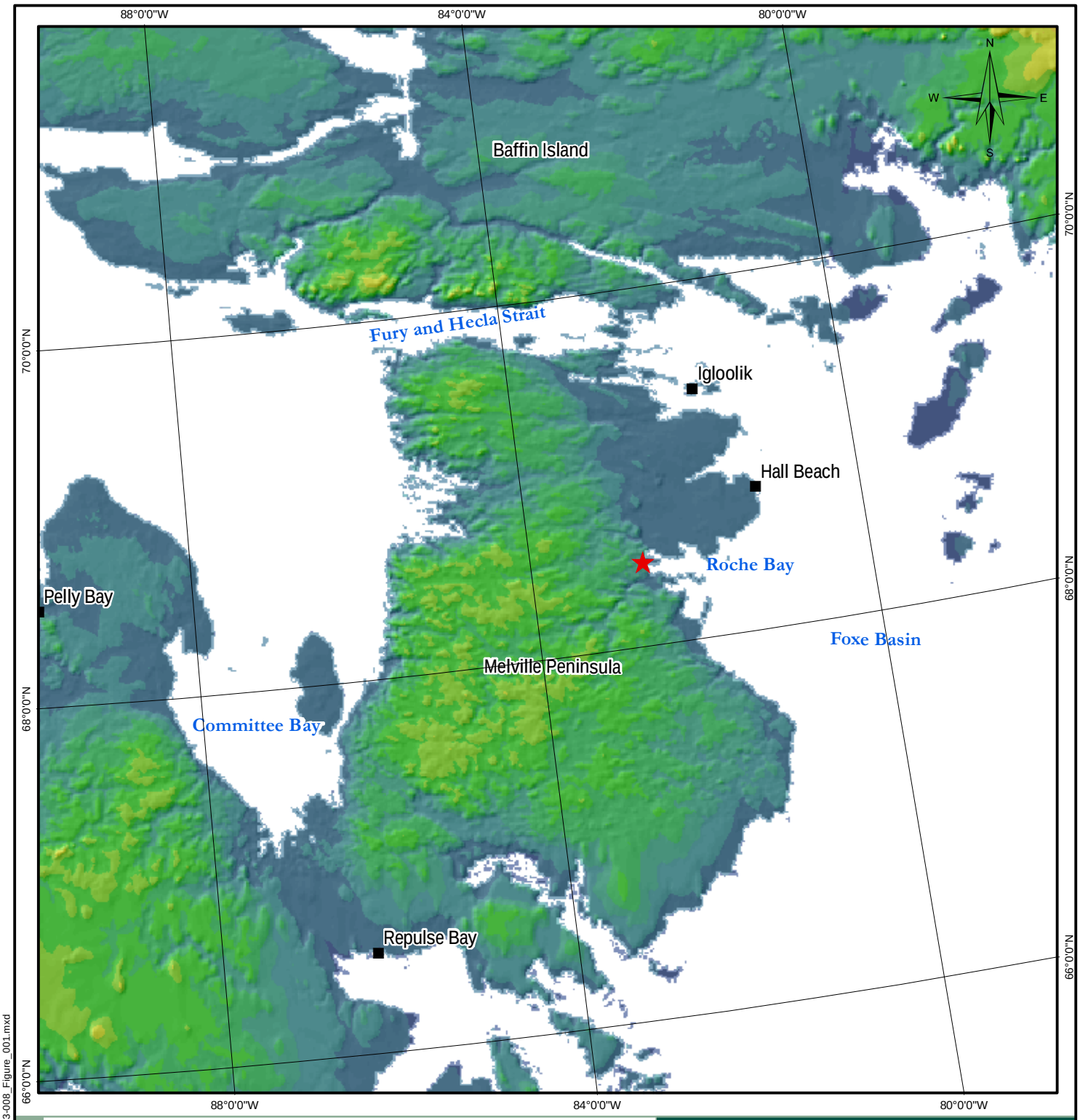
FIGURES



LEGEND

- Settlement
- Site Location

NOTES

Base data source:
ESRI DATA and Maps

ROCHE BAY MAGNETITE PROJECT
ENVIRONMENTAL BASELINE STUDIES 2006
VEGETATION RESOURCES

Site Location Map

PROJECTION: Canadian Lambert Conf. Conic		DATUM: NAD83	
Scale: 1:3,000,000			
50 25 0 50 Kilometres			
FILE NO.: 1740183-008_Figure_001			
PROJECT NO.: 1740183.008	DWN: MEZ	CKD: KO	REV: 0
OFFICE: EBA-VANC	DATE: December 3, 2007		

EBA Engineering Consultants Ltd.

Figure 1

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LEGEND

- Airstrip
- Sample Location
- Proposed Dock Site
- Proposed Conveyor Belt
- Ore Body
- Proposed Conveyor Belt Buffer (10m)
- Proposed Tailings Pond
- 65 Polygon ID Label

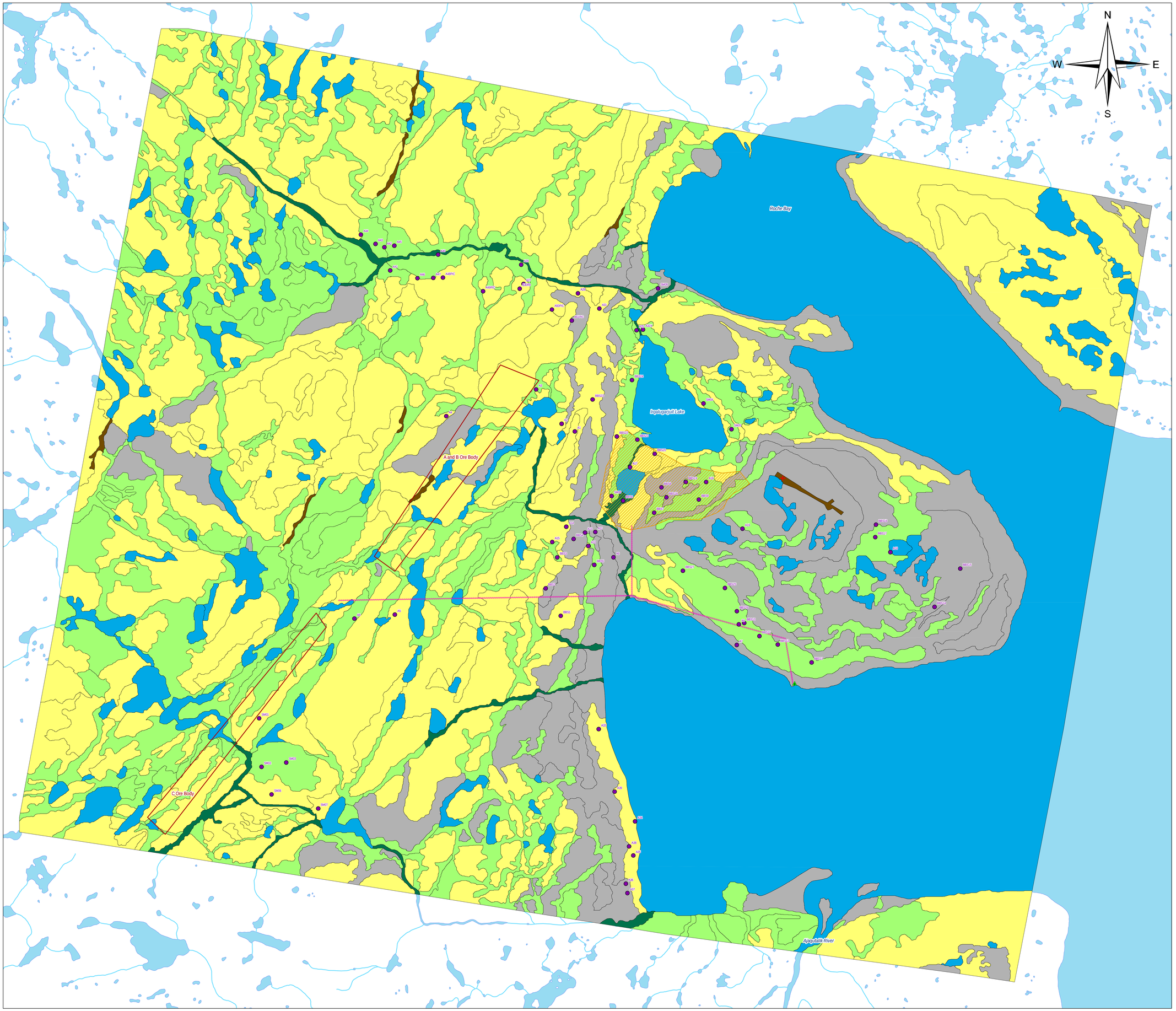
NOTES

Base data source: QuickBird Imagery, NTDB (1:50,000)

ROCHE BAY MAGNETITE PROJECT
ENVIRONMENTAL BASELINE STUDIES 2006
VEGETATION RESOURCES

Polygon Delineation Over QuickBird Imagery of the Study Area

PROJECTION: UTM Zone 17	DATUM: NAD83		
Scale: 1:20,000 (0, 0.5, Kilometers)			EBA Engineering Consultants Ltd.
FILE NO.: 1740183-008_Figure_002			
PROJECT NO.: 1740183.008	DWN: MEZ	CKD: KO	REV: 1
OFFICE: EBA-VANC	DATE: January 3, 2007		Figure 2



LEGEND

- Airstrip
- Sample Location
- Proposed Dock Site
- Proposed Conveyor Belt
- Proposed Conveyor Belt Buffer (10m)
- Ore Body
- Proposed Tailings Pond

Broad Category

- Graminoid
- Dwarf Shrub
- Rock Dominated
- Riparian
- Water
- Other

NOTES

Base data source: NTDB (1:50,000)

ROCHE BAY MAGNETITE PROJECT
ENVIRONMENTAL BASELINE STUDIES 2006
VEGETATION RESOURCES

Broad Vegetation Units in the Study Area

PROJECTION: UTM Zone 17		DATUM: NAD83	
Scale: 1:20,000 (0 – 0.5 Kilometers)			EBA Engineering Consultants Ltd.
FILE NO.: 1740183-008_Figure_003			
PROJECT NO.: 1740183.008	DWN: MEZ	CKD: KO	REV: 1
OFFICE: EBA-VANC	DATE: January 3, 2007		Figure 3

N
W
E
S

Roche Bay
Inqulungnjuit Lake
Ajagutaliik River
A and B Ore Body
C Ore Body

LEGEND

- Airstrip
- Sample Location
- Proposed Dock Site
- Proposed Conveyor Belt
- Proposed Conveyor Belt Buffer (10m)
- Ore Body
- Proposed Tailings Pond

Ecosystem Type

- CA - Sedge meadow - dry
- CE - Sedge meadow - wet
- SM - Salt Marsh
- DSL - Dwarf shrub - lichen
- HT - Dwarf shrub / dwarf shrub - heath moss
- CPL - Cushion plant - lichen
- CPS - Cushion plant - sedge moss
- RO - Bedrock outcrop
- BF - Boulder field, large cobbles
- RB - Raised beach
- RP - All riparian units
- OW - Water - small and shallow (< 2 m deep)
- PD - Water - < 50 ha, > 2 m deep
- LA - Water - > 50 ha, > 2 m deep
- OC - Ocean
- SB - Snow Bed
- AP - Disturbed

3RB/1CE Sub-Ecosystem Type Label

NOTES

Base data source: NTDB (1:50,000)

ROCHE BAY MAGNETITE PROJECT
ENVIRONMENTAL BASELINE STUDIES 2006
VEGETATION RESOURCES

Ecosites in the Study Area

PROJECTION: UTM Zone 17	DATUM: NAD83		
Scale: 1:20,000 (0 – 0.5 Kilometers)			
FILE NO.: 1740183-008_Figure_004			
PROJECT NO.: 1740183.008	DWN: MEZ	CKD: KO	REV: 1
OFFICE: EBA-VANC	DATE: January 3, 2007		

EBA Engineering Consultants Ltd.

Figure 4

PHOTOGRAPHS

Photo 1
Cushion plant - sedge moss with boulder modifier.

Photo 2
Landscape shot with dwarf shrub with boulder modifier in foreground. A snow bed is located at toe of slope with wet sedge meadow in flood plain area adjacent to riparian stream. Dry sedge moss is located on other side of stream in lower slope position which moves into a dwarf shrub heath moss unit.

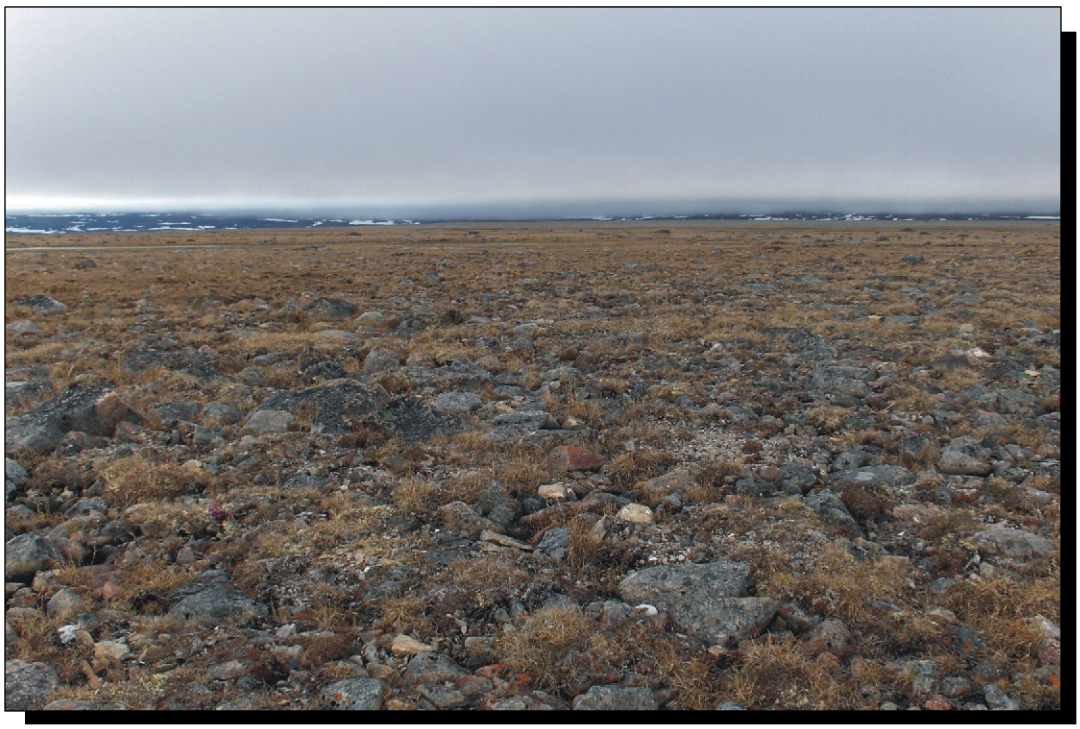


Photo 3
Dry sedge meadow with boulder modifier.

Photo 4
Dry sedge meadow.

Photo 5
Dwarf shrub - dwarf shrub heath moss ground cover.

Photo 6
Dwarf shrub - dwarf shrub heath moss.

Photo 7
Wet sedge meadow.

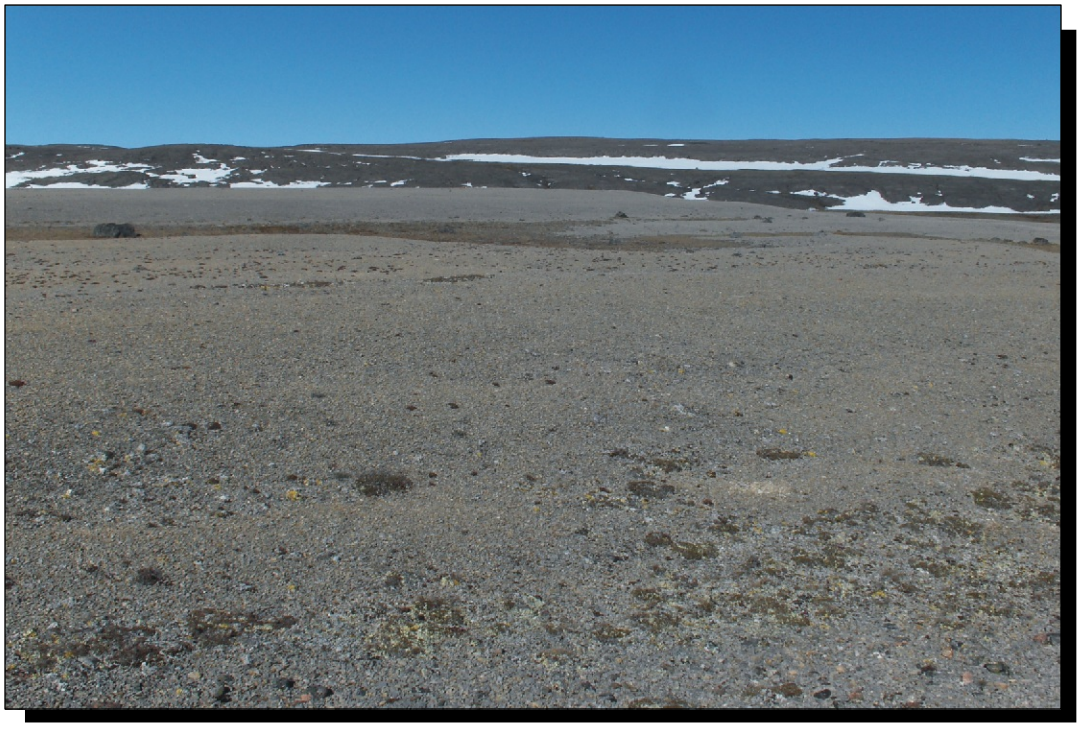


Photo 8
Raised beach.

Photo 9
Rock Outcrop.

Photo 10
Panorama taken from Sample Location A37.

APPENDIX

APPENDIX A SPECIES OBSERVED IN THE ROCHE BAY STUDY AREA

Type	*Latin Name*	Common Name
Graminoid	*Alopecurus sp.*	foxtail
	Arctagrostis latifolia	polargrass
	Carex adusta	lesser brown sedge
	Carex capillaris	hairlike sedge
	Carex membranacea	fragile sedge
	Carex nigricans	black alpine sedge
	Carex rupestris	curly sedge
	Poa glaucifolia	pale-leaf bluegrass
	Juncus arcticus	arctic rush
	Luzula confusa	northern wood-rush
	Eriophorum sp.	cotton-grass
Forb	*Cerastium arvense*	field chickweed
	Draba alpina	alpine draba
	Draba sp.	draba
	Epilobium latifolium	broad-leaved willowherb
	Epilobium sp.	willowherb
	Equisetum scirpoides	dwarf scouring-rush
	Erigeron humilis	arctic-alpine daisy
	Eutrema edwardsii	Edwards wallflower
	Melampyrum sp.	cowwheat
	Oxyria digyna	mountain sorrel
	Oxytropis arctica	arctic locoweed
	Oxytropis campestris	field locoweed
	Oxytropis maydelliana	Maydell's locoweed
	Oxytropis nigrescens	blackish locoweed
	Pedicularis capitata	capitate lousewort
	Pedicularis labradorica	Labrador lousewort
	Pedicularis lanata	woolly lousewort
	Pedicularis langsdorfii ssp. arctica	Langsdorf's lousewort
	Pedicularis sudetica	Sudeten lousewort
	Polygonum viviparum	alpine bistort
	Saxifraga aizoides	evergreen saxifrage
	Saxifraga cernua	nodding saxifrage
	Saxifraga oppositifolia	purple mountain saxifrage
	Saxifraga serpyllifolia	thyme-leaved saxifrage
	Silene acaulis	moss campion
	Tofieldia coccinea	northern false asphodel
	Woodsia glabella	smooth cliff fern
Dwarf Shrub	*Cassiope tetragona*	four-angled mountain-heather
	Salix arctica	arctic willow
	Salix reticulata	net-veined willow
	Dryas integrifolia	entire-leaved mountain-avens
Moss	*Aulacomnium palustre*	glow moss
	Aulacomnium turgidum	mountain groove-moss
	Tomentypnum nitens	golden fuzzy fen moss
	Distichium capillaceum	erect-fruited iris-moss
	Ditrichum flexicaule	bendy cow-hair moss
	Polytrichum piliferum	awned haircap moss
	Tortula papillosissima	
Lichen	*Stereocaulon paschale*	cottontail foam
	Thamnolia vermicularis	the whiteworm
	Umbilicaria hyperborea	blistered rocktripe
	Cetraria cucullata	furled paperdoll
	Cetraria islandica	icelandmoss
	Cladina mitis	lesser green reindeer
	Rhizocarpon geographicum	green map
	Dactylina arctica	

APPENDIX

APPENDIX B POLYGON ATTRIBUTES

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
1	59847	Upland	SB	Other
2	161484	Upland	PD	Water
3	151473	Upland	PD	Water
4	138383	Upland	RO1b	Rock Dominated
5	21987	Upland	PD	Water
6	316881	Upland	HTr2d	Dwarf Shrub
7	138612	Upland	HTr2d	Dwarf Shrub
8	11894	Upland	OW	Water
9	53879	Upland	HTb2d	Dwarf Shrub
10	71049	Upland	CA2b	Graminoid
11	579186	Upland	HTrb2d	Dwarf Shrub
12	50179	Upland	CA2b	Graminoid
13	44379	Upland	CA2b	Graminoid
14	316047	Upland	7RO1a / 3HTb2d	Rock Dominated
15	166682	Upland	PD	Water
16	65542	Upland	PD	Water
17	12370	Upland	CE2b	Graminoid
18	19111	Upland	PD	Water
19	169233	Upland	HTb2d	Dwarf Shrub
20	144766	Upland	HTb2d	Dwarf Shrub
21	44354	Upland	HTb2d	Dwarf Shrub
22	31341	Upland	HTb2d	Dwarf Shrub
23	104699	Upland	RO1a	Rock Dominated
24	99974	Upland	8RO1b / 2HT2d	Rock Dominated
25	247856	Lowland	8CA2b / 2CPS2d	Graminoid
26	48129	Lowland	CPS2d	Dwarf Shrub
27	50513	Upland	RO1b	Rock Dominated
28	58130	Upland	5HTb2d / 5BF1a	Dwarf Shrub
29	64509	Upland	HT2d	Dwarf Shrub
30	167280	Upland	7RO1b / 3HTb2d	Rock Dominated
31	103126	Upland	6BF1a / 4HT2d	Rock Dominated
32	28135	Upland	SB	Other
33	316827	Lowland	8CA2b / 1CE2b / 1RO1b	Graminoid
34	1739724	Upland	8HTb2d / 2CA2b	Dwarf Shrub

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
35	979331	Upland	7HTb2d / 2CA2b / 1RO1a	Dwarf Shrub
36	87229	Upland	PD	Water
37	202914	Upland	8HTb2d / 2CA2b	Dwarf Shrub
38	7324	Upland	RP2d	Riparian
39	33874	Upland	HTb2d	Dwarf Shrub
40	127151	Upland	CA2b	Graminoid
41	414604	Upland	9HT2d / 1RO1b	Dwarf Shrub
42	283650	Upland	CE2b	Graminoid
43	163979	Upland	5RO1a / 4HT2d / 1CE2b	Rock Dominated
44	78349	Upland	PD	Water
45	46415	Upland	PD	Water
46	479207	Upland	HTb2d	Dwarf Shrub
47	49580	Upland	CE2b	Graminoid
48	197965	Upland	HTb2d	Dwarf Shrub
49	638707	Upland	8RO1a / 2CA2b	Rock Dominated
50	82927	Upland	HT2d	Dwarf Shrub
51	215457	Upland	CE2b	Graminoid
52	692192	Upland	HTb2d	Dwarf Shrub
53	78761	Upland	7CE2b / 3HTb2d	Graminoid
54	29908	Upland	HTb2d	Dwarf Shrub
55	380878	Upland	6CE2b / 2OW / 2CA2b	Graminoid
56	387153	Upland	9HTb2d / 1CA2b	Dwarf Shrub
57	233913	Upland	CE2b	Graminoid
58	200283	Upland	CAb2b	Graminoid
59	239495	Upland	9CAb2b / 1RO1a	Graminoid
60	115787	Upland	6CA2b / 4HTb2d	Graminoid
61	75143	Upland	PD	Water
62	76167	Upland	5CE2b / 4HTb2d / 1OW	Graminoid
63	16992	Upland	OW	Water
64	163018	Upland	6CE2b / 4HTb2d	Graminoid
65	1937931	Upland	9HTb2d / 1CA2b	Dwarf Shrub
66	130640	Upland	7HTb2d / 2CA2b / 1OW	Dwarf Shrub
67	2042418	Upland	9HTbr2d / 1CA2b	Dwarf Shrub
68	63337	Upland	HTr2d	Dwarf Shrub

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
69	372059	Upland	6CE2b / 3CA2b / 1OW	Graminoid
70	540403	Upland	8HTbr2d / 1CA2b / 1OW	Dwarf Shrub
71	220334	Upland	HTr2d	Dwarf Shrub
72	33497	Upland	PD	Water
73	116717	Upland	PD	Water
74	25453	Upland	PD	Water
75	10538	Upland	OW	Water
76	95021	Upland	PD	Water
77	102364	Upland	PD	Water
78	1699403	Upland	9HTb2d / 1CA2b	Dwarf Shrub
79	115046	Upland	PD	Water
80	32907	Upland	CE2b	Graminoid
81	265506	Upland	9HTbr2d / 1CA2b	Dwarf Shrub
82	292921	Upland	7CA2b / 2CE2b / 1OW	Graminoid
83	50988	Upland	PD	Water
84	42860	Upland	PD	Water
85	489038	Upland	8HTbr2d / 2CA2b	Dwarf Shrub
86	663605	Upland	7CE2b / 3HTr2d	Graminoid
87	45931	Upland	HTb2d	Dwarf Shrub
88	43034	Upland	SB	Other
89	44052	Upland	PD	Water
90	140153	Upland	7CE2b / 3OW	Graminoid
91	60807	Upland	SB	Other
92	603133	Upland	HTr2d	Dwarf Shrub
93	301207	Upland	8HTb2d / 1CE2b / 1OW	Dwarf Shrub
94	28880	Upland	CE2b	Graminoid
95	132253	Upland	9HTr2d / 1CE2b	Dwarf Shrub
96	56948	Upland	9HTr / 1CE2b	Dwarf Shrub
97	641044	Upland	HTrb2d	Dwarf Shrub
98	64691	Upland	HTr2d	Dwarf Shrub
99	201662	Upland	HTrb2d	Dwarf Shrub
100	36696	Upland	HT2d	Dwarf Shrub
101	125541	Upland	HTr2d	Dwarf Shrub
102	20912	Upland	OW	Water
103	23323	Upland	PD	Water
104	42012	Upland	HTb2d	Dwarf Shrub
105	57741	Upland	CA2b	Graminoid
106	399965	Upland	9HTrb2d / 1CA2b	Dwarf Shrub
107	96210	Upland	9CA2b / 1OW	Graminoid
108	602768	Upland	8HTrb2d / 2CA2b	Dwarf Shrub
109	8697	Upland	OW	Water
110	62824	Upland	CE2b	Graminoid
111	251216	Upland	6CE2b / 3CA2b / 1OW	Graminoid
112	188618	Upland	HTrb2d	Dwarf Shrub
113	64843	Upland	8HTr2d / 2CE2b	Dwarf Shrub
114	39216	Upland	PD	Water
115	88665	Upland	HTr2d	Dwarf Shrub
116	120856	Upland	5CA2b / 5HTb2d	Graminoid
117	105696	Upland	HTb2d	Dwarf Shrub
118	578396	Upland	HTrb2d	Dwarf Shrub
119	496836	Upland	9RO1b / 1HTb2d	Rock Dominated
120	271382	Upland	8RO1b / 2HTb2d	Rock Dominated
121	640893	Upland	8CE2b / 2OW	Graminoid
122	149038	Upland	HTr2d	Dwarf Shrub
123	57591	Upland	CE2b	Graminoid
124	210960	Upland	PD	Water
125	25109	Upland	PD	Water
126	250707	Upland	HTr2d	Dwarf Shrub
127	40343	Upland	PD	Water
128	73342	Upland	9HTr2d / 1CA2b	Dwarf Shrub
129	74264	Upland	HTb2d	Dwarf Shrub
130	1065590	Upland	HTrb2d	Dwarf Shrub
131	34631	Upland	PD	Water
132	353180	Upland	HTr2d	Dwarf Shrub
133	49070	Upland	OW	Water
134	150080	Upland	HTr2d	Dwarf Shrub
135	32286	Upland	PD	Water
136	49239	Upland	CE2b	Graminoid

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
137	112466	Upland	PD	Water
138	44975	Upland	8CE2b / 2OW	Graminoid
139	108492	Upland	HTr2d	Graminoid
140	69620	Upland	PD	Water
141	16948	Upland	OW	Water
142	72446	Upland	HTr2d	Graminoid
143	85773	Upland	PD	Water
144	39462	Upland	PD	Water
145	228817	Upland	HTb2d	Graminoid
146	53522	Upland	HTr2d	Graminoid
147	326478	Upland	HTrb2d	Graminoid
148	20977	Upland	6OW / 4CE2b	Water
149	635455	Upland	9HTrb2d / 1CE2b	Graminoid
150	68626	Upland	PD	Water
151	51763	Upland	HTr2d	Dwarf Shrub
152	66035	Upland	HTr2d	Dwarf Shrub
153	243810	Upland	HTr2d	Dwarf Shrub
154	883695	Upland	9HTr2d / 1CA2b	Dwarf Shrub
155	12809	Upland	OW	Water
156	14831	Upland	CE2b	Graminoid
157	21540	Upland	OW	Water
158	176846	Upland	9HTr2d / 1CE2b	Dwarf Shrub
159	18149	Upland	PD	Water
160	26994	Upland	HTr2d	Dwarf Shrub
161	28765	Upland	OW	Water
162	51614	Upland	PD	Water
163	109908	Upland	RO1b	Rock Dominated
164	24676	Upland	PD	Water
165	15979	Upland	HTr2d	Dwarf Shrub
166	170307	Upland	8HTr2d / 2CA2b	Dwarf Shrub
167	68462	Upland	8OW / 2CE2b	Water
168	73153	Upland	HTr2d	Dwarf Shrub
169	11677	Upland	OW	Water
170	827992	Upland	9HTrb2d / 1CA2b	Dwarf Shrub
171	11445	Upland	PD	Water
172	23778	Upland	CE2b	Graminoid
173	134185	Upland	HTr2d	Dwarf Shrub
174	442145	Upland	HTb2d	Dwarf Shrub
175	85983	Upland	HTr2d	Dwarf Shrub
176	22949	Upland	CE2b	Graminoid
177	47867	Upland	RO1b	Rock Dominated
178	97313	Lowland	PD	Water
179	98795	Lowland	PD	Water
180	57701	Lowland	PD	Water
181	284566	Lowland	6CPS2d / 4OW	Dwarf Shrub
182	806778	Lowland	CPS2d	Dwarf Shrub
183	157799	Lowland	RB1a	Rock Dominated
184	113176	Lowland	RB1a	Rock Dominated
185	128590	Lowland	6CPS2d / 3RB1a / 1CE2b	Dwarf Shrub
186	1195065	Lowland	9RB1a / 1CE2b	Rock Dominated
187	81236	Lowland	OW	Water
188	165930	Lowland	OW	Water
189	115198	Lowland	PD	Water
190	530595	Lowland	6RB1a / 4CA2b	Rock Dominated
191	109861	Lowland	OW	Water
192	279454	Lowland	8CA2b / 2CPLb2d	Graminoid
193	41728	Lowland	PD	Water
194	41451	Lowland	PD	Water
195	29417	Lowland	PD	Water
196	6634	Lowland	OW	Water
197	283026	Lowland	7CAb2b / 3CE2b	Graminoid
198	108807	Lowland	8CE2b / 2OW	Graminoid
199	46873	Lowland	CE2b	Graminoid
200	272784	Lowland	6CPLb2d / 4CPSb2d	Dwarf Shrub
201	49606	Lowland	CPLb2b	Dwarf Shrub
202	372116	Lowland	7CPLb2d / 3CA2b	Dwarf Shrub
203	142025	Lowland	7CPL2d / 3RB1a	Dwarf Shrub
204	61770	Lowland	6CE2b / 4OW	Graminoid

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
205	111666	Lowland	CA2b	Graminoid
206	613073	Lowland	8CPLb2d / 2CA2b	Dwarf Shrub
207	9366	Lowland	PD	Water
208	80881	Lowland	CA2b	Graminoid
209	10734	Lowland	CE2b	Graminoid
210	56692	Lowland	CA2b	Graminoid
211	290860	Lowland	CA2b	Graminoid
212	12323	Lowland	PD	Water
213	155935	Lowland	CPLb2d	Dwarf Shrub
214	29772	Lowland	RB1a	Rock Dominated
215	100426	Lowland	RB1a	Rock Dominated
216	113128	Lowland	CE2b	Graminoid
217	32528	Lowland	CAb2b	Graminoid
218	186137	Lowland	8CA2b / 2CPSb2d	Graminoid
219	66416	Lowland	7CA2b / 3CPS2d	Graminoid
220	35485	Lowland	PD	Water
221	648945	Both	RP2d	Riparian
222	26699	Lowland	RB1a	Rock Dominated
223	52780	Lowland	CA2b	Graminoid
224	8455	Lowland	RP2d	Riparian
225	22274	Lowland	CA2b	Graminoid
226	78536	Lowland	6CPSb2d / 4RB1a	Dwarf Shrub
227	38364	Lowland	CPSb2d	Dwarf Shrub
228	214900	Lowland	CAb2b	Graminoid
229	17534	Lowland	RP2d	Riparian
230	124827	Lowland	CPLb2d	Dwarf Shrub
231	164567	Lowland	PD	Water
232	14524	Lowland	CPL2d	Dwarf Shrub
233	241921	Lowland	9CAb2b / 1CE2b	Graminoid
234	91832	Lowland	RP2d	Riparian
235	222521	Lowland	9CPSb2d / 1CA2b	Dwarf Shrub
236	1766285	Lowland	LA	Water
237	9628	Lowland	CPL2d	Dwarf Shrub
238	97817	Lowland	CPLr2d	Dwarf Shrub

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
239	36601	Lowland	8RB1a / 2CPL2d	Rock Dominated
240	1887561	Lowland	7RB1a / 2CPLb2d / 1OW	Rock Dominated
241	86119	Lowland	PD	Water
242	191765	Lowland	5OW / 3RB1a / 2CE2b	Water
243	33181	Lowland	PD	Water
244	173611	Lowland	CPSb2d	Dwarf Shrub
245	374288	Lowland	CPSb2d	Dwarf Shrub
246	363299	Lowland	PD	Water
247	3155437	Lowland	7CPL2d / 2OW / 1CE2b	Dwarf Shrub
248	91168	Lowland	PD	Water
249	163678	Lowland	PD	Water
250	179486	Lowland	6OW / 4CE2b	Water
251	968339	Lowland	7CEb2b / 3OW	Graminoid
252	262299	Lowland	7OW / 2CE2b / 1CPL2d	Water
253	843399	Lowland	7CAb2b / 2RB1a / 1OW	Graminoid
254	548518	Lowland	7CPLb2d / 3RB1a	Dwarf Shrub
255	705602	Upland	RO1b	Rock Dominated
256	177240	Lowland	8RO1a / 2CPS2d	Rock Dominated
257	12988	Lowland	CPS2d	Dwarf Shrub
258	279952	Upland	7BF1a / 3CA2b	Rock Dominated
259	20424	Lowland	RP2d	Riparian
260	180773	Lowland	CPSb2d	Dwarf Shrub
261	259595	Upland	8HT2d / 2RO1b	Dwarf Shrub
262	112867	Upland	RO1b	Rock Dominated
263	285785	Upland	7CE2b / 2CA2b / 1OW	Graminoid
264	82463	Upland	HTb2d	Dwarf Shrub
265	80522	Upland	HTb2d	Dwarf Shrub
266	303266	Upland	HTb2d	Dwarf Shrub
267	72822	Upland	PD	Water
268	249948	Upland	7HTb2d / 2CA2b / 1RO1a	Dwarf Shrub
269	24582	Upland	RO1a	Rock Dominated
270	177326	Upland	PD	Water
271	171674	Upland	9HTb2d / 1RO1a	Dwarf Shrub
272	98111	Upland	PD	Water

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
273	91188	Upland	PD	Water
274	755798	Upland	9HTb2d / 1CA2b	Dwarf Shrub
275	77042	Upland	9CA2b / 1DSL2d	Graminoid
276	65629	Upland	RP2d	Riparian
277	263328	Upland	PD	Water
278	139745	Upland	7RO1a / 3HT2d	Rock Dominated
279	219911	Upland	HTb2d	Dwarf Shrub
280	126369	Upland	HTb2d	Dwarf Shrub
281	1152237	Upland	8HTb2d / 1CA2b / 1OW	Dwarf Shrub
282	92915	Upland	CA2b	Graminoid
283	667047	Upland	5RO1b / 5HT2d	Rock Dominated
284	238677	Upland	RO1b	Rock Dominated
285	128386	Upland	8DSL2d / 2CA2b	Dwarf Shrub
286	296226	Upland	PD	Water
287	40690	Upland	PD	Water
288	335683	Upland	7HTb2d / 2RO1b / 1CA2b	Dwarf Shrub
289	27718	Upland	PD	Water
290	48067	Upland	CE2b	Graminoid
291	139082	Upland	HTb2d	Dwarf Shrub
292	94051	Upland	DSL2d	Dwarf Shrub
293	130754	Upland	DSLb2d	Dwarf Shrub
294	39987	Upland	PD	Water
295	103632	Upland	HTb2d	Dwarf Shrub
296	521928	Upland	HT2d	Dwarf Shrub
297	88809	Upland	HT2d	Dwarf Shrub
298	309376	Upland	7HTb2d / 3CA2b	Dwarf Shrub
299	242757	Upland	6DSLb2d / 4CA2b	Dwarf Shrub
300	66728	Upland	HT2b	Dwarf Shrub
301	35161	Upland	PD	Water
302	308503	Upland	8HTb2d / 2CE2b	Dwarf Shrub
303	115297	Upland	CE2b	Graminoid
304	82460	Upland	PD	Water
305	612456	Upland	9CAb2b / 1HTb2d	Graminoid
306	121710	Upland	CA2b	Graminoid

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
307	271198	Upland	8DSL2d / 2HT2d	Dwarf Shrub
308	100106	Upland	DSLb2d	Dwarf Shrub
309	460601	Upland	7CE2b / 2HT2d / 1OW	Graminoid
310	68217	Upland	HTb2d	Dwarf Shrub
311	181324	Upland	7HTb2d / 3CA2b	Dwarf Shrub
312	60293	Upland	PD	Water
313	202729	Upland	8HTb2d / 2CA2b	Dwarf Shrub
314	53753	Upland	HTb2d	Dwarf Shrub
315	113397	Upland	CE2b	Graminoid
316	120141	Upland	HT2d	Dwarf Shrub
317	53619	Upland	PD	Water
318	79802	Upland	6HTb2d / 4OW	Dwarf Shrub
319	1943887	Upland	9HTb2d / 1CA2b	Dwarf Shrub
320	26136	Upland	PD	Water
321	35243	Upland	CE2b	Graminoid
322	31295	Upland	PD	Water
323	29670	Upland	CE2b	Graminoid
324	19195	Upland	RO1a	Rock Dominated
325	987273	Upland	6RO1b / 3HTb2d / 1CA2b	Rock Dominated
326	384935	Upland	HTr2d	Dwarf Shrub
327	75763	Upland	PD	Water
328	3109209	Upland	8HTb2d / 2CA2b	Dwarf Shrub
329	290015	Upland	7CE2b / 3HTb2d	Graminoid
330	140144	Upland	HTb2d	Dwarf Shrub
331	188562	Upland	HTb2d	Dwarf Shrub
332	562082	Upland	8RO1a / 2HTb2d	Rock Dominated
333	230029	Upland	7HT2d / 2RO1a / 1CA2b	Dwarf Shrub
334	333441	Upland	8HTr2d / 2CA2b	Dwarf Shrub
335	236797	Upland	8CA2b / 2HTb2d	Graminoid
336	203897	Upland	CA2b	Graminoid
337	26744	Upland	RO1a	Rock Dominated
338	70389	Upland	HTb2d	Dwarf Shrub
339	359954	Upland	6HTb2d / 4RO1a	Dwarf Shrub
340	135746	Upland	7CA2b / 3HT2d	Graminoid

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
341	93872	Upland	6CE2b / 4HT2d	Graminoid
342	181451	Upland	HTb2d	Dwarf Shrub
343	67837	Upland	CE2b	Graminoid
344	43816	Upland	HTb2d	Dwarf Shrub
345	65675	Upland	HTr2d	Dwarf Shrub
346	10600	Upland	PD	Water
347	186930	Upland	HTb2d	Dwarf Shrub
348	275213	Upland	HTr2d	Dwarf Shrub
349	36931	Upland	CE2b	Graminoid
350	71611	Upland	HTr2d	Dwarf Shrub
351	131627	Upland	8CA2b / 2HTb2d	Graminoid
352	25178	Upland	HTr2d	Dwarf Shrub
353	48271	Upland	HTb2d	Dwarf Shrub
354	142607	Upland	HTb2b	Dwarf Shrub
355	497422	Upland	9HTrb2d / 1CA2b	Dwarf Shrub
356	159696	Upland	PD	Water
357	301064	Upland	PD	Water
358	13791	Upland	CE2b	Graminoid
359	75003	Upland	PD	Water
360	125112	Upland	PD	Water
361	183414	Upland	CE2b	Graminoid
362	125127	Upland	HTb2d	Dwarf Shrub
363	261457	Upland	9HTb2d / 1OW	Dwarf Shrub
364	46110	Upland	OW	Water
365	147276	Upland	HTr2d	Dwarf Shrub
366	71232	Upland	CE2b	Graminoid
367	40554	Upland	PD	Water
368	7066	Upland	CE2b	Graminoid
369	660917	Upland	8CA2b / 1HT2d / 1OW	Graminoid
370	39735	Upland	PD	Water
371	123964	Upland	PD	Water
372	59960	Upland	6OW / 4CE2b	Water
373	161914	Upland	PD	Water
374	11487	Upland	PD	Water

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
375	23455	Upland	PD	Water
376	10903	Upland	PD	Water
377	611161	Upland	CAb2b	Graminoid
378	367953	Upland	8HTr2d / 2CE2b	Dwarf Shrub
379	81373	Upland	7OW / 3CE2b	Water
380	57925	Upland	HTr2d	Dwarf Shrub
381	147574	Upland	CA2b	Graminoid
382	394604	Upland	HTb2d	Dwarf Shrub
383	1203461	Upland	9HTbr2d / 1CE2b	Dwarf Shrub
384	489396	Upland	HTb2d	Dwarf Shrub
385	133261	Upland	CA2b	Graminoid
386	550827	Upland	HTb2d	Dwarf Shrub
387	216319	Upland	6CAb2b / 4HTb2d	Graminoid
388	220809	Upland	HTr2d	Dwarf Shrub
389	18873	Upland	CE2b	Graminoid
390	9227	Upland	OW	Water
391	404559	Upland	8CE2b / 2HTb2d	Graminoid
392	357848	Upland	8CAb2b / 2HTb2d	Graminoid
393	272752	Upland	RO1b	Rock Dominated
394	24229	Upland	OW	Water
395	253055	Upland	CE2b	Graminoid
396	397555	Upland	PD	Water
397	300765	Upland	7CE2b / 3HTb2d	Graminoid
398	22475	Upland	RO1a	Rock Dominated
399	271209	Upland	5CA2b / 4HTr2d / 1OW	Graminoid
400	117997	Upland	CA2b	Graminoid
401	64310	Upland	PD	Water
402	69727	Upland	8CAb2b / 2HTb2d	Graminoid
403	768869	Upland	LA	Water
404	720428	Upland	HTrb2d	Dwarf Shrub
405	890441	Upland	8HTb2d / 2CA2b	Dwarf Shrub
406	375191	Upland	HTr2d	Dwarf Shrub
407	74717	Upland	PD	Water
408	71375	Upland	6CE2b / 4OW	Graminoid

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
409	41644	Upland	HTr2d	Dwarf Shrub
410	362118	Upland	HTr2d	Dwarf Shrub
411	1050338	Upland	8CA2b / 2CA2b	Graminoid
412	263230	Upland	HTr2d	Dwarf Shrub
413	143277	Upland	HTr2b	Dwarf Shrub
414	96483	Upland	8CE2b / 2OW	Graminoid
415	537340	Upland	HTrb2d	Dwarf Shrub
416	79888	Upland	HTr2b	Dwarf Shrub
417	23109	Upland	PD	Water
418	19545	Upland	CE2b	Graminoid
419	4724	Upland	CE2b	Graminoid
420	152935	Upland	CE2b	Graminoid
421	233969	Upland	HTrb2d	Dwarf Shrub
422	43185	Upland	HTb2d	Dwarf Shrub
423	9540	Upland	CE2b	Graminoid
424	72367	Upland	CE2b	Graminoid
425	99745	Upland	HTb2d	Dwarf Shrub
426	51069	Upland	HTb2d	Dwarf Shrub
427	118713	Upland	8CA2b / 2CE2b	Graminoid
428	106319	Upland	CA2b	Graminoid
429	82184	Upland	CAb2b	Graminoid
430	109283	Upland	HTr2b	Dwarf Shrub
431	41341	Upland	HTb2d	Dwarf Shrub
432	357650	Upland	HTr2d	Dwarf Shrub
433	33068	Upland	CE2b	Graminoid
434	358097	Upland	HTr2d	Dwarf Shrub
435	68052	Upland	HTr2d	Dwarf Shrub
436	132401	Upland	HTrb2d	Dwarf Shrub
437	72124	Upland	HTb2d	Dwarf Shrub
438	14813	Upland	OW	Water
439	181287	Upland	HTb2d	Dwarf Shrub
440	22801	Upland	OW	Water
441	35468	Upland	HTb2d	Dwarf Shrub
442	79495	Upland	HTb2d	Dwarf Shrub
443	615075	Upland	7CA2b / 3HTb2d	Graminoid
444	132644	Upland	8CE2b / 2OW	Graminoid
445	247340	Upland	8HTb2d / 1CE2b / 1OW	Dwarf Shrub
446	476323	Upland	7CE2b / 2HTb2d / 1OW	Graminoid
447	138645	Upland	HTb2d	Dwarf Shrub
448	248406	Upland	HTb2d	Dwarf Shrub
449	205605	Upland	7CE2b / 3OW	Graminoid
450	53946	Upland	PD	Water
451	505807	Upland	HTr2d	Dwarf Shrub
452	636951	Upland	7HTr2d / 3CA2b	Dwarf Shrub
453	170410	Upland	CA2b	Graminoid
454	375575	Upland	8HTr2d / 1CE2b / 1OW	Dwarf Shrub
455	156586	Upland	CA2b	Graminoid
456	353091	Upland	6HTb2d / 3CA2b / 1OW	Dwarf Shrub
457	282340	Upland	HTr2d	Dwarf Shrub
458	595403	Upland	7CA2b / 2HTb2d / 1OW	Graminoid
459	42587	Lowland	6CE2b / 4OW	Graminoid
460	78573	Lowland	6CEb2b / 4CPSb2d	Graminoid
461	74617	Lowland	OW	Water
462	426771	Lowland	6CE2b / 4OW	Graminoid
463	30931	Lowland	7OW / 3CE2b	Water
464	468993	Lowland	5CE2b / 3RB1a / 2OW	Graminoid
465	77800	Lowland	OW	Water
466	69721	Lowland	PD	Water
467	1934012	Lowland	5CE2b / 3HT2d / 2OW	Graminoid
468	238867	Lowland	6CPLb2d / 4RB1a	Dwarf Shrub
469	241712	Lowland	9RB1a / 1CE2b	Rock Dominated
470	656789	Lowland	6BF1a / 4CA2b	Rock Dominated
471	100100	Upland	8RO1b / 2CA2b	Rock Dominated
472	171337	Lowland	6BF1a / 4CA2b	Rock Dominated
473	101158	Upland	RO1a	Rock Dominated
474	127884	Upland	6CA2b / 4BF1a	Graminoid
475	256927	Lowland	7BF1a / 3CA2b	Rock Dominated
476	625221	Upland	7RO1a / 3HT2d	Rock Dominated

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
477	300075	Upland	HTr2d	Dwarf Shrub
478	79789	Upland	PD	Water
479	10025	Upland	PD	Water
480	143100	Upland	6HT2d / 4RO1b	Dwarf Shrub
481	61598	Upland	HT2d	Dwarf Shrub
482	86810	Upland	7HT2d / 3RO1a	Dwarf Shrub
483	65122	Upland	8CE2b / 2OW	Graminoid
484	28454	Upland	RO1a	Rock Dominated
485	17469	Upland	RO1a	Rock Dominated
486	31652	Upland	RO1a	Rock Dominated
487	24985	Upland	RO1a	Rock Dominated
488	233683	Upland	7CE2b / 3OW	Graminoid
489	86690	Upland	7DSL2d / 3RO1a	Rock Dominated
490	26854	Upland	PD	Water
491	51266	Upland	HTb2d	Dwarf Shrub
492	332480	Upland	RO1a	Rock Dominated
493	797549	Upland	8HT2d / 2RO1a	Rock Dominated
494	12223	Upland	PD	Water
495	61929	Lowland	RO1b	Rock Dominated
496	34965	Lowland	PD	Water
497	290254	Lowland	9RO1b / 1CPS2d	Rock Dominated
498	51554	Lowland	RB1a	Rock Dominated
499	72096	Lowland	RB1a	Rock Dominated
500	86625	Lowland	7CE2b / 2OW / 1RB1a	Graminoid
501	210944	Lowland	6CA2b / 4CPL2d	Graminoid
502	59154	Lowland	CE2b	Graminoid
503	142107	Lowland	8CA2b / 2CPSb2b	Graminoid
504	33552	Lowland	CE2b	Graminoid
505	252820	Lowland	7CA2b / 3CPSb2b	Graminoid
506	107715	Both	RP2d	Riparian
507	494614	Lowland	9RB1a / 1CE2b	Rock Dominated
508	988526	Upland	7RO1b / 2HT2d / 1CE2b	Rock Dominated
509	137768	Upland	HTb2d	Graminoid
510	604049	Upland	6DSLb2d / 3RO1a / 1CA2b	Rock Dominated

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
511	161085	Upland	8RO1b / 2DSLb2d	Rock Dominated
512	825332	Lowland	5CPLb2d / 3RB1a / 2HTb2d	Dwarf Shrub
513	330015	Upland	6HT2d / 4CA2b	Dwarf Shrub
514	279664	Upland	HT2d	Dwarf Shrub
515	72072	Upland	9BF1a / 1CA2b	Rock Dominated
516	22276	Lowland	RO1a	Rock Dominated
517	28936	Upland	DSL2d	Dwarf Shrub
518	242474	Lowland	7CA2b / 2CPS2d / 1RO1a	Graminoid
519	225178	Upland	9RO1a / 1HT2d	Rock Dominated
520	469478	Upland	9HTb2d / 1RO1a	Dwarf Shrub
521	115231	Lowland	PD	Water
522	707723	Lowland	5CA2b / 3CPL2d / 2CE2b	Graminoid
523	15544	Lowland	6CE2b / 4CPS2d	Graminoid
524	85664	Both	RP2d	Riparian
525	135901	Upland	CE2b	Graminoid
526	201617	Both	RP2d	Riparian
527	355326	Upland	8CE2b / 1OW / 1HT2d	Graminoid
528	97667	Lowland	CPLb2d	Dwarf Shrub
529	273336	Lowland	CA2b	Graminoid
530	497410	Lowland	6CA2b / 2RB1a / 2CPL2b	Graminoid
531	20934	Lowland	SM2b	Graminoid
532	13526	Lowland	SM2b	Graminoid
533	249651	Lowland	RB1a	Rock Dominated
534	30622	Lowland	CA2b	Graminoid
535	440943	Lowland	CPLr2d	Dwarf Shrub
536	570366	Lowland	8CAb2b / 2RB1a	Graminoid
537	13522	Lowland	OW	Water
538	2434784	Lowland	7CPLb2d / 2CA2b / 1RB1a	Dwarf Shrub
539	22225	Lowland	OW	Water
540	49526	Lowland	OW	Water
541	186353	Lowland	9RB1a / 1CA2b	Rock Dominated
542	882035	Lowland	8CPS2d / 2CA2b	Dwarf Shrub
543	118196	Upland	7HTb2d / 3CE2b	Dwarf Shrub
544	146066	Upland	7CE2b / 3HT2d	Graminoid

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
545	197733	Upland	HT2d	Dwarf Shrub
546	1093239	Upland	6HT2d / 2CA2b / 2BF1a	Dwarf Shrub
547	96932	Upland	6CA2b / 2HT2d / 2CE2b	Graminoid
548	731692	Upland	CAb2b	Graminoid
549	613836	Upland	9HTb2d / 1OW	Dwarf Shrub
550	264584	Upland	8HTb2d / 2CA2b	Dwarf Shrub
551	137020	Upland	8OW / 2CE2b	Water
552	269529	Upland	6HT2d / 3RO1a / 1SB	Dwarf Shrub
553	359840	Upland	8HT2d / 2RO1a	Dwarf Shrub
554	70174	Upland	6HT2d / 4CA2b	Dwarf Shrub
555	39595	Upland	SB	Other
556	409210	Upland	7CA2b / 2HTb2d / 1CE2b	Graminoid
557	174362	Upland	6CE2b / 4HT2d	Graminoid
558	278134	Upland	9CE2b / 1OW	Graminoid
559	252934	Upland	CAb2b	Graminoid
560	396711	Upland	8CAb2b / 2HTb2d	Graminoid
561	35994	Upland	8OW / 2CE2b	Water
562	164495	Upland	7CA2b / 3HT2b	Graminoid
563	17664	Upland	PD	Water
564	233513	Upland	5CA2b / 5BF1a	Graminoid
565	277144	Upland	5CA2b / 5BF1a	Graminoid
566	388583	Upland	8HTb2d / 2RO1b	Dwarf Shrub
567	34722	Upland	PD	Water
568	177666	Upland	8HTb2d / 2RO1a	Dwarf Shrub
569	1967006	Upland	8HTb2d / 2RO1a	Dwarf Shrub
570	128596	Upland	8HTb2d / 2RO1a	Dwarf Shrub
571	228284	Upland	8HTb2d / 2RO1a	Dwarf Shrub
572	246833	Upland	HTb2d	Dwarf Shrub
573	1168405	Upland	7HTb2d / 2RO1a / 1CA2b	Dwarf Shrub
574	226739	Upland	RO1b	Rock Dominated
575	404904	Upland	HTb2d	Dwarf Shrub
576	216703	Upland	HTb2d	Dwarf Shrub
577	46985	Upland	CE2b	Graminoid
578	152459	Upland	6HTb2d / 4RO1a	Dwarf Shrub

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
579	455205	Upland	8CA2b / 2HTb2d	Graminoid
580	17021	Upland	PD	Water
581	93505	Upland	6CE2b / 4OW	Graminoid
582	113138	Upland	CAb2b	Graminoid
583	215072	Upland	8HTbr2d / 1CA2b / 1OW	Dwarf Shrub
584	295404	Upland	8HTb2d / 1CE2b / 1OW	Dwarf Shrub
585	965823	Upland	9HTb2d / 1CA2b	Dwarf Shrub
586	293506	Upland	9HTb2d / 1CA2b	Dwarf Shrub
587	24217	Upland	SB	Other
588	405600	Upland	8CA2b / 2HTb2d	Graminoid
589	443776	Upland	HTrb2d	Dwarf Shrub
590	113998	Upland	HTrb2d	Dwarf Shrub
591	327580	Upland	8CA2b / 1CE2b / 1HT2d	Graminoid
592	345547	Upland	9HTb2d / 1CA2b	Dwarf Shrub
593	814458	Upland	HTr2d	Dwarf Shrub
594	57961	Upland	8CE2b / 2OW	Graminoid
595	247362	Upland	6CA2b / 2CE2b / 2HTb2d	Graminoid
596	796321	Upland	8RO1b / 2HTb2d	Rock Dominated
597	169932	Upland	HTrb2d	Dwarf Shrub
598	49491	Upland	SB	Other
599	139880	Upland	HTb2d	Dwarf Shrub
600	288033	Upland	PD	Water
601	658721	Upland	6CA2b / 4HTb2d	Graminoid
602	79359	Upland	CE2b	Graminoid
603	96422	Lowland	AP1a	Other
604	89578	Upland	6CA2b / 4HTb2d	Graminoid
605	553041	Upland	8CA2b / 1HTr2d / 1OW	Graminoid
606	266359	Upland	8DSLb2d / 2CA2b	Dwarf Shrub
607	562476	Upland	8HTb2d / 1CE2b / 1CA2b	Dwarf Shrub
608	914339	Upland	HTb2d	Dwarf Shrub
609	96564	Upland	CA2b	Graminoid
610	442865	Upland	7CE2b / 3HTb2d	Graminoid
611	53307	Upland	PD	Water
612	1120233	Upland	6HTb2d / 4CA2b	Dwarf Shrub

Polygon Number	Area (m^2)	Zone	Decile 1 / Decile 2 / Decile 3	Broad Label
613	233569	Upland	9HTr2d / 1CA2b	Dwarf Shrub
614	958081	Upland	9CA2b / 1CE2b	Graminoid
615	384475	Upland	8CA2b / 1HTb2d / 1CE2b	Graminoid
616	322329	Upland	8CA2b / 2CE2b	Graminoid
617	23872	Upland	PD	Water
618	1249028	Upland	7CA2b / 2HTr2d / 1CE2b	Graminoid
619	792932	Upland	6CA2b / 3HTr2d / 1CE2b	Graminoid
620	128288	Lowland	CA2b	Graminoid
621	146357	Lowland	8CA2b / 2CPS2d	Graminoid
622	67266	Lowland	CPS2d	Dwarf Shrub
623	216554	Lowland	CPLb2d	Dwarf Shrub
624	2672792	Lowland	8RB1a / 1CE2b / 1CPL2d	Rock Dominated
625	122983	Lowland	8OW / 2CE2b	Water
626	56871306	Lowland	OC	Water
627	400035	Upland	5CE2b / 3HTb2 / 2CA2b	Graminoid
628	21572	Upland	PD	Water
629	465323	Upland	6CE2b / 4CAb2b	Graminoid
630	61136	Upland	7OW / 3CE2b	Water
631	143959	Upland	6HTr2d / 4CA2b	Dwarf Shrub
632	77998	Upland	CAb2b	Graminoid
633	569445	Upland	9CA2b / 1HTb2d	Graminoid
634	710627	Upland	8CA2b / 2HTb2d	Graminoid
635	207459	Upland	HTr2d	Dwarf Shrub
636	303771	Lowland	CAb2b	Graminoid
637	1577442	Upland	8CA2b / 1CE2b / 1HT2d	Graminoid
638	395460	Upland	RO1a	Rock Dominated
639	234600	Both	RP2d	Riparian
640	5597826	Lowland	8RB1a / 2CA2b	Rock Dominated
641	5151112	Lowland	7CPS2d / 2RB1a / 1OW	Dwarf Shrub
642	505317	Upland	CA2b	Graminoid
643	7190	Upland	CE2b	Graminoid
644	246156	Upland	8CEb2b / 2HTb2d	Graminoid
645	1503455	Upland	HTrb2d	Dwarf Shrub
646	602618	Upland	8CA2b / 1CE2b / 1HT2d	Graminoid
647	398673	Upland	8HTb2d / 2CA2b	Dwarf Shrub
648	5313826	Lowland	8RB1a / 1CPL2b / 1CE2b	Rock Dominated
649	330703	Lowland	9CA2b / 1CPL2d	Graminoid
650	403990	Upland	RP2d	Riparian
651	165310	Lowland	CPLb2d	Dwarf Shrub
652	746784	Upland	9HTrb2d / 1CA2b	Dwarf Shrub

APPENDIX

APPENDIX C EBA TERMS AND CONDITIONS

ENVIRONMENTAL REPORT – GENERAL CONDITIONS

This report incorporates and is subject to these "General Conditions".

1.0 USE OF REPORT

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

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

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

2.0 LIMITATIONS OF REPORT

This report is based solely on the conditions which existed on site at the time of EBA's investigation. The client, and any other parties using this report with the express written consent of the client and EBA, acknowledge that conditions affecting the environmental assessment of the site can vary with time and that the conclusions and recommendations set out in this report are time sensitive.

The client, and any other party using this report with the express written consent of the client and EBA, also acknowledge that the conclusions and recommendations set out in this report are based on limited observations and testing on the subject site and that conditions may vary across the site which, in turn, could affect the conclusions and recommendations made.

The client acknowledges that EBA is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the client.

2.1 INFORMATION PROVIDED TO EBA BY OTHERS

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

3.0 LIMITATION OF LIABILITY

The client recognizes that property containing contaminants and hazardous wastes creates a high risk of claims brought by third parties arising out of the presence of those materials. In consideration of these risks, and in consideration of EBA providing the services requested, the client agrees that EBA's liability to the client, with respect to any issues relating to contaminants or other hazardous wastes located on the subject site shall be limited as follows:

1. With respect to any claims brought against EBA by the client arising out of the provision or failure to provide services hereunder shall be limited to the amount of fees paid by the client to EBA under this Agreement, whether the action is based on breach of contract or tort;

2. With respect to claims brought by third parties arising out of the presence of contaminants or hazardous wastes on the subject site, the client agrees to indemnify, defend and hold harmless EBA from and against any and all claim or claims, action or actions, demands, damages, penalties, fines, losses, costs and expenses of every nature and kind whatsoever, including solicitor-client costs, arising or alleged to arise either in whole or part out of services provided by EBA, whether the claim be brought against EBA for breach of contract or tort.

4.0 JOB SITE SAFETY

EBA is only responsible for the activities of its employees on the job site and is not responsible for the supervision of any other persons whatsoever. The presence of EBA personnel on site shall not be construed in any way to relieve the client or any other persons on site from their responsibility for job site safety.

5.0 DISCLOSURE OF INFORMATION BY CLIENT

The client agrees to fully cooperate with EBA with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The client acknowledges that in order for EBA to properly provide the service, EBA is relying upon the full disclosure and accuracy of any such information.

6.0 STANDARD OF CARE

Services performed by EBA for this report have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Engineering judgement has been applied in developing the conclusions and/or recommendations provided in this report. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of this report.

7.0 EMERGENCY PROCEDURES

The client undertakes to inform EBA of all hazardous conditions, or possible hazardous conditions which are known to it. The client recognizes that the activities of EBA may uncover previously unknown hazardous materials or conditions and that such discovery may result in the necessity to undertake emergency procedures to protect EBA employees, other persons and the environment. These procedures may involve additional costs outside of any budgets previously agreed upon. The client agrees to pay EBA for any expenses incurred as a result of such discoveries and to compensate EBA through payment of additional fees and expenses for time spent by EBA to deal with the consequences of such discoveries.

8.0 NOTIFICATION OF AUTHORITIES

The client acknowledges that in certain instances the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by EBA in its reasonably exercised discretion.

9.0 OWNERSHIP OF INSTRUMENTS OF SERVICE

The client acknowledges that all reports, plans, and data generated by EBA during the performance of the work and other documents prepared by EBA are considered its professional work product and shall remain the copyright property of EBA.

10.0 ALTERNATE REPORT FORMAT

Where EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EBA's instruments of professional service), the Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by EBA shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancies, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute that the original hard copy signed version archived by EBA shall be deemed to be the overall original for the Project.

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

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