Midnight Sun Musk-Oxen
by Tom Kiguktak of Grise Fiord, Nunavut

Project # 2011CMAA.024

DMT Geosciences

Final Report

Updated Independent Technical Report

The Nunavut Coal Project

Pursuant to the Canadian Securities Administrator's National Instrument 43-101

Prepared For:
Canada Coal Inc.
Vancouver, British Columbia

CANADA COAL INC.

Prepared By:

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(APEGA Permit P-09454)

DMT

Effective Date: November 26th, 2012

1.0 SUMMARY

DMT Geosciences Ltd. has been retained by Canada Coal Inc. to prepare an updated independent technical report compliant with the Canadian Securities Administrator's National Instrument 43-101 Form 43-101 F1 *Standards of Disclosure for Mineral Projects* as well as the Geological Survey of Canada paper 88-21, *A Standardized Coal Resource/Reserve Reporting System for Canada*. The updated technical report summarizes the results and findings of Canada Coal's summer 2012 exploration program in the high Arctic.

The content of the updated technical report is based on the results of the 2012 geological mapping and sampling campaign conducted on Canada Coal's Ellesmere Island coal exploration licence areas. A current personal site inspection was completed in two phases between June 15th - July 2nd, 2012 and July 12th - July 31st, 2012 by Susan O'Donnell, P.Geol., a full-time Project Geologist of DMT Geosciences Ltd.

Canada Coal Inc.'s land position consists of 75 active coal exploration licenses occupying a total of 988,918 ha (2,442,627 acres). Canada Coal Inc. has applied for 11 additional coal exploration licences region which are currently pending. Once authorized, they will add an additional 280,000 acres to Canada Coal Inc.'s project area.

The primary project focus area is currently considered to be the Fosheim Peninsula region that is located in the vicinity of the Eureka Weather Station (a government run research facility and military base). The nearest local community, Grise Fiord, is located approximately 410 kilometres south-east of Eureka.

The Fosheim Peninsula is located on the western part of central Ellesmere Island, and is the eastern part of the Sverdrup basin. The bedrock in the Fosheim Peninsula is composed of Triassic, Jurassic, Cretaceous and Tertiary sediments with minor dykes and sills composed of gabbro, dolerite and basalt late Cretaceous in age. The area is heavily folded, thrusted and faulted due to the Eurekan orogenic activity and is bound to the east by the Sawtooth Mountains. Major folds with axis trending in a north-south direction are evident and in the south-western part of the Fosheim Peninsula, the Fosheim anticline is the largest.

The Tertiary rocks forming the Eureka Sound group consist of sandstone, siltstone, shale, mudstone and conglomerate and significant beds of coal. The coal is distributed throughout the Eureka Sound group of sediments, from the basal contact with the cretaceous, to below the uppermost contact with the conglomerate.

The geology of the Fosheim Peninsula is represented as a series of sandstones, siltstones, mudstones or shales and conglomerates, these sediments were deposited in a series of marine transgressions and regressions and are indicative of fluvial, deltaic, shallow marine and swamp environments. Fossils indicate the climate was warm to tropical where forests of large broad leaf and metasequoia trees survived summers with 24-hour daylight and winters of total darkness.

Tertiary sediments of the Eureka group include the lowermost Expedition formation, the Strand Bay formation, and the uppermost Iceberg Bay Formation. The Expedition is composed mainly of very weakly cemented to unconsolidated, pale yellow to white, very well cross-bedded sandstone with siltstone, ironstone and mudstone beds in large coarsening up sequences characteristic of a deltaic environment. The Strand Bay formation, composed of marine shale, sits directly above the Expedition formation and is highly weathered and soft in most locations. The Iceberg bay formation is composed of yellow to grey, fine to medium sand which is rarely cross bedded and often shows ripple marks and fluvial features.

The Canada Coal Inc. 2012 exploration program focused on two main objectives: 1) detailed geologic mapping of the Eureka Sound Formation on Ellesmere Island, Nunavut, within license blocks on Fosheim Peninsula, Bache Peninsula, Strathcona Fiord and Vesle Fiord, and 2) strategic sampling to determine rank and continuity of known and newly discovered coal zones.

The field exploration was performed over a 6 week period between June 16th, 2012 and July 30th, 2012. Various personnel (15-18 people) were positioned at Environment Canada's Eureka Weather Station and utilized helicopter support to access the project area. The crew included two teams of geologists, a geophysics team, a heritage team (consisting of a paleontologist and archaeologist), local guides, and aircraft personnel.

Coal analyses, including total moisture, ash yield, volatile matter (including fixed carbon calculation), sulphur, calorific value, and specific gravity, were conducted on 285 individual coal samples collected from 135 discrete sites. A select group of samples was chosen for additional testing including: equilibrium moisture, free-swelling indices, and petrographic studies. Highlights of the sampling program are listed below.

Table 1.1 Target Coal Zones with Surface Sample Highlights*

Zone	Sample	Seam Thickness (m)	ADM% (adb)	RM% (adb)	ASH% (db)	VOL% (db)	FC% (db)	S% (db)	BTU/LB (db)	SG
1	2012-AGL-FN-003	7.8	6.82	8.76	5.25	41.20	53.55	0.26	11,530	1.38
	2012-AGL-FN-005	5.0	7.29	6.61	2.71	42.29	55.00	0.15	11,476	1.38
	2012-AGL-FN-001	3.1	13.38	7.59	4.26	39.30	56.44	0.29	11,930	1.35
2	2012-AGL-FN-121	3.3	10.83	5.29	3.98	40.96	55.07	0.25	11,809	1.38
	2012-AGL-FN-123	2.5	14.07	7.66	4.48	42.70	52.82	0.27	11,344	1.39
3	2012-AGL-FN-136	2.0	11.73	1.05	9.45	39.49	51.06	0.25	11,017	1.44
	2012-AGL-FN-138	2.4	11.32	3.69	6.59	40.18	53.24	0.25	11,635	1.42
4	2012-AGL-FN-217	3.0	19.16	3.30	11.46	35.54	53.00	0.32	10,927	1.42
	2012-AGL-FN-218	4.0	16.27	3.41	2.98	40.93	56.10	0.20	11,858	1.37
	2012-AGL-FN-211	3.3	18.81	4.52	5.99	37.65	56.35	0.32	11,666	1.39

*Multiple seams are present in all locations. Selected samples reported here only, results are averaged per seam.

Sample results from the 2012 exploration program reveal that the coals range in rank from sub-bituminous 'A' to lignite (based on ASTM standards). Coal zones of interest for future exploration are generally low in ash (3-10%) and sulphur (<0.5%), although some occasionally exhibit moderate ash values. Coals are considered to be suitable for use as a high quality thermal coal.

No coal resources are currently ascribed to Canada Coal's licence areas due to a lack of direct empirical data (such as drill hole, adit, trenching, or similar) aside from surface coal occurrences which have been mapped and sampled by DMT.

Canada Coal Inc. is in the process of planning a follow-up exploration drilling campaign to investigate targets identified in the 2012 mapping and sampling program. The company intends to drill up to 9,000 metres of core in the Fosheim Peninsula region pending drilling results, length of field season, and other factors.

Canada Coal Inc. has submitted applications to various Authorizing Agencies in order to secure the necessary authorizations required to conduct the proposed Phase 2 exploration program on the Fosheim Peninsula Coal Project. The community consultation process is on-going.

2.0 CONTENTS

3.0 LIST OF TABLES

4.0 LIST OF FIGURES

5.0 INTRODUCTION

DMT Geosciences Ltd. (“DMT”) has been retained by Canada Coal Inc. (“Canada Coal” or "the Corporation"), a Canadian corporation formed under the laws of the Province of Ontario which holds various coal exploration licenses on Ellesmere Island and Axel Heiberg Island of Nunavut Canada, for consultancy services. DMT was formerly known as the entity Associated Geosciences Ltd. (“AGL”). Canada Coal was formerly known as the entity Pacific Coal Corp. ("Pacific Coal").

The purpose of the report herein is to provide an updated independent technical report compliant with the Canadian Securities Administrator’s National Instrument 43-101 (“NI 43-101) Form 43-101 F1 *Standards of Disclosure for Mineral Projects* as well as the Geological Survey of Canada paper 88-21 (“GSC 88-21”), *A Standardized Coal Resource/Reserve Reporting System for Canada*. The updated technical report summarizes the results and findings of Canada Coal’s summer 2012 exploration program in the high Arctic.

DMT has not prepared an estimate of coal resources or coal reserves at this time as we deem there is currently insufficient geological and technical information relating to the coal prospects to conduct mineral resource estimation. Numerous authors have conducted historical coal target size estimates for the project area which are summarized herein and detailed in a previous technical report prepared by AGL, effectively dated September 30th, 2011 and entitled, ‘Independent Technical Report - The Nunavut Coal Project’. We caution that the historical coal target size estimates are non-compliant with current NI 43-101 standards and should not be relied upon other than as speculative exploration targets sizes.

Under the guidelines of NI 43-101, the technical report must be prepared by or under the supervision of one or more qualified persons. The qualified person responsible for the overall content of this report is Susan O’Donnell, P.Geol., who is a full-time Project Geologist of DMT.

5.1 Sources of Information and Data

This report has been prepared by DMT for Canada Coal. The information contained herein is based on the results of the 2012 geological mapping and sampling campaign conducted on Canada Coal’s Ellesmere Island coal exploration licence areas.

Technical contributions relating to the 2012 exploration program have been prepared by a variety of DMT employees including Susan O’Donnell (overall content), Edwin Layzelle (geological setting and proposed drilling target zones), Adam Peake (geophysical permafrost investigations), and Halyna Pavlyk (map compilation).

Some sections of the report are reliant upon historical reports as well as two more recent independent technical reports commissioned by West Hawk Development Corporation (“West Hawk”) and by Weststar Resources Corporation ("Weststar").

DMT is reliant on the following historical reports prepared by Gulf Canada Resources Inc. (“Gulf”), Utah Mines Ltd. (“Utah”), Petro-Canada Exploration Inc. (“Petro-Canada”), as well as the Canadian Exploration and Geological Services Unit (“Canadian Geological Services Unit”):

- Cain, T.W. “Coal in the Arctic Archipelago,” Exploration and Geological Services Unit, Oil and Mineral Division, Indian Affairs and Northern Development, Canada, 1973.
- Panchy, E.G., and Moorhouse, J.M. “Ellesmere Island Coal Project- 1982 Exploration Report,” Petro-Canada Exploration Inc., Coal Department, 1983.
- Santiago, S.P. “Ellesmere Island Coal Project- 1983 Exploration Report,” Petro-Canada Exploration Inc., Coal Department, 1984.
- Unknown. “Arctic Coal Exploration Geological Report,” Gulf Canada Resources Inc., 1982.

DMT is also reliant upon two more recent independent technical reports prepared by APEX Geosciences Ltd. ("APEX") and Weir International, Inc. ("Weir") for Weststar and West Hawk, respectively, as follows:

- Besserer, D., P.Geol. "Technical Report for the Ellesmere Island Coal Project, Nunavut, Canada," APEX Geosciences Ltd., Edmonton, Alberta, July 2009.
- Tveten, T., CPG. "Technical Report, Nunavut Coal Prospect," Weir International, Inc., Illinois, U.S.A., March 2007.

DMT has been able to confirm the 2012 exploration results and the presence of widespread coal occurrences within Canada Coal's Ellesmere Island licences as a result of the June-July 2012 personal site inspection (detailed in Section 2.2). The 2012 exploration program, comprising geological mapping and sampling, was conducted in accordance with NI 43-101 guidelines and current industry best practices. DMT has not seen any evidence to indicate that historical work should not be relied upon.

DMT is reliant upon Birtley Coal & Minerals Testing Division ("Birtley") and JP PetroGraphics, both of Calgary Alberta, for laboratory analyses relating to the 2012 exploration program samples.

Canada Coal has provided coal license ownership information to DMT. DMT has not researched property title or coal rights and expresses no opinion as to the ownership status of the licenses that are the subject of this report. The coal licenses are listed on the Department of Indian and Northern Development- Northwest Territories Region's Spatially Integrated Dataset Viewer Online ("SID Viewer") as being in good standing (active) with the exception of eleven pending coal exploration licences situated within the Fosheim Peninsula region which were applied for based on the findings of the 2012 exploration program.

5.2 Status of Current Personal Site Inspection

As mandated by NI 43-101, DMT is required to complete a current personal site inspection of the property forming the subject of the technical report detailed herein. The site assessment was completed in two phases between June 15th - July 2nd, 2012 and July 12th - July 31st, 2012 by Susan O'Donnell, P.Geol., a full-time Project Geologist of DMT. Additional DMT representatives were on site during the same period conducting field exploration including geological mapping and sampling.

The objectives of the site assessment included:

1. To confirm the existence of widespread coal deposits on Ellesmere Island as described in recent and historic exploration accounts, and to get a preliminary indication as to the potential target size of coal resources in the license areas.
2. To assess the quality, continuity, and structural complexity of the coal deposits on Ellesmere Island.
3. To assess current high Arctic logistics as well as available local resources available to assist planning of any future exploration programs.
4. To delineate drilling targets for follow-up work programs as well as to identify additional areas with the potential for higher quality coal at depth.

Sites for detailed geologic mapping and strategic sampling were assessed based on a priority ranking system established following several weeks of field prospecting. Priority ranking was based on continuity of an exposure, structural complexity of an area, and/or quality control sampling. Two geology teams assessed the identified sites along with a paleontologist, archaeologist, and local guide to mitigate adverse impacts to heritage resources and the environment. Integration of mapping and sampling results to create a detailed geological interpretation of the project area will remain ongoing as the project progresses.

Throughout the field program 39 of Canada Coal's 75 total coal exploration licence blocks were assessed including: 22 licence blocks on Fosheim Peninsula, 8 licence blocks on Bache Peninsula, 1 licence block on Strathcona Fiord, and 8 licence blocks on Vesle Fiord. Fosheim Peninsula was the primary exploration target.

5.3 Units

All measurement units in this report conform to metric usage within the context of the International System of Units (SI) except where stated otherwise. Currencies are expressed in the Canadian Dollar (C$) unless otherwise stated.

All geographical coordinates listed in this report correspond to the North American Datum of 1983 ("NAD 83") except where stated otherwise.

The term "coal resource" and/or "coal reserve" conform to the usage defined in GSC 88-21 and the *CIM Definition Standards on Mineral Resources and Reserves*, whose usages are incorporated by reference in NI 43-101.

5.4 Effective Date

The effective date of this report is November 26th, 2012.

6.0 RELIANCE ON OTHER EXPERTS

The majority of the content detailed herein is based on the results of the 2012 exploration mapping and sampling program conducted on Canada Coal's Ellesmere Island exploration licences (primarily the Fosheim Peninsula region licence blocks). DMT conducted the geological component of the 2012 exploration program and supervised the program overall.

As mentioned previously in Section 2.1 (Sources of Information and Data), DMT is reliant upon various historical and more recent reports relating to Arctic coal for the purposes of preparing some of the content included in the technical report herein. The most recent APEX and Weir reports have been prepared by 'qualified persons' as defined by NI 43-101.

Some of the authors of the historic Gulf, Utah, Petro-Canada, and Canadian Geological Services Unit reports are known by DMT and would be termed 'Qualified Persons' as defined by NI 43-101. All available evidence suggests that the historic reports were prepared by competent professionals and can therefore be relied upon for information relating to prospective coal targets.

Various coal experts have contributed to recent coal analyses including Birtley Coal & Minerals Testing Division ("Birtley") and JP PetroGraphics, both of Calgary Alberta. DMT has reported the sample results herein as represented by the various analytical experts.

Also as previously mentioned in Section 2.1 (Sources of Information and Data), DMT is reliant upon Canada Coal for coal license ownership information. DMT has reviewed the coal exploration licenses that form the subject of this report using SID Viewer and can report that the licenses are listed as being in good standing (active) with the exception of 11 recently applied for coal exploration licences which are listed as pending. DMT has reviewed various purchase agreements by which Canada Coal (or Pacific Coal under its previous name) acquired some of the coal licenses that form the subject of this report, and have also reviewed the Canadian Territorial Coal Regulations regarding exploration licenses. DMT has not researched property title or coal rights and expresses no opinion as to the legal ownership status of the licenses as DMT is not qualified to do so.

DMT is reliant upon Stantec Consulting Ltd. ("Stantec") of Calgary, Alberta, for matters pertaining to heritage assessments of the project area including archaeological and palaeontological assessments.

7.0 PROPERTY DESCRIPTION AND LOCATION

Canada Coal's Nunavut Coal Project consists of 75 active coal exploration licenses geographically distributed into nine separate land areas. Altogether, the coal exploration licenses occupy a total of 988,918 ha (2,442,627 acres). Coal licenses are held by the Corporation's two wholly-owned subsidiaries: 5200 Nunavut Ltd., and Canadian Sovereign Coal Corp. Canada Coal has applied for 11 additional coal exploration licences located within the Fosheim Peninsula region which are currently pending. Once authorized, they will add an additional 280,000 acres to Canada Coal's project area.

7.1 General Location

The land areas are situated in Nunavut Territory, Ellesmere Island. Some of the project land area is also situated in Nunavut Territory's Axel Heiberg Island. Ellesmere and Axel Heiberg Islands are located in the Canadian Arctic Archipelago, and form part of the Queen Elizabeth Islands. Politically, the prospects fall within the Qikiqtaaluk administrative region of Nunavut, also occasionally referred to as the Baffin region.

Ellesmere Island is the most northerly island in the Canadian Arctic Archipelago, and its northernmost tip (Cape Columbia) forms the most northerly point in Canada. Ellesmere Island's approximate position is between 76-84 degrees north latitude and 62-97 degrees west longitude, encompassing a landmass of roughly 200,000 square kilometres. It is home to three settlements: Grise Fiord, Eureka, and Alert.

Grise Fiord, located at 76° 25'34" north latitude and 82° 54'34" west longitude, is known as Canada's northernmost civilian settlement and hosts a population of 141 residents according to the Canada 2006 Census. Grise Fiord is located 410 kilometres (or 220 nautical miles) south-southeast of Eureka, a government run research station and military base.

Eureka, located at 79° 59' north latitude and 85° 49' west longitude on the northwest coast of Ellesmere Island (Slidre Fiord), is the closest year-round settlement to the bulk of coal exploration licenses. Eureka does not have any permanent residents; however, shift personal staff it year-round.

The Canadian Forces maintain a permanent station at Alert, located on the northernmost point of Ellesmere Island. According to the Canada 2006 Census, the population of Alert is 5 although many temporary personnel are stationed there. Geographical coordinates for Alert are 82° 28' north latitude and 62° 30' west longitude. It is located 480 kilometres (260 nautical miles) northeast of Eureka.

7.2 Exploration Areas

Canada Coal's exploration licenses are parceled into nine separate geographical areas which have been described in detail in a previous report prepared by AGL, effectively dated September 30th, 2011, and entitled, 'Independent Technical Report – The Nunavut Coal Project'.

Canada Coal's primary exploration area is currently the Fosheim Peninsula region that is located in the vicinity of the Eureka Weather Station. Fosheim Peninsula's contiguous coal exploration licenses include numbers: 101 through 104, 109 through 111, 122 through 128, 130, 131, 134, 160 through 162, and 166 through 168. Vesle Fiord/South Fosheim, which was formerly a distinct project area but which has now been accreted to the Fosheim Peninsula area, begins at the southernmost region of the Fosheim Peninsula exploration area. Vesle Fiord/South Fosheim contiguous coal exploration licenses include license numbers 169 through 175.

7.3 Coal Tenure and Property Acquisition

A complete discussion of Canada Coal's tenure and property acquisition has been described in detail in a previous report prepared by AGL, effectively dated September 30th, 2011, and entitled, 'Independent Technical Report – The Nunavut Coal Project'. Figure 4.1 demonstrates Canada Coal's current land position and Figure 4.2 demonstrates the Fosheim Peninsula region in detail.

As an addendum to information contained in the previous report, the Corporation has applied for an additional 11 coal exploration licences within the Fosheim Peninsula region, Ellesmere Island (Table 4.1). Once authorized, they will add an additional 280,000 acres to Canada Coal's project area in key areas surrounding planned exploration drill targets. The authors have a reasonable expectation that the additional coal exploration licences will be granted in sufficient time to conduct the planned exploration drilling program. If the additional coal exploration licences are not granted in due time, the authors are of the opinion that the project is still viable based on its existing land position.

Table 7.1 – Additional Coal Exploration Licences Applied For-
Tenure Status Pending

NTS Grid Staking Sheet	NTS Quadrant	Area		Application Submittal
		Acres	Hectares	
049F16	NE	8572.419	3470.615	August 31st, 2021
049G01	NE	12451.436	5041.067	August 31st, 2021
049G01	NW	1059.651	429.008	August 31st, 2021
049G01	SE	33879.656	13716.46	August 31st, 2021
049G01	SW	14551.189	5891.17	August 31st, 2021
049H05	NE	35260.688	14275.582	August 31st, 2021
049H05	NW	35261.59	14275.947	August 31st, 2021
049H05	SE	35672.817	14442.436	August 31st, 2021
049H05	SW	35673.747	14442.813	August 31st, 2021
049H12	NE	34435.896	13941.658	August 31st, 2021
049H12	SE	34848.381	14108.656	August 31st, 2021

Based on the results of the 2012 exploration program, Canada Coal intends to relinquish certain coal exploration licences once their annual renewal period transpires. The geographical areas which the Corporation intends to relinquish include Strathcona Fiord, Sor Fiord/Stenkul Fiord, and the Bache Peninsula; the Corporation will focus exploration on the Fosheim Peninsula region. Licences areas located on Axel Heiberg Island have yet to be assessed and are not currently being considered for exploration.

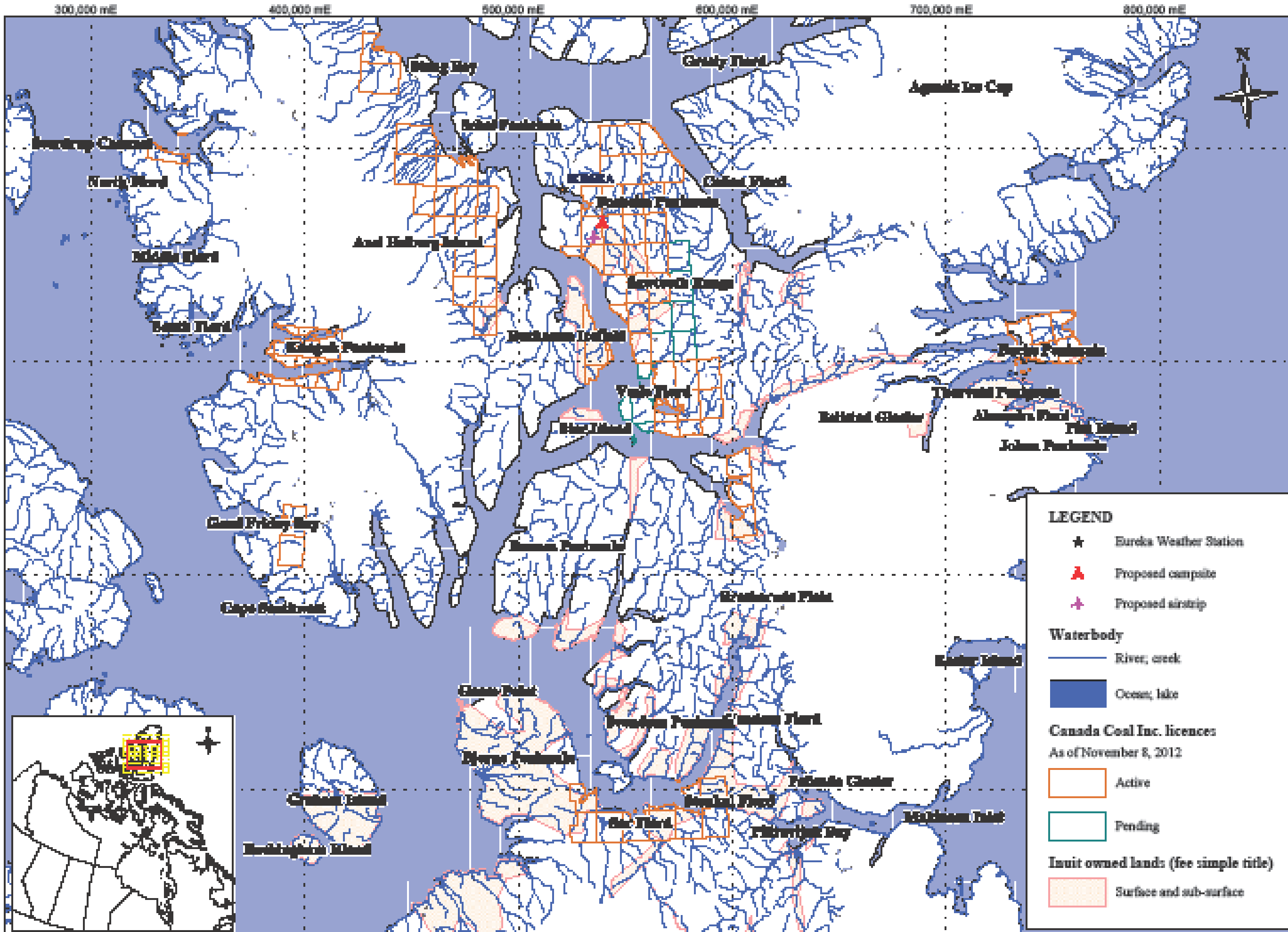

Figure 7.1 : Canada Coal Inc. coal exploration licences, Ellesmere Island and Axel Heiberg Island, Nunavut.

Scale 1:2,500,000

Projection: NAD83 UTM zone 16
Date: 19 November 2012

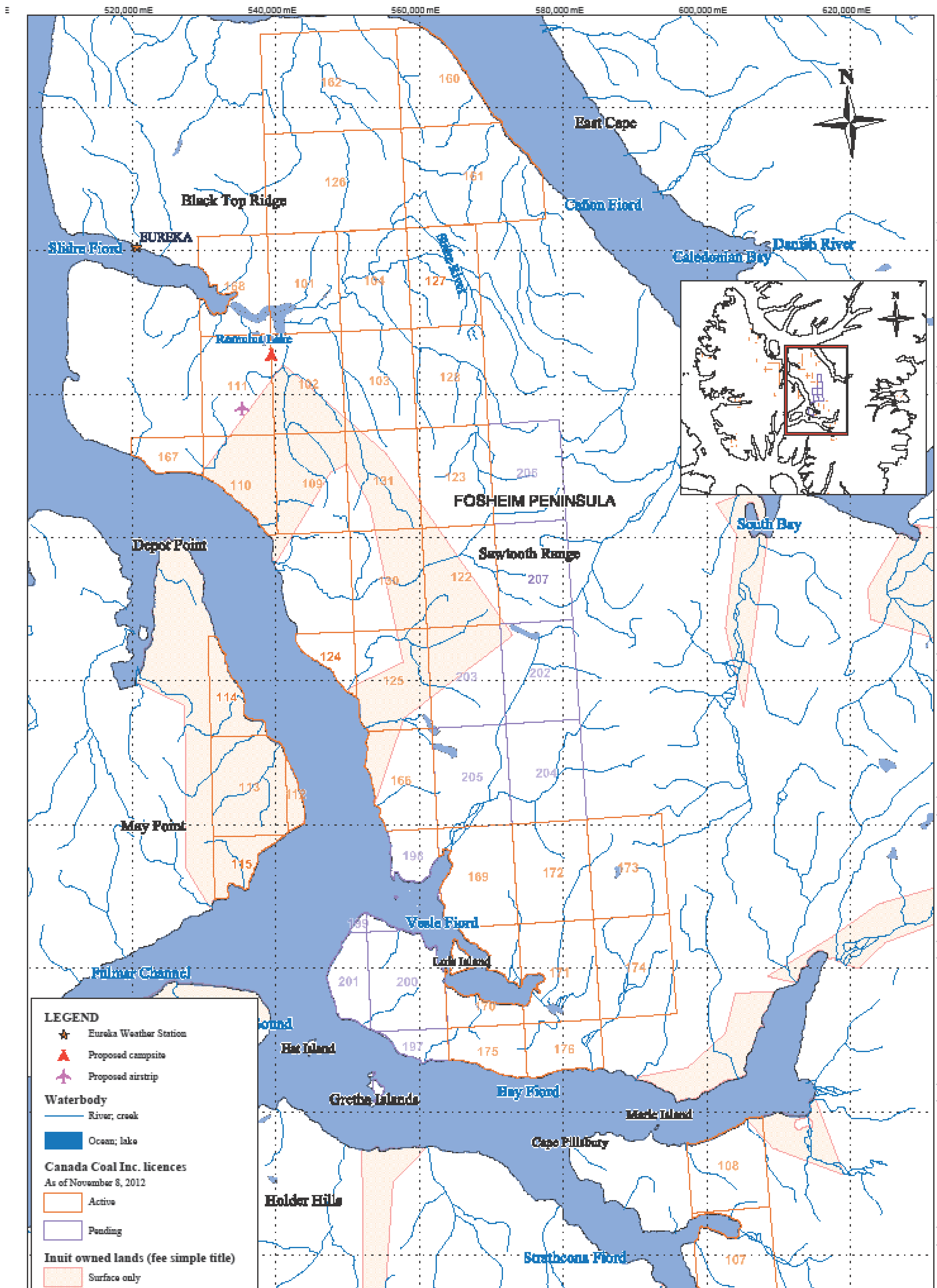

Figure 7.2 : Canada Coal Inc. coal licences, Fosheim Peninsula, Ellesmere Island, Nunavut, Canada.

Projection: NAD83 UTM zone 16

Date: 8 November 2012

Scale 1:500,000

7.4 Project Authorizations

Canada Coal has submitted applications to various Authorizing Agencies ("AAs") in order to secure the necessary authorizations required to conduct a Phase 2 exploration program on the Fosheim Peninsula Coal Project (coal exploration licence blocks located within the Fosheim Peninsula region). Community consultation in relation to the project remains ongoing.

Although DMT cannot comment on the behalf of various AAs to date, the authors have a reasonable expectation that project authorizations necessary to conduct the proposed Phase 2 exploration drilling program will be granted.

The authorizations cannot be granted until the project has been screened and approved by NIRB. According to NIRB Guide 5, 'Guide to the NIRB Review Process', the typical timeline for a NIRB review is 48 days provided that the project proposal is accepted for submission in place of a draft environmental impact statement ("EIS"). If the project proposal is not accepted, the timeframe will be considerably longer as described in the aforementioned Guide 5.

An extensive discussion of project authorizations and previous community consultation has been described in detail in a previous report prepared by AGL, effectively dated September 30th, 2011, and entitled, 'Independent Technical Report – The Nunavut Coal Project'.

7.4.1 Current Pending Authorizations for the Proposed Phase 2 Exploration Program

As of the effective date of the report herein, Canada Coal has applied for the following: a land use authorization for Crown Land, a water licence, and a quarry permit. Additional documents have also been submitted to the Nunavut Impact Review Board ("NIRB") for project screening and approval. Canada Coal intends to submit an application for land use on Inuit Owned Land ("IOL") prior to the commencement of 2013. Heritage permits will be applied for through the Corporation's heritage consultants early 2013.

The project authorizations necessary to conduct the proposed Phase 2 exploration drilling campaign include:

- A land use authorization from Aboriginal Affairs and Northern Development Canada ("AANDC") for Crown Land;
- A land use authorization from a Designated Inuit Organization, the Qikiqtani Inuit Association ("QIA"), for IOL;
- A water licence from the Nunavut Water Board ("NWB") for drilling and/or camp use;
- A quarry permit to resurface an existing historic runway in the Fosheim Peninsula vicinity;
- An archaeological permit from the Government of Nunavut department of Culture, Language, Elders and Youth ("CLEY") for follow-up archaeological or palaeontological assessments.

7.4.2 Community Consultation

Canada Coal representatives have engaged in community consultation in regards to the 2012 exploration program. As at the preparation date of the report detailed herein, the Corporation has visited Nunavut for the purposes of community consultation on four separate occasions, and another visit is being planned prior to commencement of the proposed Phase 2 exploration program.

Based on the results of the community consultation conducted thus far, Canada Coal has disclosed the following information to DMT:

- Overall, Canada Coal representatives have been well received by the Nunavut communities and the various AAs. The Corporation acknowledges that community consultation will be ongoing and that it will remain critical throughout the project's lifecycle.

- The southernmost geographical project area, Sor Fiord/Stenkul Fiord, is a sensitive area as it is important to the community of Grise Fiord as an accessible hunting area to the local caribou population. As such, the Corporation has stated that it will not conduct any further exploration in the Sor Fiord/Stenkul area without additional community consultation; furthermore, the Corporation intends to relinquish its coal exploration licences located in the Sor Fiord/Stenkul area once the annual renewal date comes due;

- The Strathcona Fiord geographical project area is a sensitive area to both the scientific community and the local community of Grise Fiord. As such, the Corporation has stated that it will not conduct any further exploration in the Sor Fiord/Stenkul area without additional community consultation; furthermore, the Corporation intends to relinquish its coal exploration licences located in the Strathcona area once the annual renewal date comes due;

- Fosheim Peninsula is one of the few locations in the high Arctic where vegetation grows, and as such any exploration in the Fosheim Peninsula area will need to involve rigorous monitoring of wildlife and vegetation by locals who are familiar with the area;

- A world-renowned fossilized forest resides within the Mokka Fiord geographical project area (Axel Heiberg Island), and the Corporation has stated that it intends to preserve the area and does not intend to conduct exploration in the Mokka Fiord area.

8.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

Section 5, pertaining to accessibility, climate, local resources, infrastructure, and physiography consultation has been described in detail in a previous report prepared by AGL, effectively dated September 30th, 2011, and entitled, 'Independent Technical Report – The Nunavut Coal Project'.

Additional data pertaining to local wildlife sightings and daily climate observations was recorded as part of the 2012 exploration program.

8.1 2012 Exploration Program Wildlife Sightings

During the 2012 field season (June 14th – July 28th), field crews were encouraged to report local wildlife sightings with the exception of commonplace wildlife sightings (musk ox, Arctic hares, etc.). Table 5.1 and Figure 5.1 demonstrate the reported wildlife sightings.

Table 8.1 – 2012 Exploration Program Wildlife Sightings

Date dd/mm/yy	Observer	Location (Northing/Easting) UTM Zone 16/17, NAD 83	Description	Picture taken?	Comments
6/14/2007	BM	Site 'U'	1 Brown duck swimming in creek	No picture	n/a
6/18/2012	LB	16x 0548415 8867375	1 Fox, 2 long tailed jaeger, at least 1 par, 1 possible nest of snow bunting	Pictures are too poor quality	Spotted by guide, jaeger seen twice, flew through crew
6/21/2012	AK	16x 0514905 8887693	Birds (unknown species)	No picture	Walking back from rose rock creek, walked within 5ft of birds nest with eggs, , mother was present
6/21/2012	BM	Blacktop Mountain	Red Knot + Nest w 4 eggs	No picture	Walking on east side of blacktop
6/23/2012	HP	N 79 52' 11.2" W 84 31' 35.4'	Weasel *mustela erminea*	No picture	
6/24/2012	LB	16x 0550512 8865773	Rock Ptarmagin, male, in breeding plumage, also a den dug into ice in the side of a valley	Yes	Long tailed jaeger being chased by a flock of smaller birds
6/25/2012	AK	16x 0545394 8856078	Bird Eggs	No picture	Eggs inside a nest, found during walking along coal seam
6/26/2012	AK	16x 0535967 8878142	Fox	No picture	Fox, 500m away, grey/brown in color. Stoped and looked around then ran over the hill
6/28/2012	AK	17x 0447477 8907970	Wolves	No Picture	Pack of three wolves, came up as we were prospecting today, one came within 10ft, two stayed back
6/30/2012	CO	17x 0452072 8898896	Wolf	No picture	One wolf, greeted our helicopter roughly 5 mins after landing. Stayed back, howled. Another was seen but way farther away
6/3/2012	BM	16x 0500297 8787975	Red Knot	No picture	Bird near sampling site (above) but did not leave as

					we entered the area
6/3/2012	BM	Bache Peninsula	Narwhals	No picture	pod of narwhals in open water
7/4/2012	CO	Bache Peninsula	Narwhals	Yes	While flying over the water, we spotted a nice pod of narwhales (13 in pod)
7/4/2012	CO	Bache Peninsula	Seals	yes	Flying over a chunk of sea ice, were sunbathing seals
7/4/2012	CO	Bache Peninsula	Walrus?	yes	Hovering over the water , we saw , what looks to be a walrus? Or maybe another seal?
7/4/2012	LB	16x 0554900 8908337	Two snow geese	No picture	Breeding pair, plus nest with two eggs
7/4/2012	BM	16x 555500 8908200	Two Artic Geese	No picture	
7/5/2012	AS	n/a	Wolf, Arctic Fox	No picture	saw both animals in the gully north of sample area 'C; but from a distance away. They were moving out of the area.
7/7/2012	LB	16x 0556444 8907273	Arctic fox	No picture	Ran through a valley probably feeding, on muskox carcass up the valley
7/8/2012	CO	16x 0550811 8841001	Caribou	No picture	Antlers were seen in the area x2
7/13/2012	EL	16x 0551934 8816944	Ermine (Weasel)	WLDLF-1	Ermine shouted at me through a crack in the rock
7/14/2012	BM	Site 'U'	Frozen muskox	No picture	2 early spring, dead young muskox, seem to be a good feeding area for wolves
7/16/2012	AK	16x 561697 8774549	Birds (Jaegers)	No picture	3 Jagers calling to each other, didn't like us around the area by vesle fjord, young present possible because of attacking stance
7/21/2012	BM	Site 'OA'	Wolves	No picture	Same 3 wolves that roam near E
7/24/2012	AK	16x 0545631 884606	Caribou	No picture	Animal was scared of chopper, ran in opposite direction
7/24/2012	LB	16x 0538748 8862407	Ermine (Weasel)	Yes	
7/25/2012	LB	16X 05484756 8866340	Pergerine Falcon	No picture	In flight, seen at eye level
7/26/2012	AK	16x 0549533 8862596	White Gyre Falcon	No picture	While prospecting, seen bird, apparently quite rare
7/28/2012	CO	In Helicopter	Spider	yes	While flying to the site, noticed a large spider on my glove, released it when we got to the site
7/28/2012	CO	South of 'LA'	Caribou, Wolf	No picture	Last trip, we seen a lone caribou, followed by three wolves that were friendly and came up to the helicopter

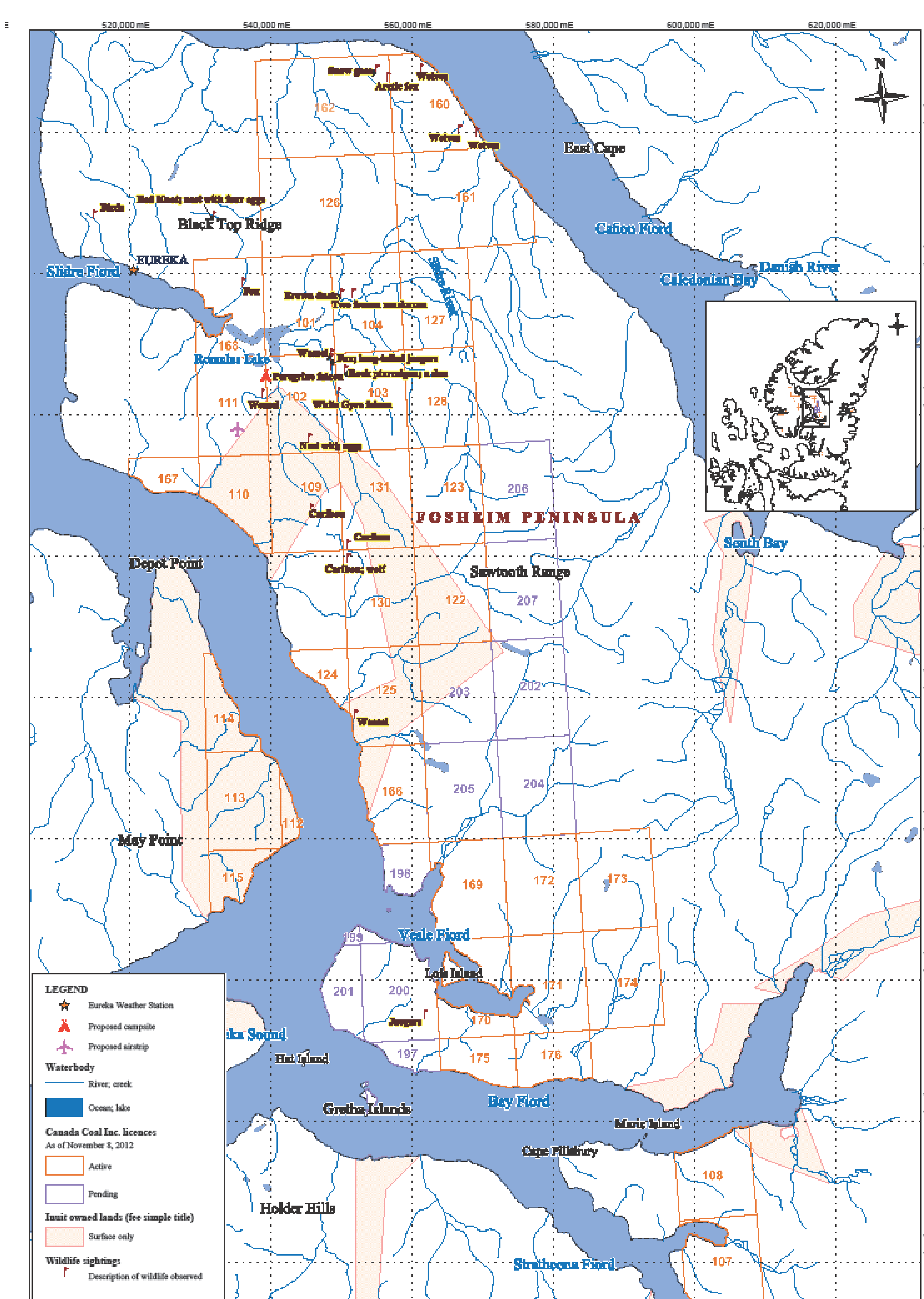

Figure 8.1 : Wildlife sightings on and near Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

Scale 1:500,000

Projection: NAD83 UTM zone 16
Date: 18 November 2012

Prepared for: CANADACOAL
Prepared by: DMT

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8.2 2012 Exploration Program Climate Observations

During the 2012 field season (June 14th – July 28th), the average daily temperature was 8° C and the average daily precipitation was < 1 mm. Table 5.2 and Figure 5.2 demonstrate the daily climate observations.

Table 8.2 – 2012 Exploration Program Daily Climate Observations

Date	Recorder	Temperatures			Precipitation	
dd/mm/yy	Name	Min.	Max.	Avg	Amount (mm)	Type
6/14/2012	C.O	3.9	13.4	8.65	0.6	SN/RA
6/15/2012	C.O	3.3	7	5.15	0.4	RA
6/16/2012	C.O	2.4	8.5	5.45	0	N/A
6/17/2012	C.O	2.9	6.9	4.9	0	RA
6/18/2012	C.O	3.7	10.9	7.3	0	N/A
6/19/2012	C.O	1.7	12.9	7.3	0	N/A
6/20/2012	C.O	1.4	11.3	6.35	2.4	RA
6/21/2012	C.O	1.4	5.9	3.65	4.8	RA
6/22/2012	C.O	2.2	6.6	4.4	1.8	RA
6/23/2012	C.O	1.6	5.5	3.55	0	N/A
6/24/2012	C.O	1.5	6.8	4.15	0	RA
6/25/2012	C.O	2.7	7	4.85	0	RA
6/26/2012	C.O	1.8	11.6	6.7	0	N/A
6/27/2012	C.O	4.1	12.5	8.3	1	RA
6/28/2012	C.O	3.4	13	8.2	0	N/A
6/29/2012	C.O	3.3	13.9	8.6	0	N/A
6/30/2012	C.O	6.6	12.5	9.55	0	N/A
7/1/2012	C.O	6.8	12.1	9.45	0	N/A
7/2/2012	C.O	3.9	15.4	9.65	0	N/A
7/3/2012	C.O	13.5	17	15.25	0	N/A
7/4/2012	C.O	2.8	17.8	10.3	0	N/A
7/5/2012	C.O	9.1	17.8	13.45	0	N/A
7/6/2012	C.O	7	17.4	12.2	0	N/A
7/7/2012	C.O	3.2	8.1	5.65	0	N/A
7/8/2012	C.O	4.4	13.7	9.05	1.4	RA
7/9/2012	C.O	5.7	17.9	11.8	0	N/A
7/10/2012	C.O	3.7	9.6	6.65	0	RA
7/11/2012	C.O	3.7	8.2	5.95	2.6	RA
7/12/2012	C.O	3.1	10.9	7	0.4	RA
7/13/2012	C.O	5.7	11.9	8.8	0.8	RA
7/14/2012	C.O	5.7	12	8.85	0	N/A
7/15/2012	C.O	4.4	11.7	8.05	0	N/A

7/16/2012	C.O	5.3	16.4	10.85	0	N/A
7/17/2012	C.O	5.6	15.8	10.7	0	RA
7/18/2012	C.O	10.3	14.5	12.4	1.2	RA
7/19/2012	C.O	5.6	16.6	11.1	0.8	RA
7/20/2012	C.O	3.4	9.5	6.45	8	RA
7/21/2012	C.O	3.9	8.8	6.35	1.4	RA
7/22/2012	C.O	2.7	8.8	5.75	0.4	RA
7/23/2012	C.O	1.9	6.2	4.05	0	N/A
7/24/2012	C.O	3.3	6.1	4.7	0	RA
7/25/2012	C.O	3.2	11.9	7.55	1.4	RA
7/26/2012	C.O	3.7	11.2	7.45	0.8	RA
7/27/2012	C.O	5.8	14.6	10.2	0.4	RA
7/28/2012	C.O	4.3	11.6	7.95	2.4	RA
Averages		**4.2**	**11.5**	**7.9**	**0.7**	

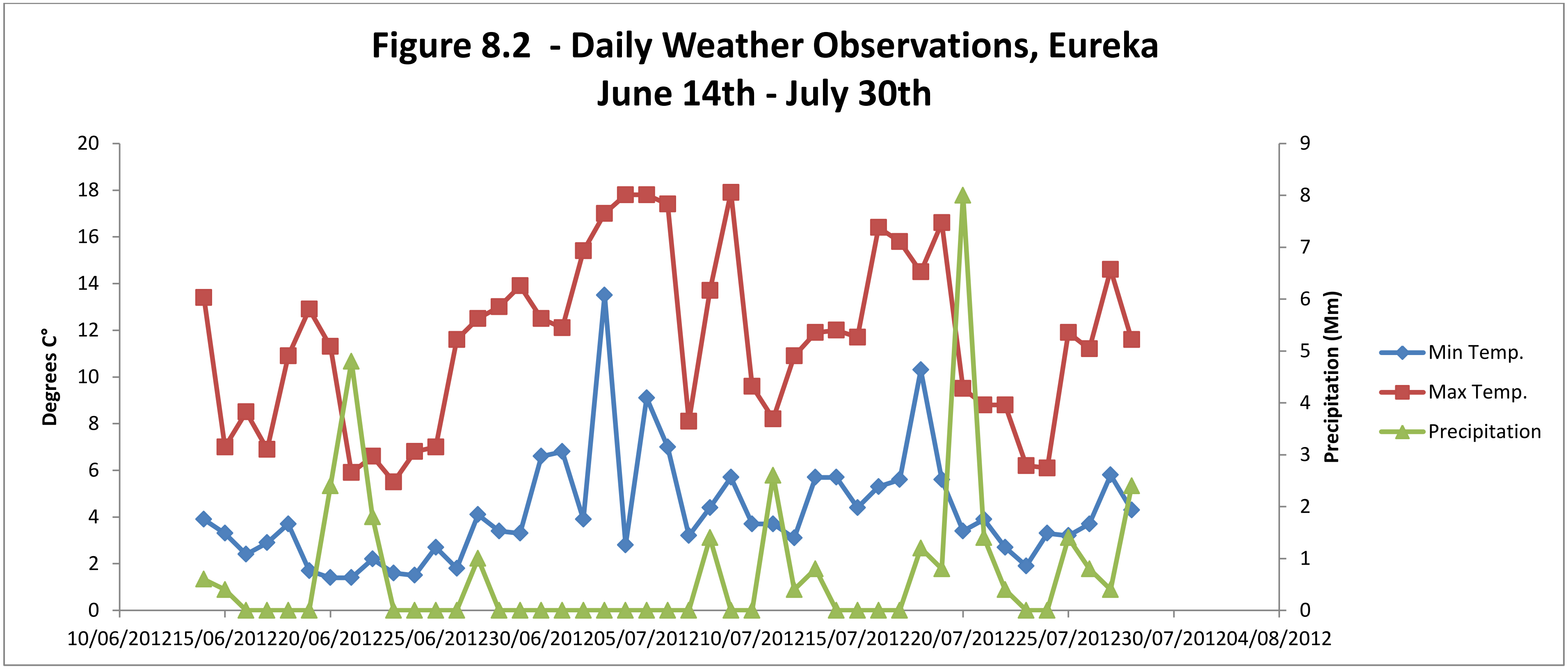


Figure 8.2 - Daily Weather Observations, Eureka
June 14th - July 30th
Degrees C°
Precipitation (Mm)
20
18
16
14
12
10
8
6
4
2
0
9
8
7
6
5
4
3
2
1
0
10/06/2012
15/06/2012
20/06/2012
25/06/2012
30/06/2012
05/07/2012
10/07/2012
15/07/2012
20/07/2012
25/07/2012
30/07/2012
04/08/2012
Min Temp.
Max Temp.
Precipitation

9.0 HISTORY

Section 6, pertaining to project history (including exploration timeline and details of specific non 43-101 compliant historical target size estimates), has been described in detail in a previous report prepared by AGL, effectively dated September 30th, 2011, and entitled, 'Independent Technical Report – The Nunavut Coal Project'.

The majority of historic work on the Canada Coal's exploration licences occurred in 1981 to 1983 and was conducted by Gulf, Petro-Canada, and Utah. Historic reports are not considered current in terms of NI 43-101, and could not be updated without drilling, mapping, and sampling the property areas relevant to the specific report.

9.1 Historical Target Size Estimates

Various authors prepared historical target size estimates (not compliant with NI 43-101 standards and not verified by DMT) on certain project areas within Canada Coal's licences. DMT cautions that the historical target size estimates are non-compliant, and at best would correlate to the "Speculative" coal category described in GSC 88-21 due to the lack of direct supporting evidence in the form of drill holes, trenches, and so forth.

"Speculative" coal figures would not normally be reported by industrial users as it the category was originally intended to provide a basis for Government assessment of a country's national coal resources. Nevertheless, the non-compliant historical target size estimates are presented here as an indication of the relative size of the Corporation's target size estimate.

The below-quoted figures are reported as historical exploration targets, based on reasonable assumptions made from compiled data. These figures should not be construed to reflect a calculated resource (inferred, indicated or measured) under standards of NI 43-101. The potential quantities and grades reported above are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

Table 9.1 - Historical Target Size Estimates of Coal - Not NI 43-101 Compliant

Author	Year	Area	Target Size (M tonnes)	Rank
Bustin[1]	1980	Fosheim Peninsula	21,000	High volatile bituminous[5] to lignite
Bustin[1]	1980	East Axel Heiberg	9,000	High volatile bituminous[5] to lignite
Gulf[2]	1982	Fosheim Peninsula	5,616	High volatile bituminous[5] to lignite
Petro-Canada[1]	1982	Fosheim Peninsula	21,900	High volatile bituminous[5] to lignite
Petro-Canada[3]	1982	Vesle Fiord	4,000	Sub-bituminous 'A' to lignite
Petro-Canada[3]	1982	Strathcona Fiord	10,100	Sub-bituminous 'A' to lignite
Petro-Canada[1]	1983	Stenkul Fiord	750,000	Lignite
Kalkreuth[4]	1993	Bache Peninsula	100	Lignite

1 Coal seams > 1 m thick used for estimation over outcrop area to a depth of 200 m

2 Coal seams > 1 m thick used for estimation over outcrop area to a depth of 500 m

3 Coal seams >1 m thick used for estimation over outcrop area to a total depth of section

4 Coal seams > 1 m thick used for estimation over outcrop area to a depth of 300 m

5 High volatile bituminous covers a broad range of coal quality- recent sampling would suggest that the Fosheim Peninsula coal is a high volatile bituminous 'C'

10.0 GEOLOGICAL SETTING AND MINERALIZATION

10.1 Regional Geology

The project is situated within the Fosheim Peninsula, Ellesmere Island, Nunavut. Ellesmere Island is located in the high Arctic and is one of the Queen Elizabeth Islands. The regional Geology in the area of the Queen Elizabeth Islands surrounding Ellesmere Island can be thought of as a series of transgressive-regressive sedimentation sequences and deformation through orogenic activity that has been continuous from the Proterozoic through to the late Holocene; the series of sedimentation and tectonic deformation can be seen throughout the southern Queen Elizabeth Islands and western Greenland. The major phases of deposition in the Queen Elizabeth Islands occurred in the Sverdrup Basin. The Sverdrup basin is approximately 1000 km by 300 km covers an area of approximately 3000 km^2; it developed in phases from the early Carboniferous to the late Palaeogene. The development of the basin was a complex combination of tectonic and depositional episodes that included basin-wide subsidence, uplift and orogenic activity along with periods of sediment deposition that was more or less continuous throughout the basins evolution. The Fosheim Peninsula is located on the eastern area of the Sverdrup sedimentary basin on the western side of Ellesmere Island.

10.1.1 Proterozoic to Palaeozoic

The earliest phase of sedimentation, early Proterozoic to the Cambrian occurred during a time of rapid subsidence on a passive continental margin, this phase is represented as carbonate clastic deposition; this was followed by transgressive open marine carbonates, regressive carbonates and evaporite sequences deposited during the late Cambrian to the middle Ordovician. From the late Ordovician to the late Silurian another transgressive sequence is represented by mudstones and carbonates; coarsening upward sequences seen in the northern part of Ellesmere Island show a sequence from mudstone to argillaceous carbonates. Clastic carbonate wedges show plate convergence during the late Devonian and uplift in the area of the Bache peninsula, the Bache uplift is a re-activated basement formed during continental collision as part of the formation of the Greenland Caledonides.

More major folding during the Devonian to the Carboniferous was accompanied by syn-tectonic sedimentation in the Arctic islands, with large sandstone deposits, marine sandstones were deposited until the Permian, syn-tectonic sedimentation continued throughout the Carboniferous and into the Permian. Extensional faulting and rifting during a phase of crustal extension characterize the Carboniferous tectonic regime; the sediments are generally coarse clastic non-marine conglomerates with rare shallow marine carbonates and evaporites. The late Carboniferous sediments are composed of deeper marine, post extensional, sandstone, Gypsum and Anhydrite overlain by reef carbonates. The Permian was characterized by a worldwide sea level low and the largest worldwide extinction event ever to affect the planet; Permian sandstone deposits are seen on Ellesmere Island in the area of Tanquray Fiord and Piper Pass as well as carbonate sandstone stratifications in the south-western part of Ellesmere Island. Overall, Permian strata is rare on the Island.

10.1.2 Mesozoic

The late Permian to the early Triassic was generally represented in the northern hemisphere by dry desert conditions and is represented on Ellesmere Island by the Bjorn formation (red sandstone, siltstone and shale), which is analogous to the New Red Sandstone (Mercier Mudstone of northern Europe, Sherwood sandstone and Aylesbeare mudstone groups of the

UK). During the Triassic successive marine transgressions reactivated basin sedimentation within an extensional regime that continued throughout the Mesozoic with a series of mudstones shale, siltstones and sandstones that are generally conformable through to the Cretaceous. Basic volcanic dykes and sills composed of gabbro, dolerite and basalt cut through Jurassic and cretaceous sediments in the western area of Ellesmere island but they do not cut through the Kanguk formation of the late Cretaceous. The general trend of the dykes is north, northwest to south, southeast showing an east west extensional regime. The Kanguk is a widespread thick mudstone and shale that is ubiquitous throughout the southern Queen Elizabeth Islands in the Arctic it contains thin beds of bentonite and coarse sandstone near the upper contact with Tertiary sediments. The Kanguk marks the end of the Mesozoic in the area and vertebrate fossils of the genus Hesperonis have been found as well as large Inoceramids that can reach up to 70cm in length.

10.1.3 Cenozoic

The Cenozoic Tertiary sediments are the sandstones, siltstones, mudstones and conglomerates of the Expedition, Strand Bay and Iceberg Bay formations. The Tertiary sediments also contain significant amounts of coal and are largely the subject of this report.

10.1.4 The Eurekan Orogeny

The Eurekan Orogeny was a major tectonic event that involved major thrusting and folding during the Palaeocene through to the Eocene; the orogeny is thought to be due to the anticlockwise rotation of Greenland in combination with a migrating hotspot that had migrated west to east across Greenland towards Iceland. Crustal extension due to sub–lithospheric underplating and plume induced uplift acting on the Greenland plate along with the rotation of the plate are thought to be driving forces for the orogenic activity.

On Ellesmere Island extensive thrust belts and folds represent the different phases of the orogeny, the axis of these folds are generally in a northerly direction whilst the thrusts have a northeast-southwest trend.

Extension faults trend in a north-westerly direction whilst strike slip faults trend in a north south direction. The trend of the extension and dextral strike-slip faults and the Axis of the compression folds and thrusts show that the deformation in an east-west direction was constant in both extension and compressional phases of the orogeny.

10.2 Local Geology

The Fosheim Peninsula is located on the western part of central Ellesmere Island, and is the eastern part of the Sverdrup basin, the bedrock in the Fosheim Peninsula is composed of Triassic, Jurassic, Cretaceous and Tertiary sediments with minor dykes and sills composed of gabbro, dolerite and basalt late Cretaceous in age. The area is heavily folded, thrusted and faulted due to the Eurekan orogenic activity and is bound to the east by the Sawtooth Mountains which, in the western part of Ellesmere Island, are composed of upthrusted sediments of Permian, Triassic and Jurassic age. Major folds with axis trending in a north-south direction are evident and in the south-western part of the Fosheim Peninsula, the Fosheim anticline is the largest. At the centre of the Fosheim anticline, along its axis, the oldest rocks exposed are from the Triassic; from the centre to the edge of the structure is a conformable sequence extending to the late Tertiary.

The Tertiary rocks forming the Eureka Sound group consists of sandstone, siltstone, shale, mudstone and conglomerate and significant beds of coal. The coal is distributed throughout the Eureka Sound group of sediments, from the basal contact with the cretaceous, to below the uppermost contact with the conglomerate.

10.3 Property Geology

The geology of the Fosheim Peninsula is represented as a series of sandstones, siltstones, mudstones or shales and conglomerates, these sediments were deposited in a series of marine transgressions and regressions and are indicative of fluvial, deltaic, shallow marine and swamp environments. Fossils indicate the climate was warm to tropical where forests of large broad leaf metasequoia trees survived summers with 24-hour daylight and winters of total darkness.

10.3.1 Stratigraphy

The sediments of the Tertiary are known as the Eureka group of sediments and these sit conformably on the Kanguk formation of the late Cretaceous, the contact is clear on the Fosheim Peninsula with the lowermost formation, the Expedition formation, showing a sharp unconformable contact with the Kanguk. The placement of the Cretaceous/Tertiary boundary between the Kanguk and the Expedition is very clear on the Fosheim Peninsula, whilst it is thought to be a gradational contact in most areas, on the Fosheim Peninsula there is a sharp contact from highly weathered shale to fine to medium grained sub angular to subrounded cross bedded sandstone and the contact is traceable throughout the Fosheim Peninsula.

The Expedition is composed mainly of very weakly cemented to unconsolidated, pale yellow to white, very well cross-bedded sandstone with siltstone, ironstone and mudstone beds in large coarsening up sequences characteristic of a deltaic environment. Widespread throughout the Fosheim Peninsula the Strand Bay formation composed of marine shale, this sits directly above the Expedition formation. The shale is highly weathered and soft in most locations and breaks up into 1 to 2cm cubes where it is exposed. The Iceberg bay formation sits conformably on top of the Strand Bay formation in most areas, the Iceberg bay formation is composed of yellow to grey, fine to medium sand, the sand is rarely cross bedded and often shows ripple marks and fluvial features, in some areas the sandstone contains very well preserved broad leaf fossils in fine sand to silt beds.

Both the Expedition and Iceberg Bay formations contain beds of coal and fossilised trees, beds of forest leaf litter and forest floor deposits are well preserved in places with the wood, bark and leaves of trees extremely well preserved, very often coal seam contain large tree trunks often looking as though they are in situ. The tree trunks are often mineralised but sometimes they are preserved so well that woody tissue can be easily recognised. Coal beds are variable in quality in both the expedition and Iceberg bay formations and many seams contain mudstone and carbonaceous mudstone beds. Most of the coal seams are indurated to the extent that they are often the hardest rock in the Expedition formation; the coal seams often form ridges and in some cases control the movement of water drainage and creeks. This also allows some of the coal seams to be traced for kilometres in many cases. In the Iceberg Bay formation the differences of hardness in the coal compared to the host sandstone is not as obvious as the sandstone is often well indurated and harder that the coal seams.

The exploration areas were split up into the northern Fosheim and Southern Fosheim Peninsula and prospective areas were chosen based on the amount of outcrop available along with the potential for coal bearing strata. The north and south sections were further separated and designated letters for identification purposes each area was assigned a number based on the priority for which it was to be investigated (Figure10.1). There were two teams of geologists, one for the northern section and one for the southern section, the teams were made up of experienced field geologists and junior geologists as well as a palaeontologist and an archaeologist which floated between the two groups.

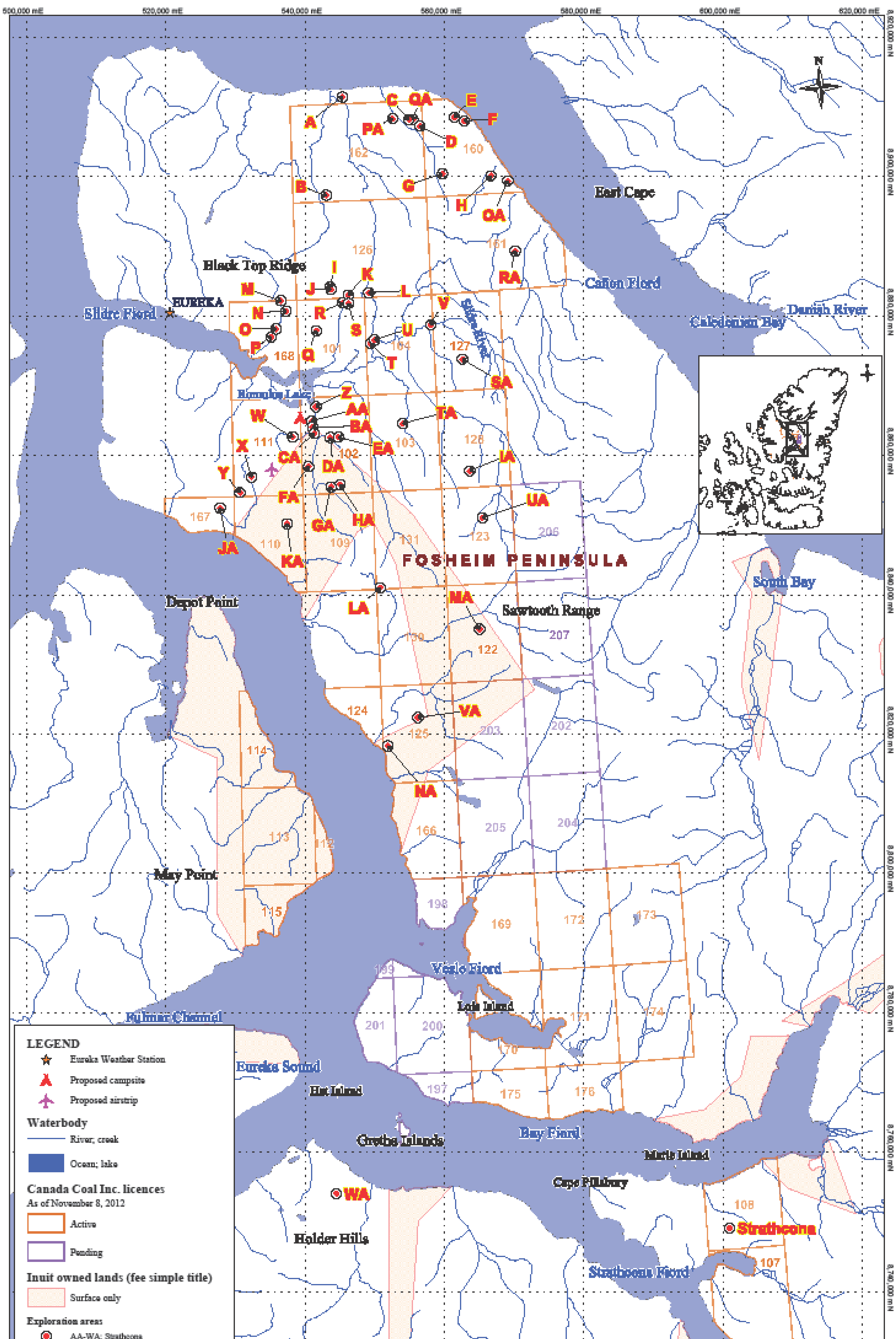


Figure 10.1 : The 2012 Exploration Areas, Fosheim Peninsula, Ellesmere Island, Nunavut.

Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for: CANADA COAL

Prepared by: DMT

10.3.1.1 Area C and P – Northern Fosheim

Area C is close to the contact with the Expedition and here the Kanguk formation is banded with thin bentonite beds grey siltstone and some thin carbonaceous layers. Coal is not present in the Kanguk, the coal layers described in the field notes are likely to be the contact with the base of the Expedition formation where beds of coal are likely to occur. Area P is located within the Kanguk shale, beds of bentonite were observed close to the contact with the Expedition formation. The beds of bentonite are highly weathered and do not occur in high enough quantities to be of any commercial value.

10.3.1.2 Area O – Northern Fosheim

Area O is located in an area of the Expedition formation, no structure was observed in this area even though it contained different sandstone layers that may have been graded. Two coal seams were observed within the white poorly cemented sandstone, the upper coal seam is one metre thick, it appears to be of variable quality within the seam with fine beds of coal showing higher reflectance indicating higher quality. The lower seam is two metres thick and is composed of dull low quality coal with a thin 0.2 metre band of carbonaceous mudstone contained within it. The lower 0.15 metres is sheared and highly weathered. There are some mudstone and ironstone beds within the white sand indicating a sequence that ranges from mudstone, ironstone, orange sandstone to massive white sandstone, these sequences are repeated up the cliff, each sequence terminates and coal beds start off a new sequence overlain by mudstone. These sequences are typical of the coarsening upward sequences seen in the expedition formation.

10.3.1.3 Areas D, N, M, A, H, L and E – Northern Fosheim

Areas D, N, M, A, H, L and E show very similar expedition geology as area O. Located close to the contact with the Kanguk marine shale. The white sandstone is the predominant rock type containing layers of siltstone, ironstone, mudstone and coal. The coal bands in these areas rarely exceed 0.30cm in thickness and the quality has been demonstrated to be low falling within the lignite range of coal.

10.3.1.4 Areas Q, T, U and I. – Northern Fosheim

There are several seams in these areas containing coal, the seams also contain variable amounts of either leaf litter or forest floor litter, bark and wood or tree trunks. All of the seams contain amber as very small 1-3mm beads some of the amber chunks can reach up to 10 cm in size but these are highly weathered and are of no commercial value. All of the seams encountered are of low quality coal but possibly have value for educational and scientific purposes.

The area designated T contained variable sandstones and siltstones that weather orange and are grey on exposed or freshly broken surfaces. These are likely to be sediments from the Iceberg bay formation, they are finer grained sandstones and silts indicative of low energy fluvial deposition.

10.3.1.5 Areas AA, BA, CA, DA, EA, HA, IA, KA, JA, Y, X – Southern Fosheim

All of these areas are lower Expedition formation, close to the Kanguk contact. The Expedition sandstones are represented as weakly cemented, cross bedded white to pale yellow or buff sandstones. In addition to the sandstone there are abundant thin bands of silty ironstone, siltstone and mudstones these represent typical delta deposits, forming coarsening up sequences from the fine mudstones, silty ironstones, siltstone, sandstone and finally the emergent sequence is topped with coal. The coal seams in these areas are all very similar in quality; they appear well consolidated and in many cases can be seen as ridges in the surrounding strata. Although of similar durain quality with varying amounts of sulphur the coal ranges from a few centimetres to up to 3 metres wide. The coal seams can be laterally extensive sometimes extending kilometres where there is exposure, often in the central Fosheim peninsula outcrop is overlain by overburden; the overburden often slumps over the outcropping strata at creeks and cliffs obscuring the outcrops.

10.3.1.6 Areas MA, LA (West), W – Southern Fosheim2

These areas are important as they show a succession of strata from the Kanguk to the Iceberg bay formation. The areas show laterally extensive outcrop for several kilometres.

Area W is exposed along a creek and may be a fault that the course of the creek follows, the Iceberg Bay formation contains fining upward sequences composed of fine sandstones, siltstones and mudstones, the deposition shows a much gentler environment with fluvial features like low energy ripple marks and plant fossils, mostly Equisetum (horsetail grass) not seen in the expedition formation. The Strand Bay formation is highly weathered finely bedded and breaks up into small cubes one to two centimetres length. The Expedition formation overlies the Strand Bay formation and in this area it is heavily faulted and the structure becomes very complex. There are fine sandstones and siltstones faulted from the iceberg bay that contains fossilised pine cones and these beds are very close to Expedition formation sandstones. Coal seams in this area contain mineralised tree trunks and mineralised wood fragments and these are restricted to the Iceberg Bay formation.

The MA area again is laterally extensive and follows the line of a creek, the coal seams in this area are as thick as three metres and appear very well indurated and of higher quality within the iceberg bay formation. The area describes a broad, shallow syncline; the eastern area of MA next to the Sawtooth Mountains is composed of Jurassic and Cretaceous sediments, these are bounded to the west by the Eureka sound formation which are then overlain by the Strand Bay formation and the Iceberg formation respectively, towards the west the Eureka Sound formation is exposed again beneath the Strand Bay formation. The Iceberg bay formation here shows similar fining up sequences and fluvial features to Area W, low energy ripples are abundant and tool marks made by objects flowing in suspension in rivers are common. The outcrop starts in the foothills of the Sawtooth Mountains and shows a conformable sequence towards the west up to the Expedition sandstones. The Expedition represents the core of an anticline at the western edge of area MA but the area is heavily faulted close to the core of the anticline and the structure becomes very complex.

The LA (West) area shows a complete sequence from the Jurassic through to the late Triassic on the western side of the Fosheim anticline. The strata all dip steeply towards the west from 44 degrees east in the Kanguk to around 30 degrees east in the Iceberg Bay formation. Coal seams here are very well indurated and range from 50 centimetres to 2 metres wide and the quality is close to that of durain. Sulphur is quite high here although pyrite is not present; there are however gypsum deposits covering the rocks and the sulphur may be derived from the breakdown and weathering of gypsum.

10.3.1.7 Area LA – Southern Fosheim

Area LA is located on the eastern side of the Fosheim anticline and only the Expedition formation outcrops on this side. The expedition here comprises white, weakly cemented, cross bedded sandstone and coal seams of varying thickness. The contact with the Kanguk can be traced for several kilometres and the coal seams of varying thickness can be traced for 6 to 8 kilometres in a north, northeast to south, southwest direction. Importantly the coal seams that vary in thickness from 0.8 metres to 3 metres, outcrop to the west, many coal seams, over twenty, can be seen outcropping and subcropping in an easterly direction, the subcropping coal seams can be traced because they are highly indurated compared to the surrounding rock and form ridges that can be traced along their strike. One of the highest quality coal seams was located in this area very close to the Kanguk contact and therefore this is one of the areas that warrant further investigation.

11.0 DEPOSIT TYPES

11.1 Coal Deposit Types According to GSC 88-21

The definition of deposit type for coal properties is different from that applied to other types of mineral deposits. In Canada coal deposits are classified according to GSC 88-21, a guidance reference for coal deposits as specified under the CIM Definition Standards, whereby coals are classified according to the degree of geological complexity ("geology type") and the probable extraction type for a deposit ("deposit type").

The amount of geological complexity, or geology type, is usually imposed by the structural complexity of the area, and the classification of a coal deposit by geology type determines the approach to be used for the resource/reserve estimation procedures and the limits to be applied to key estimation criteria. The identification of a particular geology type for a coal property defines the confidence that can be placed in the extrapolation of data values away from a particular point of reference such as a drill hole.

The classification scheme of GSC 88-21 is similar to many other international coal classification systems but it has one significant difference. This system is designed to accommodate differences in the degree of tectonic deformation of different coal deposits in Canada. The four classes of geological complexity, from lowest to highest, are:

- Low - relatively unaffected by tectonic deformation, coal seams are flat lying to very gently dipping and are generally unfaulted;
- Moderate - deposits have been affected to some extent by tectonic deformation, characterized by homoclines or broad open folds with bedding inclinations of generally less than 30 degrees, faults may be present but are relatively uncommon and have displacements of less than 10 metres;
- Complex - deposits have been subjected to relatively high levels of tectonic deformation, tight folds may be present and offsets by faults are common, ;
- Severe - deposits have been subjected to extreme levels of tectonic deformation.

Canada Coal's land area currently encompasses nine license blocks, and geology type across the entire project area is highly variable. Further exploration such as drilling will be necessary to confirm the geology type of the coals; however, preliminary indications suggest that the geology type would be "low" to "moderate" with local areas following into the "complex" category.

Deposit type as defined in GSC 88-21 refers to the extraction method most suited to the coal deposit. There are four categories: surface, underground, non-conventional, and sterilized. Surface mining is currently being contemplated for the Fosheim Peninsula region.

11.2 Coal Depositional Setting

Commercially significant coal resources occur only in Europe, Asia, Australia and North America. These deposits occur in sedimentary rock basins, typically sandwiched as layers called beds or seams between layers of sandstone and shale. Many coal deposits in Europe and North America date from the Devonian to the Triassic periods when these areas were covered with forests dominated by large ferns and scale trees.

Most coals that are mined for energy production are humic coals which are derived from peat. These coals are examples of organic sedimentary rocks and are composed of substances or aggregates called macerals (analogous to the minerals that form rocks). The formation of humic coals begins when plant debris accumulates in a swamp where the stagnate waters prevents oxidation and total decomposition of the organic matter. These swamps are called peat swamps with an estimated 10% of the plant matter being converted to peat through a process known as peatification.

It appears that many coal deposits formed when peat deposits in near-coastal basins subsided allowing the sea to flood the area covering the peat with sand and mud. Much of Europe and North America was located closer to the equator during the Devonian and Carboniferous and these waters were warm allowing lime muds to accumulate on top of the peat deposits. Over time these areas experienced cyclical periods of subsidence and re-emergence. As a result many coal deposits are composed of layers of coal separated layers of sandstone, shale or limestone. The coal layers range in thickness from a few centimetres to 20 m or more.

12.0 EXPLORATION

Canada Coal's 2012 exploration program focused on two main objectives: 1) detailed geologic mapping of the Eureka Sound Formation on Ellesmere Island, Nunavut, within license blocks on Fosheim Peninsula, Bache Peninsula, Strathcona Fiord and Vesle Fiord, and 2) strategic sampling to determine rank and continuity of known and newly discovered coal zones.

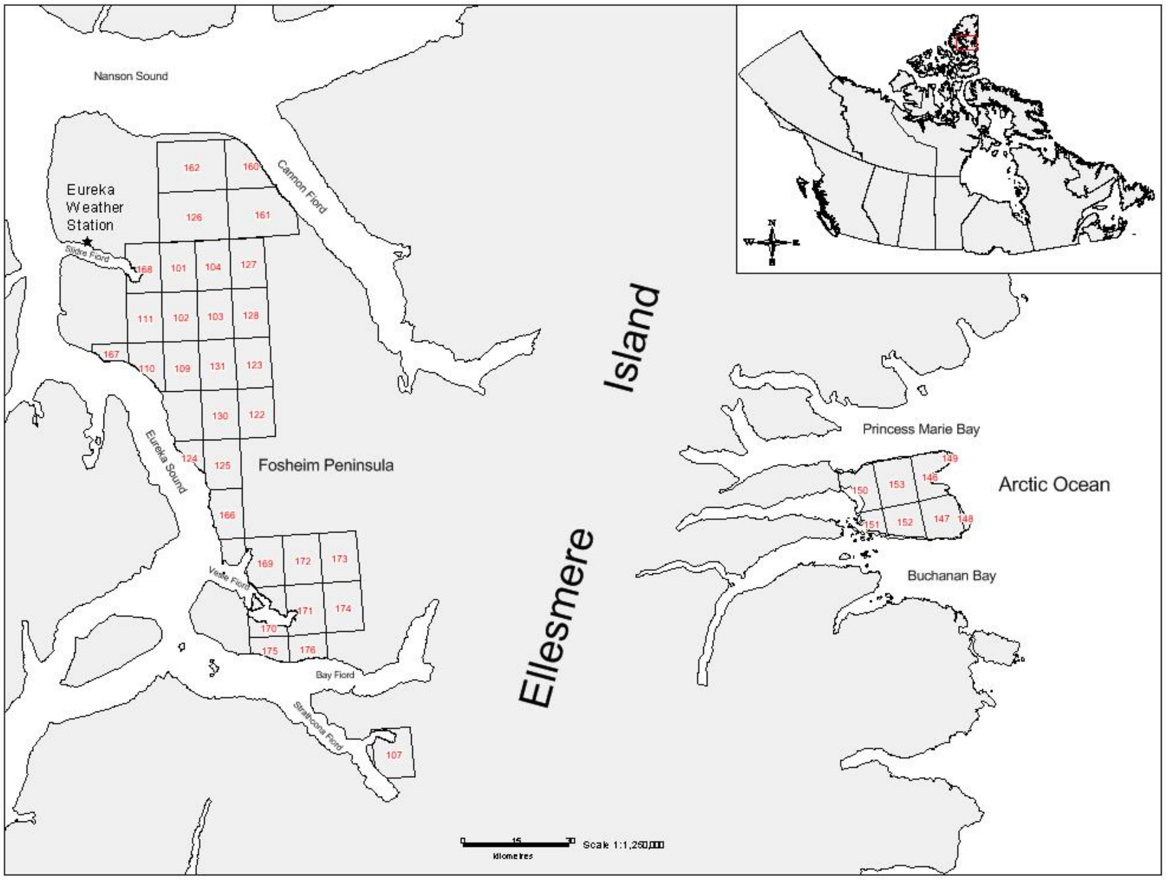
The field exploration was performed over a 6 week period between June 16th, 2012 and July 30th, 2012. Various personnel (15-18 people) were positioned at Environment Canada's Eureka Weather Station and utilized helicopter support to access the project area. The crew included two teams of geologists, a geophysics team, a heritage team (consisting of a paleontologist and archaeologist), local guides, and aircraft personnel.

Throughout the field program 39 of Canada Coal's 75 total coal exploration licence blocks were assessed including: 22 licence blocks on Fosheim Peninsula, 8 licence blocks on Bache Peninsula, 1 licence block on Strathcona Fiord, and 8 licence blocks on Vesle Fiord. Fosheim Peninsula was the primary exploration target. Table 9.1 lists the assessed license blocks by location; they can also be located on Figure 12.1.

Table 12.1 - License blocks assessed as part of 2012 exploration program by location;

Location	Fosheim Peninsula	Bache Peninsula	Strathcona Fiord	Vesle Fiord
Coal Exploration Licence Blocks	101-104 109-111 122-128 130-131 160-162 166-168	146-153	107	169-176
Total Licences	22	8	1	8

Secondary objectives achieved during the exploration program included: geophysical studies and heritage assessments. Geophysical permafrost studies using ground penetrating radar and ground resistivity equipment were conducted on potential airstrip locales in preparation for future programs and heritage studies were conducted to assist with future project planning.



Canada Coal Inc. 2012 Exploration License Blocks Assessed

Figure 12.1 - Licence Blocks Assessed During the 2012 Exploration Program

12.1 2012 Geological Mapping and Sampling Program

12.1.1 Site Descriptions

Sites for detailed geologic mapping and strategic sampling we assessed based on a priority ranking system established following several weeks of field prospecting. Priority ranking was based on continuity of an exposure, structural complexity of an area, and/or quality control sampling. Two geology teams assessed these sites along with a paleontologist, archaeologist, and local guide to mitigate adverse impacts to heritage resources and the environment. Integration of mapping and sampling results to create a detailed geological interpretation of the project area will remain ongoing as the project progresses.

Table 12.2 – 2012 Exploration Mapping and Sampling Areas

Formal Name	Short Name	X	Y	Z
2012AGLFNKM011	A	545364	8911424	16
2012AGLFNKM010	B	543072	8897316	156
2012AGLFNKM013	C	554948	8908205	104
2012AGLFNKM012	D	556517	8907249	143
2012AGLFNKM016	E	561416	8908504	80
2012AGLFNKM015	F	562801	8907977	134
2012AGLFNKM014	G	559744	8900360	219
2012AGLFNKM017	H	566638	8900128	86
2012AGLFNKM019	I	543639	8884136	217
2012AGLFNKM020	J	543724	8883778	238
2012AGLFNKM021	K	546231	8882967	198
2012AGLFNKM022	L	549131	8883339	79
2012AGLFNKM018	M	536553	8882181	214
2012AGLFNKM009	N	537280	8880685	181
2012AGLFNKM008	O	535832	8878127	65
2012AGLFNKM007	P	535178	8876950	34
2012AGLFNKM026	Q	541606	8877849	165
2012AGLFNKM024	R	545404	8881849	148
2012AGLFNKM025	S	546224	8881787	209
2012AGLST001	Strathcona	600896	8749130	287
2012AGLFNKM004	T	549392	8876079	12
2012AGLFNKM005	U	549981	8876564	19
2012AGLFNKM023	V	558043	8878693	103
2012AGLGSCF2	W	538242	8862664	60
2012AGLFNKM038	X	532338	8856924	113
2012AGLFNKM037	Y	530640	8854661	130
2012AGLFNKM027	Z	541580	8866998	21
2012AGLFNKM028	AA	540953	8864921	26
2012AGLFNKM029	BA	541063	8864044	31
2012AGLFNKM030	CA	541346	8863163	28
2012AGLFNKM031	DA	543663	8862569	61
2012AGLFNKM032	EA	544780	8862644	81
2012AGLMGSCF	FA	540508	8858399	45
2012AGLGSCF1	GA	543733	8855514	97
2012AGLFNKM033	HA	545041	8855792	251
2012AGLFNKM006	IA	563637	8857781	292
2012AGLFNKM036	JA	527827	8852454	55

2012AGLFNKM039	KA	537442	8850217	150
2012AGLFNKM034	LA	550811	8841001	226
2012AGLFNKM035	MA	565029	8835086	268
AGL-VE-003	NA	551916	8818324	84
2012AGLFNKM001	OA	569066	8899403	47
2012AGLFNKM002	PA	552576	8908314	118
2012AGLFNKM003	QA	555486	8908148	150
-	RA	567825	8888887	-
-	SA	561715	8874545	-
-	TA	554829	8863776	-
-	UA	565448	8851061	-
-	VA	556214	8822368	-
-	WA	544487	8754067	-
2012AGLBAKM001	XA	750492	8813870	116
2012AGLBAKM002	YA	749066	8816088	63

12.1.2 Sample Descriptions

Exploration included collection at 135 sample locations with 285 individual samples taken in total (Table 9.2). Upon completion of the field program, samples were delivered to Birtley Coal & Minerals Testing Division of Calgary, Alberta for chemical testing. Sample results were released August through September 2012. Following the chemical testing, a select batch of 10 samples was sent to JP PetroGraphics of Calgary, Alberta for petrographic analysis.

Table 12.3 – 2012 Exploration Program Surface Sample Descriptions

Location No.	Sample ID.	Date	Coordinates (UTM Zones 16,17) NAD 83			Sample Interval			Comments
2012-AGL-FN-000	A-B-C….	dd/mm/yy	Northing	Easting	UTM ZONE	From (m)	To (m)	Width (m)	Sample type
2012-AGL-FN-001	A	19/06/12	0548577	8867086	16X	0.00	1.00	1.00	Channel sample
	B	19/06/12				1.00	2.00	1.00	Channel sample
	C	19/06/12				2.00	3.00	1.00	Channel sample
	D	19/06/12				3.00	4.10	1.10	Channel sample
	E	19/06/12				4.10	4.60	0.50	Floor sample
	F	19/06/12				0.00	0.25	0.25	Roof sample
2012-AGL-FN-002	A	19/06/12	0548477	8867921	16X	0.00	0.85	0.85	Channel sample
	B	19/06/12				0.85	1.53	0.68	Channel sample
	C	19/06/12				1.53	2.35	0.82	Channel sample
	D	19/06/12				2.35	3.00	0.65	Floor sample
	E	19/06/12				0.00	0.40	0.40	Roof sample
2012-AGL-FN-003	A	20/06/12	0548708	8867915	16X	0.00	1.00	1.00	Channel sample
	B	20/06/12				1.00	2.00	1.00	Channel sample
	C	20/06/12				2.00	3.00	1.00	Channel sample
	D	20/06/12				3.70	5.00	1.30	Channel sample
	E	20/06/12				5.00	6.50	1.50	Channel sample
	F	20/06/12				6.50	8.50	2.00	Channel sample
	G	20/06/12				15.15	16.15	1.00	Channel sample
	H	20/06/12				16.15	16.90	0.75	Channel sample
2012-AGL-FN-004	A	22/06/12	0548554	8868084	16X	0.00	1.10	1.10	Channel sample
	B	22/06/12				1.10	1.16	0.06	Channel sample
	C	22/06/12				1.16	3.10	1.94	Channel sample
	D	20/06/12				0.00	0.40	0.40	Roof sample
	E	20/06/12				0.00	0.30	0.30	Floor sample
2012-AGL-FN-005	A	23/06/12	0548678	8867950	16X	0.00	1.00	1.00	Channel sample
	B	23/06/12				1.00	2.00	1.00	Channel sample

	C	23/06/12				2.00	3.00	1.00	Channel sample
	D	23/06/12				3.00	4.00	1.00	Channel sample
	E	23/06/12				4.00	5.00	1.00	Channel sample
2012-AGL-FN-006	A	25/06/12	0545434	8855725	16X	0.00	0.70	0.70	Channel sample
	B	25/06/12				1.05	1.65	0.60	Channel sample
	C	25/06/12				1.65	2.35	0.70	Channel sample
	D	25/06/12				2.85	3.65	0.80	Channel sample
	E	25/06/12				3.75	5.55	1.80	Channel sample
	F	25/06/12				0.00	0.30	0.30	Floor sample
	G	25/06/12				0.00	0.15	0.15	Roof sample
2012-AGL-FN-015	A	26/06/12	0535967	8878142	16X	0.00	1.22	1.22	Channel sample
2012-AGL-FN-016	A	26/06/12	0536041	8878131	16X	0.00	1.66	1.66	Channel sample
2012-AGL-FN-017	A	26/06/12	0536049	8878131	16X	0.00	2.30	2.30	Channel sample
2012-AGL-FN-019	A	26/06/12	0536052	8878125	16X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-021	A	26/06/12	0536102	8878177	16X	0.00	0.40	0.40	Channel sample
	B	26/06/12				1.20	2.20	1.00	Channel sample
	C	26/06/12				2.20	3.00	0.80	Channel sample
2012-AGL-FN-025	A	27/06/12	0537477	8880403	16X	0.00	1.00	1.00	Channel sample
	B	27/06/12				1.00	2.00	1.00	Channel sample
	C	27/06/12				2.00	3.00	1.00	Channel sample
	D	27/06/12				3.00	4.00	1.00	Channel sample
	E	27/06/12				4.00	5.40	1.40	Channel sample
2012-AGL-FN-026	A	28/06/12	0447521	8908019	17X	0.00	1.10	1.10	Channel sample
2012-AGL-FN-027	A	28/06/12	0447563	8907986	17X	0.00	0.85	0.85	Channel sample
2012-AGL-FN-028	A	28/06/12	0447484	8908025	17X	0.00	1.30	1.30	Channel sample
2012-AGL-FN-029	A	28/06/12	0447707	8908156	17X	0.00	0.50	0.50	Channel sample
	B	28/06/12				1.35	2.35	1.00	Channel sample
	C	28/06/12				2.35	3.35	1.00	Channel sample
2012-AGL-FN-031	A	28/06/12	0447390	8907325	17X	0.00	0.90	0.90	Channel sample
2012-AGL-FN-032	A	29/06/12	0448559	8906538	17X	0.00	1.20	1.20	Channel sample

2012-AGL-FN-033	A	29/06/12	0448487	8906704	17X	0.00	1.00	1.00	Channel sample
	B	29/06/12				1.00	2.40	1.40	Channel sample
2012-AGL-FN-034	A	29/06/12	0448715	8906904	17X	-	-	-	Grab sample
2012-AGL-FN-035	A	29/06/12	0448348	8907324	17X	0.00	1.00	1.00	Channel sample
2012-AGL-FN-036	A	29/06/12	0448448	8907398	17X	0.00	1.25	1.25	Channel sample
2012-AGL-FN-037	A	30/06/12	0452006	8898975	17X	0.00	1.50	1.50	Channel sample
2012-AGL-FN-038	A	30/06/12	0452016	8898978	17X	0.00	1.70	1.70	Channel sample
2012-AGL-FN-039	A	30/06/12	0451966	8898979	17X	0.00	1.00	1.00	Channel sample
2012-AGL-FN-040	A	30/06/12	0451973	8898981	17X	0.00	2.00	2.00	Channel sample
2012-AGL-FN-041	A	30/06/12	0451973	8898986	17X	0.00	1.30	1.30	Channel sample
2012-AGL-FN-042	A	30/06/12	0451914	8899002	17X	0.00	1.10	1.10	Channel sample
2012-AGL-FN-043	A	30/06/12	0445452	8899845	17X	-	-	-	Grab sample
2012-AGL-FN-044	A	04/07/12	0555420	8908177	16X	0.00	0.70	0.70	Channel sample
2012-AGL-FN-045	A	04/07/12	0555449	8908188	16X	0.00	1.00	1.00	Channel sample
	B	04/07/12				1.00	2.00	1.00	Channel sample
	C	04/07/12				2.00	2.60	0.60	Channel sample
2012-AGL-FN-047	A	04/07/12	0559480	8908221	16X	0.00	0.90	0.90	Channel sample
2012-AGL-FN-048	A	04/07/12	0555499	8908255	16X	0.00	1.00	1.00	Grab sample
2012-AGL-FN-049	A	04/07/12	0555546	8908282	16X	0.00	1.00	1.00	Grab sample
2012-AGL-FN-050	A	05/07/12	0555519	8908647		0.00	3.00	3.00	Channel sample
	B	05/07/12				3.00	6.00	3.00	Channel sample
	C	05/07/12				6.00	9.60	3.60	Channel sample
2012-AGL-FN-051	A	05/07/12	0554927	8908252	16X	0.00	1.00	1.00	Channel sample
	B	05/07/12				1.00	2.00	1.00	Channel sample
	C	05/07/12				2.00	3.00	1.00	Channel sample
	D	05/07/12				0.00	0.20	0.20	Roof sample
2012-AGL-FN-052	A	05/07/12	0554643	8908834	16X	0.00	1.00	1.00	Channel sample
	B	05/07/12				1.00	2.00	1.00	Channel sample
	C	05/07/12				2.00	3.00	1.00	Channel sample
	D	05/07/12				3.00	3.60	0.60	Channel sample

	E	05/07/12				0.00	0.20	0.20	Floor sample
	F	05/07/12				0.00	0.20	0.20	Roof sample
2012-AGL-FN-053	A	05/07/12	0554594	8908803	16X	0.00	1.40	1.40	Channel sample
	B	05/07/12				2.00	4.00	2.00	Channel sample
	C	05/07/12				4.40	5.50	1.10	Channel sample
	D	05/07/12				5.50	7.30	1.80	Channel sample
2012-AGL-FN-054	A	05/07/12	0554092	8910253	16X	0.00	0.70	0.70	Channel sample
2012-AGL-FN-055	A	05/07/12	0554121	8910233	16X	0.00	1.00	1.00	Channel sample
2012-AGL-FN-056	A	06/07/12	0552580	8908300	16X	0.00	1.00	1.00	Channel sample
	B	06/07/12				1.00	2.00	1.00	Channel sample
	C	06/07/12				2.00	2.50	0.50	Channel sample
	D	06/07/12				2.70	3.70	1.00	Channel sample
	E	06/07/12				3.70	4.70	1.00	Channel sample
	F	06/07/12				-	-	-	Roof sample
2012-AGL-FN-057	A	06/07/12	0552585	8908311	16X	0.00	1.00	1.00	Channel sample
	B	06/07/12				1.00	2.00	1.00	Channel sample
	C	06/07/12				2.00	2.50	0.50	Channel sample
	D	06/07/12				-	-	-	Floor sample
	E	06/07/12				-	-	-	Roof sample
2012-AGL-FN-058	A	06/07/12	0552585	8908311	16X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-059	A	06/07/12	0552647	8908219	16X	0.00	0.70	0.70	Channel sample
	B	06/07/12				0.70	1.70	1.00	Channel sample
	C	06/07/12				1.70	2.50	0.80	Channel sample
2012-AGL-FN-060	A	07/07/12	0556356	8907340	16X	0.00	1.00	1.00	Channel sample
	B	07/07/12				1.00	2.00	1.00	Channel sample
	C	07/07/12				2.00	3.00	1.00	Channel sample
	D	07/07/12				3.00	4.00	1.00	Channel sample
2012-AGL-FN-061	A	09/07/12	0556495	8907412	16X	0.00	1.75	1.75	Channel sample
2012-AGL-FN-063	A	09/07/12	0555764	8907368	16X	0.00	1.30	1.30	Channel sample
2012-AGL-FN-064	A	09/07/12				0.00	1.60	1.60	Channel sample

	B	09/07/12				-	-	-	Floor sample
	C	09/07/12				-	-	-	Roof sample
2012-AGL-FN-072	A	13/07/12	0549976	8876659	16X	0.00	1.00	1.00	Channel sample
	B	13/07/12				1.00	2.00	1.00	Channel sample
	C	13/07/12				2.00	3.00	1.00	Channel sample
	D	13/07/12				3.00	4.00	1.00	Channel sample
	E	13/07/12				4.00	5.00	1.00	Channel sample
	F	13/07/12				5.00	6.00	1.00	Channel sample
	G	13/07/12				8.40	9.70	1.30	Channel sample
	H	13/07/12				-	-	-	Roof sample
2012-AGL-FN-073	A	14/07/12	0549342	8876100	16X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-074	A	14/07/12	0557810	8878768	16X	0.00	1.00	1.00	Channel sample
2012-AGL-FN-075	A	14/07/12	0557772	8878789	16X	0.00	1.60	1.60	Channel sample
	B	14/07/12				2.50	3.20	0.70	Channel sample
2012-AGL-FN-076	A	14/07/12	0556739	8878880	16X	0.00	1.50	1.50	Channel sample
2012-AGL-FN-091	A	17/07/12	0535965	8878136	16X	0.00	0.98	0.98	Channel sample
2012-AGL-FN-092	A	17/07/12	0536028	8878132	16X	0.58	2.08	1.50	Channel sample
2012-AGL-FN-093	A	17/07/12	0536060	8878192	16X	0.00	1.40	1.40	Channel sample
2012-AGL-FN-095	A	17/07/12	0536091	8878223	16X	0.00	1.25	1.25	Channel sample
2012-AGL-FN-097	A	17/07/12	0536128	878271	16X	1.70	3.20	1.50	Channel sample
2012-AGL-FN-100	A	20/06/12	0549720	8867921	16X	0.00	1.00	1.00	Channel sample
	B	20/06/12				1.00	2.00	1.00	Channel sample
	C	20/06/12				2.00	3.00	1.00	Channel sample
	D	20/06/12				0.00	0.30	0.30	Channel sample
2012-AGL-FN-101	2A	22/06/12	0549930	8863476	16X	0.00	0.25	0.25	Roof sample
Seam FN-101, is comprised of two seams (1 and 2)	2B	22/06/12				0.00	0.20	0.20	Channel sample
Seam 2 is the middle most seam, 1 is lowest	2C	22/06/12				0.28	0.70	0.42	Channel sample
	2D	22/06/12				0.70	1.00	0.30	Channel sample
	2E	22/06/12				1.00	1.52	0.52	Channel sample

	2F	22/06/12				1.52	1.77	0.25	Floor sample
	1A	22/06/12				6.75	7.00	0.25	Roof sample
	1B	22/06/12				7.00	7.40	0.40	Channel sample
2012-AGL-FN-102	A	24/06/12	0552481	8864842	16X	0.00	1.00	1.00	Channel sample
	B	24/06/12				1.00	2.00	1.00	Channel sample
	C	24/06/12				2.00	2.50	0.50	Channel sample
	D	24/06/12				0.00	0.25	0.25	Floor sample
2012-AGL-FN-103	A	27/06/12	0550885	8840879	16X	0.00	1.00	1.00	Channel sample
	B	27/06/12				1.00	2.00	1.00	Channel sample
	C	27/06/12				2.00	2.50	0.50	Channel sample
2012-AGL-FN-104	A	27/06/12	0550927	8840799	16X	0.20	0.90	0.70	Channel sample
	B	27/06/12				0.90	1.20	0.30	Channel sample
	C	27/06/12				1.20	2.15	0.95	Channel sample
2012-AGL-FN-105	A	28/06/12	0444657	8857498	17X	0.00	1.00	1.00	Channel sample
2012-AGL-FN-106	A	29/06/12	0444357	8857631	17X	0.00	1.40	1.40	Channel sample
2012-AGL-FN-107	A	29/06/12	0543893	8862363	16X	0.00	1.00	1.00	Channel sample
	B	29/06/12				1.00	2.00	1.00	Channel sample
2012-AGL-FN-108	A	30/06/12	0541033	8863892	16X	0.00	1.30	1.30	Channel sample
	B	30/06/12				1.30	1.55	0.25	Floor sample
2012-AGL-FN-109	A	30/06/12	0541032	8863896	16X	0.00	1.30	1.30	Channel sample
2012-AGL-FN-110	A	02/03/12	0544759	8862631	16X	0.00	1.00	1.00	Channel sample
2012-AGL-FN-111	A	03/07/12	0527921	8852497	16X	0.00	1.40	1.40	Channel sample
	B	03/07/12				1.4	2.6	1.20	Channel sample
	C	03/07/12				2.6	3.8	1.20	Channel sample
	D	03/07/12				3.80	4.20	0.40	Channel sample
2012-AGL-FN-112	A	03/07/12	0527875	8852461	16X	0.00	1.15	1.15	Channel sample
	B	03/07/12				1.15	2.30	1.15	Channel sample
2012-AGL-FN-113	A	03/07/12	0527886	8852581	16X	0.00	1.00	1.00	Channel sample
	B	03/07/12	0527886	8852581		1.00	2.00	1.00	Channel sample
	C	03/07/12	0527886	8852581		2.00	3.10	1.10	Channel sample

2012-AGL-FN-114	A	04/07/12	0527750	8852440	16X	0.70	2.10	1.40	Channel sample
2012-AGL-FN-115	A	04/07/12	0532338	8856784	16X	0.00	1.10	1.10	Channel sample
2012-AGL-FN-116	A	04/07/12	0532343	8856772	16X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-117	A	04/07/12	0532354	8857644	16X	0.00	1.05	1.05	Channel sample
2012-AGL-FN-118	A	06/07/12	0531870	8857186	16X	0.00	1.30	1.30	Channel sample
2012-AGL-FN-121	A	12/07/12	0549816	8841502	16X	0.00	1.10	1.10	Channel sample
	B	12/07/12				1.10	2.20	1.10	Channel sample
	C	12/07/12				2.20	3.30	1.10	Channel sample
2012-AGL-FN-122	A	12/07/12	0550243	8842000	16X	0.00	1.40	1.40	Channel sample
	B	12/07/12				1.40	2.80	1.40	Channel sample
2012-AGL-FN-123	A	12/07/12	0550793	8843283	16X	0	1.25	1.25	Channel sample
	B	12/07/12				1.25	2.50	1.25	Channel sample
2012-AGL-FN-124	A	12/07/12	0550831	8843291	16X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-125	A	12/07/12	0551087	8838427	16X	0.00	1.50	1.50	Channel sample
	B	12/07/12				2.50	4.30	1.80	Channel sample
2012-AGL-FN-126	A	13/07/12	0551076	8838423	16X	0.00	1.40	1.40	Channel sample
2012-AGL-FN-127	A	13/07/12	0552258	8816149	16X	0.00	1.80	1.80	Channel sample
2012-AGL-FN-132	A	18/07/12	0553125	8818810	16X	-	-	1.50	Grab sample
2012-AGL-FN-133	A	19/07/12	0444023	8834921	17X	0.00	2.50	2.50	Channel sample
	B	19/07/12				2.50	4.00	1.50	Channel sample
2012-AGL-FN-134	A	19/07/12	0443673	8834982	17X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-135	A	19/07/12	0443356	8834870	17X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-136	A	20/07/12	0443203	8834513	17X	0.00	2.00	2.00	Channel sample
2012-AGL-FN-137	A	21/07/12	0440353	8834362	17X	0.00	1.35	1.35	Channel sample
	B	21/07/12				1.35	2.70	1.35	Channel sample
2012-AGL-FN-138	A	21/07/12	0439828	8835035	17X	0.00	1.20	1.20	Channel sample
	B	21/07/12				1.20	2.35	1.15	Channel sample
2012-AGL-FN-139	A	24/07/12	0537967	8862762	16X	0.00	1.15	1.15	Channel sample
2012-AGL-FN-140	A	24/07/12	0538061	8862829	16X	-	-	2.60	Grab sample
2012-AGL-FN-141	A	24/07/12	0538249	8862731	16X	0.00	0.80	0.80	Channel sample

2012-AGL-FN-142	A	24/07/12	0540939	8864962	16X	0.00	0.40	0.40	Channel sample
2012-AGL-FN-143	A	26/07/12	0561340	8797489	16X	-	-	0.50	Grab sample
	B	26/07/12				-	-	1.50	Grab sample
	C	26/07/12				-	-	1.40	Grab sample
	D	26/07/12				-	-	1.00	Sampled using hand saw, grab
	E	26/07/12				-	-	0.60	Sampled using hand saw, grab
	F	26/07/12				-	-	1.40	Grab sample
	G	26/07/12				-	-	1.00	Grab sample
2012-AGL-FN-144	A	27/07/12	0549816	8841502	16X	0.00	1.00	1.00	Channel sample
	B	27/07/12				1.00	2.00	1.00	Channel sample
2012-AGL-FN-145	A	27/07/12	0549816	8841502	16X	0.00	1.00	1.00	Channel sample
	B	27/07/12				1.00	2.00	1.00	Channel sample
2012-AGL-FN-146	A	28/07/12	0543346	885086	16X	0.00	1.50	1.50	Channel sample
2012-AGL-FN-147	A	28/07/12	0543162	8851272	16X	0.00	1.00	1.00	Channel sample
	B	28/07/12				1.00	1.75	0.75	Channel sample
2012-AGL-FN-148	A	28/07/12	0543079	8851184	16X	0.00	1.50	1.50	Channel sample
2012-AGL-FN-149	A	28/07/12	05842957	8851189	16X	0.00	1.00	1.00	Channel sample
	B	28/07/12				1.00	2.00	1.00	Channel sample
	C	28/07/12				2.00	3.00	1.00	Channel sample
	D	28/07/12				3.00	4.00	1.00	Channel sample
2012-AGL-FN-150	A	28/07/12	0542712	8851297	16X	0.00	1.90	1.90	Channel sample
2012-AGL-FN-151	A	28/07/12	0542622	8851288	16X	0.00	1.80	1.80	Channel sample
2012-AGL-FN 202	A	19/07/12	536093	8878868	16X	0.00	2.05	2.05	Channel sample
2012 AGL FN-206	A	21/07/12	452320	8898667	17X	0.00	1.30	1.30	Channel sample
2012 AGL FN-207	A	21/07/12	452222	8898711	17X	0.00	1.50	1.50	Channel sample
	B	21/07/12				1.50	2.50	1.50	Channel sample
2012 AGL FN-208	A	21/07/12	449131	8905531	17X	0.00	1.50	1.50	Channel sample
	B	21/07/12				1.50	3.00	1.50	Channel sample
2012 AGL FN-209	A	21/07/12	447251	8907707	17X	0.00	1.05	1.05	Channel sample
2012 AGL FN-210	A	21/07/12	447248	8907680	17X	0.00	0.80	0.80	Channel sample

2012 AGL FN-211	A	23/07/12	548595	8867498	16X	0.00	1.00	1.00	Channel sample
	B	23/07/12				1.00	2.00	1.00	Channel sample
	C	23/07/12				2.00	3.30	1.30	Channel sample
2012-AGL-FN-212	A	23/07/12	548633	8867575	16X	0.00	1.60	1.60	Channel sample
2012-AGL-FN-213	A	24/07/12	444713	8877910	17X	0.00	1.20	1.20	Channel sample
2012-AGL-FN-214	A	25/07/12	547770	8906325	16X	0.00	1.00	1.00	Channel sample
2012-AGL-FN-215	A	25/07/12	447641	8893555	17X	0.00	1.00	1.00	Channel sample
	B					1.00	1.60	0.60	Channel sample
2012-AGL-FN-216	A	26/07/12	548596	8867499	16X	0.00	1.00	1.00	Sampled using hand saw
	B					1.00	2.00	1.00	Sampled using hand saw
	C					2.00	3.00	1.00	Sampled using hand saw
2012-AGL-FN-217	A	26/07/12	548596	8867499	16X	0.00	1.00	1.00	Channel sample
	B					1.00	2.00	1.00	Channel sample
	C					2.00	3.00	1.00	Channel sample
2012-AGL-FN-218	A	26/07/12	548500	8867634	16X	0.00	1.00	1.00	Channel sample
	B					1.00	2.00	1.00	Channel sample
	C					2.00	3.00	1.00	Channel sample
	D					3.00	4.00	1.00	Channel sample
2012-AGL-FN-219	A	26/07/12	548427	8867467	16X	0.00	1.10	1.10	Channel sample
2012-AGL-VF-128	A	16/07/12	0561697	8774549	16X	0.00	1.70	1.70	Channel sample
2012-AGL-VF-129	A	16/07/12	0563322	8775185	16X	0.00	1.60	1.60	Channel sample
	B	16/07/12				1.60	3.20	1.60	Channel sample
2012-AGL-VF-130	A	17/07/12	0563577	8774746	16X	0.00	1.00	1.00	Channel sample
	B	17/07/12				1.00	2.00	1.00	Channel sample
	C	17/07/12				2.00	3.00	1.00	Channel sample
2012-AGL-VF-131	A	17/07/12	0436820	8774652	17X	0.00	1.20	1.20	Channel sample
2012-AGL-SC1-001	A	10/07/12	0470622	874544	17X	0.00	1.35	1.35	Channel sample
	B	10/07/12				1.35	2.70	1.35	Channel sample
2012-AGL-SC1-002	A	10/07/12	0470135	8745688	17X	0.00	1.70	1.70	Channel sample
	B	10/07/12				1.70	3.40	1.70	Channel sample

2012-AGL-SC1-003	A	10/07/12	0470088	8745892	17X	0.00	1.60	1.60	Channel sample
2012-AGL-SC1-004	A	10/07/12	070102	8745860	17X	0.00	1.30	1.30	Channel sample
2012-AGL-SC1-005	A	10/07/12	0470375	8745345	17X	0.00	1.70	1.70	Channel sample
2012-AGL-SC2-001	A	10/07/12	0469944	8743157	17X	0.00	3.80	3.80	Channel sample
2012-AGL-SC2-002	A	10/07/12	0469957	8743155	17X	0.00	3.80	3.80	Channel sample
	B	10/07/12				3.80	7.60	3.80	Channel sample
2012-AGL-SC2-003	A	10/07/12	0469963	8743166	17X	0.00	1.30	1.30	Channel sample
2012-AGL-SC3-119	A	10/07/12	0437643	8749682	17X	0.00	1.00	1.00	Channel sample
*SC3 REFERS TO STRATHCONA , SITE 3 LOCATION	B	10/07/12				1.00	2.00	1.00	Channel sample
	C	10/07/12				2.00	3.00	1.00	Channel sample
	D	10/07/12				3.00	4.00	1.00	Channel sample
	E	10/07/12				4.00	5.00	1.00	Channel sample
	F	10/07/12				5.00	6.00	1.00	Channel sample
	G	10/07/12				6.00	7.00	1.00	Channel sample
	H	10/07/12				7.00	8.00	1.00	Channel sample
	I	10/07/12				8.00	8.90	0.90	Channel sample
2012-AGL-SC3-120	A	10/07/12	0437418	8749840	16X	0.00	2.00	2.00	Channel sample
2012-AGL-Bache #1	A	03/07/12	0500267	8788105	18X	-	-	-	Grab sample
2012-AGL-Bache#2	A	03/07/12	0499254	8790263	18X	-	-	-	Grab sample

12.1.3 Methods

12.1.3.1 Geological Mapping Methods

Geological mapping was conducted as part of the 2012 exploration program in conjunction with surface sampling. Mapping groups typically included one senior geologist, one junior geologist, and a local guide. Field mapping was conducted to assess a variety of elements including but not limited to geological contacts, structural features, coal seam outcrop traces and coal seam continuity, and stratigraphic successions.

Handheld GPS units were utilized in conjunction with field mapping notebooks to record locations and features of any geological elements assessed. Mapping was translated into MapInfo Professional® ("MapInfo") software every 2-3 field days for data integration, for data interpretation, for mapping purposes, and to assist with the selection of future drill hole targets. Field notes have been compiled according to specific field areas assessed.

12.1.3.2 Analytical Methods

Analytical coal testing methods can be subdivided into chemical, rheological, and petrographic tests. Chemical test methods include: moisture, volatile matter, ash yield, sulphur, forms of sulphur, ultimate analysis, chlorine, ash composition, ash fusion temperatures, trace elements, and calorific value. Rheological and physical test methods include: Gieseler fluidity, hardgrove grindability index, dilation tests, and free-swelling indices. Petrographic test methods include: maceral analysis and vitrinite reflectance. Some additional physical coal testing methods include: X-ray radiography, macroscopic analyses, apparent relative density, rock mechanics, and gas-emission testing.

Birtley conducted the following tests on all of the 2012 exploration program samples: total moisture, ash yield, volatile matter (including fixed carbon calculation), Sulphur, calorific value, and specific gravity. A select group of samples was chosen for additional testing including: equilibrium moisture and free-swelling indices. JP Petrographics conducted maceral analysis and vitrinite reflectance on ten of the samples- these ten were selected based on the results of chemical analyses and were chosen as indicative samples for future drilling targets.

12.1.4 Results

12.1.4.1 Geological Mapping Results

A variety of maps have been compiled and interpreted based on data from the 2012 exploration program in conjunction with publically available geological maps from the GSC and the Government of Canada. Figure 12.2 and Figure 12.3 demonstrate some of the mapping compilations, results of which are discussed in further detail in Section 7.3 (Property Geology).

Geological mapping results from the Fosheim Peninsula region are detailed in Section 7.3.1. Mapping at the Bache Peninsula region confirmed GSC mapping which denotes a very small wedge of coal-bearing strata juxtaposed between older, non-coal-bearing rock units at the core of the Bache Peninsula. Limited mapping of the Strathcona Fiord area was also conducted, yielding laterally extensive coal zones of significant thicknesses.

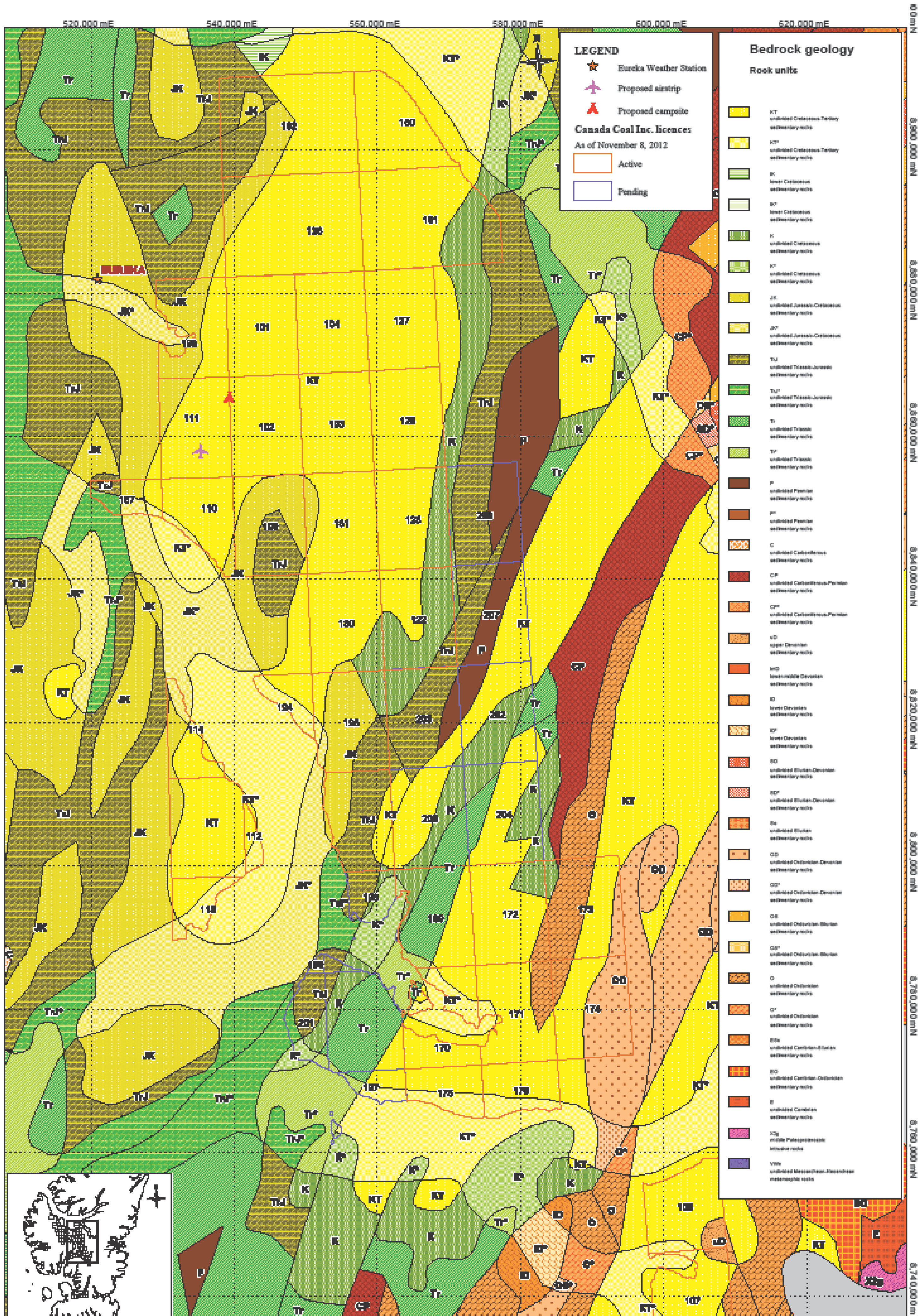
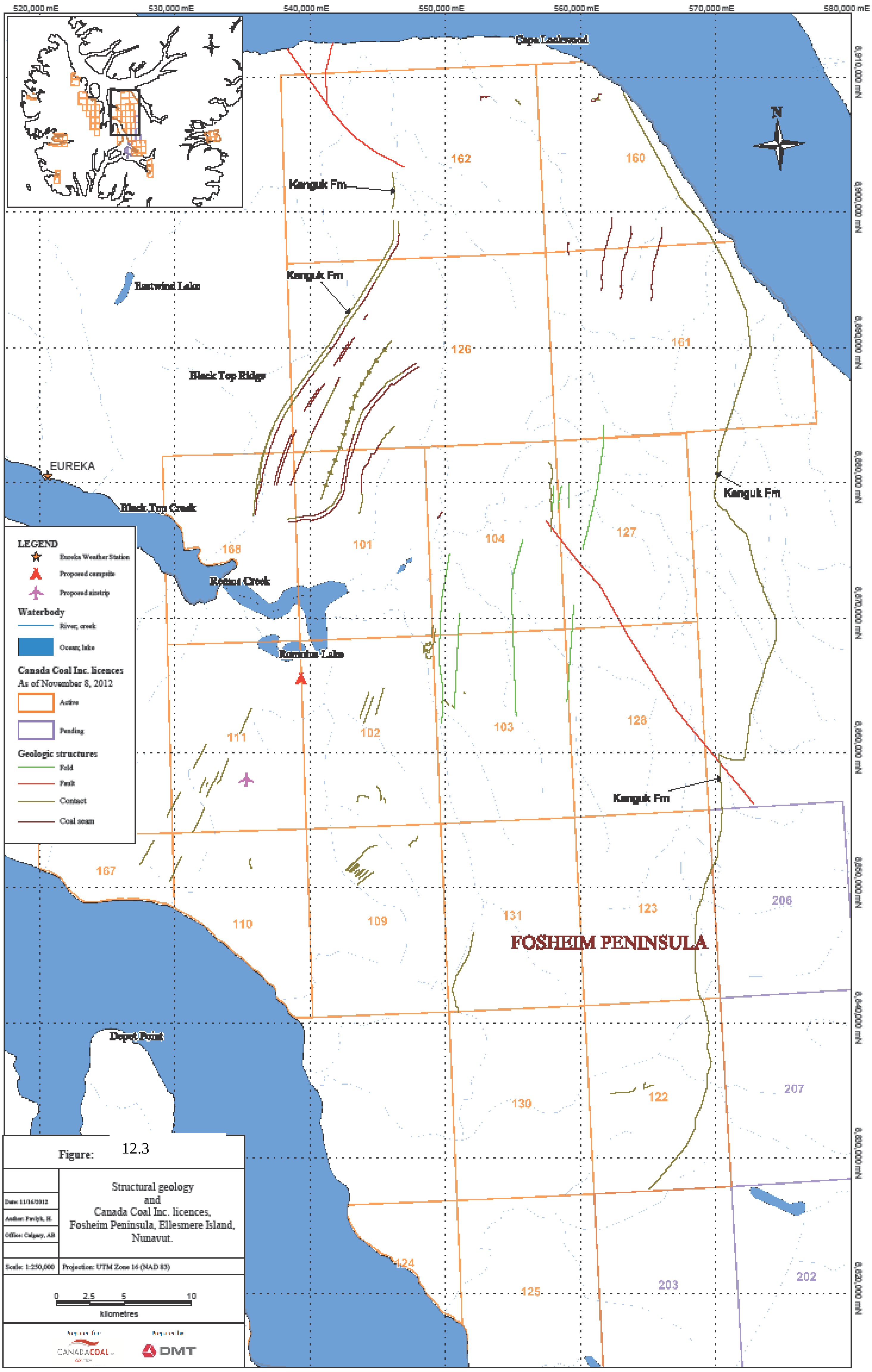


Figure 12.2 : Canada Coal Inc. licences and 2012 exploration areas, Fosheim Peninsula, Ellesmere Island, Nunavut.

Scale 1:500,000

Prepared for:
CANADACOAL
Prepared by:
DMT


520,000 mE
530,000 mE
540,000 mE
550,000 mE
560,000 mE
570,000 mE
580,000 mE
Cape Lockwood
N
Kanguk Fm
162
160
Eastwind Lake
126
161
Black Top Ridge
EUREKA
Black Top Creek
168
101
104
127
Remus Creek
Romulus Lake
111
102
103
128
167
110
109
131
123
206
FOSHEIM PENINSULA
Depot Point
130
122
207
124
125
203
202
LEGEND
Eureka Weather Station
Proposed campsite
Proposed airstrip
Waterbody
River, creek
Ocean, lake
Canada Coal Inc. licences
As of November 8, 2012
Active
Pending
Geologic structures
Fold
Fault
Contact
Coal seam
Figure: 12.3
Structural geology
and
Canada Coal Inc. licences,
Fosheim Peninsula, Ellesmere Island,
Nunavut.
Date: 11/16/2012
Author: Pavlyk, H.
Office: Calgary, AB
Scale: 1:250,000
Projection: UTM Zone 16 (NAD 83)
0
2.5
5
10
kilometres
CANADACOAL
DMT

12.1.4.2 Sampling Results

Sample results from the 2012 exploration program reveal that the coals range in rank from sub-bituminous 'A' to lignite (based on ASTM standards, Figure 12.3). Coal zones of interest for future exploration are generally low in ash (3-10%) and sulphur (<0.5%), although some occasionally exhibit moderate ash values. Coals are considered to be suitable for use as a high quality thermal coal.

Based on the results of the recent exploration program, Fosheim Peninsula remains the most prospective area for identifying a higher quality coal resource as coal rank at Fosheim Peninsula has been shown to increase with depth through the measured section.

Calorific values returned from the 2012 exploration program ranged between 0 – 12,040 btu/lb (db) and averaged 8,946 btu/lb (db), inclusive of roof and floor samples which included some non-coal lithologies. Over 44% of the samples reported > 10,500 btu/lb (db).

Ash values returned from the 2012 exploration program ranged between 2.37 – 97.77 % ash (db) inclusive of roof and floor samples which included some non-coal lithologies. Approximately 14% of the samples reported < 5 % ash (db) and an additional 26% of the samples reported <10 % ash (db).

Sulphur values returned from the 2012 exploration program ranged between 0.01 – 3.22 % S (db) and averaged 0.44 % S (db). Over 50% of the total samples reported < 0.35 % S (db), over 90% of the total samples reported < 70 % S (db), and over 95% of the total samples reported < 0.99% S (db).

Supplementary chemical analyses, including equilibrium moisture and free-swelling indices, were conducted on 16 samples in order to identify the potential for higher rank coals (including coking coals). All 16 of the samples yielded 0 FSI. Out of the 16 samples selected for further chemical analyses, 10 were sent to JP Petrographics for petrographic analyses including maceral analysis and vitrinite reflectance studies.

JP PetroGraphics sample results are detailed in Appendix A. Birtley laboratory analyses are detailed in Appendix B.

There is a potential discrepancy between some of the chemical analyses and the petrographic analyses. All of the chemical analyses indicate that the highest rank of coal achieved during the 2012 exploration program was sub-bituminous ‘A’; however, some of the petrographic analyses indicate that some of the coals may be in the range of high volatile bituminous ‘C’. The authors note that not all bituminous coals are suitable for coking coal. At present the exploration target is considered to be high quality thermal coal; however, the possibility of higher rank coal at depth has not been precluded.

Some additional comments about the coal rank, classification, and oxidation follow:

- Coal surface samples collected as part of the 2012 exploration program were oxidized and therefore chemical analyses may have been affected resulting in increased volatile matter content, decreased fixed carbon content and increased oxygen content. Determination of true rank, along with estimating the potential for any coking properties, is problematic in the presence of oxidized coals.

- Rank determination by vitrinite reflectance is, in general, the best way to determine the rank of the coal. Some of the 2012 reflectance data does suggest a marginally higher rank (ie specific energy, heating/calorific value) than the chemical data. However, research has shown that lower rank coals may show a higher reflectance rank under certain oxidation conditions. The reflectance data currently available does not allow the authors to draw any conclusions about coking properties.

- Drilling is necessary to determine the depth of oxidation in permafrost conditions.

- Vitrinite reflectance data may also be affected by oxidation although this is compensated for by measuring reflectance away from any oxidation rims.

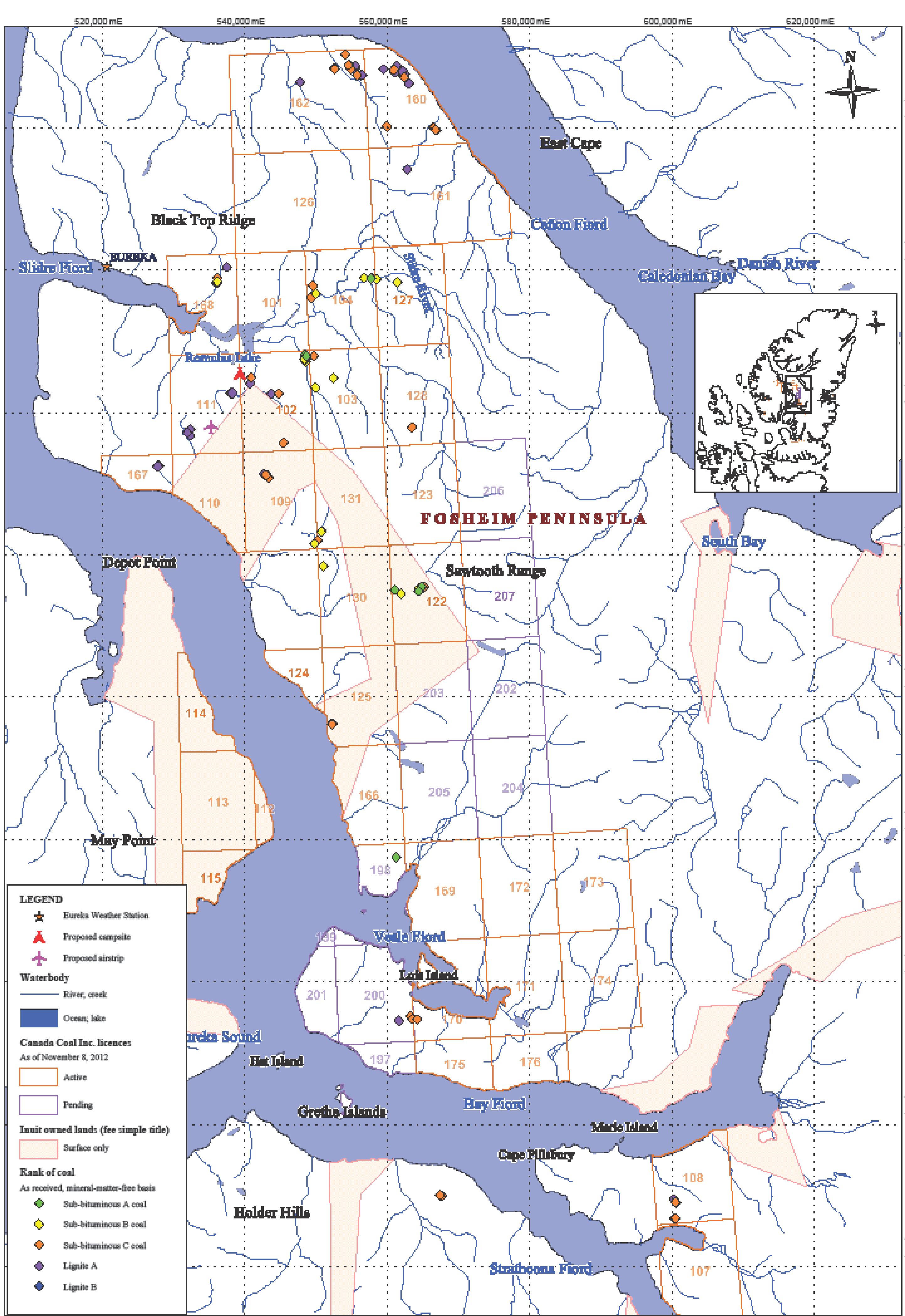


Figure 12.4 : Rank of coal as determined from coal samples collected on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for: CANADACOAL

Prepared by: DMT

12.2 2012 Geophysical Permafrost Investigations on Possible Runway Locations

A geophysical investigation was undertaken by DMT during the month of July, 2012, in the vicinity of Eureka, Nunavut. The objective of the study was to identify variations in ice content in permafrost throughout possible runway locations. Concentrations of ice into what are known as "ice lenses" could pose problems for a runway if thaw settlement occurs. If they are located too close to the surface, they could melt and cause a sagging of the runway surface. An OhmMapper resistivity survey and Ground Penetrating Radar (GPR) survey were conducted to map the permafrost throughout all locations.

The use of these two methods provides alternative but complementary perspectives of the subsurface. Both employ electrical properties that measure physical changes and are subject to strengths and limitations. In non-permafrost terrain, the physical properties are controlled by clay content, total dissolved solids in the groundwater, porosity and degree of compaction. In permafrost, mapping physical properties is further complicated by temperature and ice content. All of these factors make the mapping of permafrost one of the most complex geophysical objectives.

12.2.1 Site Descriptions

A total of three sites were surveyed as potential runway locations, some of which were on previously utilized (historic) runways. The approximate locations are identified in Figure 12.5. Sites surveyed included a runway long enough to accommodate a Hercules aircraft (Figure 12.5, Herc) and two possible runways long enough to accommodate Twin Otter aircraft (Figure 12.9 1, TO1 and TO2). One additional site was considered but was deemed unviable due to it being located on very high topographical relief, and access was difficult.

12.2.1.1 Hercules Runway

This site was located on an open plain that did not have significant topography changes aside from a ravine that cut into the far north end. The runway itself was not easily identifiable due to what seemed to be a drifting of the runway construction material (see Figure 12.6). The terrain begins to dip downward to the east (to the right in Figure 12.6) slightly before the edge of the data extents. The area was relatively free of ice wedge polygons aside from the northern end which dips downward and is essentially off the extent of the runway. They also existed to the east of the northeast quadrant (approximately identified in red in Figure 12.6 and 12.7).

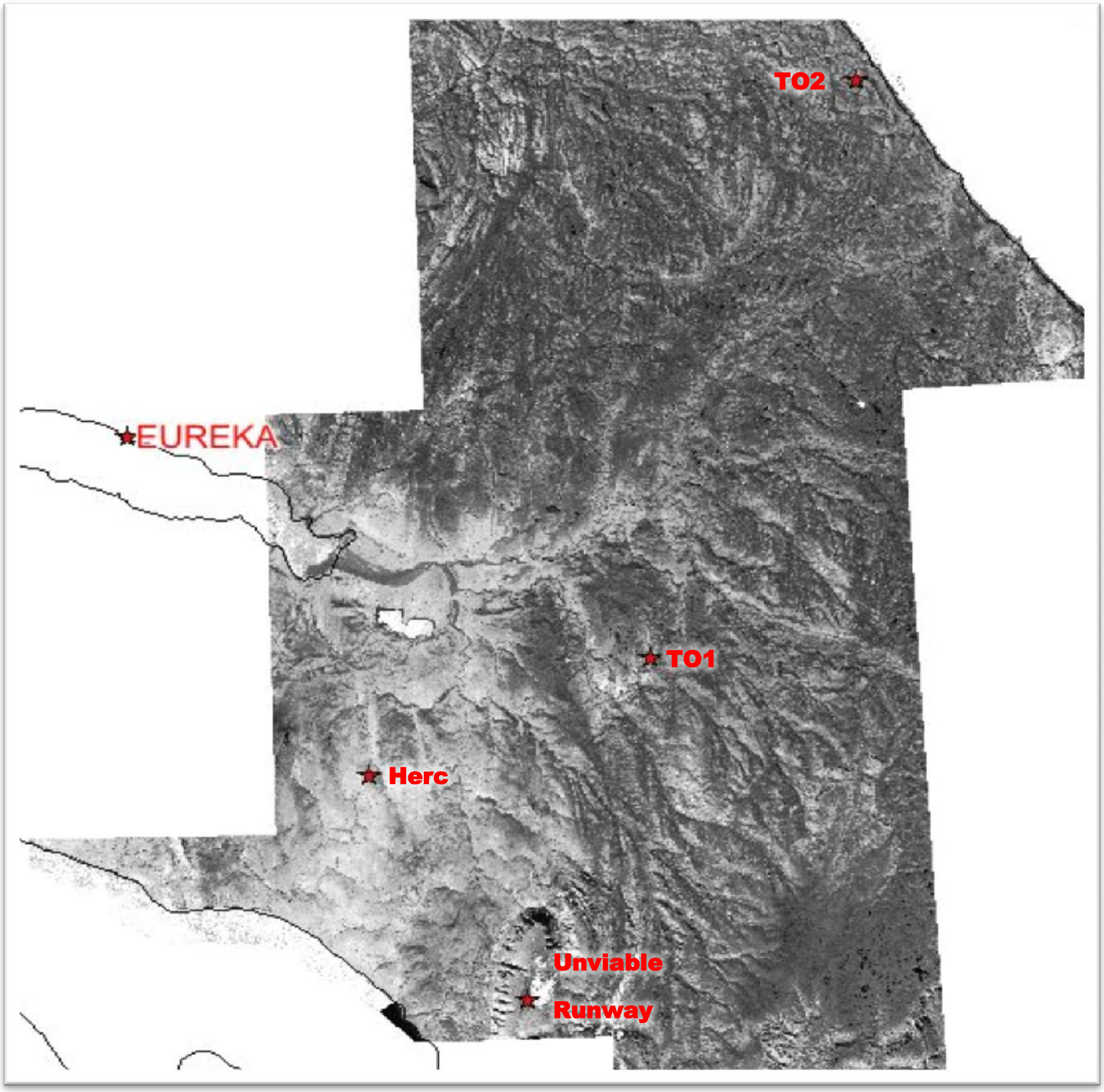


Figure 12.5: Possible airstrip locations in relation to Eureka Weather Station.

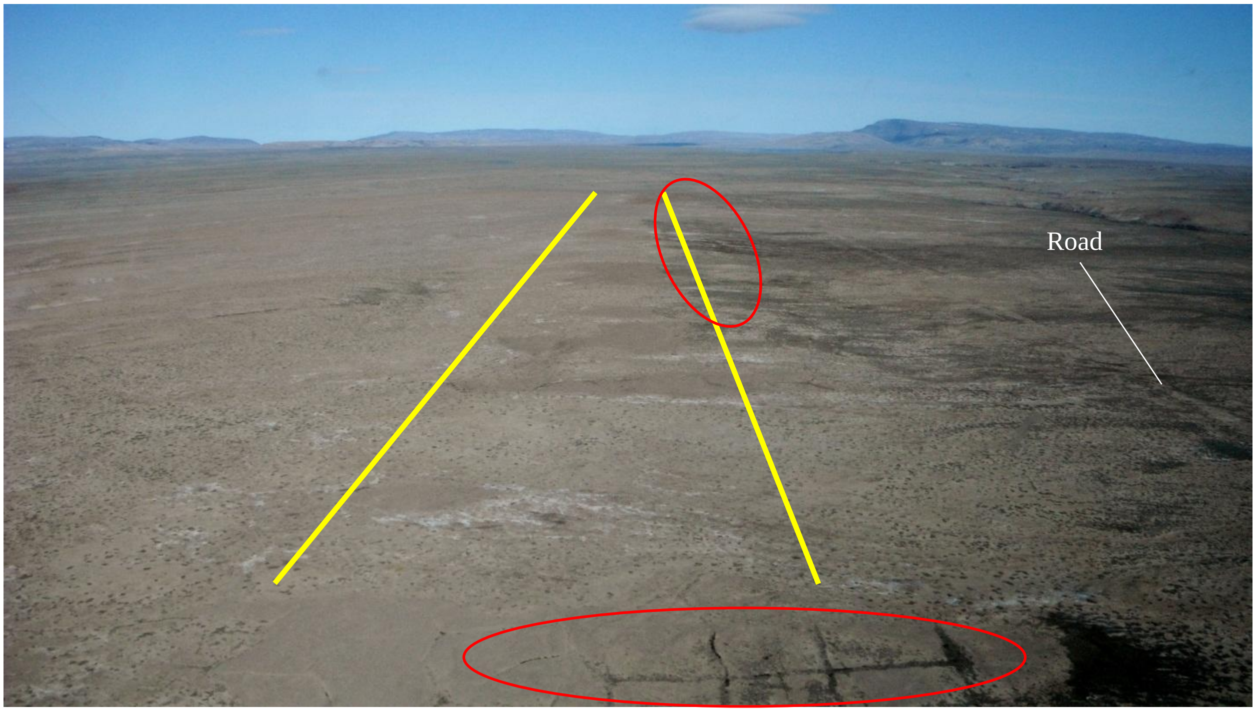


Figure 12.6: Aerial view looking northwest from the southern end of the runway. The approximate extent of data coverage and estimated edge of runway is identified in yellow. The approximate location of ice wedge polygons is identified in red. Note the patchy appearance of the darker drifted sandy material, and also a road to the east (right in picture) running parallel to the proposed runway.

Figure 12.7: a) (Left) Aerial view facing west approximately half way up the runway.
b) (Right) Aerial view facing west at the approximate northern extent of the runway.
Note the tundra polygons identified in red.

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Figure 12.8: Example of the transition between drifted sandy material (upper/far) and the harder packed material that comprised most of the site (lower/near). Note the ATV tracks in the sand exemplifying beach like consistency.

12.2.1.2 Twin Otter 1 Runway

This site was located on a raised ridge in relation to the surrounding area. The surface terrain consisted of mostly gravel and material used to assemble the runway when it was first constructed. Ice wedge polygons existed to the northern end of the runway extents (see Figure 12.9b and 12.9c). There was a slump to the western side of the runway (see Figure 12.10).

Figure 12.9: a) (Upper) Southern half of runway area.
b) (Lower) North Figure 12.9: a) (Upper) Southern half of runway area.
b) (Lower) Northern half of runway, area of tundra polygons identified in red.
c) (Right) Closer view of tundra polygons on northern edge.

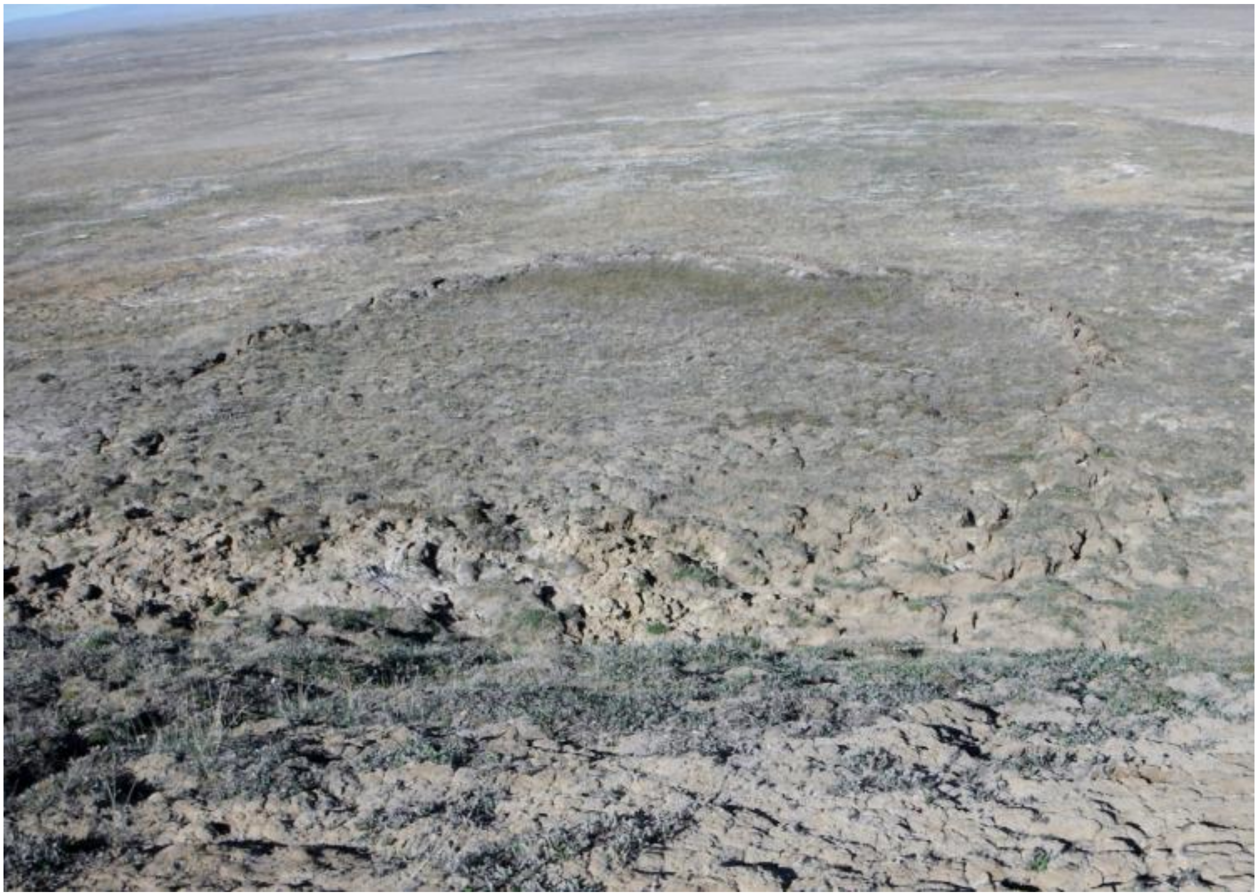

Figure 12.10: Slump on western side of runway area. Picture was taken from above, at the edge of the runway surface.

12.2.1.3 Twin Otter 2

This site was located to the far north of the survey area near the northern shoreline. Unlike the preceding locations, it was not previously used for a runway. The surface material consisted of soil and stones. Topography increased to the south and decreased to the north toward the shore, while the proposed runway area itself was relatively flat. The site was also bounded on the sides by ravines that ran south-north.

Figure 12.11: a) (Upper) Northern view from the proposed runway surface.
b) (Lower) Southern area of runway, looking southwest. Wildlife was present

12.2.2 Methods

The survey objectives called for the use of two geophysical methods: electrical imaging using an OhmMapper system and Ground Penetrating Radar (GPR).

It is important to provide a basic understanding of why geophysics should be used to map permafrost distribution and variations in ice content while bearing in mind the limitations. In the most basic form, geophysics maps variations in physical properties of subsurface materials. In non-permafrost terrain, the physical properties are controlled by clay content, total dissolved solids in the groundwater, porosity and degree of compaction. In permafrost, mapping physical properties is further complicated by temperature and ice content.

For geophysical methods such as OhmMapper that map the electrical properties of the subsurface, knowledge of typical electrical properties for unfrozen soils is an important component of then being able to distinguish unfrozen soils from permafrost. Figure 12.12 shows the range of electrical properties of units of the Unified Soil Classification System. Even in an unfrozen state there is overlap of electrical properties of the various units.

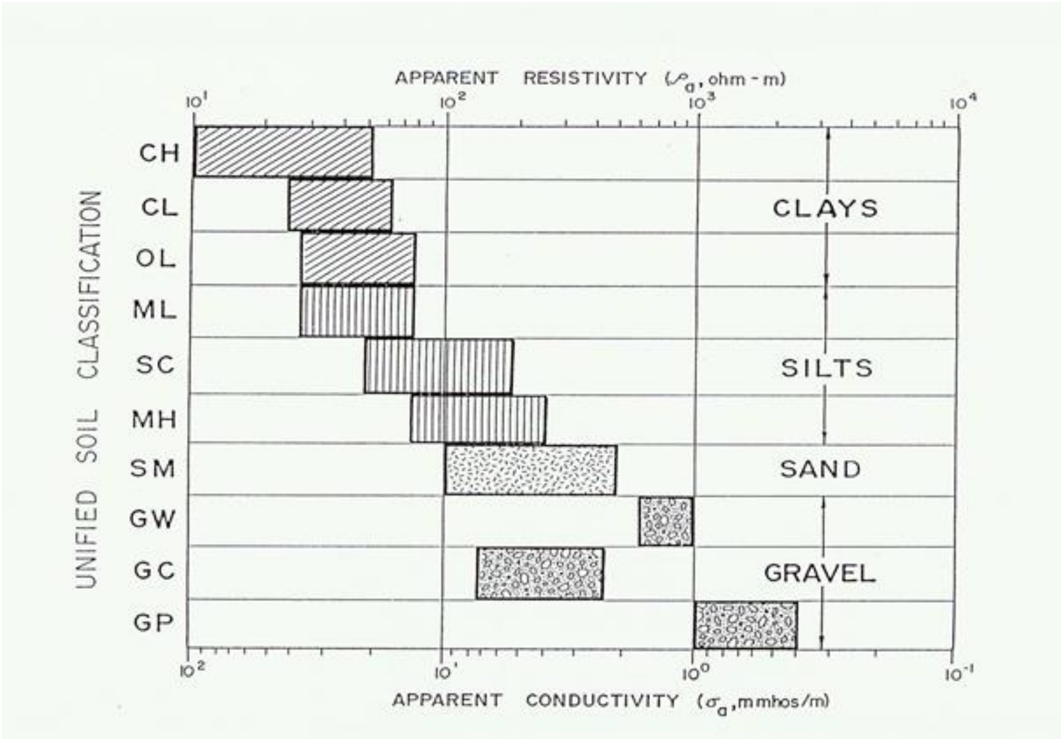

Figure 12.12 Typical conductivity variations in soil. (Kaufmann and Hoekstra, 2001)

Figure 12.13 shows the range of electrical properties for both unfrozen and frozen (permafrost) soils in the vicinity of Fort Simpson, NT. Once again there is significant overlap between the various units. The added complication of simply having the soil in a frozen state certainly becomes evident.

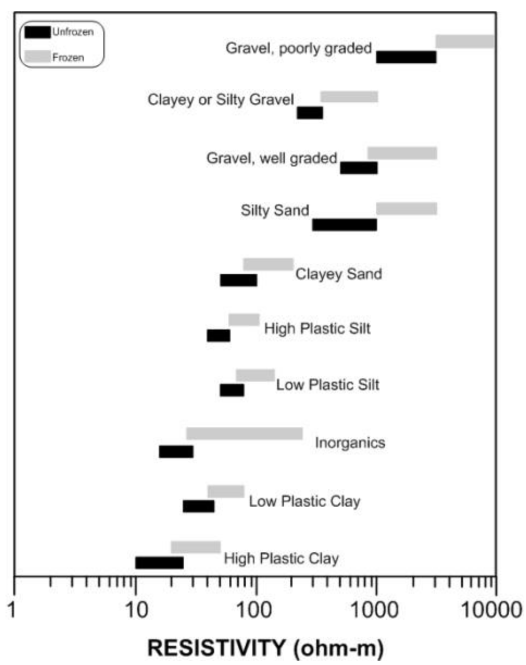

Figure 12.13: Resistivity range for soils in the Fort Simpson area. (Adapted from J.A. Rennie, D.E. Reid and J. Henderson; 1978)

The role of temperature is readily apparent in Figure 12.14 which illustrates the impact of decreasing temperature on the electrical properties of different subsurface materials. It should be noted that on the basis of electrical properties alone it would not be possible to tell the difference between relatively warm unfrozen sand and cold frozen silt or a colder frozen clay. Essentially there is an exponential increase in resistivity with decreasing temperature below 0^0C.

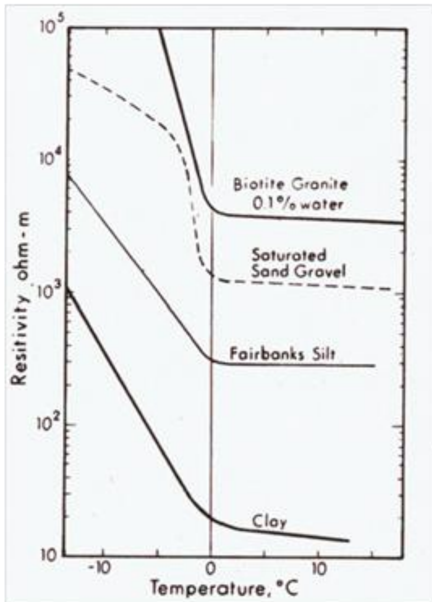

Figure 12.14: Resistivity variation with temperature for a variety of subsurface materials. A marked change in resistivity is noted at zero degrees centigrade. (Hoekstra et al, 1973)

Figure 12.15 illustrates the impact of increasing ice content on the electrical properties. It is generally the case that resistivity increases with increasing ice content.

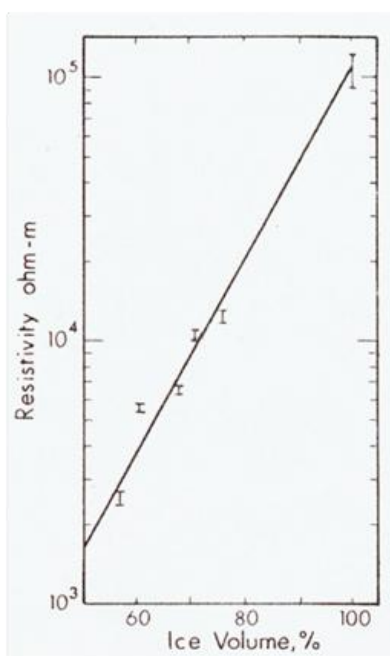

Figure 12.15: Change in resistivity with increasing ice content. (Hoekstra et al, 1973)

For GPR, the electrical properties of the subsurface also have an influence on the measurements. One of the controlling factors for GPR is the dielectric constant. Figure 12.16 shows the relationship between dielectric constant and decreasing temperature. There is a dramatic decrease in dielectric constant at temperatures slightly below 0^0C before the decrease in dielectric constant levels off again.

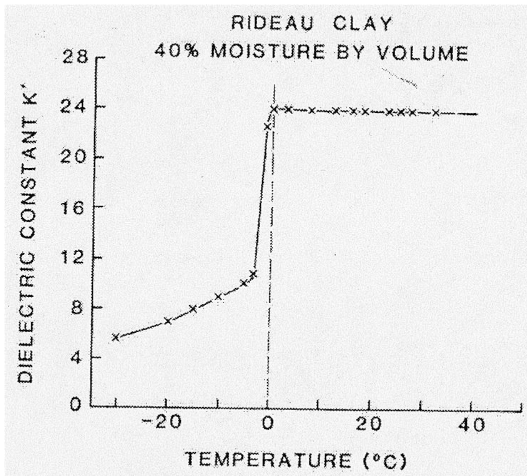

Figure 12.16: Change in dielectric constant with increasing temperature for Rideau clay. (Annan and Davis, 1978)

12.2.2.1 Electrical Imaging using the OhmMapper System

The OhmMapper, manufactured by Geometrics Inc. is an electrical imaging system that generates electrical current flow in the subsurface through capacitive coupling, rather than by direct current injection (i.e. galvanic coupling). A schematic of the system is shown in Figure12.17. The system consists of a transmitter, up to five receivers, a fibre-optic isolator, and a data logging console.

The system functions by imparting current to the subsurface by using the soils as the dielectric in a capacitive "circuit" between the system and the subsurface. Voltages generated by the current flow in the sub-surface are sensed by the receiver dipoles and recorded by the data logger.

The receiver voltage depends on the transmitter voltage, the lengths of the dipoles, the separation of the transmitter and the receivers, and the resistivity of the subsurface. For any single measurement, the receiver voltage is converted to an apparent resistivity by assuming that the subsurface is uniform. The dipole lengths and transmitter-receiver separations can be varied in order to assess apparent resistivities at different depths.

While conventional electrical imaging systems require the insertion of multiple electrodes into the ground (i.e. ERT/ERI) the capacitively-coupled system is generally towed along the surface, which enables rapid data collection (Figure12.5). The system is therefore immune to the negative effects of contact resistance that may be encountered when the ground surface consists of dry coarse grained soils or is frozen during the winter months.

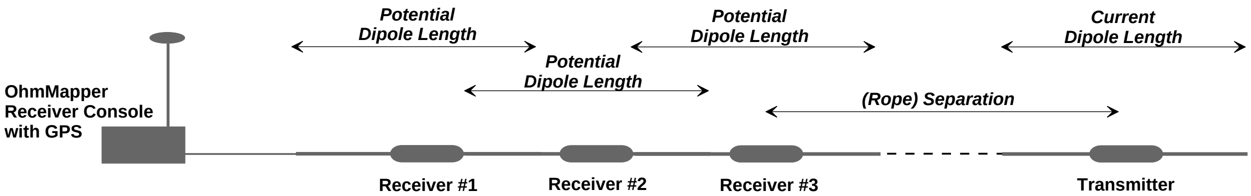

Figure 12.17: OhmMapper configuration

Limitations of any method measuring resistivity include decreased vertical resolution with increased exploration depth. The major limitation of the capacitively-coupled resistivity method (OhmMapper) is its relative inability to penetrate low electrical resistivity media to great depth.

To create vertical resistivity cross-sections, each line was surveyed with the Geometrics TR5 OhmMapper system using two dipole lengths of 10 and 20 metres, with respective rope separations of 1 and 2.5 metres, and 1 and 5 metres.

Data were processed using the *Magmap 2000* software package. This entails filtering spikes, dropouts and other acquisition artifacts from the data. The data were then gridded and exported in ASCII format.

Data processing utilized the *RES2DINV* software package, which incorporated the values of the initial current, measured potential difference and geometric characteristics of the array within a least-squares inversion routine to generate a two-dimensional model of the subsurface resistivity. For each data set, a maximum of three iterations of the inversion process was performed.

The program optimally reduces the difference between the measured apparent resistivity and that calculated from an initial model by adjusting the conductivities within the model during each iteration. A measure of this difference is given by the root-mean-squared (RMS) error. Note that the model with the lowest possible RMS error can still exhibit geologically unrealistic variations in resistivity. Therefore, the most prudent approach is to select the model at the iteration after which there is no significant change in the RMS error. Typically this would be the second or third iteration.

Like many other geophysical methods, vertical resolution in electrical imaging is depth-limited. In addition, lateral changes in electrical properties in the subsurface, by the Principle of Equivalency, may often be indistinguishable from variations in resistivity with depth.

Figure 12.18: OhmMapper system setup. 10 metre cable arrangement from behind at the Ellesmere location (Left).
5 metre cable arrangement from the front at a northeast British Columbia location (Right).

12.2.2.2 Ground Penetrating Radar (GPR)

GPR systems use electromagnetic pulses to create cross-sectional images of the subsurface. These images, called radargrams, can provide valuable information about sedimentary structure, lithological boundaries and other targets which cannot be obtained through other methods. An example of these images can be seen in Figure 12.19. GPR can be collected over land, water, ice or snow. The system can be towed behind an ATV or snow mobile in order to efficiently collect data over large areas.

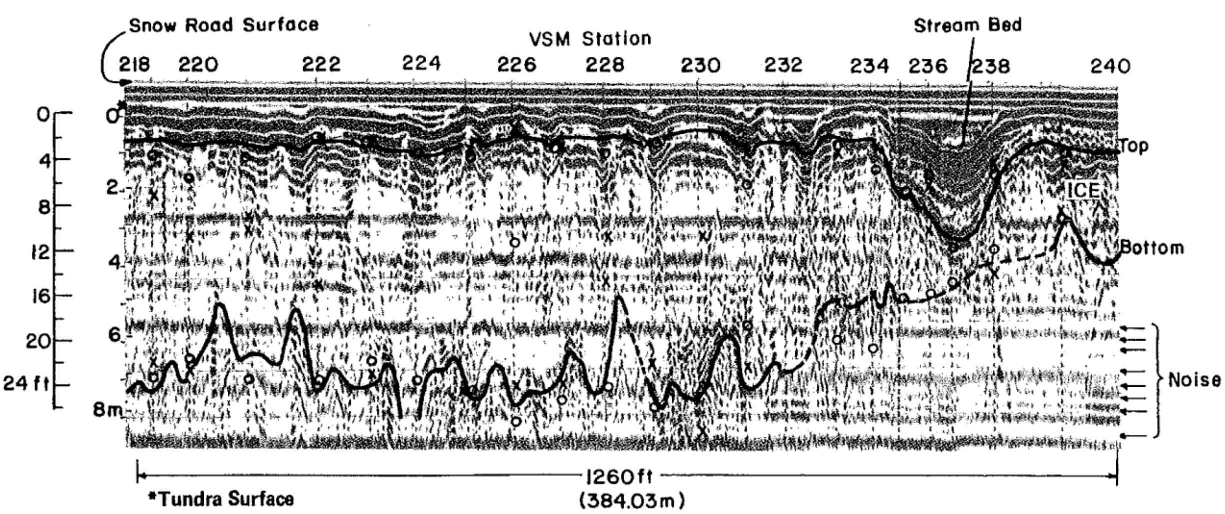

Figure 12.19: Raw radar data plus interpretations

GPR involves injecting a short pulse of electromagnetic energy into the ground and recording echoes. The electromagnetic radiation used by GPR is within the microwave range with frequencies that can range from 10 to 1000MHz. Due to the fact that the survey uses EM radiation as its energy source, the physical properties that affect the recorded echoes are electrical resistivity and dielectric permittivity. In the range of frequencies used by GPR, interaction of those EM waves with matter depends on the dielectric properties. Generally the velocity of the radar wave in the material varies with its dielectric permittivity, thus variations in permittivity are the primary control on GPR measurements.

GPR is an ideal geophysical survey to use to map permafrost as it uses the strong dielectric contrast between water and ice to detect interfaces between materials containing liquid and frozen water. While GPR accurately defines the stratigraphic contacts, it does not provide much information that characterizes the permafrost conditions. Thus, by using both GPR and a complementary survey method such as OhmMapper which can effectively characterize the state of the permafrost, a comprehensive cross-section of the permafrost conditions can be determined.

GPR also provides a means to differentiate between massive ice and ice rich soils. An important characteristic of massive ice is that it often has unfrozen water within it. This water, with its associated high dielectric constant, attributes a very different character to the signal than the signal produced over ice-rich soils.

An important consideration in the expected outcome of GPR analysis and interpretation is the quality of the data. With GPR surveys, poor data can be expected in a number of situations. In areas with low electrical resistivity, the GPR signal is severely attenuated and little to no reflectors are seen apart from the air arrival and “ringing”. An example of this is shown in figure 12.19 on the left side. Here, very little can be seen besides horizontal parallel reflections caused by ringing of the signal. This may be compared with the data on the right hand side of Figure 12.19 in which numerous reflections can be seen to a depth of approximately 5 metres. Other issues which can arise are poor quality data resulting from excessive acquisition speeds and inaccurate location information caused by low satellite coverage.

12.2.3 Results

The OhmMapper survey results are presented as modeled resistivity cross-sections representing depth inverted apparent resistivity to the exploration extents. Colour scales are site specific which is to be considered if comparing results between sites. The GPR sections are displayed in sequence after the OhmMapper lines for comparison.

12.2.3.1 Hercules Runway

A horizon exists at approximately 5 metres that remains consistent throughout most of the survey area. There are a few areas where there is a very high resistivity anomaly near the surface (Figure 12.25, anomalies A and B). From field observation, they seem to correspond to areas of drifted sandy material. The eastern-most Lines 5 and 6 have more resistive anomalies near the surface (C and D) which could be related to the ice wedge polygons identified earlier in Figures 12.7 and 12.8. The active layer (the depth to which seasonal thaw occurs) extends roughly 0.5 metres below the surface throughout most of the survey area, which is identified on the GPR sections (upper red). Areas on the upper end of the resistivity scale could indicate increased ice content. These are identified by asterisks (*) in
Figure12.19.

Anomaly E appears to have the most potential for thaw settlement in the runway construction area. Due to the higher resistivity and the GPR horizon dipping upward at the same location, it lends to the conclusion that this could be greater ice content near the surface. Ice content would increase the velocity of the GPR which might cause a pull-up effect, or it could be due to the stratigraphy reacting to a concentration of ice.

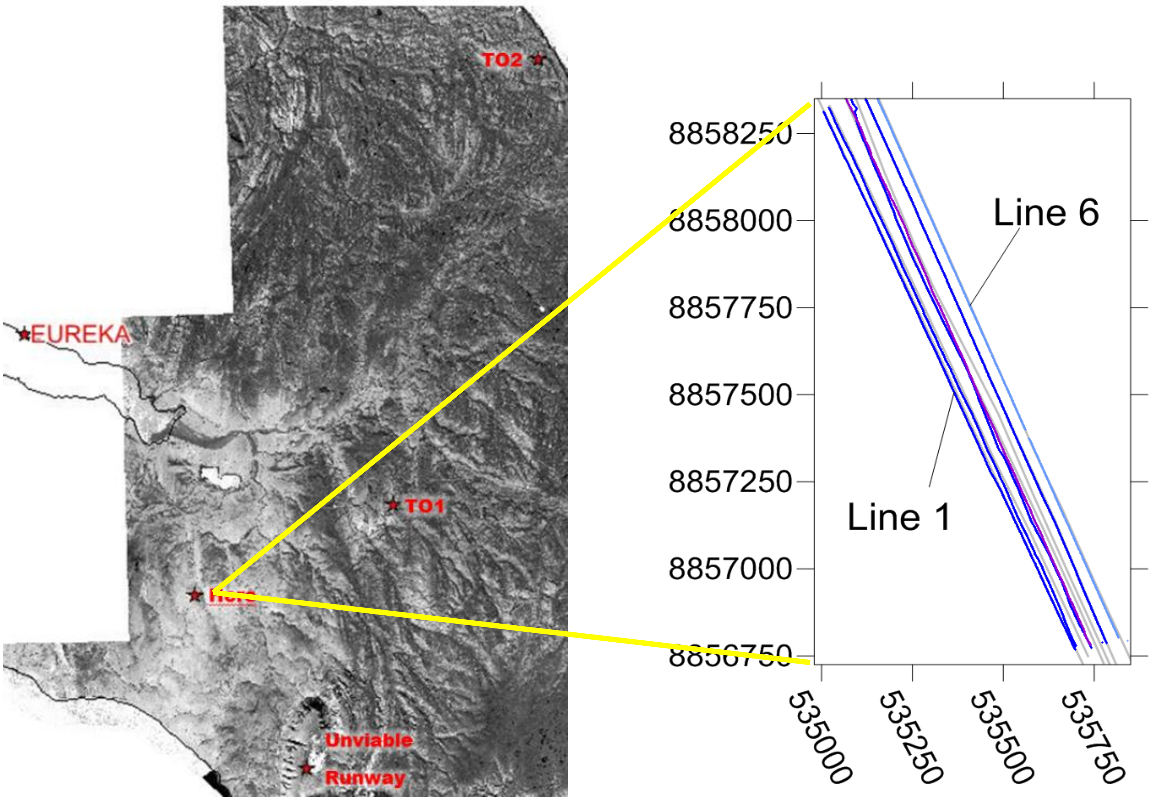

Figure 12.20 Hercules OhmMapper lines are grey and GPR lines are coloured

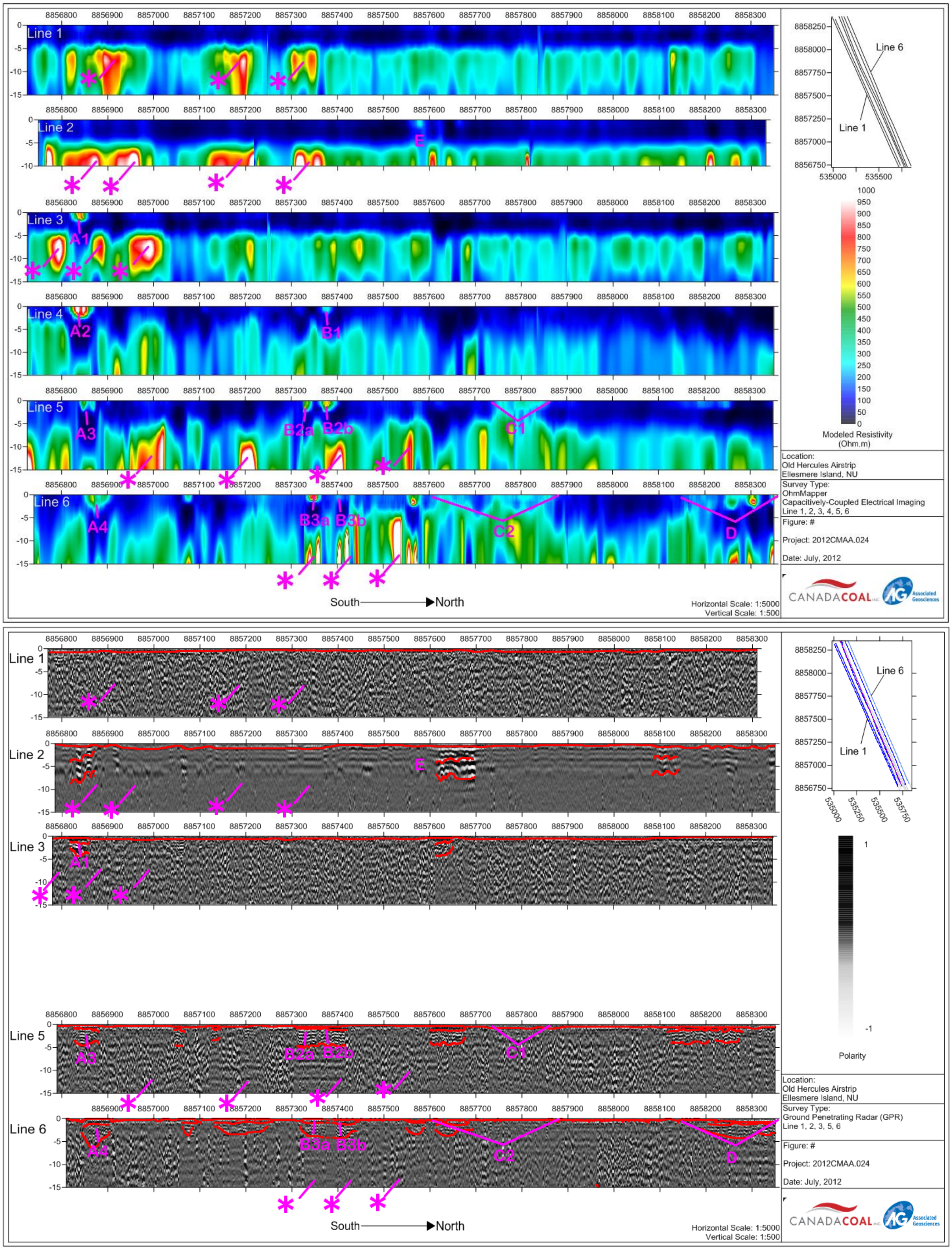

Figure 12.21: OhmMapper (Upper) and GPR (Lower) Hercules runway results with anomalies labeled.

12.2.3.2 Twin Otter 1 Runway

The highly resistive areas (yellows-reds-whites) likely indicate higher ice content and/or colder temperatures below the surface. The horizon indicated by the transition from dark blue to light blue (approximately 500 Ohm.m) is more likely related to stratigraphy and temperature. The GPR indicates that the active layer extends to approximately 0.5 metres and up to 1 metre in some places (Figure 19, upper red).

There are multiple locations where the higher resistivity horizon comes to surface which indicates a potential area of thaw settlement. In addition, there are locations where very large resistors are relatively close to the surface. If they were massive ice and melted then it could create a cavity below the runway surface. These are identified by asterisks (*) in Figure 12.22.

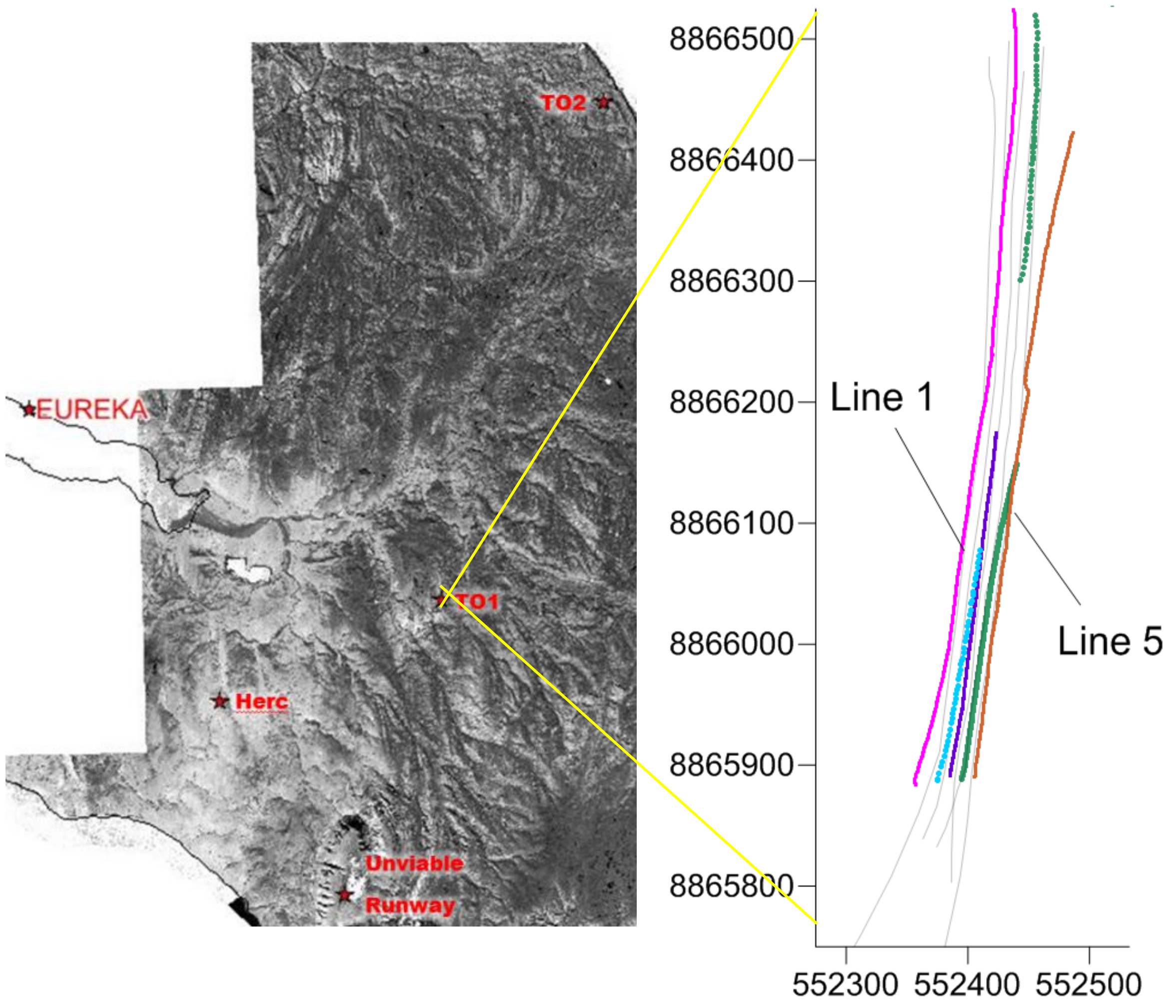

Figure 12.22 Line map of Twin Otter 1 runway. OhmMapper lines are grey and GPR lines are coloured.

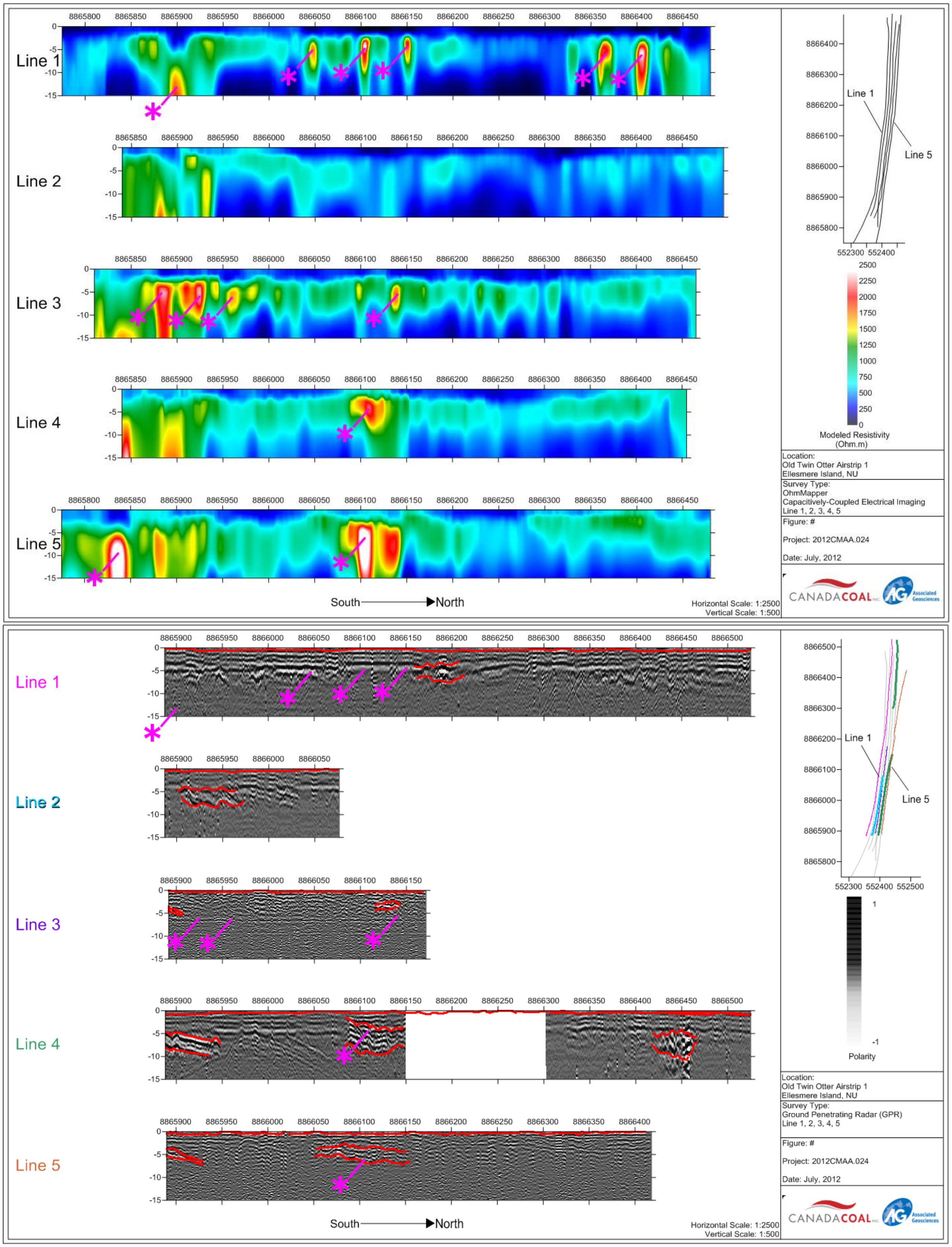

Figure 12.23: OhmMapper (Upper) and GPR (Lower) Twin Otter 1 runway results with anomalies labeled.

12.2.3.3 Twin Otter 2 Runway

There is a horizon that exists at approximately 5 metres throughout the survey area. It varies slightly but is generally a lower resistivity above a higher resistivity horizon. There is a concentration of very highly resistive areas in the centre of the lines, as well as toward the south end of each line. From field observations, the southern area that has the higher resistivities close to surface corresponds to the areas were topography began to increase and had ice wedge polygons. Highly resistive areas are identified by asterisks (*) in Figure 12.24. The approximate depth of the active layer is shown on the GPR sections (upper red).

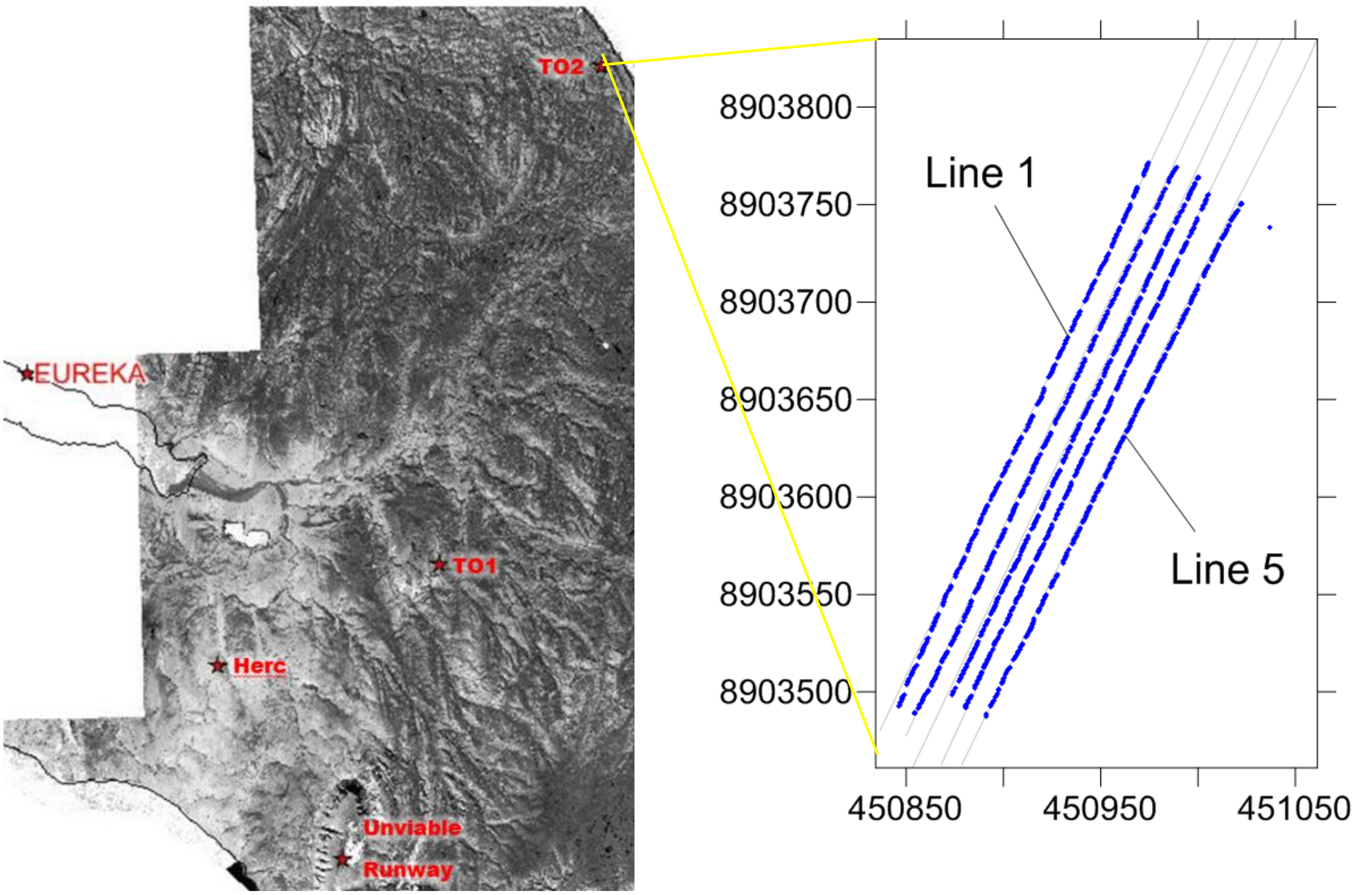

Figure 12.24: Line map of Twin Otter 2 runway. OhmMapper lines are grey and GPR lines are coloured.

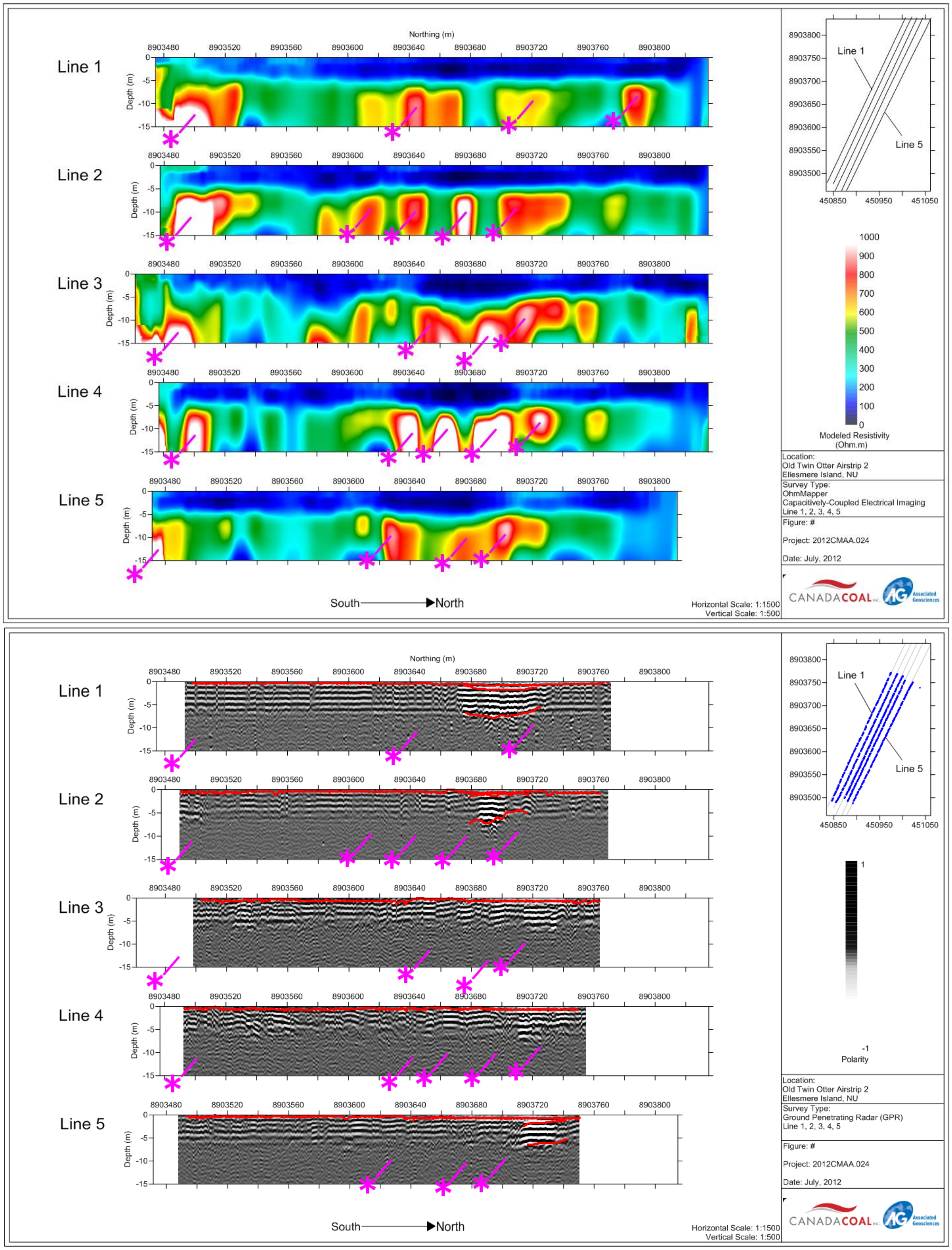

Figure 12.25: OhmMapper (Upper) and GPR (Lower) Twin Otter 2 runway results with anomalies labeled.

12.2.4 Geophysical Permafrost Investigation – Conclusions and Recommendations

DMT conducted a geophysical investigation during the month of July, 2012, near Eureka, Nunavut. The objective of the survey was to identify areas of possible thaw settlement related to permafrost and high ice content.

The results indicate that the most viable option for a runway location would be the Hercules runway. It remained the most consistent and the depth to most high resistivity anomalies was approximately 5 metres. The first Twin Otter runway had many near surface high resistivity anomalies, which could be concentrations of ice. The second Twin Otter runway was relatively consistent but there were large high conductivity anomalies in the middle and on the south end. There was also the limited length available for construction. A fourth survey location was attempted but was deemed unviable due to its location. It was on top of an area of high topographical relief and was therefore overcast if low clouds were in the vicinity. This limited helicopter access to remove the geophysical gear that was present even within the 3 survey days.

The Hercules runway may represent the best option when considering where to place a runway, specifically toward the western side of the surveyed area where the surface is more consistent.

12.3 2012 Archaeological Survey Summary

As part of the Nunavut Coal Project, an archaeological field program was conducted over the summer of 2012, in support of the 2012 coal exploration program for Canada Coal Inc. The four-week long archaeological field program consisted of helicopter-supported field survey of Canada Coal's lease lands in the Fosheim Peninsula, Bache Peninsula, Vesle Fiord, and Strathcona Fiord areas of Ellesmere Island. All work was conducted under permit number 2012-034A, issued to Andrea DeGagne of Stantec Consulting Ltd. on June 29, 2012. Survey focused on coal-bearing areas within the Canada Coal leases targeted for geological sampling, specifically those areas identified as having moderate to high archaeological potential. Lands adjacent to sampling areas were also surveyed to ensure protection of the cultural resources that may exist in these areas of higher archaeological potential. All but three of the archaeological sites identified are located within these adjacent areas, outside of potential mine locations.

Stone features were identified in 71 locations within the study area. Twelve of these locations are contemporary campsites with stone features resembling footprints of trappers' tents and/or modern dome tents All of these contemporary sites are found in close association with Slidre Fiord and the research and army bases found at the northwest point of the inlet. The remaining 59 locations are archaeological, and include 39 newly recorded archaeological sites.

The majority of the archaeological sites recorded during this field season were campsites (n=46) and caches (n=11), most of which were associated with short-term hunting camps. Most of the archaeological sites were located on coastal shorelines (n=44). The remaining 15 sites were found along the shores of freshwater lakes or substantial watercourses that flow through the interior regions of the Fosheim Peninsula. Most of these sites were identified along Remus Creek (n=5) and around Romulus Lake (n=5). One hunting cache was identified on the western periphery of the Sawtooth Range, and one possible Palaeo-Eskimo campsite and associated cache site were identified along Big Slide Creek, central Fosheim. One campsite was identified on the shore of an unnamed lake in South Fosheim, and a Historic Period structure was identified from the western Fosheim Peninsula, on the shoreline of a lake.

The largest sites encountered this season were those previously recorded sites documented along the shoreline of the Bache Peninsula, although three very large sites were also identified in the southern reaches of the Fosheim Peninsula, along the Eureka Sound shoreline. These three sites exhibited numerous features and artifacts associated with Thule populations, including some very large fox traps over 1 m in height, a large trapline setup, and a soapstone bead identified from a substantial midden area. Sites were more numerous along the north shore of the Fosheim peninsula, but these were much smaller, generally consisting of only a few stone features and possibly some modified bone. Only one tool was identified from the north shore sites, this being a chert biface found immediately outside a ring structure. One of the most unique features encountered this field season was a miniature stone circle, located on the shoreline of Cañon Fiord, Fosheim Peninsula. This ring was approximately 1.5 m in diameter with a central division of space (site picture above). A field guide recognized this as an uncommon Inugukalik structure.

12.4 2012 Palaeontological Surveys

For the Nunavut Coal Project, six weeks of reconnaissance palaeontology surveys were conducted in support of the 2012 coal exploration program for Canada Coal Inc. All work was conducted under permit number 2012-02P issued to Emily Frampton of Stantec Consulting Ltd., and later transferred to Lisa Bohach, also of Stantec. The palaeontology team consisted of two people (Emily and Lisa) for four days, then one person (Lisa) for the remainder of the time. The surveys focused on the Fosheim Peninsula, with short visits to the Bache Peninsula, Vesle Fiord area and Strathcona Fiord area.

The surveys focused on coal-bearing strata of the Eureka Sound Group, although older and younger strata were also examined within the coal license areas. Approximately 50 fossil sites were recorded, of which all, except for two, are new sites. Most of the sites contain fossil plant material, including petrified and coalified tree stumps and logs, impressions of leaves and seeds/cones, low grade amber (copal) and mummified leaf litter. Commonly found plant species are the dawn redwood (*Metasequoia*) and several types of angiosperms with large leaves. Rare species include a water lily (possibly *Quexeuria*) and an angiosperm with small leaves, preserved in leaf litter. The most remarkable discovery was widespread occurrences of mummified leaf litter and branches throughout the Fosheim Peninsula and around Strathcona Fiord. This demonstrates that the fossil forest site in the Geodetic Hills of Axel Heiberg Island is not unique and that this type of preservation is common in the Eureka Sound Group. Only poor quality coal seams contained mummified plant material, and it is not present in minable coal layers.

Along the Fosheim Peninsula, vertebrate remains are extremely rare in the Eureka Sound Group, and only one possible vertebrate fragment was found. In the Vesle Fiord area, one site with sparse turtle remains was recorded, and a second site with two small bone fragments. In the underlying Kanguk Formation, vertebrate remains are relatively common, including fish and marine reptile bones recorded at five sites. One bone fragment associated with abundant invertebrate shells was recorded in the Christopher Formation.

Invertebrate shells are extremely sparse in the Eureka Sound Group. Only one site was recorded, which contained a typical freshwater fauna including a fingernail clam (*Sphaerium*), river snail (*Viviparus*) and a small planispiral snail. Part of this scarcity may be linked to the deeply weathered nature of most outcrops. In the underlying Kanguk Formation, inoceramid clams were recorded at several locations. A diverse invertebrate fauna was recorded in the Christopher Formation including ammonites, snails and clams associated with fossilized wood and one vertebrate bone fragment. Marine Quaternary highstand deposits overly bedrock in parts of both the north and southwest Fosheim Peninsula. These deposits contain marine clams of modern aspect, including the common genera *Panomya* and *Hiatella*.

13.0 DRILLING

There have been no documented instances of exploration drilling specifically targeting coal seams within the Nunavut Coal Project area. At least one deep exploration well has, however, been reported in the Fosheim Peninsula region (Embry, 1983). The well, named Panarctic Romuls C-42, is located at approximately 79° 51' 05" N and 84° 22' 42" W (presumed to be datum NAD27). The Romulus C-42 well was spudded on January 28, 1972 and was abandoned on July 25, 1972 at a total depth of 4554 m. Based on mapping and sampling results from the 2012 exploration program, Romulus C-42 does not appear to have been located within an optimal (high quality) near-surface expression of coal, although numerous thin near-surface coal seams were reported in drill logs.

13.1 Proposed Exploration Drilling Targets

Canada Coal is in the process of planning a follow-up exploration drilling campaign to investigate targets identified in the 2012 mapping and sampling program ("Phase 2"). The company intends to drill up to 9,000 metres of core in the Fosheim Peninsula region pending drilling results, length of field season, and other factors. Proposed drill target coordinates are listed in Table 10.1, and illustrated in Figure 10.1.

The proposed drilling targets have been ranked according to geological priority. Priority '1' is considered to have a high geological potential, priority '2' has a moderate potential or is located within close proximity to a priority '1' target, and priority'3' is typically a wildcat target based on extrapolated geological data where coal potential is unknown due to undifferentiated and extensive tundra cover.

Table 13.1– Proposed Drill Targets for Phase 2 Exploration

Drill target	Priority	UTMz16_X	UTMz16_Y	UTMz16_Z	Elevation AMSL
CCI2013_DDH001	1	536,011.8	8,878,016.0	112.0	105.0
CCI2013_DDH002	2	536,188.5	8,879,003.0	73.3	66.2
CCI2013_DDH003	3	536,923.0	8,877,492.7	105.8	98.8
CCI2013_DDH004	1	543,046.3	8,851,895.5	112.8	106.5
CCI2013_DDH005	2	544,506.4	8,851,992.4	142.4	136.1
CCI2013_DDH006	2	545,262.5	8,825,236.0	168.8	163.2
CCI2013_DDH007	2	545,998.9	8,852,357.8	183.0	176.6
CCI2013_DDH008	2	546,735.0	8,852,803.3	172.2	165.8
CCI2013_DDH009	3	548,095.2	8,877,955.7	127.2	120.1
CCI2013_DDH010	1	548,364.6	8,867,551.7	78.5	71.7
CCI2013_DDH011	2	548,820.4	8,825,653.2	162.0	156.3
CCI2013_DDH012	2	548,837.4	8,871,134.2	91.1	84.2
CCI2013_DDH013	1	549,207.4	8,868,676.8	128.8	121.9
CCI2013_DDH014	2	549,208.4	8,873,068.5	72.7	65.7
CCI2013_DDH015	1	549,553.4	8,867,695.8	134.2	127.3
CCI2013_DDH016	1	549,637.7	8,841,403.4	306.2	299.9
CCI2013_DDH017	1	549,792.1	8,866,670.3	131.9	125.1
CCI2013_DDH018	2	549,883.8	8,863,934.0	158.1	151.3
CCI2013_DDH019	2	550,120.3	8,877,679.4	108.4	101.3
CCI2013_DDH020	2	550,442.3	8,839,956.7	358.5	352.2
CCI2013_DDH021	2	550,509.7	8,841,547.5	299.9	293.5
CCI2013_DDH022	1	550,539.3	8,865,036.6	136.7	129.9

CCI2013_DDH023	1	550,691.5	8,842,864.7	385.9	379.5
CCI2013_DDH024	1	551,161.2	8,838,580.7	323.0	316.7
CCI2013_DDH025	2	551,162.3	8,843,754.1	372.9	366.5
CCI2013_DDH026	2	551,540.6	8,864,559.8	177.7	170.9
CCI2013_DDH027	1	551,562.7	8,839,864.3	345.4	339.1
CCI2013_DDH028	3	551,736.6	8,887,770.8	184.4	176.9
CCI2013_DDH029	1	551,862.6	8,844,520.0	321.5	315.0
CCI2013_DDH030	3	551,912.7	8,908,524.5	155.4	147.3
CCI2013_DDH031	2	552,134.5	8,845,665.0	301.1	294.6
CCI2013_DDH032	1	552,179.2	8,846,636.4	258.7	252.2
CCI2013_DDH033	2	552,347.5	8,816,687.9	167.7	162.0
CCI2013_DDH034	2	552,448.8	8,816,296.7	172.2	166.5
CCI2013_DDH035	1	552,613.3	8,864,816.1	213.3	206.4
CCI2013_DDH036	2	552,791.8	8,908,322.6	147.1	139.0
CCI2013_DDH037	3	552,944.4	8,909,331.3	138.7	130.5
CCI2013_DDH038	2	554,312.4	8,910,334.4	153.2	145.0
CCI2013_DDH039	2	554,803.5	8,879,468.1	112.4	105.1
CCI2013_DDH040	2	555,750.4	8,907,516.9	146.9	138.7
CCI2013_DDH041	1	556,359.0	8,878,979.4	126.8	119.4
CCI2013_DDH042	1	557,278.3	8,879,201.4	117.8	110.4
CCI2013_DDH043	1	557,826.6	8,879,195.5	149.1	141.7
CCI2013_DDH044	1	558,790.6	8,879,030.1	156.1	148.7
CCI2013_DDH045	1	559,235.6	8,794,044.3	205.0	199.3
CCI2013_DDH046	2	559,836.5	8,880,260.8	192.8	185.3
CCI2013_DDH047	3	560,028.7	8,901,012.2	218.4	210.3
CCI2013_DDH048	3	560,070.1	8,899,882.9	217.6	209.5
CCI2013_DDH049	2	560,183.4	8,795,749.4	270.0	264.2
CCI2013_DDH050	2	560,655.5	8,768,074.8	78.0	72.4
CCI2013_DDH051	1	561,259.3	8,835,229.1	209.8	203.4
CCI2013_DDH052	1	561,430.9	8,797,621.9	240.0	234.1
CCI2013_DDH053	3	561,688.8	8,884,428.9	168.3	160.6
CCI2013_DDH054	2	561,972.8	8,907,390.7	139.2	130.9
CCI2013_DDH055	2	561,975.2	8,878,117.3	179.0	171.5
CCI2013_DDH056	2	562,144.3	8,835,178.4	219.7	213.2
CCI2013_DDH057	2	562,330.0	8,799,255.6	295.0	289.0
CCI2013_DDH058	1	562,752.9	8,835,216.4	251.3	244.8
CCI2013_DDH059	2	563,036.8	8,774,880.4	173.0	167.3
CCI2013_DDH060	2	563,371.2	8,835,288.0	268.7	262.2
CCI2013_DDH061	1	563,597.2	8,800,688.9	265.0	259.0
CCI2013_DDH062	1	563,952.3	8,835,314.8	302.1	295.5
CCI2013_DDH063	1	564,233.4	8,773,962.5	381.1	375.4
CCI2013_DDH064	1	564,568.0	8,835,542.4	321.2	314.6
CCI2013_DDH065	1	564,594.8	8,833,808.0	333.4	326.8
CCI2013_DDH066	2	564,951.3	8,834,598.1	313.2	306.6
CCI2013_DDH067	1	565,195.3	8,835,608.7	330.8	324.2
CCI2013_DDH068	2	565,488.0	8,804,969.5	415.0	408.8
CCI2013_DDH069	3	565,551.3	8,847,277.8	338.8	331.9
CCI2013_DDH070	1	565,604.7	8,834,873.7	334.1	327.4
CCI2013_DDH071	2	566,420.5	8,835,388.2	336.7	330.0
CCI2013_DDH072	2	566,735.1	8,899,802.7	80.0	71.8
CCI2013_DDH073	2	567,191.0	8,808,883.6	283.0	276.7

CCI2013_DDH074	3	576,765.6	8,785,306.9	438.3	432.0
CCI2013_DDH075	3	578,403.9	8,835,270.7	668.0	660.7
CCI2013_DDH076	3	578,510.0	8,803,335.2	512.0	505.2
CCI2013_DDH077	2	580,224.5	8,793,356.3	612.0	605.3
CCI2013_DDH078	3	583,553.4	8,772,350.0	110.6	104.2
CCI2013_DDH079	2	589,991.0	8,784,766.8	360.1	353.1
CCI2013_DDH080	3	590,862.9	8,782,118.7	555.3	548.3

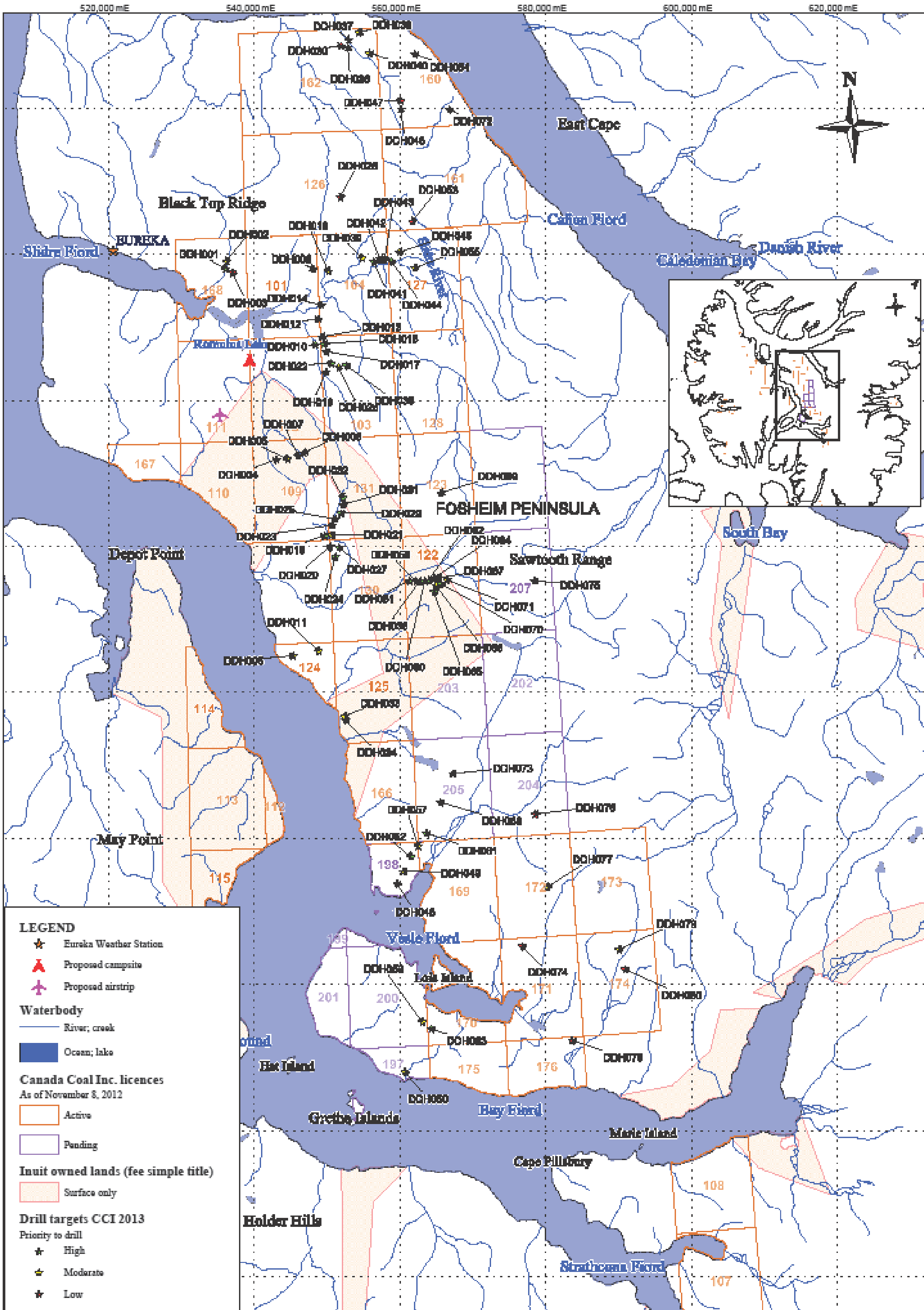

Figure 13.1 Canada Coal Inc. drill targets CCI 2013, Fosheim Peninsula, Ellesmere Island, Nunavut, Canada.

Projection: NAD83 UTM zone 16

Scale 1:500,000

Date: 8 November 2012

13.2 Proposed Drilling Target Zones

As a result of historic exploration and the 2012 geological mapping and sampling program, a number of laterally extensive coal zones have been identified within the Fosheim Peninsula region. These zones form the basis for the primary and secondary priority exploration targets listed in the Section 10.1. Recent sample highlights from some of the more significant coal zones are described in Table 10.2

Table 13.2 - Target Coal Zones with Surface Sample Highlights*

Zone	Sample	Seam Thickness (m)	ADM% (adb)	RM% (adb)	ASH% (db)	VOL% (db)	FC% (db)	S% (db)	BTU/LB (db)	SG
1	2012-AGL-FN-003	7.8	6.82	8.76	5.25	41.20	53.55	0.26	11,530	1.38
	2012-AGL-FN-005	5.0	7.29	6.61	2.71	42.29	55.00	0.15	11,476	1.38
	2012-AGL-FN-001	3.1	13.38	7.59	4.26	39.30	56.44	0.29	11,930	1.35
2	2012-AGL-FN-121	3.3	10.83	5.29	3.98	40.96	55.07	0.25	11,809	1.38
	2012-AGL-FN-123	2.5	14.07	7.66	4.48	42.70	52.82	0.27	11,344	1.39
3	2012-AGL-FN-136	2.0	11.73	1.05	9.45	39.49	51.06	0.25	11,017	1.44
	2012-AGL-FN-138	2.4	11.32	3.69	6.59	40.18	53.24	0.25	11,635	1.42
4	2012-AGL-FN-217	3.0	19.16	3.30	11.46	35.54	53.00	0.32	10,927	1.42
	2012-AGL-FN-218	4.0	16.27	3.41	2.98	40.93	56.10	0.20	11,858	1.37
	2012-AGL-FN-211	3.3	18.81	4.52	5.99	37.65	56.35	0.32	11,666	1.39

***Multiple seams are present in all locations. Selected samples reported here only, results are averaged per seam.**

13.2.1 Zone 1 – 2012 Geological Mapping Area 'O'

Area 'O' is centrally located within the Fosheim peninsula, it is a generally flat area with seasonal creeks cutting gorges in a general north south direction. The creeks often follow faults. Coal is exposed in the gorges and coal seams can be seen flat on the surface above the creeks. The coal seams occur in white, weakly cemented sandstones of the Eureka sound formations, the seams are laterally extensive for at least 4 kilometres and show gentle folding on the surface of the flat area. In the cliff face the coal seam is 4.4 to 5 metres thick but there is a coal seam in this area that reaches nearly 8m in thickness. Seams can be seen towards the east as erosion resistant raised features in the overburden to the east.

13.2.2 Zone 2 – 2012 Geological Mapping Area 'LA'

Area 'LA' is located in the south western area of the Fosheim mapping area south and south east of the Fosheim anticline, the coal occurrences in the Eureka sound formation of the Tertiary are very close to the contact with the Kanguk formation of the late Cretaceous, one coal seam located almost on the contact in this area measured approximately 3.5m in thickness and was seen in the field to be of higher quality coal. There are many seams in this area ranging from less than a metre in thickness to over two metres and the seams can be seen to the east as ridges more resistant to weathering than the surrounding sandstone. The coal seams can be traced for over five kilometres in a northwest direction on the eastern side of the fault that bounds the Fosheim anticline.

13.2.3 Zone 3 – 2012 Geological Mapping Area 'MA'

Located in the southeast area of the Fosheim peninsula close to the Sawtooth mountain range, the succession of sediments in the MA area represent a broad syncline, in this area from east to west outcrops the succession of Iceberg bay formation sitting conformably above the strand Bay formation which outcrops to the west of the iceberg bay, which in turn lies conformably above the Eureka Sound formation which defines the hill on the western boundary of the area. Here a succession of coal seams in repeating coarsening up sequences show the areas deltaic depositional history and the broad nature of the folding show the areas tectonic history. The coal in this area was very well indurated and was seen to be of higher quality, this may be partly due to the compression and heating caused by the tectonic activity along with the proximity to the thrust boundary of the Sawtooth Mountains.

The nature and number of coal seams in the underlying Eureka sound formation is unknown but given the proximity to the Sawtooth range and the tectonic history there may be some high quality coal beneath these seams.

13.2.4 Zone 4 – 2012 Geological Mapping Area 'TA'

Located to the east of Romulus lake in the central area of the Fosheim peninsula, there are coal seams that can be seen on the surface as weather resistant ridges and they range in thickness from just less than one metre to around 4.5 metres, the quality of the coal is shown by the strength or hardness and the higher reflectance of the samples in the area. These are in the Eureka Sound formation and alternate with white, weakly cemented sandstones that are a diagnostic feature of the Eureka Sound formation.

13.2.5 Zone 5 – 2012 Geological Mapping Area Vesle Fiord

Located to the south of the Fosheim peninsula the area surrounding Vesle fiord contains coals of the Eureka sound formation and the Iceberg formation. There are several coal seams in the area running almost parallel to each other and these are laterally extensive. To the southwest of the Fiord the Eureka Sound formation contains sequences of pro delta front and coarsening up deltaic formations, the delta front seams are thin 0.5 to 0.7m thick in sequences of sandstone, ironstone and thin coals. The coals in the deltaic sequences are thicker and these are located in the Iceberg bay formation. The coal seams here average about 1 to 2m thick but can be seen up to 3m in thickness. North of the fiord a very thick coal seam 10 metres thick of variable quality but mostly, based on field observations, hard and shiny indicative of better quality coal, the coal is also heavily fragmented and this may be due to its proximity to the thrust zone of the Sawtooth mountains. The areas east south east of the Sawtooth mountains is defined by the Vesle fiord thrust and the Eureka Sound formation lies directly adjacent to the thrust, the process of thrusting and deformation caused by the thrusting could possibly be a source of metamorphism that would increase the coal quality thereby making the area a prospective exploration location.

13.2.6 Zone 6 – 2012 Geological Mapping Area 'LA West'

The western area of the Fosheim anticline (licence block #109) was explored to ascertain if the coal located in area LA continued on the western side of the anticline. Here a complete succession from the Cretaceous Hassel formation to the Tertiary Iceberg Bay formation can be seen complete and conformable, this would make a very good type section for the geology of the Fosheim peninsula. The succession contains coal seams in the Eureka sound formation from the base near the Kanguk to the Strand Bay shales and the overlying Iceberg Bay formation. Several coal seams of variable thickness from 1.5m to 5m thick can be observed of variable quality, while the quality in the Eureka Sound formation is consistent the quality of coal in the Iceberg Bay formation is highly variable due to the presence of abundant fossilised tree stumps within the seams. The strata here are dipping quite steeply between 30 and 50 degrees to the west. The northwest south east orientation of the seams can be seen in the flat plane to the north of the area as weathering resistant ridges covered with overburden.

14.0 SAMPLE PREPARATION, ANALYSES, SECURITY, AND DATA VERIFICATION

DMT is responsible for developing the 2012 exploration program surface sampling protocol, for the field collection of said samples, and for ensuring the sample chain of custody from Ellesmere Island to the coal sample lab in Calgary, Alberta. DMT is reliant upon other experts for sample preparation, analyses, and security including Birtley Coal & Minerals Testing Division and JP PetroGraphics, both of Calgary Alberta.

In reference to sample preparation, analyses and security prior to the 2012 exploration program, DMT is largely reliant on historic reports. Historic reports have been verified in part by the recent field exploration program and previous independent site assessments. Details relating to samples collected prior to 2012 have been previously detailed in a report prepared by AGL, effectively dated September 30th, 2011, and entitled, 'Independent Technical Report – The Nunavut Coal Project'.

14.1 Surface Sampling Protocols – 2012 Exploration Program

- The coal sampling locations were selected based on a variety of factors including but not limited to apparent width of seam, visible continuity of the seam exposure, apparent oxidation of the seam, general appearance of the seam, degree of seam exposure, apparent dip of the strata, proximity to other sample locations, proximity to wildlife or heritage resource, and potential for additional coal seams to occur above or below the sample location;

- The coal sample locations were recorded using handheld GPS units in the NAD 83 coordinate system (either zone 16, zone 17, or zone 18 as appropriate) and appropriate field notes were documented by geologists including apparent seam thickness, seam characteristics, apparent orientation, and apparent dip;

- The coal seam was cleaned to remove debris and minimize the potential for surface oxidization using handheld tools (pick axes, shovels, rock hammers, etc.)- the author notes that handheld cutting saws were also available for field crew use, however as the majority of the seam exposures were along steep creek banks, the cutting saws were deemed unsuitable for the most part and the pick axe was the cleaning tool of choice;

- Cleaning of the coal seam typically resulted in a vertical trench approximately 20 cm wide, 20 cm deep, and running from top to bottom of the seam- trench size varied according to degree of surface degradation;

- If necessary, a tarp was laid out along the trench to eliminate further contamination however for the most part the permafrost precluded the necessity of using a tarp;

- Sample intervals were selected based on the size of the seam and the degree of interburden or seam partings present- typically sample intervals were 1 m however samples were not collected through partings or obvious lithological changes (< 1 m);

- If possible, distinct roof and floor samples were collected for future studies;

- Samples collected from the same seam were given the same prefix (for example, '2012-AGL-FN-001') but accorded a different suffix (for example, 'A');

- Approximately 1 kg was collected for each sample interval and was double rice-bagged along with 2 sample label tags, the bag was zipped tied closed and a third label affixed to the outside of the bag;

- Sample bags were flown via helicopter at the end of each field day to the Eureka base camp where they were sorted into 5 gallon plastic pails, an inventory list of coal samples in each sample pail was transcribed daily;

- Once a sample pail was full, the pail was closed using a secure plastic lid and was also duct taped closed- sample pails were numbered individually using a permanent marker (the pail numbers were also transcribed daily onto the sample log);

- Sample pails were shipped in four shipments from Ellesmere Island using charter services- all samples recorded in the field have been accounted for and none of the sample pails indicated signs of sample tampering.

14.2 Birtley Quality Control Program and Calibration Standards

The summary of the quality control program described in Section 11.2 has been supplied by Birtley. DMT representatives inspected the lab August 14, 2012 to ensure the adequacy of sample preparation, security, and analytical procedures and satisfied with Birtley's procedures.

14.2.1 Bulk Handling, Sampling and Processing

- Samples were received packaged in five gallon plastic pails and individual samples inside the pails were double-rice-bagged; bulk samples were dumped onto a clean concrete floor indoors for homogenization and sample extraction;

- ASTM prescribed procedures were closely adhered to in the sampling Phase, with particular attention given to minimum weight of sample taken in the reduction step to maintain representativeness of the sub-sample;

- During homogenizing and sampling, special care was taken to prevent unnecessary attrition of coal particles which can bias the size consist of the sample.

14.2.2 Sample Preparation

- Upon receipt, individual samples were first sorted and placed in numerical order. Each sample was then sequentially assigned its own unique laboratory number;

- Sample Preparation Technicians examined the samples to identify certain aspects of a sample or its container when received, e.g. potential weight loss or damage during shipping, and physical characteristics like color, smell, mass, average size consist, etc. of the sample. Observations were recorded and relayed to the client if discrepancies existed between sample shipped and that received;

- A plastic tag, encoded with the laboratory number and a concise description of the sample, accompanied said sample at all times during preparation. A series of samples were processed in numerical sequence whenever possible;

- All equipment (screens, crushers/mills, rifflers, pans/receptacles) including the analytical pulp container as well as all float sink liquids were cleaned between samples. Workbenches were cleared of debris before samples were weighed and processed;

- Before each use screens were inspected for tears and aperture correctness;

- A sample's initial weight (usually as received weight) was recorded for mass balance and for cross checking purposes.

14.2.3 Laboratory Analysis

- ASTM methods for coal analyses were used where applicable in accordance with Table 11.1;

- Check analyses were performed alongside most analyses. Unknown check samples were given to laboratory technicians to check instrument and operator repeatability. QC checks were run with every batch of samples to ensure the instrument was performing within two standard deviations;

- If there was a problem with checks, instrumentation, or if control samples were outside limits, the technician notified the supervisor and then depending on the problem corrected it themselves or the supervisor investigated and rectified if required;

- Notebooks were kept for each instrument to record maintenance and problems and the dates associated with them;

- To verify sample test reproducibility Birtley subscribes to the CANSPEX program. This program compares test results of duplicate blind samples sent to subscribing laboratories and reports comparative results to the subscribers. Birtley can then compare its test results against the consensus of the other participating laboratories (~100) from around the world;

- Control charts are kept of the upper and lower limits of repeatability and reproducibility for the CANSPEX round robin program. If problem areas exist, it is then possible to assess and rectify those problems.

Table 14.1 – ASTM Methods for Coal Analysis

PARAMETER	**LAB METHOD**
Preparation of Coal Samples	ASTM D 2013
Air Dried Moisture Loss%	ASTM D 3302
Residual Moisture wt%	ASTM D 3173
Ash wt%	ASTM D 3174
Volatile wt%	ASTM D 3175
Sulphur wt%	ASTM D 4239
Calorfic Value (Cal/g)	ASTM D 5865
Specific Gravity	ISO 1014 (modifed)
Equilibrium Moisture%	ASTM D 1412
Mineral Analysis of Ash	ASTM D 3682
Calculations to different basis / Ranking	ASTM D388

14.2.4 Laboratory Reports

- Results were reviewed and signed by the Laboratory Supervisor and Operations Manager and reported on a "Certificate of Analysis".

14.2.5 Calibration Standards

- Any laboratory instrument that has a temperature that can be recorded is calibrated with the temperature probe and the date and temperature are recorded in a notebook;
- Scale balances and drying ovens are calibrated regularly;
- Float-sink liquid's specific gravities are constantly monitored with hydrometers during separation and the gravity adjusted if required;
- The Gieseler fluidity torque is checked yearly and both the Gieseler and Dilatation crucibles are specked out twice per year;
- Standards for calibration include NIST certified standards, LECO certified standards, CANSPEX standards (if acceptable) and in house samples from participation in other round robin programs;
- Control standards used are mostly prepared by Birtley and analyzed at least in triplicate;
- Where the calibration check (either temperature or standard) is outside the established range for the instrument, the instrument is recalibrated prior to use. If necessary the instrument will be repaired to provide accurate and stable measurements;
- Calibration standards are discarded when less than 5% of the material is left in the bottle to prevent any inaccuracies due to contamination or representativeness;
- Equal care is taken in the calibration process as for any other measurements i.e. sample observation, including appropriate and equivalent mixing, weighing, and analysis methodologies so that they are subjected to the same measurement error;
- An equal or greater number of determinations are used to establish calibrations as are determined for samples.

15.0 MINERAL PROCESSING AND METALLURGICAL TESTING

To the best of the author's knowledge, no mineral processing or metallurgical testing has been completed on any Ellesmere Island coals.

16.0 MINERAL RESOURCE ESTIMATES

No coal resources are currently ascribed to Canada Coal's licence areas due to a lack of direct empirical data (such as drill hole, adit, trenching, or similar) aside from surface coal occurrences which have been mapped and sampled by DMT. Recent and historically reported coal target size estimates (not compliant with NI 43-101 standards) are reported under Section 6.2 (Historical Coal Target Size Estimates).

Coal resources are typically classified into the measured, indicated, and inferred categories in accordance with GSC 88-21 as well as the Canadian Institute of Mining Metallurgy and Petroleum ("CIM") guidelines which are incorporated by reference in NI 43-101. In order to be classified as a resource, coal resources must exist in such form and quantity that there are reasonable prospects for eventual economic extraction.

Coal resources are not to be confused with 'coal *in situ*' quantities, which includes any occurrence of coal in the earth's crust that can be estimated and reported, irrespective of thickness, depth, quality, mineability, or economic potential. Nor should coal resources be confused with coal reserves, which include the economically mineable part of the measured and indicated coal resource and which need to be supported by appropriate assessments such as feasibility studies.

Numerous historical in-situ coal target size estimates have been reported for the Nunavut Coal Project. Additionally, a target size estimate based on the proposed follow-up exploration drilling campaign has been developed by DMT. The target size estimates comply with the speculative coal resource category in GSC 88-21 which no longer conforms with best practices in coal resource estimation, further mapping, trenching/sampling and drilling will be required to develop an appropriate resource estimate. DMT views all historic coal resource estimates as potential target size estimates as opposed to being non-compliant inferred resource estimates.

The potential quantity and grade of coal is conceptual in nature. There has been insufficient exploration to define a coal resource and it is uncertain if further exploration will result in the targets being delineated as a coal resource.

17.0 MINERAL RESERVE ESTIMATES

No coal reserves are currently ascribed to Canada Coal's licence areas due to a lack of direct empirical data (such as drill hole, adit, trenching, or similar) aside from surface coal occurrences which have been mapped and sampled by DMT; also, there is insufficient information on mining, processing, economic, permitting, and other factors required to prepare a preliminary feasibility study.

18.0 MINING METHODS AND RECOVERY METHODS

The project is in the preliminary Phases of exploration and therefore no information pertaining to mining and recovery methods is available. Canada Coal currently envisions the concept of open pit mining within the Fosheim Peninsula region, however underground operations have not been precluded. Pit location(s), designs, recovery methods, and other mining parameters have not yet been considered.

19.0 PROJECT INFRASTRUCTURE

The project is in the preliminary Phases of exploration and therefore limited information pertaining to project infrastructure is available. There is no current infrastructure available on in proximity to the project area on Ellesmere Island aside from those located at the Eureka Weather Station and the Eureka Military Base.

Enfotec Technical Services, of Montreal, Quebec, has prepared several preliminary Ice and Marine Shipping Assessments focusing on a detailed ice study and analysis of marine accessibility of Ellesmere Island's West Fosheim Peninsula. The reports are entitled, 'Ice and Marine Shipping Assessment, Eureka Coal Deposit, Ellesmere Island Nunavut, Phase 3 – Ice and Shipping Study, Final Report,', and 'Ice Conditions in Eureka and Approaches, Phase 1 – Preliminary Study', and are dated July 31st, 2012, and February 2012, respectively.

The findings in relation to ice conditions and possible shipping scenarios indicate that shipping windows of 2, 3 and 6 months are possible using Polar Class 3 vessels to transport up to 5.25 million tons per year. Canada Coal has stated that it intends to proceed to the next level of its exploration phase which will inter alia include a more detailed shipping study, hydrographic surveying, infrastructure analysis, and technology studies. The timing of infrastructure studies and technology studies has yet to be determined- the authors note that any infrastructure studies completed prior to the development of a resource estimate will be preliminary in nature.

20.0 ADJACENT PROPERTIES

To the best of the author's knowledge, there are no adjacent properties to the Fosheim Peninsula Coal Project. There are some coal exploration licenses owned by another party located on western Axel Heiberg Island, however as far as the author is aware, no recent coal exploration activity has taken place on those licenses.

21.0 OTHER RELEVANT DATA AND INFORMATION

The project is in the early Phases of exploration. To the best of the author's knowledge, no coal production or development has ever occurred within the project area.

22.0 INTERPRETATION AND CONCLUSIONS

Geological mapping and surface sampling results from the 2012 exploration program have confirmed the presence of widespread coal occurrences within Canada Coal's Fosheim Peninsula exploration licences. The 2012 program was successful in delineating multiple coal zones of interest which form the basis of a proposed Phase 2 exploration drilling program. The Corporation intends to focus future exploration within the Fosheim Peninsula region.

The proposed Phase 2 exploration drilling program will target four to six coal zones with the aim of delineating coal of sufficient continuity, rank, and quantity to develop a coal resource estimate. At present, Canada Coal has applied to permit 80 drill holes including 30 primary drill holes, 37 secondary drill holes, and 14 wildcat holes and intends to drill approximately 9,000 m of core as part of the proposed Phase 2 exploration program.

Sample results from the 2012 exploration program reveal that the coals range in rank from sub-bituminous 'A' to lignite (based on ASTM standards). Coal zones of interest for future exploration are generally low in ash (3-10%) and sulphur (<0.5%), although some occasionally exhibit moderate ash values. Coals are considered to be suitable for use as a high quality thermal coal.

There is a discrepancy between some of the chemical analyses and the petrographic analyses which is potentially the result of sampling oxidized coals at surface. Future drilling may assist to provide some un-oxidized coal samples and also to determine the depth of oxidation in the permafrost environment. At present, DMT considers Canada Coal's Phase 2 exploration targets to be high quality thermal coal zones; however, the possibility of higher rank coal at depth has not been precluded.

Tertiary sediments of the coal-bearing Eureka group include the lowermost Expedition formation, the Strand Bay formation, and the uppermost Iceberg Bay Formation. The Expedition is composed mainly of very weakly cemented to unconsolidated, pale yellow to white, very well cross-bedded sandstone with siltstone, ironstone and mudstone beds in large coarsening up sequences characteristic of a deltaic environment. The Strand Bay formation, composed of marine shale, sits directly above the Expedition formation and is highly weathered and soft in most locations. The Iceberg bay formation is composed of yellow to grey, fine to medium sand which is rarely cross bedded and often shows ripple marks and fluvial features.

Exploration conducted within the Bache Peninsula and Strathcona Fiord project areas did not yield any coal zones of sufficient rank or interest to conduct follow-up work at this time, although the authors note that minimal time was spent at both secondary targets during the 2012 exploration program. Canada Coal intends to relinquish their coal exploration licences on the Bache Peninsula and Strathcona Fiord project areas once their annual renewal period transpires. The Sor Fiord/Stenkul Fiord coal exploration licences will also be relinquished as a result of the community consultation process.

Coal exploration licences located on Axel Heiberg Island have yet to be assessed and are not currently being considered for exploration.

A geophysical permafrost investigation for possible runway locations concluded that, out of four areas surveyed, the most viable option if a runway is required for future exploration work would be to resurface the historic Hercules runway located in coal exploration licence #111.

An archaeological survey conducted in conjunction with the 2012 exploration program identified 71 archaeological features in proximity to Canada Coal's project area. All but three of the archaeological sites identified were located sufficiently far enough away from coal-bearing strata that they are considered outside of the influence of possible future mine operations.

A palaeontological survey conducted in conjunction with the 2012 exploration program identified approximately 50 fossil sites, of which all, except for two, are newly reported sites. Most of the sites contain fossil plant material, including petrified and coalified tree stumps and logs, impressions of leaves and seeds/cones, low grade amber (copal) and mummified leaf litter. Widespread occurrences of mummified leaf litter and branches were identified throughout the Fosheim Peninsula and around Strathcona Fiord. Only low rank coal seams contained mummified plant material; leaf litter is not present in minable coal layers. Along the Fosheim Peninsula, vertebrate remains and invertebrate shells are extremely rare in the Eureka Sound Group. In the Vesle Fiord area, one site with sparse turtle remains was recorded along with a second site with two small bone fragments.

Canada Coal Inc. has submitted applications to various Authorizing Agencies in order to secure the necessary authorizations required to conduct the proposed Phase 2 exploration program on the Fosheim Peninsula Coal Project. The authors have a reasonable expectation that project authorizations necessary to conduct the proposed Phase 2 exploration drilling program will be granted, provided Canada Coal: 1) continues to refrain from conducting any exploration activities on Axel Heiberg Island, 2) relinquishes licence blocks at Sor Fiord/Stenkul Fiord and Strathcona Fiord which are considered to be traditional local hunting grounds, 3) commits to ongoing and extensive community consultation throughout the project's lifecycle, 4) maintains rigorous environmental and wildlife monitoring protocols, and 5) sets aside and preserves the fossilized forest within the Mokka Fiord area.

23.0 RECOMMENDATIONS

- Coal is present within Canada Coal's Fosheim Peninsula coal exploration licences in sufficient quantity and quality to merit further evaluation through a proposed drilling program designed to follow up targets derived from the 2012 geological mapping and sampling campaign;

- DMT recommended and Canada Coal has subsequently applied for an additional 11 coal exploration licences located in proximity to key exploration drill targets. If the additional coal exploration licences are not granted in due time, the proposed exploration program is still viable based on its existing land position.
- The Strathcona Fiord, Bache Peninsula, and Sor Fiord/Stenkul Fiord licence areas should be relinquished once their annual renewal period transpires;
- Coal exploration licenses on Axel Heiberg Island should be either relinquished or set aside for palaeontological studies as they occur in vicinity to the world-renown Geodetic Hills Fossil Forest;
- Various preliminary studies, including coal fuel technology studies, coal shipping and logistical studies, marketing studies, and environmental studies should be initiated in order to determine viability of a coal mining operation in the High Arctic;
- Heritage studies to assess and monitor archaeological and palaeontological resources within the Fosheim Peninsula region should remain ongoing throughout the project's lifecycle;
- The community consultation process should remain ongoing throughout the project's lifecycle.

23.1 Proposed Stage 2 Exploration Program

As part of a previously published technical report prepared by AGL, effectively dated September 30th, 2011, and entitled, 'Independent Technical Report – The Nunavut Coal Project', the authors recommended a two-phased exploration program for Canada Coal's licence areas located on Ellesmere Island. Phase 1 has been completed and forms the subject matter of the technical report herein. Phase 2 permitting applications have been submitted as of the effective date of this technical report. The follow-up program will consist of an exploration drilling campaign to move the project forward to defining NI 43-101 compliant coal resources if possible.

The proposed work budget for Phase 2 exploration (Table 20.1) includes a substantial contingency of 25%. This contingency is deemed necessary partially as a result of the 2011 personal site inspection of the property by the authors, where significant transportation issues arose as a result of local shortages of jet fuel, adverse weather and precarious runway/landing strip conditions. The substantial contingency is also due to the fact that exploration in the high arctic presents many challenges particularly expenses associated with project logistics.

Table 23.1 - Work Program Budget

Phase 2 Costs	
Logistical/Technology/Misc Studies	$600,000
Pre-Disturbance Studies	$150,000
Helicopter	$1,400,000
Equipment & Fuel Mobe/Demob	$1,800,000
Fixed Wing Charter	$1,000,000
Fuel (Aviation, Diesel, Propane, etc.)	$1,000,000
Temporary Exploration Camp / Eureka Accommodations	$1,000,000
Local Hires/Community Consultation	$300,000
Reporting	$350,000
Drill Mobilization	$100,000
Permafrost Geophysics	$100,000
Airstrip Resurfacing	$80,000
Fosheim Peninsula Mapping/Sampling	$300,000
Fosheim Peninsula Drilling (9,000 m)	$1,800,000
Fosheim Peninsula Borehole Geophysics	$150,000
Fosheim Peninsula Sample Analysis	$400,000
Funded Heritage Study	$100,000
Sub-total	$10,630,000
Contingency (25%)	$2,657,500
Sub-total	**$13,287,500**

24.0 SELECTED REFERENCES

Besserer, D., 2009. Technical Report for the Ellesmere Island Coal Project, Nunavut, Canada, Weststar Resources Corporation Property, District of Qikiqtani, Nunavut, prepared by APEX Geosciences Ltd.

Besserer, D. and Kidston, J. 2006. Assessment Report for Coal Exploration Licenses NU-COAL #011-025, Hunter Coal Property, District of Qikiqtani, Nunavut, NUMIN assessment report #061235, prepared by APEX Geoscience Ltd.

Bustin, R. M. 1980. Tertiary Coal Resources, Eastern Arctic Archipelago. Arctic, 33.

Bustin, R. M. 1981. Reconnaissance Evaluation of Tertiary Coal Resources, Canadian Arctic Archipelago, NUMIN assessment report #061235, prepared by Petro- Canada.

Caine, T.W. 1973. Coal in the Arctic Archipelago. Exploration and Geological Services Unit, Indian Affairs and Northern Development.

Cowley, P. S. 1982. 1981 Report of Exploration Activities on the Strathcona Fiord and May Point Properties. NUMIN assessment report #062131, prepared by Utah Mines Ltd.

Embry, A.F., 1983. Stratigraphic Subdivision of the Heiberg Formation, eastern and central Sverdrup Basin, Arctic Islands; in Current Reserach, Part B, Geological Survey of Canada, Paper 83-1B, p.205-213.

Embry, A., and Beauchamp, B. 2008. Basins of the World, The Sedimentary Basins of the United States and Canada, Elsevier , Volume 5, p. 451-471.

Harrison, U. Mayr, D. H. McNeil, A. R. Sweet, J. J. Eberle, D. J. McIntyre, C. R. Harington, James A. Chalmers, Gregers Dam and Henrik Nohr-Hansen, 1999. Sequences of the Canadian Arctic region and Greenland; implications for the tectonic history of northern North America.Bulletin of Canadian Petroleum Geology, v. 47 no. 3 p. 223-254.

Kalkreuth, W.D., McIntyre, D.J., and Richardson, R.J.H., 1993. The geology, petrography and palynology of Tertiary coals from the Eureka Sound Group at Strathcona Fiord and Bache Peninsula, Ellesmere Island, Arctic Canada.

Kalkreuth, W.D., Riediger, C.L., McIntyre, D.J., Richardson, R.J.H., Fowler, M.G., Marchioni, D., 1996. Petrological, palynological and geochemical characteristics of Eureka Sound Group coals (Stenkul Fiord, southern Ellesmer Island, Arctic Canada). International Journal of Coal Geology p. 30.

Mayr, U., Packard, J. J., Goodbody, Q. H., Okulitch, A. V., Rice, R. J., Goodarzi, F., and Stewart, K. R. 1994. The Phanerozoic Geology of Southern Ellesmere and North Kent Islands, Canadian Arctic Archipelago. Geological Survey of Canada, Bulletin 470.

Miall, A.D. 1986, The Eureka Sound Group (Upper Cretaceous - Oligocene), Canadian Arctic Islands, Bulletin of Canadian Petroleum Geology, vol 34, No. 2, p. 240-Correlation of J. C.

Panchy, E. G. and Moorehouse, J. M. 1983. Ellesmere Island Coal Project: 1982 Exploration Report. NUMIN assessment report #062157, prepared by Petro- Canada.

Ricketts B.D. 1986, New formations in the Eureka Sound Group, Canadian Arctic Islands in current research, Part B, Geological Survey of Canada, paper 86-1B, p. 363-373.

Santiago, S. P. 1984. Ellesmere Island Coal Project: 1983 Exploration Report. NUMIN assessment report#062187, prepared by Petro-Canada.

Swansbergen, E. 1982. Arctic Coal Exploration Geological Report. NUMIN assessment report #062139, prepared by Gulf Canada Resources Inc..

Tveten, T., 2007. Technical Report, Nunavut Coal Prospect. West Hawk Development Corporation Property, District of Qikiqtani, Nunavut, prepared by Weir International, Inc.

Various, 1997. Geological Map of Canada - Map D1860A [CD-ROM]. Geological Survey of Canada, Natural Resources Canada.

Various, 2008. Geological Map of the Arctic. Geological Survey of Canada Open File #5816, Natural Resources Canada.

25.0 CERTIFICATE OF QUALIFICATIONS

25.1 Susan O'Donnell

(a) I, Susan O'Donnell, do hereby certify that: (1) I am a professional geologist certified by the Association of Professional Engineers, Geologists, and Geophysicists of Alberta and, (2) I am a practising Project Geologist currently employed by DMT Geosciences Ltd. at #415, 708 - 11th Avenue S.W., Calgary Alberta.

(b) I am the author of the technical report herein entitled: "Updated Independent Technical Report on Canada Coal Inc's Nunavut Coal Project" effectively dated November 26th, 2012, and am responsible for the overall content and compilation of the report in its entirety.

(c) I am a graduate of the University of Saskatchewan, Saskatoon, Saskatchewan, with a B.Sc. major in geology (2005). I have practised my profession continuously since graduation and also seasonally prior to graduation. I have been employed with DMT Geosciences LTd. (formerly Associated Geosciences Ltd.) full-time since 2006 and have worked as a geologist-in-training (2006-2010) and as a project geologist (2010-present). I have participated in a variety of due diligence evaluations for coal projects ranging in scope, scale, and Phase for projects located in various countries including: Canada, Australia, Colombia, Indonesia, the United States of America, South Africa, Cameroon, and the Democratic Republic of the Congo. I have prepared NI 43-101 compliant resource estimates (including the preparation of geological seam models) for various coal properties including: (1) Cerro Tasajero Project, owned by Compania Minera Cerro Tasajero, a Bogota based and Colombian owned company which holds an operating underground coking coal mine and a significant land position on the Cerro Tasajero, and (2) Perry Creek Mine, owned by Western Canadian Coal Corporation, a metallurgical coal mine located in the Peace River Coalfield region of northeastern British Columbia, Canada. I am familiar with the NI 43-101 *Standards of Disclosure for Mineral Projects* as well as the Geological Survey of Canada paper 88-21 ("GSC 88-21"), *A Standardized Coal Resource/Reserve Reporting System for Canada*.

(d) I have completed a personal site inspection for the Nunavut Coal Project June 16th through July 31st, 2012.

(e) I am responsible for the preparation of the entire report with the exception of the following limitations: DMT is reliant upon experts at Birtley Coal & Minerals Testing Division and JP PetroGraphics, both of Calgary Alberta, for lab analyses relating to the DMT coal samples; DMT is reliant upon historical exploration accounts for any historic target size estimates estimates (these have not been verified by DMT and are non-compliant with NI 43-101 standards); and DMT is reliant upon Stantec for any content related to heritage resources.

(f) I am considered independent of Canada Coal Inc. I have not received, nor do I expect to receive, any interest, directly or indirectly, in Canada Coal Inc.

(g) I have been engaged (through my employer DMT Geosciences Ltd.) as an independent consultant with Canada Coal Inc. since 2011 and as such I have previously conducted a preliminary assessment of the coal exploration licenses forming the subject of this report.

(h) I have read and understand National Instrument 43-101 and Form 43-101 F1 and the Report has been prepared in compliance with the instrument.

(i) To the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

(j) I consent to the filing of this report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of this report.

PROFESSIONAL GEOLOGIST ALBERTA
SUSAN O'DONNELL

S O'Donnell

Susan O'Donnell, P.Geol.

Dated this 26th day of Nov, 2012 at Calgary Alberta, Canada.

26.0 GLOSSARY OF TERMS

AA	Authorizing Agencies responsible for issuing authorizations (letter, permit, license, lease, certificate, or other written or verbal communication) that authorize a project or a component of a project to proceed.
AANDC	Department of Aboriginal Affairs and Northern Development Canada (formerly known as the Department of Indian Affairs and Northern Development or DIAND).
AGL	Associated Geosciences Ltd., authors of the 2011 independent technical report relating to the Nunavut Coal Project, now known as DMT Geosciences Ltd.
APEX	APEX Geosciences Ltd., an independent consulting group responsible for the preparation of the 2009 NI 43-101 technical report for Weststar. APEX conducted an independent site assessment as part of the NI 43-101 report which including some verification of the historic data.
Ash	Inorganic residue remaining after ignition of combustible substances, determined by definite prescribed methods.
As-Received Basis	Analytical data calculated to the moisture condition of the sample as it arrived at the laboratory and before any processing or conditioning.
ASTM	ASTM International, known until 2001 as American Society for Testing and Materials, an international standards organization who publishes technical standards for a wide range of materials, products, systems, and services.
Bache Peninsula	Contiguous coal exploration licenses numbers: 146 through 153 currently with active statuses controlled by Canada Coal through wholly owned subsidiary.
Birtley	Birtley Coal & Minerals Testing Division, of Calgary Alberta, coal chemical analysis testing laboratory for the 2012 exploration samples.
Canada Coal	Canadian Coal Inc., a Canadian corporation formed under the laws of the Province of Ontario which holds various coal licenses on Ellesmere Island and Axel Heiberg Island of Nunavut Canada forming the subject matter of the technical report contained herein. Formerly known as Pacific Coal Corp.
DIAND	Department of Indian Affairs and Northern Development (now known as the Department of Aboriginal Affairs and Northern Development Canada or AANDC).
DMT	DMT Geosciences Ltd., authors of the independent technical report contained herein.
Fosheim Peninsula	Contiguous coal exploration licenses numbers: 101 through 104, 109 through 111, 122 through 128, 130, 131, 134, 160 through 162, and 166 through 168; currently with active statuses controlled by Canada Coal.

Good Friday Bay	Contiguous coal exploration licenses numbers 177 and 178, currently with active statuses controlled by Canada Coal.
GSC 88-21	Geological Survey of Canada paper 88-21 (“GSC 88-21”), titled '*A Standardized Coal Resource/Reserve Reporting System for Canada'*, used in conjunction with NI 43-101 for reporting of coal resources and coal reserves in Canada.
Gulf	Gulf Canada Resources Inc., a company granted coal licenses in four exploration blocks within the Canadian Arctic Archipelago during 1981.
Hunter	Hunter Exploration Group, a company granted coal licenses in the Fosheim Peninsula and Strathcona Fiord areas in 2008 and 2009. Weststar acquired 80% of Hunter's licenses in 2009 and Canada Coal has subsequently acquired the rights to all of the Weststar and Hunter's coal exploration licenses.
Li Fiord	Contiguous coal exploration license number 179 located on the northwestern shore of Axel Heiberg Island, current status is active, controlled by Canada Coal.
Maceral	A microscopically distinguishable organic component of coal, but including any mineral metter not discernable under the optical microscope.
May Point	Contiguous coal exploration license numbers 112 through 115 with active statuses controlled by Canada Coal.
Mining Recorder	The Mining Recorder's Office in Iqaluit, responsible for subsurface rights administration of Crown land. Point of contact for information on subsurface rights on Crown land administered under the Northwest Territories and Nunavut Mining Regulations (with the exception of royalties' provisions); also responsible for administering the Territorial Coal Regulations.
Moisture	In coal- That moisture determined as the loss in weight under rigidly controlled conditions of temperature, time, and air flow as established in the ASTM Test Method D 3302.
Mokka Fiord	Contiguous coal exploration licenses numbers 180 through 196 located on the northeastern shore of Axel Heiberg Island, currently with active statuses, controlled by Canada Coal.
NI 43-101	The Canadian Securities Administrators National Instrument 43-101 (“NI 43-101) *Standards of Disclosure for Mineral Projects*, a regulations scheme used for the public disclosure of information relating to mineral properties in Canada.
NIRB	Nunavut Impact Review Board, an institution of public government created by the Nunavut Land Claims Agreement to assess the potential impacts of proposed development in the Nunavut Settlement Area prior to approval of the required project authorizations.
Nunavut Coal Project	Term for Canada Coal's 75 coal exploration licenses located on Ellesmere and Axel Heiberg Islands, Nunavut. The project is further divided into the following contiguous license areas:

	Fosheim Peninsula, May Point, Vesle Fiord/South Fosheim, Strathcona Fiord, Stenkul Fiord, and Bach Peninsula.
Pacific Coal	Pacific Coal Corp., former name for the Canadian corporation known as Canada Coal.
Petro-Canada	Petro-Canada Exploration Inc., a company granted coal exploration licenses throughout the Arctic Archipelago between the period 1981 through 1984.
Petrographic Composition	The general makeup of coal in terms of microscopic constituents, specifically macerals and minerals.
Proximate Analysis	In the case of coal and coke- The determination, by prescribed methods of moisture, volatile, matter, fixed carbon (by difference), and ash.
Qualified Person	Qualified person, or QP, as defined by NI 43-101, an accredited professional in the area relating to the property being reported on with at least five years technical experience and at least five years relevant experience to the subject matter of the mineral project and technical report. The QP must be in good standing with an accepted professional association.
Rank	Of coal, a classification designation that indicates the degree of metamorphism or progressive alteration from lignite to anthracite in accordance with ASTM Classification D 388 (Classification of Coals by Rank).
SI	International System of Units, system of measurement, modern form of the metric system.
SID Viewer	Department of Indian and Northern Development- Northwest Territories Region's Spatially Integrated Dataset Viewer Online, contains spatial, digital data that is maintained by DIAND as well as several datasets prepared by others that are useful to DIAND users.
Stantec	Stantec Consulting Ltd., of Calgary Alberta, Heritage Consultants for the 2012 exploration program.
Stenkul Fiord	Contiguous coal exploration license numbers 105, 154, 155, 157 through 159, and 163 through 165, with active statuses controlled by Canada Coal.
Strathcona Fiord	Contiguous coal exploration license numbers 106 through 108 with active statuses controlled by Canada Coal.
Territorial Coal Regulations	Territorial Coal Regulations of the Territorial Lands Act, a set of regulations for coal tenure and mining rights relevant to the Nunavut Coal Project.
Utah	Utah Mines Ltd., a company granted coal exploration licenses on the Strathcona Fiord and May Point properties during 1981.
Vesle Fiord/South Fosheim	Contiguous coal exploration license numbers 169 through 175 with active statuses controlled by Canada Coal.
Vitrain	Shiny black bands, thicker than 0.5 mm, of sub-bituminous and higher rank banded coal.

Vitrinite Reflectance	The percent of incident radiation that is reflected from the polished surface of vitrinite as measured using a reflected light microscope in accordance with ASTM Standard Method D 2796 (Definition of Terms Relating to Megascopic Description of Coal and Coal Seams and Microscopical Description and Analysis of Coal).
Volatile matter	Those products, exclusive of moisture, given off by a material, such as gas or vapor, determined by definite prescribed methods which may vary according to the nature of the material.
Weir	Weir International, Inc., an independent consulting group responsible for the preparation of the 2007 NI 43-101 technical report for West Hawk and Hunter.
West Hawk	West Hawk Development Corporation, a company granted coal licenses in the May Point and Fosheim Peninsula areas in 2005. To the best of the author's knowledge, West Hawk's licenses expired in 2008 according to the three year term and although West Hawk applied to renew the licenses they were not renewed. Weir prepared a NI 43-101 technical report on the West Hawk licenses dated March 2007.
Weststar	Weststar Resources Corporation, a company who obtained coal licenses in the Fosheim Peninsula and Strathcona Fiord areas in 2009 after acquiring 80% of Hunter. Canada Coal has subsequently acquired the rights to all of the Weststar and Hunter's coal exploration licenses.

APPENDIX A JP PetroGraphics Sample Results

Appendix A - JP Petrographics Sample Results

Sample No.			Lab #122478	Lab #122467	Lab #122472	Lab #122939	Lab #122456
Maceral Gp/maceral*			**2012-AGL-FN-005B**	**2012-AGL-FN-003D**	**2012-AGL-FN-004A**	**2012-AGL-FN121B**	**2012-AGL-FN-001D**
Vitrinites/Huminites	**Total huminite/vitrinite**		**72.2**	**74.4**	**70.7**	**67.0**	**54.3**
Telovitrinite/Humotelinite	Textoulminite/Telinite w pores						
	TextoulminiteTelinite w/o pores		1.3	0.7	0.3	2.0	0.7
	Ulminite/Collotelinite w. pores	1					
Detrovitrinite/Humodetrinite	Ulminite/Collotelinite w/o pores	2	32.0	27.7	34.0	21.3	28.0
	Collodetrinite-liptinite	3	17.3	16.7	23.0	12.0	11.3
	Collodetrinite-inertinite	4	10.3	8.3	3.7	3.0	7.0
	Vitrodetrinite	5					0.3
Gelovitrinite/Humogelinite	Gelinite/gelinite	6	4.3	6.7	2.7	9.7	3.3
	Corpohuminite	7	7.0	14.3	7.0	19.0	3.7
Inertinites	**Total inertinite**		**15.2**	**13.4**	**9.7**	**21.1**	**24.0**
Teloinertinite	Fusinite w. mesopores	Q	7.3	4.0	0.7	4.3	6
	Fusinite- closed/filled pores	W		0.3			0.3
	Semifusinite w. mesopores	E	3.3	3.3	0.7	3.7	2.7
	Semifusinite- closed pores	R			1.3	2.0	0.7
	Funginite	T	0.3	1.7	2.3	2.7	1.3
Geloinertinite	Macrinite	Y	1.3	0.7	0.7	0.7	4.0
	Semimacrinite	U	1.0	1.0	1.3	2.7	2.7
	Secretinite	P					
	Micrinite	I		0.7		3.0	
Detroinertinite	Inertodetrinite	O	2.0	1.7	2.7	2.0	6.3
Liptinites	**Total liptinite**		**12.0**	**12.2**	**19.6**	**11.6**	**20.6**
	Resinite	A	1.3	1.0	2.3	0.3	0.3
	Sporinite	S	2.0	2.3	4.7	2.7	5.0
	Cutinite	D	2.0	1.3	2.6	3.0	1.0
	Alginite	F	1.0		1.3	0.3	5.0
	Exsudatinite	G					0.3
	Liptodetrinite	H	2.7	3.3	3.7	2.0	3.0
	Suberinite	J	3.0	4.3	3.0	3.3	3.0
	Bituminite	K			2.0		3.0
Mineral matter	**Total Mineral matter**		**0.6**	**0.0**	**0.0**	**0.3**	**1.1**
	syndepositional or syndiagenetic		0.3	0.0	0.0	0.0	0.5
	post-diagenetic cleat/fracture-fill		0.3	0.0	0.0	0.0	0.3
	Clays	Z					0.5
	Calcite/dolomite	X	0.3				
	Limonite	C				0.3	0.3
	Quartz	8	0.3				
	Pyrite/sulphides	9					0.3
	Carb Shale	0					
	Total %		**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Coal Rank (ASTM)			Sub bituminous B	Sub A/HVB C	Sub A/HVB C	Sub A/HVB C	Sub A/HVB C
% Ro random**	(see Ro data on sheet 2)		**0.45**	**0.52**	**0.53**	**0.51**	**0.5**
standard deviation							0.02
% Ro max			**0.48**	**0.56**	**0.57**	**0.55**	**0.54**

* determined by point counting (500 points)

** based on 50 random reflectance measurements

		Lab #122478	Lab #122467	Lab #122472	Lab #122939	Lab #122456
Comments/observations	**Coal lithotype** (based on maceral analysis)	banded bright coal >10% gelinite	banded bright coal 20% Gelinite	banded bright coal ca. 10% gelinite	banded bright coal	banded coal
	Permeability -Cleat /fracture	particle geometry suggests rudiments of cleat in bright coal laminae	particle geometry suggests rudiments of cleat in bright coal laminae	particle geometry & strong rectangular fractures suggests cleat is present of in bright coal laminae	particle geometry & strong rectangular fractures suggests cleat is present of in bright coal laminae	particle geometry suggests cleat present in bright coal laminae mesopores in teloinertinite partly filled by exsudatinite
	Mineralization					
	sulphides	n/a	n/a	n/a		traces pyrite
	carbonates	minor, trace carbonate is fracture-filling & post-diagenetic	n/a	n/a		traces of syn-diagenetic allophane or kaolinite occluding mesopores in telo-inertinite
	clay mins & quatrz	minor siliceous shale lense syn depositional				mesopores in telinertinite partly filled by allophane or kaolinite
	other				traces of limonite	
	Porosity	open mesoporosity in teloinertinite	mesopores in telo inertinite & funginite are open	mesopores in telo inertinite & funginite are open but not abundant		mesopores in telinertinite partly filled by allophane or kaolinite
	Additional comments	structure in telohuminite suggests subbituminous rank very low ash coal	very low ash coal	10% of detrovitrinite is perhydrous and assoc bituminite & alginite (5% of whole coal)	sporinite includes sporangia presence of textinite indicates low rank	>50% of detrovitrinite is perhydrous and assoc bituminite & alginite ca.11% of whole coal)

% Vitrinite refelctance, %Rom , random reflectance measured on collotelinite

	Lab #122478	Lab #122467	Lab #122472	Lab #122939	Lab #122456
Sample No.	2012-AGL-FN-005B	2012-AGL-FN-003D	2012-AGL-FN-004A	2012-AGL-FN-121B	2012-AGL-FN-001D
1	0.44	0.49	0.52	0.46	0.48
2	0.47	0.51	0.59	0.49	0.49
3	0.43	0.53	0.61	0.50	0.52
4	0.44	0.52	0.53	0.50	0.50
5	0.43	0.50	0.57	0.55	0.47
6	0.42	0.55	0.54	0.50	0.50
7	0.40	0.57	0.52	0.55	0.47
8	0.46	0.55	0.54	0.51	0.44
9	0.44	0.49	0.54	0.49	0.45
10	0.43	0.50	0.54	0.51	0.47
11	0.40	0.56	0.54	0.54	0.50
12	0.43	0.52	0.52	0.51	0.51
13	0.43	0.57	0.52	0.54	0.53
14	0.42	0.50	0.53	0.53	0.55
15	0.46	0.50	0.52	0.49	0.45
16	0.46	0.49	0.52	0.48	0.45
17	0.42	0.51	0.51	0.50	0.49
18	0.45	0.61	0.53	0.55	0.52
19	0.44	0.46	0.52	0.50	0.51
20	0.47	0.48	0.53	0.54	0.51
21	0.51	0.50	0.55	0.53	0.52
22	0.53	0.53	0.51	0.48	0.50
23	0.51	0.52	0.52	0.52	0.48
24	0.43	0.55	0.50	0.53	0.56
25	0.46	0.48	0.51	0.49	0.49
26	0.46	0.52	0.49	0.50	0.51
27	0.46	0.47	0.51	0.49	0.53
28	0.49	0.53	0.51	0.51	0.49
29	0.46	0.57	0.51	0.51	0.56
30	0.44	0.53	0.52	0.51	0.50
31	0.45	0.52	0.51	0.50	0.52
32	0.48	0.51	0.54	0.51	0.52
33	0.48	0.54	0.52	0.51	0.51
34	0.48	0.50	0.50	0.54	0.51
35	0.44	0.52	0.54	0.53	0.54
36	0.45	0.54	0.49	0.55	0.53
37	0.44	0.48	0.52	0.49	0.51
38	0.46	0.49	0.53	0.53	0.51
39	0.50	0.52	0.55	0.49	0.49
40	0.48	0.53	0.53	0.57	0.54
41	0.49	0.50	0.51	0.49	0.48
42	0.45	0.49	0.55	0.50	0.52
43	0.46	0.49	0.51	0.52	0.54
44	0.44	0.46	0.50	0.50	0.53
45	0.46	0.49	0.57	0.51	0.55
46	0.45	0.51	0.50	0.50	0.49
47	0.44	0.54	0.53	0.51	0.49
48	0.46	0.53	0.54	0.50	0.51
49	0.44	0.52	0.50	0.54	0.50
50	0.46	0.55	0.51	0.53	0.49
mean % Ror	**0.45**	**0.52**	**0.53**	**0.51**	**0.50**
std dev	0.03	0.03	0.02	0.02	0.03
n	50	50	50	50	50
% Ro max (Ting,	**0.48**	**0.55**	**0.56**	**0.55**	**0.54**
Coal Rank (ASTM)	**Sub bit B**	**Sub bituminous A/High volatile bituminous C**			

Sample No.			Lab #122966	Lab #123095	Lab #123097	Lab #123108	Lab #123138
Maceral Gp/maceral*			**2012-AGL-FN-075B**	**2012-AGL-FN-134A**	**2012-AGL-FN-136A**	**2012-AGL-FN-138A**	**2012-AGL-FN-143E**
Vitrinites/Huminites	**Total huminite/vitrinite**		**73.1**	**65.4**	**68.9**	**63.0**	**62.1**
Telovitrinite/Humotelinite	Textoulminite/Telinite w pores						
	TextoulminiteTelinite w/o pores		1.7	0.7	2.0	0.7	0.7
	Ulminite/Collotelinite w. pores	1					
Detrovitrinite/Humodetrinite	Ulminite/Collotelinite w/o pores	2	28.7	34.7	29.3	21.3	31.7
	Collodetrinite-liptinite	3	22.7	11.7	14.0	16.3	13.3
	Collodetrinite-inertinite	4	1.0	1.0	8.0	5.0	3.3
	Vitrodetrinite	5		5.3	0.3		1.7
Gelovitrinite/Humogelinite	Gelinite/gelinite	6	10.3	9.0	4.0	9.0	2.7
	Corpohuminite	7	8.7	3.0	11.3	10.7	8.7
Inertinites	**Total inertinite**		**6.2**	**2.9**	**16.8**	**22.7**	**7.2**
Teloinertinite	Fusinite w. mesopores	Q		0.3	2.7	2.7	1
	Fusinite- closed/filled pores	W	1.7	0.7	0.7	1.0	1.3
	Semifusinite w. mesopores	E	0.3		3.7	1.3	0.3
	Semifusinite- closed pores	R	0.3	0.7	0.3	6.0	1.0
	Funginite	T	0.3	0.3	1.7	2.0	
Geloinertinite	Macrinite	Y	1.3	0.3	2.7	2.7	1.3
	Semimacrinite	U	1.3	0.3	2.7	5.0	1.0
	Secretinite	P					
	Micrinite	I				0.3	
Detroinertinite	Inertodetrinite	O	1.0	0.3	2.3	1.7	1.3
Liptinites	**Total liptinite**		**16.1**	**9.4**	**12.3**	**12.3**	**11.9**
	Resinite	A			0.3		0.3
	Sporinite	S	2.3	0.7	1.0	2.3	1.3
	Cutinite	D	3.0	3.0	1.7	1.0	0.3
	Alginite	F	2.3		1.0		
	Exsudatinite	G	0.9				
	Liptodetrinite	H	4.3	3.7	3.0	3.0	4.0
	Suberinite	J	3.3	0.7	5.3	5.3	5.0
	Bituminite	K		1.3		0.7	1.0
Mineral matter	**Total Mineral matter**		**4.6**	**22.3**	**2.0**	**2.0**	**18.8**
	syndepositional or syndiagenetic		3.6	22.3	2.0		
	post-diagenetic cleat/fracture-fill						
	Clays	Z	2.3	12.6		0.7	6.7
	Carbonates (calcite/ankerite/dolomite)	X	1.3		2.0	1.0	1.4
	Limonite	C	1.0			0.3	
	Quartz	8					
	Pyrite/sulphides	9					
	Carb Shale	0		9.7			10.7
	Total %		**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Coal Rank (ASTM)			Sub bituminous B	Sub bituminous A/HVB C	Sub bituminous A/HVB C	High Volatile Bituminous C	High Volatile Bituminous C
% Ro random**	(see Ro data on sheet 2)		**0.43**	**0.50**	**0.54**	**0.58**	**0.60**
standard deviation							
% Ro max			**0.46**	**0.54**	**0.58**	**0.62**	**0.65**

* determined by point counting (500 points)

** based on 50 random reflectance measurements

Comments/observations			Lab #122966	Lab #123095	Lab #123097	Lab #123108	Lab #123138
	Coal lithotype (based on maceral analysis)		Banded bright coal	Shaley coal likely perhydrous due to bituminite-rich laminae	Banded bright coal	Banded bright coal	Banded bright coal with carb shale laminae
	Permeability-Cleat /fracture		particle geometry suggests cleat fracture is present bright coal micro cleat- in telovitrinite bds partly filling by exsudatinite + continuous cleat partial fill	low perm due to high mineral (clays) content	particle geometry suggests cleat fractures are present bright coal	particle geometry suggests cleat fractures are present bright coal	
	Mineralization						
		sulphides					
		carbonates	massive carbonate possibly ankerite/siderite & syndiagenetic		massive carbonate filling fratures likely sydepositional; concretions of siderite? present	massive carbonate predominantly siderite -massive limonite present also	massive carbonate is dominated by dolomite; minor siderite as micro- concretions
		clay mins & quatrz	syndepoistional clay minerals	dominant minerals are clay in lenses and carb- onaceous shale laminae			
		other	limonite				
	Porosity		pores in teloinertinites largely occluded by sec- ondary liptinite - exsudatinite and primary liptinite, alginite	low due to high proportion of clay minerals occluding pores in matrix and coal	low due to high levles of gel- ification and inclusions of resinite	low porosity due to high degrees of gelification in inertinite and vitrinite macerals	low porosity due to high degrees of gelification in inertinite and vitrinite macerals
	Additional comments		-Bright coal laminae is dominated by gelinite macerals including pori- gelinite - mod high liptinite content -most mineral matter is syn- depositional or diagenetic	Shaley coal Bituminite-rich lamiinae common - may affect Vro data (lower due to perhydrous vitrinite effect	unusual coals with large proportion of gelinite large proportions of gelinite and associated suberinite	-large proportion corpogelinite assocaited with suberinite -highly gelified tissues in vitrinite and inertinite groups suggests large % of the coal is derived from root tissues and peat formed under high water table	shaley laminae common and clay mineral content of vitrinite laminae is greater than in other samples

% Vitrinite refelctance, %Rom , random reflectance measured on collotelinite

Sample No.	Lab #122966	Lab #123095	Lab #123097	Lab #123108	Lab #123138
	075B	134A	136A	138A	143E
1	0.41	0.48	0.49	0.59	0.54
2	0.43	0.45	0.54	0.54	0.52
3	0.43	0.46	0.47	0.65	0.54
4	0.43	0.47	0.57	0.59	0.58
5	0.39	0.47	0.48	0.56	0.60
6	0.46	0.41	0.53	0.64	0.53
7	0.44	0.43	0.49	0.57	0.53
8	0.42	0.45	0.57	0.54	0.52
9	0.44	0.52	0.54	0.64	0.58
10	0.46	0.45	0.50	0.58	0.59
11	0.49	0.51	0.50	0.59	0.55
12	0.48	0.50	0.55	0.57	0.57
13	0.48	0.44	0.51	0.55	0.53
14	0.49	0.53	0.53	0.58	0.62
15	0.46	0.48	0.52	0.56	0.59
16	0.45	0.45	0.53	0.53	0.59
17	0.38	0.42	0.55	0.53	0.59
18	0.44	0.45	0.50	0.57	0.62
19	0.44	0.45	0.56	0.58	0.64
20	0.39	0.47	0.54	0.56	0.61
21	0.41	0.47	0.54	0.58	0.57
22	0.44	0.48	0.56	0.60	0.58
23	0.41	0.44	0.56	0.59	0.62
24	0.45	0.47	0.56	0.56	0.57
25	0.42	0.42	0.56	0.56	0.60
26	0.40	0.51	0.57	0.54	0.64
27	0.47	0.48	0.54	0.61	0.66
28	0.40	0.48	0.57	0.61	0.65
29	0.40	0.49	0.52	0.61	0.66
30	0.40	0.48	0.52	0.59	0.64
31	0.39	0.46	0.56	0.63	0.65
32	0.40	0.46	0.55	0.53	0.55
33	0.43	0.46	0.54	0.57	0.61
34	0.44	0.44	0.52	0.64	0.58
35	0.48	0.51	0.57	0.57	0.60
36	0.40	0.49	0.55	0.57	0.58
37	0.43	0.46	0.57	0.59	0.67
38	0.45	0.49	0.52	0.57	0.62
39	0.46	0.46	0.52	0.62	0.63
40	0.41	0.49	0.54	0.58	0.62
41	0.42	0.46	0.52	0.57	0.63
42	0.41	0.49	0.56	0.61	0.62
43	0.43	0.47	0.52	0.54	0.58
44	0.45	0.51	0.59	0.60	0.59
45	0.42	0.44	0.55	0.60	0.61
46	0.45	0.43	0.57	0.60	0.61
47	0.42	0.43	0.59	0.55	0.57
48	0.45	0.47	0.51	0.53	0.60
49	0.40	0.43	0.53	0.62	0.64
50	0.52	0.43	0.58	0.62	0.65
mean % Ror	**0.43**	**0.47**	**0.54**	**0.58**	**0.60**
std dev	0.03	0.03	0.03	0.03	0.04
n	50	50	50	50	50
% Ro max (Ting, Coal Rank (ASTM)	**0.46**	**0.50**	**0.57**	**0.62**	**0.64**
Comments	Reflectance may be low due to impregn-ation by resin and /or exsudatinite	Reflectance may suppressed due to pergydrous nature of bituminite-rich laminae			

APPENDIX B Birtley Chemical Sample Results

Appendix B – Birtley Chemical Sample Results

Sample Prefix	Sample Suffix	Date	Coordinates (UTM Zones 16,17) NAD 83			Width	Comments	Chemical Analyses																			Classification
2012-AGL-FN-000	A-B-C….	dd/mm/yy	Northing	Easting	UTM ZONE	(m)		ADM %	RM%		ASH%			VOL%			FC%			S%			BTU/LB			SG	Apparent Coal Ranking
Foshiem Peninsula Results								ADB	ADB	ARB	ADB	ARB	DB	ADB	ARB	DB	ADB	ARB	DB	ADB	ARB	DB	ADB	ARB	DB	ADB	ASTM Standard
2012-AGL-FN-001	A	19/06/12	0548577	8867086	16X	1.00	Hw- coal in contact with white sst, thin, flay, high ash appearance, beds thicken downards, ironstaining seen, less 5% vitrain, bedding 1-5mm more visible vitrinite	15.59	5.63	20.35	10.54	8.90	11.17	34.23	28.89	36.27	49.60	41.87	52.56	0.35	0.30	0.37	10264	8663	10876	1.41	Subbituminous B coal
	B	19/06/12				1.00	Ironstained, highly fragmented, weathered, beds are 1-5mm	16.26	7.16	22.26	4.13	3.46	4.45	35.36	29.61	38.09	53.35	44.67	57.46	0.27	0.23	0.29	10957	9175	11802	1.36	Subbituminous B coal
	C	19/06/12				1.00	Bedding slightly thicker, glassy appearance, iron staining, fractured, glassy vitrinite appearing as you move down	13.43	8.16	20.49	3.08	2.67	3.35	36.92	31.96	40.20	51.84	44.88	56.45	0.25	0.22	0.27	11053	9569	12035	1.33	Subbituminous B coal
	D	19/06/12				1.10	As above, large ice lense at base of coal bed	10.45	7.44	17.11	4.60	4.12	4.97	36.66	32.83	39.61	51.30	45.94	55.42	0.30	0.27	0.32	11064	9908	11953	1.36	Subbituminous B coal
	E	19/06/12				0.50	Floor Rock, unconsolidated mdst, interbeded ice lenses	13.77	0.88	14.53	87.74	75.66	88.52	9.04	7.80	9.12	2.34	2.02	2.36	0.05	0.04	0.05	445	384	449	2.48	N/A
	F	19/06/12				0.25	Roof Rock, Sample 30m South of ABCD along strike, unconsolidated sst, with coaly lenses	7.46	0.57	7.99	92.76	85.84	93.29	5.85	5.41	5.88	0.82	0.76	0.82	0.06	0.06	0.06	330	305	332	2.61	N/A
2012-AGL-FN-002	A	19/06/12	0548477	8867921	16X	0.85	Hw- coal, semi bright, blocky vitrain, jointing vertical	10.33	3.79	13.72	44.84	40.21	46.61	25.75	23.09	26.76	25.62	22.97	26.63	0.49	0.44	0.51	6104	5474	6344	1.72	Subbituminous B coal
	B	19/06/12				0.68	Vitirinite band, shiny, moving up carb-mdst, irregular coaly lenses	13.38	5.42	18.08	9.15	7.93	9.67	38.48	33.33	40.69	46.95	40.67	49.64	0.45	0.39	0.48	10823	9375	11443	1.36	Subbituminous B coal
	C	19/06/12				0.82	Coal, vitrinite, shiny, lower 0.10m carb-mdst	10.23	6.74	16.28	30.66	27.52	32.88	29.94	26.88	32.10	32.66	29.32	35.02	0.26	0.23	0.28	7672	6887	8226	1.56	Subbituminous B coal
	D	19/06/12				0.65	Floor Rock-carb. Mdst, dk. Br. Laminated	10.73	2.84	13.27	73.50	65.61	75.65	13.40	11.96	13.79	10.26	9.16	10.56	0.16	0.14	0.16	2269	2026	2335	2.26	N/A
	E	19/06/12				0.40	Roof Rock-sst, reddish color, coaly stringers	7.81	4.52	11.97	76.26	70.31	79.87	12.68	11.69	13.28	6.54	6.03	6.85	0.18	0.17	0.19	1240	1143	1299	2.25	N/A
2012-AGL-FN-003	A	20/06/12	0548708	8867915	16X	1.00	Hw- stratified clarin-durain, very thin beds, jointing 90 to strike, britile , minor vitrain leses, fusain on partings	9.59	7.12	16.02	6.73	6.08	7.25	38.16	34.50	41.09	47.99	43.39	51.67	0.23	0.21	0.25	10237	9256	11022	1.41	Subbituminous B coal
	B	20/06/12				1.00	as above	8.78	7.55	15.67	3.26	2.97	3.53	37.93	34.60	41.03	51.26	46.76	55.45	0.17	0.16	0.18	10679	9741	11551	1.37	Subbituminous B coal
	C	20/06/12				1.00	as above	7.45	8.72	15.52	2.32	2.15	2.54	37.76	34.95	41.37	51.20	47.39	56.09	0.16	0.15	0.18	10817	10011	11850	1.36	Subbituminous B coal
	D	20/06/12				1.30	as above, dull gray, almost sheared vitrain	4.43	8.18	12.25	2.40	2.29	2.61	38.10	36.41	41.49	51.32	49.05	55.89	0.17	0.16	0.19	10821	10342	11785	1.39	Subbituminous A coal
	E	20/06/12				1.50	as above	5.43	10.53	15.39	2.88	2.72	3.22	36.81	34.81	41.14	49.78	47.08	55.64	0.17	0.16	0.19	10671	10092	11927	1.36	Subbituminous B coal
	F	20/06/12				2.00	as above, sampled 10meters to the east, floor of upper coal	5.59	10.81	15.80	4.39	4.14	4.92	36.31	34.28	40.71	48.49	45.78	54.37	0.18	0.17	0.20	10455	9870	11722	1.36	Subbituminous B coal
	G	20/06/12				1.00	Hangingwall-carbonaceous Mdst 0.6m	6.80	7.85	14.12	6.46	6.02	7.01	37.91	35.33	41.14	47.78	44.53	51.85	0.40	0.37	0.43	10387	9680	11272	1.37	Subbituminous B coal
	H	20/06/12				0.75	Footwall-Mdst, good coal	6.47	9.32	15.19	9.91	9.27	10.93	37.76	35.32	41.64	43.01	40.23	47.43	0.38	0.36	0.42	10075	9423	11110	1.39	Subbituminous B coal
2012-AGL-FN-004	A	22/06/12	0548554	8868084	16X	1.10	hw - shiny, hard ,blocky beds, dull gray, ice lenses	7.16	12.01	18.31	8.21	7.62	9.33	37.53	34.84	42.65	42.25	39.22	48.02	0.34	0.32	0.39	10384	9640	11801	1.35	Subbituminous A coal

	B	22/06/12				0.06	Soft sheared, high ash, dull gray, thinner beds then above	11.19	7.02	17.42	57.64	51.19	61.99	19.34	17.18	20.80	16.00	14.21	17.21	0.32	0.28	0.34	3687	3275	3965	1.92	Lignite A
	C	22/06/12				1.94	fw- thicker beds (5mm) shiny, blocky	6.33	10.96	16.60	27.83	26.07	31.26	29.04	27.20	32.61	32.17	30.13	36.13	0.25	0.23	0.28	7379	6912	8287	1.54	Subbituminous B coal
	D	20/06/12				0.40	Roof:HW:0.00 -0.40- carbonaceous Mdst, coaly lenses	24.45	1.48	25.57	90.91	68.68	92.28	6.24	4.71	6.33	1.37	1.04	1.39	0.04	0.03	0.04	375	283	381	2.54	N/A
	E	20/06/12				0.30	Floor:0.00-0.30- carbonaceous Mdst, iron staining	14.30	3.71	17.48	82.86	71.01	86.05	9.49	8.13	9.86	3.94	3.38	4.09	0.09	0.08	0.09	805	690	836	2.41	N/A
2012-AGL-FN-005	A	23/06/12	0548678	8867950	16X	1.00	Sampled from floor up seam..top heavy O/B, floor carb-mdst, same seam as 003-FN	7.40	8.89	15.63	2.34	2.17	2.57	39.35	36.44	43.19	49.42	45.76	54.24	0.15	0.14	0.16	10451	9678	11471	1.37	Subbituminous A coal
	B	23/06/12				1.00	Sampled from floor up seam..top heavy O/B, floor carb-mdst, same seam as 003-FN	0.35	8.21	8.53	2.62	2.61	2.85	38.43	38.30	41.87	50.74	50.56	55.28	0.15	0.15	0.16	10359	10323	11286	1.39	Lignite A
	C	23/06/12				1.00	Sampled from floor up seam..top heavy O/B, floor carb-mdst, same seam as 003-FN	8.24	5.56	13.34	2.68	2.46	2.84	40.52	37.18	42.91	51.24	47.02	54.26	0.14	0.13	0.15	10729	9845	11361	1.39	Subbituminous B coal
	D	23/06/12				1.00	Sampled from floor up seam..top heavy O/B, floor carb-mdst, same seam as 003-FN	6.79	7.48	13.76	2.36	2.20	2.55	39.62	36.93	42.82	50.54	47.11	54.63	0.14	0.13	0.15	10785	10053	11657	1.36	Subbituminous B coal
	E	23/06/12				1.00	Sampled from floor up seam..top heavy O/B, floor carb-mdst, same seam as 003-FN	13.68	2.90	16.19	2.68	2.31	2.76	39.48	34.08	40.66	54.94	47.42	56.58	0.14	0.12	0.14	11272	9730	11609	1.38	Subbituminous B coal
2012-AGL-FN-006	A	25/06/12	0545434	8855725	16X	0.70	HW - Thin dedding, dull to dark color	15.25	5.70	20.08	7.12	6.03	7.55	46.60	39.49	49.42	40.58	34.39	43.03	0.69	0.58	0.73	9831	8332	10425	1.41	Subbituminous C coal
	B	25/06/12				0.60	Soft sheared coal, high ash	23.48	10.13	31.23	7.48	5.72	8.32	42.71	32.68	47.52	39.68	30.36	44.15	0.46	0.35	0.51	9526	7289	10600	1.41	Lignite A
	C	25/06/12				0.70	as above	30.84	6.76	35.51	7.10	4.91	7.61	46.10	31.88	49.44	40.04	27.69	42.94	0.50	0.35	0.54	9820	6792	10532	1.40	Lignite A
	D	25/06/12				0.80	softer, sheared, possibly higher ash, yellow, brown oxidation ,rusty staining	28.14	4.89	31.65	8.96	6.44	9.42	45.57	32.75	47.91	40.58	29.16	42.67	1.40	1.01	1.47	9707	6976	10206	1.44	Lignite A
	E	25/06/12				1.80	as above, harder and more blocky	27.71	5.71	31.84	19.44	14.05	20.62	38.79	28.04	41.14	36.06	26.07	38.24	0.41	0.30	0.43	8424	6090	8934	1.51	Lignite A
	F	25/06/12				0.30	Floor sample: carb mdsn	22.29	2.09	23.91	87.43	67.94	89.30	9.17	7.13	9.37	1.31	1.02	1.34	0.04	0.03	0.04	337	262	344	2.53	N/A
	G	25/06/12				0.15	Roof sample; carn mdsn	23.61	2.79	25.75	56.54	43.19	58.16	24.95	19.06	25.67	15.72	12.01	16.17	0.35	0.27	0.36	3631	2774	3735	1.98	Lignite B
2012-AGL-FN-015	A	26/06/12	0535967	8878142	16X	1.22	coal is shiny, bright, hard, vitrain bands visible 0.45-0.53m mdst parting not sampled, .53 - 1.3m coal as above, fw is 15m white sand	12.74	7.10	18.94	13.72	11.97	14.77	33.88	29.56	36.47	45.30	39.53	48.76	0.64	0.56	0.69	9633	8406	10369	1.43	Subbituminous B coal
2012-AGL-FN-016	A	26/06/12	0536041	8878131	16X	1.66	.56m typical, clarian, thinly bedded, dull and soft, .56-1.22 harder, possibly durain, dull gray color, thicker beds than above, 1.22-1.66, soft sheared, platy, dull	8.22	6.30	14.01	38.89	35.69	41.50	25.88	23.75	27.62	28.93	26.55	30.88	0.59	0.54	0.63	6201	5691	6618	1.68	Subbituminous C coal
2012-AGL-FN-017	A	26/06/12	0536049	8878131	16X	2.30	Coal is thinly bedded, dull black, clarain, dipping 42E	14.25	1.42	15.46	51.09	43.81	51.83	24.48	20.99	24.83	23.01	19.73	23.34	0.29	0.25	0.29	5540	4751	5620	1.82	Subbituminous C coal
2012-AGL-FN-019	A	26/06/12	0536052	8878125	16X	1.20	.15m soft sheared coal, .15-1.10, typicall dull play coal, 1.10 - 1.20m soft sheared coal	12.34	2.09	14.18	44.83	39.30	45.79	28.19	24.71	28.79	24.89	21.82	25.42	0.43	0.38	0.44	6112	5358	6242	1.72	Subbituminous C coal
2012-AGL-FN-021	A	26/06/12	0536102	8878177	16X	0.40	HW, clarane present	11.93	4.28	15.70	24.05	21.18	25.13	34.70	30.56	36.25	36.97	32.56	38.62	0.59	0.52	0.62	8529	7511	8910	1.53	Subbituminous B coal
	B	26/06/12				1.00	clarane, soft, thin bedded, shaley	11.98	5.86	17.13	15.99	14.08	16.99	34.36	30.25	36.50	43.79	38.55	46.52	0.28	0.25	0.30	9430	8301	10017	1.47	Subbituminous B coal
	C	26/06/12				0.80	clarane as A&B, soft sheared near bottom,	13.81	8.24	20.91	16.27	14.02	17.73	33.44	28.82	36.44	42.05	36.24	45.83	0.28	0.24	0.31	9176	7909	10000	1.45	Subbituminous C coal

							vitrinite bands, 10cm thick																				
2012-AGL-FN-025	A	27/06/12	0537477	8880403	16X	1.00	Roof - typical Mdsn cap, coal is typical, dully, slightly blocky, fewer thin partings	24.26	5.06	28.09	5.21	3.95	5.49	46.46	35.19	48.94	43.27	32.77	45.58	0.27	0.20	0.28	10323	7819	10873	1.39	Lignite A
	B	27/06/12				1.00	as above	25.25	5.22	29.15	5.08	3.80	5.36	44.48	33.25	46.93	45.22	33.80	47.71	0.21	0.16	0.22	9919	7414	10465	1.43	Lignite A
	C	27/06/12				1.00	as above	23.63	6.30	28.50	3.97	3.03	4.24	44.28	33.79	47.26	45.45	34.68	48.51	0.18	0.14	0.19	10158	7752	10841	1.40	Lignite A
2012-AGL-FN-026	A	28/06/12	0447521	8908019	17X	1.10	0.34m mdst in contact with white sst, roof typical mdst	19.52	11.17	28.51	18.92	15.23	21.30	36.69	29.53	41.30	33.22	26.73	37.40	0.59	0.47	0.66	7790	6269	8770	1.50	Lignite A
2012-AGL-FN-027	A	28/06/12	0447563	8907986	17X	0.85	Coal not continious, seperated by partings, sampled large enough coal parts	14.29	14.25	26.50	21.90	18.77	25.54	35.19	30.16	41.04	28.66	24.57	33.42	0.57	0.49	0.66	7250	6214	8455	1.49	Lignite A
2012-AGL-FN-028	A	28/06/12	0447484	8908025	17X	1.30	MDST FW, HW is light gray weathered SS coal is dull, thin-med bedding	11.82	13.69	23.90	24.13	21.28	27.96	35.85	31.61	41.54	26.33	23.22	30.51	0.54	0.48	0.63	6603	5822	7650	1.52	Lignite A
2012-AGL-FN-029	A	28/06/12	0447707	8908156	17X	0.50	hw is mdst, .5m coal .85m mdst parting	20.28	11.16	29.18	9.05	7.21	10.19	40.46	32.25	45.54	39.33	31.35	44.27	0.45	0.36	0.51	9538	7603	10736	1.39	Lignite A
	B	28/06/12				1.00	Hard coal, typical thin partings	20.55	10.92	29.23	8.26	6.56	9.27	40.90	32.49	45.91	39.92	31.71	44.81	0.27	0.21	0.30	9576	7608	10750	1.40	Lignite A
	C	28/06/12				1.00	Hard coal, as above, fw is brown mdst / clay	18.61	10.79	27.39	8.43	6.86	9.45	41.39	33.69	46.40	39.39	32.06	44.15	0.23	0.19	0.26	9224	7508	10340	1.44	Lignite A
2012-AGL-FN-031	A	28/06/12	0447390	8907325	17X	0.90	Roof White light brown sst, coal , thin med bedding, dull, floor ovrbrdn/ till	16.93	12.20	27.07	13.76	11.43	15.67	38.96	32.36	44.37	35.08	29.14	39.95	0.51	0.42	0.58	8227	6834	9370	1.45	Lignite A
2012-AGL-FN-032	A	29/06/12	0448559	8906538	17X	1.20	roof is 1.2m mdst, floor is also mdst, 1.2m coal is top .8m more blocky, than .40m thnner bedding below	12.20	8.96	20.07	29.45	25.86	32.35	34.88	30.62	38.31	26.71	23.45	29.34	0.36	0.32	0.40	6822	5989	7493	1.56	Subbituminous C coal
2012-AGL-FN-033	A	29/06/12	0448487	8906704	17X	1.00	FW not confirmed, coal is soft, thin bedded and shaley	17.87	15.61	30.69	6.31	5.18	7.48	39.81	32.69	47.17	38.27	31.43	45.35	0.16	0.13	0.19	8490	6973	10060	1.43	Lignite A
	B	29/06/12				1.40	FW - Coaly mud within an ice lense	14.50	16.37	28.50	7.28	6.22	8.71	40.41	34.55	48.32	35.94	30.73	42.98	0.15	0.13	0.18	8445	7220	10098	1.39	Lignite A
2012-AGL-FN-034	A	29/06/12	0448715	8906904	17X	-	Grab Sample	12.34	13.38	24.07	23.85	20.91	27.53	35.34	30.98	40.80	27.43	24.04	31.67	0.27	0.24	0.31	6999	6135	8080	1.51	Lignite A
2012-AGL-FN-035	A	29/06/12	0448348	8907324	17X	1.00	Coal is bloicky, dull, shiny in thicker beds, sheared coal aslo, typical mdst fw, carb mudstone hw	14.81	16.43	28.81	10.44	8.89	12.49	40.55	34.54	48.52	32.58	27.75	38.99	0.82	0.70	0.98	8552	7285	10233	1.41	Lignite A
2012-AGL-FN-036	A	29/06/12	0448448	8907398	17X	1.25	Hw typical mdst, coal but brown weathing 0-0.2m, thin plated bedding 0.2 - 1.25m	11.74	19.02	28.53	17.77	15.68	21.94	35.24	31.10	43.52	27.97	24.69	34.54	1.55	1.37	1.91	8461	6241	8732	1.47	Lignite A
2012-AGL-FN-037	A	30/06/12	0452006	8898975	17X	1.50	Solid Coal, shiny bright 0 - 1.2m, high ash coal, thinner bedding 1.2-1.4m , 1.4-1.5 coal. fw white sst, roof carb-mdst	11.50	11.93	22.06	15.99	14.15	18.16	32.23	28.52	36.60	39.85	35.27	45.25	0.53	0.47	0.60	8461	7488	9607	1.47	Subbituminous C coal
2012-AGL-FN-038	A	30/06/12	0452016	8898978	17X	1.70	Roof white/bwn sst, frozen mdst grading within coal grading to white sst floor	12.16	11.55	22.31	10.62	9.33	12.01	34.99	30.74	39.56	42.84	37.63	48.43	0.48	0.42	0.54	9133	8022	10326	1.43	Subbituminous C coal
2012-AGL-FN-039	A	30/06/12	0451966	8898979	17X	1.00	Carb-mdst with wht sst contact roof, hard dull gray, possibly durane 0-0.6m softer spots with bright pieces 0.6-1m, lfoor sandy carb mdst/sst in contact with white sst	9.20	8.33	16.76	41.53	37.71	45.30	27.09	24.60	29.55	23.05	20.93	25.14	0.24	0.22	0.26	5384	4889	5873	1.76	Lignite A
2012-AGL-FN-040	A	30/06/12	0451973	8898981	17X	2.00	mdst parting 0.35-0.45 but sampled, coal is more blocky after .35m with occasional thin bedding, after 2m coal is frozen in contact w white sst, roof is typical mdst	17.12	11.15	26.36	10.02	8.30	11.28	37.53	31.10	42.24	41.30	34.23	46.48	0.28	0.23	0.32	9306	7713	10474	1.54	Subbituminous C coal
2012-AGL-FN-041	A	30/06/12	0451973	8898986	17X	1.30	0.30-0.55 mdst parting	9.12	10.29	18.47	21.74	19.76	24.23	36.01	32.73	40.14	31.96	29.05	35.63	0.28	0.25	0.31	7601	6908	8473	1.54	Subbituminous C coal

2012-AGL-FN-042	A	30/06/12	0451914	8899002	17X	1.10	Soft, weathred coal 0-0.4m,, 0.2m mdst with white sst roof, floor is ice+mdst	10.81	12.64	22.08	29.46	26.28	33.72	31.76	28.33	36.36	26.14	23.32	29.92	0.49	0.44	0.56	6265	5588	7171	1.58	Lignite A
2012-AGL-FN-043	A	30/06/12	0445452	8899845	17X	-	Grab Sample	16.30	13.04	27.22	4.02	3.36	4.62	41.42	34.67	47.63	41.52	34.75	47.75	0.22	0.18	0.25	9410	7876	10821	1.40	Subbituminous C coal
2012-AGL-FN-044	A	07/04/12	0555420	8908177	16X	0.70	mdst roof, coal frozen in parts of seam, floor is mdst and ice and brown sst in contact with mdst	26.43	3.24	28.82	11.08	8.15	11.45	44.48	32.72	45.97	41.20	30.31	42.58	0.61	0.45	0.63	9638	7090	9961	1.46	Lignite A
2012-AGL-FN-045	A	07/04/12	0555449	8908188	16X	1.00	Soft, thin beded coal, dk brwn mdst roof, coal gradualy changes in to more blocky coal	25.88	3.29	28.32	23.30	17.27	24.09	37.25	27.61	38.52	36.16	26.80	37.39	0.44	0.33	0.45	8223	6095	8503	1.56	Lignite A
	B	07/04/12				1.00	thinly bedded, but more blocky	26.23	2.74	28.25	11.83	8.73	12.16	45.14	33.30	46.41	40.29	29.72	41.43	0.46	0.34	0.47	9861	7275	10139	1.46	Lignite A
	C	07/04/12				0.60	thinly bedded, blocky, becoming hard and blocky(2.3-2.6), fw ice lense at bottom not actual floor	28.46	3.11	30.68	24.61	17.61	25.40	36.57	26.16	37.74	35.71	25.55	36.86	0.48	0.34	0.50	8372	5990	8641	1.54	Lignite A
2012-AGL-FN-047	A	07/04/12	0559480	8908221	16X	0.90	up hill in gully from 046	21.90	5.81	26.44	23.06	18.01	24.48	38.25	29.87	40.61	32.88	25.68	34.91	0.40	0.31	0.42	7996	6245	8489	1.57	Lignite A
2012-AGL-FN-048	A	07/04/12	0555499	8908255	16X	1.00	Grab sample; in front glacial toe, sampled over 1 meter	20.00	5.94	24.75	15.86	12.69	16.86	44.20	35.36	46.99	34.00	27.20	36.15	0.39	0.31	0.41	7964	6372	8467	1.55	Lignite A
2012-AGL-FN-049	A	07/04/12	0555546	8908282	16X	1.00	similar to 048_ Grab sample	21.13	8.88	28.13	17.61	13.89	19.33	39.14	30.87	42.95	34.37	27.11	37.72	0.47	0.37	0.52	8019	6325	8800	1.55	Lignite A
2012-AGL-FN-050	A	07/05/12	0555519	8908647		3.00	Coal thin beded, britle gray to dk gray with minor mdst partings , dip 28 deg hw is overburden / till, foot wall is typical ice blocking fw contact	22.14	6.26	27.01	4.53	3.53	4.83	45.28	35.26	48.30	43.93	34.21	46.86	0.16	0.12	0.17	9784	7618	10437	1.46	Lignite A
	B	07/05/12				3.00	Coal thin beded, britle gray to dk gray with minor mdst partings , dip 28 deg hw is overburden / till, foot wall is typical ice blocking fw contact	24.90	4.82	28.52	4.22	3.17	4.43	45.74	34.35	48.06	45.22	33.96	47.51	0.13	0.10	0.14	10131	7609	10644	1.44	Lignite A
	C	07/05/12				3.60	Coal thin beded, britle gray to dk gray with minor mdst partings , dip 28 deg hw is overburden / till, foot wall is typical ice blocking fw contact	19.64	11.44	28.83	6.38	5.13	7.20	42.26	33.96	47.72	39.92	32.08	45.08	0.16	0.13	0.18	9135	7341	10315	1.46	Lignite A
2012-AGL-FN-051	A	07/05/12	0554927	8908252	16X	1.00	coal is hard / blocky	15.35	6.68	21.01	14.67	12.42	15.72	41.46	35.09	44.43	37.19	31.48	39.85	0.41	0.35	0.44	8765	7419	9392	1.54	Subbituminous C coal
	B	07/05/12				1.00	coal is hard / blocky	17.82	9.63	25.73	7.87	6.47	8.71	40.91	33.62	45.27	41.59	34.18	46.02	0.26	0.21	0.29	9509	7815	10522	1.44	Subbituminous C coal
	C	07/05/12				1.00	Interbedded mdst , fw is frozen mdst, black to dk brwn	20.67	8.26	27.22	35.18	27.91	38.35	29.54	23.43	32.20	27.02	21.44	29.45	0.33	0.26	0.36	6085	4827	6633	1.71	Lignite A
	D	07/05/12				0.20	Roof sample, red/brwn sst,	7.54	0.48	7.99	96.27	89.01	96.73	2.56	2.37	2.57	0.69	0.64	0.69	0.06	0.06	0.06	251	232	252	2.70	N/A
2012-AGL-FN-052	A	07/05/12	0554643	8908834	16X	1.00	Roof mdst, dk gry black, dip 8deg E, coal is blocky, dark gray in color	13.40	9.57	21.69	10.16	8.80	11.24	41.30	35.77	45.67	38.97	33.75	43.09	0.26	0.23	0.29	8935	7738	9981	1.46	Subbituminous C coal
	B	07/05/12				1.00	blocky, vitrain partings	16.19	7.41	22.40	12.24	10.26	13.22	39.76	33.32	42.94	40.59	34.02	43.84	0.53	0.44	0.57	8936	7489	9651	1.47	Subbituminous C coal
	C	07/05/12				1.00	as above but harder	14.14	5.90	19.21	7.72	6.63	8.20	43.07	36.98	45.77	43.31	37.18	46.03	0.48	0.41	0.51	10070	8646	10701	1.42	Subbituminous C coal
	D	07/05/12				0.60	as above	14.90	4.61	18.82	44.62	37.97	46.78	37.62	32.02	39.44	13.15	11.19	13.79	0.41	0.35	0.43	4893	4164	5129	1.94	Lignite A
	E	07/05/12				0.20	Floor	13.07	0.38	13.40	97.40	84.67	97.77	2.21	1.92	2.20	0.01	0.01	0.01	0.01	0.01	0.01	0	0	0	2.59	N/A
	F	07/05/12				0.20	Roof	18.47	3.11	21.00	80.06	65.27	82.63	11.68	9.52	12.05	5.15	4.20	5.32	0.11	0.09	0.11	1170	954	1208	2.28	N/A
2012-AGL-FN-053	A	07/05/12	0554594	8908803	16X	1.40	Roof .4m carb-mdst grading to mdst	19.37	9.97	27.41	7.18	5.79	7.98	43.03	34.69	47.80	39.82	32.11	44.23	0.88	0.71	0.98	9769	7876	10851	1.44	Subbituminous C coal

	B	07/05/12				2.00	1.4-2m mdst parting not sampled	16.05	13.90	27.72	12.19	10.23	14.16	38.08	31.97	44.23	35.83	30.08	41.61	0.44	0.37	0.51	8425	7073	9785	1.48	Lignite A
	C	07/05/12				1.10	4-4.4m mdst parting not sampledblocky, hard, rust weathring, shiny under weathering areas	26.61	3.16	28.93	18.18	13.34	18.77	41.38	30.37	42.73	37.28	27.36	38.50	0.89	0.65	0.92	8617	6324	8898	1.54	Lignite A
	D	07/05/12				1.80	5.5 - 6.00, softer coal/shiny, FW is dk brwn/gry interbeded mdst	22.46	1.82	23.87	68.22	52.90	69.48	18.66	14.47	19.01	11.30	8.76	11.51	0.42	0.33	0.43	2444	1895	2489	2.12	N/A
2012-AGL-FN-054	A	07/05/12	0554092	8910253	16X	0.70	Quality reference, sampled in gully, minor mud coatings on pieces	22.84	1.78	24.21	49.54	38.23	50.44	27.72	21.39	28.22	20.96	16.17	21.34	0.52	0.40	0.53	5319	4104	5415	1.82	Lignite A
2012-AGL-FN-055	A	07/05/12	0554121	8910233	16X	1.00	HW, 0.15m weathred mdst to clay+o/b, possible partings within, floor 2m white/gray sst	18.14	7.21	24.04	16.60	13.59	17.89	40.93	33.51	44.11	35.26	28.86	38.00	0.91	0.74	0.98	9346	7651	10072	1.46	Subbituminous C coal
2012-AGL-FN-056	A	07/06/12	0552580	8908300	16X	1.00	Roof = unconsolidated fg gray / brw sst, coal is blocky for .15m, thinner beds for 0.3 then blocky as above	16.39	9.40	24.25	7.58	6.34	8.37	42.63	35.64	47.05	40.39	33.77	44.58	0.35	0.29	0.39	9447	7898	10427	1.40	Subbituminous C coal
	B	07/06/12				1.00	More blocky than above, shiny	12.04	10.20	21.01	10.81	9.51	12.04	40.49	35.62	45.09	38.50	33.87	42.87	0.16	0.14	0.18	9122	8024	10158	1.45	Subbituminous C coal
	C	07/06/12				0.50	Good banding, shiny, 1cm band thickness	16.64	10.02	24.99	8.87	7.39	9.86	40.23	33.54	44.71	40.88	34.08	45.43	0.42	0.35	0.47	9403	7838	10450	1.40	Subbituminous C coal
	D	07/06/12				1.00	mdst parting not sampled, blocky at bottom, grading to thinner at top	13.34	14.10	25.56	16.86	14.61	19.63	34.43	29.84	40.08	34.61	29.99	40.29	0.50	0.43	0.58	8283	7178	9643	1.46	Subbituminous C coal
	E	07/06/12				1.00	Block, shiny, weathrers yellow/red near top contact	23.22	3.19	25.67	9.94	7.63	10.27	44.26	33.98	45.72	42.61	32.72	44.01	2.38	1.83	2.46	10612	8148	10962	1.39	Subbituminous C coal
	F	07/06/12				-	Roof	19.60	1.22	20.05	92.17	74.60	93.31	5.15	4.17	5.21	1.46	1.18	1.48	0.07	0.06	0.07	245	198	248	2.54	N/A
2012-AGL-FN-057	A	07/06/12	0552585	8908311	16X	1.00	Thin / blocky, more vitrain than below	18.54	4.83	22.47	8.42	6.86	8.85	43.52	35.45	45.73	43.23	35.22	45.42	0.24	0.20	0.25	9866	8037	10367	1.44	Subbituminous C coal
	B	07/06/12				1.00	As above, less shiny and dark gray thinner beds (1-1.8m)	17.44	4.97	21.54	6.69	5.52	7.04	43.72	36.10	46.01	44.62	36.84	46.95	0.18	0.15	0.19	10034	8284	10559	1.41	Subbituminous C coal
	C	07/06/12				0.50	Dark gray, thinner beds	20.15	5.10	24.22	6.37	5.09	6.71	44.31	35.38	46.69	44.22	35.31	46.60	0.28	0.22	0.30	10410	8313	10969	1.39	Subbituminous C coal
	D	07/06/12				-	Floor sample, Typical mdst	14.63	2.35	16.64	89.13	76.09	91.27	7.02	5.99	7.19	1.50	1.28	1.54	0.04	0.03	0.04	298	254	305	2.50	N/A
	E	07/06/12				-	Roof sample Small mdst cap 0.10m in contact with brwn/gray sst	13.61	2.36	15.65	90.74	78.39	92.93	6.07	5.24	6.22	0.83	0.72	0.85	0.04	0.03	0.04	196	169	201	2.46	N/A
2012-AGL-FN-058	A	07/06/12	0552585	8908311	16X	1.20	Roof+floor carb-mdst with unconsolidated coal partings, coal is thinly bedded flakey, dull gray	13.26	9.44	21.44	14.34	12.44	15.83	40.09	34.78	44.27	36.13	31.34	39.90	0.40	0.35	0.44	8805	7638	9723	1.43	Subbituminous C coal
2012-AGL-FN-059	A	07/06/12	0552647	8908219	16X	0.70	Frozen, shiny, blocky coal, unconsolidated sst + tll hw	22.09	9.04	29.13	7.87	6.13	8.65	42.43	33.06	46.65	40.66	31.68	44.70	0.19	0.15	0.21	8946	6970	9835	1.44	Lignite A
	B	07/06/12				1.00	Harder blocky coal	20.02	9.09	27.29	5.93	4.74	6.52	43.60	34.87	47.96	41.38	33.09	45.52	0.19	0.15	0.21	9620	7694	10582	1.41	Lignite A
	C	07/06/12				0.80	Dk gray mdst fw , frozen coal, more blocky	12.54	14.19	24.95	7.09	6.20	8.26	42.38	37.06	49.39	36.34	31.78	42.35	0.17	0.15	0.20	9557	8358	11137	1.36	Subbituminous C coal
2012-AGL-FN-060	A	07/07/12	0556356	8907340	16X	1.00	Hanging Wall- no roof sample coal ct with 0.01m mdst and o/b, fossil tree within, blocky, dull gray / black	27.50	1.16	28.34	5.62	4.07	5.69	47.41	34.37	47.97	45.81	33.21	46.35	0.20	0.14	0.20	10246	7428	10366	1.39	Lignite A
	B	07/07/12				1.00	Thinner beds, some rusty weathring	24.13	1.51	25.27	4.37	3.32	4.44	47.66	36.16	48.39	46.46	35.25	47.17	0.17	0.13	0.17	10239	7769	10396	1.41	Lignite A
	C	07/07/12				1.00	blocky as above	28.84	2.01	26.35	6.60	4.96	6.74	47.08	35.39	48.05	44.31	33.30	45.22	0.16	0.12	0.16	9921	7457	10125	1.43	Lignite A
	D	07/07/12				1.00	Fw is typical floor frozen mdst / debris, coal is mainly blocky	24.00	4.63	27.52	4.27	3.25	4.48	46.28	35.17	48.53	44.82	34.06	47.00	0.27	0.21	0.28	10375	7885	10879	1.39	Lignite A
2012-AGL-FN-061	A	07/09/12	0556495	8907412	16X	1.75	Mdst parting 1.00-1.25m not included, woody tree fragments .80-1.0m	20.95	6.85	26.36	14.04	11.10	15.07	43.44	34.34	46.63	35.67	28.20	38.29	0.52	0.41	0.56	8748	6916	9391	1.51	Lignite A
2012-AGL-FN-063	A	07/09/12	0555764	8907368	16X	1.30	Glacial till hw , blocky and shiny in places , fw is mdst	22.47	4.48	25.94	11.20	8.68	11.73	47.21	36.60	49.42	37.11	28.77	38.85	0.86	0.67	0.90	9808	7604	10268	1.41	Subbituminous C coal

2012-AGL-FN-064	A	07/09/12				1.60	Coal is hard, blocky, clarain present, dull gray / black in color	16.48	6.54	21.95	6.20	5.18	6.63	43.31	36.17	46.34	43.95	36.70	47.03	0.47	0.39	0.50	10503	8772	11238	1.39	Subbituminous C coal
	B	07/09/12				-	Roof, Sst	14.86	2.06	16.61	84.68	72.10	86.46	12.19	10.38	12.45	1.07	0.91	1.09	0.12	0.10	0.12	590	502	602	2.48	N/A
	C	07/09/12				-	Floor carb-mdst to mdst (0.25 carb-mdst , 0.35m mdst)	16.06	1.97	17.71	83.78	70.33	85.46	8.74	7.64	8.92	5.51	4.63	5.62	0.63	0.53	0.64	926	777	945	2.39	N/A
2012-AGL-FN-072	A	13/07/12	0549976	8876659	16X	1.00	Carb-mdst grading into mdst hw, high ash carb mdst / coal 0.6m not sampled	13.44	7.12	19.61	8.50	7.36	9.15	41.15	35.62	44.30	43.23	37.42	46.54	0.35	0.30	0.38	10559	9139	11368	1.35	Subbituminous B coal
	B	13/07/12				1.00	carb mdst, coal hard and blocky	9.59	5.16	14.26	32.09	29.01	33.84	31.85	28.79	33.58	30.90	27.94	32.58	0.48	0.43	0.51	7380	6672	7782	1.56	Subbituminous B coal
	C	13/07/12				1.00	coal hard and blocky	10.84	6.11	16.29	16.41	14.63	17.48	39.18	34.93	41.73	38.30	34.15	40.79	0.93	0.83	0.99	9440	8416	10054	1.43	Subbituminous B coal
	D	13/07/12				1.00	Mdst parting not included 2.9-3.30, 3.30-3.60m soft sheared coal, 3.6-3.9 sst parting not sampled	9.27	5.96	14.68	21.89	19.86	23.28	37.77	34.27	40.16	34.38	31.19	36.56	0.42	0.38	0.45	8709	7901	9261	1.46	Subbituminous B coal
	E	13/07/12				1.00	Partings not included 3.9 - 4.8 high ash , carb mdst/coal not sampled	11.33	5.29	16.02	30.07	26.66	31.75	33.30	29.53	35.16	31.34	27.79	33.09	0.58	0.51	0.61	7723	6848	8154	1.53	Subbituminous B coal
	F	13/07/12				1.00	Partings not included, coal is hard and blocky, mdst parting 5.54-5.8m, 5.8 - 6m hard coal	11.95	6.44	17.62	20.44	18.00	21.85	35.55	31.30	38.00	37.57	33.08	40.16	0.29	0.26	0.31	8747	7702	9349	1.44	Subbituminous B coal
	G	13/07/12				1.30	Floor is mdst w coal partings, moving up to mdst with sst, to a white sst	14.16	7.56	20.65	10.53	9.04	11.39	45.63	39.17	49.36	36.28	31.14	39.25	0.41	0.35	0.44	10164	8725	10995	1.37	Subbituminous B coal
	H	13/07/12				-	Roof	16.88	6.28	22.10	32.04	26.63	34.19	30.25	25.14	32.28	31.43	26.12	33.54	0.36	0.30	0.38	7335	6097	7827	1.58	Subbituminous C coal
2012-AGL-FN-073	A	14/07/12	0549342	8876100	16X	1.20	Covered in yellow red precipitate, dk red/brwn iron staining. Top .15m is sheared as well as .9m above that	17.20	5.94	22.12	7.03	5.82	7.47	42.97	35.58	45.68	44.06	36.48	46.84	3.03	2.51	3.22	10198	8444	10842	1.39	Subbituminous C coal
2012-AGL-FN-074	A	14/07/12	0557810	8878768	16X	1.00	Poor sample, 0.07m	10.84	7.22	17.28	6.66	5.94	7.18	41.15	36.69	44.35	44.97	40.10	48.47	0.60	0.53	0.65	10654	9499	11483	1.34	Subbituminous B coal
2012-AGL-FN-075	A	14/07/12	0557772	8878789	16X	1.60	coal is blocky, shiny, top .3m oxidized orange red 1.6-2.3m mdst parting	12.26	6.09	17.61	6.74	5.91	7.18	43.94	38.55	46.79	43.23	37.93	46.03	1.14	1.00	1.21	10191	8941	10852	1.39	Subbituminous B coal
	B	14/07/12				0.70	mdst layer 2.50-3.20m , 3.30 - 4.00m coal is blocky and shiny	8.53	6.42	14.40	7.33	6.70	7.83	41.57	38.02	44.42	44.68	40.87	47.75	0.60	0.55	0.64	10685	9774	11418	1.36	Subbituminous A coal
2012-AGL-FN-076	A	14/07/12	0556739	8878880	16X	1.50	FW .25m weathred sst, coal is carb partings, .1m durain band, .25m hard blocky, .05m mdst parting, coaly-carb.1m, .3m hard bright	10.96	6.94	17.14	4.92	4.38	5.29	40.63	36.18	43.66	47.51	42.30	51.05	0.04	0.04	0.04	10454	9308	11234	1.39	Subbituminous B coal
2012-AGL-FN-091	A	17/07/12	0535965	8878136	16X	0.98	Fw 0.25m white sst, w coal partings + massive wht sst, coaly-carb, hard durain bands, blocky, mdst partings , bright, FW light brown sst	8.73	6.93	15.06	5.84	5.33	6.27	37.74	34.44	40.55	49.49	45.17	53.18	0.17	0.16	0.18	10614	9687	11404	1.41	Subbituminous B coal
2012-AGL-FN-092	A	17/07/12	0536028	8878132	16X	1.50	Hw: 0.7 light gray sst, 0.3m dk gray sst slst,0.3m thin mdst, coal is weathred, with high ash and mdst areas, alternating thin and blocky	12.39	2.21	14.32	33.61	29.45	34.37	29.54	25.88	30.21	34.64	30.35	35.42	0.64	0.56	0.65	7486	6559	7655	1.62	Subbituminous B coal
2012-AGL-FN-093	A	17/07/12	0536060	8878192	16X	1.40	Fw carb-mdst, 80% thin beds , 25mm partings and lenses , almost mdst, hw is gray mdst , fw coaly carb mdst	12.75	1.93	14.44	32.15	28.05	32.78	30.84	26.91	31.45	35.08	30.61	35.77	0.41	0.36	0.42	7793	6799	7946	1.59	Subbituminous B coal
2012-AGL-FN-095	A	17/07/12	0536091	8878223	16X	1.25	Roof orange-pink sst, gray sst floor, soft sheared , psuedo blocky->thin, small	12.12	2.50	14.31	39.34	34.57	40.35	28.31	24.88	29.04	29.85	26.23	30.62	0.51	0.45	0.52	6868	6036	7044	1.64	Subbituminous B coal

							carb mdst partings																				
2012-AGL-FN-097	A	17/07/12	0536128	878271	16X	1.50	1.90M gray thin carb-mdst roof, coal is hard blocky, with high ash shale/coal, with thin dull gray coal at bottom, floor is white sst	14.52	3.45	17.47	11.61	9.92	12.02	35.80	30.60	37.08	49.14	42.01	50.90	0.35	0.30	0.36	10243	8756	10609	1.44	Subbituminous B coal
2012-AGL-FN-100	A	20/06/12	0549720	8867921	16X	1.00	HW fine sst, thinly bedded, becomign larger as you move down	18.00	6.61	23.42	4.80	3.94	5.14	37.41	30.68	40.06	51.18	41.97	54.80	0.22	0.18	0.24	10573	8670	11321	1.40	Subbituminous C coal
	B	20/06/12				1.00	Ash lenses + ironstaining, become larger moving down	19.64	2.59	21.72	3.71	2.98	3.81	43.13	34.66	44.28	50.57	40.64	51.91	0.16	0.13	0.16	10733	8625	11018	1.40	Subbituminous C coal
	C	20/06/12				1.00	Ice lenses present	19.87	3.03	22.30	7.74	6.20	7.98	40.17	32.19	41.43	49.06	39.31	50.59	0.20	0.16	0.21	10142	8127	10459	1.46	Subbituminous C coal
	D	20/06/12				0.30	Footwall Sample, sst	1.12	0.43	1.55	92.22	91.18	92.62	6.23	6.16	6.26	1.12	1.11	1.12	0.01	0.01	0.01	169	167	170	2.59	N/A
2012-AGL-FN-101	2A	22/06/12	0549930	8863476	16X	0.25	Roof Sample	7.48	1.59	8.96	78.27	72.41	79.53	14.01	12.96	14.24	6.13	5.67	6.23	0.58	0.54	0.59	1484	1373	1508	2.32	N/A
Seam FN-101, is comprised of two seams (1 and 2)	2B	22/06/12				0.20	Clay layer seperates B&C (.08m)	14.74	2.81	17.14	31.41	27.06	32.66	32.19	27.45	33.12	33.26	28.36	34.22	0.71	0.61	0.73	8002	6822	8233	1.58	Subbituminous B coal
Seam 2 is the middle most seam, 1 is lowest	2C	22/06/12				0.42	Vitrinite bands	14.99	3.92	18.32	14.55	12.37	15.14	37.94	32.25	39.49	43.59	37.06	45.37	0.53	0.45	0.55	10060	8552	10470	1.42	Subbituminous B coal
	2D	22/06/12				0.30	High ash content possibly	16.72	3.46	19.60	33.49	27.89	34.69	30.62	25.50	31.72	32.43	27.01	33.59	0.63	0.52	0.65	7437	6194	7704	1.58	Subbituminous C coal
	2E	22/06/12				0.52	Ice lenses present, Vitrinite bands	17.91	5.69	22.58	16.99	13.95	18.02	35.37	29.03	37.50	41.95	34.44	44.48	0.33	0.27	0.35	9826	8066	10419	1.45	Subbituminous C coal
	2F	22/06/12				0.25	Foot wall	11.57	1.12	12.56	90.14	79.71	91.16	7.46	6.60	7.54	1.28	1.13	1.29	0.03	0.03	0.03	342	302	346	2.57	N/A
	1A	22/06/12				0.25	Hanging Wall sample of second seam	3.98	0.70	4.66	94.25	90.49	94.91	4.24	4.07	4.27	0.81	0.78	0.82	0.03	0.03	0.03	74	71	75	2.62	N/A
	1B	22/06/12				0.40	Water content may be high due to near water source	12.05	4.09	15.65	29.71	26.13	30.98	32.89	28.93	34.29	33.31	29.30	34.73	0.32	0.28	0.33	8377	7368	8734	1.56	Subbituminous B coal
2012-AGL-FN-102	A	24/06/12	0552481	8864842	16X	1.00	Rarely Fissle, suspected quality, sub bitu. a-b , dipping 8 degrees to west, strongly banded black to dark gray in color	17.40	10.39	25.98	4.80	3.96	5.36	35.97	29.71	40.14	48.84	40.34	54.50	0.25	0.21	0.28	9743	8048	10873	1.44	Subbituminous C coal
	B	24/06/12				1.00	black to dk gray, weak to moderate strenght, 1-2cm beds	19.75	6.48	24.95	3.16	2.54	3.38	38.04	30.53	40.68	52.32	41.98	55.95	0.17	0.14	0.18	10855	8711	11607	1.42	Subbituminous C coal
	C	24/06/12				0.50	black to dk gray, weak to moderate strenght, 1-2cm beds	15.73	5.17	20.09	10.87	9.16	11.46	38.11	32.12	40.19	45.85	38.64	48.35	0.31	0.26	0.33	10355	8726	10920	1.46	Subbituminous B coal
	D	24/06/12				0.25	Footwall sample, loose fine-medium sand orange in color, frozen	9.44	1.86	11.12	86.10	77.97	87.73	9.00	8.15	9.17	3.04	2.75	3.10	0.09	0.08	0.09	989	896	1008	2.50	N/A
2012-AGL-FN-103	A	27/06/12	0550885	8840879	16X	1.00	FW, brwn frozn med grained sand, coal dk brwn, black finely bedded, moderately weak, dull, weathred, durain	12.35	6.09	17.69	19.82	17.37	21.11	32.51	28.50	34.62	41.58	36.45	44.28	0.38	0.33	0.40	8712	7636	9277	1.55	Subbituminous C coal
	B	27/06/12				1.00	as above	10.66	6.01	16.03	28.38	25.36	30.19	31.25	27.92	33.25	34.36	30.70	36.56	0.29	0.26	0.31	7530	6727	8011	1.59	Subbituminous C coal
	C	27/06/12				0.50	HWorFW sample	3.13	1.91	4.98	76.63	74.23	78.18	26.48	25.65	27.00	-5.02	-4.86	-5.12	0.08	0.08	0.08	559	542	570	2.78	N/A
2012-AGL-FN-104	A	27/06/12	0550927	8840799	16X	0.70	Black, shiny, firm, vitrain layers approx 20-30cm deep, dip 18 degrees	13.41	8.56	20.83	7.12	6.16	7.79	40.94	35.45	44.77	43.38	37.56	47.44	0.33	0.29	0.36	9688	8388	10595	1.41	Subbituminous C coal
	B	27/06/12				0.30	as above	18.21	5.56	22.76	5.07	4.15	5.37	40.22	32.90	42.59	49.15	40.20	52.04	0.28	0.23	0.30	10622	8688	11247	1.42	Subbituminous C coal
	C	27/06/12				0.95	HW	13.04	2.88	15.54	68.32	59.41	70.35	17.24	14.99	17.75	11.56	10.05	11.90	0.15	0.13	0.15	2645	2300	2723	2.13	N/A
2012-AGL-	A	28/06/12	0444657	8857498	17X	1.00	Black, dark brwn, banded,	17.47	4.02	20.79	31.35	25.87	32.66	32.46	26.79	33.82	32.17	26.55	33.52	0.66	0.54	0.69	7300	6024	7606	1.61	Subbituminous

FN-105							dull, bright bands, moderately weak, blocky, durain, 078/16, hw mdst,gray/black /dk brown, fw mdst fine gray, black weak, carb-muds																				C coal
2012-AGL-FN-106	A	29/06/12	0444357	8857631	17X	1.40	Roof, gray pale gray, weak banded with fine coal mixing mdst , coal , black dull timely banded,fw, black, dk brown finly laminated , carbonaceous mudstone	19.64	5.21	23.82	18.92	15.20	19.96	37.95	30.50	40.04	37.92	30.47	40.00	1.70	1.37	1.79	8572	6889	9043	1.52	Lignite A
2012-AGL-FN-107	A	29/06/12	0543893	8862363	16X	1.00	Roof, pale yellow brown unconsolidated Sst , coal is black, dk gray, moderately weak	25.53	4.75	29.06	26.65	19.85	27.98	36.09	26.88	37.89	32.51	24.21	34.13	0.47	0.35	0.49	7907	5889	8301	1.57	Lignite A
	B	29/06/12				1.00	Fuzaine to durain , mdst fw, dk gray. Coal fissle / moderately weak, highly carbonaceous mudstone	20.25	11.56	29.47	18.39	14.67	20.79	35.12	28.01	39.71	34.93	27.86	39.50	0.33	0.26	0.37	7984	6367	9028	1.48	Lignite A
2012-AGL-FN-108	A	30/06/12	0541033	8863892	16X	1.30	Roof, pale yellow gray, very weak, finely laminated sst, coal is black, dk brown , bedded 1-3cm, dull, very weak, fuzain present,	23.65	5.14	27.58	11.81	9.02	12.45	38.54	29.42	40.63	44.51	33.98	46.92	0.25	0.19	0.26	9473	7232	9986	1.48	Lignite A
	B	30/06/12				0.25	fw, dk brown, unconsolidated fine to medium grained sand, frozen, fw sample?	12.12	3.48	15.18	64.50	56.68	66.83	20.54	18.05	21.28	11.48	10.09	11.89	0.15	0.13	0.16	3342	2937	3462	2.03	N/A
2012-AGL-FN-109	A	30/06/12	0541032	8863896	16X	1.30	Tree stumps present	18.74	4.60	22.48	29.70	24.13	31.13	35.06	28.49	36.75	30.64	24.90	32.12	0.33	0.27	0.35	7258	5898	7608	1.63	Lignite A
2012-AGL-FN-110	A	03/02/12	0544759	8862631	16X	1.00	Out cropping nice, HW, slst, fw Wht sst, small blocks, friable, little weathering	18.17	4.29	21.68	11.34	9.28	11.85	42.39	34.69	44.29	41.98	34.35	43.86	0.94	0.77	0.98	9940	8134	10386	1.42	Subbituminous C coal
2012-AGL-FN-111	A	07/03/12	0527921	8852497	16X	1.40	Soft Sheared, thin bedded	25.72	5.68	29.93	9.60	7.13	10.18	41.12	30.55	43.60	43.60	32.39	46.23	0.31	0.23	0.33	9293	6903	9853	1.46	Lignite A
	B	07/03/12				1.20	blocky, larger bedded	26.47	6.67	31.37	4.27	3.14	4.58	41.57	30.57	44.54	47.49	34.92	50.88	0.21	0.15	0.23	10149	7463	10874	1.42	Lignite A
	C	07/03/12				1.20	blocky, larger bedded	21.89	13.15	32.16	5.27	4.12	6.07	39.11	30.55	45.03	42.47	33.17	48.90	0.17	0.13	0.20	9259	7232	10661	1.41	Lignite A
	D	07/03/12				0.40	Soft sheared / thinly bedded	32.68	2.89	34.62	11.37	7.65	11.71	42.45	28.58	43.71	43.29	29.14	44.58	0.28	0.19	0.29	9944	6695	10240	1.45	Lignite A
2012-AGL-FN-112	A	07/03/12	0527875	8852461	16X	1.15	mdst hw, thinly bedded	8.14	10.70	17.97	35.76	32.85	40.04	28.38	26.07	31.78	25.16	23.11	28.17	0.21	0.19	0.24	5697	5233	6380	1.67	Lignite A
	B	07/03/12				1.15	mdst fw, soft sheared	22.87	3.35	25.45	21.86	16.86	22.62	41.45	31.97	42.89	33.34	25.72	34.50	0.30	0.23	0.31	7985	6159	8262	1.65	Lignite A
2012-AGL-FN-113	A	07/03/12	0527886	8852581	16X	1.00	hw brwn mdst,	25.28	5.26	29.21	24.00	17.93	25.33	35.44	26.48	37.41	35.30	26.37	37.26	0.50	0.37	0.53	8040	6007	8486	1.54	Lignite A
	B	07/03/12	0527886	8852581		1.00	coal thin bedded, very weathred, fissile, broken/fractured but consistant thru 3.1m	16.40	12.21	26.60	23.63	19.76	26.92	32.99	27.58	37.58	31.17	26.06	35.51	0.48	0.40	0.55	7255	6065	8264	1.53	Lignite A
	C	07/03/12	0527886	8852581		1.10	fw rich yellowbrwn sst (frozen)	14.52	11.98	24.76	30.14	25.76	34.24	30.64	26.19	34.81	27.24	23.28	30.95	0.54	0.46	0.61	6600	5641	7498	1.60	Lignite A
2012-AGL-FN-114	A	07/04/12	0527750	8852440	16X	1.40	mdst/coal hw/ overburden,	13.12	6.67	18.91	49.51	43.01	53.05	24.44	21.23	26.19	19.38	16.84	20.77	0.37	0.32	0.40	4610	4005	4939	1.81	Lignite A
2012-AGL-FN-115	A	07/04/12	0532338	8856784	16X	1.10	MDST HW, soft sheared near top n bottom, mud intermixed, thinly bedded in some spots, fw 0.2m mdst + sand -> 5.1m till fn-116	12.78	16.86	27.48	27.18	23.71	32.69	30.67	26.75	36.89	25.29	22.06	30.42	0.63	0.55	0.76	6335	5526	7620	1.53	Lignite A
2012-AGL-FN-116	A	07/04/12	0532343	8856772	16X	1.20	Sand/mud HW, Blocky parts, with puncutating soft sheared, drk sand/mud with coal lenses	15.19	13.56	26.69	29.93	25.38	34.63	30.47	25.84	35.25	26.04	22.08	30.12	0.55	0.47	0.64	6511	5522	7532	1.55	Lignite A
2012-AGL-FN-117	A	07/04/12	0532354	8857644	16X	1.05	Mdst Hw/ Wht sst Fw	18.21	12.55	28.47	7.43	6.08	8.50	41.58	34.01	47.55	38.44	31.44	43.96	0.90	0.74	1.03	9078	7425	10381	1.40	Lignite A
2012-AGL-FN-118	A	07/06/12	0531870	8857186	16X	1.30	hw 0.20 mdst w coal lenses, and above is 0.20m	23.15	4.58	26.67	18.14	13.94	19.01	40.45	31.09	42.39	36.83	28.31	38.60	1.78	1.37	1.87	8617	6623	9031	1.49	Lignite A

							coaly mudstone (brown mdst, coal thinly bedded, soft sheared + sand & mud lenses present, fw white sst																				
2012-AGL-FN-121	A	07/12/12	0549816	8841502	16X	1.10	Mud HW, blocky/shiney, coal is super consistant, good quality looking	10.96	4.99	15.40	2.86	2.55	3.01	38.34	34.14	40.35	53.81	47.91	56.64	0.21	0.19	0.22	11282	10045	11875	1.38	Subbituminous B coal
	B	07/12/12				1.10	blocky shiny	10.16	5.57	15.17	2.24	2.01	2.37	39.80	35.76	42.15	53.39	47.07	55.48	0.20	0.18	0.21	11345	10192	12014	1.36	Subbituminous B coal
	C	07/12/12				1.10	blocky, shiny mdst fw	11.37	5.30	16.07	6.20	5.50	6.55	38.23	33.88	40.37	50.27	44.56	53.08	0.31	0.27	0.33	10926	9684	11537	1.39	Subbituminous B coal
2012-AGL-FN-122	A	07/12/12	0550243	8842000	16X	1.40	Overburden/ mud hw, soft sheared + blocky	16.44	5.79	21.28	11.23	9.38	11.92	38.98	32.57	41.38	44.00	36.77	46.70	0.23	0.19	0.24	9610	8060	10201	1.45	Subbituminous C coal
	B	07/12/12				1.40	Thin, ice leses at top, blocky in mid, bottom ice lenses, fw	12.51	7.75	19.29	23.39	20.46	25.36	32.44	28.38	35.17	36.42	31.86	39.48	0.21	0.18	0.23	8199	7173	8888	1.53	Subbituminous C coal
2012-AGL-FN-123	A	07/12/12	0550793	8843283	16X	1.25	hw mdst, blocky	10.72	9.29	19.01	3.46	3.09	3.81	39.08	34.89	43.08	48.17	43.01	53.10	0.21	0.19	0.23	10410	9294	11476	1.39	Subbituminous B coal
	B	07/12/12				1.25	blocky, mdst fw	17.42	6.03	22.40	4.84	4.00	5.15	39.76	32.84	42.31	49.37	40.77	52.54	0.29	0.24	0.31	10535	8700	11211	1.38	Subbituminous C coal
2012-AGL-FN-124	A	07/12/12	0550831	8843291	16X	1.20	Blocky	15.82	8.26	22.77	11.34	9.55	12.36	37.85	31.86	41.26	42.55	35.82	46.38	0.21	0.18	0.23	9094	7656	9913	1.47	Subbituminous C coal
2012-AGL-FN-125	A	07/12/12	0551087	8838427	16X	1.50	Top Seam, blocky/hard till bottom, shiny spots throughout, bottom hard/blocky, mdst hw+fw (1m mdst parting seperates AnB) mdst hw/fw	11.09	8.45	18.60	7.53	6.69	8.23	35.00	31.12	38.23	49.02	43.58	53.54	0.22	0.20	0.24	10079	8961	11009	1.43	Subbituminous B coal
	B	07/12/12				1.80	Bottom seam, blocky throughout, silt fw, mud hw, ironstone just above top of seam (1-5cm) mdst hw, mdst fw	12.40	6.33	17.95	5.10	4.47	5.44	37.66	32.99	40.20	50.91	44.60	54.35	0.28	0.25	0.30	10724	9394	11449	1.40	Subbituminous B coal
2012-AGL-FN-126	A	13/07/12	0551076	8838423	16X	1.40	0-.35m soft sheared, .35m thick coal is blocky but thin, .1m mud lense with banded coal, .6m shiny blocky coal, hard. Mdst hw med dark brown, poor sample	10.15	7.02	16.46	33.02	29.67	35.51	28.85	25.92	31.03	31.11	27.95	33.46	0.31	0.28	0.33	7019	6307	7549	1.62	Subbituminous C coal
2012-AGL-FN-127	A	13/07/12	0552258	8816149	16X	1.80	Thin, blocky, soft sheared light mdst overburden, dk mdst floor, thin at top, blocky / thin in the middle, soft sheared at base	13.89	3.57	16.97	35.05	30.18	36.35	29.68	25.56	30.78	31.70	27.30	32.87	0.33	0.28	0.34	6936	5972	7193	1.65	Subbituminous C coal
2012-AGL-FN-132	A	18/07/12	0553125	8818810	16X	1.50	Grab Sample																				
2012-AGL-FN-133	A	19/07/12	0444023	8834921	17X	2.50	hw, unconsolidated mst, posible slump, dk med brown, coal is constinat, weathering and composition, breaks off in small blocks, samples are wet, good hardness but fracturaning apart easily	14.38	4.22	17.99	9.40	8.05	9.81	39.15	33.52	40.87	47.23	40.44	49.31	0.27	0.23	0.28	9932	8504	10370	1.46	Subbituminous C coal
	B	19/07/12				1.50	FW, ice lens, o/b, not able to dig deeper , close to fw	14.58	3.94	17.94	19.09	16.31	19.87	35.95	30.71	37.42	41.02	35.04	42.70	0.46	0.39	0.48	8915	7615	9281	1.53	Subbituminous C coal
2012-AGL-FN-134	A	19/07/12	0443673	8834982	17X	1.20	HW, o/b, dkbrwn mdst, coal is .6m thin bedded dull + shiny, .1m sheared/ crushed, .5m blocky shiny hard, good quality, fw = ice lens mdst/clay	11.19	2.48	13.40	25.78	22.89	26.44	33.95	30.15	34.81	37.79	33.56	38.75	0.50	0.44	0.51	8914	7916	9141	1.54	Subbituminous A coal
2012-AGL-FN-135	A	19/07/12	0443356	8834870	17X	1.20	hw, O/B,coal is blocky and shiny throughout, good quality, weathred into small blocks, lower portion is larger blocks, fw is 1m ice lense, then light brown mud	16.36	0.82	17.04	22.76	19.04	22.95	35.29	29.52	35.58	41.13	34.40	41.47	0.27	0.23	0.27	9109	7619	9184	1.52	Subbituminous B coal
2012-AGL-	A	20/07/12	0443203	8834513	17X	2.00	hw, .3m light brown	11.73	1.05	12.66	9.35	8.25	9.45	39.08	34.50	39.49	50.52	44.59	51.06	0.25	0.22	0.25	10901	9622	11017	1.44	Subbituminous

FN-136							fractured, fissle mdst, then dk gray fractured mdst, 2m coal is hard blocky shiny, very consistant , one of the best seams to date																				A coal
2012-AGL-FN-137	A	21/07/12	0440353	8834362	17X	1.35	Hw, slst,ironstn w orange banding layers, coal is varying hard blocky shiny, sheared, w .1m mdst band,	10.56	1.14	11.58	34.27	30.65	34.67	29.45	26.34	29.79	35.14	31.43	35.55	0.39	0.35	0.39	7706	6893	7795	1.67	Subbituminous B coal
	B	21/07/12				1.35	to thin bedded, dull, soft fissle and .1m coaly mdst band, turning back to hard blocky and shiny , fw, slst w orange banding	9.55	1.78	11.16	33.81	30.58	34.42	30.09	27.22	30.64	34.32	31.04	34.94	0.33	0.30	0.34	7645	6915	7784	1.64	Subbituminous B coal
2012-AGL-FN-138	A	21/07/12	0439828	8835035	17X	1.20	Hw, hw , lgt brwn mdst/ o/b roof , coal is hard shiny .8m, sheared .15m , hard blocky shiny + soft sheared 1.4m ,	11.59	3.11	14.34	5.13	4.54	5.29	39.02	34.50	40.27	52.74	46.63	54.43	0.22	0.19	0.23	11436	10111	11803	1.40	Subbituminous A coal
	B	21/07/12				1.15	Fw is frzn dk brown mdst	11.05	4.26	14.84	7.54	6.71	7.88	38.37	34.13	40.08	49.83	44.32	52.05	0.25	0.22	0.26	10978	9764	11466	1.43	Subbituminous A coal
2012-AGL-FN-139	A	24/07/12	0537967	8862762	16X	1.15	HW/FW MDST, coal is friable, with some leaf litter zone with some bands of blocky dull and hard. mdst parting 0.25m, dull blocky hard for .3m	23.67	4.75	27.30	17.57	13.41	18.45	39.86	30.42	41.85	37.82	28.87	39.71	0.83	0.63	0.87	9273	7078	9735	1.48	Lignite A
2012-AGL-FN-140	A	24/07/12	0538061	8862829	16X	2.60	Grab Sample, FW/HW left undone but looks to be both mdst, coal is hard, blocky dull., leaf litter present small areas, grab done horizontal (vertical seam)	23.28	7.66	29.16	16.31	12.51	17.66	37.57	28.82	40.69	38.46	29.50	41.65	0.92	0.71	1.00	8931	6851	9672	1.45	Lignite A
2012-AGL-FN-141	A	24/07/12	0538249	8862731	16X	0.80	No Hw coal at surface, floor brwn mdst, coal is poor, leaf litter, coal breaking in large dull pieces, thin spots	20.68	7.70	26.78	24.47	19.41	26.51	34.99	27.76	37.91	32.84	26.05	35.58	0.64	0.51	0.69	7738	6138	8384	1.56	Lignite A
2012-AGL-FN-142	*A*	*24/07/12*	*0540939*	*8864962*	*16X*	*0.40*	*HW mdst/slst, fw same, 0.4m coal, largest seam in area but multiple there, coal is blocky, blue coloration, shiny spots, coal is hard, sampled for quality investigation*	*19.99*	*9.34*	*27.46*	*13.23*	*10.59*	*14.59*	*40.67*	*32.54*	*44.86*	*36.76*	*29.41*	*40.55*	*0.82*	*0.66*	*0.90*	9425	7541	10396	1.43	Subbituminous C coal
2012-AGL-FN-143	*A*	*26/07/12*	*0561340*	*8797489*	*16X*	*0.50*	*GRAB 'fw' silty ironstone, coal is blocky and shiny, no shale seen*	*15.40*	*2.60*	*17.60*	*24.00*	*20.30*	*24.64*	*34.23*	*28.96*	*35.14*	*39.17*	*33.14*	*40.22*	*0.51*	*0.43*	*0.52*	8440	7140	8665	1.58	Subbituminous C coal
	B	*26/07/12*				*1.50*	*GRAB highly shaly, coal is thin, soft sheared and dull*	*10.22*	*4.83*	*14.56*	*41.41*	*37.18*	*43.51*	*28.00*	*25.14*	*29.42*	*25.76*	*23.13*	*27.07*	*0.47*	*0.42*	*0.49*	5608	5035	5893	1.77	Subbituminous C coal
	C	*26/07/12*				*1.40*	*GRAB coal thin, soft sheared, dull, shales present, mdst + shale parting 2-3m between c-d*	*11.37*	*2.79*	*13.84*	*20.26*	*17.96*	*20.84*	*35.08*	*31.09*	*36.09*	*41.87*	*37.11*	*43.07*	*0.54*	*0.48*	*0.56*	9632	8537	9908	1.50	Subbituminous A coal
	D	*26/07/12*				*1.00*	*GRAB Coal is thin, dull, shale present, mdst partings*	*8.10*	*1.34*	*9.33*	*40.83*	*37.52*	*41.38*	*28.49*	*26.18*	*28.88*	*29.34*	*26.96*	*29.74*	*0.57*	*0.52*	*0.58*	7015	6447	7110	1.68	Subbituminous A coal
	E	*26/07/12*				*0.60*	*GRAB mdst partings, thin, slightly blocky, soft sheared, shale parting 1-2m between E-F*	*7.95*	*3.37*	*11.05*	*23.70*	*21.82*	*24.53*	*33.65*	*30.98*	*34.82*	*39.28*	*36.16*	*40.65*	*0.45*	*0.41*	*0.47*	9439	8689	9768	1.49	Subbituminous A coal
	F	26/07/12				1.40	GRAB Blocky, shiny, soft sheared, mdst within, best coal within section	8.13	4.08	11.88	16.21	14.89	16.90	36.27	33.32	37.81	43.44	39.91	45.29	0.49	0.45	0.51	10349	9507	10789	1.44	Subbituminous A coal
	G	26/07/12				1.00	GRAB Blocky, shiny, soft sheared, mdst within, best coal within section as well	9.86	4.23	13.68	14.18	12.78	14.81	35.84	32.31	37.42	45.75	41.24	47.77	0.49	0.44	0.51	10520	9482	10985	1.42	Subbituminous A coal
2012-AGL-FN-144	A	27/07/12	0549816	8841502	16X	1.00	Seam descrip, same as FN-121, sample taken with saw 6"	13.44	2.69	15.77	2.55	2.21	2.62	40.24	34.83	41.35	54.52	47.19	56.03	0.22	0.19	0.23	11579	10022	11899	1.36	Subbituminous B coal

	B	27/07/12				1.00		8.93	5.98	14.37	2.45	2.23	2.61	40.05	36.47	42.60	51.52	46.92	54.80	0.22	0.20	0.23	11047	10061	11750	1.36	Subbituminous B coal
2012-AGL-FN-145	A	27/07/12	0549816	8841502	16X	1.00	seam descrip, same as FN-121, sample taken with hammer 6''	8.67	8.39	16.33	2.21	2.02	2.41	38.44	35.11	41.96	50.96	46.54	55.63	0.21	0.19	0.23	10989	10037	11995	1.36	Subbituminous B coal
	B	27/07/12				1.00		8.09	10.43	17.68	2.53	2.33	2.82	37.42	34.39	41.78	49.62	45.61	55.40	0.21	0.19	0.23	10780	9908	12035	1.37	Subbituminous B coal
2012-AGL-FN-146	A	28/07/12	0543346	885086	16X	1.50	hw and fw are med brwn mdst. 0-.5m coal is soft, thin beded, flakey, fissle, w 5cm soft sheared zone, .5-1.35m coal is hard blocky, thick beds, dull black at top, shiny black at bottom, 1.35-1.5 soft sheared, thin bedded, flakey	8.37	15.64	22.70	13.67	12.53	16.20	35.29	32.34	41.83	35.40	32.44	41.96	0.58	0.53	0.69	8496	7785	10071	1.44	Subbituminous C coal
2012-AGL-FN-147	A	28/07/12	0543162	8851272	16X	1.00	hw, 0.3M mdst (gray), coal is mostly dull, black, blocky, beds 1-5cm thick,	13.87	16.12	27.75	29.66	25.55	35.36	26.75	23.04	31.89	27.47	23.66	32.75	0.35	0.30	0.42	6261	5393	7464	1.57	Lignite A
	B	28/07/12				0.75	soft sheared and iron oxicde stains present, mdst lenses present within certain parts of seam (not sampled) Dips E, roughly 45 degrees, shiny spots but very thin until bottom where section .1m shiny then fw, fw 0.1m carbmdst followed by gray mdst	17.69	10.34	26.20	10.70	8.81	11.93	37.21	30.63	41.50	41.75	34.36	46.56	0.94	0.77	1.05	9256	7619	10323	1.46	Subbituminous C coal
2012-AGL-FN-148	A	28/07/12	0543079	8851184	16X	1.50	Hw light gray mdst, fw med brown mud, coal blocky, bright black, some areas of weathering, ice near floor , coal is hard, some shinyness , mostly dull	12.87	14.65	25.64	10.64	9.27	12.47	37.54	32.71	43.98	37.17	32.39	43.55	0.83	0.72	0.97	8555	7454	10023	1.44	Lignite A
2012-AGL-FN-149	A	28/07/12	0584295 7	8851189	16X	1.00	HW bedded slst	18.80	9.28	26.34	4.58	3.72	5.05	41.43	33.64	45.67	44.71	36.30	49.28	0.19	0.15	0.21	9989	8111	11011	1.39	Subbituminous C coal
	B	28/07/12				1.00	coal consistant, blocky , dull, hard that becomes shiny as you move to the bottom	16.06	9.45	23.99	3.82	3.21	4.22	41.98	35.24	46.36	44.75	37.56	49.42	0.26	0.22	0.29	10052	8438	11101	1.40	Subbituminous C coal
	C	28/07/12				1.00	as above	15.47	12.61	26.13	13.04	11.02	14.92	37.80	31.95	43.25	36.55	30.89	41.82	0.27	0.23	0.31	8496	7181	9722	1.48	Lignite A
	D	28/07/12				1.00	FW bedded silty/mdst. Light brown	23.20	1.96	24.71	5.05	3.88	5.15	46.01	35.34	46.93	46.98	36.08	47.92	0.23	0.18	0.23	11169	8578	11392	1.38	Subbituminous C coal
2012-AGL-FN-150	A	28/07/12	0542712	8851297	16X	1.90	HW wht ss .5m low quality thin bedded, 1.4m same characteristic fw light gray mdst	21.42	5.97	26.11	20.39	16.02	21.68	35.82	28.15	38.09	37.82	29.72	40.22	0.72	0.57	0.77	8615	6770	9162	1.52	Lignite A
2012-AGL-FN-151	A	28/07/12	0542622	8851288	16X	1.80	HW, md grain sand, fw dk brwn mdst, coal is dull, blocky, and univform thorughout, some red and white staining	23.59	8.63	30.18	6.21	4.75	6.80	38.58	29.48	42.22	46.58	35.59	50.98	0.45	0.34	0.49	10105	7721	11059	1.41	Lignite A
2012-AGL-FN 202	A	19/07/12	536093	8878868	16X	2.05	Mdst parting 0.80-1.10 not included, hw orange brown sst., fw frozen, coal thin bedded and sheared same coal as fn-091 but north of it	20.23	1.36	21.31	7.56	6.03	7.66	38.61	30.80	39.14	52.47	41.86	53.19	0.62	0.49	0.63	10828	8638	10977	1.39	Subbituminous C coal
2012 AGL FN-206	A	21/07/12	452320	8898667	17X	1.30	Hw 0.4m carb-mdst / brown sst, shiny gray, blocky as you move down, peacock staining, top 0.3m thin bedded, fw is brwn mdst	25.35	1.62	26.56	8.96	6.69	9.11	43.35	32.36	44.06	46.07	34.39	46.83	0.52	0.39	0.53	10678	7971	10854	1.41	Subbituminous C coal
2012 AGL FN-207	A	21/07/12	452222	8898711	17X	1.50	Hw 0.1m carb-mdst in contact with gray/orange sst, coal thin bedded, minor high ash partings	24.28	2.07	25.85	6.97	5.28	7.12	40.48	30.65	41.34	50.48	38.22	51.55	0.33	0.25	0.34	10497	7949	10719	1.44	Subbituminous C coal

	B	21/07/12				1.50	thin bedded coal, soft and possible high ash content, fw gray sst.	22.10	1.07	22.94	28.03	21.83	28.33	35.22	27.44	35.60	35.68	27.79	36.07	0.40	0.31	0.40	8254	6430	8343	1.58	Subbituminous C coal
2012 AGL FN-208	A	21/07/12	449131	8905531	17X	1.50	coal is blocky, black possible durain partings (0.20m) , consistant through seam	30.02	4.39	33.10	5.82	4.07	6.09	44.52	31.15	46.56	45.27	31.68	47.35	0.19	0.13	0.20	10183	7126	10651	1.46	Lignite A
	B	21/07/12				1.50	FW, brown mdst base of coal b/c melting ice,	26.67	3.81	29.46	6.22	4.56	6.47	45.54	33.40	47.34	44.43	32.58	46.19	0.23	0.17	0.24	10453	7666	10867	1.43	Lignite A
2012 AGL FN-209	A	21/07/12	447251	8907707	17X	1.05	Very blocky, slight gray weathering but thin beds on un weathered surfaces	23.76	3.28	26.26	15.65	11.93	16.18	41.39	31.56	42.79	39.68	30.25	41.03	0.65	0.50	0.67	9753	7436	10084	1.44	Subbituminous C coal
2012 AGL FN-210	A	21/07/12	447248	8907680	17X	0.80	Similar to 209 (blocky) lies below white sst.	25.32	2.77	27.38	24.59	18.36	25.29	38.72	28.92	39.82	33.92	25.33	34.89	0.58	0.43	0.60	8284	6187	8520	1.56	Lignite A
2012 AGL FN-211	A	23/07/12	548595	8867498	16X	1.00	FW not determined as it is under water table in creek, slightly weathred, prob high ash, hard shiny, thin to blocky ,	21.16	4.13	24.41	6.80	5.36	7.09	34.68	27.34	36.17	54.39	42.88	56.73	0.36	0.28	0.38	10980	8657	11453	1.41	Subbituminous C coal
	B	23/07/12				1.00	Roof, carb-mdst w coal partings 3.2m, coal is as follows, mdst parting (small), hard shiny, thin to blocky	19.10	4.25	22.54	6.91	5.59	7.22	36.52	29.54	38.14	52.32	42.33	54.64	0.30	0.24	0.31	11025	8919	11514	1.40	Subbituminous C coal
	C	23/07/12				1.30	As above, mud film on some surfaces, coal is below water table in creek	16.18	5.17	20.51	3.48	2.92	3.67	36.64	30.71	38.64	54.71	45.86	57.69	0.26	0.22	0.27	11410	9564	12032	1.36	Subbituminous B coal
2012-AGL-FN-212	A	23/07/12	548633	8867575	16X	1.60	Hw, black carb-mdst, floor gray mdst, coal thin bedded shiny, becoming more high ash as you mvoe down, 1.1m coal is blocky and shiny	15.73	1.90	17.34	15.92	13.42	16.23	38.51	32.45	39.26	43.67	36.80	44.52	0.50	0.42	0.51	9945	8380	10138	1.46	Subbituminous B coal
2012-AGL-FN-213	A	24/07/12	444713	8877910	17X	1.20	Roof, thinly bedded mdst, coal is blocky and shiny 1.2m, floor carb-mdst contact w brown / white sst.	14.98	3.57	18.02	13.14	11.17	13.63	41.32	35.13	42.85	41.97	35.68	43.52	0.51	0.43	0.53	10111	8596	10485	1.42	Subbituminous B coal
2012-AGL-FN-214	A	25/07/12	547770	8906325	16X	1.00	Roof, brwn sst, .1m mdst parting, .35m thinly bedded, rusty weathering, .65m hard blocky, floor dk brwn mdst	21.33	2.62	23.39	44.73	35.19	45.93	29.71	23.37	30.51	22.94	18.05	23.56	0.75	0.59	0.77	5369	4224	5513	1.81	Lignite A
2012-AGL-FN-215	A	25/07/12	447641	8893555	17X	1.00	Roof Glacial till, 1m thinly bedded / high ash partings, .3m mdst parting	26.21	7.72	31.91	4.88	3.60	5.29	43.39	32.02	47.02	44.01	32.48	47.69	0.19	0.14	0.21	9640	7113	10446	1.44	Lignite A
	B					0.60	.3 hard blocky coal, mdst floor	25.66	5.92	30.06	4.80	3.57	5.10	46.32	34.44	49.23	42.96	31.94	45.66	0.18	0.13	0.19	9800	7286	10417	1.44	Lignite A
2012-AGL-FN-216	A	26/07/12	548596	8867499	16X	1.00	Concrete saw sample, same as FN-211 seam log	20.44	3.78	23.45	6.52	5.19	6.78	35.09	27.92	36.47	54.61	43.45	56.76	0.36	0.29	0.37	11130	8855	11567	1.39	Subbituminous C coal
	B					1.00		19.81	2.22	21.59	14.00	11.23	14.32	34.71	27.83	35.50	49.07	39.35	50.18	0.29	0.23	0.30	10328	8282	10562	1.44	Subbituminous C coal
	C					1.00		20.38	2.61	22.46	4.04	3.22	4.15	36.18	28.81	37.15	57.17	45.52	58.70	0.26	0.21	0.27	11551	9197	11861	1.37	Subbituminous B coal
2012-AGL-FN-217	A	26/07/12	548596	8867499	16X	1.00	Normal hand sample near Concrete saw sample, Same as FN-211 sample	19.61	4.30	23.07	8.00	6.43	8.36	34.73	27.92	36.29	52.97	42.58	55.35	0.36	0.29	0.38	10832	8707	11319	1.42	Subbituminous C coal
	B					1.00		18.29	2.09	20.00	21.47	17.54	21.93	32.39	26.47	33.08	44.05	35.99	44.99	0.28	0.23	0.29	9226	7539	9423	1.49	Subbituminous C coal
	C					1.00		19.57	3.50	22.38	3.95	3.18	4.09	35.95	28.92	37.25	56.60	45.52	58.65	0.27	0.22	0.28	11619	9345	12040	1.35	Subbituminous B coal
2012-AGL-FN-218	A	26/07/12	548500	8867634	16X	1.00	Roof 0.15-.2m dk mdst in contact with o/b till, coal thin bedded, dull black fissile	15.47	4.35	19.14	3.28	2.77	3.43	39.90	33.73	41.71	52.47	44.35	54.86	0.20	0.17	0.21	11161	9435	11669	1.38	Subbituminous B coal
	B					1.00	hard consolidated, shiny black, thin bedded powders and breaks into small pecies when sampled	14.73	3.85	18.02	2.72	2.32	2.83	38.10	32.49	39.63	55.33	47.18	57.55	0.17	0.14	0.18	11487	9795	11947	1.37	Subbituminous B coal
	C					1.00	hard consolidated, shiny	16.90	2.64	19.10	3.06	2.54	3.14	40.35	33.53	41.44	53.95	44.83	55.41	0.19	0.16	0.20	11559	9605	11872	1.36	Subbituminous

							black, thin bedded powders and breaks into small pecies when sampled																				B coal
	D					1.00	top .5m similar to above , .5m was under water thus creek mud has filled along bedding and cracks	17.97	2.81	20.27	2.43	1.99	2.50	39.78	32.63	40.93	54.98	45.10	56.57	0.19	0.16	0.20	11609	9523	11945	1.36	Subbituminous B coal
2012-AGL-FN-219	A	26/07/12	548427	8867467	16X	1.10	Roof 0.1m dk brwn mdst, floor frozen brwn mdst, coal thin bedded grading to hard blocky, with .1m mdst parting	16.27	2.08	18.01	25.29	21.18	25.83	33.81	28.31	34.53	38.82	32.51	39.64	0.29	0.24	0.30	8860	7419	9048	1.51	Subbituminous B coal
Vesle Fjord																											
2012-AGL-VF-128	A	16/07/12	0561697	8774549	16X	1.70	Consistant, thin shiny bands, harder than avg, decent quality, fissile	19.30	7.76	25.56	9.07	7.32	9.83	42.01	33.90	45.54	41.16	33.22	44.62	0.58	0.47	0.63	9265	7477	10044	1.46	Lignite A
2012-AGL-VF-129	A	16/07/12	0563322	8775185	16X	1.60	Hw, white Sst, 1m blocky, 0.5m thin shiny, 1m huge blocks/shiney + Frozen fissle, Fw .2m Mdst,coaly mdst + icelenses	15.63	5.25	20.12	27.15	22.89	28.65	36.10	30.44	38.10	31.50	26.56	33.25	0.64	0.54	0.68	7515	6336	7931	1.58	Subbituminous C coal
	B	16/07/12				1.60	Frozen fissle, Fw .2m Mdst,coaly mdst + icelenses	14.45	8.34	21.59	12.03	10.29	13.12	38.87	33.25	42.41	40.76	34.87	44.47	0.30	0.26	0.33	9572	8189	10443	1.45	Subbituminous C coal
2012-AGL-VF-130	A	17/07/12	0563577	8774746	16X	1.00	HW/overburden = mdst, blocky, shiny hard coal	13.96	7.32	20.25	28.35	24.39	30.59	32.65	28.09	35.23	31.68	27.26	34.18	0.91	0.78	0.98	7352	6326	7933	1.59	Subbituminous C coal
	B	17/07/12				1.00	blocky, shiny hard coal	13.62	7.47	20.07	29.32	25.33	31.69	31.68	27.37	34.24	31.53	27.24	34.08	0.48	0.41	0.52	6952	6005	7513	1.62	Lignite A
	C	17/07/12				1.00	blocky, shiny hard coal, MDST FW	10.76	6.83	16.86	35.18	31.39	37.76	29.70	26.50	31.88	28.29	25.25	30.36	0.48	0.43	0.52	6593	5884	7076	1.65	Subbituminous C coal
2012-AGL-VF-131	A	17/07/12	0436820	8774652	17X	1.20	Blocky, soft sheared, thin, mud lense near base, fw frozen	13.25	9.53	21.51	19.25	16.70	21.28	35.90	31.14	39.68	35.32	30.64	39.04	0.56	0.49	0.62	7896	6850	8728	1.52	Subbituminous C coal
Strathcona Fjord																											
2012-AGL-SC1-001	A	07/10/12	0470622	874544	17X	1.35	Overburden cover, weathred coal, mdst parting, frozen, shiny in areas	15.53	6.42	20.96	20.87	17.63	22.30	32.51	27.46	34.74	40.20	33.96	42.96	0.26	0.22	0.28	7322	6185	7824	1.61	Lignite A
	B	07/10/12				1.35	coal as above, ice floor	14.36	7.33	20.64	13.77	11.79	14.86	25.48	21.82	27.50	53.42	45.75	57.65	0.29	0.25	0.31	9379	8032	10121	1.52	Subbituminous C coal
2012-AGL-SC1-002	A	07/10/12	0470135	8745688	17X	1.70	Roof is overburden, blocky throughout seam, amber blebs more present than north	13.48	11.31	23.26	5.19	4.49	5.85	44.36	38.38	50.02	39.14	33.86	44.13	0.24	0.21	0.27	8455	7315	9533	1.44	Lignite A
	B	07/10/12				1.70	Floor unable to be found	9.07	15.37	23.04	5.04	4.58	5.96	42.92	39.03	50.71	36.67	33.35	43.33	0.23	0.21	0.27	7963	7241	9409	1.42	Lignite A
2012-AGL-SC1-003	A	07/10/12	0470088	8745892	17X	1.60	Thin beds grading into blocky towards base	17.64	12.93	28.29	11.72	9.65	13.46	39.26	32.33	45.09	36.09	29.72	41.45	0.40	0.33	0.46	8035	6617	9228	1.46	Lignite A
2012-AGL-SC1-004	A	07/10/12	070102	8745860	17X	1.30	Thinly bedded, higher ash coal, minor rust partings	17.69	6.96	23.42	10.51	8.65	11.30	44.35	36.51	47.67	38.18	31.43	41.04	0.40	0.33	0.43	8676	7142	9325	1.49	Lignite A
2012-AGL-SC1-005	A	07/10/12	0470375	8745345	17X	1.70	Small thin bedded coal seams	23.07	6.95	28.42	8.61	6.62	9.25	44.46	34.20	47.78	39.98	30.76	42.97	0.51	0.39	0.55	9454	7273	10160	1.42	Lignite A
2012-AGL-SC2-001	A	07/10/12	0469944	8743157	17X	3.80	Very thin, lots of amber throughout, sampling was difficult due to thin beds, poor quality	12.50	6.08	17.82	6.25	5.47	6.65	46.31	40.52	49.31	41.36	36.19	44.04	0.31	0.27	0.33	9836	8606	10473	1.41	Subbituminous C coal
2012-AGL-SC2-002	A	07/10/12	0469957	8743155	17X	3.80	Weathred blocky turning to thinly bedded, become hard, amber present, poor quality	16.68	7.42	22.86	12.31	10.26	13.30	42.89	35.74	46.33	37.38	31.14	40.38	0.34	0.28	0.37	8748	7289	9449	1.49	Lignite A
	B	07/10/12				3.80	as above, more amber	12.21	7.67	18.94	15.17	13.32	16.43	42.10	36.96	45.60	35.06	30.78	37.97	0.40	0.35	0.43	8215	7212	8897	1.49	Subbituminous C coal
2012-AGL-SC2-003	A	07/10/12	0469963	8743166	17X	1.30	Poorer quality, thin beds, slighly more blocky at base with abundant amber	18.69	4.33	22.22	22.35	18.17	23.36	43.08	35.03	45.03	30.24	24.59	31.61	0.81	0.66	0.85	7532	6124	7873	1.60	Lignite A
2012-AGL-SC3-119	A	07/10/12	0437643	8749682	17X	1.00	Sheared coal, mdst hw	16.93	3.33	19.70	22.07	18.33	22.83	36.50	30.32	37.76	38.10	31.65	39.41	0.48	0.40	0.50	8521	7078	8815	1.51	Subbituminous C coal
*SC3 REFERS	B	07/10/12				1.00	blocky	16.25	2.98	18.75	36.42	30.50	37.54	30.45	25.50	31.39	30.15	25.25	31.08	0.43	0.36	0.44	6788	5685	6996	1.66	Subbituminous C coal

TO STRATHCONA , SITE 3 LOCATION																											
	C	07/10/12				1.00	blocky	16.76	3.86	19.98	16.39	13.64	17.05	39.69	33.04	41.28	40.06	33.34	41.67	0.32	0.27	0.33	9614	8002	10000	1.43	Subbituminous C coal
	D	07/10/12				1.00	blocky, ice lenses	17.67	7.44	23.80	3.97	3.27	4.29	38.30	31.53	41.38	50.29	41.40	54.33	0.28	0.23	0.30	10803	8894	11671	1.39	Subbituminous C coal
	E	07/10/12				1.00	blocky, sand partings	16.00	7.84	22.58	7.92	6.65	8.59	37.95	31.88	41.18	46.29	38.88	50.23	0.50	0.42	0.54	9972	8377	10820	1.45	Subbituminous C coal
	F	07/10/12				1.00	blocky	16.24	6.30	21.52	32.38	27.12	34.56	29.75	24.92	31.75	31.57	26.44	33.69	0.53	0.44	0.57	6995	5859	7465	1.62	Subbituminous C coal
	G	07/10/12				1.00	high ash	14.85	5.17	19.26	51.63	43.96	54.44	23.14	19.70	24.40	20.06	17.08	21.15	0.40	0.34	0.42	4253	3621	4485	1.87	Lignite A
	H	07/10/12				1.00	high ash	12.40	7.48	18.95	38.33	33.58	41.43	27.79	24.35	30.04	26.40	23.13	28.53	0.53	0.46	0.57	5953	5215	6434	1.72	Subbituminous C coal
	I	07/10/12				0.90	blocky, ice lenses, mdst fw	10.71	8.47	18.27	29.27	26.14	31.98	31.64	28.25	34.57	30.62	27.34	33.45	0.65	0.58	0.71	7064	6308	7718	1.56	Subbituminous C coal
2012-AGL-SC3-120	A	07/10/12	0437418	8749840	16X	2.00	Decent quality, blocky+shiny, overburden hw, shaley mdst, brown	8.98	10.43	18.48	18.18	16.55	20.30	34.52	31.42	38.54	36.87	33.56	41.16	0.58	0.53	0.65	8161	7428	9111	1.49	Subbituminous C coal
Bache Peninsula																											
2012-AGL-Bache #1	A	07/03/12	0500267	8788105	18X	-	Sampled over 2 meters grab	23.91	4.62	27.42	12.60	9.59	13.21	44.20	33.63	46.34	38.58	29.36	40.45	0.34	0.26	0.36	9250	7038	9698	1.48	Lignite A
2012-AGL-Bache#2	A	07/03/12	0499254	8790263	18X	-	Sampled FW Till overtop grab	21.25	3.56	24.06	34.01	26.78	35.27	33.64	26.49	34.88	28.79	22.67	29.85	2.29	1.80	2.37	6418	5054	6655	1.73	Lignite A

APPENDIX C Supplementary Project Maps

Appendix C – Miscellaneous Project Maps
Canada Coal Inc.
Updated NI 43-101 Technical Report

Map 1: Canada Coal Inc. coal exploration licences, Ellesmere Island and Axel Heiberg Island, Nunavut

Map 2: Geology, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 3: The 2012 Exploration Areas, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 4: The 2012 exploration areas on Canada Coal Inc. properties, Bache Peninsula, Ellesmere Island, Nunavut.

Map 5: Geological interpretation and coal sampling locations on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 6: Wildlife sightings on and near Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 7: Palaeontologic and archeologic assessments of drill target sites for Canada Coal Inc., Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 8: Canada Coal Inc. drill targets 2013, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 9: Canada Coal Inc. drill targets CCI 2013, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 10: Canada Coal Inc. coal exploration licences, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 11: Canada Coal Inc. coal exploration licences and 25 m contour lines, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 12: Canada Coal Inc. licences and satellite imagery, Fosheim Peninsula, Ellesmere Island, Nunavut, Canada.

Map 13: Coal sampling locations from 2012 exploration season, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 14: Rank of coal as determined from coal samples collected on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 15: Sulphur levels as measured from coal samples collected on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 16: Levels of volatiles as determined from coal samples collected on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

Map 17: Levels of ash as determined from coal samples collected on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

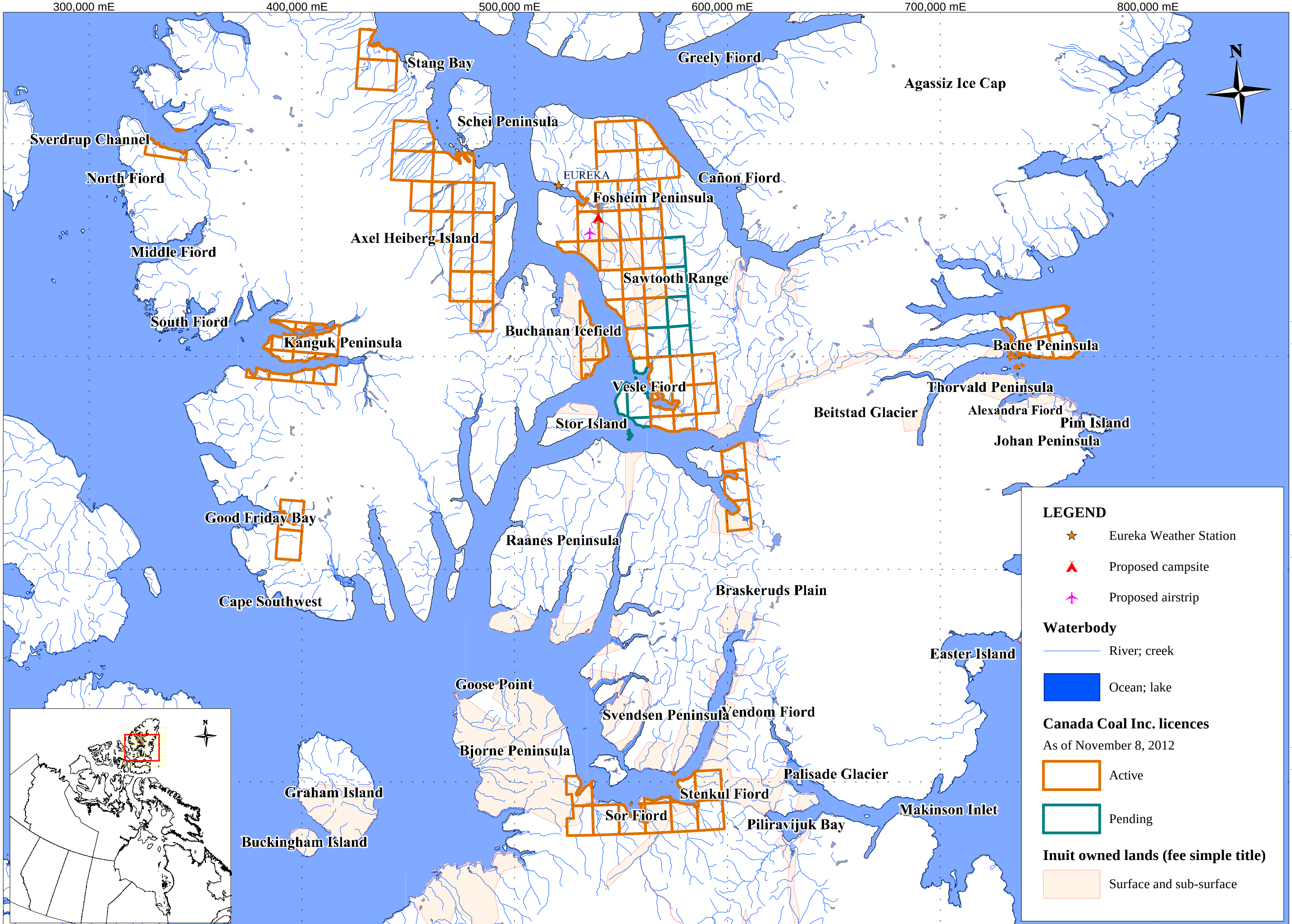

Figure : Canada Coal Inc. coal exploration licences, Ellesmere Island and Axel Heiberg Island, Nunavut.

0 25 50 kilometres Scale 1:2,500,000

Projection: NAD83 UTM zone 16
Date: 19 November 2012

Prepared for: CANADACOAL INC. CCK - TSX.V

Prepared by: DMT

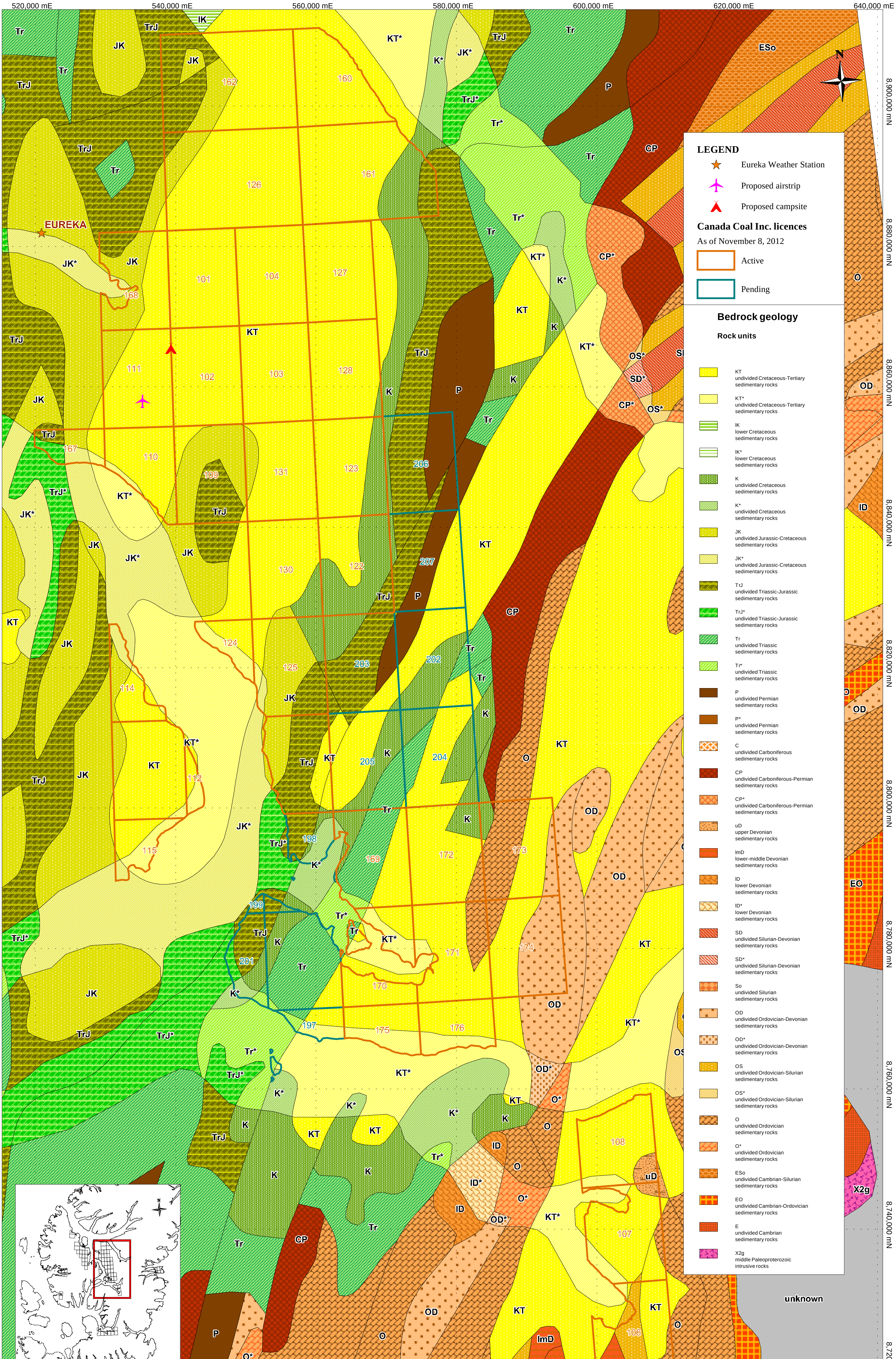

Figure : Geology, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres — Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for: CANADA COAL INC. CCK - TSX.V

Prepared by: DMT

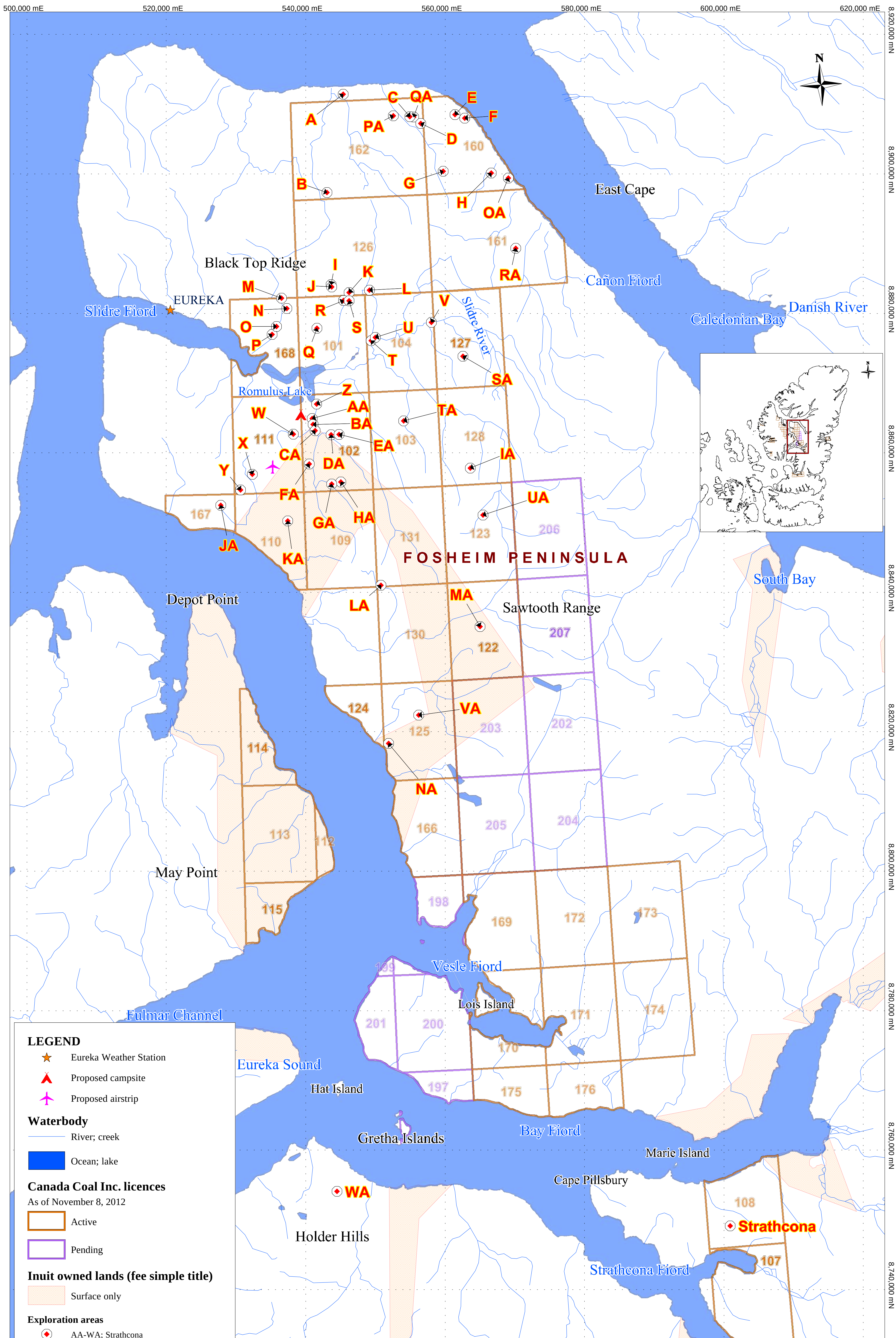

Figure : The 2012 Exploration Areas, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10
kilometres
Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for:
CANADACOAL
CCK - TSX.V

Prepared by:
DMT

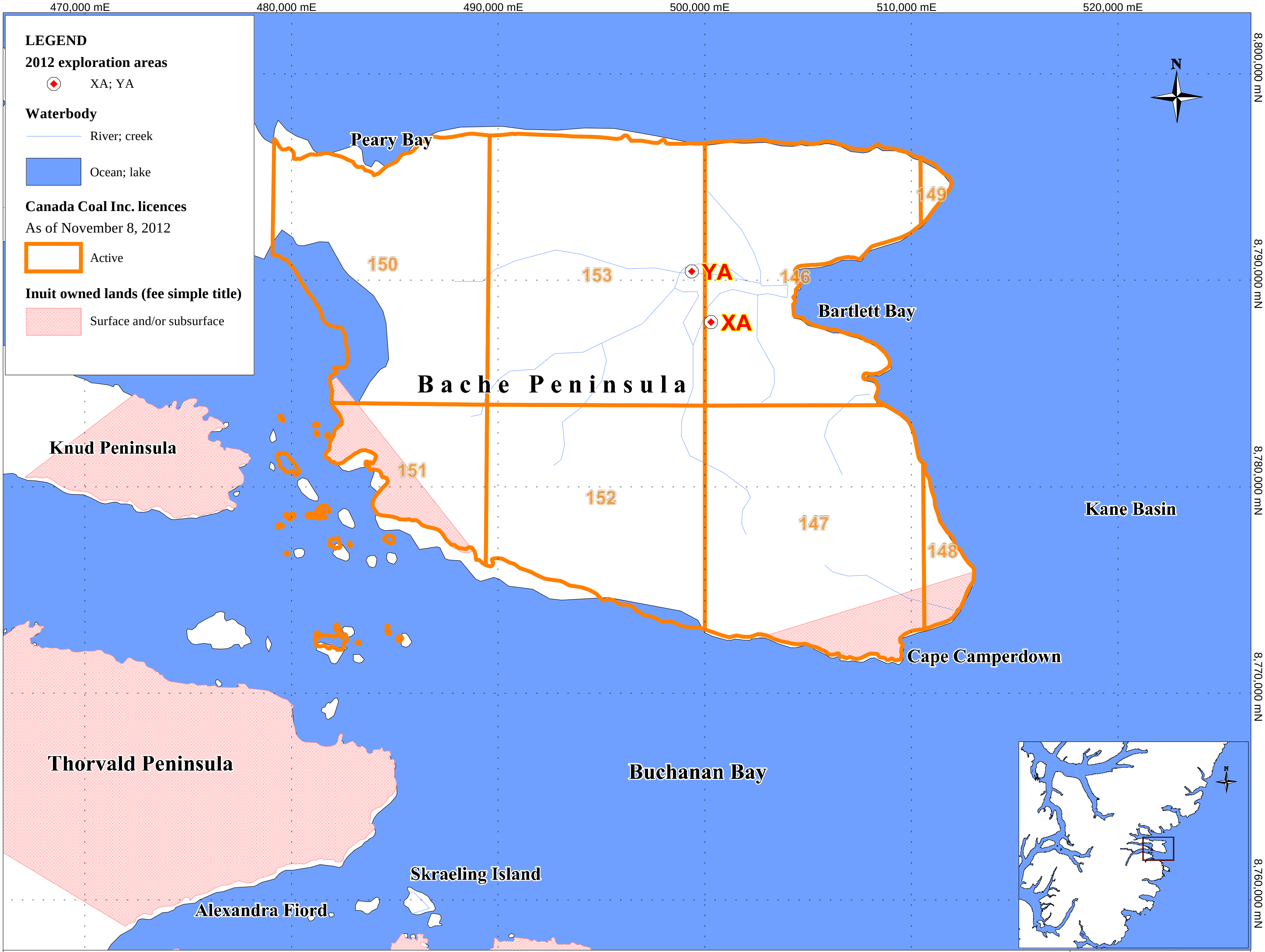

Figure : The 2012 exploration areas on Canada Coal Inc. properties, Bache Peninsula, Ellesmere Island, Nunavut.

0 2.5 5
kilometres

Scale 1:250,000

Projection: NAD83 UTM zone 18
Date: 18 November 2012

Prepared for:
CANADACOAL
Prepared by:
DMT

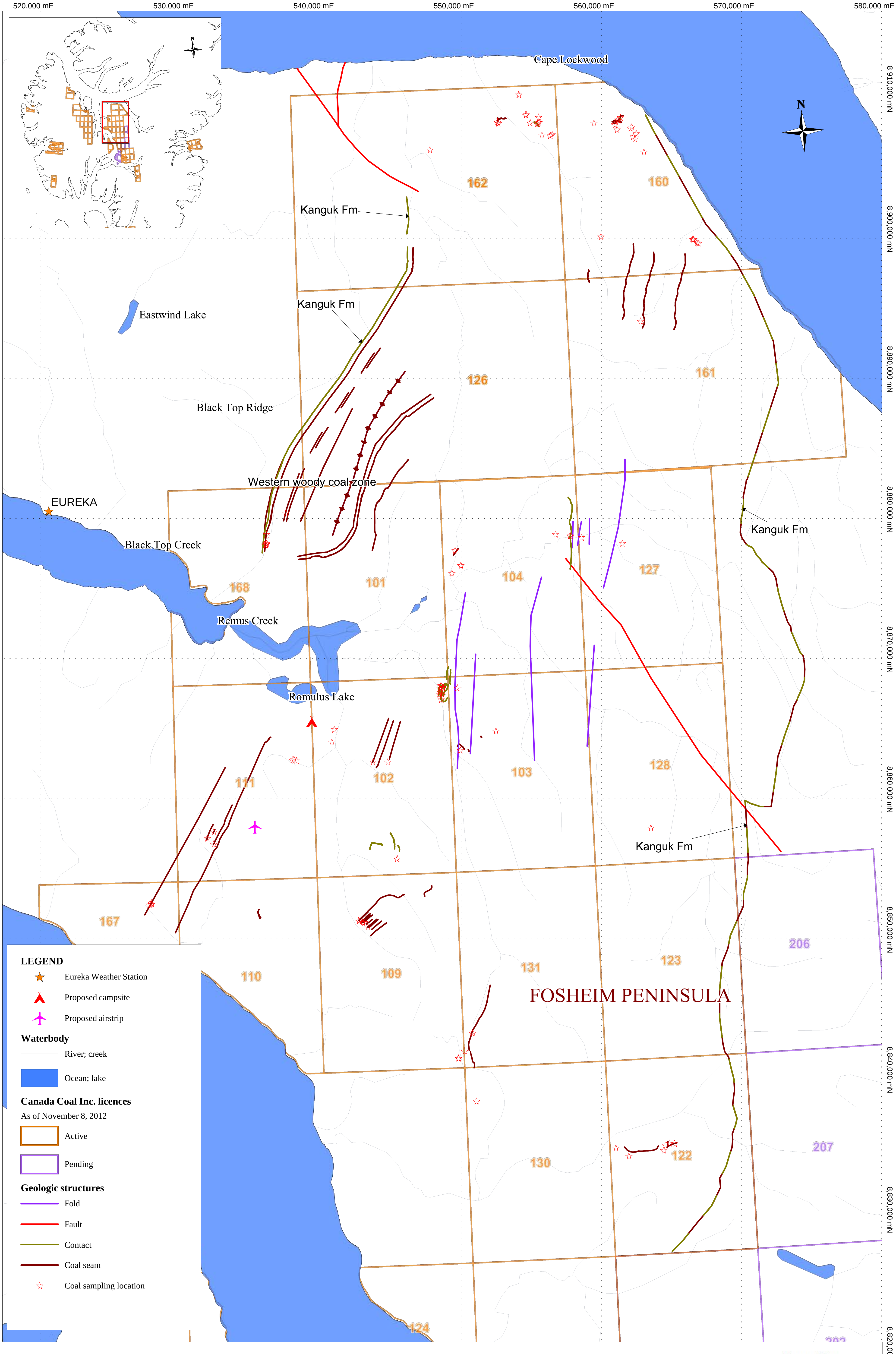

Figure : Geological interpretation and coal sampling locations on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 2.5 5 kilometres Scale 1:250,000

Projection: NAD83 UTM zone 16
Date: 19 November 2012

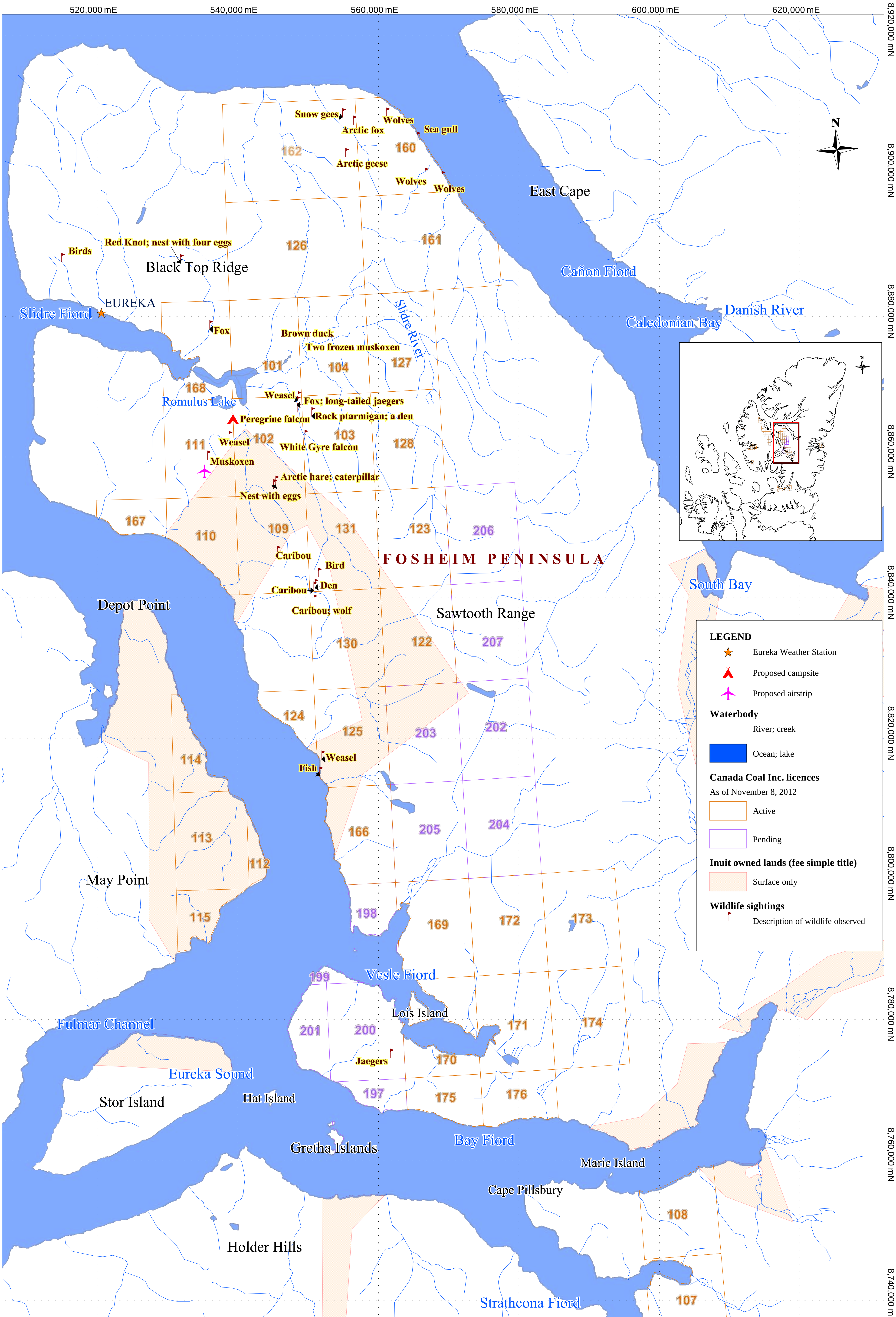

Figure : Wildlife sightings on and near Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10
kilometres
Scale 1:500,000

Projection: NAD83 UTM zone 16
Date: 18 November 2012

Prepared for:
CANADACOAL INC.
CCK - TSX.V
Prepared by:
DMT

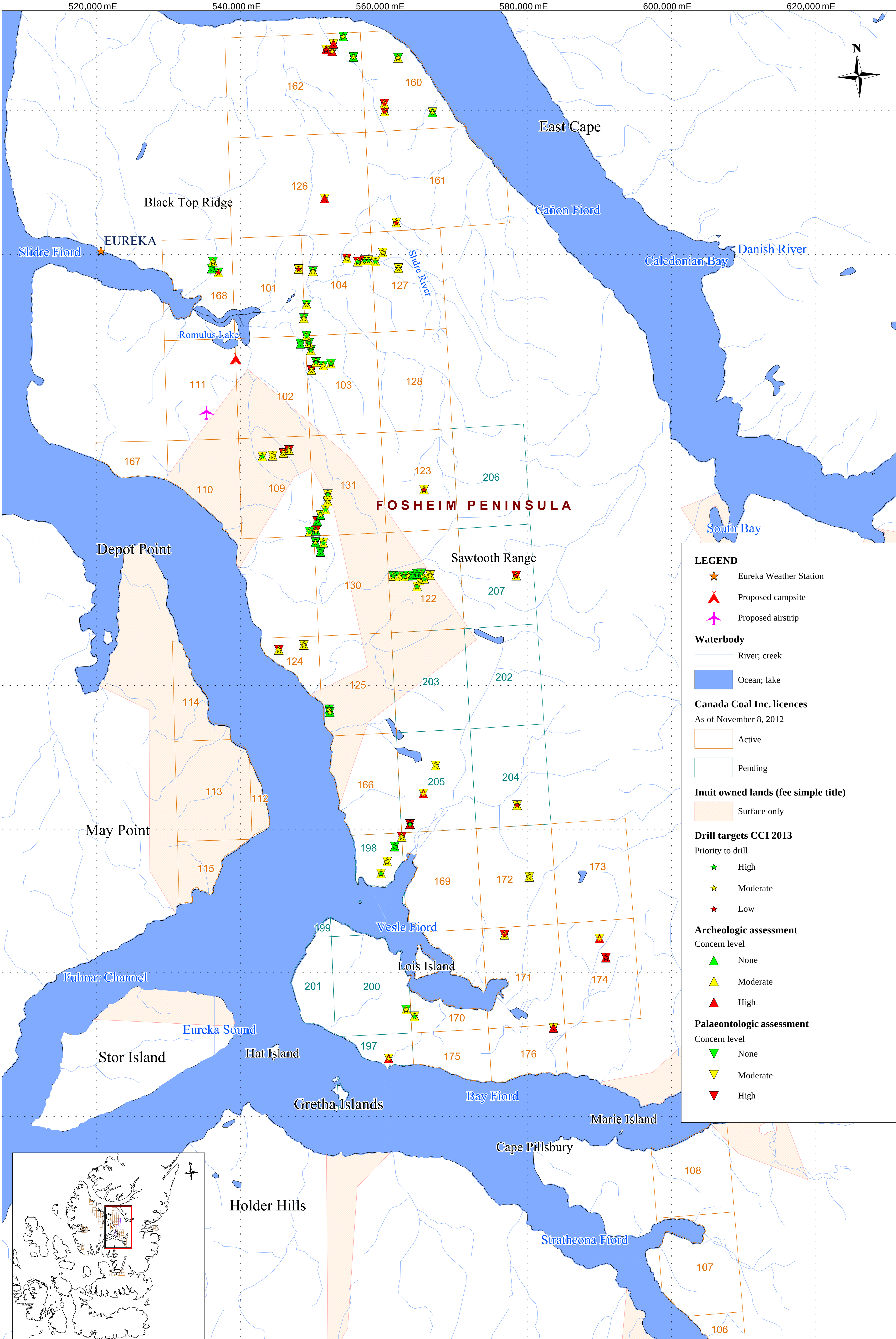

Figure : Palaeontologic and archeologic assessments of drill target sites for Canada Coal Inc., Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres Scale 1:500,000

Projection: NAD83 UTM zone 16
Date: 18 November 2012

Prepared for: CANADA COAL INC. CCK - TSX.V

Prepared by: DMT

Figure : Canada Coal Inc. drill targets CCI 2013, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for: CANADACOAL INC. CCK - TSX.V

Prepared by: DMT

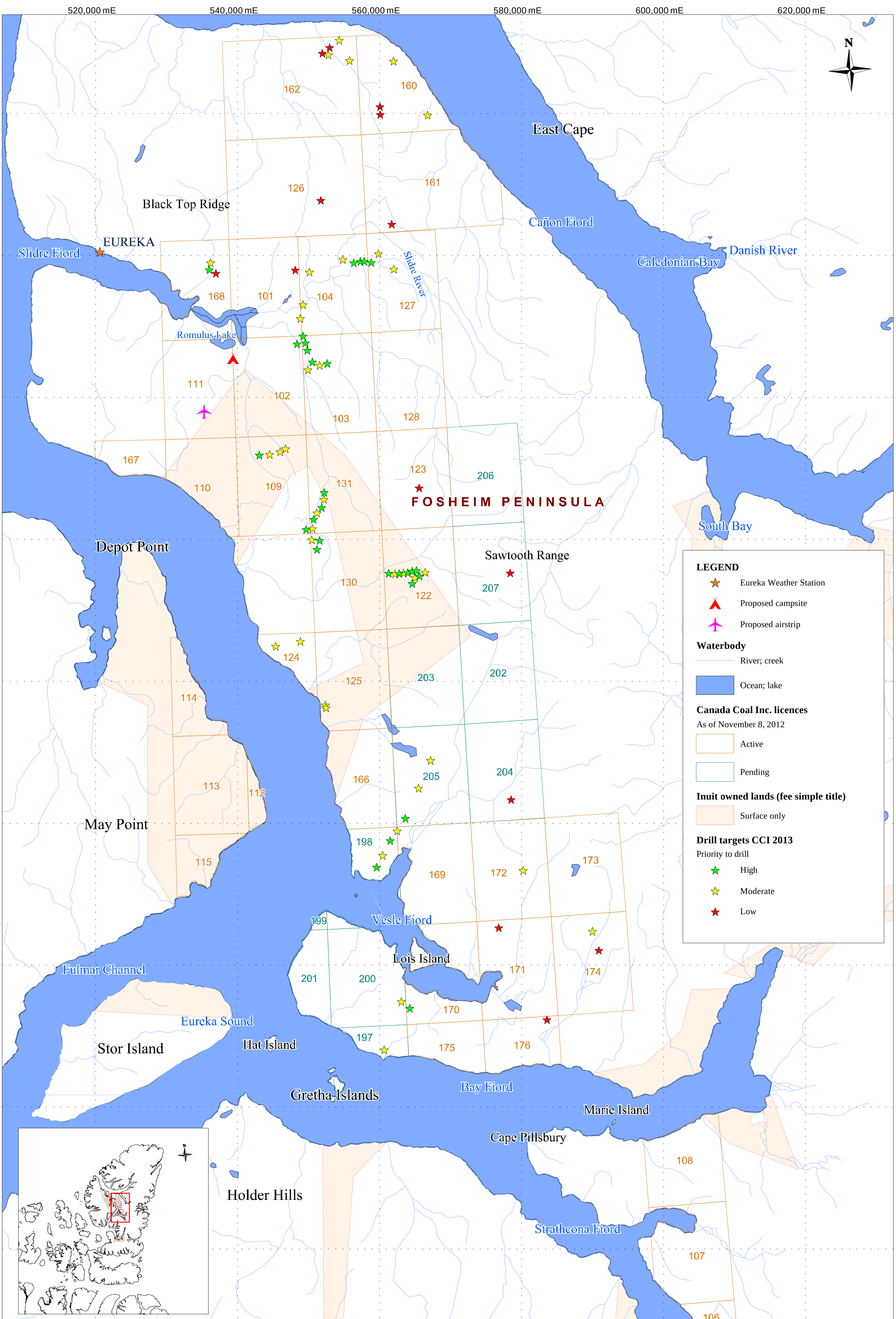

Figure : Canada Coal Inc. drill targets CCI 2013, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10
kilometres
Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for:
CANADACOAL INC.
CCK - TSX.V

Prepared by:
DMT

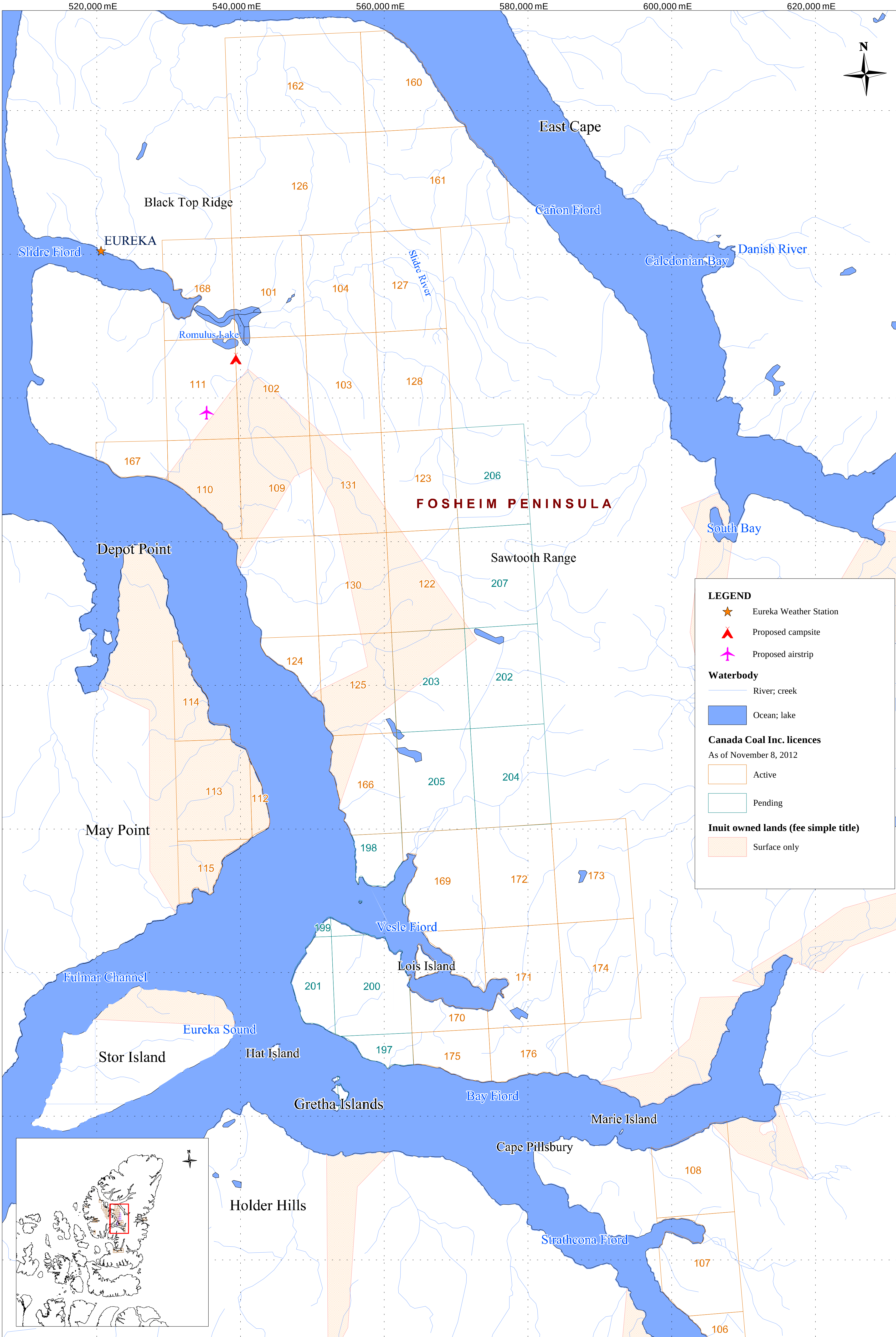

Figure : Canada Coal Inc. coal exploration licences, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for: CANADACOAL INC. CCK - TSX.V

Prepared by: DMT

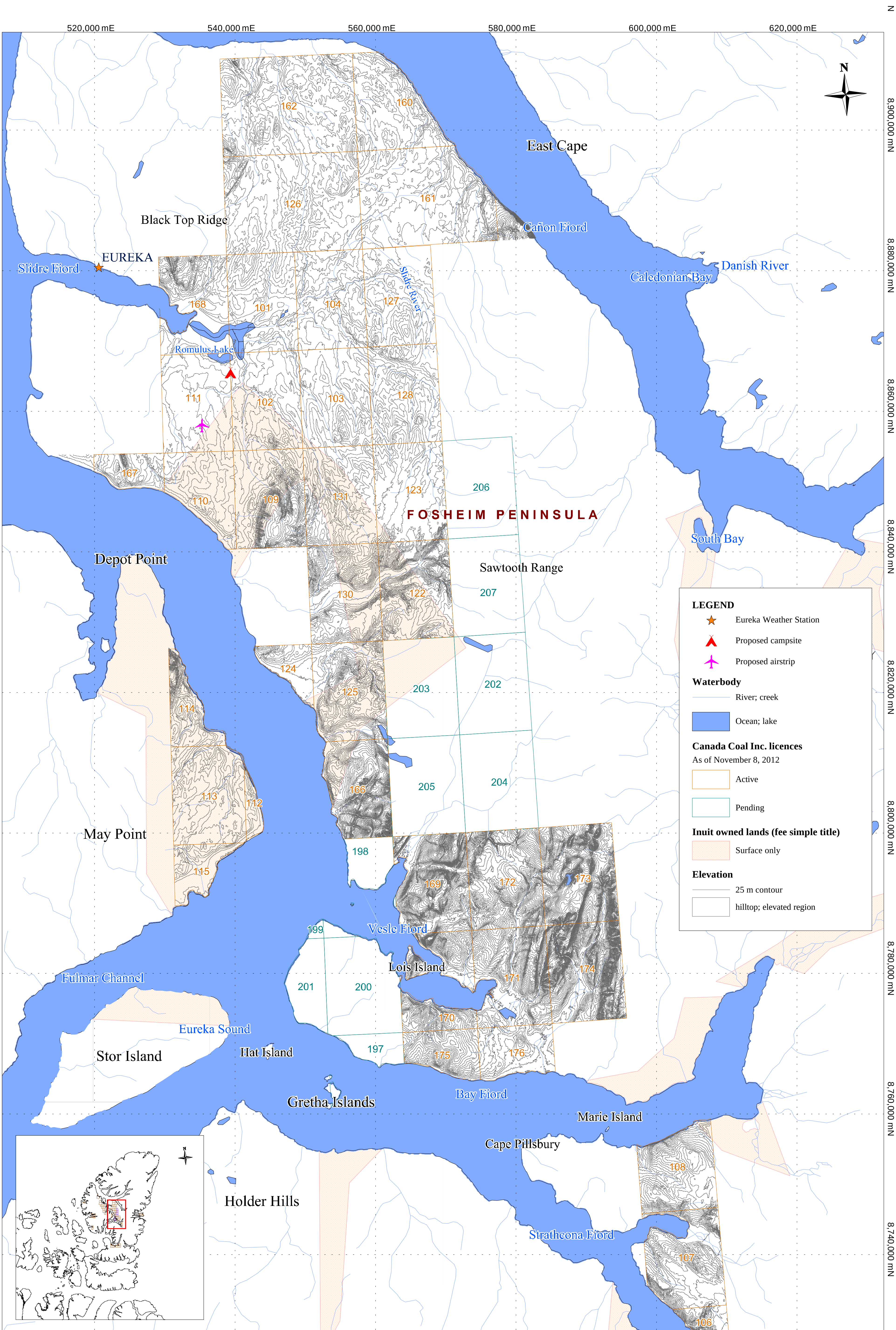

Figure : Canada Coal Inc. coal exploration licences and 25 m contour lines, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres Scale 1:500,000

Projection: NAD83 UTM zone 16
Date: 18 November 2012

Prepared for: CANADA COAL INC. CCK - TSX.V

Prepared by: DMT

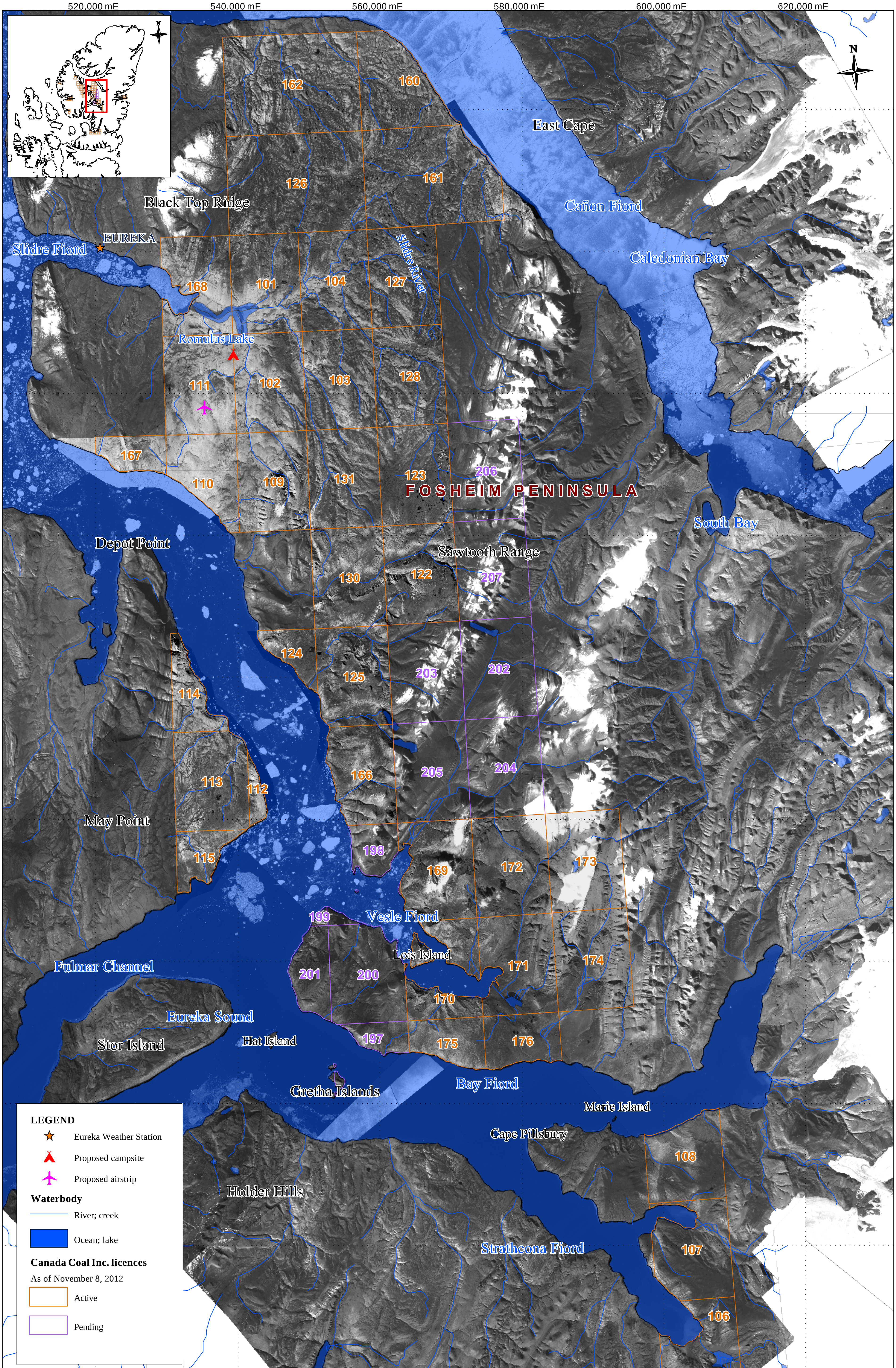

Figure : Canada Coal Inc. licences and satellite imagery, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres Scale 1:500,000

Projection: NAD83 UTM zone 16

Date: 18 November 2012

Prepared for: CANADA COAL

Prepared by: DMT

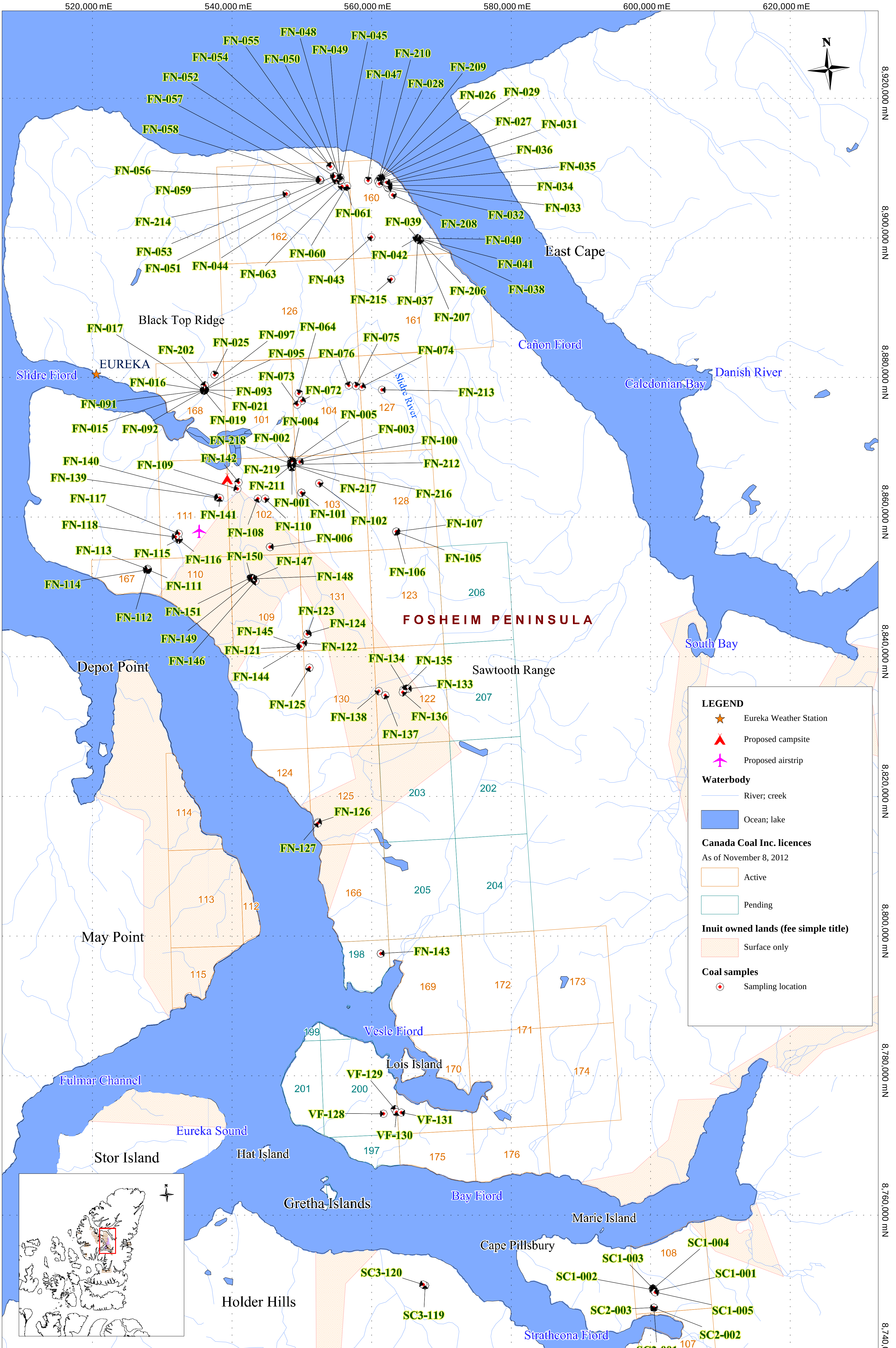

Figure : Coal sampling locations from 2012 exploration season, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10
kilometres
Scale 1:500,000

Projection: NAD83 UTM zone 16
Date: 18 November 2012

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Prepared by:
DMT

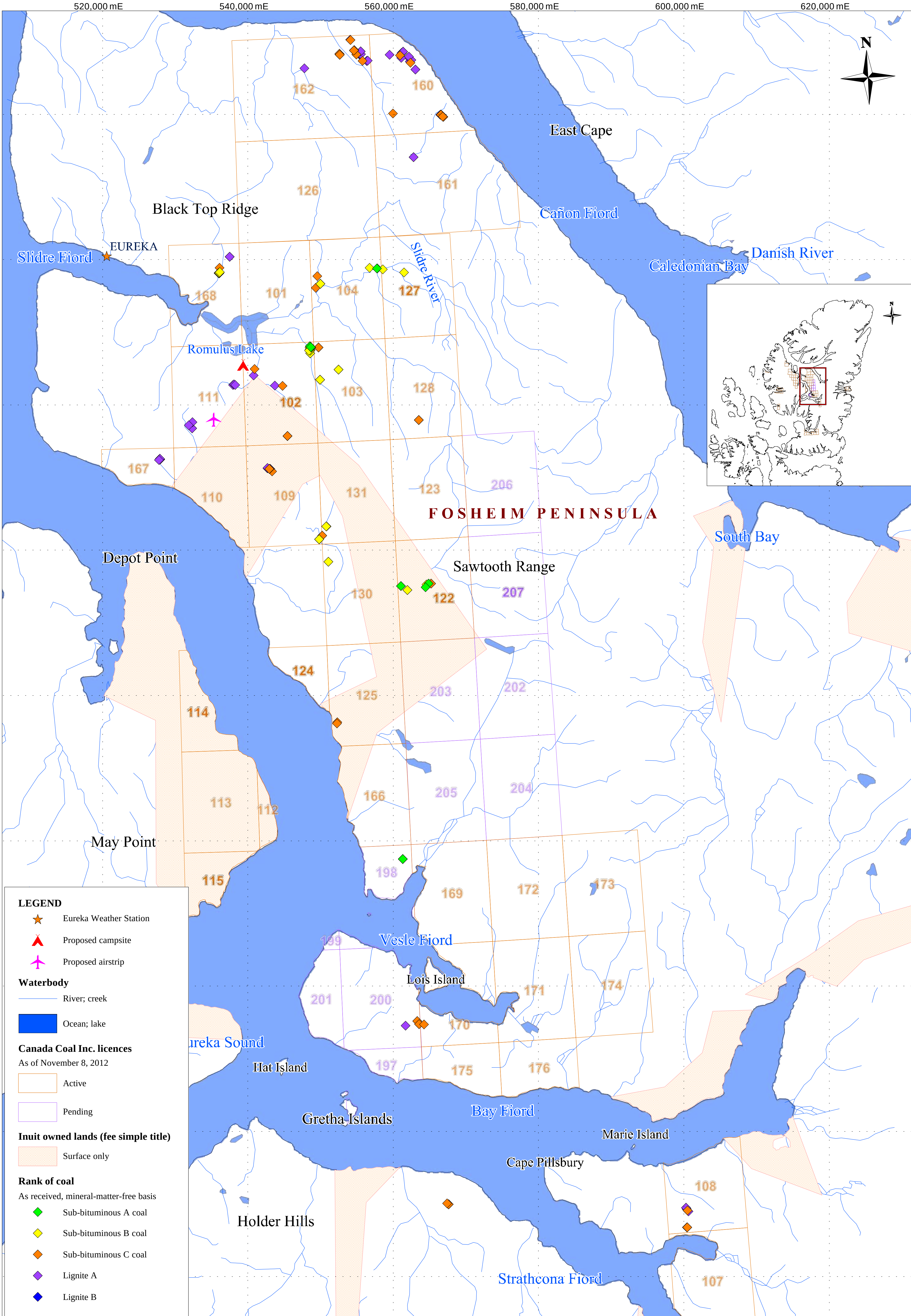

Figure : Rank of coal as determined from coal samples collected on Canada Coal Inc. properties, Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10
kilometres
Scale 1:500,000

Projection: NAD83 UTM zone 16

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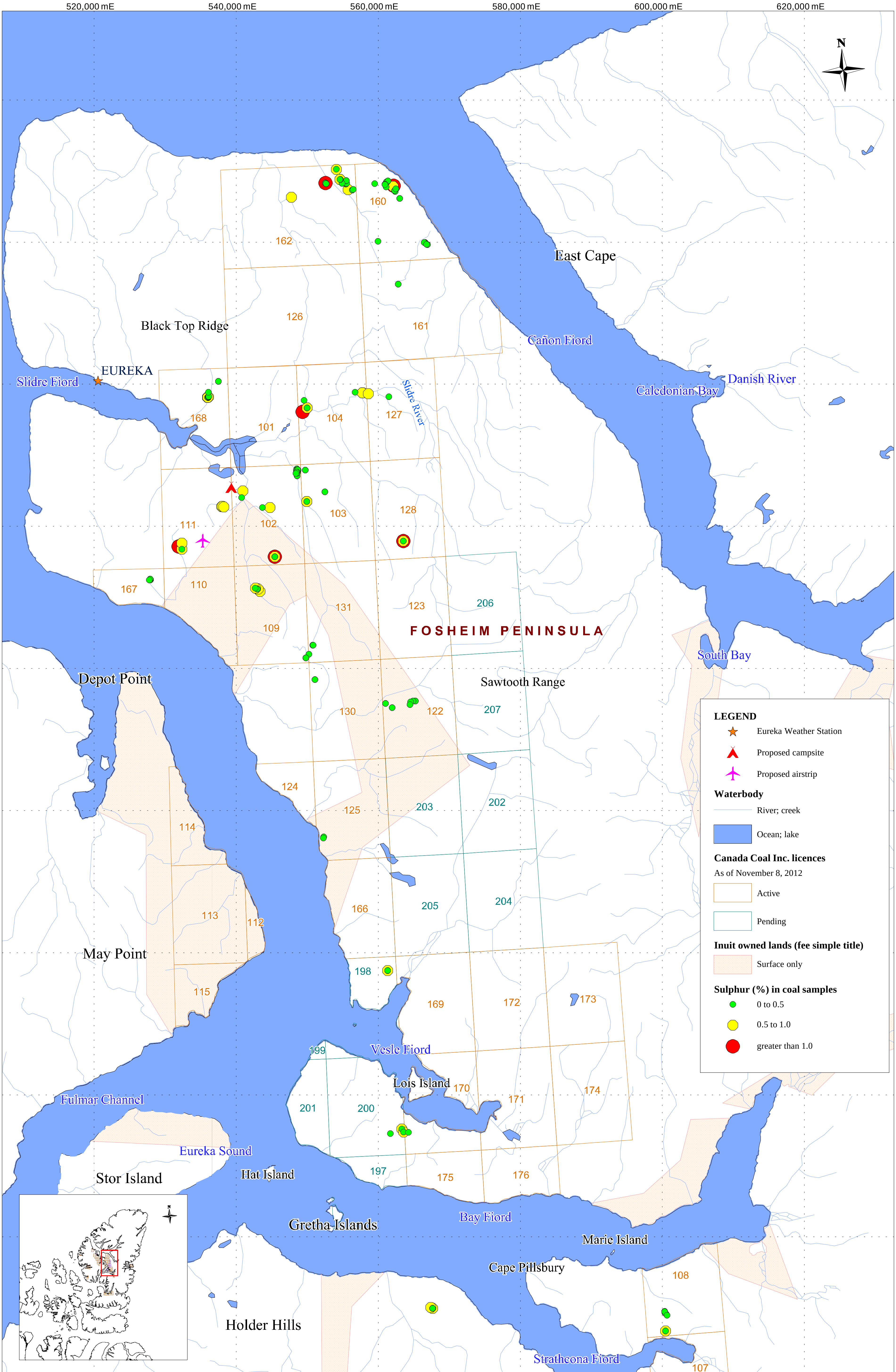

Figure : Sulphur levels as measured in coal samples collected on Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres Scale 1:500,000

Projection: NAD83 UTM zone 16
Date: 18 November 2012

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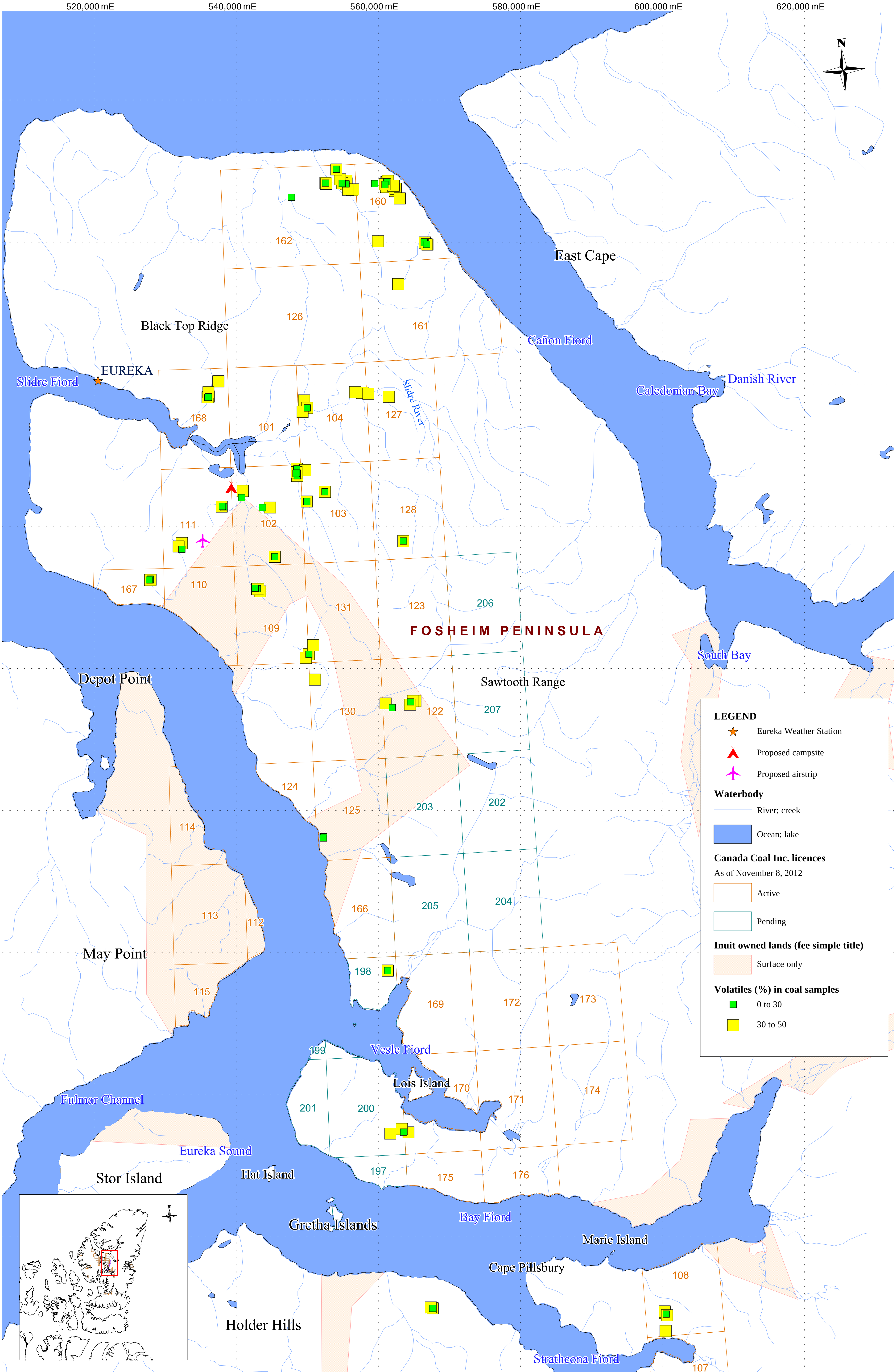

Figure : Levels of volatiles as measured in coal samples collected on Fosheim Peninsula, Ellesmere Island, Nunavut.

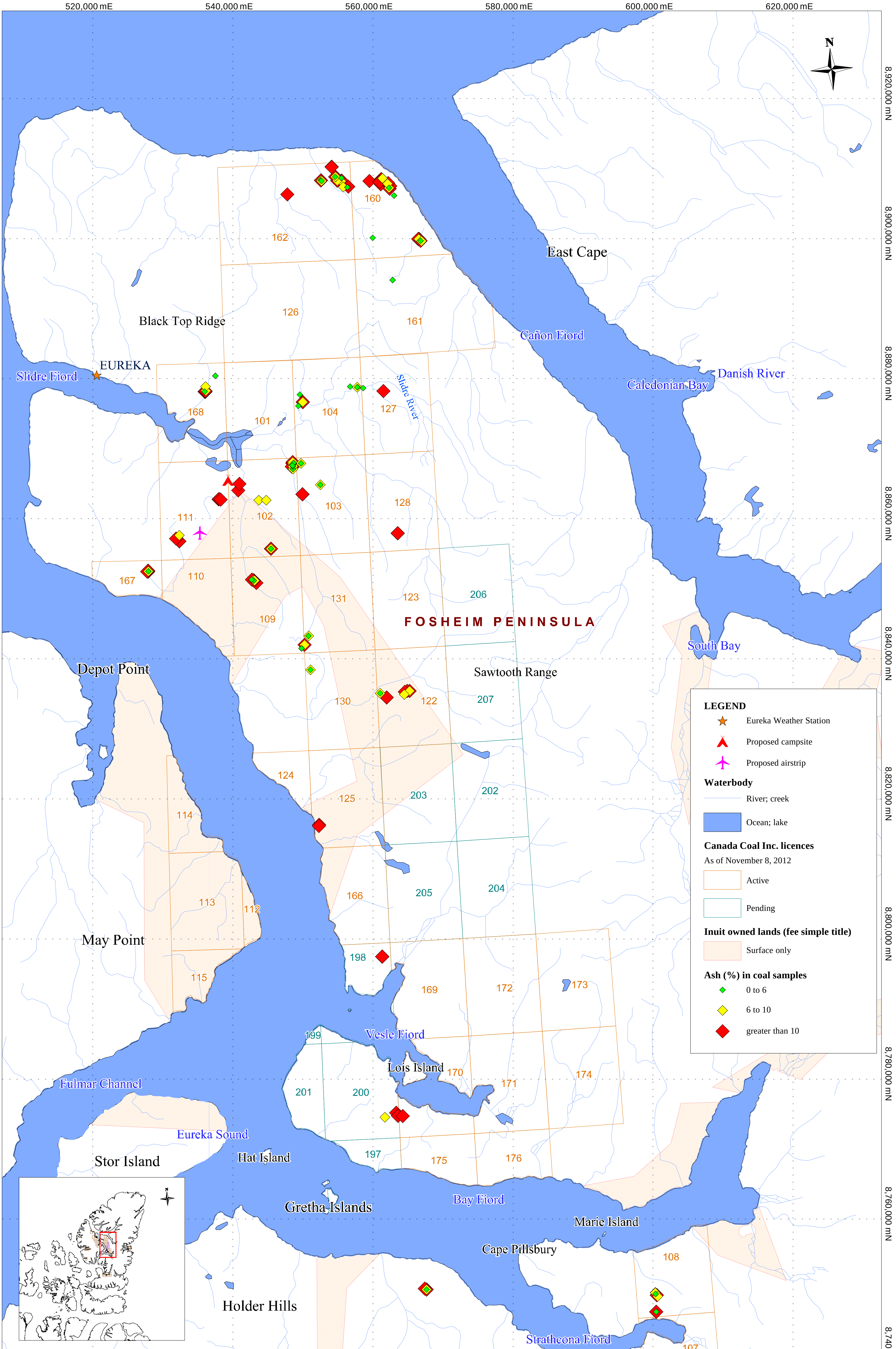

Figure : Levels of ash as measured in coal samples collected on Fosheim Peninsula, Ellesmere Island, Nunavut.

0 5 10 kilometres Scale 1:500,000

Projection: NAD83 UTM zone 16
Date: 18 November 2012

Prepared for: CANADA COAL INC.

Prepared by: DMT